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 - 5c. PW in Contact with NAPL

Apex Laboratories Work Order #:

A9K0165

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

Analytical Case Narrative

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

Analytical Case Narrative

Client: Anchor QEA, LLC Date: 12/24/2019
Project: Gasco PreRD_DG 2019 - 5c. PW in Contact with NAPL
Apex Work Order Number: A9K0165

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

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

Analytical Report

Apex Laboratories, LLC

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

Wednesday, December 4, 2019

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

RE: A9K0165 - Gasco PreRD_DG 2019 - 5c. PW in Contact with NAPL - [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 A9K0165, which was received by the laboratory on 11/6/2019 at 2:15:00PM.

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 3.9 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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PDI-RB-1911060820	A9K0165-01	WQ	11/06/19 08:20	11/06/19 14:15
PDI-TB-1911060000	A9K0165-02	WQ	11/06/19 00:00	11/06/19 14:15
PDI-052PW-06-08-191104	A9K0165-03	WX	11/04/19 10:11	11/06/19 14:15
PDI-055PW-06-08-191104	A9K0165-04	WX	11/04/19 08:47	11/06/19 14:15
PDI-073PW-03-05-191104	A9K0165-05	WX	11/04/19 12:26	11/06/19 14:15
PDI-074PW-08-10-191104	A9K0165-06	WX	11/04/19 15:52	11/06/19 14:15
PDI-075PW-01-03-191105	A9K0165-07	WX	11/05/19 15:01	11/06/19 14:15

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-RB-1911060820 (A9K0165-01)				**Matrix: WQ**		**Batch: 9110564**		
Acrylonitrile	ND	1.00	2.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Benzene	ND	0.100	0.200	ug/L	1	11/07/19 13:48	EPA 8260C	
Bromobenzene	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
Bromochloromethane	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Bromoform	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Bromomethane	ND	5.00	5.00	ug/L	1	11/07/19 13:48	EPA 8260C	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	11/07/19 13:48	EPA 8260C	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Carbon disulfide	ND	5.00	10.0	ug/L	1	11/07/19 13:48	EPA 8260C	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Chlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
Chloroethane	ND	5.00	5.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Chloroform	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Chloromethane	ND	2.50	5.00	ug/L	1	11/07/19 13:48	EPA 8260C	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
Dibromomethane	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-RB-1911060820 (A9K0165-01)				**Matrix: WQ**		**Batch: 9110564**		
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Ethylbenzene	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	11/07/19 13:48	EPA 8260C	
n-Hexane	ND	5.00	10.0	ug/L	1	11/07/19 13:48	EPA 8260C	
2-Hexanone	ND	5.00	10.0	ug/L	1	11/07/19 13:48	EPA 8260C	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Methylene chloride	ND	2.50	5.00	ug/L	1	11/07/19 13:48	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	11/07/19 13:48	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
Naphthalene	ND	1.00	2.00	ug/L	1	11/07/19 13:48	EPA 8260C	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
Styrene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
Tetrahydrofuran	ND	5.00	10.0	ug/L	1	11/07/19 13:48	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	1.00	2.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-RB-1911060820 (A9K0165-01)				**Matrix: WQ**		**Batch: 9110564**		
Isobutyl alcohol	ND	250	250	ug/L	1	11/07/19 13:48	EPA 8260C	
Vinyl chloride	ND	0.200	0.400	ug/L	1	11/07/19 13:48	EPA 8260C	
m,p-Xylene	ND	0.500	1.00	ug/L	1	11/07/19 13:48	EPA 8260C	
o-Xylene	ND	0.250	0.500	ug/L	1	11/07/19 13:48	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	11/07/19 13:48	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*108 %*	*Limits: 80-120 %*	*1*	*11/07/19 13:48*	*EPA 8260C*	
Toluene-d8 (Surr)			*101 %*	*80-120 %*	*1*	*11/07/19 13:48*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*98 %*	*80-120 %*	*1*	*11/07/19 13:48*	*EPA 8260C*	
PDI-RB-1911060820 (A9K0165-01RE1)				**Matrix: WQ**		**Batch: 9110605**		
Acetone	**515**	100	200	ug/L	10	11/08/19 13:48	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*107 %*	*Limits: 80-120 %*	*1*	*11/08/19 13:48*	*EPA 8260C*	
Toluene-d8 (Surr)			*102 %*	*80-120 %*	*1*	*11/08/19 13:48*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*11/08/19 13:48*	*EPA 8260C*	
PDI-TB-1911060000 (A9K0165-02)				**Matrix: WQ**		**Batch: 9110564**		
Acetone	ND	10.0	20.0	ug/L	1	11/07/19 11:58	EPA 8260C	
Acrylonitrile	ND	1.00	2.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Benzene	ND	0.100	0.200	ug/L	1	11/07/19 11:58	EPA 8260C	
Bromobenzene	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
Bromochloromethane	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Bromoform	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Bromomethane	ND	5.00	5.00	ug/L	1	11/07/19 11:58	EPA 8260C	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	11/07/19 11:58	EPA 8260C	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Carbon disulfide	ND	5.00	10.0	ug/L	1	11/07/19 11:58	EPA 8260C	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Chlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
Chloroethane	ND	5.00	5.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Chloroform	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Chloromethane	ND	2.50	5.00	ug/L	1	11/07/19 11:58	EPA 8260C	

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Darwin Thomas, Business Development Director

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-TB-1911060000 (A9K0165-02)				**Matrix: WQ**		**Batch: 9110564**		
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
Dibromomethane	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Ethylbenzene	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	11/07/19 11:58	EPA 8260C	
n-Hexane	ND	5.00	10.0	ug/L	1	11/07/19 11:58	EPA 8260C	
2-Hexanone	ND	5.00	10.0	ug/L	1	11/07/19 11:58	EPA 8260C	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Methylene chloride	ND	2.50	5.00	ug/L	1	11/07/19 11:58	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	11/07/19 11:58	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Naphthalene	ND	1.00	2.00	ug/L	1	11/07/19 11:58	EPA 8260C	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
Styrene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-TB-1911060000 (A9K0165-02)				**Matrix: WQ**		**Batch: 9110564**		
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
Tetrahydrofuran	ND	5.00	10.0	ug/L	1	11/07/19 11:58	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	1.00	2.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
Isobutyl alcohol	ND	250	250	ug/L	1	11/07/19 11:58	EPA 8260C	
Vinyl chloride	ND	0.200	0.400	ug/L	1	11/07/19 11:58	EPA 8260C	
m,p-Xylene	ND	0.500	1.00	ug/L	1	11/07/19 11:58	EPA 8260C	
o-Xylene	ND	0.250	0.500	ug/L	1	11/07/19 11:58	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	11/07/19 11:58	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*106 %*	*Limits:*	*80-120 %*	*1*	*11/07/19 11:58*	*EPA 8260C*	
Toluene-d8 (Surr)			*102 %*		*80-120 %*	*1*	*11/07/19 11:58*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*101 %*		*80-120 %*	*1*	*11/07/19 11:58*	*EPA 8260C*	
PDI-052PW-06-08-191104 (A9K0165-03RE1)				**Matrix: WX**		**Batch: 9110605**		
Acetone	ND	10.0	20.0	ug/L	1	11/08/19 12:00	EPA 8260C	
Acrylonitrile	ND	1.00	2.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Benzene	**0.369**	0.100	0.200	ug/L	1	11/08/19 12:00	EPA 8260C	
Bromobenzene	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
Bromochloromethane	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Bromoform	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Bromomethane	ND	5.00	5.00	ug/L	1	11/08/19 12:00	EPA 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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-052PW-06-08-191104 (A9K0165-03RE1)				**Matrix: WX**		**Batch: 9110605**		
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	11/08/19 12:00	EPA 8260C	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
sec-Butylbenzene	**0.881**	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	**J**
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Carbon disulfide	ND	5.00	10.0	ug/L	1	11/08/19 12:00	EPA 8260C	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Chlorobenzene	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
Chloroethane	ND	5.00	5.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Chloroform	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Chloromethane	ND	2.50	5.00	ug/L	1	11/08/19 12:00	EPA 8260C	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
Dibromomethane	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
Dichlorodifluoromethane	ND	1.00	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Ethylbenzene	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	11/08/19 12:00	EPA 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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-052PW-06-08-191104 (A9K0165-03RE1)				**Matrix: WX**		**Batch: 9110605**		
n-Hexane	ND	5.00	10.0	ug/L	1	11/08/19 12:00	EPA 8260C	
2-Hexanone	ND	5.00	10.0	ug/L	1	11/08/19 12:00	EPA 8260C	
Isopropylbenzene	**3.43**	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Methylene chloride	ND	2.50	5.00	ug/L	1	11/08/19 12:00	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	11/08/19 12:00	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Naphthalene	**2.40**	1.00	2.00	ug/L	1	11/08/19 12:00	EPA 8260C	
n-Propylbenzene	**0.677**	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
Styrene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
Tetrahydrofuran	ND	5.00	10.0	ug/L	1	11/08/19 12:00	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	1.00	2.00	ug/L	1	11/08/19 12:00	EPA 8260C	
1,2,4-Trimethylbenzene	**0.610**	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	**J**
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
Isobutyl alcohol	ND	250	250	ug/L	1	11/08/19 12:00	EPA 8260C	
Vinyl chloride	ND	0.200	0.400	ug/L	1	11/08/19 12:00	EPA 8260C	
m,p-Xylene	ND	0.500	1.00	ug/L	1	11/08/19 12:00	EPA 8260C	
o-Xylene	**0.469**	0.250	0.500	ug/L	1	11/08/19 12:00	EPA 8260C	**J**
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	11/08/19 12:00	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*108 %*	*Limits:* *80-120 %*	*1*	*11/08/19 12:00*	*EPA 8260C*	
Toluene-d8 (Surr)			*99 %*	*80-120 %*	*1*	*11/08/19 12:00*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*	*1*	*11/08/19 12:00*	*EPA 8260C*	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-055PW-06-08-191104 (A9K0165-04)				**Matrix: WX**		**Batch: 9110564**		
Acetone	ND	10.0	20.0	ug/L	1	11/07/19 14:42	EPA 8260C	
Acrylonitrile	ND	1.00	2.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Bromobenzene	ND	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
Bromochloromethane	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Bromoform	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Bromomethane	ND	5.00	5.00	ug/L	1	11/07/19 14:42	EPA 8260C	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	11/07/19 14:42	EPA 8260C	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
sec-Butylbenzene	**1.85**	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Carbon disulfide	ND	5.00	10.0	ug/L	1	11/07/19 14:42	EPA 8260C	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Chlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
Chloroethane	ND	5.00	5.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Chloroform	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Chloromethane	ND	2.50	5.00	ug/L	1	11/07/19 14:42	EPA 8260C	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
Dibromomethane	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	11/07/19 14:42	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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-055PW-06-08-191104 (A9K0165-04)				**Matrix: WX**		**Batch: 9110564**		
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Ethylbenzene	**1.62**	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	11/07/19 14:42	EPA 8260C	
n-Hexane	ND	5.00	10.0	ug/L	1	11/07/19 14:42	EPA 8260C	
2-Hexanone	ND	5.00	10.0	ug/L	1	11/07/19 14:42	EPA 8260C	
Isopropylbenzene	**4.76**	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Methylene chloride	ND	2.50	5.00	ug/L	1	11/07/19 14:42	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	11/07/19 14:42	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
Naphthalene	**3.49**	1.00	2.00	ug/L	1	11/07/19 14:42	EPA 8260C	
n-Propylbenzene	**0.871**	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
Styrene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
Tetrahydrofuran	ND	5.00	10.0	ug/L	1	11/07/19 14:42	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	1.00	2.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,2,4-Trimethylbenzene	**1.95**	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	
1,3,5-Trimethylbenzene	**0.590**	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	**J**

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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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-055PW-06-08-191104 (A9K0165-04)				**Matrix: WX**		**Batch: 9110564**		
Isobutyl alcohol	ND	250	250	ug/L	1	11/07/19 14:42	EPA 8260C	
Vinyl chloride	ND	0.200	0.400	ug/L	1	11/07/19 14:42	EPA 8260C	
m,p-Xylene	**0.790**	0.500	1.00	ug/L	1	11/07/19 14:42	EPA 8260C	**J**
o-Xylene	**2.22**	0.250	0.500	ug/L	1	11/07/19 14:42	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	11/07/19 14:42	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*101 %*	*Limits: 80-120 %*	*1*	*11/07/19 14:42*	*EPA 8260C*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*11/07/19 14:42*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*	*1*	*11/07/19 14:42*	*EPA 8260C*	
PDI-055PW-06-08-191104 (A9K0165-04RE1)				**Matrix: WX**		**Batch: 9110605**		
Benzene	**1050**	5.00	10.0	ug/L	50	11/08/19 14:15	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits: 80-120 %*	*1*	*11/08/19 14:15*	*EPA 8260C*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*11/08/19 14:15*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*	*1*	*11/08/19 14:15*	*EPA 8260C*	
PDI-073PW-03-05-191104 (A9K0165-05)				**Matrix: WX**		**Batch: 9110564**		**V-01**
Acetone	ND	1000	2000	ug/L	100	11/07/19 19:10	EPA 8260C	
Acrylonitrile	ND	100	200	ug/L	100	11/07/19 19:10	EPA 8260C	
Benzene	**16100**	10.0	20.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Bromobenzene	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Bromochloromethane	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Bromodichloromethane	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Bromoform	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Bromomethane	ND	500	500	ug/L	100	11/07/19 19:10	EPA 8260C	
2-Butanone (MEK)	ND	500	1000	ug/L	100	11/07/19 19:10	EPA 8260C	
n-Butylbenzene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
sec-Butylbenzene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
tert-Butylbenzene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Carbon disulfide	ND	500	1000	ug/L	100	11/07/19 19:10	EPA 8260C	
Carbon tetrachloride	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Chlorobenzene	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Chloroethane	ND	500	500	ug/L	100	11/07/19 19:10	EPA 8260C	
Chloroform	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Chloromethane	ND	250	500	ug/L	100	11/07/19 19:10	EPA 8260C	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-073PW-03-05-191104 (A9K0165-05)				**Matrix: WX**		**Batch: 9110564**		**V-01**
2-Chlorotoluene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
4-Chlorotoluene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Dibromochloromethane	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	250	500	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Dibromomethane	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
1,3-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
1,4-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Dichlorodifluoromethane	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
1,1-Dichloroethane	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
1,1-Dichloroethene	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
cis-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
trans-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2-Dichloropropane	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
1,3-Dichloropropane	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
2,2-Dichloropropane	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
1,1-Dichloropropene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
cis-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
trans-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Ethylbenzene	**433**	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Hexachlorobutadiene	ND	250	500	ug/L	100	11/07/19 19:10	EPA 8260C	
n-Hexane	ND	500	1000	ug/L	100	11/07/19 19:10	EPA 8260C	
2-Hexanone	ND	500	1000	ug/L	100	11/07/19 19:10	EPA 8260C	
Isopropylbenzene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
4-Isopropyltoluene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Methylene chloride	ND	250	500	ug/L	100	11/07/19 19:10	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	500	1000	ug/L	100	11/07/19 19:10	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Naphthalene	**14100**	100	200	ug/L	100	11/07/19 19:10	EPA 8260C	
n-Propylbenzene	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Styrene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-073PW-03-05-191104 (A9K0165-05)				**Matrix: WX**		**Batch: 9110564**		**V-01**
1,1,1,2-Tetrachloroethane	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Tetrachloroethene (PCE)	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Tetrahydrofuran	ND	500	1000	ug/L	100	11/07/19 19:10	EPA 8260C	
Toluene	**1960**	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2,3-Trichlorobenzene	ND	100	200	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2,4-Trichlorobenzene	ND	100	200	ug/L	100	11/07/19 19:10	EPA 8260C	
1,1,1-Trichloroethane	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
1,1,2-Trichloroethane	ND	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Trichloroethene (TCE)	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
Trichlorofluoromethane	ND	100	200	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2,3-Trichloropropane	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	100	200	ug/L	100	11/07/19 19:10	EPA 8260C	
1,2,4-Trimethylbenzene	**50.9**	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	**J**
1,3,5-Trimethylbenzene	ND	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
Isobutyl alcohol	ND	25000	25000	ug/L	100	11/07/19 19:10	EPA 8260C	
Vinyl chloride	ND	20.0	40.0	ug/L	100	11/07/19 19:10	EPA 8260C	
m,p-Xylene	**400**	50.0	100	ug/L	100	11/07/19 19:10	EPA 8260C	
o-Xylene	**176**	25.0	50.0	ug/L	100	11/07/19 19:10	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	500	1000	ug/L	100	11/07/19 19:10	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits:*	*80-120 %*	*1*	*11/07/19 19:10*	*EPA 8260C*	
Toluene-d8 (Surr)			*101 %*		*80-120 %*	*1*	*11/07/19 19:10*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*	*1*	*11/07/19 19:10*	*EPA 8260C*	
PDI-074PW-08-10-191104 (A9K0165-06)				**Matrix: WX**		**Batch: 9110564**		
Acetone	ND	1000	2000	ug/L	100	11/07/19 18:17	EPA 8260C	
Acrylonitrile	ND	100	200	ug/L	100	11/07/19 18:17	EPA 8260C	
Benzene	**1090**	10.0	20.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Bromobenzene	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Bromochloromethane	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Bromodichloromethane	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Bromoform	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Bromomethane	ND	500	500	ug/L	100	11/07/19 18:17	EPA 8260C	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-074PW-08-10-191104 (A9K0165-06)				**Matrix: WX**		**Batch: 9110564**		
2-Butanone (MEK)	ND	500	1000	ug/L	100	11/07/19 18:17	EPA 8260C	
n-Butylbenzene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
sec-Butylbenzene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
tert-Butylbenzene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Carbon disulfide	ND	500	1000	ug/L	100	11/07/19 18:17	EPA 8260C	
Carbon tetrachloride	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Chlorobenzene	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Chloroethane	ND	500	500	ug/L	100	11/07/19 18:17	EPA 8260C	
Chloroform	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Chloromethane	ND	250	500	ug/L	100	11/07/19 18:17	EPA 8260C	
2-Chlorotoluene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
4-Chlorotoluene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Dibromochloromethane	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	250	500	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Dibromomethane	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
1,3-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
1,4-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Dichlorodifluoromethane	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
1,1-Dichloroethane	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
1,1-Dichloroethene	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
cis-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
trans-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2-Dichloropropane	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
1,3-Dichloropropane	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
2,2-Dichloropropane	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
1,1-Dichloropropene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
cis-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
trans-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Ethylbenzene	**350**	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Hexachlorobutadiene	ND	250	500	ug/L	100	11/07/19 18:17	EPA 8260C	

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-074PW-08-10-191104 (A9K0165-06)				**Matrix: WX**		**Batch: 9110564**		
n-Hexane	ND	500	1000	ug/L	100	11/07/19 18:17	EPA 8260C	
2-Hexanone	ND	500	1000	ug/L	100	11/07/19 18:17	EPA 8260C	
Isopropylbenzene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
4-Isopropyltoluene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Methylene chloride	ND	250	500	ug/L	100	11/07/19 18:17	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	500	1000	ug/L	100	11/07/19 18:17	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Naphthalene	**13800**	100	200	ug/L	100	11/07/19 18:17	EPA 8260C	
n-Propylbenzene	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Styrene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Tetrachloroethene (PCE)	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Tetrahydrofuran	ND	500	1000	ug/L	100	11/07/19 18:17	EPA 8260C	
Toluene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2,3-Trichlorobenzene	ND	100	200	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2,4-Trichlorobenzene	ND	100	200	ug/L	100	11/07/19 18:17	EPA 8260C	
1,1,1-Trichloroethane	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
1,1,2-Trichloroethane	ND	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Trichloroethene (TCE)	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
Trichlorofluoromethane	ND	100	200	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2,3-Trichloropropane	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	100	200	ug/L	100	11/07/19 18:17	EPA 8260C	
1,2,4-Trimethylbenzene	**52.2**	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	**J**
1,3,5-Trimethylbenzene	ND	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	
Isobutyl alcohol	ND	25000	25000	ug/L	100	11/07/19 18:17	EPA 8260C	
Vinyl chloride	ND	20.0	40.0	ug/L	100	11/07/19 18:17	EPA 8260C	
m,p-Xylene	**82.1**	50.0	100	ug/L	100	11/07/19 18:17	EPA 8260C	**J**
o-Xylene	**84.2**	25.0	50.0	ug/L	100	11/07/19 18:17	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	500	1000	ug/L	100	11/07/19 18:17	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*104 %*	*Limits:*	*80-120 %*	*1*	*11/07/19 18:17*	*EPA 8260C*	
Toluene-d8 (Surr)			*101 %*		*80-120 %*	*1*	*11/07/19 18:17*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*	*1*	*11/07/19 18:17*	*EPA 8260C*	

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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-075PW-01-03-191105 (A9K0165-07RE1)				**Matrix: WX**		**Batch: 9110605**		
Acetone	ND	20.0	20.0	ug/L	1	11/08/19 13:21	EPA 8260C	
Acrylonitrile	ND	1.00	2.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Benzene	**0.214**	0.100	0.200	ug/L	1	11/08/19 13:21	EPA 8260C	
Bromobenzene	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
Bromochloromethane	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Bromoform	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Bromomethane	ND	5.00	5.00	ug/L	1	11/08/19 13:21	EPA 8260C	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	11/08/19 13:21	EPA 8260C	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Carbon disulfide	ND	5.00	10.0	ug/L	1	11/08/19 13:21	EPA 8260C	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Chlorobenzene	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
Chloroethane	ND	5.00	5.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Chloroform	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Chloromethane	ND	2.50	5.00	ug/L	1	11/08/19 13:21	EPA 8260C	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
Dibromomethane	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
Dichlorodifluoromethane	ND	1.00	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	

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Darwin Thomas, Business Development Director

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6700 S.W. Sandburg Street
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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-075PW-01-03-191105 (A9K0165-07RE1)				**Matrix: WX**		**Batch: 9110605**		
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Ethylbenzene	**0.271**	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	**J**
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	11/08/19 13:21	EPA 8260C	
n-Hexane	ND	5.00	10.0	ug/L	1	11/08/19 13:21	EPA 8260C	
2-Hexanone	ND	5.00	10.0	ug/L	1	11/08/19 13:21	EPA 8260C	
Isopropylbenzene	**0.676**	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	**J**
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Methylene chloride	ND	2.50	5.00	ug/L	1	11/08/19 13:21	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	11/08/19 13:21	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Naphthalene	**21.8**	1.00	2.00	ug/L	1	11/08/19 13:21	EPA 8260C	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
Styrene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
Tetrahydrofuran	ND	5.00	10.0	ug/L	1	11/08/19 13:21	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	1.00	2.00	ug/L	1	11/08/19 13:21	EPA 8260C	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	

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Darwin Thomas, Business Development Director

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6700 S.W. Sandburg Street
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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-075PW-01-03-191105 (A9K0165-07RE1)				**Matrix: WX**		**Batch: 9110605**		
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
Isobutyl alcohol	ND	250	250	ug/L	1	11/08/19 13:21	EPA 8260C	
Vinyl chloride	ND	0.200	0.400	ug/L	1	11/08/19 13:21	EPA 8260C	
m,p-Xylene	ND	0.500	1.00	ug/L	1	11/08/19 13:21	EPA 8260C	
o-Xylene	ND	0.250	0.500	ug/L	1	11/08/19 13:21	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	11/08/19 13:21	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*107 %*	*Limits: 80-120 %*	*1*	*11/08/19 13:21*	*EPA 8260C*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*11/08/19 13:21*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*11/08/19 13:21*	*EPA 8260C*	

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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Vinyl Chloride by EPA 8260C SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-RB-1911060820 (A9K0165-01)				**Matrix: WQ**		**Batch: 9110678**		
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/11/19 16:42	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*99 %*	*Limits: 70-130 %*	*1*	*11/11/19 16:42*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*95 %*	*70-130 %*	*1*	*11/11/19 16:42*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*91 %*	*70-130 %*	*1*	*11/11/19 16:42*	*EPA 8260C SIM*	
PDI-TB-1911060000 (A9K0165-02)				**Matrix: WQ**		**Batch: 9110678**		
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/11/19 17:08	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*100 %*	*Limits: 70-130 %*	*1*	*11/11/19 17:08*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*95 %*	*70-130 %*	*1*	*11/11/19 17:08*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*91 %*	*70-130 %*	*1*	*11/11/19 17:08*	*EPA 8260C SIM*	
PDI-052PW-06-08-191104 (A9K0165-03)				**Matrix: WX**		**Batch: 9110678**		
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/11/19 17:35	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*100 %*	*Limits: 70-130 %*	*1*	*11/11/19 17:35*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*94 %*	*70-130 %*	*1*	*11/11/19 17:35*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*91 %*	*70-130 %*	*1*	*11/11/19 17:35*	*EPA 8260C SIM*	
PDI-055PW-06-08-191104 (A9K0165-04)				**Matrix: WX**		**Batch: 9110678**		
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/11/19 18:02	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*99 %*	*Limits: 70-130 %*	*1*	*11/11/19 18:02*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*95 %*	*70-130 %*	*1*	*11/11/19 18:02*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*91 %*	*70-130 %*	*1*	*11/11/19 18:02*	*EPA 8260C SIM*	
PDI-073PW-03-05-191104 (A9K0165-05)				**Matrix: WX**		**Batch: 9110678**		**V-01**
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/11/19 19:23	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*98 %*	*Limits: 70-130 %*	*1*	*11/11/19 19:23*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*97 %*	*70-130 %*	*1*	*11/11/19 19:23*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*94 %*	*70-130 %*	*1*	*11/11/19 19:23*	*EPA 8260C SIM*	
PDI-074PW-08-10-191104 (A9K0165-06)				**Matrix: WX**		**Batch: 9110678**		
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/11/19 18:56	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*98 %*	*Limits: 70-130 %*	*1*	*11/11/19 18:56*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*95 %*	*70-130 %*	*1*	*11/11/19 18:56*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*93 %*	*70-130 %*	*1*	*11/11/19 18:56*	*EPA 8260C SIM*	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Vinyl Chloride by EPA 8260C SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-075PW-01-03-191105 (A9K0165-07)				**Matrix: WX**		**Batch: 9110678**		
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/11/19 18:29	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*100 %*	*Limits:* *70-130 %*	*1*	*11/11/19 18:29*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*94 %*	*70-130 %*	*1*	*11/11/19 18:29*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*91 %*	*70-130 %*	*1*	*11/11/19 18:29*	*EPA 8260C SIM*	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D (Large Volume Injection)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-RB-1911060820 (A9K0165-01)				**Matrix: WQ**		**Batch: 9110577**		
Acenaphthene	ND	2.73	2.73	ug/L	1	11/07/19 14:29	EPA 8270D LVI	R-02
Acenaphthylene	ND	0.185	0.185	ug/L	1	11/07/19 14:29	EPA 8270D LVI	R-02
Anthracene	**0.109**	0.0181	0.0362	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Benz(a)anthracene	ND	0.0253	0.0253	ug/L	1	11/07/19 14:29	EPA 8270D LVI	R-02
Benzo(a)pyrene	**0.0234**	0.00905	0.0181	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Benzo(b)fluoranthene	ND	0.0181	0.0181	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Benzo(k)fluoranthene	ND	0.0181	0.0181	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Benzo(g,h,i)perylene	**0.0224**	0.0181	0.0362	ug/L	1	11/07/19 14:29	EPA 8270D LVI	**J**
Chrysene	ND	0.0181	0.0181	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Dibenz(a,h)anthracene	ND	0.00905	0.0181	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Fluoranthene	**0.0797**	0.0181	0.0362	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Fluorene	**0.0948**	0.0181	0.0362	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Indeno(1,2,3-cd)pyrene	**0.0181**	0.00905	0.0181	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
2-Methylnaphthalene	**0.0647**	0.0362	0.0724	ug/L	1	11/07/19 14:29	EPA 8270D LVI	**J**
Naphthalene	**0.267**	0.0362	0.0724	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Phenanthrene	**0.489**	0.0362	0.0724	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Pyrene	**0.0874**	0.0181	0.0362	ug/L	1	11/07/19 14:29	EPA 8270D LVI	
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery:*	*115 %*	*Limits:* *80-120 %*	*1*	*11/07/19 14:29*	*EPA 8270D LVI*	
Benzo(a)pyrene-d12 (Surr)			*108 %*	*80-143 %*	*1*	*11/07/19 14:29*	*EPA 8270D LVI*	
PDI-073PW-03-05-191104 (A9K0165-05)				**Matrix: WX**		**Batch: 9110577**		
Acenaphthene	**142**	0.396	0.793	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Acenaphthylene	**180**	0.396	0.793	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Anthracene	**16.2**	0.396	0.793	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Benz(a)anthracene	**0.908**	0.198	0.396	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Benzo(a)pyrene	**0.672**	0.198	0.396	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Benzo(b)fluoranthene	ND	0.495	0.495	ug/L	20	11/07/19 15:01	EPA 8270D LVI	R-02
Benzo(k)fluoranthene	ND	0.396	0.396	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Benzo(g,h,i)perylene	ND	0.396	0.793	ug/L	20	11/07/19 15:01	EPA 8270D LVI	Q-42
Chrysene	**0.905**	0.198	0.396	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Dibenz(a,h)anthracene	ND	0.198	0.396	ug/L	20	11/07/19 15:01	EPA 8270D LVI	Q-42
Fluoranthene	**12.9**	0.396	0.793	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Fluorene	**60.7**	0.396	0.793	ug/L	20	11/07/19 15:01	EPA 8270D LVI	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D (Large Volume Injection)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-073PW-03-05-191104 (A9K0165-05)				**Matrix: WX**		**Batch: 9110577**		
Indeno(1,2,3-cd)pyrene	**0.305**	0.198	0.396	ug/L	20	11/07/19 15:01	EPA 8270D LVI	**J**
Phenanthrene	**80.3**	0.793	1.59	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Pyrene	**12.8**	0.396	0.793	ug/L	20	11/07/19 15:01	EPA 8270D LVI	
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery:*	*125 %*	*Limits: 80-120 %*	*20*	*11/07/19 15:01*	*EPA 8270D LVI*	*S-05*
Benzo(a)pyrene-d12 (Surr)			*159 %*	*80-143 %*	*20*	*11/07/19 15:01*	*EPA 8270D LVI*	*S-05*
PDI-073PW-03-05-191104 (A9K0165-05RE1)				**Matrix: WX**		**Batch: 9110577**		
2-Methylnaphthalene	**476**	39.6	79.3	ug/L	1000	11/07/19 17:45	EPA 8270D LVI	
PDI-073PW-03-05-191104 (A9K0165-05RE2)				**Matrix: WX**		**Batch: 9110577**		
Naphthalene	**11300**	198	396	ug/L	5000	11/07/19 18:49	EPA 8270D LVI	
PDI-075PW-01-03-191105 (A9K0165-07RE1)				**Matrix: WX**		**Batch: 9110577**		
Acenaphthene	**27.4**	0.0881	0.176	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Acenaphthylene	**1.98**	0.0881	0.176	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Anthracene	**2.99**	0.0881	0.176	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Benz(a)anthracene	ND	0.0441	0.0881	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Benzo(a)pyrene	ND	0.0441	0.0881	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Benzo(b)fluoranthene	ND	0.0441	0.0881	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Benzo(k)fluoranthene	ND	0.0441	0.0881	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Benzo(g,h,i)perylene	ND	0.0881	0.176	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Chrysene	ND	0.0441	0.0881	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Dibenz(a,h)anthracene	ND	0.0441	0.0881	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Fluoranthene	ND	0.0881	0.176	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Fluorene	**10.0**	0.0881	0.176	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Indeno(1,2,3-cd)pyrene	ND	0.0441	0.0881	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
2-Methylnaphthalene	**8.22**	0.176	0.352	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Naphthalene	**31.9**	0.176	0.352	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Phenanthrene	**24.2**	0.176	0.352	ug/L	4	11/07/19 18:17	EPA 8270D LVI	
Pyrene	**0.0894**	0.0881	0.176	ug/L	4	11/07/19 18:17	EPA 8270D LVI	**J**
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery:*	*134 %*	*Limits: 80-120 %*	*4*	*11/07/19 18:17*	*EPA 8270D LVI*	*S-05*
Benzo(a)pyrene-d12 (Surr)			*139 %*	*80-143 %*	*4*	*11/07/19 18:17*	*EPA 8270D LVI*	*S-05*

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Blank (9110564-BLK1)			Prepared: 11/07/19 09:00		Analyzed: 11/07/19 11:31							
EPA 8260C												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	ug/L	1	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Carbon disulfide	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	ug/L	1	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	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	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Blank (9110564-BLK1)			Prepared: 11/07/19 09:00		Analyzed: 11/07/19 11:31							
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) *Recovery: 105 %* *Limits: 80-120 %* *Dilution: 1x*

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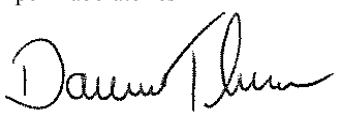

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Blank (9110564-BLK1)				Prepared: 11/07/19 09:00 Analyzed: 11/07/19 11:31								
Surr: Toluene-d8 (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*100 %*	*80-120 %*			*"*					
LCS (9110564-BS1)				Prepared: 11/07/19 09:00 Analyzed: 11/07/19 10:37								
EPA 8260C												
Acetone	35.8	10.0	20.0	ug/L	1	40.0	---	89	80-120%	---	---	
Acrylonitrile	21.5	1.00	2.00	ug/L	1	20.0	---	107	80-120%	---	---	
Benzene	19.7	0.100	0.200	ug/L	1	20.0	---	99	80-120%	---	---	
Bromobenzene	19.7	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Bromochloromethane	22.4	0.500	1.00	ug/L	1	20.0	---	112	80-120%	---	---	
Bromodichloromethane	21.1	0.500	1.00	ug/L	1	20.0	---	105	80-120%	---	---	
Bromoform	24.6	0.500	1.00	ug/L	1	20.0	---	**123**	**80-120%**	---	---	Q-56
Bromomethane	18.3	5.00	5.00	ug/L	1	20.0	---	92	80-120%	---	---	
2-Butanone (MEK)	39.2	5.00	10.0	ug/L	1	40.0	---	98	80-120%	---	---	
n-Butylbenzene	19.7	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
sec-Butylbenzene	18.7	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
tert-Butylbenzene	17.8	0.500	1.00	ug/L	1	20.0	---	89	80-120%	---	---	
Carbon disulfide	18.3	5.00	10.0	ug/L	1	20.0	---	91	80-120%	---	---	
Carbon tetrachloride	20.3	0.500	1.00	ug/L	1	20.0	---	102	80-120%	---	---	
Chlorobenzene	19.6	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Chloroethane	14.9	5.00	5.00	ug/L	1	20.0	---	**74**	**80-120%**	---	---	Q-55
Chloroform	20.1	0.500	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
Chloromethane	20.6	2.50	5.00	ug/L	1	20.0	---	103	80-120%	---	---	
2-Chlorotoluene	18.7	0.500	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
4-Chlorotoluene	18.8	0.500	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
Dibromochloromethane	25.1	0.500	1.00	ug/L	1	20.0	---	**125**	**80-120%**	---	---	Q-56
1,2-Dibromo-3-chloropropane	20.2	2.50	5.00	ug/L	1	20.0	---	101	80-120%	---	---	
1,2-Dibromoethane (EDB)	19.9	0.250	0.500	ug/L	1	20.0	---	99	80-120%	---	---	
Dibromomethane	20.9	0.500	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
1,2-Dichlorobenzene	19.4	0.250	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
1,3-Dichlorobenzene	19.6	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
1,4-Dichlorobenzene	19.4	0.250	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
Dichlorodifluoromethane	16.4	0.500	1.00	ug/L	1	20.0	---	82	80-120%	---	---	
1,1-Dichloroethane	19.3	0.200	0.400	ug/L	1	20.0	---	97	80-120%	---	---	

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
LCS (9110564-BS1)			Prepared: 11/07/19 09:00		Analyzed: 11/07/19 10:37							
1,2-Dichloroethane (EDC)	18.5	0.200	0.400	ug/L	1	20.0	---	93	80-120%	---	---	
1,1-Dichloroethene	18.6	0.200	0.400	ug/L	1	20.0	---	93	80-120%	---	---	
cis-1,2-Dichloroethene	19.5	0.200	0.400	ug/L	1	20.0	---	98	80-120%	---	---	
trans-1,2-Dichloroethene	19.8	0.200	0.400	ug/L	1	20.0	---	99	80-120%	---	---	
1,2-Dichloropropane	19.9	0.250	0.500	ug/L	1	20.0	---	100	80-120%	---	---	
1,3-Dichloropropane	19.8	0.500	1.00	ug/L	1	20.0	---	99	80-120%	---	---	
2,2-Dichloropropane	18.6	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
1,1-Dichloropropene	18.9	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
cis-1,3-Dichloropropene	19.7	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
trans-1,3-Dichloropropene	19.0	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Ethylbenzene	18.6	0.250	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Hexachlorobutadiene	18.2	2.50	5.00	ug/L	1	20.0	---	91	80-120%	---	---	
2-Hexanone	38.4	5.00	10.0	ug/L	1	40.0	---	96	80-120%	---	---	
Isopropylbenzene	18.8	0.500	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
4-Isopropyltoluene	19.3	0.500	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
Methylene chloride	19.6	2.50	5.00	ug/L	1	20.0	---	98	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	39.3	5.00	10.0	ug/L	1	40.0	---	98	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	17.8	0.500	1.00	ug/L	1	20.0	---	89	80-120%	---	---	
Naphthalene	18.5	1.00	2.00	ug/L	1	20.0	---	92	80-120%	---	---	
n-Propylbenzene	18.8	0.250	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
Styrene	19.3	0.500	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
1,1,1,2-Tetrachloroethane	21.5	0.200	0.400	ug/L	1	20.0	---	107	80-120%	---	---	
1,1,2,2-Tetrachloroethane	21.0	0.250	0.500	ug/L	1	20.0	---	105	80-120%	---	---	
Tetrachloroethene (PCE)	19.9	0.200	0.400	ug/L	1	20.0	---	100	80-120%	---	---	
Toluene	18.8	0.250	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
1,2,3-Trichlorobenzene	19.6	1.00	2.00	ug/L	1	20.0	---	98	80-120%	---	---	
1,2,4-Trichlorobenzene	18.6	1.00	2.00	ug/L	1	20.0	---	93	80-120%	---	---	
1,1,1-Trichloroethane	18.8	0.200	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
1,1,2-Trichloroethane	20.4	0.250	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Trichloroethene (TCE)	19.9	0.200	0.400	ug/L	1	20.0	---	100	80-120%	---	---	
Trichlorofluoromethane	18.5	1.00	2.00	ug/L	1	20.0	---	92	80-120%	---	---	
1,2,3-Trichloropropane	20.0	0.500	1.00	ug/L	1	20.0	---	100	80-120%	---	---	
1,2,4-Trimethylbenzene	19.1	0.500	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,3,5-Trimethylbenzene	19.3	0.500	1.00	ug/L	1	20.0	---	96	80-120%	---	---	

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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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
LCS (9110564-BS1)			Prepared: 11/07/19 09:00 Analyzed: 11/07/19 10:37									
Vinyl chloride	18.8	0.200	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
m,p-Xylene	37.4	0.500	1.00	ug/L	1	40.0	---	94	80-120%	---	---	
o-Xylene	18.6	0.250	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 105 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*99 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*				*"*			
Duplicate (9110564-DUP1)			Prepared: 11/07/19 11:36 Analyzed: 11/07/19 18:44									
QC Source Sample: PDI-074PW-08-10-191104 (A9K0165-06)												
EPA 8260C												
Acetone	ND	1000	2000	ug/L	100	---	ND	---	---	---	30%	
Acrylonitrile	ND	100	200	ug/L	100	---	ND	---	---	---	30%	
Benzene	**1070**	10.0	20.0	ug/L	100	---	1090	---	---	2	30%	
Bromobenzene	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
Bromochloromethane	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Bromodichloromethane	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Bromoform	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Bromomethane	ND	500	500	ug/L	100	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	500	1000	ug/L	100	---	ND	---	---	---	30%	
n-Butylbenzene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Carbon disulfide	ND	500	1000	ug/L	100	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Chlorobenzene	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
Chloroethane	ND	500	500	ug/L	100	---	ND	---	---	---	30%	
Chloroform	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Chloromethane	ND	250	500	ug/L	100	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Dibromochloromethane	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	250	500	ug/L	100	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
Dibromomethane	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Duplicate (9110564-DUP1)			Prepared: 11/07/19 11:36 Analyzed: 11/07/19 18:44									
QC Source Sample: PDI-074PW-08-10-191104 (A9K0165-06)												
1,2-Dichlorobenzene	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Ethylbenzene	**344**	25.0	50.0	ug/L	100	---	350	---	---	2	30%	
Hexachlorobutadiene	ND	250	500	ug/L	100	---	ND	---	---	---	30%	
2-Hexanone	ND	500	1000	ug/L	100	---	ND	---	---	---	30%	
Isopropylbenzene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Methylene chloride	ND	250	500	ug/L	100	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	500	1000	ug/L	100	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Naphthalene	**14200**	100	200	ug/L	100	---	13800	---	---	3	30%	
n-Propylbenzene	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
Styrene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
Toluene	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	100	200	ug/L	100	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	100	200	ug/L	100	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Duplicate (9110564-DUP1)			Prepared: 11/07/19 11:36 Analyzed: 11/07/19 18:44									
QC Source Sample: PDI-074PW-08-10-191104 (A9K0165-06)												
1,1,2-Trichloroethane	ND	25.0	50.0	ug/L	100	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	100	200	ug/L	100	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	**51.1**	50.0	100	ug/L	100	---	52.2	---	---	2	30%	J
1,3,5-Trimethylbenzene	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
Vinyl chloride	ND	20.0	40.0	ug/L	100	---	ND	---	---	---	30%	
m,p-Xylene	**82.7**	50.0	100	ug/L	100	---	82.1	---	---	0.7	30%	J
o-Xylene	**86.0**	25.0	50.0	ug/L	100	---	84.2	---	---	2	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 105 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*102 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*100 %*		*80-120 %*				*"*			
Matrix Spike (9110564-MS1)			Prepared: 11/07/19 11:36 Analyzed: 11/07/19 19:37									**V-01**
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
EPA 8260C												
Acetone	3910	1000	2000	ug/L	100	4000	ND	98	39-160%	---	---	
Acrylonitrile	2250	100	200	ug/L	100	2000	ND	113	63-135%	---	---	
Benzene	17900	10.0	20.0	ug/L	100	2000	16100	93	79-120%	---	---	
Bromobenzene	2060	25.0	50.0	ug/L	100	2000	ND	103	80-120%	---	---	
Bromochloromethane	2400	50.0	100	ug/L	100	2000	ND	120	78-123%	---	---	
Bromodichloromethane	2210	50.0	100	ug/L	100	2000	ND	111	79-125%	---	---	
Bromoform	2500	50.0	100	ug/L	100	2000	ND	125	66-130%	---	---	Q-54
Bromomethane	2140	500	500	ug/L	100	2000	ND	107	53-141%	---	---	
2-Butanone (MEK)	4120	500	1000	ug/L	100	4000	ND	103	56-143%	---	---	
n-Butylbenzene	2100	50.0	100	ug/L	100	2000	ND	105	75-128%	---	---	
sec-Butylbenzene	1980	50.0	100	ug/L	100	2000	ND	99	77-126%	---	---	
tert-Butylbenzene	1880	50.0	100	ug/L	100	2000	ND	94	78-124%	---	---	
Carbon disulfide	2030	500	1000	ug/L	100	2000	ND	102	64-133%	---	---	
Carbon tetrachloride	2300	50.0	100	ug/L	100	2000	ND	115	72-136%	---	---	
Chlorobenzene	2090	25.0	50.0	ug/L	100	2000	ND	104	80-120%	---	---	
Chloroethane	1620	500	500	ug/L	100	2000	ND	81	60-138%	---	---	Q-54e
Chloroform	2170	50.0	100	ug/L	100	2000	ND	108	79-124%	---	---	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Matrix Spike (9110564-MS1)			Prepared: 11/07/19 11:36 Analyzed: 11/07/19 19:37									**V-01**
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
Chloromethane	2150	250	500	ug/L	100	2000	ND	107	50-139%	---	---	
2-Chlorotoluene	1960	50.0	100	ug/L	100	2000	ND	98	79-122%	---	---	
4-Chlorotoluene	1930	50.0	100	ug/L	100	2000	ND	97	78-122%	---	---	
Dibromochloromethane	2560	50.0	100	ug/L	100	2000	ND	**128**	**74-126%**	---	---	Q-54b
1,2-Dibromo-3-chloropropane	2010	250	500	ug/L	100	2000	ND	101	62-128%	---	---	
1,2-Dibromoethane (EDB)	2020	25.0	50.0	ug/L	100	2000	ND	101	77-121%	---	---	
Dibromomethane	2230	50.0	100	ug/L	100	2000	ND	111	79-123%	---	---	
1,2-Dichlorobenzene	2000	25.0	50.0	ug/L	100	2000	ND	100	80-120%	---	---	
1,3-Dichlorobenzene	2000	25.0	50.0	ug/L	100	2000	ND	100	80-120%	---	---	
1,4-Dichlorobenzene	1990	25.0	50.0	ug/L	100	2000	ND	100	79-120%	---	---	
Dichlorodifluoromethane	1780	50.0	100	ug/L	100	2000	ND	89	32-152%	---	---	
1,1-Dichloroethane	2110	20.0	40.0	ug/L	100	2000	ND	105	77-125%	---	---	
1,2-Dichloroethane (EDC)	1960	20.0	40.0	ug/L	100	2000	ND	98	73-128%	---	---	
1,1-Dichloroethene	2090	20.0	40.0	ug/L	100	2000	ND	105	71-131%	---	---	
cis-1,2-Dichloroethene	2090	20.0	40.0	ug/L	100	2000	ND	104	78-123%	---	---	
trans-1,2-Dichloroethene	2180	20.0	40.0	ug/L	100	2000	ND	109	75-124%	---	---	
1,2-Dichloropropane	2140	25.0	50.0	ug/L	100	2000	ND	107	78-122%	---	---	
1,3-Dichloropropane	2050	50.0	100	ug/L	100	2000	ND	102	80-120%	---	---	
2,2-Dichloropropane	1800	50.0	100	ug/L	100	2000	ND	90	60-139%	---	---	
1,1-Dichloropropene	2100	50.0	100	ug/L	100	2000	ND	105	79-125%	---	---	
cis-1,3-Dichloropropene	1900	50.0	100	ug/L	100	2000	ND	95	75-124%	---	---	
trans-1,3-Dichloropropene	1900	50.0	100	ug/L	100	2000	ND	95	73-127%	---	---	
Ethylbenzene	2450	25.0	50.0	ug/L	100	2000	433	101	79-121%	---	---	
Hexachlorobutadiene	1860	250	500	ug/L	100	2000	ND	93	66-134%	---	---	
2-Hexanone	3930	500	1000	ug/L	100	4000	ND	98	57-139%	---	---	
Isopropylbenzene	2020	50.0	100	ug/L	100	2000	ND	101	72-131%	---	---	
4-Isopropyltoluene	1990	50.0	100	ug/L	100	2000	ND	99	77-127%	---	---	
Methylene chloride	2120	250	500	ug/L	100	2000	ND	106	74-124%	---	---	
4-Methyl-2-pentanone (MiBK)	3990	500	1000	ug/L	100	4000	ND	100	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	1880	50.0	100	ug/L	100	2000	ND	94	71-124%	---	---	
Naphthalene	16400	100	200	ug/L	100	2000	14100	114	61-128%	---	---	
n-Propylbenzene	1980	25.0	50.0	ug/L	100	2000	ND	99	76-126%	---	---	
Styrene	2090	50.0	100	ug/L	100	2000	ND	105	78-123%	---	---	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Matrix Spike (9110564-MS1)			Prepared: 11/07/19 11:36 Analyzed: 11/07/19 19:37									**V-01**
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
1,1,1,2-Tetrachloroethane	2220	20.0	40.0	ug/L	100	2000	ND	111	78-124%	---	---	
1,1,2,2-Tetrachloroethane	2080	25.0	50.0	ug/L	100	2000	ND	104	71-121%	---	---	
Tetrachloroethene (PCE)	2110	20.0	40.0	ug/L	100	2000	ND	105	74-129%	---	---	
Toluene	3890	25.0	50.0	ug/L	100	2000	1960	96	80-121%	---	---	
1,2,3-Trichlorobenzene	2050	100	200	ug/L	100	2000	ND	102	69-129%	---	---	
1,2,4-Trichlorobenzene	1960	100	200	ug/L	100	2000	ND	98	69-130%	---	---	
1,1,1-Trichloroethane	2050	20.0	40.0	ug/L	100	2000	ND	102	74-131%	---	---	
1,1,2-Trichloroethane	2150	25.0	50.0	ug/L	100	2000	ND	107	80-120%	---	---	
Trichloroethene (TCE)	2200	20.0	40.0	ug/L	100	2000	ND	110	79-123%	---	---	
Trichlorofluoromethane	2160	100	200	ug/L	100	2000	ND	108	65-141%	---	---	
1,2,3-Trichloropropane	1990	50.0	100	ug/L	100	2000	ND	99	73-122%	---	---	
1,2,4-Trimethylbenzene	2070	50.0	100	ug/L	100	2000	50.9	101	76-124%	---	---	
1,3,5-Trimethylbenzene	2000	50.0	100	ug/L	100	2000	ND	100	75-124%	---	---	
Vinyl chloride	2120	20.0	40.0	ug/L	100	2000	ND	106	58-137%	---	---	
m,p-Xylene	4480	50.0	100	ug/L	100	4000	400	102	80-121%	---	---	
o-Xylene	2190	25.0	50.0	ug/L	100	2000	176	101	78-122%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 105 %*		*Limits: 80-120 %*		*Dilution: 1x*					
Toluene-d8 (Surr)			*99 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*		*"*					
Matrix Spike Dup (9110564-MSD1)			Prepared: 11/07/19 11:36 Analyzed: 11/07/19 20:04									**V-01**
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
EPA 8260C												
Acetone	4040	1000	2000	ug/L	100	4000	ND	101	39-160%	3	30%	
Acrylonitrile	2270	100	200	ug/L	100	2000	ND	114	63-135%	0.8	30%	
Benzene	18700	10.0	20.0	ug/L	100	2000	16100	**132**	**79-120%**	4	30%	Q-03
Bromobenzene	2090	25.0	50.0	ug/L	100	2000	ND	105	80-120%	1	30%	
Bromochloromethane	2430	50.0	100	ug/L	100	2000	ND	121	78-123%	1	30%	
Bromodichloromethane	2260	50.0	100	ug/L	100	2000	ND	113	79-125%	2	30%	
Bromoform	2510	50.0	100	ug/L	100	2000	ND	125	66-130%	0.3	30%	Q-54
Bromomethane	2120	500	500	ug/L	100	2000	ND	106	53-141%	0.7	30%	
2-Butanone (MEK)	4300	500	1000	ug/L	100	4000	ND	107	56-143%	4	30%	
n-Butylbenzene	2150	50.0	100	ug/L	100	2000	ND	107	75-128%	2	30%	

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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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Matrix Spike Dup (9110564-MSD1)			Prepared: 11/07/19 11:36		Analyzed: 11/07/19 20:04							**V-01**
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
sec-Butylbenzene	2010	50.0	100	ug/L	100	2000	ND	100	77-126%	1	30%	
tert-Butylbenzene	1930	50.0	100	ug/L	100	2000	ND	96	78-124%	2	30%	
Carbon disulfide	2100	500	1000	ug/L	100	2000	ND	105	64-133%	3	30%	
Carbon tetrachloride	2360	50.0	100	ug/L	100	2000	ND	118	72-136%	3	30%	
Chlorobenzene	2090	25.0	50.0	ug/L	100	2000	ND	104	80-120%	0.07	30%	
Chloroethane	1680	500	500	ug/L	100	2000	ND	84	60-138%	4	30%	Q-54e
Chloroform	2220	50.0	100	ug/L	100	2000	ND	111	79-124%	2	30%	
Chloromethane	2190	250	500	ug/L	100	2000	ND	109	50-139%	2	30%	
2-Chlorotoluene	2030	50.0	100	ug/L	100	2000	ND	101	79-122%	3	30%	
4-Chlorotoluene	2030	50.0	100	ug/L	100	2000	ND	101	78-122%	5	30%	
Dibromochloromethane	2580	50.0	100	ug/L	100	2000	ND	**129**	**74-126%**	0.9	30%	Q-54b
1,2-Dibromo-3-chloropropane	2080	250	500	ug/L	100	2000	ND	104	62-128%	3	30%	
1,2-Dibromoethane (EDB)	2070	25.0	50.0	ug/L	100	2000	ND	103	77-121%	2	30%	
Dibromomethane	2270	50.0	100	ug/L	100	2000	ND	114	79-123%	2	30%	
1,2-Dichlorobenzene	2010	25.0	50.0	ug/L	100	2000	ND	100	80-120%	0.5	30%	
1,3-Dichlorobenzene	2060	25.0	50.0	ug/L	100	2000	ND	103	80-120%	3	30%	
1,4-Dichlorobenzene	2030	25.0	50.0	ug/L	100	2000	ND	102	79-120%	2	30%	
Dichlorodifluoromethane	1830	50.0	100	ug/L	100	2000	ND	92	32-152%	3	30%	
1,1-Dichloroethane	2150	20.0	40.0	ug/L	100	2000	ND	107	77-125%	2	30%	
1,2-Dichloroethane (EDC)	2030	20.0	40.0	ug/L	100	2000	ND	102	73-128%	4	30%	
1,1-Dichloroethene	2140	20.0	40.0	ug/L	100	2000	ND	107	71-131%	2	30%	
cis-1,2-Dichloroethene	2150	20.0	40.0	ug/L	100	2000	ND	107	78-123%	3	30%	
trans-1,2-Dichloroethene	2240	20.0	40.0	ug/L	100	2000	ND	112	75-124%	3	30%	
1,2-Dichloropropane	2220	25.0	50.0	ug/L	100	2000	ND	111	78-122%	4	30%	
1,3-Dichloropropane	2080	50.0	100	ug/L	100	2000	ND	104	80-120%	2	30%	
2,2-Dichloropropane	1860	50.0	100	ug/L	100	2000	ND	93	60-139%	3	30%	
1,1-Dichloropropene	2180	50.0	100	ug/L	100	2000	ND	109	79-125%	4	30%	
cis-1,3-Dichloropropene	1950	50.0	100	ug/L	100	2000	ND	97	75-124%	2	30%	
trans-1,3-Dichloropropene	1940	50.0	100	ug/L	100	2000	ND	97	73-127%	2	30%	
Ethylbenzene	2490	25.0	50.0	ug/L	100	2000	433	103	79-121%	2	30%	
Hexachlorobutadiene	1940	250	500	ug/L	100	2000	ND	97	66-134%	4	30%	
2-Hexanone	4000	500	1000	ug/L	100	4000	ND	100	57-139%	2	30%	
Isopropylbenzene	2060	50.0	100	ug/L	100	2000	ND	103	72-131%	2	30%	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110564 - EPA 5030B							**Water**					
Matrix Spike Dup (9110564-MSD1)			Prepared: 11/07/19 11:36 Analyzed: 11/07/19 20:04									**V-01**
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
4-Isopropyltoluene	2050	50.0	100	ug/L	100	2000	ND	102	77-127%	3	30%	
Methylene chloride	2160	250	500	ug/L	100	2000	ND	108	74-124%	2	30%	
4-Methyl-2-pentanone (MiBK)	4110	500	1000	ug/L	100	4000	ND	103	67-130%	3	30%	
Methyl tert-butyl ether (MTBE)	1940	50.0	100	ug/L	100	2000	ND	97	71-124%	3	30%	
Naphthalene	16900	100	200	ug/L	100	2000	14100	**137**	**61-128%**	3	30%	Q-03
n-Propylbenzene	2040	25.0	50.0	ug/L	100	2000	ND	102	76-126%	3	30%	
Styrene	2090	50.0	100	ug/L	100	2000	ND	104	78-123%	0.4	30%	
1,1,1,2-Tetrachloroethane	2230	20.0	40.0	ug/L	100	2000	ND	112	78-124%	0.7	30%	
1,1,2,2-Tetrachloroethane	2190	25.0	50.0	ug/L	100	2000	ND	109	71-121%	5	30%	
Tetrachloroethene (PCE)	2140	20.0	40.0	ug/L	100	2000	ND	107	74-129%	2	30%	
Toluene	3940	25.0	50.0	ug/L	100	2000	1960	99	80-121%	1	30%	
1,2,3-Trichlorobenzene	2110	100	200	ug/L	100	2000	ND	106	69-129%	3	30%	
1,2,4-Trichlorobenzene	2010	100	200	ug/L	100	2000	ND	100	69-130%	2	30%	
1,1,1-Trichloroethane	2110	20.0	40.0	ug/L	100	2000	ND	106	74-131%	3	30%	
1,1,2-Trichloroethane	2160	25.0	50.0	ug/L	100	2000	ND	108	80-120%	0.5	30%	
Trichloroethene (TCE)	2260	20.0	40.0	ug/L	100	2000	ND	113	79-123%	3	30%	
Trichlorofluoromethane	2150	100	200	ug/L	100	2000	ND	108	65-141%	0.3	30%	
1,2,3-Trichloropropane	2060	50.0	100	ug/L	100	2000	ND	103	73-122%	3	30%	
1,2,4-Trimethylbenzene	2130	50.0	100	ug/L	100	2000	50.9	104	76-124%	3	30%	
1,3,5-Trimethylbenzene	2040	50.0	100	ug/L	100	2000	ND	102	75-124%	2	30%	
Vinyl chloride	2170	20.0	40.0	ug/L	100	2000	ND	108	58-137%	3	30%	
m,p-Xylene	4530	50.0	100	ug/L	100	4000	400	103	80-121%	1	30%	
o-Xylene	2240	25.0	50.0	ug/L	100	2000	176	103	78-122%	2	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 106 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*99 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B							**Water**					
Blank (9110605-BLK1)			Prepared: 11/08/19 09:00		Analyzed: 11/08/19 11:33							
EPA 8260C												
Acetone	ND	10.0	20.0	ug/L	1	---	---	---	---	---	---	
Acrylonitrile	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
Benzene	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Bromobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Bromochloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromoform	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Bromomethane	ND	5.00	5.00	ug/L	1	---	---	---	---	---	---	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Carbon disulfide	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Chlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Chloroethane	ND	5.00	5.00	ug/L	1	---	---	---	---	---	---	
Chloroform	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Chloromethane	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Dibromomethane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	1.00	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	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	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B							**Water**					
Blank (9110605-BLK1)			Prepared: 11/08/19 09:00		Analyzed: 11/08/19 11:33							
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	2.50	5.00	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	0.200	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
o-Xylene	ND	0.250	0.500	ug/L	1	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) *Recovery: 107 %* *Limits: 80-120 %* *Dilution: 1x*

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B							**Water**					
Blank (9110605-BLK1)				Prepared: 11/08/19 09:00 Analyzed: 11/08/19 11:33								
Surr: Toluene-d8 (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*			*"*					
LCS (9110605-BS1)				Prepared: 11/08/19 09:00 Analyzed: 11/08/19 10:40								
EPA 8260C												
Acetone	35.1	10.0	20.0	ug/L	1	40.0	---	88	80-120%	---	---	
Acrylonitrile	21.1	1.00	2.00	ug/L	1	20.0	---	105	80-120%	---	---	
Benzene	20.3	0.100	0.200	ug/L	1	20.0	---	101	80-120%	---	---	
Bromobenzene	20.2	0.250	0.500	ug/L	1	20.0	---	101	80-120%	---	---	
Bromochloromethane	23.3	0.500	1.00	ug/L	1	20.0	---	117	80-120%	---	---	
Bromodichloromethane	21.7	0.500	1.00	ug/L	1	20.0	---	108	80-120%	---	---	
Bromoform	24.8	0.500	1.00	ug/L	1	20.0	---	**124**	**80-120%**	---	---	Q-56
Bromomethane	20.5	5.00	5.00	ug/L	1	20.0	---	103	80-120%	---	---	
2-Butanone (MEK)	37.8	5.00	10.0	ug/L	1	40.0	---	95	80-120%	---	---	
n-Butylbenzene	19.5	0.500	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
sec-Butylbenzene	18.5	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
tert-Butylbenzene	17.6	0.500	1.00	ug/L	1	20.0	---	88	80-120%	---	---	
Carbon disulfide	19.3	5.00	10.0	ug/L	1	20.0	---	96	80-120%	---	---	
Carbon tetrachloride	21.4	0.500	1.00	ug/L	1	20.0	---	107	80-120%	---	---	
Chlorobenzene	19.5	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Chloroethane	16.4	5.00	5.00	ug/L	1	20.0	---	82	80-120%	---	---	
Chloroform	20.6	0.500	1.00	ug/L	1	20.0	---	103	80-120%	---	---	
Chloromethane	19.1	2.50	5.00	ug/L	1	20.0	---	95	80-120%	---	---	
2-Chlorotoluene	19.0	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
4-Chlorotoluene	18.9	0.500	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
Dibromochloromethane	25.1	0.500	1.00	ug/L	1	20.0	---	**126**	**80-120%**	---	---	Q-56
1,2-Dibromo-3-chloropropane	19.7	2.50	5.00	ug/L	1	20.0	---	98	80-120%	---	---	
1,2-Dibromoethane (EDB)	19.6	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Dibromomethane	21.6	0.500	1.00	ug/L	1	20.0	---	108	80-120%	---	---	
1,2-Dichlorobenzene	19.7	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
1,3-Dichlorobenzene	19.7	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
1,4-Dichlorobenzene	19.4	0.250	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
Dichlorodifluoromethane	15.7	1.00	1.00	ug/L	1	20.0	---	**79**	**80-120%**	---	---	Q-55
1,1-Dichloroethane	19.9	0.200	0.400	ug/L	1	20.0	---	99	80-120%	---	---	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B							**Water**					
LCS (9110605-BS1)			Prepared: 11/08/19 09:00		Analyzed: 11/08/19 10:40							
1,2-Dichloroethane (EDC)	18.8	0.200	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
1,1-Dichloroethene	19.2	0.200	0.400	ug/L	1	20.0	---	96	80-120%	---	---	
cis-1,2-Dichloroethene	19.9	0.200	0.400	ug/L	1	20.0	---	100	80-120%	---	---	
trans-1,2-Dichloroethene	20.2	0.200	0.400	ug/L	1	20.0	---	101	80-120%	---	---	
1,2-Dichloropropane	20.6	0.250	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
1,3-Dichloropropane	19.4	0.500	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
2,2-Dichloropropane	18.6	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
1,1-Dichloropropene	19.5	0.500	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
cis-1,3-Dichloropropene	19.2	0.500	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
trans-1,3-Dichloropropene	18.6	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
Ethylbenzene	18.6	0.250	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Hexachlorobutadiene	17.4	2.50	5.00	ug/L	1	20.0	---	87	80-120%	---	---	
2-Hexanone	35.4	5.00	10.0	ug/L	1	40.0	---	88	80-120%	---	---	
Isopropylbenzene	18.4	0.500	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
4-Isopropyltoluene	19.0	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Methylene chloride	20.9	2.50	5.00	ug/L	1	20.0	---	104	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	37.1	5.00	10.0	ug/L	1	40.0	---	93	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	17.9	0.500	1.00	ug/L	1	20.0	---	89	80-120%	---	---	
Naphthalene	18.0	1.00	2.00	ug/L	1	20.0	---	90	80-120%	---	---	
n-Propylbenzene	18.7	0.250	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
Styrene	18.9	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,1,1,2-Tetrachloroethane	21.6	0.200	0.400	ug/L	1	20.0	---	108	80-120%	---	---	
1,1,2,2-Tetrachloroethane	20.5	0.250	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Tetrachloroethene (PCE)	19.6	0.200	0.400	ug/L	1	20.0	---	98	80-120%	---	---	
Toluene	18.5	0.500	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
1,2,3-Trichlorobenzene	19.0	1.00	2.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,2,4-Trichlorobenzene	18.3	1.00	2.00	ug/L	1	20.0	---	92	80-120%	---	---	
1,1,1-Trichloroethane	19.0	0.200	0.400	ug/L	1	20.0	---	95	80-120%	---	---	
1,1,2-Trichloroethane	20.3	0.250	0.500	ug/L	1	20.0	---	101	80-120%	---	---	
Trichloroethene (TCE)	21.4	0.200	0.400	ug/L	1	20.0	---	107	80-120%	---	---	
Trichlorofluoromethane	20.4	1.00	2.00	ug/L	1	20.0	---	102	80-120%	---	---	
1,2,3-Trichloropropane	19.5	0.500	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
1,2,4-Trimethylbenzene	19.0	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,3,5-Trimethylbenzene	19.1	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B												**Water**
LCS (9110605-BS1)			Prepared: 11/08/19 09:00 Analyzed: 11/08/19 10:40									
Vinyl chloride	19.5	0.200	0.400	ug/L	1	20.0	---	97	80-120%	---	---	
m,p-Xylene	37.0	0.500	1.00	ug/L	1	40.0	---	93	80-120%	---	---	
o-Xylene	18.2	0.250	0.500	ug/L	1	20.0	---	91	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 107 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*99 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*98 %*		*80-120 %*				*"*			
Duplicate (9110605-DUP1)			Prepared: 11/08/19 11:39 Analyzed: 11/08/19 16:56									
QC Source Sample: Non-SDG (A9K0224-14)												
Acetone	ND	100	200	ug/L	10	---	ND	---	---	---	30%	
Acrylonitrile	ND	10.0	20.0	ug/L	10	---	ND	---	---	---	30%	
Benzene	ND	1.00	2.00	ug/L	10	---	ND	---	---	---	30%	
Bromobenzene	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
Bromochloromethane	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromodichloromethane	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromoform	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromomethane	ND	50.0	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	50.0	100	ug/L	10	---	ND	---	---	---	30%	
n-Butylbenzene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Carbon disulfide	ND	50.0	100	ug/L	10	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Chlorobenzene	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
Chloroethane	ND	50.0	50.0	ug/L	10	---	ND	---	---	---	30%	
Chloroform	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Chloromethane	ND	25.0	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Dibromochloromethane	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	25.0	50.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
Dibromomethane	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B							**Water**					
Duplicate (9110605-DUP1)			Prepared: 11/08/19 11:39 Analyzed: 11/08/19 16:56									
QC Source Sample: Non-SDG (A9K0224-14)												
1,3-Dichlorobenzene	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	10.0	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Ethylbenzene	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
Hexachlorobutadiene	ND	25.0	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Hexanone	ND	50.0	100	ug/L	10	---	ND	---	---	---	30%	
Isopropylbenzene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Methylene chloride	ND	25.0	50.0	ug/L	10	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	50.0	100	ug/L	10	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Naphthalene	ND	10.0	20.0	ug/L	10	---	ND	---	---	---	30%	
n-Propylbenzene	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
Styrene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
Toluene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	10.0	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	10.0	20.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B							**Water**					
Duplicate (9110605-DUP1)			Prepared: 11/08/19 11:39 Analyzed: 11/08/19 16:56									
QC Source Sample: Non-SDG (A9K0224-14)												
Trichloroethene (TCE)	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	10.0	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
Vinyl chloride	ND	2.00	4.00	ug/L	10	---	ND	---	---	---	30%	
m,p-Xylene	ND	5.00	10.0	ug/L	10	---	ND	---	---	---	30%	
o-Xylene	ND	2.50	5.00	ug/L	10	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 108 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*101 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*100 %*	*80-120 %*			*"*					
Matrix Spike (9110605-MS1)			Prepared: 11/08/19 11:39 Analyzed: 11/08/19 17:50									
QC Source Sample: Non-SDG (A9K0224-05)												
EPA 8260C												
Acetone	38.9	10.0	20.0	ug/L	1	40.0	ND	97	39-160%	---	---	
Acrylonitrile	21.7	1.00	2.00	ug/L	1	20.0	ND	109	63-135%	---	---	
Benzene	20.9	0.100	0.200	ug/L	1	20.0	ND	105	79-120%	---	---	
Bromobenzene	19.8	0.250	0.500	ug/L	1	20.0	ND	99	80-120%	---	---	
Bromochloromethane	23.6	0.500	1.00	ug/L	1	20.0	ND	118	78-123%	---	---	
Bromodichloromethane	21.8	0.500	1.00	ug/L	1	20.0	ND	109	79-125%	---	---	
Bromoform	24.6	0.500	1.00	ug/L	1	20.0	ND	123	66-130%	---	---	Q-54a
Bromomethane	21.9	5.00	5.00	ug/L	1	20.0	ND	110	53-141%	---	---	
2-Butanone (MEK)	39.5	5.00	10.0	ug/L	1	40.0	ND	99	56-143%	---	---	
n-Butylbenzene	17.5	0.500	1.00	ug/L	1	20.0	ND	88	75-128%	---	---	
sec-Butylbenzene	17.5	0.500	1.00	ug/L	1	20.0	ND	87	77-126%	---	---	
tert-Butylbenzene	16.9	0.500	1.00	ug/L	1	20.0	ND	84	78-124%	---	---	
Carbon disulfide	19.9	5.00	10.0	ug/L	1	20.0	ND	100	64-133%	---	---	
Carbon tetrachloride	22.6	0.500	1.00	ug/L	1	20.0	ND	113	72-136%	---	---	
Chlorobenzene	20.2	0.250	0.500	ug/L	1	20.0	ND	101	80-120%	---	---	
Chloroethane	17.5	5.00	5.00	ug/L	1	20.0	ND	88	60-138%	---	---	
Chloroform	21.3	0.500	1.00	ug/L	1	20.0	ND	107	79-124%	---	---	
Chloromethane	19.2	2.50	5.00	ug/L	1	20.0	ND	96	50-139%	---	---	

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B							**Water**					
Matrix Spike (9110605-MS1)			Prepared: 11/08/19 11:39		Analyzed: 11/08/19 17:50							
QC Source Sample: Non-SDG (A9K0224-05)												
2-Chlorotoluene	18.6	0.500	1.00	ug/L	1	20.0	ND	93	79-122%	---	---	
4-Chlorotoluene	18.5	0.500	1.00	ug/L	1	20.0	ND	92	78-122%	---	---	
Dibromochloromethane	25.5	0.500	1.00	ug/L	1	20.0	ND	**128**	**74-126%**	---	---	Q-54c
1,2-Dibromo-3-chloropropane	19.7	2.50	5.00	ug/L	1	20.0	ND	98	62-128%	---	---	
1,2-Dibromoethane (EDB)	20.2	0.250	0.500	ug/L	1	20.0	ND	101	77-121%	---	---	
Dibromomethane	22.1	0.500	1.00	ug/L	1	20.0	ND	110	79-123%	---	---	
1,2-Dichlorobenzene	18.7	0.250	0.500	ug/L	1	20.0	ND	93	80-120%	---	---	
1,3-Dichlorobenzene	18.8	0.250	0.500	ug/L	1	20.0	ND	94	80-120%	---	---	
1,4-Dichlorobenzene	18.6	0.250	0.500	ug/L	1	20.0	ND	93	79-120%	---	---	
Dichlorodifluoromethane	16.3	1.00	1.00	ug/L	1	20.0	ND	82	32-152%	---	---	Q-54d
1,1-Dichloroethane	20.3	0.200	0.400	ug/L	1	20.0	ND	101	77-125%	---	---	
1,2-Dichloroethane (EDC)	19.2	0.200	0.400	ug/L	1	20.0	ND	96	73-128%	---	---	
1,1-Dichloroethene	20.3	0.200	0.400	ug/L	1	20.0	ND	101	71-131%	---	---	
cis-1,2-Dichloroethene	20.3	0.200	0.400	ug/L	1	20.0	ND	102	78-123%	---	---	
trans-1,2-Dichloroethene	20.9	0.200	0.400	ug/L	1	20.0	ND	105	75-124%	---	---	
1,2-Dichloropropane	20.8	0.250	0.500	ug/L	1	20.0	ND	104	78-122%	---	---	
1,3-Dichloropropane	20.1	0.500	1.00	ug/L	1	20.0	ND	101	80-120%	---	---	
2,2-Dichloropropane	18.2	0.500	1.00	ug/L	1	20.0	ND	91	60-139%	---	---	
1,1-Dichloropropene	20.3	0.500	1.00	ug/L	1	20.0	ND	101	79-125%	---	---	
cis-1,3-Dichloropropene	18.4	0.500	1.00	ug/L	1	20.0	ND	92	75-124%	---	---	
trans-1,3-Dichloropropene	18.5	0.500	1.00	ug/L	1	20.0	ND	92	73-127%	---	---	
Ethylbenzene	19.2	0.250	0.500	ug/L	1	20.0	ND	96	79-121%	---	---	
Hexachlorobutadiene	12.5	2.50	5.00	ug/L	1	20.0	ND	**63**	**66-134%**	---	---	Q-01
2-Hexanone	37.2	5.00	10.0	ug/L	1	40.0	ND	93	57-139%	---	---	
Isopropylbenzene	18.6	0.500	1.00	ug/L	1	20.0	ND	93	72-131%	---	---	
4-Isopropyltoluene	18.0	0.500	1.00	ug/L	1	20.0	ND	90	77-127%	---	---	
Methylene chloride	20.5	2.50	5.00	ug/L	1	20.0	ND	102	74-124%	---	---	
4-Methyl-2-pentanone (MiBK)	38.6	5.00	10.0	ug/L	1	40.0	ND	96	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	18.0	0.500	1.00	ug/L	1	20.0	ND	90	71-124%	---	---	
Naphthalene	16.5	1.00	2.00	ug/L	1	20.0	ND	83	61-128%	---	---	
n-Propylbenzene	18.4	0.250	0.500	ug/L	1	20.0	ND	92	76-126%	---	---	
Styrene	19.0	0.500	1.00	ug/L	1	20.0	ND	95	78-123%	---	---	
1,1,1,2-Tetrachloroethane	21.9	0.200	0.400	ug/L	1	20.0	ND	110	78-124%	---	---	

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EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

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 9110605 - EPA 5030B							**Water**					
Matrix Spike (9110605-MS1)			Prepared: 11/08/19 11:39 Analyzed: 11/08/19 17:50									
QC Source Sample: Non-SDG (A9K0224-05)												
1,1,2,2-Tetrachloroethane	20.8	0.250	0.500	ug/L	1	20.0	ND	104	71-121%	---	---	
Tetrachloroethene (PCE)	20.3	0.200	0.400	ug/L	1	20.0	ND	101	74-129%	---	---	
Toluene	19.4	0.500	1.00	ug/L	1	20.0	ND	97	80-121%	---	---	
1,2,3-Trichlorobenzene	16.2	1.00	2.00	ug/L	1	20.0	ND	81	69-129%	---	---	
1,2,4-Trichlorobenzene	16.0	1.00	2.00	ug/L	1	20.0	ND	80	69-130%	---	---	
1,1,1-Trichloroethane	19.9	0.200	0.400	ug/L	1	20.0	ND	100	74-131%	---	---	
1,1,2-Trichloroethane	21.0	0.250	0.500	ug/L	1	20.0	ND	105	80-120%	---	---	
Trichloroethene (TCE)	21.6	0.200	0.400	ug/L	1	20.0	ND	108	79-123%	---	---	
Trichlorofluoromethane	21.4	1.00	2.00	ug/L	1	20.0	ND	107	65-141%	---	---	
1,2,3-Trichloropropane	19.9	0.500	1.00	ug/L	1	20.0	ND	99	73-122%	---	---	
1,2,4-Trimethylbenzene	18.7	0.500	1.00	ug/L	1	20.0	ND	93	76-124%	---	---	
1,3,5-Trimethylbenzene	18.5	0.500	1.00	ug/L	1	20.0	ND	93	75-124%	---	---	
Vinyl chloride	19.9	0.200	0.400	ug/L	1	20.0	ND	100	58-137%	---	---	
m,p-Xylene	38.1	0.500	1.00	ug/L	1	40.0	ND	95	80-121%	---	---	
o-Xylene	18.6	0.250	0.500	ug/L	1	20.0	ND	93	78-122%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 105 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*98 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

Vinyl Chloride by EPA 8260C SIM

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9110678 - EPA 5030B							**Water**					
Blank (9110678-BLK1)			Prepared: 11/11/19 13:44 Analyzed: 11/11/19 15:48									
EPA 8260C SIM												
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*	*Limits: 70-130 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*96 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*94 %*	*70-130 %*			*"*					
LCS (9110678-BS1)			Prepared: 11/11/19 13:44 Analyzed: 11/11/19 15:21									
EPA 8260C SIM												
Vinyl chloride	0.177	0.0100	0.0200	ug/L	1	0.200	---	88	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*	*Limits: 70-130 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*96 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*93 %*	*70-130 %*			*"*					
Matrix Spike (9110678-MS1)			Prepared: 11/11/19 13:44 Analyzed: 11/11/19 19:50									**V-01**
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
EPA 8260C SIM												
Vinyl chloride	0.178	0.0100	0.0200	ug/L	1	0.200	ND	89	58-137%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 98 %*	*Limits: 70-130 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*96 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*95 %*	*70-130 %*			*"*					
Matrix Spike Dup (9110678-MSD1)			Prepared: 11/11/19 13:44 Analyzed: 11/11/19 20:17									**V-01**
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
EPA 8260C SIM												
Vinyl chloride	0.187	0.0100	0.0200	ug/L	1	0.200	ND	93	58-137%	5	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 97 %*	*Limits: 70-130 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*96 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*96 %*	*70-130 %*			*"*					

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D (Large Volume Injection)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9110577 - EPA 3511 (Bottle Extraction)							**Water**					
Blank (9110577-BLK1)			Prepared: 11/07/19 10:39 Analyzed: 11/07/19 13:25									
EPA 8270D LVI												
Acenaphthene	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.00794	0.0159	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.00794	0.0159	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.00794	0.0159	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.00794	0.0159	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.00794	0.0159	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.00794	0.0159	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.00794	0.0159	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0317	0.0635	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0317	0.0635	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.0317	0.0635	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.0317	0.0635	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.0159	0.0317	ug/L	1	---	---	---	---	---	---	
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Benzo(a)pyrene-d12 (Surr)			*107 %*		*80-143 %*				*"*			
LCS (9110577-BS1)			Prepared: 11/07/19 10:39 Analyzed: 11/07/19 13:57									
EPA 8270D LVI												
Acenaphthene	1.44	0.0160	0.0320	ug/L	1	1.60	---	90	78-135%	---	---	
Acenaphthylene	1.57	0.0160	0.0320	ug/L	1	1.60	---	98	80-126%	---	---	
Anthracene	1.53	0.0160	0.0320	ug/L	1	1.60	---	96	80-120%	---	---	
Benz(a)anthracene	1.59	0.00800	0.0160	ug/L	1	1.60	---	100	76-124%	---	---	
Benzo(a)pyrene	1.66	0.00800	0.0160	ug/L	1	1.60	---	104	71-127%	---	---	
Benzo(b)fluoranthene	1.57	0.00800	0.0160	ug/L	1	1.60	---	98	68-120%	---	---	
Benzo(k)fluoranthene	1.60	0.00800	0.0160	ug/L	1	1.60	---	100	72-120%	---	---	
Carbazole	1.41	0.0160	0.0320	ug/L	1	1.60	---	88	80-122%	---	---	

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D (Large Volume Injection)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9110577 - EPA 3511 (Bottle Extraction)							**Water**					
LCS (9110577-BS1)			Prepared: 11/07/19 10:39		Analyzed: 11/07/19 13:57							
Dibenzofuran	1.34	0.0160	0.0320	ug/L	1	1.60	---	84	75-122%	---	---	
Benzo(g,h,i)perylene	1.51	0.0160	0.0320	ug/L	1	1.60	---	94	71-120%	---	---	
Chrysene	1.49	0.00800	0.0160	ug/L	1	1.60	---	93	71-121%	---	---	
Dibenz(a,h)anthracene	1.50	0.00800	0.0160	ug/L	1	1.60	---	93	69-122%	---	---	
Fluoranthene	1.51	0.0160	0.0320	ug/L	1	1.60	---	94	80-120%	---	---	
Fluorene	1.33	0.0160	0.0320	ug/L	1	1.60	---	83	78-129%	---	---	
Indeno(1,2,3-cd)pyrene	1.39	0.00800	0.0160	ug/L	1	1.60	---	87	72-132%	---	---	
1-Methylnaphthalene	1.53	0.0320	0.0640	ug/L	1	1.60	---	95	76-150%	---	---	
2-Methylnaphthalene	1.51	0.0320	0.0640	ug/L	1	1.60	---	94	80-158%	---	---	
Naphthalene	1.47	0.0320	0.0640	ug/L	1	1.60	---	92	80-132%	---	---	
Phenanthrene	1.41	0.0320	0.0640	ug/L	1	1.60	---	88	80-120%	---	---	
Pyrene	1.48	0.0160	0.0320	ug/L	1	1.60	---	92	73-127%	---	---	
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Benzo(a)pyrene-d12 (Surr)			*107 %*		*80-143 %*				*"*			
Matrix Spike (9110577-MS1)			Prepared: 11/07/19 10:39		Analyzed: 11/07/19 15:33							
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
EPA 8270D LVI												
Acenaphthene	128	0.403	0.806	ug/L	20	2.01	142	**-720**	**78-135%**	---	---	Q-03
Acenaphthylene	167	0.403	0.806	ug/L	20	2.01	180	**-639**	**80-126%**	---	---	Q-03
Anthracene	17.3	0.403	0.806	ug/L	20	2.01	16.2	**53**	**80-120%**	---	---	Q-03
Benz(a)anthracene	3.32	0.201	0.403	ug/L	20	2.01	0.908	120	76-124%	---	---	
Benzo(a)pyrene	2.98	0.201	0.403	ug/L	20	2.01	0.672	114	71-127%	---	---	
Benzo(b)fluoranthene	2.80	0.504	0.504	ug/L	20	2.01	ND	**139**	**68-120%**	---	---	Q-02
Benzo(k)fluoranthene	2.80	0.403	0.403	ug/L	20	2.01	ND	**139**	**72-120%**	---	---	Q-02
Carbazole	201	0.403	0.806	ug/L	20	2.01	207	**-257**	**80-122%**	---	---	E, Q-03
Dibenzofuran	12.6	0.403	0.806	ug/L	20	2.01	11.1	75	75-122%	---	---	
Benzo(g,h,i)perylene	2.63	0.403	0.806	ug/L	20	2.01	ND	**130**	**71-120%**	---	---	Q-01
Chrysene	2.90	0.201	0.403	ug/L	20	2.01	0.905	99	71-121%	---	---	
Dibenz(a,h)anthracene	2.38	0.201	0.403	ug/L	20	2.01	ND	118	69-122%	---	---	
Fluoranthene	13.7	0.403	0.806	ug/L	20	2.01	12.9	**42**	**80-120%**	---	---	Q-03
Fluorene	57.3	0.403	0.806	ug/L	20	2.01	60.7	**-172**	**78-129%**	---	---	Q-03
Indeno(1,2,3-cd)pyrene	2.47	0.201	0.403	ug/L	20	2.01	0.305	108	72-132%	---	---	
1-Methylnaphthalene	216	0.806	1.61	ug/L	20	2.01	236	**-958**	**76-150%**	---	---	E, Q-03

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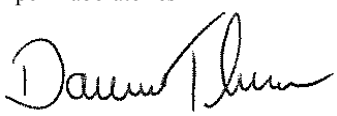

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Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D (Large Volume Injection)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9110577 - EPA 3511 (Bottle Extraction)								**Water**				
Matrix Spike (9110577-MS1)			Prepared: 11/07/19 10:39 Analyzed: 11/07/19 15:33									
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
2-Methylnaphthalene	336	0.806	1.61	ug/L	20	2.01	372	**-1800**	**80-158%**	---	---	E, Q-03
Naphthalene	8210	0.806	1.61	ug/L	20	2.01	7710	**24900**	**80-132%**	---	---	E, Q-03
Phenanthrene	74.0	0.806	1.61	ug/L	20	2.01	80.3	**-314**	**80-120%**	---	---	Q-03
Pyrene	13.7	0.403	0.806	ug/L	20	2.01	12.8	**47**	**73-127%**	---	---	Q-03
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 120 %*		*Limits: 80-120 %*			*Dilution: 20x*				S-05
Benzo(a)pyrene-d12 (Surr)			*149 %*		*80-143 %*			*"*				S-05
Matrix Spike Dup (9110577-MSD1)			Prepared: 11/07/19 10:39 Analyzed: 11/07/19 16:05									
QC Source Sample: PDI-073PW-03-05-191104 (A9K0165-05)												
EPA 8270D LVI												
Acenaphthene	120	0.403	0.806	ug/L	20	2.02	142	**-1080**	**78-135%**	6	30%	Q-03
Acenaphthylene	179	0.403	0.806	ug/L	20	2.02	180	**-37**	**80-126%**	7	30%	Q-03
Anthracene	9.50	0.403	0.806	ug/L	20	2.02	16.2	**-333**	**80-120%**	**58**	**30%**	Q-03
Benz(a)anthracene	3.04	0.202	0.403	ug/L	20	2.02	0.908	106	76-124%	9	30%	
Benzo(a)pyrene	3.23	0.202	0.403	ug/L	20	2.02	0.672	127	71-127%	8	30%	
Benzo(b)fluoranthene	2.81	0.504	0.504	ug/L	20	2.02	ND	**140**	**68-120%**	0.5	30%	Q-02
Benzo(k)fluoranthene	2.82	0.403	0.403	ug/L	20	2.02	ND	**140**	**72-120%**	0.7	30%	Q-02
Carbazole	211	0.403	0.806	ug/L	20	2.02	207	**196**	**80-122%**	4	30%	E, Q-03
Dibenzofuran	11.9	0.403	0.806	ug/L	20	2.02	11.1	**44**	**75-122%**	5	30%	Q-03
Benzo(g,h,i)perylene	2.69	0.403	0.806	ug/L	20	2.02	ND	**133**	**71-120%**	2	30%	Q-01
Chrysene	2.61	0.202	0.403	ug/L	20	2.02	0.905	85	71-121%	10	30%	
Dibenz(a,h)anthracene	2.59	0.202	0.403	ug/L	20	2.02	ND	**129**	**69-122%**	9	30%	Q-01
Fluoranthene	3.38	0.403	0.806	ug/L	20	2.02	12.9	**-472**	**80-120%**	**121**	**30%**	Q-03
Fluorene	51.3	0.403	0.806	ug/L	20	2.02	60.7	**-470**	**78-129%**	11	30%	Q-03
Indeno(1,2,3-cd)pyrene	2.52	0.202	0.403	ug/L	20	2.02	0.305	110	72-132%	2	30%	
1-Methylnaphthalene	266	0.806	1.61	ug/L	20	2.02	236	**1520**	**76-150%**	21	30%	E, Q-03
2-Methylnaphthalene	411	0.806	1.61	ug/L	20	2.02	372	**1910**	**80-158%**	20	30%	E, Q-03
Naphthalene	9360	0.806	1.61	ug/L	20	2.02	7710	**81900**	**80-132%**	13	30%	E, Q-03
Phenanthrene	23.5	0.806	1.61	ug/L	20	2.02	80.3	**-2820**	**80-120%**	**104**	**30%**	Q-03
Pyrene	3.78	0.403	0.806	ug/L	20	2.02	12.8	**-446**	**73-127%**	**114**	**30%**	Q-03
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 128 %*		*Limits: 80-120 %*			*Dilution: 20x*				S-05
Benzo(a)pyrene-d12 (Surr)			*149 %*		*80-143 %*			*"*				S-05

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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

SAMPLE PREPARATION INFORMATION

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: 9110564							
A9K0165-01	WQ	EPA 8260C	11/06/19 08:20	11/07/19 11:36	5mL/5mL	5mL/5mL	1.00
A9K0165-02	WQ	EPA 8260C	11/06/19 00:00	11/07/19 11:36	5mL/5mL	5mL/5mL	1.00
A9K0165-04	WX	EPA 8260C	11/04/19 08:47	11/07/19 11:36	5mL/5mL	5mL/5mL	1.00
A9K0165-05	WX	EPA 8260C	11/04/19 12:26	11/07/19 11:36	5mL/5mL	5mL/5mL	1.00
A9K0165-06	WX	EPA 8260C	11/04/19 15:52	11/07/19 11:36	5mL/5mL	5mL/5mL	1.00
Batch: 9110605							
A9K0165-01RE1	WQ	EPA 8260C	11/06/19 08:20	11/08/19 11:39	5mL/5mL	5mL/5mL	1.00
A9K0165-03RE1	WX	EPA 8260C	11/04/19 10:11	11/08/19 11:39	5mL/5mL	5mL/5mL	1.00
A9K0165-04RE1	WX	EPA 8260C	11/04/19 08:47	11/08/19 11:39	5mL/5mL	5mL/5mL	1.00
A9K0165-07RE1	WX	EPA 8260C	11/05/19 15:01	11/08/19 11:39	5mL/5mL	5mL/5mL	1.00

Vinyl Chloride by EPA 8260C SIM

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9110678							
A9K0165-01	WQ	EPA 8260C SIM	11/06/19 08:20	11/11/19 13:44	5mL/5mL	5mL/5mL	1.00
A9K0165-02	WQ	EPA 8260C SIM	11/06/19 00:00	11/11/19 13:44	5mL/5mL	5mL/5mL	1.00
A9K0165-03	WX	EPA 8260C SIM	11/04/19 10:11	11/11/19 13:44	5mL/5mL	5mL/5mL	1.00
A9K0165-04	WX	EPA 8260C SIM	11/04/19 08:47	11/11/19 13:44	5mL/5mL	5mL/5mL	1.00
A9K0165-05	WX	EPA 8260C SIM	11/04/19 12:26	11/11/19 13:44	5mL/5mL	5mL/5mL	1.00
A9K0165-06	WX	EPA 8260C SIM	11/04/19 15:52	11/11/19 13:44	5mL/5mL	5mL/5mL	1.00
A9K0165-07	WX	EPA 8260C SIM	11/05/19 15:01	11/11/19 13:44	5mL/5mL	5mL/5mL	1.00

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D (Large Volume Injection)

Prep: EPA 3511 (Bottle Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9110577							
A9K0165-01	WQ	EPA 8270D LVI	11/06/19 08:20	11/07/19 10:39	110.5mL/5mL	125mL/5mL	1.13
A9K0165-05	WX	EPA 8270D LVI	11/04/19 12:26	11/07/19 10:39	100.91mL/5mL	125mL/5mL	1.24
A9K0165-05RE1	WX	EPA 8270D LVI	11/04/19 12:26	11/07/19 10:39	100.91mL/5mL	125mL/5mL	1.24
A9K0165-05RE2	WX	EPA 8270D LVI	11/04/19 12:26	11/07/19 10:39	100.91mL/5mL	125mL/5mL	1.24
A9K0165-07RE1	WX	EPA 8270D LVI	11/05/19 15:01	11/07/19 10:39	90.79mL/5mL	125mL/5mL	1.38

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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

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

QUALIFIER DEFINITIONS

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

Apex Laboratories

E	Estimated Value. The result is above the calibration range of the instrument.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-02	Spike recovery is outside of established control limits due to matrix interference.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-42	Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or RPD for this analyte is outside laboratory control limits. (Refer to the QC Section of Analytical Report.)
Q-54	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +3%. The results are reported as Estimated Values.
Q-54a	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +4%. The results are reported as Estimated Values.
Q-54b	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +5%. The results are reported as Estimated Values.
Q-54c	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +6%. The results are reported as Estimated Values.
Q-54d	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -1%. The results are reported as Estimated Values.
Q-54e	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -6%. The results are reported as Estimated Values.
Q-55	Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA 8260C, however there is adequate sensitivity to ensure detection at the reporting level.
Q-56	Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260C
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
V-01	Sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

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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.

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Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

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.

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Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

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.

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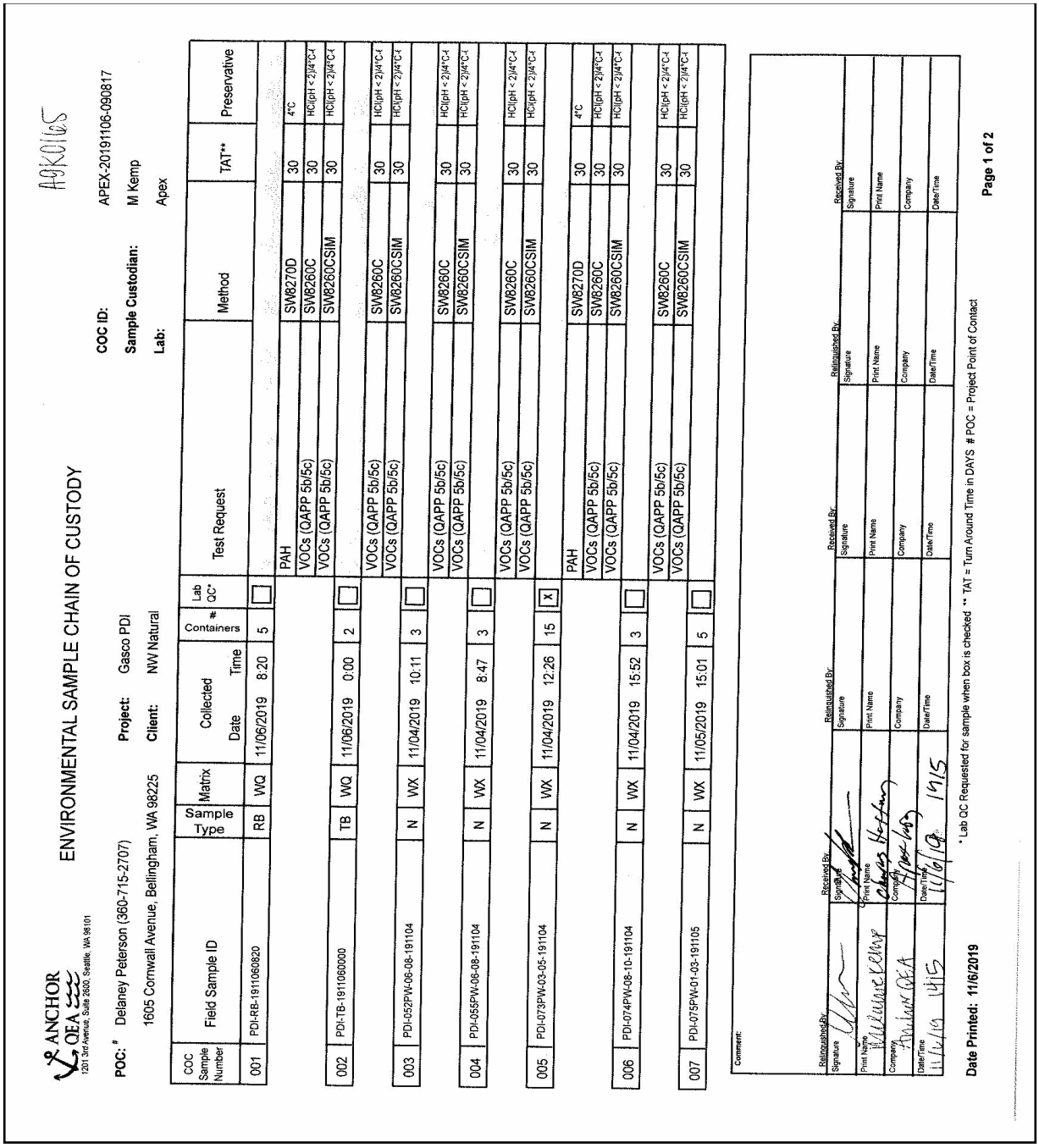
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9K0165

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-20191106-090817
Sample Custodian: M Kemp
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-RB-1911060820	RB	WQ	11/06/2019	8:20	5	☐	PAH	SW8270D	30	4°C
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
002	PDI-TB-1911060000	TB	WQ	11/06/2019	0:00	2	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
003	PDI-052PW-06-08-191104	N	WX	11/04/2019	10:11	3	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
004	PDI-055PW-06-08-191104	N	WX	11/04/2019	8:47	3	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
005	PDI-073PW-03-05-191104	N	WX	11/04/2019	12:26	15	☒	PAH	SW8270D	30	4°C
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
006	PDI-074PW-06-10-191104	N	WX	11/04/2019	15:52	3	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
007	PDI-075PW-01-03-191105	N	WX	11/05/2019	15:01	5	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f

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, 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: 11/6/2019

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

Page 1 of 2

Apex Laboratories

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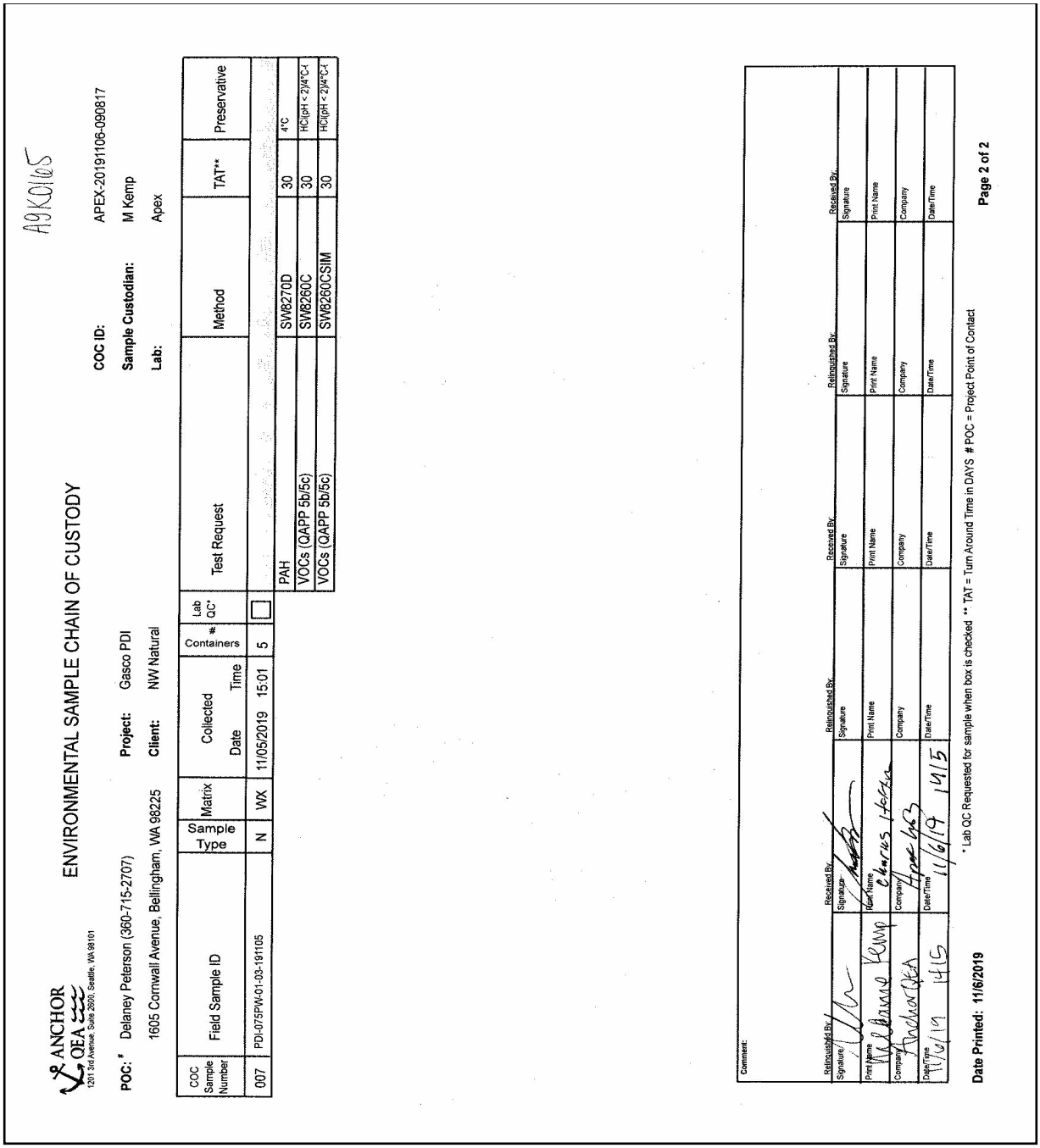
503-718-2323
EPA ID: OR01039

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9K0165

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

COC ID: APEX-20191106-090817

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

Project: Gasco PDI

Client: NW Natural

Sample Custodian: M Kemp

Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
007	PDI-07SPW-01-03-191105	N	WX	11/05/2019	15:01	5	☐	PAH	SW8270D	30	4°C
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature:	Signature:	Signature	Signature	Signature	Signature
Print Name:	Print Name: Delaney Kemp	Print Name	Print Name	Print Name	Print Name
Company:	Company: Anchor QEA	Company	Company	Company	Company
Date/Time: 11/6/19 1415	Date/Time: 11/6/19 1415	Date/Time	Date/Time	Date/Time	Date/Time

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

Date Printed: 11/6/2019

Page 2 of 2

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EPA ID: OR01039

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6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0165 - 12 04 19 1416**

APEX LABS COOLER RECEIPT FORM

Client: Anchor Element WO#: A9K0165

Project/Project #: Gasco PDI

Delivery Info:

Date/time received: 11/6/19 @ 1415 By: CFH

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

Cooler Inspection Date/time inspected: 11/6/19 @ 1444 By: CFH

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)	3.9						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	Real						
Condition:	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: 11/7/19 @ 947 By: (8)

All samples intact? Yes X No ___ Comments: ___

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

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

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

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

Comments 9/9 VOAs PDI-073PW-03-05-191104 + 1/3 VOAs PDI-074PW-08-191104 have HS

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

Comments: ___

Additional information: ___

Labeled by: (8) Witness: MS Cooler Inspected by: AWK See Project Contact Form: Y

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Darwin Thomas, Business Development Director

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

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

A9K0165

Apex Laboratories

Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 5c. PW in Contact with NAPL
Project Manager: Darwin Thomas
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: 11/20/19 17:00 (10 day TAT)
Received By: Charles F. Hoffman
Date Received: 11/06/19 14:15
Logged In By: Susan L. Treat
Date Logged In: 11/07/19 08:35

Cooler #1 received at 3.9°C

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

Analysis	Due	TAT	Expires	Comments
A9K0165-01 PDI-RB-1911060820 [Water] Sampled 11/06/19 08:20				
(GMT-08:00) Pacific Time (US & Canada) 5 Containers				
Project Mgmt				
Data Package	01/07/20 17:00	10	02/13/20 08:20	
Semivols (Scan)				
8270D PAH (125ml) LL	11/19/19 17:00	10	11/13/19 08:20	
Volatiles				
8260C Full List	11/19/19 17:00	10	11/20/19 08:20	All Compounds. SIM if VC ND - Determine List
8260C SIM - VC Only	11/19/19 17:00	10	11/20/19 08:20	Needs 0.022ug/L RL
A9K0165-02 PDI-TB-1911060000 [Water] Sampled 11/06/19 00:00				
(GMT-08:00) Pacific Time (US & Canada) 2 Containers				
Volatiles				
8260C Full List	11/19/19 17:00	10	11/20/19 00:00	All Compounds. SIM if VC ND - Determine List
8260C SIM - VC Only	11/19/19 17:00	10	11/20/19 00:00	Needs 0.022ug/L RL
A9K0165-03 PDI-052PW-06-08-191104 [Water] Sampled 11/04/19 10:11				
(GMT-08:00) Pacific Time (US & Canada) 3 Containers				
Volatiles				
8260C Full List	11/19/19 17:00	10	11/18/19 10:11	All Compounds. SIM if VC ND - Determine List
8260C SIM - VC Only	11/19/19 17:00	10	11/18/19 10:11	Needs 0.022ug/L RL
A9K0165-04 PDI-055PW-06-08-191104 [Water] Sampled 11/04/19 08:47				
(GMT-08:00) Pacific Time (US & Canada) 3 Containers				
Volatiles				
8260C Full List	11/19/19 17:00	10	11/18/19 08:47	All Compounds. SIM if VC ND - Determine List
8260C SIM - VC Only	11/19/19 17:00	10	11/18/19 08:47	Needs 0.022ug/L RL

A9K0165

Apex Laboratories

Client:	**Anchor QEA, LLC**	**Project Manager:**	**Darwin Thomas**
Project:	**Gasco PreRD_DG 2019 - 5c. PW in Contact with NAPL**	**Project Number:**	**[none]**

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**

A9K0165-05 PDI-073PW-03-05-191104 [Water] Sampled 11/04/19 12:26
(GMT-08:00) Pacific Time (US & Canada) 15 Containers

Semivols (Scan)

8270D PAH (125ml) LL	11/19/19 17:00	10	11/11/19 12:26	MS/MSD

Volatiles

8260C Full List	11/19/19 17:00	10	11/18/19 12:26	MS/MSD, HS in all voas, All Compounds. SIM if VC ND - Dete
8260C SIM - VC Only	11/19/19 17:00	10	11/18/19 12:26	MS/MSD, HS in all voas, Needs 0.022ug/L RL

A9K0165-06 PDI-074PW-08-10-191104 [Water] Sampled 11/04/19 15:52
(GMT-08:00) Pacific Time (US & Canada) 3 Containers

Volatiles

8260C Full List	11/19/19 17:00	10	11/18/19 15:52	HS in C container, All Compounds. SIM if VC ND - Determine I
8260C SIM - VC Only	11/19/19 17:00	10	11/18/19 15:52	HS in C container, Needs 0.022ug/L RL

A9K0165-07 PDI-075PW-01-03-191105 [Water] Sampled 11/05/19 15:01
(GMT-08:00) Pacific Time (US & Canada) 5 Containers

Semivols (Scan)

8270D PAH (125ml) LL	11/19/19 17:00	10	11/12/19 15:01	

Volatiles

8260C Full List	11/19/19 17:00	10	11/19/19 15:01	All Compounds. SIM if VC ND - Determine List
8260C SIM - VC Only	11/19/19 17:00	10	11/19/19 15:01	Needs 0.022ug/L RL

Reviewed By

Date

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9K0165

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20191106-090817
Sample Custodian: M Kemp
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-RB-1911060820	RB	WQ	11/06/2019	8:20	5	☐	PAH	SW8270D	30	4°C
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
002	PDI-TB-1911060000	TB	WQ	11/06/2019	0:00	2	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
003	PDI-052PW-06-08-191104	N	WX	11/04/2019	10:11	3	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
004	PDI-055PW-06-08-191104	N	WX	11/04/2019	8:47	3	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
005	PDI-073PW-03-05-191104	N	WX	11/04/2019	12:26	15	X	PAH	SW8270D	30	4°C
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
006	PDI-074PW-08-10-191104	N	WX	11/04/2019	15:52	3	☐	VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-f
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-f
007	PDI-075PW-01-03-191105	N	WX	11/05/2019	15:01	5	☐				

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: Melanie Kemp	Print Name: Charles Hoffman	Print Name	Print Name	Print Name	Print Name
Company: Anchor QEA	Company: Apex Labs	Company	Company	Company	Company
Date/Time: 11/6/19 1415	Date/Time: 11/6/19 1915	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 11/6/2019

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

A9K0165

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID: APEX-20191106-090817

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

Project: Gasco PDI
Client: NW Natural

Sample Custodian: M Kemp
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
007	PDI-075PW-01-03-191105	N	WX	11/05/2019	15:01	5	☐	PAH	SW8270D	30	4°C
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-(
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-(

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature:	Signature:	Signature	Signature	Signature	Signature
Print Name: Melanie Kemp	Print Name: Charles Hatton	Print Name	Print Name	Print Name	Print Name
Company: Anchor QEA	Company: Apex Labs	Company	Company	Company	Company
Date/Time: 11/6/19 1415	Date/Time: 11/6/19 1415	Date/Time	Date/Time	Date/Time	Date/Time

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

Date Printed: 11/6/2019

APEX LABS COOLER RECEIPT FORM

Client: Anchor Element WO#: A9 K0165

Project/Project #: Gasco PDI

Delivery Info:

Date/time received: 11/6/19 @ 1415 By: CFH

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

Cooler Inspection Date/time inspected: 11/6/19 @ 1444 By: CFH

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)	3.9						
Received on ice? (Y/N)	Y						
Temp. blanks? (Y/N)	Y						
Ice type: (Gel/Real/Other)	Real						
Condition:	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: 11/7/19 @ 947 By: (8)

All samples intact? Yes X No ___ Comments: ___

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

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

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

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

Comments 9/9 VOAs PDI-073PW-03-05-191104 + 1/3 VOAs PDI-074PW-08-191104 have HS

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

Comments: ___

Additional information: ___

Labeled by: (8) Witness: HD Cooler Inspected by: MW See Project Contact Form: Y

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

CLP-Like Forms

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: GCMS

METHOD: EPA 8260C

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 5c. PW in Contact with NA

Client Sample Id:	Lab Sample Id:	Matrix
PDI-RB-1911060820	A9K0165-01	WQ
PDI-TB-1911060000	A9K0165-02	WQ
PDI-052PW-06-08-191104	A9K0165-03	WX
PDI-055PW-06-08-191104	A9K0165-04	WX
PDI-073PW-03-05-191104	A9K0165-05	WX
PDI-074PW-08-10-191104	A9K0165-06	WX
PDI-075PW-01-03-191105	A9K0165-07	WX

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: 12/18/2019 11:43AM
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 - 5c. PW in Contac

Batch Matrix: Water

Analyte	MDL	MRL	Units
Acetone	10.0	20.0	ug/L
Acrylonitrile	1.00	2.00	ug/L
Benzene	0.100	0.200	ug/L
Bromobenzene	0.250	0.500	ug/L
Bromochloromethane	0.500	1.00	ug/L
Bromodichloromethane	0.500	1.00	ug/L
Bromoform	0.500	1.00	ug/L
Bromomethane	5.00	5.00	ug/L
2-Butanone (MEK)	5.00	10.0	ug/L
n-Butylbenzene	0.500	1.00	ug/L
sec-Butylbenzene	0.500	1.00	ug/L
tert-Butylbenzene	0.500	1.00	ug/L
Carbon disulfide	5.00	10.0	ug/L
Carbon tetrachloride	0.500	1.00	ug/L
Chlorobenzene	0.250	0.500	ug/L
Chloroethane	5.00	5.00	ug/L
Chloroform	0.500	1.00	ug/L
Chloromethane	2.50	5.00	ug/L
2-Chlorotoluene	0.500	1.00	ug/L
4-Chlorotoluene	0.500	1.00	ug/L
Dibromochloromethane	0.500	1.00	ug/L
1,2-Dibromo-3-chloropropane	2.50	5.00	ug/L
1,2-Dibromoethane (EDB)	0.250	0.500	ug/L
Dibromomethane	0.500	1.00	ug/L
1,2-Dichlorobenzene	0.250	0.500	ug/L
1,3-Dichlorobenzene	0.250	0.500	ug/L
1,4-Dichlorobenzene	0.250	0.500	ug/L
Dichlorodifluoromethane	0.500	1.00	ug/L
1,1-Dichloroethane	0.200	0.400	ug/L
1,2-Dichloroethane (EDC)	0.200	0.400	ug/L
1,1-Dichloroethene	0.200	0.400	ug/L
cis-1,2-Dichloroethene	0.200	0.400	ug/L
trans-1,2-Dichloroethene	0.200	0.400	ug/L
1,2-Dichloropropane	0.250	0.500	ug/L
1,3-Dichloropropane	0.500	1.00	ug/L
2,2-Dichloropropane	0.500	1.00	ug/L
1,1-Dichloropropene	0.500	1.00	ug/L

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

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

Client: Anchor QEA, LLC **Project:** Gasco_PreRD_DG 2019 - 5c. PW in Contac

Batch Matrix: Water

Analyte	MDL	MRL	Units
cis-1,3-Dichloropropene	0.500	1.00	ug/L
trans-1,3-Dichloropropene	0.500	1.00	ug/L
Ethylbenzene	0.250	0.500	ug/L
Hexachlorobutadiene	2.50	5.00	ug/L
n-Hexane	5.00	10.0	ug/L
2-Hexanone	5.00	10.0	ug/L
Isopropylbenzene	0.500	1.00	ug/L
4-Isopropyltoluene	0.500	1.00	ug/L
Methylene chloride	1.50	3.00	ug/L
4-Methyl-2-pentanone (MiBK)	5.00	10.0	ug/L
Methyl tert-butyl ether (MTBE)	0.500	1.00	ug/L
Naphthalene	1.00	2.00	ug/L
n-Propylbenzene	0.250	0.500	ug/L
Styrene	0.500	1.00	ug/L
1,1,1,2-Tetrachloroethane	0.200	0.400	ug/L
1,1,2,2-Tetrachloroethane	0.250	0.500	ug/L
Tetrachloroethene (PCE)	0.200	0.400	ug/L
Tetrahydrofuran	5.00	10.0	ug/L
Toluene	0.500	1.00	ug/L
1,2,3-Trichlorobenzene	1.00	2.00	ug/L
1,2,4-Trichlorobenzene	1.00	2.00	ug/L
1,1,1-Trichloroethane	0.200	0.400	ug/L
1,1,2-Trichloroethane	0.250	0.500	ug/L
Trichloroethene (TCE)	0.200	0.400	ug/L
Trichlorofluoromethane	1.00	2.00	ug/L
1,2,3-Trichloropropane	0.500	1.00	ug/L
1,1,2-Trichloro-1,2,2-trifluoroethane (Fr	1.00	2.00	ug/L
1,2,4-Trimethylbenzene	0.500	1.00	ug/L
1,3,5-Trimethylbenzene	0.500	1.00	ug/L
Isobutyl alcohol	250	250	ug/L
Vinyl chloride	0.200	0.400	ug/L
m,p-Xylene	0.500	1.00	ug/L
o-Xylene	0.250	0.500	ug/L
trans-1,4-Dichloro-2-butene	5.00	10.0	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-RB-1911060820

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WQ	Laboratory ID:	A9K0165-01	File ID:	VI19110709.D
Sampled:	11/06/19 08:20	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 13:48
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
107-13-1	Acrylonitrile	1	1.00	U
71-43-2	Benzene	1	0.100	U
108-86-1	Bromobenzene	1	0.250	U
74-97-5	Bromochloromethane	1	0.500	U
75-27-4	Bromodichloromethane	1	0.500	U
75-25-2	Bromoform	1	0.500	U
74-83-9	Bromomethane	1	5.00	U
78-93-3	2-Butanone (MEK)	1	5.00	U
104-51-8	n-Butylbenzene	1	0.500	U
135-98-8	sec-Butylbenzene	1	0.500	U
98-06-6	tert-Butylbenzene	1	0.500	U
75-15-0	Carbon disulfide	1	5.00	U
56-23-5	Carbon tetrachloride	1	0.500	U
108-90-7	Chlorobenzene	1	0.250	U
75-00-3	Chloroethane	1	5.00	U
67-66-3	Chloroform	1	0.500	U
74-87-3	Chloromethane	1	2.50	U
95-49-8	2-Chlorotoluene	1	0.500	U
106-43-4	4-Chlorotoluene	1	0.500	U
124-48-1	Dibromochloromethane	1	0.500	U
96-12-8	1,2-Dibromo-3-chloropropane	1	2.50	U
106-93-4	1,2-Dibromoethane (EDB)	1	0.250	U
74-95-3	Dibromomethane	1	0.500	U
95-50-1	1,2-Dichlorobenzene	1	0.250	U
541-73-1	1,3-Dichlorobenzene	1	0.250	U
106-46-7	1,4-Dichlorobenzene	1	0.250	U
75-71-8	Dichlorodifluoromethane	1	0.500	U
75-34-3	1,1-Dichloroethane	1	0.200	U
107-06-2	1,2-Dichloroethane (EDC)	1	0.200	U
75-35-4	1,1-Dichloroethene	1	0.200	U
156-59-2	cis-1,2-Dichloroethene	1	0.200	U
156-60-5	trans-1,2-Dichloroethene	1	0.200	U
78-87-5	1,2-Dichloropropane	1	0.250	U
142-28-9	1,3-Dichloropropane	1	0.500	U
594-20-7	2,2-Dichloropropane	1	0.500	U
563-58-6	1,1-Dichloropropene	1	0.500	U
10061-01-5	cis-1,3-Dichloropropene	1	0.500	U
10061-02-6	trans-1,3-Dichloropropene	1	0.500	U
100-41-4	Ethylbenzene	1	0.250	U
87-68-3	Hexachlorobutadiene	1	2.50	U

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-RB-1911060820

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WQ	Laboratory ID:	A9K0165-01	File ID:	VI19110709.D
Sampled:	11/06/19 08:20	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 13:48
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
110-54-3	n-Hexane	1	5.00	U
591-78-6	2-Hexanone	1	5.00	U
98-82-8	Isopropylbenzene	1	0.500	U
99-87-6	4-Isopropyltoluene	1	0.500	U
75-09-2	Methylene chloride	1	2.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	1	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.500	U
91-20-3	Naphthalene	1	1.00	U
103-65-1	n-Propylbenzene	1	0.250	U
100-42-5	Styrene	1	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	1	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.250	U
127-18-4	Tetrachloroethene (PCE)	1	0.200	U
109-99-9	Tetrahydrofuran	1	5.00	U
87-61-6	1,2,3-Trichlorobenzene	1	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1	1.00	U
71-55-6	1,1,1-Trichloroethane	1	0.200	U
79-00-5	1,1,2-Trichloroethane	1	0.250	U
79-01-6	Trichloroethene (TCE)	1	0.200	U
75-69-4	Trichlorofluoromethane	1	1.00	U
96-18-4	1,2,3-Trichloropropane	1	0.500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1	0.500	U
108-67-8	1,3,5-Trimethylbenzene	1	0.500	U
78-83-1	Isobutyl alcohol	1	250	U
108-88-3	Toluene	1	0.500	U
75-01-4	Vinyl chloride	1	0.200	U
179601-23-1	m,p-Xylene	1	0.500	U
95-47-6	o-Xylene	1	0.250	U
110-57-6	trans-1,4-Dichloro-2-butene	1	5.00	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.9	108	80 - 120	
Toluene-d8 (Surr)	50.0	50.4	101	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	48.9	98	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	92867	6.217	108525	6.211	
Chlorobenzene-d5 (ISTD)	269063	9.916	305974	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	123353	11.856	148963	11.85	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-RB-1911060820

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WQ	Laboratory ID:	A9K0165-01RE1	File ID:	VI19110811.D
Sampled:	11/06/19 08:20	Prepared:	11/08/19 11:39	Analyzed:	11/08/19 13:48
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110605 Sequence: 9K08020 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	10	515	D

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.4	107	80 - 120	
Toluene-d8 (Surr)	50.0	51.1	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.3	103	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	100218	6.217	98305	6.217	
Chlorobenzene-d5 (ISTD)	281172	9.916	288214	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	126275	11.85	137464	11.85	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-TB-1911060000

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WQ	Laboratory ID:	A9K0165-02	File ID:	VI19110707.D
Sampled:	11/06/19 00:00	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 11:58
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	1	10.0	U
107-13-1	Acrylonitrile	1	1.00	U
71-43-2	Benzene	1	0.100	U
108-86-1	Bromobenzene	1	0.250	U
74-97-5	Bromochloromethane	1	0.500	U
75-27-4	Bromodichloromethane	1	0.500	U
75-25-2	Bromoform	1	0.500	U
74-83-9	Bromomethane	1	5.00	U
78-93-3	2-Butanone (MEK)	1	5.00	U
104-51-8	n-Butylbenzene	1	0.500	U
135-98-8	sec-Butylbenzene	1	0.500	U
98-06-6	tert-Butylbenzene	1	0.500	U
75-15-0	Carbon disulfide	1	5.00	U
56-23-5	Carbon tetrachloride	1	0.500	U
108-90-7	Chlorobenzene	1	0.250	U
75-00-3	Chloroethane	1	5.00	U
67-66-3	Chloroform	1	0.500	U
74-87-3	Chloromethane	1	2.50	U
95-49-8	2-Chlorotoluene	1	0.500	U
106-43-4	4-Chlorotoluene	1	0.500	U
124-48-1	Dibromochloromethane	1	0.500	U
96-12-8	1,2-Dibromo-3-chloropropane	1	2.50	U
106-93-4	1,2-Dibromoethane (EDB)	1	0.250	U
74-95-3	Dibromomethane	1	0.500	U
95-50-1	1,2-Dichlorobenzene	1	0.250	U
541-73-1	1,3-Dichlorobenzene	1	0.250	U
106-46-7	1,4-Dichlorobenzene	1	0.250	U
75-71-8	Dichlorodifluoromethane	1	0.500	U
75-34-3	1,1-Dichloroethane	1	0.200	U
107-06-2	1,2-Dichloroethane (EDC)	1	0.200	U
75-35-4	1,1-Dichloroethene	1	0.200	U
156-59-2	cis-1,2-Dichloroethene	1	0.200	U
156-60-5	trans-1,2-Dichloroethene	1	0.200	U
78-87-5	1,2-Dichloropropane	1	0.250	U
142-28-9	1,3-Dichloropropane	1	0.500	U
594-20-7	2,2-Dichloropropane	1	0.500	U
563-58-6	1,1-Dichloropropene	1	0.500	U
10061-01-5	cis-1,3-Dichloropropene	1	0.500	U
10061-02-6	trans-1,3-Dichloropropene	1	0.500	U
100-41-4	Ethylbenzene	1	0.250	U

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-TB-1911060000

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WQ	Laboratory ID:	A9K0165-02	File ID:	VI19110707.D
Sampled:	11/06/19 00:00	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 11:58
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
87-68-3	Hexachlorobutadiene	1	2.50	U
110-54-3	n-Hexane	1	5.00	U
591-78-6	2-Hexanone	1	5.00	U
98-82-8	Isopropylbenzene	1	0.500	U
99-87-6	4-Isopropyltoluene	1	0.500	U
75-09-2	Methylene chloride	1	2.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	1	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.500	U
91-20-3	Naphthalene	1	1.00	U
103-65-1	n-Propylbenzene	1	0.250	U
100-42-5	Styrene	1	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	1	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.250	U
127-18-4	Tetrachloroethene (PCE)	1	0.200	U
109-99-9	Tetrahydrofuran	1	5.00	U
87-61-6	1,2,3-Trichlorobenzene	1	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1	1.00	U
71-55-6	1,1,1-Trichloroethane	1	0.200	U
79-00-5	1,1,2-Trichloroethane	1	0.250	U
79-01-6	Trichloroethene (TCE)	1	0.200	U
75-69-4	Trichlorofluoromethane	1	1.00	U
96-18-4	1,2,3-Trichloropropane	1	0.500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1	0.500	U
108-67-8	1,3,5-Trimethylbenzene	1	0.500	U
78-83-1	Isobutyl alcohol	1	250	U
108-88-3	Toluene	1	0.500	U
75-01-4	Vinyl chloride	1	0.200	U
179601-23-1	m,p-Xylene	1	0.500	U
95-47-6	o-Xylene	1	0.250	U
110-57-6	trans-1,4-Dichloro-2-butene	1	5.00	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	52.8	106	80 - 120	
Toluene-d8 (Surr)	50.0	51.1	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.7	101	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	99157	6.217	108525	6.211	
Chlorobenzene-d5 (ISTD)	273766	9.916	305974	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	122035	11.856	148963	11.85	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-052PW-06-08-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-03RE1	File ID:	VI19110807.D
Sampled:	11/04/19 10:11	Prepared:	11/08/19 11:39	Analyzed:	11/08/19 12:00
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110605 Sequence: 9K08020 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	1	10.0	U
107-13-1	Acrylonitrile	1	1.00	U
71-43-2	Benzene	1	0.369	
108-86-1	Bromobenzene	1	0.250	U
74-97-5	Bromochloromethane	1	0.500	U
75-27-4	Bromodichloromethane	1	0.500	U
75-25-2	Bromoform	1	0.500	U
74-83-9	Bromomethane	1	5.00	U
78-93-3	2-Butanone (MEK)	1	5.00	U
104-51-8	n-Butylbenzene	1	0.500	U
135-98-8	sec-Butylbenzene	1	0.881	J
98-06-6	tert-Butylbenzene	1	0.500	U
75-15-0	Carbon disulfide	1	5.00	U
56-23-5	Carbon tetrachloride	1	0.500	U
108-90-7	Chlorobenzene	1	0.250	U
75-00-3	Chloroethane	1	5.00	U
67-66-3	Chloroform	1	0.500	U
74-87-3	Chloromethane	1	2.50	U
95-49-8	2-Chlorotoluene	1	0.500	U
106-43-4	4-Chlorotoluene	1	0.500	U
124-48-1	Dibromochloromethane	1	0.500	U
96-12-8	1,2-Dibromo-3-chloropropane	1	2.50	U
106-93-4	1,2-Dibromoethane (EDB)	1	0.250	U
74-95-3	Dibromomethane	1	0.500	U
95-50-1	1,2-Dichlorobenzene	1	0.250	U
541-73-1	1,3-Dichlorobenzene	1	0.250	U
106-46-7	1,4-Dichlorobenzene	1	0.250	U
75-71-8	Dichlorodifluoromethane	1	1.00	U
75-34-3	1,1-Dichloroethane	1	0.200	U
107-06-2	1,2-Dichloroethane (EDC)	1	0.200	U
75-35-4	1,1-Dichloroethene	1	0.200	U
156-59-2	cis-1,2-Dichloroethene	1	0.200	U
156-60-5	trans-1,2-Dichloroethene	1	0.200	U
78-87-5	1,2-Dichloropropane	1	0.250	U
142-28-9	1,3-Dichloropropane	1	0.500	U
594-20-7	2,2-Dichloropropane	1	0.500	U
563-58-6	1,1-Dichloropropene	1	0.500	U
10061-01-5	cis-1,3-Dichloropropene	1	0.500	U
10061-02-6	trans-1,3-Dichloropropene	1	0.500	U
100-41-4	Ethylbenzene	1	0.250	U

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-052PW-06-08-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-03RE1	File ID:	VI19110807.D
Sampled:	11/04/19 10:11	Prepared:	11/08/19 11:39	Analyzed:	11/08/19 12:00
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110605 Sequence: 9K08020 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
87-68-3	Hexachlorobutadiene	1	2.50	U
110-54-3	n-Hexane	1	5.00	U
591-78-6	2-Hexanone	1	5.00	U
98-82-8	Isopropylbenzene	1	3.43	
99-87-6	4-Isopropyltoluene	1	0.500	U
75-09-2	Methylene chloride	1	2.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	1	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.500	U
91-20-3	Naphthalene	1	2.40	
103-65-1	n-Propylbenzene	1	0.677	
100-42-5	Styrene	1	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	1	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.250	U
127-18-4	Tetrachloroethene (PCE)	1	0.200	U
109-99-9	Tetrahydrofuran	1	5.00	U
87-61-6	1,2,3-Trichlorobenzene	1	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1	1.00	U
71-55-6	1,1,1-Trichloroethane	1	0.200	U
79-00-5	1,1,2-Trichloroethane	1	0.250	U
79-01-6	Trichloroethene (TCE)	1	0.200	U
75-69-4	Trichlorofluoromethane	1	1.00	U
96-18-4	1,2,3-Trichloropropane	1	0.500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1	0.610	J
108-67-8	1,3,5-Trimethylbenzene	1	0.500	U
78-83-1	Isobutyl alcohol	1	250	U
108-88-3	Toluene	1	0.500	U
75-01-4	Vinyl chloride	1	0.200	U
179601-23-1	m,p-Xylene	1	0.500	U
95-47-6	o-Xylene	1	0.469	J
110-57-6	trans-1,4-Dichloro-2-butene	1	5.00	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.9	108	80 - 120	
Toluene-d8 (Surr)	50.0	49.3	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.7	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	98321	6.217	98305	6.217	
Chlorobenzene-d5 (ISTD)	288644	9.916	288214	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	135193	11.85	137464	11.85	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-055PW-06-08-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-04	File ID:	VI19110711.D
Sampled:	11/04/19 08:47	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 14:42
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	1	10.0	U
107-13-1	Acrylonitrile	1	1.00	U
108-86-1	Bromobenzene	1	0.250	U
74-97-5	Bromochloromethane	1	0.500	U
75-27-4	Bromodichloromethane	1	0.500	U
75-25-2	Bromoform	1	0.500	U
74-83-9	Bromomethane	1	5.00	U
78-93-3	2-Butanone (MEK)	1	5.00	U
104-51-8	n-Butylbenzene	1	0.500	U
135-98-8	sec-Butylbenzene	1	1.85	
98-06-6	tert-Butylbenzene	1	0.500	U
75-15-0	Carbon disulfide	1	5.00	U
56-23-5	Carbon tetrachloride	1	0.500	U
108-90-7	Chlorobenzene	1	0.250	U
75-00-3	Chloroethane	1	5.00	U
67-66-3	Chloroform	1	0.500	U
74-87-3	Chloromethane	1	2.50	U
95-49-8	2-Chlorotoluene	1	0.500	U
106-43-4	4-Chlorotoluene	1	0.500	U
124-48-1	Dibromochloromethane	1	0.500	U
96-12-8	1,2-Dibromo-3-chloropropane	1	2.50	U
106-93-4	1,2-Dibromoethane (EDB)	1	0.250	U
74-95-3	Dibromomethane	1	0.500	U
95-50-1	1,2-Dichlorobenzene	1	0.250	U
541-73-1	1,3-Dichlorobenzene	1	0.250	U
106-46-7	1,4-Dichlorobenzene	1	0.250	U
75-71-8	Dichlorodifluoromethane	1	0.500	U
75-34-3	1,1-Dichloroethane	1	0.200	U
107-06-2	1,2-Dichloroethane (EDC)	1	0.200	U
75-35-4	1,1-Dichloroethene	1	0.200	U
156-59-2	cis-1,2-Dichloroethene	1	0.200	U
156-60-5	trans-1,2-Dichloroethene	1	0.200	U
78-87-5	1,2-Dichloropropane	1	0.250	U
142-28-9	1,3-Dichloropropane	1	0.500	U
594-20-7	2,2-Dichloropropane	1	0.500	U
563-58-6	1,1-Dichloropropene	1	0.500	U
10061-01-5	cis-1,3-Dichloropropene	1	0.500	U
10061-02-6	trans-1,3-Dichloropropene	1	0.500	U
100-41-4	Ethylbenzene	1	1.62	
87-68-3	Hexachlorobutadiene	1	2.50	U

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-055PW-06-08-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-04	File ID:	VI19110711.D
Sampled:	11/04/19 08:47	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 14:42
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
110-54-3	n-Hexane	1	5.00	U
591-78-6	2-Hexanone	1	5.00	U
98-82-8	Isopropylbenzene	1	4.76	
99-87-6	4-Isopropyltoluene	1	0.500	U
75-09-2	Methylene chloride	1	2.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	1	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.500	U
91-20-3	Naphthalene	1	3.49	
103-65-1	n-Propylbenzene	1	0.871	
100-42-5	Styrene	1	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	1	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.250	U
127-18-4	Tetrachloroethene (PCE)	1	0.200	U
109-99-9	Tetrahydrofuran	1	5.00	U
87-61-6	1,2,3-Trichlorobenzene	1	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1	1.00	U
71-55-6	1,1,1-Trichloroethane	1	0.200	U
79-00-5	1,1,2-Trichloroethane	1	0.250	U
79-01-6	Trichloroethene (TCE)	1	0.200	U
75-69-4	Trichlorofluoromethane	1	1.00	U
96-18-4	1,2,3-Trichloropropane	1	0.500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1	1.95	
108-67-8	1,3,5-Trimethylbenzene	1	0.590	J
78-83-1	Isobutyl alcohol	1	250	U
108-88-3	Toluene	1	0.500	U
75-01-4	Vinyl chloride	1	0.200	U
179601-23-1	m,p-Xylene	1	0.790	J
95-47-6	o-Xylene	1	2.22	
110-57-6	trans-1,4-Dichloro-2-butene	1	5.00	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	50.5	101	80 - 120	
Toluene-d8 (Surr)	50.0	50.1	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.6	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	105232	6.217	108525	6.211	
Chlorobenzene-d5 (ISTD)	291679	9.916	305974	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	139571	11.856	148963	11.85	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-055PW-06-08-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-04RE1	File ID:	VI19110812.D
Sampled:	11/04/19 08:47	Prepared:	11/08/19 11:39	Analyzed:	11/08/19 14:15
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110605 Sequence: 9K08020 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
71-43-2	Benzene	50	1050	D

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	52.6	105	80 - 120	
Toluene-d8 (Surr)	50.0	50.2	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.6	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	101475	6.217	98305	6.217	
Chlorobenzene-d5 (ISTD)	280968	9.916	288214	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	126866	11.856	137464	11.85	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-073PW-03-05-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-05	File ID:	VI19110721.D
Sampled:	11/04/19 12:26	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 19:10
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	100	1000	U
107-13-1	Acrylonitrile	100	100	U
71-43-2	Benzene	100	16100	D
108-86-1	Bromobenzene	100	25.0	U
74-97-5	Bromochloromethane	100	50.0	U
75-27-4	Bromodichloromethane	100	50.0	U
75-25-2	Bromoform	100	50.0	U
74-83-9	Bromomethane	100	500	U
78-93-3	2-Butanone (MEK)	100	500	U
104-51-8	n-Butylbenzene	100	50.0	U
135-98-8	sec-Butylbenzene	100	50.0	U
98-06-6	tert-Butylbenzene	100	50.0	U
75-15-0	Carbon disulfide	100	500	U
56-23-5	Carbon tetrachloride	100	50.0	U
108-90-7	Chlorobenzene	100	25.0	U
75-00-3	Chloroethane	100	500	U
67-66-3	Chloroform	100	50.0	U
74-87-3	Chloromethane	100	250	U
95-49-8	2-Chlorotoluene	100	50.0	U
106-43-4	4-Chlorotoluene	100	50.0	U
124-48-1	Dibromochloromethane	100	50.0	U
96-12-8	1,2-Dibromo-3-chloropropane	100	250	U
106-93-4	1,2-Dibromoethane (EDB)	100	25.0	U
74-95-3	Dibromomethane	100	50.0	U
95-50-1	1,2-Dichlorobenzene	100	25.0	U
541-73-1	1,3-Dichlorobenzene	100	25.0	U
106-46-7	1,4-Dichlorobenzene	100	25.0	U
75-71-8	Dichlorodifluoromethane	100	50.0	U
75-34-3	1,1-Dichloroethane	100	20.0	U
107-06-2	1,2-Dichloroethane (EDC)	100	20.0	U
75-35-4	1,1-Dichloroethene	100	20.0	U
156-59-2	cis-1,2-Dichloroethene	100	20.0	U
156-60-5	trans-1,2-Dichloroethene	100	20.0	U
78-87-5	1,2-Dichloropropane	100	25.0	U
142-28-9	1,3-Dichloropropane	100	50.0	U
594-20-7	2,2-Dichloropropane	100	50.0	U
563-58-6	1,1-Dichloropropene	100	50.0	U
10061-01-5	cis-1,3-Dichloropropene	100	50.0	U
10061-02-6	trans-1,3-Dichloropropene	100	50.0	U
100-41-4	Ethylbenzene	100	433	D

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-073PW-03-05-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-05	File ID:	VI19110721.D
Sampled:	11/04/19 12:26	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 19:10
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
87-68-3	Hexachlorobutadiene	100	250	U
110-54-3	n-Hexane	100	500	U
591-78-6	2-Hexanone	100	500	U
98-82-8	Isopropylbenzene	100	50.0	U
99-87-6	4-Isopropyltoluene	100	50.0	U
75-09-2	Methylene chloride	100	250	U
108-10-1	4-Methyl-2-pentanone (MiBK)	100	500	U
1634-04-4	Methyl tert-butyl ether (MTBE)	100	50.0	U
91-20-3	Naphthalene	100	14100	D
103-65-1	n-Propylbenzene	100	25.0	U
100-42-5	Styrene	100	50.0	U
630-20-6	1,1,1,2-Tetrachloroethane	100	20.0	U
79-34-5	1,1,2,2-Tetrachloroethane	100	25.0	U
127-18-4	Tetrachloroethene (PCE)	100	20.0	U
109-99-9	Tetrahydrofuran	100	500	U
87-61-6	1,2,3-Trichlorobenzene	100	100	U
120-82-1	1,2,4-Trichlorobenzene	100	100	U
71-55-6	1,1,1-Trichloroethane	100	20.0	U
79-00-5	1,1,2-Trichloroethane	100	25.0	U
79-01-6	Trichloroethene (TCE)	100	20.0	U
75-69-4	Trichlorofluoromethane	100	100	U
96-18-4	1,2,3-Trichloropropane	100	50.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	100	100	U
95-63-6	1,2,4-Trimethylbenzene	100	50.9	JD
108-67-8	1,3,5-Trimethylbenzene	100	50.0	U
78-83-1	Isobutyl alcohol	100	25000	U
108-88-3	Toluene	100	1960	D
75-01-4	Vinyl chloride	100	20.0	U
179601-23-1	m,p-Xylene	100	400	D
95-47-6	o-Xylene	100	176	D
110-57-6	trans-1,4-Dichloro-2-butene	100	500	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	51.6	103	80 - 120	
Toluene-d8 (Surr)	50.0	50.6	101	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.7	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	96386	6.217	108525	6.211	
Chlorobenzene-d5 (ISTD)	266436	9.916	305974	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	122768	11.856	148963	11.85	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-074PW-08-10-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-06	File ID:	VI19110719.D
Sampled:	11/04/19 15:52	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 18:17
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	100	1000	U
107-13-1	Acrylonitrile	100	100	U
71-43-2	Benzene	100	1090	D
108-86-1	Bromobenzene	100	25.0	U
74-97-5	Bromochloromethane	100	50.0	U
75-27-4	Bromodichloromethane	100	50.0	U
75-25-2	Bromoform	100	50.0	U
74-83-9	Bromomethane	100	500	U
78-93-3	2-Butanone (MEK)	100	500	U
104-51-8	n-Butylbenzene	100	50.0	U
135-98-8	sec-Butylbenzene	100	50.0	U
98-06-6	tert-Butylbenzene	100	50.0	U
75-15-0	Carbon disulfide	100	500	U
56-23-5	Carbon tetrachloride	100	50.0	U
108-90-7	Chlorobenzene	100	25.0	U
75-00-3	Chloroethane	100	500	U
67-66-3	Chloroform	100	50.0	U
74-87-3	Chloromethane	100	250	U
95-49-8	2-Chlorotoluene	100	50.0	U
106-43-4	4-Chlorotoluene	100	50.0	U
124-48-1	Dibromochloromethane	100	50.0	U
96-12-8	1,2-Dibromo-3-chloropropane	100	250	U
106-93-4	1,2-Dibromoethane (EDB)	100	25.0	U
74-95-3	Dibromomethane	100	50.0	U
95-50-1	1,2-Dichlorobenzene	100	25.0	U
541-73-1	1,3-Dichlorobenzene	100	25.0	U
106-46-7	1,4-Dichlorobenzene	100	25.0	U
75-71-8	Dichlorodifluoromethane	100	50.0	U
75-34-3	1,1-Dichloroethane	100	20.0	U
107-06-2	1,2-Dichloroethane (EDC)	100	20.0	U
75-35-4	1,1-Dichloroethene	100	20.0	U
156-59-2	cis-1,2-Dichloroethene	100	20.0	U
156-60-5	trans-1,2-Dichloroethene	100	20.0	U
78-87-5	1,2-Dichloropropane	100	25.0	U
142-28-9	1,3-Dichloropropane	100	50.0	U
594-20-7	2,2-Dichloropropane	100	50.0	U
563-58-6	1,1-Dichloropropene	100	50.0	U
10061-01-5	cis-1,3-Dichloropropene	100	50.0	U
10061-02-6	trans-1,3-Dichloropropene	100	50.0	U
100-41-4	Ethylbenzene	100	350	D

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-074PW-08-10-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-06	File ID:	VI19110719.D
Sampled:	11/04/19 15:52	Prepared:	11/07/19 11:36	Analyzed:	11/07/19 18:17
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110564 Sequence: 9K07019 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
87-68-3	Hexachlorobutadiene	100	250	U
110-54-3	n-Hexane	100	500	U
591-78-6	2-Hexanone	100	500	U
98-82-8	Isopropylbenzene	100	50.0	U
99-87-6	4-Isopropyltoluene	100	50.0	U
75-09-2	Methylene chloride	100	250	U
108-10-1	4-Methyl-2-pentanone (MiBK)	100	500	U
1634-04-4	Methyl tert-butyl ether (MTBE)	100	50.0	U
91-20-3	Naphthalene	100	13800	D
103-65-1	n-Propylbenzene	100	25.0	U
100-42-5	Styrene	100	50.0	U
630-20-6	1,1,1,2-Tetrachloroethane	100	20.0	U
79-34-5	1,1,2,2-Tetrachloroethane	100	25.0	U
127-18-4	Tetrachloroethene (PCE)	100	20.0	U
109-99-9	Tetrahydrofuran	100	500	U
87-61-6	1,2,3-Trichlorobenzene	100	100	U
120-82-1	1,2,4-Trichlorobenzene	100	100	U
71-55-6	1,1,1-Trichloroethane	100	20.0	U
79-00-5	1,1,2-Trichloroethane	100	25.0	U
79-01-6	Trichloroethene (TCE)	100	20.0	U
75-69-4	Trichlorofluoromethane	100	100	U
96-18-4	1,2,3-Trichloropropane	100	50.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	100	100	U
95-63-6	1,2,4-Trimethylbenzene	100	52.2	JD
108-67-8	1,3,5-Trimethylbenzene	100	50.0	U
78-83-1	Isobutyl alcohol	100	25000	U
108-88-3	Toluene	100	50.0	U
75-01-4	Vinyl chloride	100	20.0	U
179601-23-1	m,p-Xylene	100	82.1	JD
95-47-6	o-Xylene	100	84.2	D
110-57-6	trans-1,4-Dichloro-2-butene	100	500	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	52.0	104	80 - 120	
Toluene-d8 (Surr)	50.0	50.5	101	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.6	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	96904	6.217	108525	6.211	
Chlorobenzene-d5 (ISTD)	272106	9.916	305974	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	125859	11.856	148963	11.85	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-075PW-01-03-191105

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-07RE1	File ID:	VI19110810.D
Sampled:	11/05/19 15:01	Prepared:	11/08/19 11:39	Analyzed:	11/08/19 13:21
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110605 Sequence: 9K08020 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	1	20.0	U
107-13-1	Acrylonitrile	1	1.00	U
71-43-2	Benzene	1	0.214	
108-86-1	Bromobenzene	1	0.250	U
74-97-5	Bromochloromethane	1	0.500	U
75-27-4	Bromodichloromethane	1	0.500	U
75-25-2	Bromoform	1	0.500	U
74-83-9	Bromomethane	1	5.00	U
78-93-3	2-Butanone (MEK)	1	5.00	U
104-51-8	n-Butylbenzene	1	0.500	U
135-98-8	sec-Butylbenzene	1	0.500	U
98-06-6	tert-Butylbenzene	1	0.500	U
75-15-0	Carbon disulfide	1	5.00	U
56-23-5	Carbon tetrachloride	1	0.500	U
108-90-7	Chlorobenzene	1	0.250	U
75-00-3	Chloroethane	1	5.00	U
67-66-3	Chloroform	1	0.500	U
74-87-3	Chloromethane	1	2.50	U
95-49-8	2-Chlorotoluene	1	0.500	U
106-43-4	4-Chlorotoluene	1	0.500	U
124-48-1	Dibromochloromethane	1	0.500	U
96-12-8	1,2-Dibromo-3-chloropropane	1	2.50	U
106-93-4	1,2-Dibromoethane (EDB)	1	0.250	U
74-95-3	Dibromomethane	1	0.500	U
95-50-1	1,2-Dichlorobenzene	1	0.250	U
541-73-1	1,3-Dichlorobenzene	1	0.250	U
106-46-7	1,4-Dichlorobenzene	1	0.250	U
75-71-8	Dichlorodifluoromethane	1	1.00	U
75-34-3	1,1-Dichloroethane	1	0.200	U
107-06-2	1,2-Dichloroethane (EDC)	1	0.200	U
75-35-4	1,1-Dichloroethene	1	0.200	U
156-59-2	cis-1,2-Dichloroethene	1	0.200	U
156-60-5	trans-1,2-Dichloroethene	1	0.200	U
78-87-5	1,2-Dichloropropane	1	0.250	U
142-28-9	1,3-Dichloropropane	1	0.500	U
594-20-7	2,2-Dichloropropane	1	0.500	U
563-58-6	1,1-Dichloropropene	1	0.500	U
10061-01-5	cis-1,3-Dichloropropene	1	0.500	U
10061-02-6	trans-1,3-Dichloropropene	1	0.500	U
100-41-4	Ethylbenzene	1	0.271	J

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-075PW-01-03-191105

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-07RE1	File ID:	VI19110810.D
Sampled:	11/05/19 15:01	Prepared:	11/08/19 11:39	Analyzed:	11/08/19 13:21
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110605 Sequence: 9K08020 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
87-68-3	Hexachlorobutadiene	1	2.50	U
110-54-3	n-Hexane	1	5.00	U
591-78-6	2-Hexanone	1	5.00	U
98-82-8	Isopropylbenzene	1	0.676	J
99-87-6	4-Isopropyltoluene	1	0.500	U
75-09-2	Methylene chloride	1	2.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	1	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.500	U
91-20-3	Naphthalene	1	21.8	
103-65-1	n-Propylbenzene	1	0.250	U
100-42-5	Styrene	1	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	1	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.250	U
127-18-4	Tetrachloroethene (PCE)	1	0.200	U
109-99-9	Tetrahydrofuran	1	5.00	U
87-61-6	1,2,3-Trichlorobenzene	1	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1	1.00	U
71-55-6	1,1,1-Trichloroethane	1	0.200	U
79-00-5	1,1,2-Trichloroethane	1	0.250	U
79-01-6	Trichloroethene (TCE)	1	0.200	U
75-69-4	Trichlorofluoromethane	1	1.00	U
96-18-4	1,2,3-Trichloropropane	1	0.500	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	1	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1	0.500	U
108-67-8	1,3,5-Trimethylbenzene	1	0.500	U
78-83-1	Isobutyl alcohol	1	250	U
108-88-3	Toluene	1	0.500	U
75-01-4	Vinyl chloride	1	0.200	U
179601-23-1	m,p-Xylene	1	0.500	U
95-47-6	o-Xylene	1	0.250	U
110-57-6	trans-1,4-Dichloro-2-butene	1	5.00	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.7	107	80 - 120	
Toluene-d8 (Surr)	50.0	50.2	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.3	101	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	100448	6.217	98305	6.217	
Chlorobenzene-d5 (ISTD)	286130	9.916	288214	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	131861	11.856	137464	11.85	

* 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 - 5c. PW in Contact with NA
Batch: 9110564 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9110564-BLK1	VI19110706.D	11/07/19 09:00	
LCS	9110564-BS1	VI19110704.D	11/07/19 09:00	
PDI-074PW-08-10-191104 (Dup)	9110564-DUP1	VI19110720.D	11/07/19 11:36	
PDI-073PW-03-05-191104 (MS)	9110564-MS1	VI19110722.D	11/07/19 11:36	
PDI-073PW-03-05-191104 (MSD)	9110564-MSD1	VI19110723.D	11/07/19 11:36	
PDI-RB-1911060820	A9K0165-01	VI19110709.D	11/07/19 11:36	
PDI-TB-1911060000	A9K0165-02	VI19110707.D	11/07/19 11:36	
PDI-055PW-06-08-191104	A9K0165-04	VI19110711.D	11/07/19 11:36	
PDI-073PW-03-05-191104	A9K0165-05	VI19110721.D	11/07/19 11:36	
PDI-074PW-08-10-191104	A9K0165-06	VI19110719.D	11/07/19 11:36	

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.

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Batch: 9110605 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9110605-BLK1	VI19110806.D	11/08/19 09:00	
LCS	9110605-BS1	VI19110804.D	11/08/19 09:00	
PDI-RB-1911060820	A9K0165-01RE1	VI19110811.D	11/08/19 11:39	
PDI-052PW-06-08-191104	A9K0165-03RE1	VI19110807.D	11/08/19 11:39	
PDI-055PW-06-08-191104	A9K0165-04RE1	VI19110812.D	11/08/19 11:39	
PDI-075PW-01-03-191105	A9K0165-07RE1	VI19110810.D	11/08/19 11:39	

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 - 5c. PW in Contact with NA
Matrix:	Water	Laboratory ID:	9110564-BLK1	File ID:	VI19110706.D
Prepared:	11/07/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/07/19 11:31	Instrument:	VOA-GCMS9		
Batch:	9110564	Sequence:	9K07019	Calibration:	A9J2503

CAS NO.	COMPOUND	CONC. (ug/L)	Q
67-64-1	Acetone	10.0	U
107-13-1	Acrylonitrile	1.00	U
71-43-2	Benzene	0.100	U
108-86-1	Bromobenzene	0.250	U
74-97-5	Bromochloromethane	0.500	U
75-27-4	Bromodichloromethane	0.500	U
75-25-2	Bromoform	0.500	U
74-83-9	Bromomethane	5.00	U
78-93-3	2-Butanone (MEK)	5.00	U
104-51-8	n-Butylbenzene	0.500	U
135-98-8	sec-Butylbenzene	0.500	U
98-06-6	tert-Butylbenzene	0.500	U
75-15-0	Carbon disulfide	5.00	U
56-23-5	Carbon tetrachloride	0.500	U
108-90-7	Chlorobenzene	0.250	U
75-00-3	Chloroethane	5.00	U
67-66-3	Chloroform	0.500	U
74-87-3	Chloromethane	2.50	U
95-49-8	2-Chlorotoluene	0.500	U
106-43-4	4-Chlorotoluene	0.500	U
124-48-1	Dibromochloromethane	0.500	U
96-12-8	1,2-Dibromo-3-chloropropane	2.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.250	U
74-95-3	Dibromomethane	0.500	U
95-50-1	1,2-Dichlorobenzene	0.250	U
541-73-1	1,3-Dichlorobenzene	0.250	U
106-46-7	1,4-Dichlorobenzene	0.250	U
75-71-8	Dichlorodifluoromethane	0.500	U
75-34-3	1,1-Dichloroethane	0.200	U
107-06-2	1,2-Dichloroethane (EDC)	0.200	U
75-35-4	1,1-Dichloroethene	0.200	U
156-59-2	cis-1,2-Dichloroethene	0.200	U
156-60-5	trans-1,2-Dichloroethene	0.200	U
78-87-5	1,2-Dichloropropane	0.250	U
142-28-9	1,3-Dichloropropane	0.500	U

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water	Laboratory ID:	9110564-BLK1	File ID:	VI19110706.D
Prepared:	11/07/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/07/19 11:31	Instrument:	VOA-GCMS9		
Batch:	9110564	Sequence:	9K07019	Calibration:	A9J2503

CAS NO.	COMPOUND	CONC. (ug/L)	Q
594-20-7	2,2-Dichloropropane	0.500	U
563-58-6	1,1-Dichloropropene	0.500	U
10061-01-5	cis-1,3-Dichloropropene	0.500	U
10061-02-6	trans-1,3-Dichloropropene	0.500	U
100-41-4	Ethylbenzene	0.250	U
87-68-3	Hexachlorobutadiene	2.50	U
591-78-6	2-Hexanone	5.00	U
98-82-8	Isopropylbenzene	0.500	U
99-87-6	4-Isopropyltoluene	0.500	U
75-09-2	Methylene chloride	2.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.500	U
91-20-3	Naphthalene	1.00	U
103-65-1	n-Propylbenzene	0.250	U
100-42-5	Styrene	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	0.250	U
127-18-4	Tetrachloroethene (PCE)	0.200	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	U
71-55-6	1,1,1-Trichloroethane	0.200	U
79-00-5	1,1,2-Trichloroethane	0.250	U
79-01-6	Trichloroethene (TCE)	0.200	U
75-69-4	Trichlorofluoromethane	1.00	U
96-18-4	1,2,3-Trichloropropane	0.500	U
95-63-6	1,2,4-Trimethylbenzene	0.500	U
108-67-8	1,3,5-Trimethylbenzene	0.500	U
108-88-3	Toluene	0.250	U
75-01-4	Vinyl chloride	0.200	U
179601-23-1	m,p-Xylene	0.500	U
95-47-6	o-Xylene	0.250	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	52.3	105	80 - 120	
Toluene-d8 (Surr)	50.0	51.2	102	80 - 120	

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water	Laboratory ID:	9110564-BLK1	File ID:	VI19110706.D
Prepared:	11/07/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/07/19 11:31	Instrument:	VOA-GCMS9		
Batch:	9110564	Sequence:	9K07019	Calibration:	A9J2503

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Surr)	50.0	50.0	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	104449	6.217	108525	6.211	
Chlorobenzene-d5 (ISTD)	287599	9.916	305974	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	128789	11.856	148963	11.85	

METHOD BLANK DATA SHEET
EPA 8260C

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water	Laboratory ID:	9110605-BLK1	File ID:	VI19110806.D
Prepared:	11/08/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/08/19 11:33	Instrument:	VOA-GCMS9		
Batch:	9110605	Sequence:	9K08020	Calibration:	A9J2503

CAS NO.	COMPOUND	CONC. (ug/L)	Q
67-64-1	Acetone	10.0	U
107-13-1	Acrylonitrile	1.00	U
71-43-2	Benzene	0.100	U
108-86-1	Bromobenzene	0.250	U
74-97-5	Bromochloromethane	0.500	U
75-27-4	Bromodichloromethane	0.500	U
75-25-2	Bromoform	0.500	U
74-83-9	Bromomethane	5.00	U
78-93-3	2-Butanone (MEK)	5.00	U
104-51-8	n-Butylbenzene	0.500	U
135-98-8	sec-Butylbenzene	0.500	U
98-06-6	tert-Butylbenzene	0.500	U
75-15-0	Carbon disulfide	5.00	U
56-23-5	Carbon tetrachloride	0.500	U
108-90-7	Chlorobenzene	0.250	U
75-00-3	Chloroethane	5.00	U
67-66-3	Chloroform	0.500	U
74-87-3	Chloromethane	2.50	U
95-49-8	2-Chlorotoluene	0.500	U
106-43-4	4-Chlorotoluene	0.500	U
124-48-1	Dibromochloromethane	0.500	U
96-12-8	1,2-Dibromo-3-chloropropane	2.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.250	U
74-95-3	Dibromomethane	0.500	U
95-50-1	1,2-Dichlorobenzene	0.250	U
541-73-1	1,3-Dichlorobenzene	0.250	U
106-46-7	1,4-Dichlorobenzene	0.250	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	0.200	U
107-06-2	1,2-Dichloroethane (EDC)	0.200	U
75-35-4	1,1-Dichloroethene	0.200	U
156-59-2	cis-1,2-Dichloroethene	0.200	U
156-60-5	trans-1,2-Dichloroethene	0.200	U
78-87-5	1,2-Dichloropropane	0.250	U
142-28-9	1,3-Dichloropropane	0.500	U

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water	Laboratory ID:	9110605-BLK1	File ID:	VI19110806.D
Prepared:	11/08/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/08/19 11:33	Instrument:	VOA-GCMS9		
Batch:	9110605	Sequence:	9K08020	Calibration:	A9J2503

CAS NO.	COMPOUND	CONC. (ug/L)	Q
594-20-7	2,2-Dichloropropane	0.500	U
563-58-6	1,1-Dichloropropene	0.500	U
10061-01-5	cis-1,3-Dichloropropene	0.500	U
10061-02-6	trans-1,3-Dichloropropene	0.500	U
100-41-4	Ethylbenzene	0.250	U
87-68-3	Hexachlorobutadiene	2.50	U
591-78-6	2-Hexanone	5.00	U
98-82-8	Isopropylbenzene	0.500	U
99-87-6	4-Isopropyltoluene	0.500	U
75-09-2	Methylene chloride	2.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.500	U
91-20-3	Naphthalene	1.00	U
103-65-1	n-Propylbenzene	0.250	U
100-42-5	Styrene	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	0.250	U
127-18-4	Tetrachloroethene (PCE)	0.200	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	U
71-55-6	1,1,1-Trichloroethane	0.200	U
79-00-5	1,1,2-Trichloroethane	0.250	U
79-01-6	Trichloroethene (TCE)	0.200	U
75-69-4	Trichlorofluoromethane	1.00	U
96-18-4	1,2,3-Trichloropropane	0.500	U
95-63-6	1,2,4-Trimethylbenzene	0.500	U
108-67-8	1,3,5-Trimethylbenzene	0.500	U
108-88-3	Toluene	0.500	U
75-01-4	Vinyl chloride	0.200	U
179601-23-1	m,p-Xylene	0.500	U
95-47-6	o-Xylene	0.250	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.4	107	80 - 120	
Toluene-d8 (Surr)	50.0	51.2	102	80 - 120	

METHOD BLANK DATA SHEET
EPA 8260C

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water	Laboratory ID:	9110605-BLK1	File ID:	VI19110806.D
Prepared:	11/08/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/08/19 11:33	Instrument:	VOA-GCMS9		
Batch:	9110605	Sequence:	9K08020	Calibration:	A9J2503

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Surr)	50.0	51.1	102	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	94024	6.217	98305	6.217	
Chlorobenzene-d5 (ISTD)	261170	9.916	288214	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	114399	11.856	137464	11.85	

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix: Water
Batch: 9110564
Laboratory ID: 9110564-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.
Acetone	40.0	35.8	89	80 - 120
Acrylonitrile	20.0	21.5	107	80 - 120
Benzene	20.0	19.7	99	80 - 120
Bromobenzene	20.0	19.7	98	80 - 120
Bromochloromethane	20.0	22.4	112	80 - 120
Bromodichloromethane	20.0	21.1	105	80 - 120
Bromoform	20.0	24.6	123 *	80 - 120
Bromomethane	20.0	18.3	92	80 - 120
2-Butanone (MEK)	40.0	39.2	98	80 - 120
n-Butylbenzene	20.0	19.7	98	80 - 120
sec-Butylbenzene	20.0	18.7	93	80 - 120
tert-Butylbenzene	20.0	17.8	89	80 - 120
Carbon disulfide	20.0	18.3	91	80 - 120
Carbon tetrachloride	20.0	20.3	102	80 - 120
Chlorobenzene	20.0	19.6	98	80 - 120
Chloroethane	20.0	14.9	74 *	80 - 120
Chloroform	20.0	20.1	101	80 - 120
Chloromethane	20.0	20.6	103	80 - 120
2-Chlorotoluene	20.0	18.7	94	80 - 120
4-Chlorotoluene	20.0	18.8	94	80 - 120
Dibromochloromethane	20.0	25.1	125 *	80 - 120
1,2-Dibromo-3-chloropropane	20.0	20.2	101	80 - 120
1,2-Dibromoethane (EDB)	20.0	19.9	99	80 - 120
Dibromomethane	20.0	20.9	104	80 - 120
1,2-Dichlorobenzene	20.0	19.4	97	80 - 120
1,3-Dichlorobenzene	20.0	19.6	98	80 - 120
1,4-Dichlorobenzene	20.0	19.4	97	80 - 120
Dichlorodifluoromethane	20.0	16.4	82	80 - 120
1,1-Dichloroethane	20.0	19.3	97	80 - 120
1,2-Dichloroethane (EDC)	20.0	18.5	93	80 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110564	Laboratory ID:	9110564-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.
1,1-Dichloroethene	20.0	18.6	93	80 - 120
cis-1,2-Dichloroethene	20.0	19.5	98	80 - 120
trans-1,2-Dichloroethene	20.0	19.8	99	80 - 120
1,2-Dichloropropane	20.0	19.9	100	80 - 120
1,3-Dichloropropane	20.0	19.8	99	80 - 120
2,2-Dichloropropane	20.0	18.6	93	80 - 120
1,1-Dichloropropene	20.0	18.9	95	80 - 120
cis-1,3-Dichloropropene	20.0	19.7	98	80 - 120
trans-1,3-Dichloropropene	20.0	19.0	95	80 - 120
Ethylbenzene	20.0	18.6	93	80 - 120
Hexachlorobutadiene	20.0	18.2	91	80 - 120
2-Hexanone	40.0	38.4	96	80 - 120
Isopropylbenzene	20.0	18.8	94	80 - 120
4-Isopropyltoluene	20.0	19.3	96	80 - 120
Methylene chloride	20.0	19.6	98	80 - 120
4-Methyl-2-pentanone (MiBK)	40.0	39.3	98	80 - 120
Methyl tert-butyl ether (MTBE)	20.0	17.8	89	80 - 120
Naphthalene	20.0	18.5	92	80 - 120
n-Propylbenzene	20.0	18.8	94	80 - 120
Styrene	20.0	19.3	97	80 - 120
1,1,1,2-Tetrachloroethane	20.0	21.5	107	80 - 120
1,1,2,2-Tetrachloroethane	20.0	21.0	105	80 - 120
Tetrachloroethene (PCE)	20.0	19.9	100	80 - 120
1,2,3-Trichlorobenzene	20.0	19.6	98	80 - 120
1,2,4-Trichlorobenzene	20.0	18.6	93	80 - 120
1,1,1-Trichloroethane	20.0	18.8	94	80 - 120
1,1,2-Trichloroethane	20.0	20.4	102	80 - 120
Trichloroethene (TCE)	20.0	19.9	100	80 - 120
Trichlorofluoromethane	20.0	18.5	92	80 - 120
1,2,3-Trichloropropane	20.0	20.0	100	80 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110564	Laboratory ID:	9110564-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.
1,2,4-Trimethylbenzene	20.0	19.1	96	80 - 120
1,3,5-Trimethylbenzene	20.0	19.3	96	80 - 120
Toluene	20.0	18.8	94	80 - 120
Vinyl chloride	20.0	18.8	94	80 - 120
m,p-Xylene	40.0	37.4	94	80 - 120
o-Xylene	20.0	18.6	93	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 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110605	Laboratory ID:	9110605-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.
Acetone	40.0	35.1	88	80 - 120
Acrylonitrile	20.0	21.1	105	80 - 120
Benzene	20.0	20.3	101	80 - 120
Bromobenzene	20.0	20.2	101	80 - 120
Bromochloromethane	20.0	23.3	117	80 - 120
Bromodichloromethane	20.0	21.7	108	80 - 120
Bromoform	20.0	24.8	124 *	80 - 120
Bromomethane	20.0	20.5	103	80 - 120
2-Butanone (MEK)	40.0	37.8	95	80 - 120
n-Butylbenzene	20.0	19.5	97	80 - 120
sec-Butylbenzene	20.0	18.5	93	80 - 120
tert-Butylbenzene	20.0	17.6	88	80 - 120
Carbon disulfide	20.0	19.3	96	80 - 120
Carbon tetrachloride	20.0	21.4	107	80 - 120
Chlorobenzene	20.0	19.5	98	80 - 120
Chloroethane	20.0	16.4	82	80 - 120
Chloroform	20.0	20.6	103	80 - 120
Chloromethane	20.0	19.1	95	80 - 120
2-Chlorotoluene	20.0	19.0	95	80 - 120
4-Chlorotoluene	20.0	18.9	94	80 - 120
Dibromochloromethane	20.0	25.1	126 *	80 - 120
1,2-Dibromo-3-chloropropane	20.0	19.7	98	80 - 120
1,2-Dibromoethane (EDB)	20.0	19.6	98	80 - 120
Dibromomethane	20.0	21.6	108	80 - 120
1,2-Dichlorobenzene	20.0	19.7	98	80 - 120
1,3-Dichlorobenzene	20.0	19.7	98	80 - 120
1,4-Dichlorobenzene	20.0	19.4	97	80 - 120
Dichlorodifluoromethane	20.0	15.7	79 *	80 - 120
1,1-Dichloroethane	20.0	19.9	99	80 - 120
1,2-Dichloroethane (EDC)	20.0	18.8	94	80 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110605	Laboratory ID:	9110605-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.
1,1-Dichloroethene	20.0	19.2	96	80 - 120
cis-1,2-Dichloroethene	20.0	19.9	100	80 - 120
trans-1,2-Dichloroethene	20.0	20.2	101	80 - 120
1,2-Dichloropropane	20.0	20.6	103	80 - 120
1,3-Dichloropropane	20.0	19.4	97	80 - 120
2,2-Dichloropropane	20.0	18.6	93	80 - 120
1,1-Dichloropropene	20.0	19.5	97	80 - 120
cis-1,3-Dichloropropene	20.0	19.2	96	80 - 120
trans-1,3-Dichloropropene	20.0	18.6	93	80 - 120
Ethylbenzene	20.0	18.6	93	80 - 120
Hexachlorobutadiene	20.0	17.4	87	80 - 120
2-Hexanone	40.0	35.4	88	80 - 120
Isopropylbenzene	20.0	18.4	92	80 - 120
4-Isopropyltoluene	20.0	19.0	95	80 - 120
Methylene chloride	20.0	20.9	104	80 - 120
4-Methyl-2-pentanone (MiBK)	40.0	37.1	93	80 - 120
Methyl tert-butyl ether (MTBE)	20.0	17.9	89	80 - 120
Naphthalene	20.0	18.0	90	80 - 120
n-Propylbenzene	20.0	18.7	94	80 - 120
Styrene	20.0	18.9	95	80 - 120
1,1,1,2-Tetrachloroethane	20.0	21.6	108	80 - 120
1,1,2,2-Tetrachloroethane	20.0	20.5	102	80 - 120
Tetrachloroethene (PCE)	20.0	19.6	98	80 - 120
1,2,3-Trichlorobenzene	20.0	19.0	95	80 - 120
1,2,4-Trichlorobenzene	20.0	18.3	92	80 - 120
1,1,1-Trichloroethane	20.0	19.0	95	80 - 120
1,1,2-Trichloroethane	20.0	20.3	101	80 - 120
Trichloroethene (TCE)	20.0	21.4	107	80 - 120
Trichlorofluoromethane	20.0	20.4	102	80 - 120
1,2,3-Trichloropropane	20.0	19.5	97	80 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110605	Laboratory ID:	9110605-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.
1,2,4-Trimethylbenzene	20.0	19.0	95	80 - 120
1,3,5-Trimethylbenzene	20.0	19.1	95	80 - 120
Toluene	20.0	18.5	92	80 - 120
Vinyl chloride	20.0	19.5	97	80 - 120
m,p-Xylene	40.0	37.0	93	80 - 120
o-Xylene	20.0	18.2	91	80 - 120

* = Values outside of QC limits

DUPLICATES

PDI-074PW-08-10-191104

EPA 8260C

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Water
Batch: 9110564
Preparation: EPA 5030B
Source Sample Name: PDI-074PW-08-10-191104

SDG: Gasco_PreRD_DG 2019
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contac
Laboratory ID: 9110564-DUP1
Lab Source ID: A9K0165-06
Initial/Final: 5 mL / 5 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	C	DUPLICATE CONCENTRATION (ug/L)	C	RPD %	Q	METHOD
Acetone	30	73.1		ND				EPA 8260C
Acrylonitrile	30	0.00		ND				EPA 8260C
Benzene	30	1090		1070		2		EPA 8260C
Bromobenzene	30	0.00		ND				EPA 8260C
Bromochloromethane	30	0.00		ND				EPA 8260C
Bromodichloromethane	30	0.00		ND				EPA 8260C
Bromoform	30	0.00		ND				EPA 8260C
Bromomethane	30	0.00		ND				EPA 8260C
2-Butanone (MEK)	30	0.00		ND				EPA 8260C
n-Butylbenzene	30	0.00		ND				EPA 8260C
sec-Butylbenzene	30	0.00		ND				EPA 8260C
tert-Butylbenzene	30	0.00		ND				EPA 8260C
Carbon disulfide	30	0.00		ND				EPA 8260C
Carbon tetrachloride	30	0.00		ND				EPA 8260C
Chlorobenzene	30	0.00		ND				EPA 8260C
Chloroethane	30	0.00		ND				EPA 8260C
Chloroform	30	0.00		ND				EPA 8260C
Chloromethane	30	10.9		ND				EPA 8260C
2-Chlorotoluene	30	0.00		ND				EPA 8260C
4-Chlorotoluene	30	0.00		ND				EPA 8260C
Dibromochloromethane	30	0.00		ND				EPA 8260C
1,2-Dibromo-3-chloropropane	30	0.00		ND				EPA 8260C
1,2-Dibromoethane (EDB)	30	0.00		ND				EPA 8260C
Dibromomethane	30	0.00		ND				EPA 8260C
1,2-Dichlorobenzene	30	0.00		ND				EPA 8260C
1,3-Dichlorobenzene	30	0.00		ND				EPA 8260C
1,4-Dichlorobenzene	30	0.00		ND				EPA 8260C
Dichlorodifluoromethane	30	0.00		ND				EPA 8260C
1,1-Dichloroethane	30	0.00		ND				EPA 8260C
1,2-Dichloroethane (EDC)	30	0.00		ND				EPA 8260C
1,1-Dichloroethene	30	0.00		ND				EPA 8260C
cis-1,2-Dichloroethene	30	0.00		ND				EPA 8260C

DUPLICATES

EPA 8260C

PDI-074PW-08-10-191104

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Water
Batch: 9110564
Preparation: EPA 5030B
Source Sample Name: PDI-074PW-08-10-191104

SDG: Gasco_PreRD_DG 2019
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contac
Laboratory ID: 9110564-DUP1
Lab Source ID: A9K0165-06
Initial/Final: 5 mL / 5 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	C	DUPLICATE CONCENTRATION (ug/L)	C	RPD %	Q	METHOD
trans-1,2-Dichloroethene	30	0.00		ND				EPA 8260C
1,2-Dichloropropane	30	0.00		ND				EPA 8260C
1,3-Dichloropropane	30	0.00		ND				EPA 8260C
2,2-Dichloropropane	30	0.00		ND				EPA 8260C
1,1-Dichloropropene	30	0.00		ND				EPA 8260C
cis-1,3-Dichloropropene	30	0.00		ND				EPA 8260C
trans-1,3-Dichloropropene	30	0.00		ND				EPA 8260C
Ethylbenzene	30	350		344		2		EPA 8260C
Hexachlorobutadiene	30	0.00		ND				EPA 8260C
2-Hexanone	30	0.00		ND				EPA 8260C
Isopropylbenzene	30	0.00		ND				EPA 8260C
4-Isopropyltoluene	30	0.00		ND				EPA 8260C
Methylene chloride	30	0.00		ND				EPA 8260C
4-Methyl-2-pentanone (MiBK)	30	0.00		ND				EPA 8260C
Methyl tert-butyl ether (MTBE)	30	0.00		ND				EPA 8260C
Naphthalene	30	13800		14200		3		EPA 8260C
n-Propylbenzene	30	0.00		ND				EPA 8260C
Styrene	30	0.00		ND				EPA 8260C
1,1,1,2-Tetrachloroethane	30	0.00		ND				EPA 8260C
1,1,2,2-Tetrachloroethane	30	0.00		ND				EPA 8260C
Tetrachloroethene (PCE)	30	0.00		ND				EPA 8260C
1,2,3-Trichlorobenzene	30	0.00		ND				EPA 8260C
1,2,4-Trichlorobenzene	30	0.00		ND				EPA 8260C
1,1,1-Trichloroethane	30	0.00		ND				EPA 8260C
1,1,2-Trichloroethane	30	0.00		ND				EPA 8260C
Trichloroethene (TCE)	30	0.00		ND				EPA 8260C
Trichlorofluoromethane	30	0.00		ND				EPA 8260C
1,2,3-Trichloropropane	30	0.00		ND				EPA 8260C
1,2,4-Trimethylbenzene	30	52.2		51.1		2		EPA 8260C
1,3,5-Trimethylbenzene	30	15.4		ND				EPA 8260C
Toluene	30	20.2		ND				EPA 8260C
Vinyl chloride	30	0.00		ND				EPA 8260C

DUPLICATES

EPA 8260C

PDI-074PW-08-10-191104

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Water
Batch: 9110564
Preparation: EPA 5030B
Source Sample Name: PDI-074PW-08-10-191104

SDG: Gasco_PreRD_DG 2019
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contac
Laboratory ID: 9110564-DUP1
Lab Source ID: A9K0165-06
Initial/Final: 5 mL / 5 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	C	DUPLICATE CONCENTRATION (ug/L)	C	RPD %	Q	METHOD
m,p-Xylene	30	82.1		82.7		0.7		EPA 8260C
o-Xylene	30	84.2		86.0		2		EPA 8260C

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C

PDI-073PW-03-05-191104

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix: Water
Batch: 9110564
Laboratory ID: 9110564-MS1
Preparation: EPA 5030B
Initial/Final: 5 mL / 5 mL
Source Sample Name: PDI-073PW-03-05-191104

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. (*=Out)	QC LIMITS REC.
Acetone	4000	ND	3910	98	39 - 160
Acrylonitrile	2000	ND	2250	113	63 - 135
Benzene	2000	16100	17900	93	79 - 120
Bromobenzene	2000	ND	2060	103	80 - 120
Bromochloromethane	2000	ND	2400	120	78 - 123
Bromodichloromethane	2000	ND	2210	111	79 - 125
Bromoform	2000	ND	2500	125	66 - 130
Bromomethane	2000	ND	2140	107	53 - 141
2-Butanone (MEK)	4000	ND	4120	103	56 - 143
n-Butylbenzene	2000	ND	2100	105	75 - 128
sec-Butylbenzene	2000	ND	1980	99	77 - 126
tert-Butylbenzene	2000	ND	1880	94	78 - 124
Carbon disulfide	2000	ND	2030	102	64 - 133
Carbon tetrachloride	2000	ND	2300	115	72 - 136
Chlorobenzene	2000	ND	2090	104	80 - 120
Chloroethane	2000	ND	1620	81	60 - 138
Chloroform	2000	ND	2170	108	79 - 124
Chloromethane	2000	ND	2150	107	50 - 139
2-Chlorotoluene	2000	ND	1960	98	79 - 122
4-Chlorotoluene	2000	ND	1930	97	78 - 122
Dibromochloromethane	2000	ND	2560	128 *	74 - 126
1,2-Dibromo-3-chloropropane	2000	ND	2010	101	62 - 128
1,2-Dibromoethane (EDB)	2000	ND	2020	101	77 - 121
Dibromomethane	2000	ND	2230	111	79 - 123
1,2-Dichlorobenzene	2000	ND	2000	100	80 - 120
1,3-Dichlorobenzene	2000	ND	2000	100	80 - 120
1,4-Dichlorobenzene	2000	ND	1990	100	79 - 120
Dichlorodifluoromethane	2000	ND	1780	89	32 - 152
1,1-Dichloroethane	2000	ND	2110	105	77 - 125
1,2-Dichloroethane (EDC)	2000	ND	1960	98	73 - 128
1,1-Dichloroethene	2000	ND	2090	105	71 - 131
cis-1,2-Dichloroethene	2000	ND	2090	104	78 - 123
trans-1,2-Dichloroethene	2000	ND	2180	109	75 - 124
1,2-Dichloropropane	2000	ND	2140	107	78 - 122
1,3-Dichloropropane	2000	ND	2050	102	80 - 120
2,2-Dichloropropane	2000	ND	1800	90	60 - 139
1,1-Dichloropropene	2000	ND	2100	105	79 - 125

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C

PDI-073PW-03-05-191104

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix: Water
Batch: 9110564
Laboratory ID: 9110564-MS1
Preparation: EPA 5030B
Initial/Final: 5 mL / 5 mL
Source Sample Name: PDI-073PW-03-05-191104

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. (*=Out)	QC LIMITS REC.
cis-1,3-Dichloropropene	2000	ND	1900	95	75 - 124
trans-1,3-Dichloropropene	2000	ND	1900	95	73 - 127
Ethylbenzene	2000	433	2450	101	79 - 121
Hexachlorobutadiene	2000	ND	1860	93	66 - 134
2-Hexanone	4000	ND	3930	98	57 - 139
Isopropylbenzene	2000	ND	2020	101	72 - 131
4-Isopropyltoluene	2000	ND	1990	99	77 - 127
Methylene chloride	2000	ND	2120	106	74 - 124
4-Methyl-2-pentanone (MiBK)	4000	ND	3990	100	67 - 130
Methyl tert-butyl ether (MTBE)	2000	ND	1880	94	71 - 124
Naphthalene	2000	14100	16400	114	61 - 128
n-Propylbenzene	2000	ND	1980	99	76 - 126
Styrene	2000	ND	2090	105	78 - 123
1,1,1,2-Tetrachloroethane	2000	ND	2220	111	78 - 124
1,1,2,2-Tetrachloroethane	2000	ND	2080	104	71 - 121
Tetrachloroethene (PCE)	2000	ND	2110	105	74 - 129
1,2,3-Trichlorobenzene	2000	ND	2050	102	69 - 129
1,2,4-Trichlorobenzene	2000	ND	1960	98	69 - 130
1,1,1-Trichloroethane	2000	ND	2050	102	74 - 131
1,1,2-Trichloroethane	2000	ND	2150	107	80 - 120
Trichloroethene (TCE)	2000	ND	2200	110	79 - 123
Trichlorofluoromethane	2000	ND	2160	108	65 - 141
1,2,3-Trichloropropane	2000	ND	1990	99	73 - 122
1,2,4-Trimethylbenzene	2000	50.9	2070	101	76 - 124
1,3,5-Trimethylbenzene	2000	ND	2000	100	75 - 124
Toluene	2000	1960	3890	96	80 - 121
Vinyl chloride	2000	ND	2120	106	58 - 137
m,p-Xylene	4000	400	4480	102	80 - 121
o-Xylene	2000	176	2190	101	78 - 122

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C

PDI-073PW-03-05-191104

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix: Water
Batch: 9110564
Laboratory ID: 9110564-MSD1
Preparation: EPA 5030B
Initial/Final: 5 mL / 5 mL
Source Sample Name: PDI-073PW-03-05-191104

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
Acetone	4000	4040	101	3	30	39 - 160
Acrylonitrile	2000	2270	114	0.8	30	63 - 135
Benzene	2000	18700	132 *	4	30	79 - 120
Bromobenzene	2000	2090	105	1	30	80 - 120
Bromochloromethane	2000	2430	121	1	30	78 - 123
Bromodichloromethane	2000	2260	113	2	30	79 - 125
Bromoform	2000	2510	125	0.3	30	66 - 130
Bromomethane	2000	2120	106	0.7	30	53 - 141
2-Butanone (MEK)	4000	4300	107	4	30	56 - 143
n-Butylbenzene	2000	2150	107	2	30	75 - 128
sec-Butylbenzene	2000	2010	100	1	30	77 - 126
tert-Butylbenzene	2000	1930	96	2	30	78 - 124
Carbon disulfide	2000	2100	105	3	30	64 - 133
Carbon tetrachloride	2000	2360	118	3	30	72 - 136
Chlorobenzene	2000	2090	104	0.07	30	80 - 120
Chloroethane	2000	1680	84	4	30	60 - 138
Chloroform	2000	2220	111	2	30	79 - 124
Chloromethane	2000	2190	109	2	30	50 - 139
2-Chlorotoluene	2000	2030	101	3	30	79 - 122
4-Chlorotoluene	2000	2030	101	5	30	78 - 122
Dibromochloromethane	2000	2580	129 *	0.9	30	74 - 126
1,2-Dibromo-3-chloropropane	2000	2080	104	3	30	62 - 128
1,2-Dibromoethane (EDB)	2000	2070	103	2	30	77 - 121
Dibromomethane	2000	2270	114	2	30	79 - 123
1,2-Dichlorobenzene	2000	2010	100	0.5	30	80 - 120
1,3-Dichlorobenzene	2000	2060	103	3	30	80 - 120
1,4-Dichlorobenzene	2000	2030	102	2	30	79 - 120
Dichlorodifluoromethane	2000	1830	92	3	30	32 - 152
1,1-Dichloroethane	2000	2150	107	2	30	77 - 125
1,2-Dichloroethane (EDC)	2000	2030	102	4	30	73 - 128
1,1-Dichloroethene	2000	2140	107	2	30	71 - 131
cis-1,2-Dichloroethene	2000	2150	107	3	30	78 - 123
trans-1,2-Dichloroethene	2000	2240	112	3	30	75 - 124
1,2-Dichloropropane	2000	2220	111	4	30	78 - 122
1,3-Dichloropropane	2000	2080	104	2	30	80 - 120

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C

PDI-073PW-03-05-191104

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix: Water
Batch: 9110564
Laboratory ID: 9110564-MSD1
Preparation: EPA 5030B
Initial/Final: 5 mL / 5 mL
Source Sample Name: PDI-073PW-03-05-191104

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
2,2-Dichloropropane	2000	1860	93	3	30	60 - 139
1,1-Dichloropropene	2000	2180	109	4	30	79 - 125
cis-1,3-Dichloropropene	2000	1950	97	2	30	75 - 124
trans-1,3-Dichloropropene	2000	1940	97	2	30	73 - 127
Ethylbenzene	2000	2490	103	2	30	79 - 121
Hexachlorobutadiene	2000	1940	97	4	30	66 - 134
2-Hexanone	4000	4000	100	2	30	57 - 139
Isopropylbenzene	2000	2060	103	2	30	72 - 131
4-Isopropyltoluene	2000	2050	102	3	30	77 - 127
Methylene chloride	2000	2160	108	2	30	74 - 124
4-Methyl-2-pentanone (MiBK)	4000	4110	103	3	30	67 - 130
Methyl tert-butyl ether (MTBE)	2000	1940	97	3	30	71 - 124
Naphthalene	2000	16900	137 *	3	30	61 - 128
n-Propylbenzene	2000	2040	102	3	30	76 - 126
Styrene	2000	2090	104	0.4	30	78 - 123
1,1,1,2-Tetrachloroethane	2000	2230	112	0.7	30	78 - 124
1,1,2,2-Tetrachloroethane	2000	2190	109	5	30	71 - 121
Tetrachloroethene (PCE)	2000	2140	107	2	30	74 - 129
1,2,3-Trichlorobenzene	2000	2110	106	3	30	69 - 129
1,2,4-Trichlorobenzene	2000	2010	100	2	30	69 - 130
1,1,1-Trichloroethane	2000	2110	106	3	30	74 - 131
1,1,2-Trichloroethane	2000	2160	108	0.5	30	80 - 120
Trichloroethene (TCE)	2000	2260	113	3	30	79 - 123
Trichlorofluoromethane	2000	2150	108	0.3	30	65 - 141
1,2,3-Trichloropropane	2000	2060	103	3	30	73 - 122
1,2,4-Trimethylbenzene	2000	2130	104	3	30	76 - 124
1,3,5-Trimethylbenzene	2000	2040	102	2	30	75 - 124
Toluene	2000	3940	99	1	30	80 - 121
Vinyl chloride	2000	2170	108	3	30	58 - 137
m,p-Xylene	4000	4530	103	1	30	80 - 121
o-Xylene	2000	2240	103	2	30	78 - 122

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9J24043	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J24043-TUN1	VI19102415.D	10/24/19 15:01
Initial Cal Blank	9J24043-ICB1	VI19102416.D	10/24/19 15:28
Cal Standard	9J24043-CAL1	VI19102417.D	10/24/19 15:55
Cal Standard	9J24043-CAL2	VI19102418.D	10/24/19 16:21
Cal Standard	9J24043-CAL3	VI19102419.D	10/24/19 16:48
Cal Standard	9J24043-CAL4	VI19102420.D	10/24/19 17:15
Cal Standard	9J24043-CAL5	VI19102421.D	10/24/19 17:42
Cal Standard	9J24043-CAL6	VI19102422.D	10/24/19 18:09
Cal Standard	9J24043-CAL7	VI19102423.D	10/24/19 18:36
Cal Standard	9J24043-CAL8	VI19102424.D	10/24/19 19:03
Cal Standard	9J24043-CAL9	VI19102425.D	10/24/19 19:30
Cal Standard	9J24043-CALA	VI19102427.D	10/24/19 20:24
Cal Standard	9J24043-CALB	VI19102429.D	10/24/19 21:17
Initial Cal Check	9J24043-ICV1	VI19102432.D	10/24/19 22:38
Initial Cal Check	9J24043-ICV2	VI19102433.D	10/24/19 23:05

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 - 5c. PW in Contact with NA
Sequence:	9K07019	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9K07019-TUN1	VI19110703.D	11/07/19 10:10
Calibration Check	9K07019-CCV1	VI19110704.D	11/07/19 10:37
Blank	9110564-BLK1	VI19110706.D	11/07/19 11:31
PDI-TB-1911060000	A9K0165-02	VI19110707.D	11/07/19 11:58
PDI-RB-1911060820	A9K0165-01	VI19110709.D	11/07/19 13:48
PDI-055PW-06-08-191104	A9K0165-04	VI19110711.D	11/07/19 14:42
PDI-074PW-08-10-191104	A9K0165-06	VI19110719.D	11/07/19 18:17
PDI-074PW-08-10-191104 (Dup)	9110564-DUP1	VI19110720.D	11/07/19 18:44
PDI-073PW-03-05-191104	A9K0165-05	VI19110721.D	11/07/19 19:10
PDI-073PW-03-05-191104 (MS)	9110564-MS1	VI19110722.D	11/07/19 19:37
PDI-073PW-03-05-191104 (MSD)	9110564-MSD1	VI19110723.D	11/07/19 20:04

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 - 5c. PW in Contact with NA
Sequence:	9K08020	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9K08020-TUN1	VI19110803.D	11/08/19 10:13
Calibration Check	9K08020-CCV1	VI19110804.D	11/08/19 10:40
Blank	9110605-BLK1	VI19110806.D	11/08/19 11:33
PDI-052PW-06-08-191104	A9K0165-03RE1	VI19110807.D	11/08/19 12:00
PDI-075PW-01-03-191105	A9K0165-07RE1	VI19110810.D	11/08/19 13:21
PDI-RB-1911060820	A9K0165-01RE1	VI19110811.D	11/08/19 13:48
PDI-055PW-06-08-191104	A9K0165-04RE1	VI19110812.D	11/08/19 14:15

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 - 5c. PW in Contact with NA
Lab File ID:	VI19102415.D	Injection Date:	10/24/19
Instrument ID:	VOA-GCMS9	Injection Time:	15:01
Sequence:	9J24043	Lab Sample ID:	9J24043-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	117.89	PASS
m/z 96	5 - 9% of m/z 95	6.78	PASS
m/z 173	Less than 2% of m/z 174	0.39	PASS
m/z 174	50 - 200% of m/z 95	84.82	PASS
m/z 175	5 - 9% of m/z 174	7.17	PASS
m/z 176	95 - 105% of m/z 174	96.98	PASS
m/z 177	5 - 10% of m/z 176	6.50	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 - 5c. PW in Contact with NA
Lab File ID:	VI19110703.D	Injection Date:	11/07/19
Instrument ID:	VOA-GCMS9	Injection Time:	10:10
Sequence:	9K07019	Lab Sample ID:	9K07019-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	115.70	PASS
m/z 96	5 - 9% of m/z 95	6.41	PASS
m/z 173	Less than 2% of m/z 174	0.38	PASS
m/z 174	50 - 200% of m/z 95	86.43	PASS
m/z 175	5 - 9% of m/z 174	6.80	PASS
m/z 176	95 - 105% of m/z 174	96.48	PASS
m/z 177	5 - 10% of m/z 176	6.46	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 - 5c. PW in Contact with NA
Lab File ID:	VI19110803.D	Injection Date:	11/08/19
Instrument ID:	VOA-GCMS9	Injection Time:	10:13
Sequence:	9K08020	Lab Sample ID:	9K08020-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	118.37	PASS
m/z 96	5 - 9% of m/z 95	6.76	PASS
m/z 173	Less than 2% of m/z 174	0.17	PASS
m/z 174	50 - 200% of m/z 95	84.48	PASS
m/z 175	5 - 9% of m/z 174	6.88	PASS
m/z 176	95 - 105% of m/z 174	97.36	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 - 5c. PW in Contact with N

Calibration: A9J2503 Date: 10/25/19 11:16 Instrument: VOA-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	0.4381557	Ave	8.726481	3.941	0.1038258			20	
Acrylonitrile	0.4849865	Ave	11.08293	4.750125	0.1281226			20	
Benzene	3.820688	Ave	4.855279	6.122454	7.160173E-02			20	
Bromobenzene	0.7749402	Ave	14.31895	10.05382	33.16625			20	
Bromochloromethane	0.6103182	Ave	13.73188	5.448	7.661655E-02			20	
Bromodichloromethane	1.098802	Ave	11.01114	7.379667	2.037338E-02			20	
Bromoform	0.182038	XXX	24.41413	10.536	1.629623E-03				
Bromomethane	0.6401472	Ave	11.51384	2.36225	0.232942			20	
2-Butanone (MEK)	0.6946318	Ave	5.120943	5.8565	0.1061664			20	
n-Butylbenzene	1.881239	Ave	14.34203	10.95	33.16625			20	
sec-Butylbenzene	2.797882	Ave	6.314986	11.619	1.773395E-02			20	
tert-Butylbenzene	1.267951	Ave	6.052616	11.4814	2.127617E-02			20	
Carbon disulfide	2.187166	Ave	5.635077	3.2495	0.1633375			20	
Carbon tetrachloride	0.958096	Ave	12.51546	5.66	5.110175E-02			20	
Chlorobenzene	0.9385266	Ave	6.796258	9.928546	1.897513E-02			20	
Chloroethane	0.4990649	Ave	11.22963	2.5024	0.5517427			20	
Chloroform	1.575216	Ave	8.981395	5.5286	0.067176			20	
Chloromethane	1.083839	Ave	14.44663	1.8957	0.2651835			20	
2-Chlorotoluene	0.7160324	Ave	4.343511	11.20522	7.542282E-03			20	
4-Chlorotoluene	2.045294	Ave	4.371039	11.3384	2.743013E-02			20	
Dibromochloromethane	0.2635059	Ave	14.58007	9.187714	2.999687E-02			20	
1,2-Dibromo-3-chloropropane	0.213378	Ave	16.5588	12.799	1.549583E-02			20	
1,2-Dibromoethane (EDB)	0.3548813	Ave	11.70069	9.423667	2.718156E-02			20	
Dibromomethane	0.613177	Ave	13.36088	7.197333	0.035724			20	
1,2-Dichlorobenzene	1.311055	Ave	6.282742	12.1838	9.168253E-03			20	
1,3-Dichlorobenzene	1.350049	Ave	5.926199	11.7975	1.944351E-02			20	
1,4-Dichlorobenzene	1.407811	Ave	7.702776	10.78391	33.16626			20	
Dichlorodifluoromethane	0.8173215	Ave	13.91607	1.68	0.3532017			20	
1,1-Dichloroethane	1.611254	Ave	4.087724	4.684	6.282645E-02			20	
1,2-Dichloroethane (EDC)	1.251571	Ave	4.756875	6.338556	5.089469E-02			20	
1,1-Dichloroethene	1.185277	Ave	4.829149	3.232	0.1325109			20	
cis-1,2-Dichloroethene	1.243807	Ave	4.983881	5.243	6.806309E-02			20	
trans-1,2-Dichloroethene	1.160081	Ave	12.53727	4.0402	0.1157964			20	

INITIAL CALIBRATION DATA (Summary)

EPA 8260C

Laboratory: Apex Laboratories SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with N

Calibration: A9J2503 Date: 10/25/19 11:16 Instrument: VOA-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,2-Dichloropropane	0.9529922	Ave	6.181257	7.309333	4.176568E-02			20	
1,3-Dichloropropane	0.5622635	Ave	6.984495	9.289	1.625701E-02			20	
2,2-Dichloropropane	1.051426	Ave	5.306826	5.351	5.789193E-02			20	
1,1-Dichloropropene	1.276879	Ave	5.297634	5.864	7.149465E-02			20	
cis-1,3-Dichloropropene	0.4943363	Ave	9.88405	8.090778	1.687355E-02			20	
trans-1,3-Dichloropropene	0.4384672	Ave	14.34003	8.8375	2.503515E-02			20	
Ethylbenzene	1.541948	Ave	3.605451	9.952	2.233646E-03			20	
Hexachlorobutadiene	0.183193	Ave	7.660033	13.30475	1.768887E-02			20	
n-Hexane	0.1766211	Ave	9.349684	4.1225	0.1006313			20	
2-Hexanone	0.3270741	Ave	8.407905	9.655333	4.249128E-02			20	
Isopropylbenzene	1.373353	Ave	9.366214	10.7316	1.248468E-02			20	
4-Isopropyltoluene	2.213644	Ave	12.8808	11.72809	1.621363E-02			20	
Methylene chloride	2.303504	XXX	106.1101	2.111364	95.74276				
4-Methyl-2-pentanone (MiBK)	0.4463673	Ave	9.088647	8.7997	0.0581443			20	
Methyl tert-butyl ether (MTBE)	2.696465	Ave	4.583572	4.167666	4.929023E-02			20	
Naphthalene	2.402403	Ave	14.83266	13.62756	2.239306E-02			20	
n-Propylbenzene	3.322886	Ave	4.437601	11.07445	2.757102E-02			20	
Styrene	0.9048037	Ave	11.92922	10.514	2.753921E-02			20	
1,1,1,2-Tetrachloroethane	0.2737028	Ave	14.89731	9.988889	9.127631E-03			20	
1,1,2,2-Tetrachloroethane	0.6542208	Ave	7.065101	11.1386	1.610871E-02			20	
Tetrachloroethene (PCE)	0.3422483	Ave	13.47971	8.7972	4.042701E-02			20	
Tetrahydrofuran	0.4610548	Ave	5.938304	5.70075	8.794712E-02			20	
1,2,3-Trichlorobenzene	0.7173915	Ave	14.15743	13.785	1.406697E-02			20	
1,2,4-Trichlorobenzene	0.7556	Ave	12.49162	13.34567	1.673266E-02			20	
1,1,1-Trichloroethane	1.329679	Ave	7.371644	5.732667	5.450977E-02			20	
1,1,2-Trichloroethane	0.3259471	Ave	10.621	9.0054	3.795045E-02			20	
Trichloroethene (TCE)	0.9844716	Ave	10.55293	6.743	6.329732E-02			20	
Trichlorofluoromethane	1.229565	Ave	5.615088	2.664667	0.2626576			20	
1,2,3-Trichloropropane	0.3181506	Ave	9.473753	11.248	0.0139849			20	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freo	0.8522469	Ave	6.067761	3.287125	0.1690957			20	
1,2,4-Trimethylbenzene	2.284364	Ave	8.297743	11.53618	0.0334269			20	
1,3,5-Trimethylbenzene	2.270723	Ave	6.723342	11.23	1.456535E-02			20	
Isobutyl alcohol	6.959143E-02	Ave	14.50852	6.375667	8.718278E-02			20	

INITIAL CALIBRATION DATA (Summary)

EPA 8260C

Laboratory: Apex Laboratories SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with N

Calibration: A9J2503 Date: 10/25/19 11:16 Instrument: VOA-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Toluene	1.470311	Ave	3.413471	8.356909	3.263244E-02			20	
Vinyl chloride	1.085853	Ave	7.669225	1.9992	0.2472262			20	
m,p-Xylene	1.135467	Ave	6.122052	10.086	1.858078E-02			20	
o-Xylene	1.125697	Ave	7.834778	10.46518	2.767706E-02			20	
trans-1,4-Dichloro-2-butene	0.2276592	Ave	8.273218	11.27912	0.0247595			20	
1,4-Difluorobenzene (Surr)	3.158849	Ave	0.8371465	6.780727	4.460955E-02			20	
Toluene-d8 (Surr)	1.312366	Ave	1.829616	8.297273	1.899629E-02			20	
4-Bromofluorobenzene (Surr)	0.8078842	Ave	3.581646	10.974	1.572481E-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: A9J2503

SDG: Gasco_PreRD_DG 2019

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v

Instrument: VOA-GCMS9

Calibration Date: 10/25/19 11:16

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
Acetone	0.2	~~0~~	0.4	~~1.27191~~	0.8	~~0.9019065~~	2	~~0.6333859~~	4	0.5103123	10	0.4663994
Acrylonitrile	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.3774463	2	0.439796	5	0.4887848
Benzene	0.1	3.949114	0.2	3.449838	0.4	3.773943	1	3.582293	2	4.047071	5	3.909918
Bromobenzene	0.1	0.4438685	0.2	0.7998756	0.4	0.813191	1	0.7709458	2	0.829978	5	0.8194271
Bromochloromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.4364424	1	0.5118792	2	0.6045221	5	0.6460679
Bromodichloromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.8929768	1	0.9733461	2	1.056278	5	1.082875
Bromoform	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.127897	2	0.1486966	5	0.1561683
Bromomethane	0.1	~~0~~	0.2	~~0~~	0.4	~~0.9365094~~	1	0.7596322	2	0.7085477	5	0.7010179
2-Butanone (MEK)	0.2	~~0~~	0.4	~~0~~	0.8	~~0~~	2	0.6247684	4	0.7043731	10	0.704351
n-Butylbenzene	0.1	1.356663	0.2	1.490509	0.4	1.735117	1	1.735322	2	1.903182	5	2.011097
sec-Butylbenzene	0.1	~~0~~	0.2	2.408885	0.4	2.77879	1	2.587183	2	2.821997	5	2.836939
tert-Butylbenzene	0.1	~~0~~	0.2	1.114641	0.4	1.159843	1	1.233166	2	1.32449	5	1.325973
Carbon disulfide	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	1.97039	2	2.201688	5	2.167372
Carbon tetrachloride	0.1	~~0~~	0.2	~~0~~	0.4	~~0.6898245~~	1	0.7716967	2	0.9028342	5	0.8969462
Chlorobenzene	0.1	0.7802924	0.2	0.8622852	0.4	0.9452326	1	0.9282586	2	0.9824385	5	0.9841268
Chloroethane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	~~0~~	2	0.5731564	5	0.5313936
Chloroform	0.1	~~0~~	0.2	1.278444	0.4	1.442157	1	1.439553	2	1.642071	5	1.638231
Chloromethane	0.1	~~2.062841~~	0.2	1.457034	0.4	1.268027	1	1.037116	2	1.070268	5	1.024232
2-Chlorotoluene	0.1	~~0~~	0.2	~~0~~	0.4	0.6682106	1	0.6632912	2	0.747231	5	0.7155799
4-Chlorotoluene	0.1	~~0~~	0.2	1.888595	0.4	2.024148	1	1.896457	2	2.098766	5	2.131864
Dibromochloromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.2144395	1	0.2170227	2	0.2550763	5	0.2669179
1,2-Dibromo-3-chloropropane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.155231	2	0.1801808	5	0.1923253
1,2-Dibromoethane (EDB)	0.1	~~0~~	0.2	~~0.2302178~~	0.4	0.2611491	1	0.3101703	2	0.3777447	5	0.3752701
Dibromomethane	0.1	~~0~~	0.2	~~0~~	0.4	0.4219315	1	0.5536741	2	0.6216716	5	0.6326457
1,2-Dichlorobenzene	0.1	~~0~~	0.2	1.155376	0.4	1.1933	1	1.267546	2	1.4067	5	1.371939
1,3-Dichlorobenzene	0.1	~~0~~	0.2	1.164634	0.4	1.312258	1	1.267546	2	1.382342	5	1.389706
1,4-Dichlorobenzene	0.1	1.113251	0.2	1.342384	0.4	1.453521	1	1.450559	2	1.531358	5	1.43969
Dichlorodifluoromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.6273162	1	0.6820747	2	0.8419081	5	0.8116386
1,1-Dichloroethane	0.1	~~0~~	0.2	~~0~~	0.4	1.47676	1	1.582172	2	1.630788	5	1.649131
1,2-Dichloroethane (EDC)	0.1	~~0~~	0.2	~~0~~	0.4	1.197705	1	1.130185	2	1.292084	5	1.293487
1,1-Dichloroethene	0.1	~~0~~	0.2	~~0~~	0.4	1.158637	1	1.066846	2	1.187607	5	1.199982

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: Apex Laboratories

Client: Anchor QEA, LLC

Calibration: A9J2503

SDG: Gasco_PreRD_DG 2019

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v

Instrument: VOA-GCMS9

Calibration Date: 10/25/19 11:16

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
cis-1,2-Dichloroethene	0.1	~~0~~	0.2	~~0~~	0.4	1.125151	1	1.18232	2	1.256431	5	1.257454
trans-1,2-Dichloroethene	0.1	~~0~~	0.2	0.7840541	0.4	1.074921	1	1.144834	2	1.241764	5	1.232772
1,2-Dichloropropane	0.1	~~0~~	0.2	~~0~~	0.4	0.8896281	1	0.8376206	2	0.9867768	5	0.9816233
1,3-Dichloropropane	0.1	~~0~~	0.2	0.4686871	0.4	0.5320649	1	0.5407066	2	0.5784137	5	0.5844158
2,2-Dichloropropane	0.1	~~0~~	0.2	~~0~~	0.4	0.9521365	1	0.9979059	2	1.077715	5	1.062337
1,1-Dichloropropene	0.1	~~0~~	0.2	~~0~~	0.4	1.170916	1	1.184475	2	1.291633	5	1.299252
cis-1,3-Dichloropropene	0.1	~~0~~	0.2	~~0~~	0.4	0.4305776	1	0.4290582	2	0.4683396	5	0.4737993
trans-1,3-Dichloropropene	0.1	~~0~~	0.2	~~0~~	0.4	~~0.259026~~	1	0.3413804	2	0.3778287	5	0.4039065
Ethylbenzene	0.1	1.531324	0.2	1.514156	0.4	1.521884	1	1.409441	2	1.608459	5	1.560351
Hexachlorobutadiene	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.1538419	2	0.1724793	5	0.1914088
n-Hexane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.1538223	2	0.1599874	5	0.1653905
2-Hexanone	0.2	~~0~~	0.4	~~0~~	0.8	0.2857779	2	0.2836256	4	0.3194751	10	0.3283863
Isopropylbenzene	0.1	~~0~~	0.2	1.111482	0.4	1.302349	1	1.232637	2	1.370678	5	1.391896
4-Isopropyltoluene	0.1	1.72178	0.2	1.701587	0.4	2.078051	1	2.113503	2	2.242947	5	2.338924
Methylene chloride	0.1	8.716474	0.2	4.79362	0.4	2.953521	1	1.697216	2	1.387986	5	1.130439
4-Methyl-2-pentanone (MiBK)	0.2	~~0~~	0.4	0.3671932	0.8	0.4059489	2	0.4055702	4	0.463008	10	0.4692208
Methyl tert-butyl ether (MTBE)	0.1	~~0~~	0.2	~~0~~	0.4	2.577354	1	2.494334	2	2.698123	5	2.694172
Naphthalene	0.1	~~0~~	0.2	~~1.710845~~	0.4	1.867086	1	1.856174	2	2.278947	5	2.318902
n-Propylbenzene	0.1	3.124978	0.2	3.053229	0.4	3.293656	1	3.18102	2	3.455317	5	3.384023
Styrene	0.1	~~0~~	0.2	~~0.6221656~~	0.4	0.7031919	1	0.7847566	2	0.8700975	5	0.8903592
1,1,1,2-Tetrachloroethane	0.1	~~0~~	0.2	~~0.1064448~~	0.4	0.1995774	1	0.237454	2	0.2506264	5	0.2657525
1,1,2,2-Tetrachloroethane	0.1	~~0~~	0.2	0.564727	0.4	0.6236013	1	0.6514839	2	0.7178576	5	0.6939363
Tetrachloroethene (PCE)	0.1	~~0~~	0.2	0.2203159	0.4	0.334186	1	0.3207882	2	0.363807	5	0.361185
Tetrahydrofuran	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.4071766	2	0.4614586	5	0.460499
1,2,3-Trichlorobenzene	0.1	~~0~~	0.2	0.4832581	0.4	0.6384711	1	0.6525257	2	0.7294995	5	0.733346
1,2,4-Trichlorobenzene	0.1	~~0~~	0.2	~~0.4517815~~	0.4	0.571557	1	0.6365512	2	0.7241263	5	0.7835424
1,1,1-Trichloroethane	0.1	~~0~~	0.2	~~0~~	0.4	1.129616	1	1.250829	2	1.339697	5	1.347356
1,1,2-Trichloroethane	0.1	~~0~~	0.2	0.2376442	0.4	0.3044617	1	0.3127443	2	0.3470986	5	0.3441696
Trichloroethene (TCE)	0.1	~~0~~	0.2	0.8101892	0.4	0.8014466	1	0.9332747	2	1.032584	5	1.02153
Trichlorofluoromethane	0.1	~~0~~	0.2	~~0~~	0.4	1.06934	1	1.199555	2	1.278771	5	1.282407
1,2,3-Trichloropropane	0.1	~~0~~	0.2	~~0~~	0.4	0.2518569	1	0.308031	2	0.3465705	5	0.3427733

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v
Calibration: A9J2503
Instrument: VOA-GCMS9
Calibration Date: 10/25/19 11:16

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
1,1,2-Trichloro-1,2,2-trifluoroethan	0.1	0	0.2	0	0.4	0	1	0.739812	2	0.8581551	5	0.8597423
1,2,4-Trimethylbenzene	0.1	1.918657	0.2	1.973767	0.4	2.218385	1	2.194417	2	2.323724	5	2.412245
1,3,5-Trimethylbenzene	0.1	1.990249	0.2	2.086712	0.4	2.127307	1	2.15205	2	2.344321	5	2.348653
Isobutyl alcohol	2.5	0	5	0	10	5.232844E-02	25	5.377317E-02	50	7.191985E-02	125	7.462391E-02
Toluene	0.1	1.589846	0.2	1.439067	0.4	1.488338	1	1.454325	2	1.498804	5	1.474176
Vinyl chloride	0.1	0	0.2	0.8842388	0.4	1.079386	1	1.012987	2	1.13503	5	1.139807
m,p-Xylene	0.2	1.111917	0.4	1.019064	0.8	1.103408	2	1.028726	4	1.137348	10	1.146239
o-Xylene	0.1	0.9509814	0.2	1.007512	0.4	1.106168	1	1.066613	2	1.142302	5	1.147321
trans-1,4-Dichloro-2-butene	0.1	0	0.2	0	0.4	0	1	0.1844019	2	0.2351664	5	0.2321581
Xylenes, total	0.3	1.058272	0.6	1.015214	1.2	1.104328	3	1.041355	6	1.139	15	1.1466
1,4-Difluorobenzene (Surr)	50	3.139024	50	3.131529	50	3.145975	50	3.159536	50	3.133965	50	3.188163
Toluene-d8 (Surr)	50	1.320931	50	1.332765	50	1.345328	50	1.320856	50	1.326656	50	1.321953
4-Bromofluorobenzene (Surr)	50	0.831108	50	0.83824	50	0.8349678	50	0.8234743	50	0.8250562	50	0.8153522

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v
Calibration: A9J2503
Instrument: VOA-GCMS9
Matrix:
Calibration Date: 10/25/19 11:16

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
Acetone	20	0.4208047	40	0.4379215	100	0.4062135	200	0.4214387	400	0.4040001		
Acrylonitrile	10	0.4839382	20	0.510938	50	0.5073464	100	0.5472144	200	0.5244282		
Benzene	10	3.71399	20	3.910312	50	3.758482	100	4.021863	200	3.910748		
Bromobenzene	10	0.8116476	20	0.8248016	50	0.7979914	100	0.8125525	200	0.8000635		
Bromochloromethane	10	0.6360537	20	0.6880193	50	0.670835	100	0.6770888	200	0.6219556		
Bromodichloromethane	10	1.065191	20	1.149694	50	1.154771	100	1.259583	200	1.254501		
Bromoform	10	0.1710337	20	0.1941106	50	0.2213234	100	0.2550363	200	~~0.2652962~~		
Bromomethane	10	0.6240222	20	0.613824	50	0.5786916	100	0.559171	200	0.5762707		
2-Butanone (MEK)	20	0.6623274	40	0.7169769	100	0.7014442	200	0.7409523	400	0.7018611		
n-Butylbenzene	10	1.99427	20	2.159924	50	2.059682	100	2.128511	200	2.119352		
sec-Butylbenzene	10	2.81396	20	2.983258	50	2.858129	100	2.970663	200	2.919011		
tert-Butylbenzene	10	1.287102	20	1.348068	50	1.277748	100	1.320476	200	1.288007		
Carbon disulfide	10	2.083659	20	2.199571	50	2.200441	100	2.374055	200	2.300151		
Carbon tetrachloride	10	0.8859942	20	0.9772165	50	0.9911705	100	1.10568	200	1.13323		
Chlorobenzene	10	0.964716	20	0.9849133	50	0.9397401	100	0.9805969	200	0.9711928		
Chloroethane	10	0.5022193	20	0.4415022	50	0.4470532	100	~~0.2401397~~	200	~~0.1149038~~		
Chloroform	10	1.606991	20	1.695617	50	1.617019	100	1.719146	200	1.672928		
Chloromethane	10	0.9543993	20	1.002215	50	1.02872	100	1.012394	200	0.9839853		
2-Chlorotoluene	10	0.7246255	20	0.753079	50	0.7192168	100	0.7296301	200	0.7234272		
4-Chlorotoluene	10	2.068894	20	2.142822	50	2.055647	100	2.109797	200	2.035946		
Dibromochloromethane	10	0.2750349	20	0.3006581	50	0.3153921	100	~~0.3498031~~	200	~~0.3577943~~		
1,2-Dibromo-3-chloropropane	10	0.2088932	20	0.2265966	50	0.2430718	100	0.2500107	200	0.2507144		
1,2-Dibromoethane (EDB)	10	0.3657542	20	0.3809676	50	0.3656071	100	0.3823937	200	0.374875		
Dibromomethane	10	0.620451	20	0.6564151	50	0.6422796	100	0.6921751	200	0.6773489		
1,2-Dichlorobenzene	10	1.344536	20	1.383179	50	1.337138	100	1.34539	200	1.305442		
1,3-Dichlorobenzene	10	1.383876	20	1.422364	50	1.383071	100	1.412214	200	1.382476		
1,4-Dichlorobenzene	10	1.4332	20	1.477561	50	1.40642	100	1.43615	200	1.401823		
Dichlorodifluoromethane	10	0.7702707	20	0.8002687	50	0.9462965	100	0.9472046	200	0.9289152		
1,1-Dichloroethane	10	1.57298	20	1.670729	50	1.581787	100	1.69618	200	1.640758		
1,2-Dichloroethane (EDC)	10	1.230146	20	1.306225	50	1.244865	100	1.313294	200	1.256151		
1,1-Dichloroethene	10	1.158212	20	1.202649	50	1.192087	100	1.279045	200	1.222424		

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v
Calibration: A9J2503
Instrument: VOA-GCMS9
Matrix:
Calibration Date: 10/25/19 11:16

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
cis-1,2-Dichloroethene	10	1.221133	20	1.297951	50	1.237722	100	1.328041	200	1.288062		
trans-1,2-Dichloroethene	10	1.163696	20	1.246953	50	1.187512	100	1.276224	200	1.248076		
1,2-Dichloropropane	10	0.9316968	20	0.9879811	50	0.9436935	100	1.023882	200	0.9940276		
1,3-Dichloropropane	10	0.5810448	20	0.5999811	50	0.5714957	100	0.5947856	200	0.5710394		
2,2-Dichloropropane	10	1.006011	20	1.073208	50	1.060734	100	1.128816	200	1.103972		
1,1-Dichloropropene	10	1.245451	20	1.31263	50	1.271224	100	1.375599	200	1.340734		
cis-1,3-Dichloropropene	10	0.4871928	20	0.5248817	50	0.5196585	100	0.5592496	200	0.5562698		
trans-1,3-Dichloropropene	10	0.420384	20	0.4647208	50	0.4732454	100	0.5133554	200	0.5129165		
Ethylbenzene	10	1.534653	20	1.591212	50	1.51604	100	1.593904	200	1.579999		
Hexachlorobutadiene	10	0.1832255	20	0.1987915	50	0.1886455	100	0.1899254	200	0.1872258		
n-Hexane	10	0.1715019	20	0.1847766	50	0.1830155	100	0.1960907	200	0.1983837		
2-Hexanone	20	0.3346914	40	0.3562764	100	0.3495076	200	0.3584297	400	0.3274972		
Isopropylbenzene	10	1.385292	20	1.48775	50	1.427172	100	1.52791	200	1.496359		
4-Isopropyltoluene	10	2.299635	20	2.496553	50	2.392121	100	2.488563	200	2.476425		
Methylene chloride	10	0.9651129	20	0.9696546	50	0.8867644	100	0.9336364	200	0.9041251		
4-Methyl-2-pentanone (MiBK)	20	0.463578	40	0.4905843	100	0.4738401	200	0.4839134	400	0.440816		
Methyl tert-butyl ether (MTBE)	10	2.617041	20	2.750498	50	2.706966	100	2.888391	200	2.841303		
Naphthalene	10	2.423483	20	2.669354	50	2.689107	100	2.754697	200	2.76388		
n-Propylbenzene	10	3.317662	20	3.47486	50	3.358109	100	3.500901	200	3.407993		
Styrene	10	0.9113808	20	0.9785717	50	0.9560498	100	1.026099	200	1.022727		
1,1,1,2-Tetrachloroethane	10	0.2716306	20	0.2958062	50	0.2960372	100	0.3236666	200	0.3227747		
1,1,2,2-Tetrachloroethane	10	0.6734578	20	0.6896682	50	0.6735685	100	0.6510233	200	0.6028843		
Tetrachloroethene (PCE)	10	0.3532076	20	0.3701403	50	0.3520966	100	0.3717106	200	0.3750457		
Tetrahydrofuran	10	0.4410839	20	0.4743964	50	0.4676093	100	0.4995178	200	0.4766965		
1,2,3-Trichlorobenzene	10	0.7470093	20	0.7972934	50	0.7789871	100	0.7980403	200	0.8154843		
1,2,4-Trichlorobenzene	10	0.7751567	20	0.8404523	50	0.8118984	100	0.8232022	200	0.8339134		
1,1,1-Trichloroethane	10	1.284351	20	1.37893	50	1.353967	100	1.452812	200	1.429553		
1,1,2-Trichloroethane	10	0.3420675	20	0.3514489	50	0.3350179	100	0.34682	200	0.3379984		
Trichloroethene (TCE)	10	0.9969135	20	1.053302	50	1.025866	100	1.095246	200	1.074364		
Trichlorofluoromethane	10	1.234525	20	1.29357	50	1.258953	100	1.250083	200	1.198884		
1,2,3-Trichloropropane	10	0.3405154	20	0.3331167	50	0.3272536	100	0.3185251	200	0.2947126		

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v
Calibration: A9J2503
Instrument: VOA-GCMS9
Matrix:
Calibration Date: 10/25/19 11:16

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
1,1,2-Trichloro-1,2,2-trifluoroethan	10	0.8337868	20	0.8832046	50	0.8458685	100	0.9115538	200	0.8858524		
1,2,4-Trimethylbenzene	10	2.375163	20	2.49055	50	2.370189	100	2.445452	200	2.405457		
1,3,5-Trimethylbenzene	10	2.34199	20	2.452223	50	2.344405	100	2.400473	200	2.389567		
Isobutyl alcohol	250	6.680838E-02	500	7.430831E-02	1250	0.0777889	2500	8.037486E-02	5000	7.439707E-02		
Toluene	10	1.44486	20	1.492292	50	1.390623	100	1.461836	200	1.439258		
Vinyl chloride	10	1.069188	20	1.110172	50	1.15024	100	1.154176	200	1.123309		
m,p-Xylene	20	1.134823	40	1.209186	100	1.149737	200	1.230376	400	1.219314		
o-Xylene	10	1.141456	20	1.216423	50	1.157582	100	1.23274	200	1.213571		
trans-1,4-Dichloro-2-butene	10	0.2340582	20	0.2393777	50	0.2430465	100	0.2342091	200	0.2188557		
Xylenes, total	30	1.137034	60	1.211598	150	1.152352	300	1.231164	600	1.2174		
1,4-Difluorobenzene (Surr)	50	3.124014	50	3.157501	50	3.200969	50	3.186536	50	3.180128		
Toluene-d8 (Surr)	50	1.327143	50	1.301918	50	1.292388	50	1.274013	50	1.27207		
4-Bromofluorobenzene (Surr)	50	0.8117213	50	0.7980421	50	0.7955945	50	0.7620051	50	0.7511646		

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contac
Instrument ID:	VOA-GCMS9	Calibration:	A9J2503
Lab File ID:	VI19102432.D		
Sequence:	9J24043	Inject Date:	10/24/19
Lab Sample ID:	9J24043-ICV1	Inject Time:	22:38

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Acetone	40.0	37.6	-6.0	70 - 130
Acrylonitrile	20.0	19.6	-2.1	70 - 130
Benzene	20.0	19.7	-1.6	70 - 130
Bromobenzene	20.0	21.0	4.9	70 - 130
Bromochloromethane	20.0	22.1	10.3	70 - 130
Bromodichloromethane	20.0	20.8	3.8	70 - 130
Bromoform	20.0	21.4	6.9	70 - 130
Bromomethane	20.0	22.6	13.2	70 - 130
2-Butanone (MEK)	40.0	37.9	-5.3	70 - 130
n-Butylbenzene	20.0	22.3	11.3	70 - 130
sec-Butylbenzene	20.0	20.5	2.3	70 - 130
tert-Butylbenzene	20.0	20.4	1.8	70 - 130
Carbon disulfide	20.0	18.4	-8.2	70 - 130
Carbon tetrachloride	20.0	20.7	3.5	70 - 130
Chlorobenzene	20.0	20.6	3.0	70 - 130
Chloroethane	20.0	17.5	-12.4	70 - 130
Chloroform	20.0	20.9	4.3	70 - 130
Chloromethane	20.0	20.7	3.6	70 - 130
2-Chlorotoluene	20.0	19.9	-0.3	70 - 130
4-Chlorotoluene	20.0	20.6	2.8	70 - 130
Dibromochloromethane	20.0	23.7	18.7	70 - 130
1,2-Dibromo-3-chloropropane	20.0	20.0	0.2	70 - 130
1,2-Dibromoethane (EDB)	20.0	20.7	3.3	70 - 130
Dibromomethane	20.0	21.1	5.6	70 - 130
1,2-Dichlorobenzene	20.0	20.8	4.1	70 - 130
1,3-Dichlorobenzene	20.0	20.8	4.2	70 - 130
1,4-Dichlorobenzene	20.0	20.5	2.4	70 - 130
Dichlorodifluoromethane	20.0	25.2	26.2	70 - 130
1,1-Dichloroethane	20.0	20.5	2.6	70 - 130
1,2-Dichloroethane (EDC)	20.0	20.2	0.8	70 - 130
1,1-Dichloroethene	20.0	19.7	-1.4	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contac
Instrument ID:	VOA-GCMS9	Calibration:	A9J2503
Lab File ID:	VI19102432.D		
Sequence:	9J24043	Inject Date:	10/24/19
Lab Sample ID:	9J24043-ICV1	Inject Time:	22:38

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
cis-1,2-Dichloroethene	20.0	20.0	0.2	70 - 130
trans-1,2-Dichloroethene	20.0	21.0	4.9	70 - 130
1,2-Dichloropropane	20.0	20.3	1.4	70 - 130
1,3-Dichloropropane	20.0	20.5	2.4	70 - 130
2,2-Dichloropropane	20.0	17.7	-11.4	70 - 130
1,1-Dichloropropene	20.0	19.6	-2.0	70 - 130
cis-1,3-Dichloropropene	20.0	19.9	-0.6	70 - 130
trans-1,3-Dichloropropene	20.0	20.7	3.5	70 - 130
Ethylbenzene	20.0	20.1	0.7	70 - 130
Hexachlorobutadiene	20.0	21.9	9.3	70 - 130
2-Hexanone	40.0	40.6	1.4	70 - 130
Isopropylbenzene	20.0	20.9	4.7	70 - 130
4-Isopropyltoluene	20.0	21.7	8.3	70 - 130
Methylene chloride	20.0	20.0	-0.2	70 - 130
4-Methyl-2-pentanone (MiBK)	40.0	41.0	2.6	70 - 130
Methyl tert-butyl ether (MTBE)	20.0	19.6	-2.1	70 - 130
Naphthalene	20.0	21.9	9.6	70 - 130
n-Propylbenzene	20.0	20.1	0.5	70 - 130
Styrene	20.0	20.9	4.3	70 - 130
1,1,1,2-Tetrachloroethane	20.0	21.8	8.9	70 - 130
1,1,2,2-Tetrachloroethane	20.0	20.3	1.7	70 - 130
Tetrachloroethene (PCE)	20.0	20.9	4.4	70 - 130
1,2,3-Trichlorobenzene	20.0	22.6	13.0	70 - 130
1,2,4-Trichlorobenzene	20.0	22.3	11.3	70 - 130
1,1,1-Trichloroethane	20.0	19.9	-0.3	70 - 130
1,1,2-Trichloroethane	20.0	21.2	6.2	70 - 130
Trichloroethene (TCE)	20.0	21.2	6.2	70 - 130
Trichlorofluoromethane	20.0	20.7	3.4	70 - 130
1,2,3-Trichloropropane	20.0	20.7	3.3	70 - 130
1,2,4-Trimethylbenzene	20.0	20.7	3.6	70 - 130
1,3,5-Trimethylbenzene	20.0	20.7	3.3	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contac
Instrument ID:	VOA-GCMS9	Calibration:	A9J2503
Lab File ID:	VI19102432.D		
Sequence:	9J24043	Inject Date:	10/24/19
Lab Sample ID:	9J24043-ICV1	Inject Time:	22:38

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Toluene	20.0	19.4	-3.1	70 - 130
Vinyl chloride	20.0	22.1	10.6	70 - 130
m,p-Xylene	40.0	40.9	2.3	70 - 130
o-Xylene	20.0	21.0	4.9	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 - 5c. PW in Contact with NA
Sequence:	9J24043	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9J24043-ICV1)				Lab File ID: VI19102432.D		Analyzed: 10/24/19 22:38		
1,4-Difluorobenzene (Surr)	50.0	101	70 - 130	6.782	6.780727	0.0013	+/-1.0	
Toluene-d8 (Surr)	50.0	99	70 - 130	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	70 - 130	10.974	10.974	0.0000	+/-1.0	
Initial Cal Check (9J24043-ICV2)				Lab File ID: VI19102433.D		Analyzed: 10/24/19 23:05		
1,4-Difluorobenzene (Surr)	50.0	101	70 - 130	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	101	70 - 130	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	102	70 - 130	10.974	10.974	0.0000	+/-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 - 5c. PW in Contact with NA
Sequence:	9K07019	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9110564-BS1)			Lab File ID: VI19110704.D		Analyzed: 11/07/19 10:37			
1,4-Difluorobenzene (Surr)	50.0	105	80 - 120	6.777	6.780727	-0.0037	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.298	8.297273	0.0007	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	97	80 - 120	10.974	10.974	0.0000	+/-1.0	
Blank (9110564-BLK1)			Lab File ID: VI19110706.D		Analyzed: 11/07/19 11:31			
1,4-Difluorobenzene (Surr)	50.0	105	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-TB-1911060000 (A9K0165-02)			Lab File ID: VI19110707.D		Analyzed: 11/07/19 11:58			
1,4-Difluorobenzene (Surr)	50.0	106	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	101	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-RB-1911060820 (A9K0165-01)			Lab File ID: VI19110709.D		Analyzed: 11/07/19 13:48			
1,4-Difluorobenzene (Surr)	50.0	108	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-055PW-06-08-191104 (A9K0165-04)			Lab File ID: VI19110711.D		Analyzed: 11/07/19 14:42			
1,4-Difluorobenzene (Surr)	50.0	101	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-074PW-08-10-191104 (A9K0165-06)			Lab File ID: VI19110719.D		Analyzed: 11/07/19 18:17			
1,4-Difluorobenzene (Surr)	50.0	104	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.303	8.297273	0.0057	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.974	10.974	0.0000	+/-1.0	
Duplicate (9110564-DUP1)			Lab File ID: VI19110720.D		Analyzed: 11/07/19 18:44			
1,4-Difluorobenzene (Surr)	50.0	105	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-073PW-03-05-191104 (A9K0165-05)			Lab File ID: VI19110721.D		Analyzed: 11/07/19 19:10			
1,4-Difluorobenzene (Surr)	50.0	103	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.303	8.297273	0.0057	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.974	10.974	0.0000	+/-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 - 5c. PW in Contact with NA
Sequence:	9K07019	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Matrix Spike (9110564-MS1)			Lab File ID: VI19110722.D		Analyzed: 11/07/19 19:37			
1,4-Difluorobenzene (Surr)	50.0	105	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	96	80 - 120	10.974	10.974	0.0000	+/-1.0	
Matrix Spike Dup (9110564-MSD1)			Lab File ID: VI19110723.D		Analyzed: 11/07/19 20:04			
1,4-Difluorobenzene (Surr)	50.0	106	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	96	80 - 120	10.974	10.974	0.0000	+/-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 - 5c. PW in Contact with NA
Sequence:	9K08020	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9110605-BS1)			Lab File ID: VI19110804.D		Analyzed: 11/08/19 10:40			
1,4-Difluorobenzene (Surr)	50.0	107	80 - 120	6.782	6.780727	0.0013	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.974	10.974	0.0000	+/-1.0	
Blank (9110605-BLK1)			Lab File ID: VI19110806.D		Analyzed: 11/08/19 11:33			
1,4-Difluorobenzene (Surr)	50.0	107	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.303	8.297273	0.0057	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	102	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-052PW-06-08-191104 (A9K0165-03RE1)			Lab File ID: VI19110807.D		Analyzed: 11/08/19 12:00			
1,4-Difluorobenzene (Surr)	50.0	108	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-075PW-01-03-191105 (A9K0165-07RE1)			Lab File ID: VI19110810.D		Analyzed: 11/08/19 13:21			
1,4-Difluorobenzene (Surr)	50.0	107	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	101	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-RB-1911060820 (A9K0165-01RE1)			Lab File ID: VI19110811.D		Analyzed: 11/08/19 13:48			
1,4-Difluorobenzene (Surr)	50.0	107	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.297	8.297273	-0.0003	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	103	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-055PW-06-08-191104 (A9K0165-04RE1)			Lab File ID: VI19110812.D		Analyzed: 11/08/19 14:15			
1,4-Difluorobenzene (Surr)	50.0	105	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.298	8.297273	0.0007	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.974	10.974	0.0000	+/-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 - 5c. PW in Contact with NA
Sequence:	9K07019	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9110564-BS1)			Lab File ID: VI19110704.D			Analyzed: 11/07/19 10:37			
Pentafluorobenzene (ISTD)	108525	6.211	108525	6.211	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	305974	9.916	305974	9.916	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	148963	11.85	148963	11.85	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9K07019-CCV1)			Lab File ID: VI19110704.D			Analyzed: 11/07/19 10:37			
Pentafluorobenzene (ISTD)	108525	6.211	112406	6.211	97	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	305974	9.916	307093	9.91	100	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	148963	11.85	151591	11.85	98	50 - 200	0.0000	+/-0.50	
Blank (9110564-BLK1)			Lab File ID: VI19110706.D			Analyzed: 11/07/19 11:31			
Pentafluorobenzene (ISTD)	104449	6.217	108525	6.211	96	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	287599	9.916	305974	9.916	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	128789	11.856	148963	11.85	86	50 - 200	0.0060	+/-0.50	
PDI-TB-1911060000 (A9K0165-02)			Lab File ID: VI19110707.D			Analyzed: 11/07/19 11:58			
Pentafluorobenzene (ISTD)	99157	6.217	108525	6.211	91	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	273766	9.916	305974	9.916	89	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	122035	11.856	148963	11.85	82	50 - 200	0.0060	+/-0.50	
PDI-RB-1911060820 (A9K0165-01)			Lab File ID: VI19110709.D			Analyzed: 11/07/19 13:48			
Pentafluorobenzene (ISTD)	92867	6.217	108525	6.211	86	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	269063	9.916	305974	9.916	88	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	123353	11.856	148963	11.85	83	50 - 200	0.0060	+/-0.50	
PDI-055PW-06-08-191104 (A9K0165-04)			Lab File ID: VI19110711.D			Analyzed: 11/07/19 14:42			
Pentafluorobenzene (ISTD)	105232	6.217	108525	6.211	97	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	291679	9.916	305974	9.916	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	139571	11.856	148963	11.85	94	50 - 200	0.0060	+/-0.50	
PDI-074PW-08-10-191104 (A9K0165-06)			Lab File ID: VI19110719.D			Analyzed: 11/07/19 18:17			
Pentafluorobenzene (ISTD)	96904	6.217	108525	6.211	89	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	272106	9.916	305974	9.916	89	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	125859	11.856	148963	11.85	84	50 - 200	0.0060	+/-0.50	
Duplicate (9110564-DUP1)			Lab File ID: VI19110720.D			Analyzed: 11/07/19 18:44			
Pentafluorobenzene (ISTD)	97261	6.217	108525	6.211	90	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	269249	9.916	305974	9.916	88	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	122790	11.856	148963	11.85	82	50 - 200	0.0060	+/-0.50	
PDI-073PW-03-05-191104 (A9K0165-05)			Lab File ID: VI19110721.D			Analyzed: 11/07/19 19:10			
Pentafluorobenzene (ISTD)	96386	6.217	108525	6.211	89	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	266436	9.916	305974	9.916	87	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	122768	11.856	148963	11.85	82	50 - 200	0.0060	+/-0.50	

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 - 5c. PW in Contact with NA
Sequence:	9K07019	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (9110564-MS1)			Lab File ID: VI19110722.D			Analyzed: 11/07/19 19:37			
Pentafluorobenzene (ISTD)	100699	6.217	108525	6.211	93	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	289578	9.916	305974	9.916	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	142862	11.85	148963	11.85	96	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (9110564-MSD1)			Lab File ID: VI19110723.D			Analyzed: 11/07/19 20:04			
Pentafluorobenzene (ISTD)	96990	6.217	108525	6.211	89	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	280043	9.916	305974	9.916	92	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	136396	11.85	148963	11.85	92	50 - 200	0.0000	+/-0.50	

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 - 5c. PW in Contact with NA
Sequence:	9K08020	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9110605-BS1)			Lab File ID: VI19110804.D			Analyzed: 11/08/19 10:40			
Pentafluorobenzene (ISTD)	98305	6.217	98305	6.217	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	288214	9.916	288214	9.916	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	137464	11.85	137464	11.85	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9K08020-CCV1)			Lab File ID: VI19110804.D			Analyzed: 11/08/19 10:40			
Pentafluorobenzene (ISTD)	98305	6.217	112406	6.211	87	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	288214	9.916	307093	9.91	94	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	137464	11.85	151591	11.85	91	50 - 200	0.0000	+/-0.50	
Blank (9110605-BLK1)			Lab File ID: VI19110806.D			Analyzed: 11/08/19 11:33			
Pentafluorobenzene (ISTD)	94024	6.217	98305	6.217	96	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	261170	9.916	288214	9.916	91	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	114399	11.856	137464	11.85	83	50 - 200	0.0060	+/-0.50	
PDI-052PW-06-08-191104 (A9K0165-03RE1)			Lab File ID: VI19110807.D			Analyzed: 11/08/19 12:00			
Pentafluorobenzene (ISTD)	98321	6.217	98305	6.217	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	288644	9.916	288214	9.916	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	135193	11.85	137464	11.85	98	50 - 200	0.0000	+/-0.50	
PDI-075PW-01-03-191105 (A9K0165-07RE1)			Lab File ID: VI19110810.D			Analyzed: 11/08/19 13:21			
Pentafluorobenzene (ISTD)	100448	6.217	98305	6.217	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	286130	9.916	288214	9.916	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	131861	11.856	137464	11.85	96	50 - 200	0.0060	+/-0.50	
PDI-RB-1911060820 (A9K0165-01RE1)			Lab File ID: VI19110811.D			Analyzed: 11/08/19 13:48			
Pentafluorobenzene (ISTD)	100218	6.217	98305	6.217	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	281172	9.916	288214	9.916	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	126275	11.85	137464	11.85	92	50 - 200	0.0000	+/-0.50	
PDI-055PW-06-08-191104 (A9K0165-04RE1)			Lab File ID: VI19110812.D			Analyzed: 11/08/19 14:15			
Pentafluorobenzene (ISTD)	101475	6.217	98305	6.217	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	280968	9.916	288214	9.916	97	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	126866	11.856	137464	11.85	92	50 - 200	0.0060	+/-0.50	
Duplicate (9110605-DUP1)			Lab File ID: VI19110818.D			Analyzed: 11/08/19 16:56			
Pentafluorobenzene (ISTD)	91408	6.217	98305	6.217	93	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	261834	9.916	288214	9.916	91	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	118219	11.856	137464	11.85	86	50 - 200	0.0060	+/-0.50	
Matrix Spike (9110605-MS1)			Lab File ID: VI19110820.D			Analyzed: 11/08/19 17:50			
Pentafluorobenzene (ISTD)	100878	6.217	98305	6.217	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	289967	9.916	288214	9.916	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	141729	11.856	137464	11.85	103	50 - 200	0.0060	+/-0.50	

HOLDING TIME SUMMARY

EPA 8260C

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with N

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-RB-1911060820	11/06/19 08:20	11/06/19 14:15	11/07/19 11:36	1.14	14.00	11/07/19 13:48	1.23	14.00	
PDI-RB-1911060820	11/06/19 08:20	11/06/19 14:15	11/08/19 11:39	2.14	14.00	11/08/19 13:48	2.23	14.00	
PDI-TB-1911060000	11/06/19 00:00	11/06/19 14:15	11/07/19 11:36	1.48	14.00	11/07/19 11:58	1.50	14.00	
PDI-052PW-06-08-191104	11/04/19 10:11	11/06/19 14:15	11/08/19 11:39	4.06	14.00	11/08/19 12:00	4.08	14.00	
PDI-055PW-06-08-191104	11/04/19 08:47	11/06/19 14:15	11/07/19 11:36	3.12	14.00	11/07/19 14:42	3.25	14.00	
PDI-055PW-06-08-191104	11/04/19 08:47	11/06/19 14:15	11/08/19 11:39	4.12	14.00	11/08/19 14:15	4.23	14.00	
PDI-073PW-03-05-191104	11/04/19 12:26	11/06/19 14:15	11/07/19 11:36	2.97	14.00	11/07/19 19:10	3.28	14.00	
PDI-074PW-08-10-191104	11/04/19 15:52	11/06/19 14:15	11/07/19 11:36	2.82	14.00	11/07/19 18:17	3.10	14.00	
PDI-075PW-01-03-191105	11/05/19 15:01	11/06/19 14:15	11/08/19 11:39	2.86	14.00	11/08/19 13:21	2.93	14.00	

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: GCMS

METHOD: EPA 8260C SIM

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260C SIM

Laboratory: Apex Laboratories
SDG: Gasco PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 5c. PW in Contact with NA

Client Sample Id:	Lab Sample Id:	Matrix
PDI-RB-1911060820	A9K0165-01	WQ
PDI-TB-1911060000	A9K0165-02	WQ
PDI-052PW-06-08-191104	A9K0165-03	WX
PDI-055PW-06-08-191104	A9K0165-04	WX
PDI-073PW-03-05-191104	A9K0165-05	WX
PDI-074PW-08-10-191104	A9K0165-06	WX
PDI-075PW-01-03-191105	A9K0165-07	WX

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: 12/18/2019 11:44AM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C SIM

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contac

Batch Matrix: Water

Analyte	MDL	MRL	Units
Vinyl chloride	0.0100	0.0200	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 SIM

PDI-RB-1911060820

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WQ	Laboratory ID:	A9K0165-01	File ID:	7H19111107.D
Sampled:	11/06/19 08:20	Prepared:	11/11/19 13:44	Analyzed:	11/11/19 16:42
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110678 Sequence: 9K11047 Calibration: A9G1805 Instrument: VOA-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
75-01-4	Vinyl chloride	1	0.0100	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	2330	2300	99	70 - 130	
Toluene-d8 (Surr)	2330	2210	95	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2110	91	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	23611	6.317	21603	6.317	
Chlorobenzene-d5 (ISTD)	37245	10.423	34076	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	17541	12.733	15399	12.738	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C SIM

PDI-TB-1911060000

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WQ	Laboratory ID:	A9K0165-02	File ID:	7H19111108.D
Sampled:	11/06/19 00:00	Prepared:	11/11/19 13:44	Analyzed:	11/11/19 17:08
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch:	9110678	Sequence:	9K11047	Calibration:	A9G1805	Instrument:	VOA-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
75-01-4	Vinyl chloride	1	0.0100	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	2330	2330	100	70 - 130	
Toluene-d8 (Surr)	2330	2210	95	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2130	91	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	21701	6.316	21603	6.317	
Chlorobenzene-d5 (ISTD)	34345	10.423	34076	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	15794	12.733	15399	12.738	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C SIM

PDI-052PW-06-08-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-03	File ID:	7H19111109.D
Sampled:	11/04/19 10:11	Prepared:	11/11/19 13:44	Analyzed:	11/11/19 17:35
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110678 Sequence: 9K11047 Calibration: A9G1805 Instrument: VOA-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
75-01-4	Vinyl chloride	1	0.0100	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	2330	2320	100	70 - 130	
Toluene-d8 (Surr)	2330	2190	94	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2120	91	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	22251	6.316	21603	6.317	
Chlorobenzene-d5 (ISTD)	35734	10.423	34076	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	17201	12.738	15399	12.738	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C SIM

PDI-055PW-06-08-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-04	File ID:	7H19111110.D
Sampled:	11/04/19 08:47	Prepared:	11/11/19 13:44	Analyzed:	11/11/19 18:02
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110678 Sequence: 9K11047 Calibration: A9G1805 Instrument: VOA-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
75-01-4	Vinyl chloride	1	0.0100	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	2330	2310	99	70 - 130	
Toluene-d8 (Surr)	2330	2210	95	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2120	91	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	24089	6.317	21603	6.317	
Chlorobenzene-d5 (ISTD)	37641	10.423	34076	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	17999	12.739	15399	12.738	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C SIM

PDI-073PW-03-05-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-05	File ID:	7H19111113.D
Sampled:	11/04/19 12:26	Prepared:	11/11/19 13:44	Analyzed:	11/11/19 19:23
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110678 Sequence: 9K11047 Calibration: A9G1805 Instrument: VOA-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
75-01-4	Vinyl chloride	1	0.0100	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	2330	2280	98	70 - 130	
Toluene-d8 (Surr)	2330	2260	97	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2200	94	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	21430	6.322	21603	6.317	
Chlorobenzene-d5 (ISTD)	32269	10.423	34076	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	14985	12.738	15399	12.738	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C SIM

PDI-074PW-08-10-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-06	File ID:	7H19111112.D
Sampled:	11/04/19 15:52	Prepared:	11/11/19 13:44	Analyzed:	11/11/19 18:56
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110678 Sequence: 9K11047 Calibration: A9G1805 Instrument: VOA-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
75-01-4	Vinyl chloride	1	0.0100	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	2330	2280	98	70 - 130	
Toluene-d8 (Surr)	2330	2210	95	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2170	93	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	23747	6.317	21603	6.317	
Chlorobenzene-d5 (ISTD)	37118	10.423	34076	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	17671	12.738	15399	12.738	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C SIM

PDI-075PW-01-03-191105

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-07	File ID:	7H19111111.D
Sampled:	11/05/19 15:01	Prepared:	11/11/19 13:44	Analyzed:	11/11/19 18:29
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Batch:	9110678	Sequence:	9K11047	Calibration:	A9G1805
Instrument:	VOA-GCMS8				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
75-01-4	Vinyl chloride	1	0.0100	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	2330	2340	100	70 - 130	
Toluene-d8 (Surr)	2330	2180	94	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2110	91	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	22004	6.317	21603	6.317	
Chlorobenzene-d5 (ISTD)	35884	10.423	34076	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	17153	12.739	15399	12.738	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8260C SIM

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Batch: 9110678 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9110678-BLK1	7H19111105.D	11/11/19 13:44	
LCS	9110678-BS1	7H19111104.D	11/11/19 13:44	
PDI-073PW-03-05-191104 (MS)	9110678-MS1	7H19111114.D	11/11/19 13:44	
PDI-073PW-03-05-191104 (MSD)	9110678-MSD1	7H19111115.D	11/11/19 13:44	
PDI-RB-1911060820	A9K0165-01	7H19111107.D	11/11/19 13:44	
PDI-TB-1911060000	A9K0165-02	7H19111108.D	11/11/19 13:44	
PDI-052PW-06-08-191104	A9K0165-03	7H19111109.D	11/11/19 13:44	
PDI-055PW-06-08-191104	A9K0165-04	7H19111110.D	11/11/19 13:44	
PDI-073PW-03-05-191104	A9K0165-05	7H19111113.D	11/11/19 13:44	
PDI-074PW-08-10-191104	A9K0165-06	7H19111112.D	11/11/19 13:44	
PDI-075PW-01-03-191105	A9K0165-07	7H19111111.D	11/11/19 13:44	

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.

METHOD BLANK DATA SHEET
EPA 8260C SIM

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water	Laboratory ID:	9110678-BLK1	File ID:	7H19111105.D
Prepared:	11/11/19 13:44	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/11/19 15:48	Instrument:	VOA-GCMS8		
Batch:	9110678	Sequence:	9K11047	Calibration:	A9G1805

CAS NO.	COMPOUND	CONC. (ug/L)	Q
75-01-4	Vinyl chloride	0.0100	U

SYSTEM MONITORING COMPOUND	ADDED (ng/L)	CONC (ng/L)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	2330	2340	100	70 - 130	
Toluene-d8 (Surr)	2330	2230	96	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2190	94	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	21518	6.317	21603	6.317	
Chlorobenzene-d5 (ISTD)	34216	10.423	34076	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	14984	12.738	15399	12.738	

LCS / LCS DUPLICATE RECOVERY

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110678	Laboratory ID:	9110678-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.
Vinyl chloride	0.200	0.177	88	80 - 120

* = Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C SIM

PDI-073PW-03-05-191104

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110678	Laboratory ID:	9110678-MS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Source Sample Name: PDI-073PW-03-05-191104

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. (*=Out)	QC LIMITS REC.
Vinyl chloride	0.200	ND	0.178	89	58 - 137

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C SIM

PDI-073PW-03-05-191104

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110678	Laboratory ID:	9110678-MSD1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Source Sample Name: PDI-073PW-03-05-191104

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
Vinyl chloride	0.200	0.187	93	5	30	58 - 137

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9G12037	Instrument:	VOA-GCMS8
Matrix:	Water	Calibration:	A9G1805

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9G12037-TUN1	7H19071223.D	07/12/19 21:48
Initial Cal Blank	9G12037-ICB1	7H19071224.D	07/12/19 22:14
Cal Standard	9G12037-CAL1	7H19071225.D	07/12/19 22:41
Cal Standard	9G12037-CAL2	7H19071226.D	07/12/19 23:08
Cal Standard	9G12037-CAL3	7H19071227.D	07/12/19 23:35
Cal Standard	9G12037-CAL4	7H19071228.D	07/13/19 00:02
Cal Standard	9G12037-CAL5	7H19071229.D	07/13/19 00:29
Cal Standard	9G12037-CAL6	7H19071230.D	07/13/19 00:55
Cal Standard	9G12037-CAL7	7H19071231.D	07/13/19 01:22
Cal Standard	9G12037-CAL8	7H19071233.D	07/13/19 02:16
Initial Cal Check	9G12037-ICV1	7H19071236.D	07/13/19 03:37

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 SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K11047	Instrument:	VOA-GCMS8
Matrix:	Water	Calibration:	A9G1805

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9K11047-TUN1	7H19111102.D	11/11/19 14:27
Calibration Check	9K11047-CCV1	7H19111104.D	11/11/19 15:21
Blank	9110678-BLK1	7H19111105.D	11/11/19 15:48
PDI-RB-1911060820	A9K0165-01	7H19111107.D	11/11/19 16:42
PDI-TB-1911060000	A9K0165-02	7H19111108.D	11/11/19 17:08
PDI-052PW-06-08-191104	A9K0165-03	7H19111109.D	11/11/19 17:35
PDI-055PW-06-08-191104	A9K0165-04	7H19111110.D	11/11/19 18:02
PDI-075PW-01-03-191105	A9K0165-07	7H19111111.D	11/11/19 18:29
PDI-074PW-08-10-191104	A9K0165-06	7H19111112.D	11/11/19 18:56
PDI-073PW-03-05-191104	A9K0165-05	7H19111113.D	11/11/19 19:23
PDI-073PW-03-05-191104 (MS)	9110678-MS1	7H19111114.D	11/11/19 19:50
PDI-073PW-03-05-191104 (MSD)	9110678-MSD1	7H19111115.D	11/11/19 20:17

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.

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Lab File ID:	7H19071223.D	Injection Date:	07/12/19
Instrument ID:	VOA-GCMS8	Injection Time:	21:48
Sequence:	9G12037	Lab Sample ID:	9G12037-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	119.44	PASS
m/z 96	5 - 9% of m/z 95	5.43	PASS
m/z 173	Less than 2% of m/z 174	0.00	PASS
m/z 174	50 - 200% of m/z 95	83.72	PASS
m/z 175	5 - 9% of m/z 174	6.72	PASS
m/z 176	95 - 105% of m/z 174	97.20	PASS
m/z 177	5 - 10% of m/z 176	6.49	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Lab File ID:	7H19111102.D	Injection Date:	11/11/19
Instrument ID:	VOA-GCMS8	Injection Time:	14:27
Sequence:	9K11047	Lab Sample ID:	9K11047-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	130.28	PASS
m/z 96	5 - 9% of m/z 95	6.44	PASS
m/z 173	Less than 2% of m/z 174	0.00	PASS
m/z 174	50 - 200% of m/z 95	76.76	PASS
m/z 175	5 - 9% of m/z 174	7.01	PASS
m/z 176	95 - 105% of m/z 174	96.54	PASS
m/z 177	5 - 10% of m/z 176	6.42	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8260C SIM

Laboratory: Apex Laboratories SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with N

Calibration: A9G1805 Date: 07/18/19 16:21 Instrument: VOA-GCMS8

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Vinyl chloride	0.7805914	Ave	10.68351	2.048375	8.445938E-02			15	
1,4-Difluorobenzene (Surr)	1.736168	Ave	1.726277	6.898	3.784712E-02			15	
Toluene-d8 (Surr)	1.583056	Ave	1.287577	8.435375	3.321227E-02			15	
4-Bromofluorobenzene (Surr)	0.8802649	Ave	2.649547	11.72925	1.097538E-02			15	

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 SIM

Laboratory: Apex Laboratories

Client: Anchor QEA, LLC

Calibration: A9G1805

SDG: Gasco_PreRD_DG 2019

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v

Instrument: VOA-GCMS8

Calibration Date: 07/18/19 16:21

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/L	RF	ng/L	RF	ng/L	RF	ng/L	RF	ng/L	RF	ng/L	RF
Vinyl chloride	10	0.6398107	20	0.7566287	50	0.767281	100	0.7906594	200	0.8740636	500	0.8892956
1,4-Difluorobenzene (Surr)	2330	1.745443	2330	1.745099	2330	1.728046	2330	1.731561	2330	1.742052	2330	1.753473
Toluene-d8 (Surr)	2330	1.612339	2330	1.592369	2330	1.597718	2330	1.588997	2330	1.562774	2330	1.583607
4-Bromofluorobenzene (Surr)	2330	0.8943576	2330	0.899473	2330	0.8907054	2330	0.9009711	2330	0.8848997	2330	0.873193

INITIAL CALIBRATION DATA (Continued)

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact v
Calibration:	A9G1805	Instrument:	VOA-GCMS8
Matrix:		Calibration Date:	07/18/19 16:21

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/L	RF	ng/L	RF	ng/L	RF	ng/L	RF	ng/L	RF	ng/L	RF
Vinyl chloride	1000	0.7048767	2000	0.8221154								
1,4-Difluorobenzene (Surr)	2330	1.670408	2330	1.773266								
Toluene-d8 (Surr)	2330	1.547145	2330	1.579503								
4-Bromofluorobenzene (Surr)	2330	0.8304405	2330	0.8680786								

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contac
Instrument ID:	VOA-GCMS8	Calibration:	A9G1805
Lab File ID:	7H19071236.D		
Sequence:	9G12037	Inject Date:	07/13/19
Lab Sample ID:	9G12037-ICV1	Inject Time:	03:37

ANALYTE	EXPECTED (ng/L)	FOUND (ng/L)	% DRIFT	QC LIMIT
Vinyl chloride	200	237	18.5	70 - 130

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9G12037	Instrument:	VOA-GCMS8
Matrix:	Water	Calibration:	A9G1805

Surrogate Compound	Spike Level ng/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9G12037-ICV1)				Lab File ID: 7H19071236.D		Analyzed: 07/13/19 03:37		
1,4-Difluorobenzene (Surr)	2330	102	70 - 130	6.9	6.898	0.0020	+/-1.0	
Toluene-d8 (Surr)	2330	98	70 - 130	8.438	8.435375	0.0026	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	101	70 - 130	11.729	11.72925	-0.0003	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K11047	Instrument:	VOA-GCMS8
Matrix:	Water	Calibration:	A9G1805

Surrogate Compound	Spike Level ng/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9110678-BS1)			Lab File ID: 7H19111104.D		Analyzed: 11/11/19 15:21			
1,4-Difluorobenzene (Surr)	2330	100	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	96	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	93	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
Blank (9110678-BLK1)			Lab File ID: 7H19111105.D		Analyzed: 11/11/19 15:48			
1,4-Difluorobenzene (Surr)	2330	100	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	96	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	94	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
PDI-RB-1911060820 (A9K0165-01)			Lab File ID: 7H19111107.D		Analyzed: 11/11/19 16:42			
1,4-Difluorobenzene (Surr)	2330	99	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	95	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	91	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
PDI-TB-1911060000 (A9K0165-02)			Lab File ID: 7H19111108.D		Analyzed: 11/11/19 17:08			
1,4-Difluorobenzene (Surr)	2330	100	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	95	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	91	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
PDI-052PW-06-08-191104 (A9K0165-03)			Lab File ID: 7H19111109.D		Analyzed: 11/11/19 17:35			
1,4-Difluorobenzene (Surr)	2330	100	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	94	70 - 130	8.421	8.435375	-0.0144	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	91	70 - 130	11.718	11.72925	-0.0113	+/-1.0	
PDI-055PW-06-08-191104 (A9K0165-04)			Lab File ID: 7H19111110.D		Analyzed: 11/11/19 18:02			
1,4-Difluorobenzene (Surr)	2330	99	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	95	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	91	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
PDI-075PW-01-03-191105 (A9K0165-07)			Lab File ID: 7H19111111.D		Analyzed: 11/11/19 18:29			
1,4-Difluorobenzene (Surr)	2330	100	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	94	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	91	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
PDI-074PW-08-10-191104 (A9K0165-06)			Lab File ID: 7H19111112.D		Analyzed: 11/11/19 18:56			
1,4-Difluorobenzene (Surr)	2330	98	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	95	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	93	70 - 130	11.719	11.72925	-0.0103	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K11047	Instrument:	VOA-GCMS8
Matrix:	Water	Calibration:	A9G1805

Surrogate Compound	Spike Level ng/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
PDI-073PW-03-05-191104 (A9K0165-05)			Lab File ID: 7H19111113.D		Analyzed: 11/11/19 19:23			
1,4-Difluorobenzene (Surr)	2330	98	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	97	70 - 130	8.427	8.435375	-0.0084	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	94	70 - 130	11.718	11.72925	-0.0113	+/-1.0	
Matrix Spike (9110678-MS1)			Lab File ID: 7H19111114.D		Analyzed: 11/11/19 19:50			
1,4-Difluorobenzene (Surr)	2330	98	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	96	70 - 130	8.427	8.435375	-0.0084	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	95	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
Matrix Spike Dup (9110678-MSD1)			Lab File ID: 7H19111115.D		Analyzed: 11/11/19 20:17			
1,4-Difluorobenzene (Surr)	2330	97	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	96	70 - 130	8.427	8.435375	-0.0084	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	96	70 - 130	11.719	11.72925	-0.0103	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K11047	Instrument:	VOA-GCMS8
Matrix:	Water	Calibration:	A9G1805

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9110678-BS1)			Lab File ID: 7H19111104.D			Analyzed: 11/11/19 15:21			
Pentafluorobenzene (ISTD)	21603	6.317	21603	6.317	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	34076	10.423	34076	10.423	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	15399	12.738	15399	12.738	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9K11047-CCV1)			Lab File ID: 7H19111104.D			Analyzed: 11/11/19 15:21			
Pentafluorobenzene (ISTD)	21603	6.317	17647	6.327	122	50 - 200	-0.0100	+/-0.50	
Chlorobenzene-d5 (ISTD)	34076	10.423	26428	10.434	129	50 - 200	-0.0110	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	15399	12.738	10417	12.749	148	50 - 200	-0.0110	+/-0.50	
Blank (9110678-BLK1)			Lab File ID: 7H19111105.D			Analyzed: 11/11/19 15:48			
Pentafluorobenzene (ISTD)	21518	6.317	21603	6.317	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	34216	10.423	34076	10.423	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	14984	12.738	15399	12.738	97	50 - 200	0.0000	+/-0.50	
PDI-RB-1911060820 (A9K0165-01)			Lab File ID: 7H19111107.D			Analyzed: 11/11/19 16:42			
Pentafluorobenzene (ISTD)	23611	6.317	21603	6.317	109	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	37245	10.423	34076	10.423	109	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	17541	12.733	15399	12.738	114	50 - 200	-0.0050	+/-0.50	
PDI-TB-1911060000 (A9K0165-02)			Lab File ID: 7H19111108.D			Analyzed: 11/11/19 17:08			
Pentafluorobenzene (ISTD)	21701	6.316	21603	6.317	100	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	34345	10.423	34076	10.423	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	15794	12.733	15399	12.738	103	50 - 200	-0.0050	+/-0.50	
PDI-052PW-06-08-191104 (A9K0165-03)			Lab File ID: 7H19111109.D			Analyzed: 11/11/19 17:35			
Pentafluorobenzene (ISTD)	22251	6.316	21603	6.317	103	50 - 200	-0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	35734	10.423	34076	10.423	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	17201	12.738	15399	12.738	112	50 - 200	0.0000	+/-0.50	
PDI-055PW-06-08-191104 (A9K0165-04)			Lab File ID: 7H19111110.D			Analyzed: 11/11/19 18:02			
Pentafluorobenzene (ISTD)	24089	6.317	21603	6.317	112	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	37641	10.423	34076	10.423	110	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	17999	12.739	15399	12.738	117	50 - 200	0.0010	+/-0.50	
PDI-075PW-01-03-191105 (A9K0165-07)			Lab File ID: 7H19111111.D			Analyzed: 11/11/19 18:29			
Pentafluorobenzene (ISTD)	22004	6.317	21603	6.317	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	35884	10.423	34076	10.423	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	17153	12.739	15399	12.738	111	50 - 200	0.0010	+/-0.50	
PDI-074PW-08-10-191104 (A9K0165-06)			Lab File ID: 7H19111112.D			Analyzed: 11/11/19 18:56			
Pentafluorobenzene (ISTD)	23747	6.317	21603	6.317	110	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	37118	10.423	34076	10.423	109	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	17671	12.738	15399	12.738	115	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260C SIM

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K11047	Instrument:	VOA-GCMS8
Matrix:	Water	Calibration:	A9G1805

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-073PW-03-05-191104 (A9K0165-05)			Lab File ID: 7H19111113.D			Analyzed: 11/11/19 19:23			
Pentafluorobenzene (ISTD)	21430	6.322	21603	6.317	99	50 - 200	0.0050	+/-0.50	
Chlorobenzene-d5 (ISTD)	32269	10.423	34076	10.423	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	14985	12.738	15399	12.738	97	50 - 200	0.0000	+/-0.50	
Matrix Spike (9110678-MS1)			Lab File ID: 7H19111114.D			Analyzed: 11/11/19 19:50			
Pentafluorobenzene (ISTD)	18610	6.322	21603	6.317	86	50 - 200	0.0050	+/-0.50	
Chlorobenzene-d5 (ISTD)	28354	10.423	34076	10.423	83	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	13127	12.739	15399	12.738	85	50 - 200	0.0010	+/-0.50	
Matrix Spike Dup (9110678-MSD1)			Lab File ID: 7H19111115.D			Analyzed: 11/11/19 20:17			
Pentafluorobenzene (ISTD)	16781	6.322	21603	6.317	78	50 - 200	0.0050	+/-0.50	
Chlorobenzene-d5 (ISTD)	25356	10.423	34076	10.423	74	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	11726	12.738	15399	12.738	76	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

EPA 8260C SIM

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with N

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-RB-1911060820	11/06/19 08:20	11/06/19 14:15	11/11/19 13:44	5.23	14.00	11/11/19 16:42	5.35	14.00	
PDI-TB-1911060000	11/06/19 00:00	11/06/19 14:15	11/11/19 13:44	5.57	14.00	11/11/19 17:08	5.71	14.00	
PDI-052PW-06-08-191104	11/04/19 10:11	11/06/19 14:15	11/11/19 13:44	7.15	14.00	11/11/19 17:35	7.31	14.00	
PDI-055PW-06-08-191104	11/04/19 08:47	11/06/19 14:15	11/11/19 13:44	7.21	14.00	11/11/19 18:02	7.39	14.00	
PDI-073PW-03-05-191104	11/04/19 12:26	11/06/19 14:15	11/11/19 13:44	7.05	14.00	11/11/19 19:23	7.29	14.00	
PDI-074PW-08-10-191104	11/04/19 15:52	11/06/19 14:15	11/11/19 13:44	6.91	14.00	11/11/19 18:56	7.13	14.00	
PDI-075PW-01-03-191105	11/05/19 15:01	11/06/19 14:15	11/11/19 13:44	5.95	14.00	11/11/19 18:29	6.14	14.00	

Apex Laboratories

SDG: Gasco PreRD_DG 2019

CLASS: GCMS

METHOD: EPA 8270D LVI

ANALYSES DATA PACKAGE COVER PAGE

EPA 8270D LVI

Laboratory: Apex Laboratories

Client: Anchor QEA, LLC

SDG: Gasco PreRD_DG 2019

Project: Gasco PreRD_DG 2019 - 5c. PW in Contact with NA

Client Sample Id:	Lab Sample Id:	Matrix
PDI-RB-1911060820	A9K0165-01	WQ
PDI-073PW-03-05-191104	A9K0165-05	WX
PDI-075PW-01-03-191105	A9K0165-07	WX

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: 12/18/2019 11:44AM

Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D LVI

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contac

Batch Matrix: Water

Analyte	MDL	MRL	Units
Acenaphthene	0.0160	0.0320	ug/L
Acenaphthylene	0.0160	0.0320	ug/L
Anthracene	0.0160	0.0320	ug/L
Benz(a)anthracene	0.00800	0.0160	ug/L
Benzo(a)pyrene	0.00800	0.0160	ug/L
Benzo(b)fluoranthene	0.00800	0.0160	ug/L
Benzo(k)fluoranthene	0.00800	0.0160	ug/L
Carbazole	0.0160	0.0320	ug/L
Dibenzofuran	0.0160	0.0320	ug/L
Benzo(g,h,i)perylene	0.0160	0.0320	ug/L
Chrysene	0.00800	0.0160	ug/L
Dibenz(a,h)anthracene	0.00800	0.0160	ug/L
Fluoranthene	0.0160	0.0320	ug/L
Fluorene	0.0160	0.0320	ug/L
Indeno(1,2,3-cd)pyrene	0.00800	0.0160	ug/L
1-Methylnaphthalene	0.0320	0.0640	ug/L
2-Methylnaphthalene	0.0320	0.0640	ug/L
Naphthalene	0.0320	0.0640	ug/L
Phenanthrene	0.0320	0.0640	ug/L
Pyrene	0.0160	0.0320	ug/L

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

ORGANIC ANALYSIS DATA SHEET

EPA 8270D LVI

PDI-RB-1911060820

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WQ	Laboratory ID:	A9K0165-01	File ID:	H11071907.D
Sampled:	11/06/19 08:20	Prepared:	11/07/19 10:39	Analyzed:	11/07/19 14:29
		Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	110.5 mL / 5 mL

Batch: 9110577 Sequence: 9K07023 Calibration: A9G0205 Instrument: SV-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
83-32-9	Acenaphthene	1	2.73	U
208-96-8	Acenaphthylene	1	0.185	U
120-12-7	Anthracene	1	0.109	
56-55-3	Benz(a)anthracene	1	0.0253	U
50-32-8	Benzo(a)pyrene	1	0.0234	
205-99-2	Benzo(b)fluoranthene	1	0.0181	U
207-08-9	Benzo(k)fluoranthene	1	0.0181	U
191-24-2	Benzo(g,h,i)perylene	1	0.0224	J
218-01-9	Chrysene	1	0.0181	U
53-70-3	Dibenz(a,h)anthracene	1	0.00905	U
206-44-0	Fluoranthene	1	0.0797	
86-73-7	Fluorene	1	0.0948	
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.0181	
91-57-6	2-Methylnaphthalene	1	0.0647	J
91-20-3	Naphthalene	1	0.267	
85-01-8	Phenanthrene	1	0.489	
129-00-0	Pyrene	1	0.0874	

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Acenaphthylene-d8 (Surr)	4.52	5.21	115	80 - 120	
Benzo(a)pyrene-d12 (Surr)	4.52	4.87	108	80 - 143	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	216792	7.953	145940	7.953	
p-Terphenyl-d14 (ISTD)	333610	11.392	228651	11.387	
Naphthalene-d8 (ISTD)	208381	7.034	124207	7.039	
Acenaphthene-d10 (ISTD)	189330	8.549	110414	8.544	
Phenanthrene-d10 (ISTD)	393538	9.849	248073	9.849	
Chrysene-d12 (ISTD)	392692	13.149	233249	13.12	
Perylene-d12 (ISTD)	364577	16.396	219128	16.368	
Dibenz(a,h)anthracene-d14 (ISTD)	325230	18.696	192645	18.682	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D LVI

PDI-073PW-03-05-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-05	File ID:	H11071908.D
Sampled:	11/04/19 12:26	Prepared:	11/07/19 10:39	Analyzed:	11/07/19 15:01
		Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	100.91 mL / 5 mL

Batch: 9110577 Sequence: 9K07023 Calibration: A9G0205 Instrument: SV-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
83-32-9	Acenaphthene	20	142	D
208-96-8	Acenaphthylene	20	180	D
120-12-7	Anthracene	20	16.2	D
56-55-3	Benz(a)anthracene	20	0.908	D
50-32-8	Benzo(a)pyrene	20	0.672	D
205-99-2	Benzo(b)fluoranthene	20	0.495	U
207-08-9	Benzo(k)fluoranthene	20	0.396	U
191-24-2	Benzo(g,h,i)perylene	20	0.396	U
218-01-9	Chrysene	20	0.905	D
53-70-3	Dibenz(a,h)anthracene	20	0.198	U
206-44-0	Fluoranthene	20	12.9	D
86-73-7	Fluorene	20	60.7	D
193-39-5	Indeno(1,2,3-cd)pyrene	20	0.305	JD
85-01-8	Phenanthrene	20	80.3	D
129-00-0	Pyrene	20	12.8	D

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Acenaphthylene-d8 (Surr)	4.95	6.22	125	80 - 120	*
Benzo(a)pyrene-d12 (Surr)	4.95	7.87	159	80 - 143	*

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	227727	7.953	145940	7.953	
p-Terphenyl-d14 (ISTD)	380125	11.396	228651	11.387	
Naphthalene-d8 (ISTD)	217379	7.049	124207	7.039	
Acenaphthene-d10 (ISTD)	155057	8.549	110414	8.544	
Phenanthrene-d10 (ISTD)	363671	9.854	248073	9.849	
Chrysene-d12 (ISTD)	320477	13.134	233249	13.12	
Perylene-d12 (ISTD)	282491	16.373	219128	16.368	
Dibenz(a,h)anthracene-d14 (ISTD)	241659	18.687	192645	18.682	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D LVI

PDI-073PW-03-05-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-05RE1	File ID:	H11071912.D
Sampled:	11/04/19 12:26	Prepared:	11/07/19 10:39	Analyzed:	11/07/19 17:45
		Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	100.91 mL / 5 mL
Batch:	9110577	Sequence:	9K07023	Calibration:	A9G0205
Instrument:	SV-GCMS8				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
91-57-6	2-Methylnaphthalene	1000	476	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	161764	7.954	145940	7.953	
p-Terphenyl-d14 (ISTD)	309663	11.387	228651	11.387	
Naphthalene-d8 (ISTD)	111286	7.035	124207	7.039	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D LVI

PDI-073PW-03-05-191104

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-05RE2	File ID:	H11071914.D
Sampled:	11/04/19 12:26	Prepared:	11/07/19 10:39	Analyzed:	11/07/19 18:49
		Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	100.91 mL / 5 mL
Batch:	9110577	Sequence:	9K07023	Calibration:	A9G0205
Instrument:	SV-GCMS8				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
91-20-3	Naphthalene	5000	11300	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	151182	7.954	145940	7.953	
p-Terphenyl-d14 (ISTD)	252365	11.387	228651	11.387	
Naphthalene-d8 (ISTD)	113300	7.039	124207	7.039	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D LVI

PDI-075PW-01-03-191105

Laboratory:	Apex Laboratories			SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	WX	Laboratory ID:	A9K0165-07RE1	File ID:	H11071913.D
Sampled:	11/05/19 15:01	Prepared:	11/07/19 10:39	Analyzed:	11/07/19 18:17
		Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	90.79 mL / 5 mL

Batch: 9110577 Sequence: 9K07023 Calibration: A9G0205 Instrument: SV-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
83-32-9	Acenaphthene	4	27.4	D
208-96-8	Acenaphthylene	4	1.98	D
120-12-7	Anthracene	4	2.99	D
56-55-3	Benz(a)anthracene	4	0.0441	U
50-32-8	Benzo(a)pyrene	4	0.0441	U
205-99-2	Benzo(b)fluoranthene	4	0.0441	U
207-08-9	Benzo(k)fluoranthene	4	0.0441	U
191-24-2	Benzo(g,h,i)perylene	4	0.0881	U
218-01-9	Chrysene	4	0.0441	U
53-70-3	Dibenz(a,h)anthracene	4	0.0441	U
206-44-0	Fluoranthene	4	0.0881	U
86-73-7	Fluorene	4	10.0	D
193-39-5	Indeno(1,2,3-cd)pyrene	4	0.0441	U
91-57-6	2-Methylnaphthalene	4	8.22	D
91-20-3	Naphthalene	4	31.9	D
85-01-8	Phenanthrene	4	24.2	D
129-00-0	Pyrene	4	0.0894	JD

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Acenaphthylene-d8 (Surr)	5.51	7.37	134	80 - 120	*
Benzo(a)pyrene-d12 (Surr)	5.51	7.66	139	80 - 143	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	206558	7.953	145940	7.953	
p-Terphenyl-d14 (ISTD)	344763	11.387	228651	11.387	
Naphthalene-d8 (ISTD)	143134	7.034	124207	7.039	
Acenaphthene-d10 (ISTD)	143815	8.549	110414	8.544	
Phenanthrene-d10 (ISTD)	323590	9.849	248073	9.849	
Chrysene-d12 (ISTD)	291180	13.125	233249	13.12	
Perylene-d12 (ISTD)	262334	16.373	219128	16.368	
Dibenz(a,h)anthracene-d14 (ISTD)	223970	18.682	192645	18.682	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8270D LVI

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Batch: 9110577 Batch Matrix: Water
Preparation: EPA 3511 (Bottle Extraction)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9110577-BLK1	H11071905.D	11/07/19 10:39	
LCS	9110577-BS1	H11071906.D	11/07/19 10:39	
PDI-073PW-03-05-191104 (MS)	9110577-MS1	H11071909.D	11/07/19 10:39	
PDI-073PW-03-05-191104 (MSD)	9110577-MSD1	H11071910.D	11/07/19 10:39	
PDI-RB-1911060820	A9K0165-01	H11071907.D	11/07/19 10:39	
PDI-073PW-03-05-191104	A9K0165-05	H11071908.D	11/07/19 10:39	
PDI-073PW-03-05-191104	A9K0165-05RE1	H11071912.D	11/07/19 10:39	
PDI-073PW-03-05-191104	A9K0165-05RE2	H11071914.D	11/07/19 10:39	
PDI-075PW-01-03-191105	A9K0165-07RE1	H11071913.D	11/07/19 10:39	

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 LVI

Laboratory:	Apex Laboratories			SDG:	Gasco PreRD_DG 2019
Client:	Anchor QEA, LLC			Project:	Gasco PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water	Laboratory ID:	9110577-BLK1	File ID:	H11071905.D
Prepared:	11/07/19 10:39	Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	126 mL / 5 mL
Analyzed:	11/07/19 13:25	Instrument:	SV-GCMS8		
Batch:	9110577	Sequence:	9K07023	Calibration:	A9G0205

CAS NO.	COMPOUND	CONC. (ug/L)	Q
83-32-9	Acenaphthene	0.0159	U
208-96-8	Acenaphthylene	0.0159	U
120-12-7	Anthracene	0.0159	U
56-55-3	Benz(a)anthracene	0.00794	U
50-32-8	Benzo(a)pyrene	0.00794	U
205-99-2	Benzo(b)fluoranthene	0.00794	U
207-08-9	Benzo(k)fluoranthene	0.00794	U
86-74-8	Carbazole	0.0159	U
132-64-9	Dibenzofuran	0.0159	U
191-24-2	Benzo(g,h,i)perylene	0.0159	U
218-01-9	Chrysene	0.00794	U
53-70-3	Dibenz(a,h)anthracene	0.00794	U
206-44-0	Fluoranthene	0.0159	U
86-73-7	Fluorene	0.0159	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.00794	U
90-12-0	1-Methylnaphthalene	0.0317	U
91-57-6	2-Methylnaphthalene	0.0317	U
91-20-3	Naphthalene	0.0317	U
85-01-8	Phenanthrene	0.0317	U
129-00-0	Pyrene	0.0159	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Acenaphthylene-d8 (Surr)	3.97	4.11	103	80 - 120	
Benzo(a)pyrene-d12 (Surr)	3.97	4.23	107	80 - 143	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	200024	7.954	145940	7.953	
p-Terphenyl-d14 (ISTD)	316200	11.387	228651	11.387	
Naphthalene-d8 (ISTD)	183358	7.039	124207	7.039	
Acenaphthene-d10 (ISTD)	151815	8.549	110414	8.544	
Phenanthrene-d10 (ISTD)	347579	9.849	248073	9.849	
Chrysene-d12 (ISTD)	329575	13.12	233249	13.12	
Perylene-d12 (ISTD)	304829	16.368	219128	16.368	
Dibenz(a,h)anthracene-d14 (ISTD)	254273	18.687	192645	18.682	

LCS / LCS DUPLICATE RECOVERY

EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix:	Water		
Batch:	9110577	Laboratory ID:	9110577-BS1
Preparation:	EPA 3511 (Bottle Extraction)	Initial/Final:	125 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Acenaphthene	1.60	1.44	90	78 - 135
Acenaphthylene	1.60	1.57	98	80 - 126
Anthracene	1.60	1.53	96	80 - 120
Benz(a)anthracene	1.60	1.59	100	76 - 124
Benzo(a)pyrene	1.60	1.66	104	71 - 127
Benzo(b)fluoranthene	1.60	1.57	98	68 - 120
Benzo(k)fluoranthene	1.60	1.60	100	72 - 120
Carbazole	1.60	1.41	88	80 - 122
Dibenzofuran	1.60	1.34	84	75 - 122
Benzo(g,h,i)perylene	1.60	1.51	94	71 - 120
Chrysene	1.60	1.49	93	71 - 121
Dibenz(a,h)anthracene	1.60	1.50	93	69 - 122
Fluoranthene	1.60	1.51	94	80 - 120
Fluorene	1.60	1.33	83	78 - 129
Indeno(1,2,3-cd)pyrene	1.60	1.39	87	72 - 132
1-Methylnaphthalene	1.60	1.53	95	76 - 150
2-Methylnaphthalene	1.60	1.51	94	80 - 158
Naphthalene	1.60	1.47	92	80 - 132
Phenanthrene	1.60	1.41	88	80 - 120
Pyrene	1.60	1.48	92	73 - 127

* = Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8270D LVI

PDI-073PW-03-05-191104

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix: Water
Batch: 9110577
Laboratory ID: 9110577-MS1
Preparation: EPA 3511 (Bottle Extraction)
Initial/Final: 99.3 mL / 5 mL
Source Sample Name: PDI-073PW-03-05-191104

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. (*=Out)	QC LIMITS REC.
Acenaphthene	2.01	142	128	-720 *	78 - 135
Acenaphthylene	2.01	180	167	-639 *	80 - 126
Anthracene	2.01	16.2	17.3	53 *	80 - 120
Benz(a)anthracene	2.01	0.908	3.32	120	76 - 124
Benzo(a)pyrene	2.01	0.672	2.98	114	71 - 127
Benzo(b)fluoranthene	2.01	ND	2.80	139 *	68 - 120
Benzo(k)fluoranthene	2.01	ND	2.80	139 *	72 - 120
Carbazole	2.01	207	201	-257 *	80 - 122
Dibenzofuran	2.01	11.1	12.6	75	75 - 122
Benzo(g,h,i)perylene	2.01	ND	2.63	130 *	71 - 120
Chrysene	2.01	0.905	2.90	99	71 - 121
Dibenz(a,h)anthracene	2.01	ND	2.38	118	69 - 122
Fluoranthene	2.01	12.9	13.7	42 *	80 - 120
Fluorene	2.01	60.7	57.3	-172 *	78 - 129
Indeno(1,2,3-cd)pyrene	2.01	0.305	2.47	108	72 - 132
1-Methylnaphthalene	2.01	236	216	-958 *	76 - 150
2-Methylnaphthalene	2.01	372	336	-1800 *	80 - 158
Naphthalene	2.01	7710	8210	24900 *	80 - 132
Phenanthrene	2.01	80.3	74.0	-314 *	80 - 120
Pyrene	2.01	12.8	13.7	47 *	73 - 127

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8270D LVI

PDI-073PW-03-05-191104

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Matrix: Water
Batch: 9110577
Laboratory ID: 9110577-MSD1
Preparation: EPA 3511 (Bottle Extraction)
Initial/Final: 99.24 mL / 5 mL
Source Sample Name: PDI-073PW-03-05-191104

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	2.02	120	-1080 *	6	30	78 - 135
Acenaphthylene	2.02	179	-37 *	7	30	80 - 126
Anthracene	2.02	9.50	-333 *	58 *	30	80 - 120
Benz(a)anthracene	2.02	3.04	106	9	30	76 - 124
Benzo(a)pyrene	2.02	3.23	127	8	30	71 - 127
Benzo(b)fluoranthene	2.02	2.81	140 *	0.5	30	68 - 120
Benzo(k)fluoranthene	2.02	2.82	140 *	0.7	30	72 - 120
Carbazole	2.02	211	196 *	4	30	80 - 122
Dibenzofuran	2.02	11.9	44 *	5	30	75 - 122
Benzo(g,h,i)perylene	2.02	2.69	133 *	2	30	71 - 120
Chrysene	2.02	2.61	85	10	30	71 - 121
Dibenz(a,h)anthracene	2.02	2.59	129 *	9	30	69 - 122
Fluoranthene	2.02	3.38	-472 *	121 *	30	80 - 120
Fluorene	2.02	51.3	-470 *	11	30	78 - 129
Indeno(1,2,3-cd)pyrene	2.02	2.52	110	2	30	72 - 132
1-Methylnaphthalene	2.02	266	1520 *	21	30	76 - 150
2-Methylnaphthalene	2.02	411	1910 *	20	30	80 - 158
Naphthalene	2.02	9360	81900 *	13	30	80 - 132
Phenanthrene	2.02	23.5	-2820 *	104 *	30	80 - 120
Pyrene	2.02	3.78	-446 *	114 *	30	73 - 127

ANALYSIS BATCH (SEQUENCE) SUMMARY
EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9G01051	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9G01051-TUN1	H06011909.D	07/01/19 13:14
Initial Cal Blank	9G01051-ICB1	H06011910.D	07/01/19 13:45
Cal Standard	9G01051-CAL1	H06011911.D	07/01/19 14:19
Cal Standard	9G01051-CAL2	H06011912.D	07/01/19 14:52
Cal Standard	9G01051-CAL3	H06011913.D	07/01/19 15:26
Cal Standard	9G01051-CAL4	H06011914.D	07/01/19 16:00
Cal Standard	9G01051-CAL5	H06011915.D	07/01/19 16:34
Cal Standard	9G01051-CAL6	H06011916.D	07/01/19 17:07
Cal Standard	9G01051-CAL7	H06011917.D	07/01/19 17:41
Cal Standard	9G01051-CAL8	H06011918.D	07/01/19 18:15
Cal Standard	9G01051-CAL9	H06011919.D	07/01/19 18:48
Cal Standard	9G01051-CALA	H06011920.D	07/01/19 19:22
Initial Cal Check	9G01051-ICV1	H06011922.D	07/01/19 20:29

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 LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K07023	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9K07023-TUN1	H11071902.D	11/07/19 11:51
Calibration Check	9K07023-CCV1	H11071903.D	11/07/19 12:21
Blank	9110577-BLK1	H11071905.D	11/07/19 13:25
LCS	9110577-BS1	H11071906.D	11/07/19 13:57
PDI-RB-1911060820	A9K0165-01	H11071907.D	11/07/19 14:29
PDI-073PW-03-05-191104	A9K0165-05	H11071908.D	11/07/19 15:01
PDI-073PW-03-05-191104 (MS)	9110577-MS1	H11071909.D	11/07/19 15:33
PDI-073PW-03-05-191104 (MSD)	9110577-MSD1	H11071910.D	11/07/19 16:05
PDI-073PW-03-05-191104	A9K0165-05RE1	H11071912.D	11/07/19 17:45
PDI-075PW-01-03-191105	A9K0165-07RE1	H11071913.D	11/07/19 18:17
PDI-073PW-03-05-191104	A9K0165-05RE2	H11071914.D	11/07/19 18:49

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.

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Lab File ID:	H06011909.D	Injection Date:	07/01/19
Instrument ID:	SV-GCMS8	Injection Time:	13:14
Sequence:	9G01051	Lab Sample ID:	9G01051-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 127			
m/z 275			
m/z 51			
m/z 68	Less than 2% of m/z 69	0.00	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	0.00	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.73	PASS
m/z 365	1 - 100% of m/z 198	3.26	PASS
m/z 441	Less than 24% of m/z 443	91.90	FAIL
m/z 442	50 - 200% of m/z 198	97.87	PASS
m/z 443	15 - 24% of m/z 442	19.30	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Lab File ID:	H11071902.D	Injection Date:	11/07/19
Instrument ID:	SV-GCMS8	Injection Time:	11:51
Sequence:	9K07023	Lab Sample ID:	9K07023-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 68	Less than 2% of m/z 69	0.00	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.51	PASS
m/z 197	Less than 2% of m/z 198	0.00	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.71	PASS
m/z 365	1 - 100% of m/z 198	3.82	PASS
m/z 441	Less than 150% of m/z 443	87.00	PASS
m/z 442	0.1 - 200% of m/z 198	97.58	PASS
m/z 443	15 - 24% of m/z 442	19.17	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8270D LVI

Laboratory: Apex Laboratories SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with N

Calibration: A9G0205 Date: 07/02/19 10:26 Instrument: SV-GCMS8

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acenaphthene	1.482551	Ave	8.12736	8.6405	1.828437E-02			20	
Acenaphthylene	1.987626	Ave	8.271464	8.4895	3.066437E-02			20	
Anthracene	1.065167	Ave	8.166666	9.982	1.990427E-02			20	
Benz(a)anthracene	1.259126	XXX	29.23508	13.2425	4.205589E-02				
Benzo(a)pyrene	0.9209893	XXX	24.35267	16.387	7.086465E-02				
Benzo(b)fluoranthene	1.09267	XXX	12.51359	15.6493	4.706557E-02				
Benzo(k)fluoranthene	1.084583	XXX	16.64787	15.7132	5.739162E-02				
Carbazole	1.033017	Ave	6.391431	10.12	7.435865E-03			20	
Dibenzofuran	2.118276	Ave	8.349466	8.792	1.786441E-02			20	
Benzo(g,h,i)perylene	1.048624	Ave	13.46843	19.3604	6.924035E-02			20	
Chrysene	1.107706	Ave	3.932071	13.3142	4.015189E-02			20	
Dibenz(a,h)anthracene	1.179609	Ave	5.877574	18.905	5.692891E-02			20	
Acenaphthylene-d8 (Surr)	2.062679	XXX	26.52464	8.477125	1.877549E-02				
Benzo(a)pyrene-d12 (Surr)	0.7469368	XXX	24.05391	16.33189	5.895378E-02				
Fluoranthene	1.193601	Ave	6.398959	11.043	2.572266E-02			20	
Fluorene	1.835019	Ave	5.257799	9.092	1.911781E-02			20	
Indeno(1,2,3-cd)pyrene	1.183314	Ave	10.2981	18.8405	6.160266E-02			20	
1-Methylnaphthalene	0.8482177	Ave	3.315677	7.7915	1.165151E-02			20	
2-Methylnaphthalene	0.8960954	Ave	4.728381	7.706	1.459133E-02			20	
Naphthalene	1.160382	Ave	6.845047	7.116333	3.016061E-02			20	
Phenanthrene	1.199406	Ave	4.821378	9.935333	1.964393E-02			20	
Pyrene	1.294321	Ave	6.157387	11.3	2.640219E-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 LVI

Laboratory: Apex Laboratories

Client: Anchor QEA, LLC

Calibration: A9G0205

SDG: Gasco_PreRD_DG 2019

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v

Instrument: SV-GCMS8

Calibration Date: 07/02/19 10:26

	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
Compound	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Acenaphthene	0.2	1.797631	0.4	1.536309	1	1.506743	5	1.431563	10	1.386939	20	1.401152
Acenaphthylene	0.2	1.885751	0.4	1.793886	1	1.726476	5	1.902376	10	1.937729	20	2.042648
Anthracene	0.2	1.047268	0.4	0.9731504	1	0.9172834	5	0.9972427	10	1.028322	20	1.091342
Benz(a)anthracene	0.2	2.222233	0.4	1.526264	1	1.138185	5	1.007324	10	1.002176	20	1.099135
Benzo(a)pyrene	0.2	0.689826	0.4	0.6026056	1	0.6731104	5	0.7771845	10	0.8783749	20	1.01504
Benzo(b)fluoranthene	0.2	1.064262	0.4	0.8973741	1	0.9225464	5	0.9517365	10	1.042232	20	1.149141
Benzo(k)fluoranthene	0.2	1.005216	0.4	0.8095244	1	0.8316281	5	0.9514722	10	1.061267	20	1.168104
Benzo(b+k)fluoranthene(s)	0.4	1.034739	0.8	0.8538122	2	0.8770872	10	0.9701855	20	1.060047	40	1.165059
Carbazole	0.2	1.045001	0.4	0.9364067	1	0.971837	5	0.9497321	10	0.9984631	20	1.040637
Dibenzofuran	0.2	2.578955	0.4	1.931173	1	2.003068	5	2.022522	10	2.072003	20	2.165169
Benzo(g,h,i)perylene	0.2	0.9240648	0.4	0.8327234	1	0.8707652	5	0.9869583	10	1.024433	20	1.093365
Chrysene	0.2	1.205533	0.4	1.10729	1	1.032736	5	1.110874	10	1.07874	20	1.113565
Dibenz(a,h)anthracene	0.2	1.2141	0.4	1.14616	1	1.039234	5	1.144258	10	1.117611	20	1.17371
Acenaphthylene-d8 (Surr)	0.2	~~18.05562~~	0.4	~~8.05549~~	1	3.40261	5	2.053182	10	1.852492	20	1.847836
Benzo(a)pyrene-d12 (Surr)	0.2	~~0.5918966~~	0.4	0.5103996	1	0.4865575	5	0.6274779	10	0.6690759	20	0.7897078
Fluoranthene	0.2	1.277349	0.4	1.104537	1	1.079563	5	1.11098	10	1.148438	20	1.206549
Fluorene	0.2	1.991493	0.4	1.791271	1	1.679687	5	1.735981	10	1.755439	20	1.902745
Indeno(1,2,3-cd)pyrene	0.2	1.492331	0.4	1.26391	1	1.098418	5	1.072731	10	1.095853	20	1.128461
1-Methylnaphthalene	0.2	0.8754438	0.4	0.8339054	1	0.8446123	5	0.8790779	10	0.8323503	20	0.7942816
2-Methylnaphthalene	0.2	0.9483975	0.4	0.9497256	1	0.9384027	5	0.8750005	10	0.8386276	20	0.8401992
Naphthalene	0.2	~~1.730991~~	0.4	1.324562	1	1.264175	5	1.158621	10	1.124728	20	1.129577
Phenanthrene	0.2	~~1.674041~~	0.4	1.341701	1	1.197648	5	1.155219	10	1.154177	20	1.194768
Pyrene	0.2	1.494963	0.4	1.253182	1	1.26325	5	1.214334	10	1.221458	20	1.264836

INITIAL CALIBRATION DATA (Continued)

EPA 8270D LVI

Laboratory: Apex Laboratories
SDG: Gasco_PreRD_DG 2019
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact v
Calibration: A9G0205
Instrument: SV-GCMS8
Matrix:
Calibration Date: 07/02/19 10:26

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	50	1.407463	100	1.424151	150	1.466065	200	1.46749				
Acenaphthylene	50	2.063247	100	2.125467	150	2.199355	200	2.199328				
Anthracene	50	1.115806	100	1.134513	150	1.172817	200	1.173924				
Benz(a)anthracene	50	1.114758	100	1.138049	150	1.17855	200	1.164585				
Benzo(a)pyrene	50	1.075684	100	1.139758	150	1.184476	200	1.173834				
Benzo(b)fluoranthene	50	1.179914	100	1.201659	150	1.261135	200	1.2567				
Benzo(k)fluoranthene	50	1.194218	100	1.241463	150	1.291927	200	1.291015				
Benzo(b+k)fluoranthene(s)	100	1.190974	200	1.22481	300	1.278874	400	1.276175				
Carbazole	50	1.076175	100	1.085179	150	1.126172	200	1.100569				
Dibenzofuran	50	2.051315	100	2.107993	150	2.162882	200	2.087682				
Benzo(g,h,i)perylene	50	1.161312	100	1.191226	150	1.207128	200	1.194269				
Chrysene	50	1.080277	100	1.112452	150	1.121047	200	1.114547				
Dibenz(a,h)anthracene	50	1.20965	100	1.25015	150	1.259561	200	1.241658				
Acenaphthylene-d8 (Surr)	50	1.786552	100	1.823671	150	1.868231	200	1.866858				
Benzo(a)pyrene-d12 (Surr)	50	0.845845	100	0.9084021	150	0.9437987	200	0.9411671				
Fluoranthene	50	1.22002	100	1.246797	150	1.275586	200	1.266187				
Fluorene	50	1.825339	100	1.868812	150	1.937909	200	1.861517				
Indeno(1,2,3-cd)pyrene	50	1.150167	100	1.165178	150	1.191326	200	1.174769				
1-Methylnaphthalene	50	0.8367006	100	0.8514005	150	0.8428837	200	0.8915204				
2-Methylnaphthalene	50	0.8699424	100	0.8875959	150	0.8852018	200	0.9278611				
Naphthalene	50	1.097759	100	1.107663	150	1.129502	200	1.10685				
Phenanthrene	50	1.156864	100	1.177038	150	1.20962	200	1.207623				
Pyrene	50	1.284128	100	1.314648	150	1.326137	200	1.306272				

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contac
Instrument ID:	SV-GCMS8	Calibration:	A9G0205
Lab File ID:	H06011922.D		
Sequence:	9G01051	Inject Date:	07/01/19
Lab Sample ID:	9G01051-ICV1	Inject Time:	20:29

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Acenaphthene	50.0	46.1	-7.7	70 - 130
Acenaphthylene	50.0	52.1	4.1	70 - 130
Anthracene	50.0	51.6	3.2	70 - 130
Benz(a)anthracene	50.0	53.7	7.4	70 - 130
Benzo(a)pyrene	50.0	58.6	17.2	70 - 130
Benzo(b)fluoranthene	50.0	56.3	12.6	70 - 130
Benzo(k)fluoranthene	50.0	57.7	15.3	70 - 130
Carbazole	50.0	50.1	0.2	70 - 130
Dibenzofuran	50.0	47.4	-5.2	70 - 130
Benzo(g,h,i)perylene	50.0	50.1	0.3	70 - 130
Chrysene	50.0	51.8	3.6	70 - 130
Dibenz(a,h)anthracene	50.0	46.8	-6.4	70 - 130
Acenaphthylene-d8 (Surr)	50.0	50.3	0.6	0 - 200
Benzo(a)pyrene-d12 (Surr)	50.0	55.2	10.4	0 - 200
Fluoranthene	50.0	50.9	1.8	70 - 130
Fluorene	50.0	48.8	-2.4	70 - 130
Indeno(1,2,3-cd)pyrene	50.0	43.9	-12.2	70 - 130
1-Methylnaphthalene	50.0	50.6	1.2	70 - 130
2-Methylnaphthalene	50.0	49.0	-2.0	70 - 130
Naphthalene	50.0	46.5	-7.0	70 - 130
Phenanthrene	50.0	47.6	-4.8	70 - 130
Pyrene	50.0	49.1	-1.9	70 - 130

CONTINUING CALIBRATION CHECK

EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Instrument ID:	SV-GCMS8	Calibration:	A9G0205
Lab File ID:	H11071903.D	Calibration Date:	07/02/19 10:26
Sequence:	9K07023	Injection Date:	11/07/19
Lab Sample ID:	9K07023-CCV1	Injection Time:	12:21

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	47.9		1.482551	1.418932	-4.3	20
Acenaphthylene	Ave	50.0	51.6		1.987626	2.052077	3.2	20
Anthracene	Ave	50.0	50.4		1.065167	1.074337	0.9	20
Benz(a)anthracene	XXX	50.0	52.0	4.0				20
Benzo(a)pyrene	XXX	50.0	54.8	9.6				20
Benzo(b)fluoranthene	XXX	50.0	52.5	5.1				20
Benzo(k)fluoranthene	XXX	50.0	54.1	8.2				20
Carbazole	Ave	50.0	46.4		1.033017	0.9581454	-7.2	20
Dibenzofuran	Ave	50.0	46.4		2.118276	1.967776	-7.1	20
Benzo(g,h,i)perylene	Ave	50.0	52.4		1.048624	1.099027	4.8	20
Chrysene	Ave	50.0	49.1		1.107706	1.08755	-1.8	20
Dibenz(a,h)anthracene	Ave	50.0	49.8		1.179609	1.173776	-0.5	20
Fluoranthene	Ave	50.0	48.2		1.193601	1.14971	-3.7	20
Fluorene	Ave	50.0	44.8		1.835019	1.643831	-10.4	20
Indeno(1,2,3-cd)pyrene	Ave	50.0	46.7		1.183314	1.104311	-6.7	20
1-Methylnaphthalene	Ave	50.0	53.3		0.8482177	0.9042002	6.6	20
2-Methylnaphthalene	Ave	50.0	50.7		0.8960954	0.9091436	1.5	20
Naphthalene	Ave	50.0	46.9		1.160382	1.088667	-6.2	20
Phenanthrene	Ave	50.0	46.5		1.199406	1.115196	-7.0	20
Pyrene	Ave	50.0	46.9		1.294321	1.213562	-6.2	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 LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9G01051	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9G01051-ICV1)			Lab File ID: H06011922.D		Analyzed: 07/01/19 20:29			
Acenaphthylene-d8 (Surr)	50.0	101	0 - 200	8.477	8.477125	-0.0001	+/-1.0	
Benzo(a)pyrene-d12 (Surr)	50.0	110	0 - 200	16.33	16.33189	-0.0019	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K07023	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9K07023-CCV1)			Lab File ID: H11071903.D		Analyzed: 11/07/19 12:21			
Acenaphthylene-d8 (Surr)	50.0	98	0 - 200	8.411	8.477125	-0.0661	+/-1.0	
Benzo(a)pyrene-d12 (Surr)	50.0	110	0 - 200	16.177	16.33189	-0.1549	+/-1.0	
Blank (9110577-BLK1)			Lab File ID: H11071905.D		Analyzed: 11/07/19 13:25			
Acenaphthylene-d8 (Surr)	3.97	103	80 - 120	8.411	8.477125	-0.0661	+/-1.0	
Benzo(a)pyrene-d12 (Surr)	3.97	107	80 - 143	16.177	16.33189	-0.1549	+/-1.0	
LCS (9110577-BS1)			Lab File ID: H11071906.D		Analyzed: 11/07/19 13:57			
Acenaphthylene-d8 (Surr)	4.00	103	80 - 120	8.411	8.477125	-0.0661	+/-1.0	
Benzo(a)pyrene-d12 (Surr)	4.00	107	80 - 143	16.182	16.33189	-0.1499	+/-1.0	
PDI-RB-1911060820 (A9K0165-01)			Lab File ID: H11071907.D		Analyzed: 11/07/19 14:29			
Acenaphthylene-d8 (Surr)	4.52	115	80 - 120	8.411	8.477125	-0.0661	+/-1.0	
Benzo(a)pyrene-d12 (Surr)	4.52	108	80 - 143	16.206	16.33189	-0.1259	+/-1.0	
PDI-073PW-03-05-191104 (A9K0165-05)			Lab File ID: H11071908.D		Analyzed: 11/07/19 15:01			
Acenaphthylene-d8 (Surr)	4.95	125	80 - 120	8.411	8.477125	-0.0661	+/-1.0	*
Benzo(a)pyrene-d12 (Surr)	4.95	159	80 - 143	16.182	16.33189	-0.1499	+/-1.0	*
Matrix Spike (9110577-MS1)			Lab File ID: H11071909.D		Analyzed: 11/07/19 15:33			
Acenaphthylene-d8 (Surr)	5.04	120	80 - 120	8.411	8.477125	-0.0661	+/-1.0	
Benzo(a)pyrene-d12 (Surr)	5.04	149	80 - 143	16.177	16.33189	-0.1549	+/-1.0	*
Matrix Spike Dup (9110577-MSD1)			Lab File ID: H11071910.D		Analyzed: 11/07/19 16:05			
Acenaphthylene-d8 (Surr)	5.04	128	80 - 120	8.411	8.477125	-0.0661	+/-1.0	*
Benzo(a)pyrene-d12 (Surr)	5.04	149	80 - 143	16.178	16.33189	-0.1539	+/-1.0	*
PDI-075PW-01-03-191105 (A9K0165-07RE1)			Lab File ID: H11071913.D		Analyzed: 11/07/19 18:17			
Acenaphthylene-d8 (Surr)	5.51	134	80 - 120	8.411	8.477125	-0.0661	+/-1.0	*
Benzo(a)pyrene-d12 (Surr)	5.51	139	80 - 143	16.173	16.33189	-0.1589	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K07023	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9K07023-CCV1)			Lab File ID: H11071903.D			Analyzed: 11/07/19 12:21			
2-Fluorobiphenyl (ISTD)	145940	7.953				50 - 200	7.9530	+/-0.50	*
p-Terphenyl-d14 (ISTD)	228651	11.387				50 - 200	11.3870	+/-0.50	*
Naphthalene-d8 (ISTD)	124207	7.039	222732	7.101	56	10 - 500	-0.0620	+/-0.50	
Acenaphthene-d10 (ISTD)	110414	8.544	177842	8.615	62	10 - 500	-0.0710	+/-0.50	
Phenanthrene-d10 (ISTD)	248073	9.849	449650	9.915	55	10 - 500	-0.0660	+/-0.50	
Chrysene-d12 (ISTD)	233249	13.12	443314	13.263	53	10 - 500	-0.1430	+/-0.50	
Perylene-d12 (ISTD)	219128	16.368	394032	16.525	56	10 - 500	-0.1570	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	192645	18.682	345981	18.839	56	10 - 500	-0.1570	+/-0.50	
Blank (9110577-BLK1)			Lab File ID: H11071905.D			Analyzed: 11/07/19 13:25			
2-Fluorobiphenyl (ISTD)	200024	7.954	145940	7.953	137	50 - 200	0.0010	+/-0.50	
p-Terphenyl-d14 (ISTD)	316200	11.387	228651	11.387	138	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	183358	7.039	124207	7.039	148	10 - 500	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	151815	8.549	110414	8.544	137	10 - 500	0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	347579	9.849	248073	9.849	140	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	329575	13.12	233249	13.12	141	10 - 500	0.0000	+/-0.50	
Perylene-d12 (ISTD)	304829	16.368	219128	16.368	139	10 - 500	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	254273	18.687	192645	18.682	132	10 - 500	0.0050	+/-0.50	
LCS (9110577-BS1)			Lab File ID: H11071906.D			Analyzed: 11/07/19 13:57			
2-Fluorobiphenyl (ISTD)	204743	7.954	145940	7.953	140	50 - 200	0.0010	+/-0.50	
p-Terphenyl-d14 (ISTD)	333711	11.387	228651	11.387	146	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	190316	7.035	124207	7.039	153	10 - 500	-0.0040	+/-0.50	
Acenaphthene-d10 (ISTD)	154424	8.544	110414	8.544	140	10 - 500	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	347624	9.849	248073	9.849	140	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	351112	13.125	233249	13.12	151	10 - 500	0.0050	+/-0.50	
Perylene-d12 (ISTD)	327401	16.373	219128	16.368	149	10 - 500	0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	287071	18.687	192645	18.682	149	10 - 500	0.0050	+/-0.50	
PDI-RB-1911060820 (A9K0165-01)			Lab File ID: H11071907.D			Analyzed: 11/07/19 14:29			
2-Fluorobiphenyl (ISTD)	216792	7.953	145940	7.953	149	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	333610	11.392	228651	11.387	146	50 - 200	0.0050	+/-0.50	
Naphthalene-d8 (ISTD)	208381	7.034	124207	7.039	168	10 - 500	-0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	189330	8.549	110414	8.544	171	10 - 500	0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	393538	9.849	248073	9.849	159	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	392692	13.149	233249	13.12	168	10 - 500	0.0290	+/-0.50	
Perylene-d12 (ISTD)	364577	16.396	219128	16.368	166	10 - 500	0.0280	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	325230	18.696	192645	18.682	169	10 - 500	0.0140	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K07023	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-073PW-03-05-191104 (A9K0165-05)			Lab File ID: H11071908.D			Analyzed: 11/07/19 15:01			
2-Fluorobiphenyl (ISTD)	227727	7.953	145940	7.953	156	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	380125	11.396	228651	11.387	166	50 - 200	0.0090	+/-0.50	
Naphthalene-d8 (ISTD)	217379	7.049	124207	7.039	175	10 - 500	0.0100	+/-0.50	
Acenaphthene-d10 (ISTD)	155057	8.549	110414	8.544	140	10 - 500	0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	363671	9.854	248073	9.849	147	10 - 500	0.0050	+/-0.50	
Chrysene-d12 (ISTD)	320477	13.134	233249	13.12	137	10 - 500	0.0140	+/-0.50	
Perylene-d12 (ISTD)	282491	16.373	219128	16.368	129	10 - 500	0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	241659	18.687	192645	18.682	125	10 - 500	0.0050	+/-0.50	
Matrix Spike (9110577-MS1)			Lab File ID: H11071909.D			Analyzed: 11/07/19 15:33			
2-Fluorobiphenyl (ISTD)	191876	7.953	145940	7.953	131	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	374366	11.392	228651	11.387	164	50 - 200	0.0050	+/-0.50	
Naphthalene-d8 (ISTD)	182799	7.044	124207	7.039	147	10 - 500	0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	141338	8.549	110414	8.544	128	10 - 500	0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	367455	9.853	248073	9.849	148	10 - 500	0.0040	+/-0.50	
Chrysene-d12 (ISTD)	328177	13.134	233249	13.12	141	10 - 500	0.0140	+/-0.50	
Perylene-d12 (ISTD)	295857	16.373	219128	16.368	135	10 - 500	0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	256984	18.687	192645	18.682	133	10 - 500	0.0050	+/-0.50	
Matrix Spike Dup (9110577-MSD1)			Lab File ID: H11071910.D			Analyzed: 11/07/19 16:05			
2-Fluorobiphenyl (ISTD)	183181	7.954	145940	7.953	126	50 - 200	0.0010	+/-0.50	
p-Terphenyl-d14 (ISTD)	378332	11.392	228651	11.387	165	50 - 200	0.0050	+/-0.50	
Naphthalene-d8 (ISTD)	146151	7.049	124207	7.039	118	10 - 500	0.0100	+/-0.50	
Acenaphthene-d10 (ISTD)	136927	8.549	110414	8.544	124	10 - 500	0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	358722	9.854	248073	9.849	145	10 - 500	0.0050	+/-0.50	
Chrysene-d12 (ISTD)	313698	13.135	233249	13.12	134	10 - 500	0.0150	+/-0.50	
Perylene-d12 (ISTD)	273176	16.373	219128	16.368	125	10 - 500	0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	232654	18.687	192645	18.682	121	10 - 500	0.0050	+/-0.50	
PDI-073PW-03-05-191104 (A9K0165-05RE1)			Lab File ID: H11071912.D			Analyzed: 11/07/19 17:45			
2-Fluorobiphenyl (ISTD)	161764	7.954	145940	7.953	111	50 - 200	0.0010	+/-0.50	
p-Terphenyl-d14 (ISTD)	309663	11.387	228651	11.387	135	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	111286	7.035	124207	7.039	90	10 - 500	-0.0040	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D LVI

Laboratory:	Apex Laboratories	SDG:	Gasco_PreRD_DG 2019
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 5c. PW in Contact with NA
Sequence:	9K07023	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-075PW-01-03-191105 (A9K0165-07RE1)			Lab File ID: H11071913.D			Analyzed: 11/07/19 18:17			
2-Fluorobiphenyl (ISTD)	206558	7.953	145940	7.953	142	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	344763	11.387	228651	11.387	151	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	143134	7.034	124207	7.039	115	10 - 500	-0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	143815	8.549	110414	8.544	130	10 - 500	0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	323590	9.849	248073	9.849	130	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	291180	13.125	233249	13.12	125	10 - 500	0.0050	+/-0.50	
Perylene-d12 (ISTD)	262334	16.373	219128	16.368	120	10 - 500	0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	223970	18.682	192645	18.682	116	10 - 500	0.0000	+/-0.50	
PDI-073PW-03-05-191104 (A9K0165-05RE2)			Lab File ID: H11071914.D			Analyzed: 11/07/19 18:49			
2-Fluorobiphenyl (ISTD)	151182	7.954	145940	7.953	104	50 - 200	0.0010	+/-0.50	
p-Terphenyl-d14 (ISTD)	252365	11.387	228651	11.387	110	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	113300	7.039	124207	7.039	91	10 - 500	0.0000	+/-0.50	

HOLDING TIME SUMMARY

EPA 8270D LVI

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 5c. PW in Contact with N

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-RB-1911060820	11/06/19 08:20	11/06/19 14:15	11/07/19 10:39	1.10	7.00	11/07/19 14:29	0.16	40.00	
PDI-073PW-03-05-191104	11/04/19 12:26	11/06/19 14:15	11/07/19 10:39	2.93	7.00	11/07/19 15:01	0.18	40.00	
PDI-073PW-03-05-191104	11/04/19 12:26	11/06/19 14:15	11/07/19 10:39	2.93	7.00	11/07/19 17:45	0.30	40.00	
PDI-073PW-03-05-191104	11/04/19 12:26	11/06/19 14:15	11/07/19 10:39	2.93	7.00	11/07/19 18:49	0.34	40.00	
PDI-075PW-01-03-191105	11/05/19 15:01	11/06/19 14:15	11/07/19 10:39	1.82	7.00	11/07/19 18:17	0.32	40.00	

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

Raw Data

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

Volatile Organic Compounds by EPA 5035A/8260C
Benchsheet & Analysis Sequence Data

Batch 9110564
Sequence 9K07019 (A9K0165-01,02,04,05,06)

PREPARATION BENCH SHEET

BATCH #: 9110564 (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*
9110564-BLK1		QC	11/07/19 09:00	5	5							
9110564-BS1		QC	11/07/19 09:00	5	5	A19K007		5				
9110564-BS2		QC	11/07/19 09:00	5	5	A19J354		5				
A9J0149-01	B	8260C Full List	11/07/19 11:36	5	5		H-06			PDI-TB-1910021525	All Compounds - Table 5; +11/6	<2
A9K0136-03RE1	B	8260C Full List	11/07/19 11:36	5	5					NWI-110619-60	2X RR-01 NO N 0.25/0.5PPB T	<2
A9K0136-04RE1	B	8260C Full List	11/07/19 11:36	5	5					NWE-110619-60	1X RR-01 NO N 0.25/0.5PPB T	<2
A9K0136-05RE1	B	8260C Full List	11/07/19 11:36	5	5					TPI-110619-60	1X RR-01 NO N 0.25/0.5PPB T	<2
A9K0146-01	A	624 TCE+Naphthalene	11/07/19 11:36	5	5					Wastewater-Grab		<2
A9K0163-05	B	8260C Halogenated VOCs	11/07/19 11:36	5	5		H-20			3149-OS-04	Poured 40 ml HCL voa off from 4 c	<2
A9K0163-06	C	8260C Full List	11/07/19 11:36	5	5					3149-TS-01	Poured 40 ml HCL voa off from 1L	<2
A9K0165-01	A	8260C Full List	11/07/19 11:36	5	5					PDI-RB-1911060820	SIM if VC ND - Determine List	<2
A9K0165-02	A	8260C Full List	11/07/19 11:36	5	5					PDI-TB-1911060000	SIM if VC ND - Determine List	<2
A9K0165-03	A	8260C Full List	11/07/19 11:36	5	5					PDI-052PW-06-08-191104	SIM if VC ND - Determine List	<2
A9K0165-04	A	8260C Full List	11/07/19 11:36	5	5					PDI-055PW-06-08-191104	SIM if VC ND - Determine List	<2
A9K0165-05	A	624 TCE+Naphthalene	11/07/19 11:36	5	5					PDI-073PW-03-05-191104	Added for BatchQC in: 9110564	<2
A9K0165-05	A	8260C Full List	11/07/19 11:36	5	5				HS	PDI-073PW-03-05-191104	MS/MSD, HS . SIM if VC ND - De	<2
A9K0165-05	A	8260C Halogenated VOCs	11/07/19 11:36	5	5					PDI-073PW-03-05-191104	Added for BatchQC in: 9110564	<2
9110564-MS1		QC	11/07/19 11:36	5	5	A19K007	A9K0165-05	500			@100X	<2
9110564-MSD1		QC	11/07/19 11:36	5	5	A19K007	A9K0165-05	500			@100X	
A9K0165-06	A	624 TCE+Naphthalene	11/07/19 11:36	5	5					PDI-074PW-08-10-191104	Added for BatchQC in: 9110564	<2
A9K0165-06	A	8260C Full List	11/07/19 11:36	5	5		NO HS in A			PDI-074PW-08-10-191104	HS in C container, SIM if VC ND	<2
A9K0165-06	A	8260C Halogenated VOCs	11/07/19 11:36	5	5					PDI-074PW-08-10-191104	Added for BatchQC in: 9110564	<2

Prepared By: 11/8/19 Date

Reviewed By: MM7 11/11/19 Date

PREPARATION BENCH SHEET

Apex Laboratories

BATCH #: 9110564 (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*
9110564-DUP1		QC	11/07/19 11:36	5	5		A9K0165-06					<2
A9K0165-07	A	8260C Full List	11/07/19 11:36	5	5					PDI-075PW-01-03-191105	SIM if VC ND - Determine List	<2

*pH <2 verified 11/8/19 5a

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description

Analyte Spike(s)

Std ID	Exp. Date	Description
A19J354	04/21/20	Prim NWTPH-Gx Spike (500 ug/mL)
A19K007	11/09/19	8260 Cal. Std. B VOCR+OXY Spike (20-40ug/r

Surrogate(s)

Std ID	Exp. Date	Description

GCMS9

Prepared By: Date

Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9K07019	Instrument:	VOA-GCMS9
Date:	11/07/19 08:58	Calibration:	A9J2503

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9K07019-IBL1	Water	QC	QC			A19I040	
2	9K07019-IBL2	Water	QC	QC			A19I040	
3	9K07019-TUN1	Water	QC	QC			A19I040	
4	9K07019-CCV1	Water	QC	QC			A19I040	
5	9110564-BS1	Water	QC	QC		9110564	A19I040	
6	9K07019-CCV2	Water	QC	QC			A19I040	
7	9110564-BS2	Water	QC	QC		9110564	A19I040	
8	9110564-BLK1	Water	QC	QC		9110564	A19I040	
9	A9K0165-02	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110564	A19I040	
10	A9K0146-01	Water	624 TCE+Naphthalene		11/19/19	9110564	A19I040	
11	A9K0165-01	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110564	A19I040	
12	A9J0149-01	Water	8260C Full List	Anchor QEA, LLC	11/08/19	9110564	A19I040	
13	A9K0165-04	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110564	A19I040	
14	A9K0165-07	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110564	A19I040	
15	9K07019-IBL3	Water	QC	QC			A19I040	
16	9K07019-IBL4	Water	QC	QC			A19I040	
17	9K07019-IBL5	Water	QC	QC			A19I040	
18	A9K0163-05	Water	8260C Halogenated VOCs		11/12/19	9110564	A19I040	
19	A9K0163-06	Water	8260C Full List		11/12/19	9110564	A19I040	
20	A9K0165-03	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110564	A19I040	
21	A9K0165-06	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110564	A19I040	
"	"	Water	624 TCE+Naphthalene	(QC Source)		9110564	A19I040	
"	"	Water	8260C Halogenated VOCs	(QC Source)		9110564	A19I040	
22	9110564-DUP1	Water	QC	QC		9110564	A19I040	
23	A9K0165-05	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110564	A19I040	
"	"	Water	624 TCE+Naphthalene	(QC Source)		9110564	A19I040	
"	"	Water	8260C Halogenated VOCs	(QC Source)		9110564	A19I040	
24	9110564-MS1	Water	QC	QC		9110564	A19I040	
25	9110564-MSD1	Water	QC	QC		9110564	A19I040	
26	9K07019-IBL6	Water	QC	QC			A19I040	
27	A9K0136-03RE1	Water	8260C Full List		I1/12/19	9110564	A19I040	
28	A9K0136-05RE1	Water	8260C Full List		I1/12/19	9110564	A19I040	
29	A9K0136-04RE1	Water	8260C Full List		I1/12/19	9110564	A19I040	
30	9K07019-IBL7	Water	QC	QC			A19I040	
31	9K07019-IBL8	Water	QC	QC			A19I040	
32	9K07019-IBL9	Water	QC	QC			A19I040	

Data Entered By: 11/8/19 bnl

Data Reviewed By: MH 11/11/19

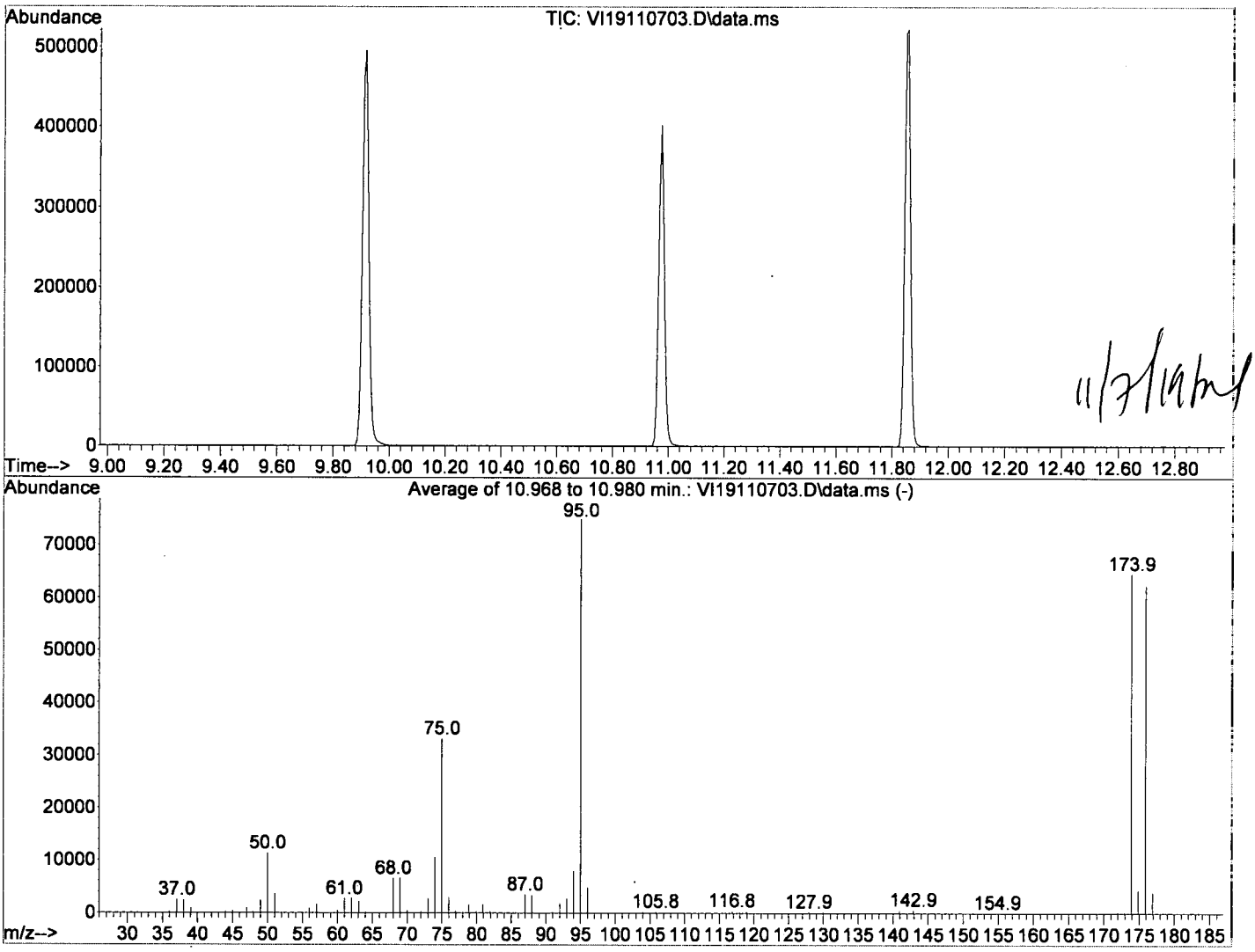
Comments: DCM → MDL↑ MRL↑ to 2.5ppb/5ppb
Ethyl → MDL=MRL @5ppb Q55
A9K0180 → T → 0.25/0.5ppb

BFB

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110703.D
Acq On : 7 Nov 2019 10:10 am
Operator : TNL
Sample : 9K07019-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VI191025W.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Oct 25 08:32:21 2019



11/7/19 bm

AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1536

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	115.7	74880	PASS
96	95	5	9	6.4	4803	PASS
173	174	0.00	2	0.4	247	PASS
174	95	50	200	86.4	64717	PASS
175	174	5	9	6.8	4402	PASS
176	174	95	105	96.5	62440	PASS
177	176	5	10	6.5	4033	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110703.D
Acq On : 7 Nov 2019 10:10 am
Operator : TNL
Sample : 9K07019-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 11:01:16 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	102416	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	287644	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	128388	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	106052	52.70	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.782	114	343096	53.03	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	378016	50.07	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	104418	50.34	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.891	50	307	0.14	ug/L #	47
5) Bromomethane	2.366	96	255	0.19	ug/L #	38
14) Methylene Chloride	3.875	84	2468	0.45	ug/L	83
15) Acetone	3.941	43	1007	1.12	ug/L	88
19) tert-Butanol (TBA)	4.300	59	246	0.62	ug/L	46

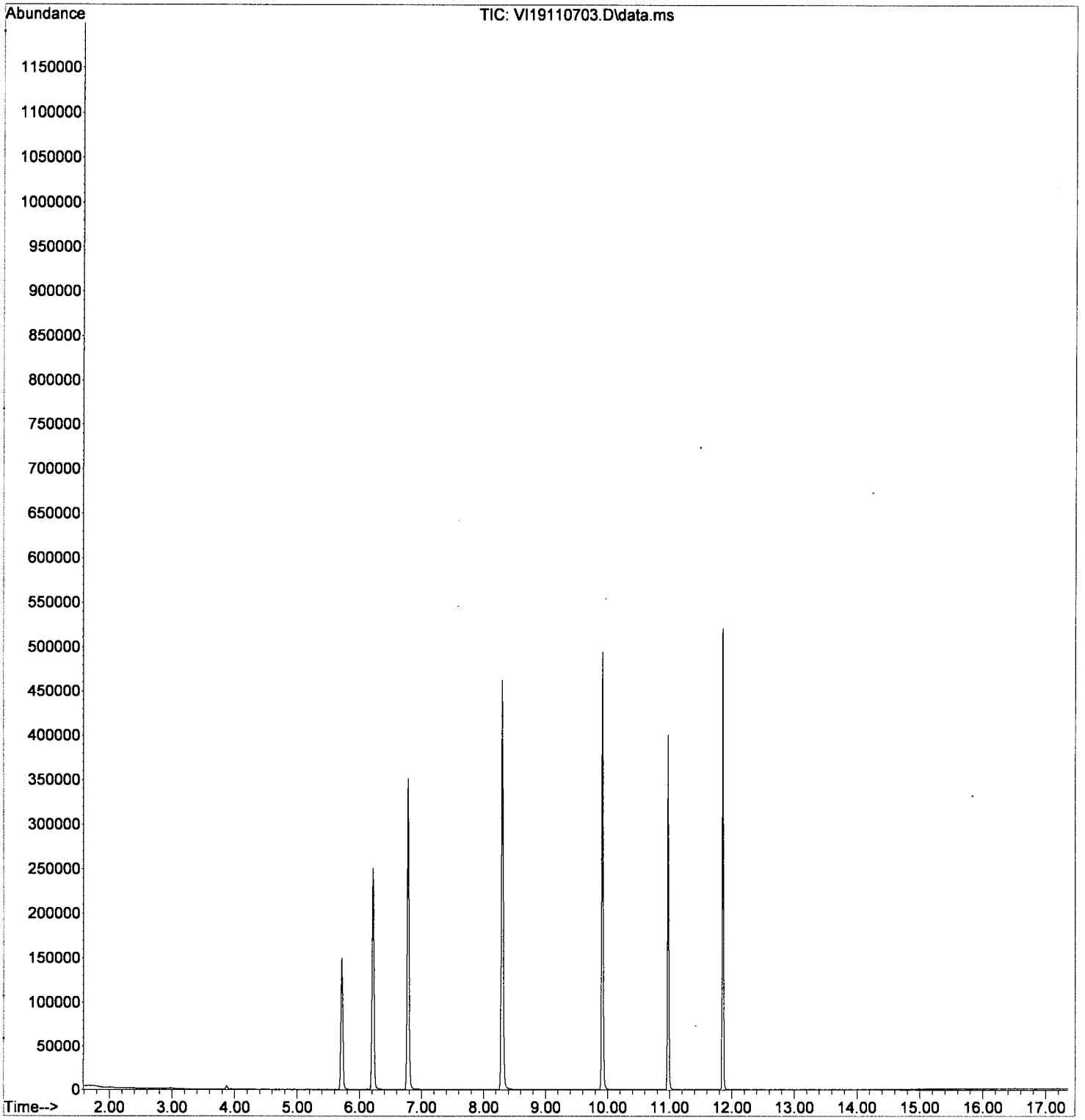
11/7/19 bnl

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110703.D
Acq On : 7 Nov 2019 10:10 am
Operator : TNL
Sample : 9K07019-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 11:01:16 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110704.D
Acq On : 7 Nov 2019 10:37 am
Operator : TNL
Sample : 9110564-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 11:01:19 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

11/7/19 tnl

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	97	0.00	
2		Dichlorodifluoromethane	20.000	16.443		17.8	81	0.00	
3	P	Chloromethane	20.000	20.550		-2.8	107	0.00	
4	C	Vinyl Chloride	20.000	18.802		6.0	89	0.00	
5		Bromomethane	20.000	18.330		8.4	92	0.00	
6		Chloroethane	20.000	14.872		25.6#	81	0.00	Q55
7		Trichlorofluoromethane	20.000	18.484		7.6	85	0.00	
8		Ethanol	1250.000	1124.598		10.0	83	0.00	
9	C	1,1-Dichloroethene	20.000	18.626		6.9	89	0.00	
10		Carbon Disulfide	20.000	18.267		8.7	88	0.00	
11		Freon 113	20.000	19.524		2.4	91	0.00	
12		Iodomethane	20.000	9.921	NR	50.4#	40	0.00	
13		Acrolein	20.000	19.676		1.6	93	0.00	
14		Methylene Chloride	20.000	19.590		2.1	93	0.00	
15		Acetone	40.000	35.771		10.6	86	0.00	
16		t-1,2-Dichloroethene	20.000	19.772		1.1	89	0.00	
17		n-Hexane	20.000	18.422		7.9	85	0.00	
18		Methyl-tert-butyl-ether	20.000	17.800		11.0	84	0.00	
19		tert-Butanol (TBA)	1250.000	1088.940		12.9	74	0.00	
20		Diisopropyl ether (DIPE)	5.000	4.010		19.8	72	0.00	
21	P	1,1-Dichloroethane	20.000	19.342		3.3	90	0.00	
22		Acrylonitrile	20.000	21.467		-7.3	98	0.00	
23		Ethyl-tert-butyl ether (ET	5.000	3.874	NR	22.5#	70	0.00	
24		Vinyl Acetate	20.000	18.493		7.5	87	0.00	
25		c-1,2-Dichloroethene	20.000	19.544		2.3	90	0.00	
26		2,2-Dichloropropane	20.000	18.596		7.0	88	0.00	
27		Bromochloromethane	20.000	22.382		-11.9	96	0.00	
28	C	Chloroform	20.000	20.139		-0.7	90	0.00	
29		Carbon Tetrachloride	20.000	20.332		-1.7	96	0.00	
30		Tetrahydrofuran	20.000	19.441		2.8	91	0.00	
31		1,1,1-Trichloroethane	20.000	18.772		6.1	87	0.00	
32	S	Dibromofluoromethane (S)	50.000	52.707		-5.4	103	0.00	
33		1,1-Dichloropropene	20.000	18.917		5.4	89	0.00	
34		2-Butanone (MEK)	40.000	39.168		2.1	92	0.00	
35		Benzene	20.000	19.714		1.4	93	0.00	
36		tert-Amyl methyl ether (TA	5.000	3.890	NR	22.2#	72	0.00	
37		1,2-Dichloroethane (EDC)	20.000	18.516		7.4	86	0.00	
38		iso-Butyl Alcohol	500.000	495.689		0.9	90	0.00	
39	S	1,4-Difluorobenzene (S)	50.000	52.300		-4.6	101	0.00	
40		Trichloroethene (TCE)	20.000	19.906		0.5	90	0.00	
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	3.675	NR	26.5#	66	0.00	
42		Dibromomethane	20.000	20.883		-4.4	94	0.00	
43	C	1,2-Dichloropropane	20.000	19.927		0.4	93	0.00	
44		Bromodichloromethane	20.000	21.095		-5.5	97	0.00	
45		Chlorobenzene-d5 (I)	50.000	50.000		0.0	100	0.00	
46		2-Chloroethyl Vinyl Ether	20.000	16.964		15.2	80	0.00	
47		c-1,3-Dichloropropene	20.000	19.680		1.6	92	0.00	
48	S	Toluene-d8 (S)	50.000	49.357		1.3	99	0.00	
49	C	Toluene	20.000	18.784		6.1	92	0.00	
50		Tetrachloroethene (PCE)	20.000	19.921		0.4	92	0.00	

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110704.D
Acq On : 7 Nov 2019 10:37 am
Operator : TNL
Sample : 9110564-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 11:01:19 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 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	39.343	1.6	89	0.00
52		t-1,3-Dichloropropene	20.000	19.010	4.9	89	0.00
53		1,1,2-Trichloroethane	20.000	20.385	-1.9	94	0.00
54		Dibromochloromethane	20.000	25.077	-25.4#	109	0.00
55		1,3-Dichloropropane	20.000	19.795	1.0	92	0.00
56		1,2-Dibromoethane (EDB)	20.000	19.899	0.5	92	0.00
57		2-Hexanone	40.000	38.361	4.1	88	0.00
58	P	Chlorobenzene	20.000	19.641	1.8	93	0.00
59	C	Ethylbenzene	20.000	18.637	6.8	90	0.00
60		1,1,1,2-Tetrachloroethane	20.000	21.463	-7.3	99	0.00
61		m,p-Xylenes (2)	40.000	37.444	6.4	88	0.00
62		o-Xylene	20.000	18.606	7.0	86	0.00
63		Styrene	20.000	19.344	3.3	89	0.00
64	P	Bromoform	20.000	24.554	-22.8#	124	0.00
65		Isopropylbenzene	20.000	18.797	6.0	86	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	98	0.00
67	S	4-Bromofluorobenzene (S)	50.000	48.696	2.6	97	0.00
68		Bromobenzene	20.000	19.691	1.5	91	0.00
69		n-Propylbenzene	20.000	18.799	6.0	88	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	21.017	-5.1	98	0.00
71		2-Chlorotoluene	20.000	18.743	6.3	88	0.00
72		1,3,5-Trimethylbenzene	20.000	19.260	3.7	88	0.00
73		1,2,3-Trichloropropane	20.000	19.954	0.2	94	0.00
74		t-1,4-Dichloro-2-butene	20.000	18.865	5.7	88	0.00
75		4-Chlorotoluene	20.000	18.840	5.8	88	0.00
76		tert-Butylbenzene	20.000	17.840	10.8	82	0.00
77		1,2,4-Trimethylbenzene	20.000	19.125	4.4	86	0.00
78		sec-Butylbenzene	20.000	18.686	6.6	86	0.00
79		4-Isopropyltoluene	20.000	19.278	3.6	84	0.00
80		1,3-Dichlorobenzene	20.000	19.595	2.0	91	0.00
81		1,4-Dichlorobenzene	20.000	19.367	3.2	91	0.00
82		n-Butylbenzene	20.000	19.689	1.6	84	0.00
83		1,2-Dichlorobenzene	20.000	19.407	3.0	90	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	20.244	-1.2	97	0.00
85		Hexachlorobutadiene	20.000	18.174	9.1	82	0.00
86		1,2,4-Trichlorobenzene	20.000	18.569	7.2	82	0.00
87		Naphthalene	20.000	18.461	7.7	82	0.00
88		1,2,3-Trichlorobenzene	20.000	19.584	2.1	87	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110704.D
Acq On : 7 Nov 2019 10:37 am
Operator : TNL
Sample : 9110564-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 11:01:19 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

11/7/19 tnl

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.211	99	108525	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	305974	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	148963	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	112391	52.71 ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.777	114	358582	52.30 ug/L		0.00
48) Toluene-d8 (S)	8.298	98	396384	49.36 ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	117206	48.70 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.673	85	29169	16.44 ug/L		98
3) Chloromethane	1.892	50	48343	20.55 ug/L		97
4) Vinyl Chloride	1.995	62	44314	18.80 ug/L		97
5) Bromomethane	2.354	96	25469	18.33 ug/L		97
6) Chloroethane	2.494	64	16110	14.87 ug/L		80
7) Trichlorofluoromethane	2.658	101	49330	18.48 ug/L		94
8) Ethanol	3.230	45	58651	1124.60 ug/L		87
9) 1,1-Dichloroethene	3.230	61	47918	18.63 ug/L		91
10) Carbon Disulfide	3.248	76	86718	18.27 ug/L		98
11) Freon 113	3.285	101	36116	19.52 ug/L		96
12) Iodomethane	3.388	142	4612	9.92 ug/L		94
13) Acrolein	3.619	56	9702	19.68 ug/L		72
14) Methylene Chloride	3.869	84	40466	19.59 ug/L		86
15) Acetone	3.936	43	34019	35.77 ug/L		89
16) t-1,2-Dichloroethene	4.039	61	49786	19.77 ug/L		90
17) n-Hexane	4.118	86	7062	18.42 ug/L		96
18) Methyl-tert-butyl-ether	4.167	73	104179	17.80 ug/L		93
19) tert-Butanol (TBA)	4.288	59	457536	1088.94 ug/L		96
20) Diisopropyl ether (DIPE)	4.562	45	25255	4.01 ug/L		97
21) 1,1-Dichloroethane	4.684	63	67644	19.34 ug/L		95
22) Acrylonitrile	4.745	53	22597	21.47 ug/L		96
23) Ethyl-tert-butyl ether...	4.939	59	23447	3.87 ug/L		99
24) Vinyl Acetate	4.952	43	78115	18.49 ug/L		97
25) c-1,2-Dichloroethene	5.244	61	52763	19.54 ug/L		92
26) 2,2-Dichloropropane	5.347	77	42438	18.60 ug/L		97
27) Bromochloromethane	5.444	130	29649	22.38 ug/L		94
28) Chloroform	5.523	83	68854	20.14 ug/L		97
29) Carbon Tetrachloride	5.657	117	42281	20.33 ug/L		93
30) Tetrahydrofuran	5.700	42	19455	19.44 ug/L		86
31) 1,1,1-Trichloroethane	5.730	97	54177	18.77 ug/L		96
33) 1,1-Dichloropropene	5.858	75	52429	18.92 ug/L		96
34) 2-Butanone (MEK)	5.852	43	59054	39.17 ug/L		97
35) Benzene	6.120	78	163487	19.71 ug/L		96
36) tert-Amyl methyl ether...	6.247	73	21888	3.89 ug/L		89
37) 1,2-Dichloroethane (EDC)	6.339	62	50299	18.52 ug/L		91
38) iso-Butyl Alcohol	6.369	43	74873	495.69 ug/L		96
40) Trichloroethene (TCE)	6.740	130	42535	19.91 ug/L		93
41) Tert-Amyl-Ethyl-Ether ...	6.996	59	14929	3.67 ug/L		78
42) Dibromomethane	7.196	93	27793	20.88 ug/L		96
43) 1,2-Dichloropropane	7.306	63	41218	19.93 ug/L		91
44) Bromodichloromethane	7.379	83	50310	21.09 ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.024	63	26645	16.96 ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	59534	19.68 ug/L		83

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110704.D
Acq On : 7 Nov 2019 10:37 am
Operator : TNL
Sample : 9110564-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 11:01:19 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

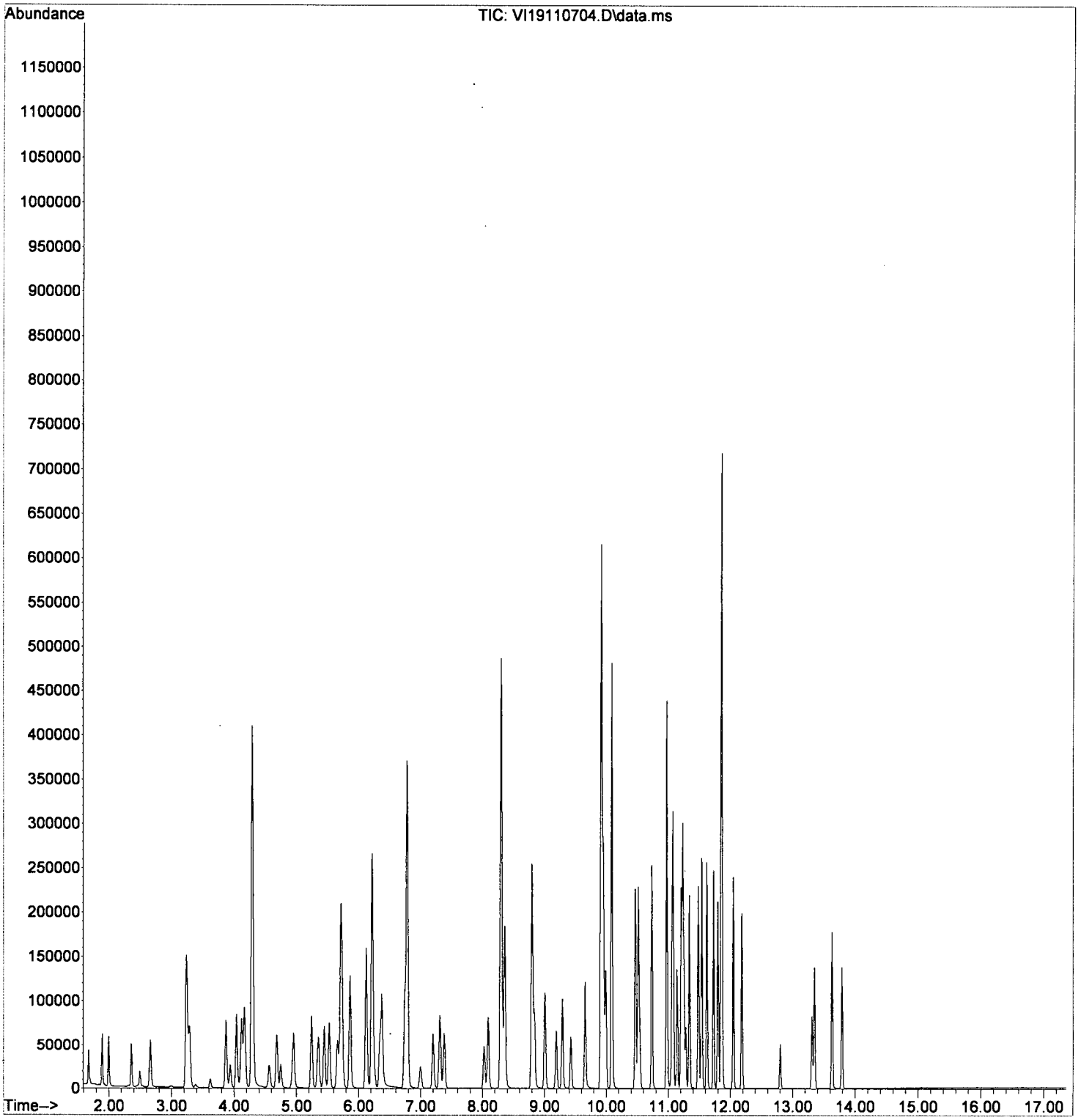
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
49)	Toluene	8.358	91	169014	18.78	ug/L	99	
50)	Tetrachloroethene (PCE)	8.796	166	41723	19.92	ug/L	91	
51)	4-Methyl-2-Pentanone (...	8.796	43	107466	39.34	ug/L	93	
52)	t-1,3-Dichloropropene	8.839	75	51007	19.01	ug/L	98	
53)	1,1,2-Trichloroethane	9.003	97	40661	20.39	ug/L	95	
54)	Dibromochloromethane	9.192	129	40437	25.08	ug/L	99	OSC
55)	1,3-Dichloropropane	9.289	76	68110	19.80	ug/L	88	
56)	1,2-Dibromoethane (EDB)	9.423	107	43214	19.90	ug/L	96	
57)	2-Hexanone	9.654	43	76781	38.36	ug/L	91	
58)	Chlorobenzene	9.928	112	112805	19.64	ug/L	99	
59)	Ethylbenzene	9.952	91	175859	18.64	ug/L	98	
60)	1,1,1,2-Tetrachloroethane	9.989	131	35949	21.46	ug/L	94	
61)	m,p-Xylenes (2)	10.086	91	260178	37.44	ug/L	99	
62)	o-Xylene	10.469	91	128172	18.61	ug/L	98	
63)	Styrene	10.512	104	107105	19.34	ug/L	99	
64)	Bromoform	10.536	173	29491	24.55	ug/L	97	OSC
65)	Isopropylbenzene	10.731	105	157977	18.80	ug/L	98	
68)	Bromobenzene	11.059	156	45461	19.69	ug/L	88	
69)	n-Propylbenzene	11.072	91	186110	18.80	ug/L	99	
70)	1,1,2,2-Tetrachloroethane	11.139	85	40965	21.02	ug/L	95	
71)	2-Chlorotoluene	11.205	126	39984	18.74	ug/L	93	
72)	1,3,5-Trimethylbenzene	11.230	105	130293	19.26	ug/L	97	
73)	1,2,3-Trichloropropane	11.248	110	18913	19.95	ug/L	96	
74)	t-1,4-Dichloro-2-butene	11.278	53	12795	18.86	ug/L	81	
75)	4-Chlorotoluene	11.339	91	114798	18.84	ug/L	97	
76)	tert-Butylbenzene	11.485	91	67390	17.84	ug/L	100	
77)	1,2,4-Trimethylbenzene	11.534	105	130159	19.12	ug/L	96	
78)	sec-Butylbenzene	11.619	105	155757	18.69	ug/L	98	
79)	4-Isopropyltoluene	11.729	119	127138	19.28	ug/L	97	
80)	1,3-Dichlorobenzene	11.796	146	78813	19.59	ug/L	98	
81)	1,4-Dichlorobenzene	11.863	146	81228	19.37	ug/L	96	
82)	n-Butylbenzene	12.045	91	110351	19.69	ug/L	97	
83)	1,2-Dichlorobenzene	12.185	146	75805	19.41	ug/L	99	
84)	1,2-Dibromo-3-Chloropr...	12.799	157	13370	20.24	ug/L	91	
85)	Hexachlorobutadiene	13.310	223	9919	18.17	ug/L	92	
86)	1,2,4-Trichlorobenzene	13.347	180	41802	18.57	ug/L	98	
87)	Naphthalene	13.627	128	132131	18.46	ug/L	98	
88)	1,2,3-Trichlorobenzene	13.785	180	41856	19.58	ug/L	96	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110704.D
Acq On : 7 Nov 2019 10:37 am
Operator : TNL
Sample : 9110564-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 11:01:19 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110705.D
Acq On : 7 Nov 2019 11:04 am
Operator : TNL
Sample : 9110564-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 13:05:37 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

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	102	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	50.617	-1.2	104	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	48.136	3.7	100	0.00
4	H	NWTPH-Gx (TPH)	500.000	424.166	15.2#	87	0.00
5	H	TPHg (C5-C9)	500.000	431.461	13.7	90	0.00
6	H	TPHg (C6-C10)	500.000	434.900	13.0	91	0.00
7	H	CA-LUFT (C5-C12)	500.000	423.674	15.3#	89	0.00
8		Benzene (NR)	-1.000	0.000	0.0	97	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	103	0.00
10		Toluene (NR)	-1.000	0.000	0.0	97	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	102	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	100	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	105	0.00

11/7/19 hrs

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110705.D
Acq On : 7 Nov 2019 11:04 am
Operator : TNL
Sample : 9110564-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 13:05:37 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220124	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	362287	50.62	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	115020	48.14	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	405698	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	305726	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	224457	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	2602310m	424.17	ug/L	
5) TPHg (C5-C9)	9.890	TIC	3725021m	431.46	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3183490m	434.90	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	4327606m	423.67	ug/L	

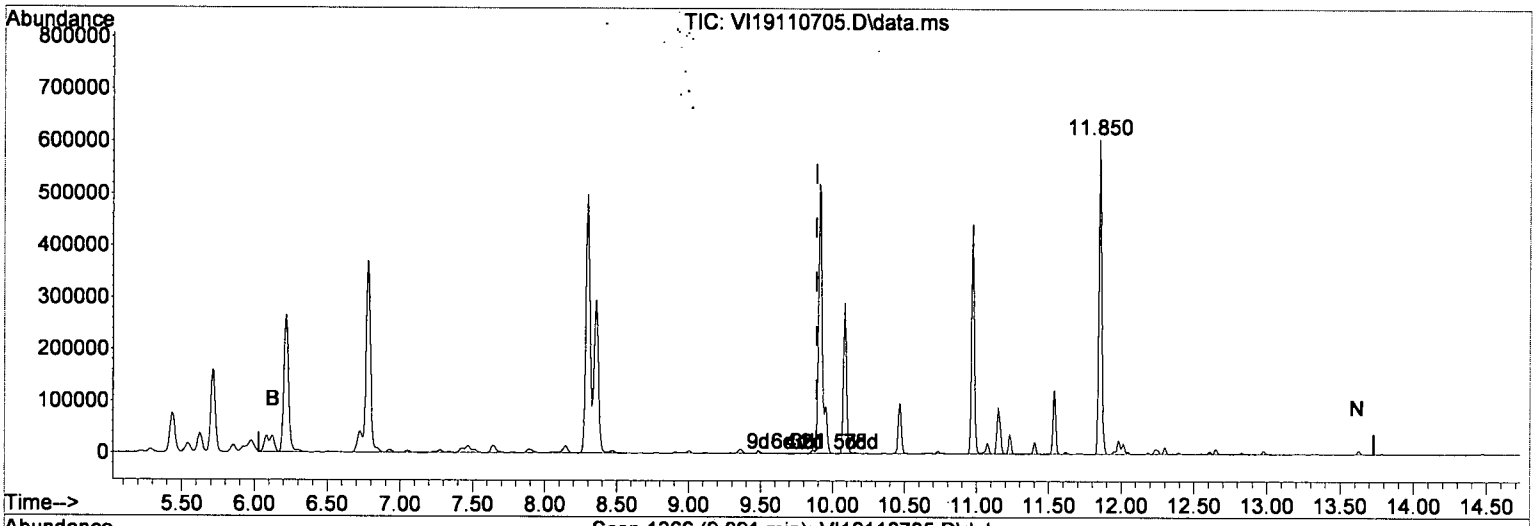
11/07/19 NR

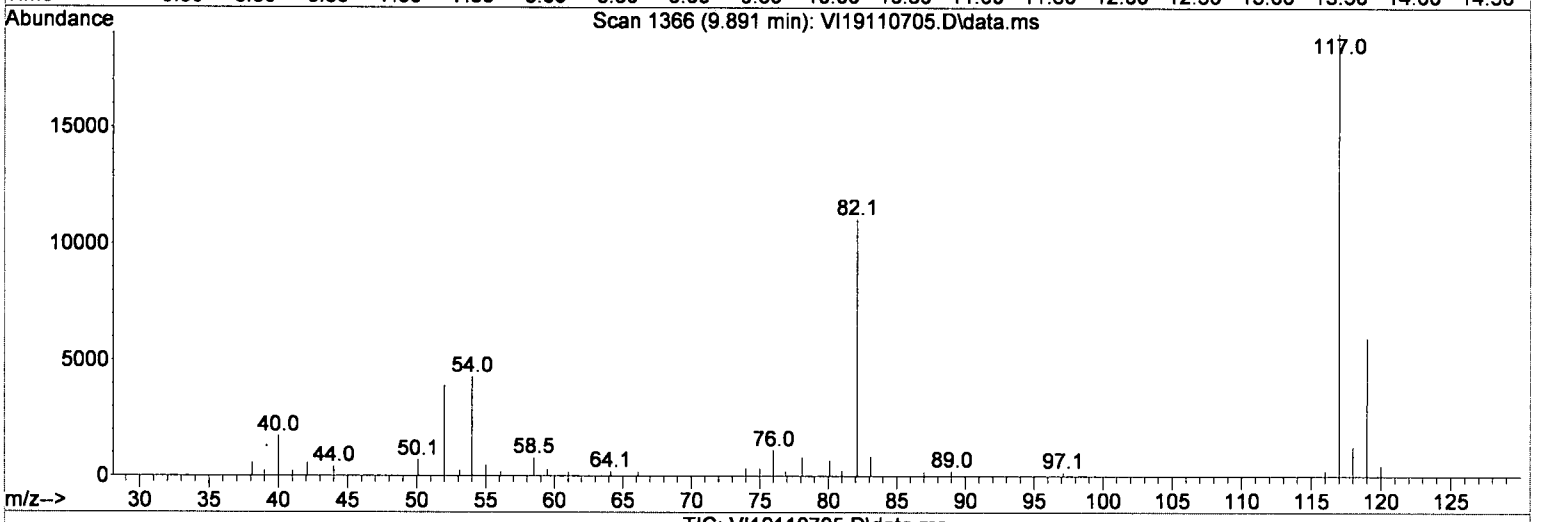
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110705.D
Acq On : 7 Nov 2019 11:04 am
Operator : TNL
Sample : 9110564-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 13:05:37 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





TIC: VI19110705.D\data.ms

(4) NWTPH-Gx (TPH) (H)

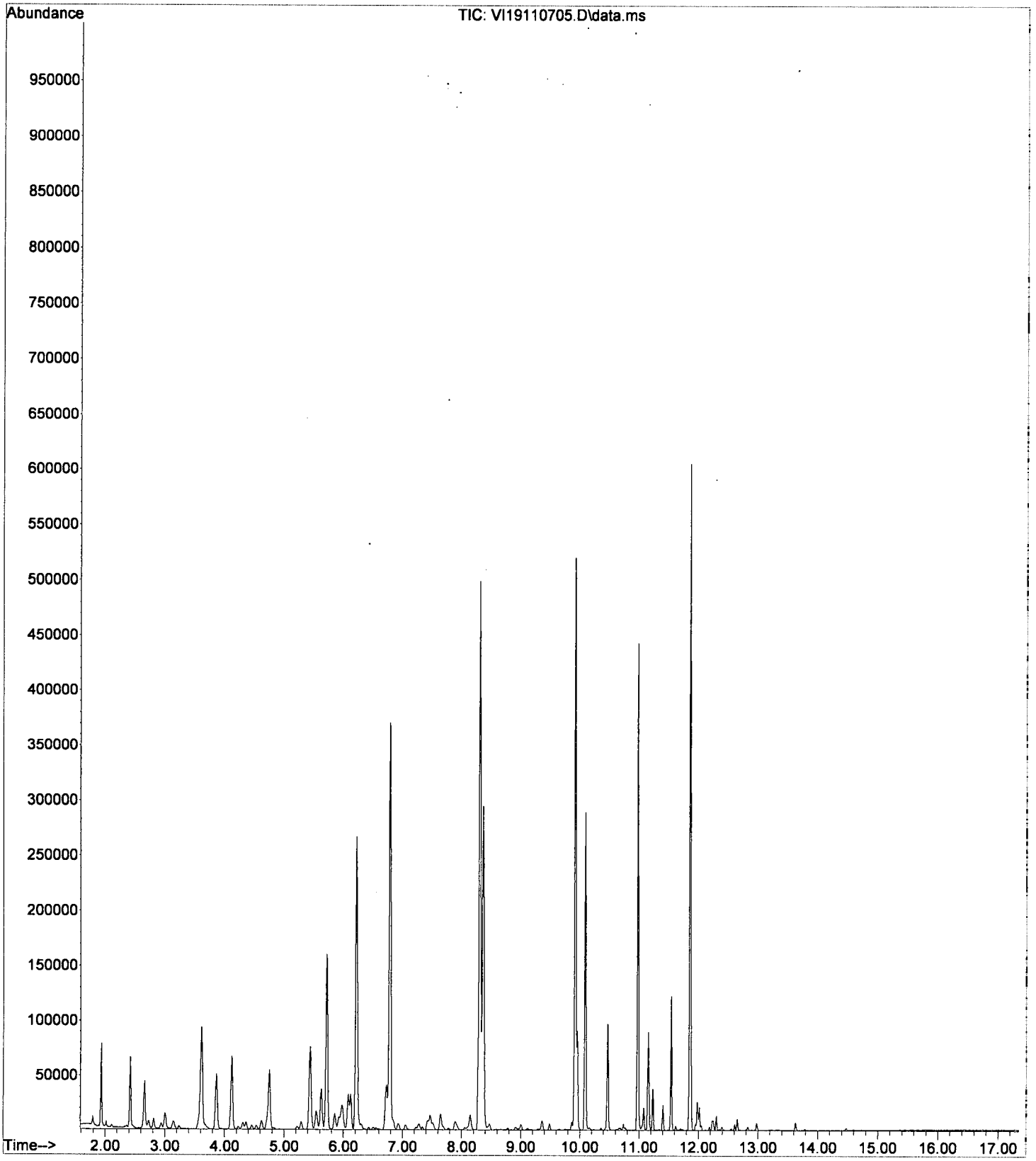
9.890min (0.000) 424.17 ug/L m

11/07/19 m1

response 2602310

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.02#
0.00	0.00	0.01#
0.00	0.00	0.00

File :C:\msdchem\1\data\2019-11\9K07019\VI19110705.D
Operator : TNL
Acquired : 7 Nov 2019 11:04 am using AcqMethod VI1611RUN.M
Instrument : VOA-GCMS9
Sample Name: 9110564-BS2
Misc Info : 1X 5mL 500PPB GX A19J354
Vial Number: 5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110706.D
Acq On : 7 Nov 2019 11:31 am
Operator : TNL
Sample : 9110564-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 13:05:39 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	204927	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	345037	51.78	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	104025	46.76	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	386425	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	287599	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	200431	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	7709m	25.92	ug/L	
5) TPHg (C5-C9)	9.890	TIC	340933m	17.30	ug/L	
6) TPHg (C6-C10)	9.890	TIC	327937m	20.98	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	351788m	21.85	ug/L	

11/7/2019

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110706.D
Acq On : 7 Nov 2019 11:31 am
Operator : TNL
Sample : 9110564-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 13:06:20 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	104449	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	287599	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	128789	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	107465	52.36	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	344825	52.26	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	386425	51.19	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	104025	49.99	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.904	50	405	0.18	ug/L	# 47
5) Bromomethane	2.372	96	228	0.17	ug/L	# 44
14) Methylene Chloride	3.875	84	918	Below Cal		82
15) Acetone	3.948	43	540	0.59	ug/L	67
87) Naphthalene	13.633	128	501	0.08	ug/L	81

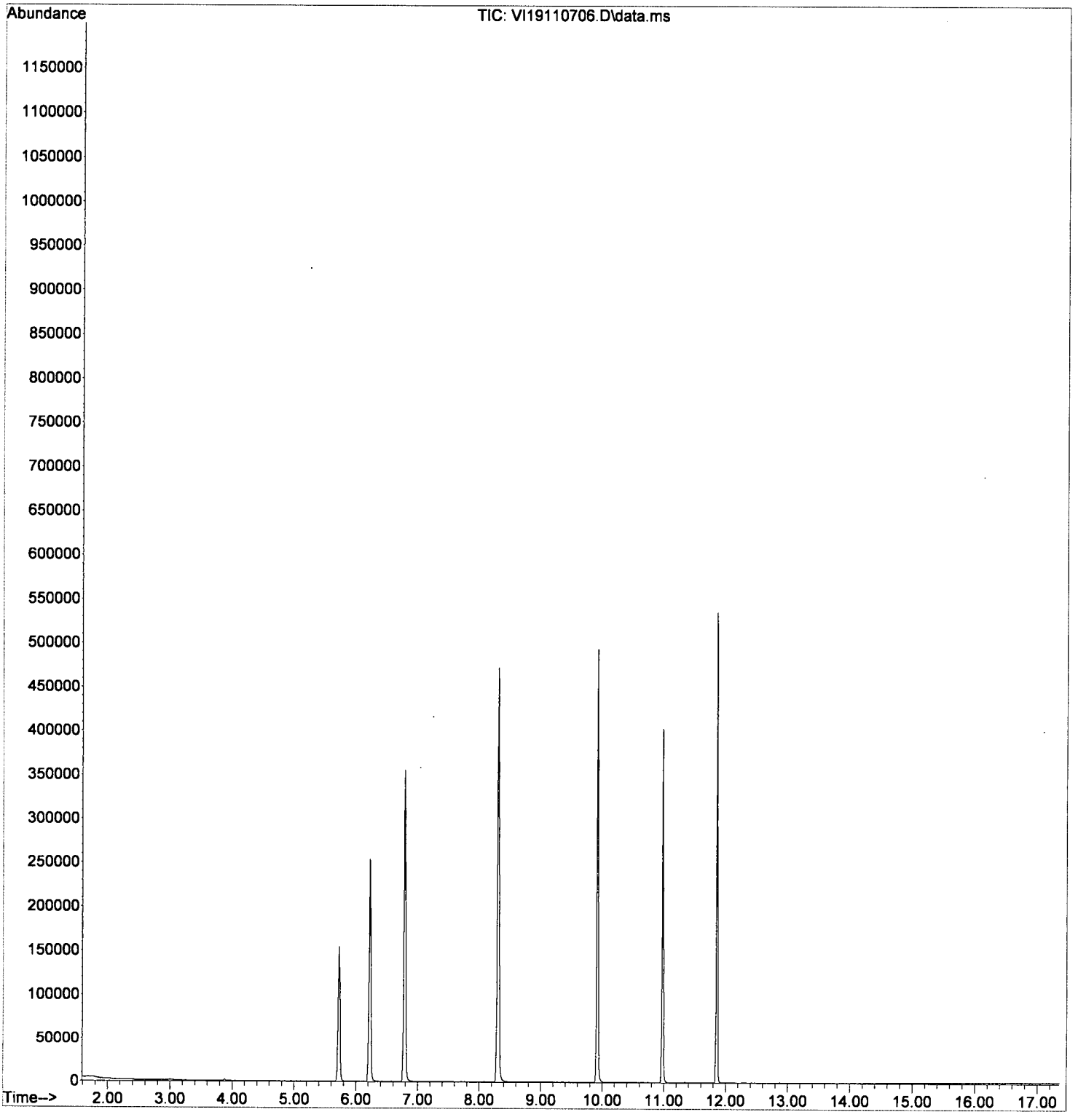
11/7/19 MA

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110706.D
Acq On : 7 Nov 2019 11:31 am
Operator : TNL
Sample : 9110564-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 13:06:20 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110707.D
Acq On : 7 Nov 2019 11:58 am
Operator : TNL
Sample : A9K0165-02
Misc : 1X 5mL 8260C TB
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 13:06:23 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	99157	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	273766	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	122035	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	105201	54.00	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	330469	52.75	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	367011	51.08	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	100028	50.73	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.891	50	366	0.17	ug/L	# 47
5) Bromomethane	2.366	96	231	0.18	ug/L	# 52
6) Chloroethane	2.488	64	241	0.24	ug/L	# 36
14) Methylene Chloride	3.869	84	594	Below Cal		84
15) Acetone	3.948	43	2525	2.91	ug/L	99

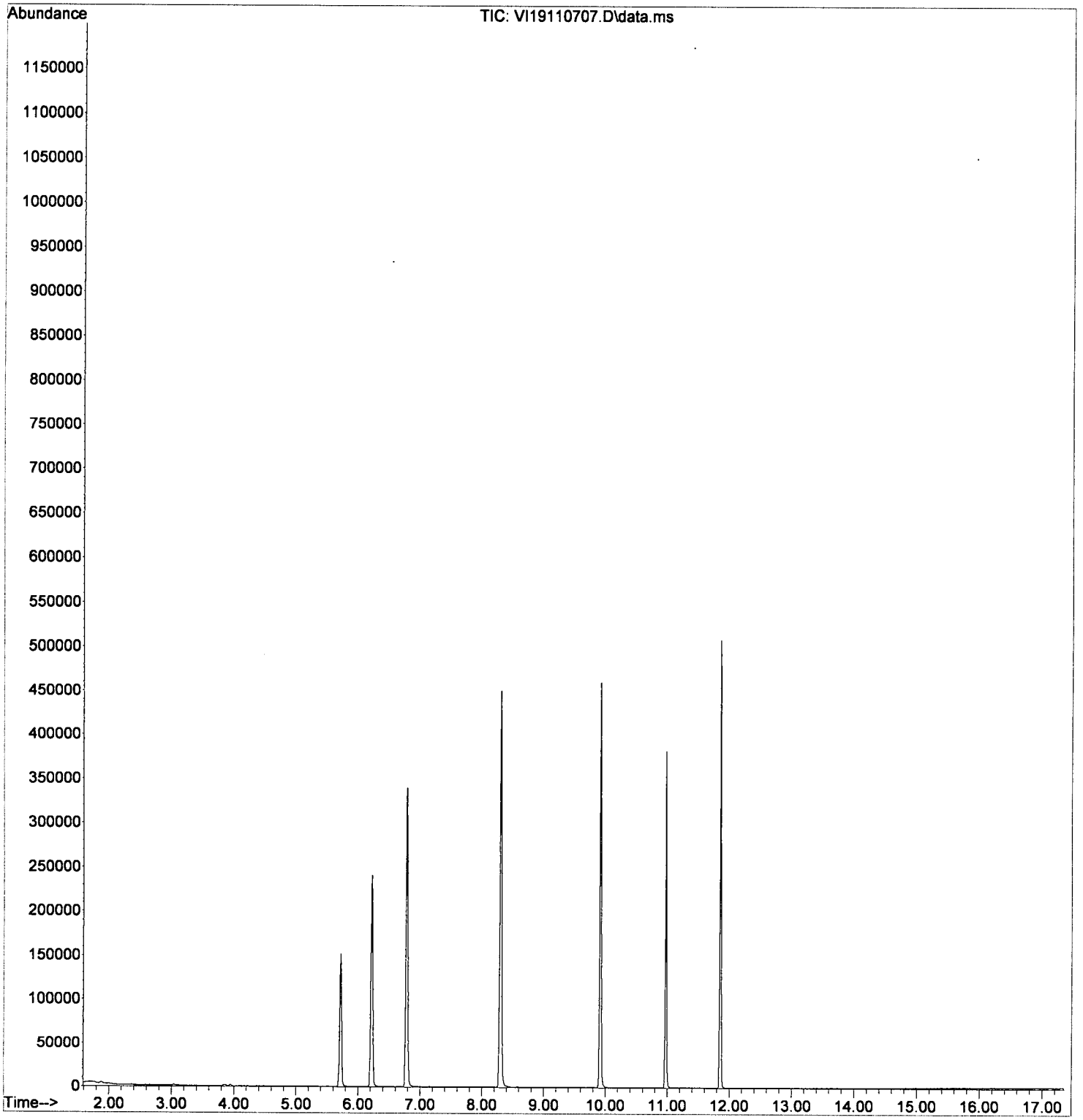
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/7/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110707.D
Acq On : 7 Nov 2019 11:58 am
Operator : TNL
Sample : A9K0165-02
Misc : 1X 5mL 8260C TB
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 13:06:23 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110709.D
Acq On : 7 Nov 2019 1:48 pm
Operator : TNL
Sample : A9K0165-01
Misc : 1X 5mL 8260C
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 14:16:33 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	92867	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	269063	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	123353	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	102314	56.07	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	316073	53.87	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	355939	50.40	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	97427	48.88	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.904	50	548	0.27	ug/L	# 89
5) Bromomethane	2.372	96	364	0.31	ug/L	# 55
14) Methylene Chloride	3.875	84	554	Below Cal	#	72
15) Acetone	3.942	43	468535	575.73	ug/L	89
87) Naphthalene	13.633	128	951	0.16	ug/L	# 81

11/7/19 tnl

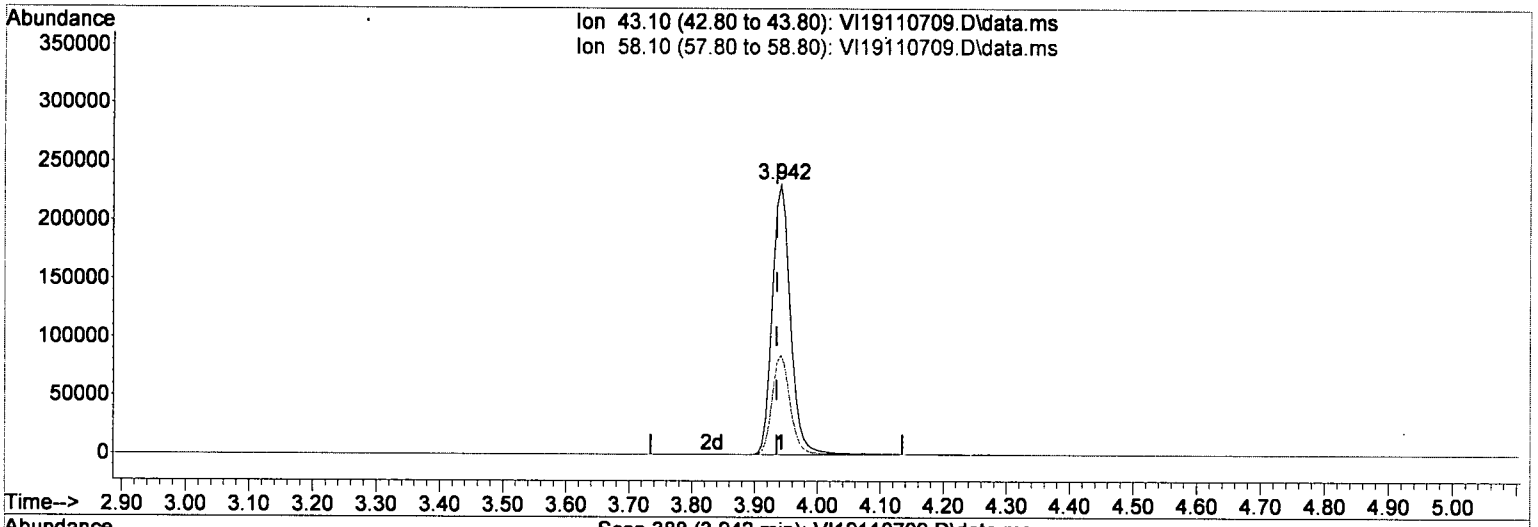
RL02

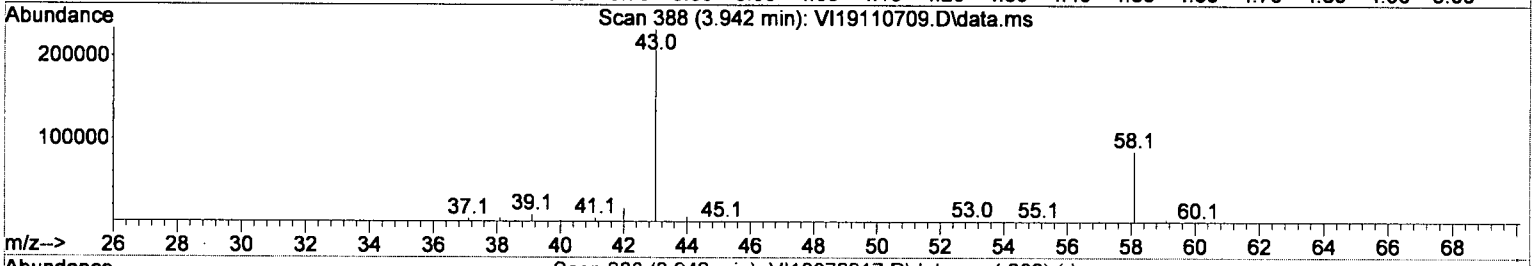
(#) = qualifier out of range (m) = manual integration (+) = signals summed

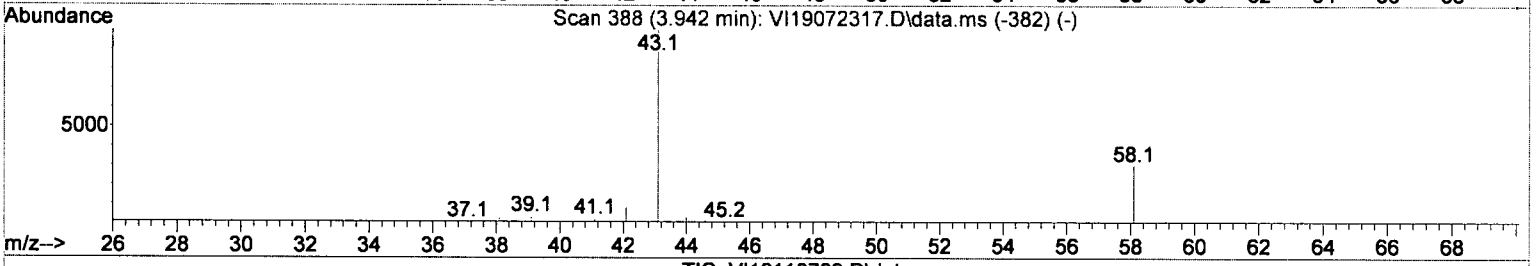
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110709.D
Acq On : 7 Nov 2019 1:48 pm
Operator : TNL
Sample : A9K0165-01
Misc : 1X 5mL 8260C
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 14:16:33 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110709.D\data.ms

(15) Acetone

3.942min (+ 0.006) 575.73 ug/L

response 468535

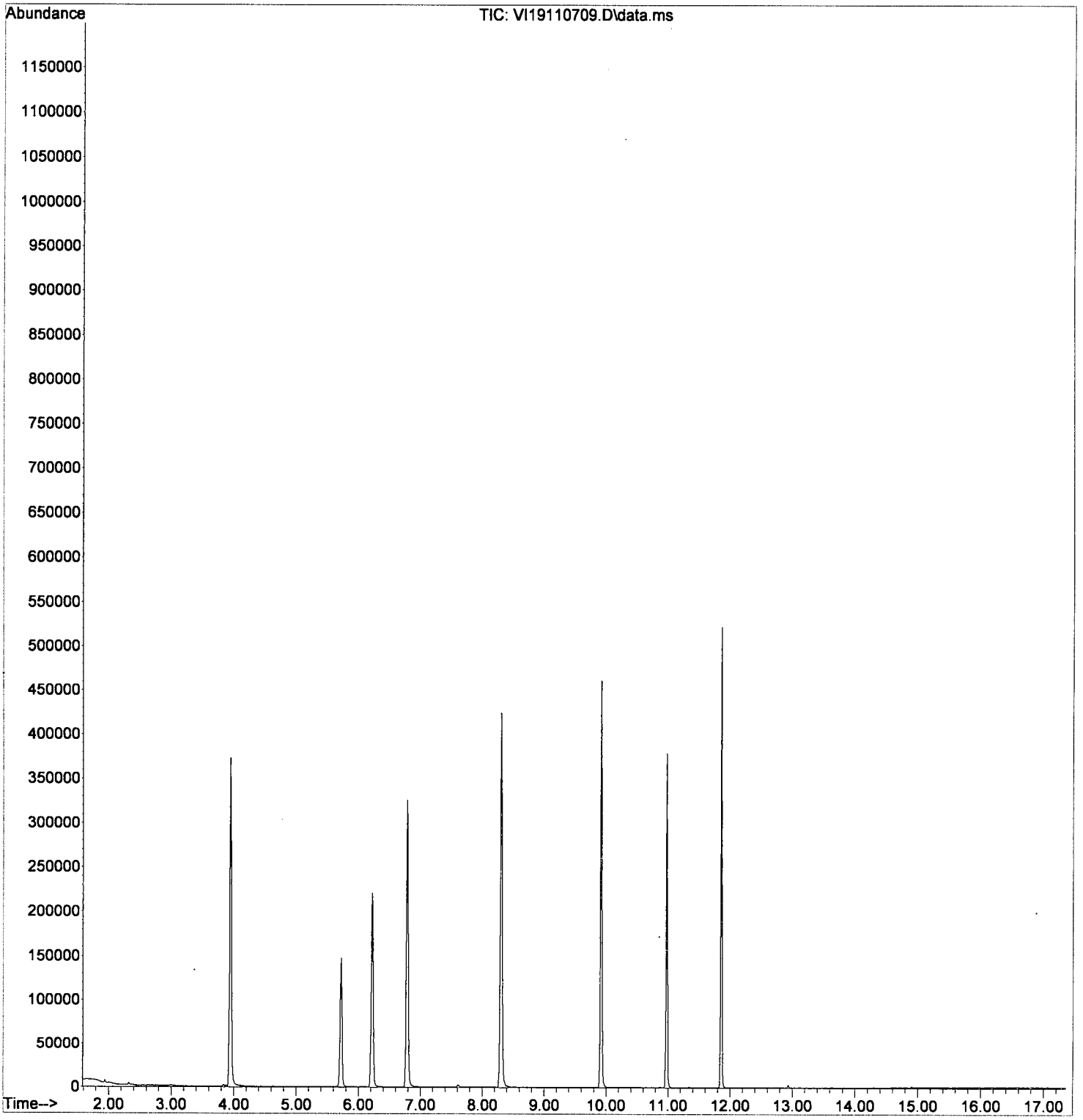
Ion	Exp%	Act%
43.10	100.00	100.00
58.10	30.80	36.80
0.00	0.00	0.00
0.00	0.00	0.00

RRO2
11/7/19 DM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110709.D
Acq On : 7 Nov 2019 1:48 pm
Operator : TNL
Sample : A9K0165-01
Misc : 1X 5mL 8260C
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 14:16:33 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	105232	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	291679	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	139571	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	105246	50.90	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	335589	50.48	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	383181	50.05	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	111780	49.57	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.898	50	407	0.18	ug/L	# 47
5) Bromomethane	2.366	96	147	0.11	ug/L	# 56
15) Acetone	3.948	43	3858	4.18	ug/L	95
19) tert-Butanol (TBA)	4.294	59	1194	2.93	ug/L	85
35) Benzene	6.126	78	8400995	1044.75	ug/L	96
49) Toluene	8.358	91	2979	0.35	ug/L	95
57) 2-Hexanone	9.666	43	469	0.25	ug/L	# 8
58) Chlorobenzene	9.928	112	517	0.09	ug/L	# 1
59) Ethylbenzene	9.952	91	15052	1.67	ug/L	95
61) m,p-Xylenes (2)	10.086	91	5232	0.79	ug/L	98
62) o-Xylene	10.469	91	14582	2.22	ug/L	99
65) Isopropylbenzene	10.737	105	38111	4.76	ug/L	97
69) n-Propylbenzene	11.078	91	8077	0.87	ug/L	98
71) 2-Chlorotoluene	11.333	126	392	0.20	ug/L	# 1
72) 1,3,5-Trimethylbenzene	11.230	105	3739	0.59	ug/L	98
74) t-1,4-Dichloro-2-butene	11.406	53	360	0.57	ug/L #	25
75) 4-Chlorotoluene	11.406	91	3178	0.56	ug/L	64
76) tert-Butylbenzene	11.485	91	1455	0.41	ug/L	93
77) 1,2,4-Trimethylbenzene	11.540	105	12409	1.95	ug/L	99
78) sec-Butylbenzene	11.619	105	14436	1.85	ug/L	96
79) 4-Isopropyltoluene	11.698	119	2610	0.42	ug/L	97
82) n-Butylbenzene	12.045	91	772	0.15	ug/L	76
87) Naphthalene	13.627	128	23431	3.49	ug/L	98

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

11/7/19 tnl

RL02

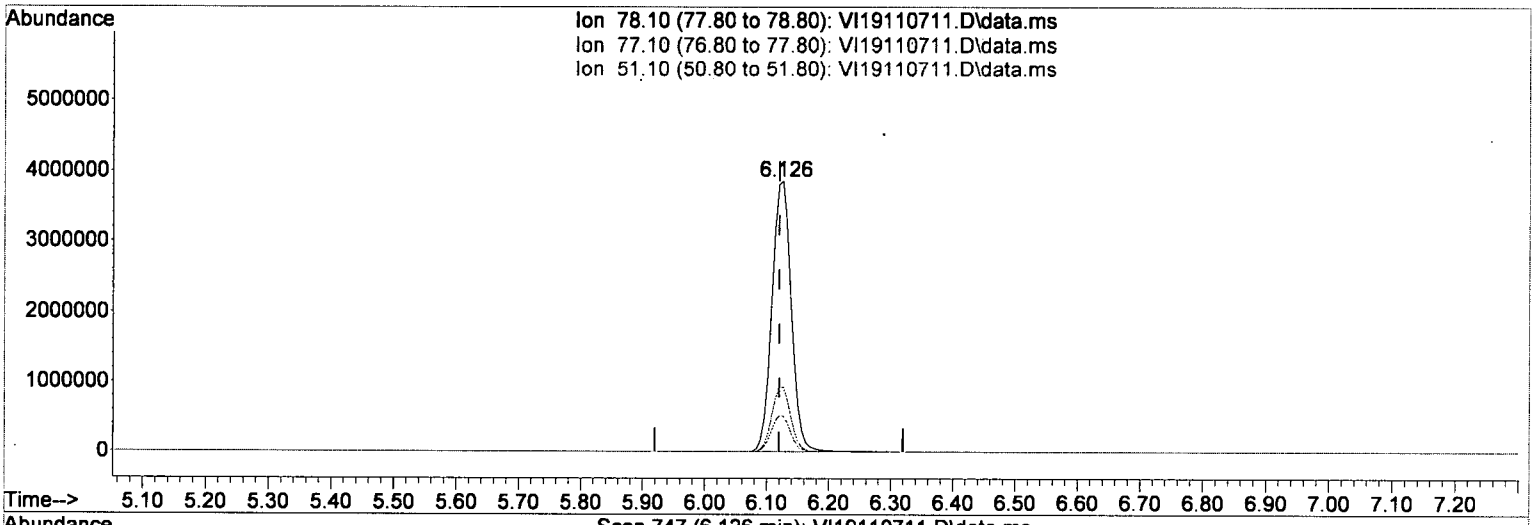
ME 1.62ppb

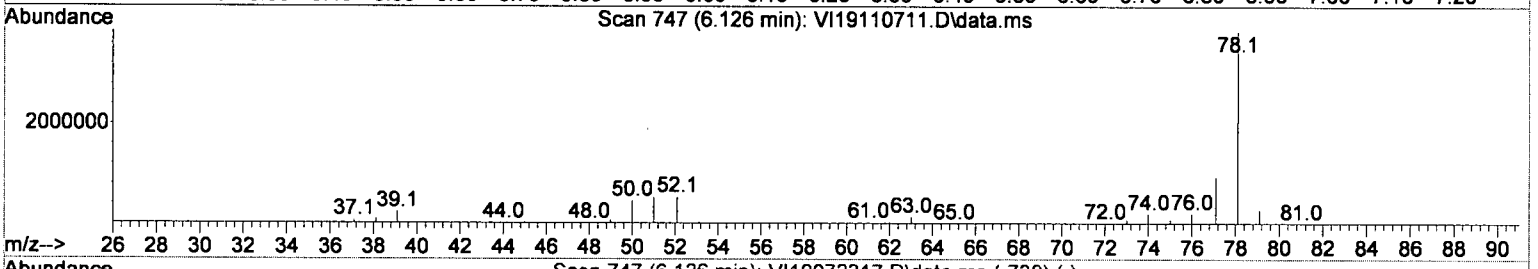
ME ND

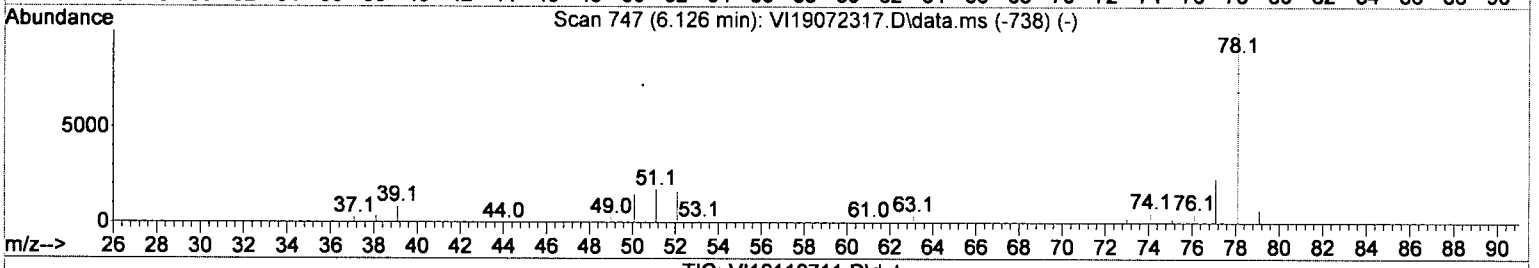
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(35) Benzene

6.126min (+ 0.006) 1044.75 ug/L

response 8400995

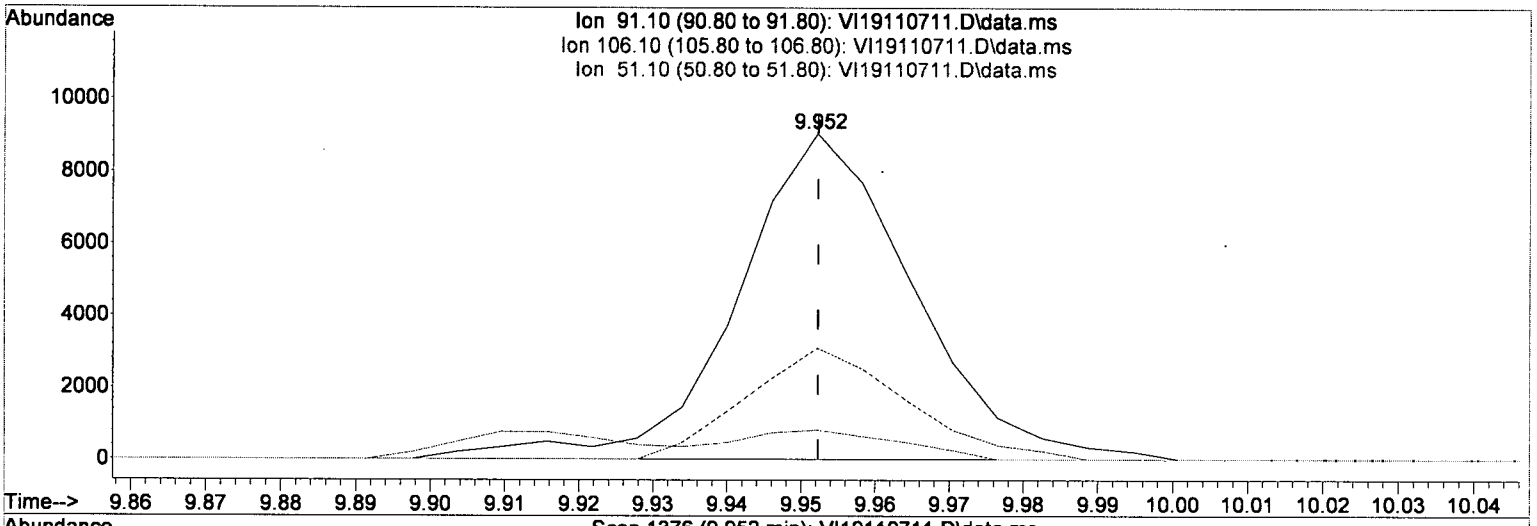
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	24.19
51.10	17.20	13.34
0.00	0.00	0.00

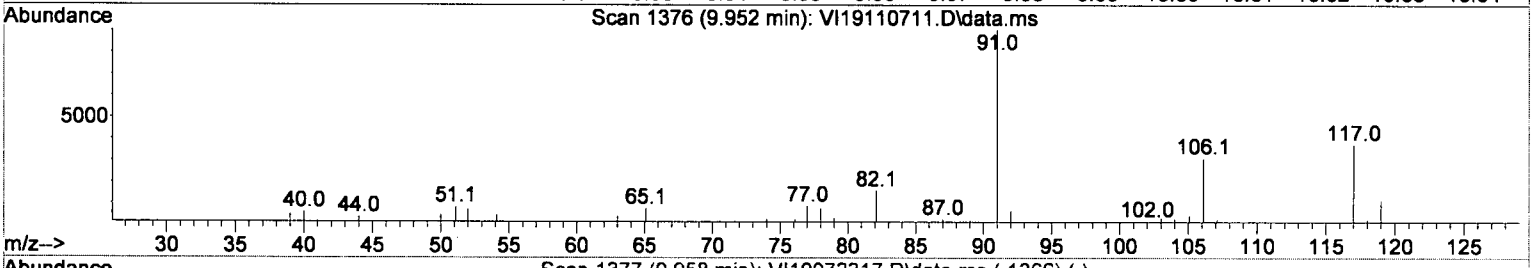
RRO2
11/7/19 hm

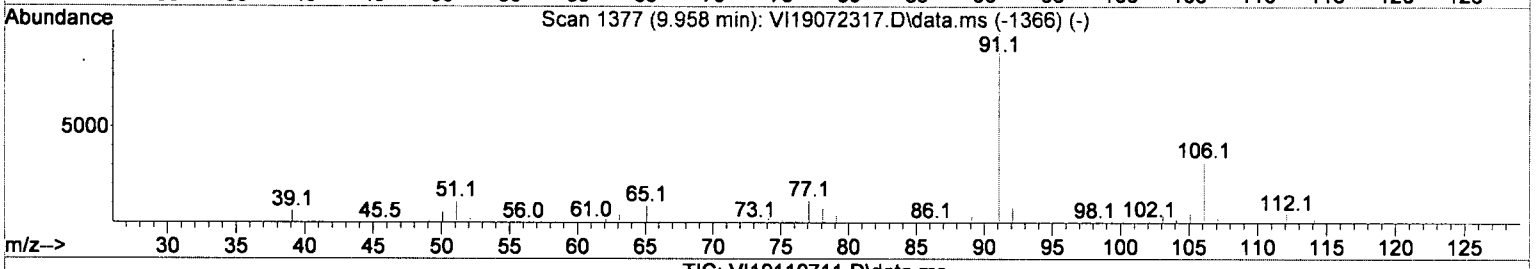
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 1.67 ug/L

response 15052

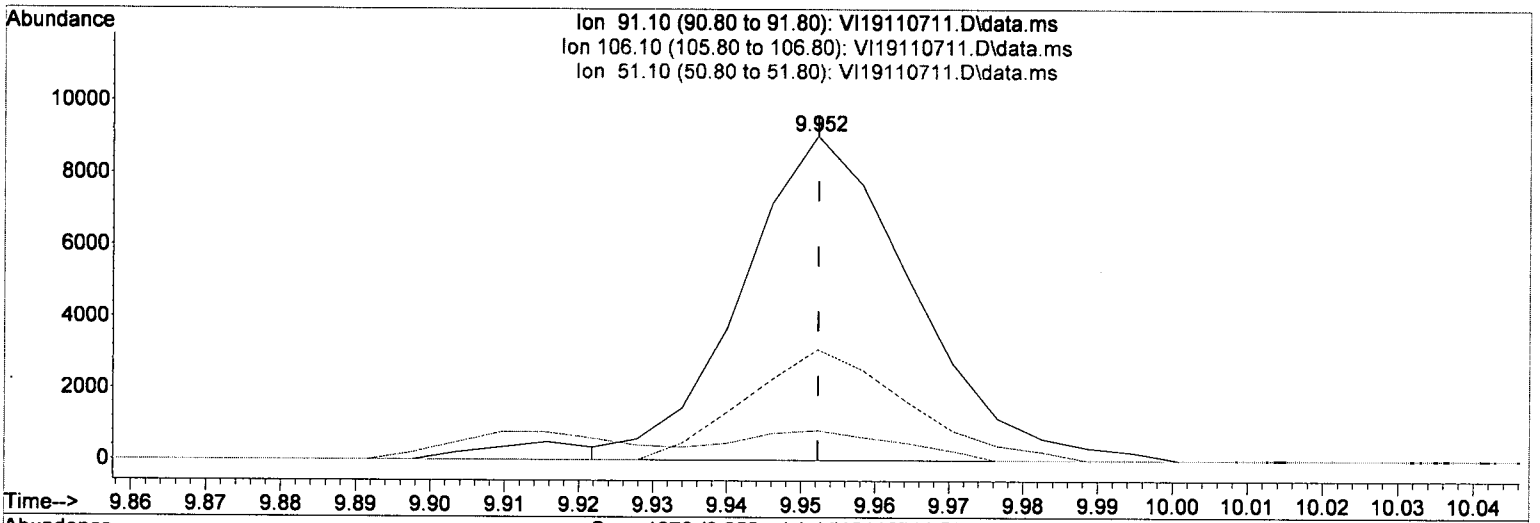
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	34.26
51.10	10.40	9.24
0.00	0.00	0.00

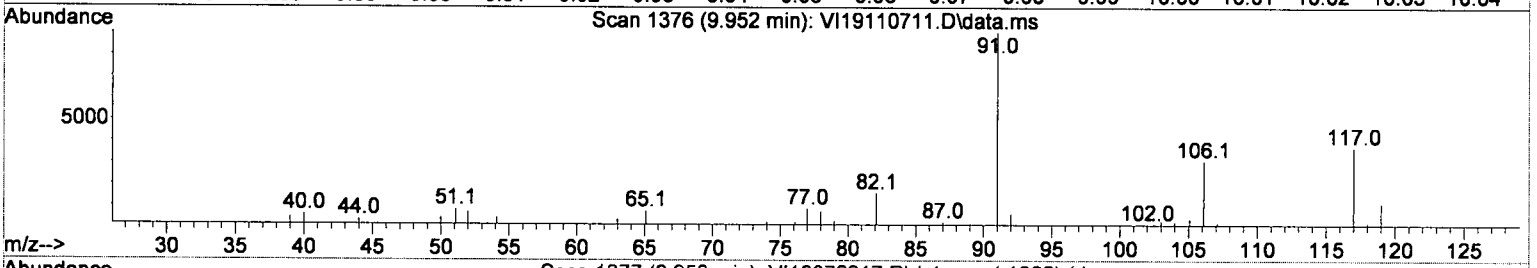
(MC) 11/8/19 MC

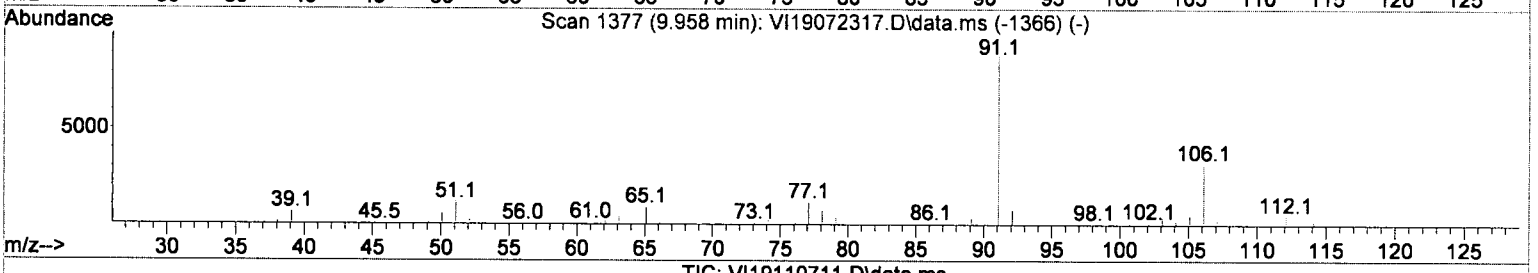
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 1.62 ug/L m

response 14541

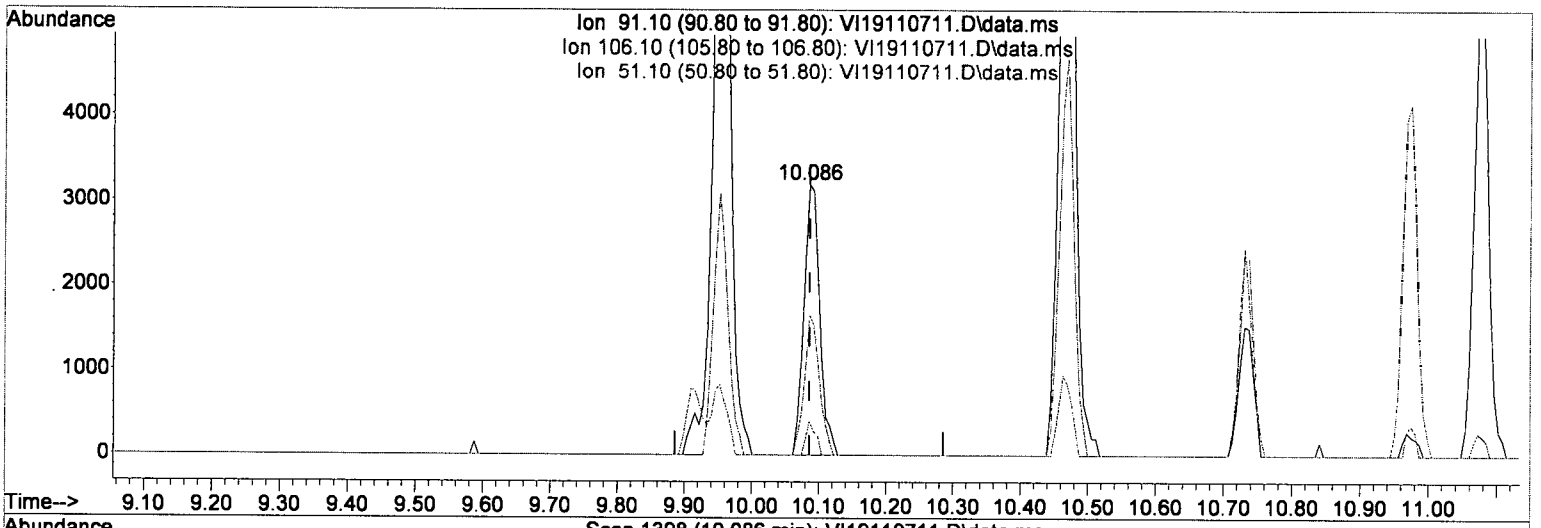
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	34.26
51.10	10.40	9.24
0.00	0.00	0.00

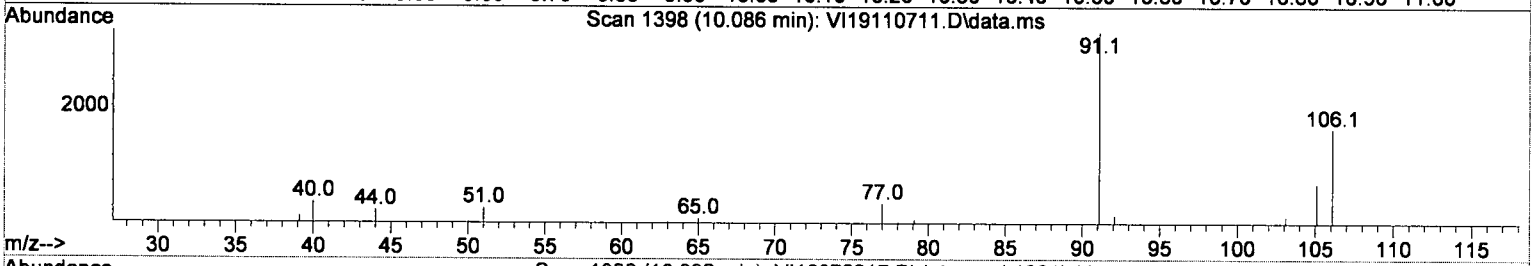
11/7/19 bm

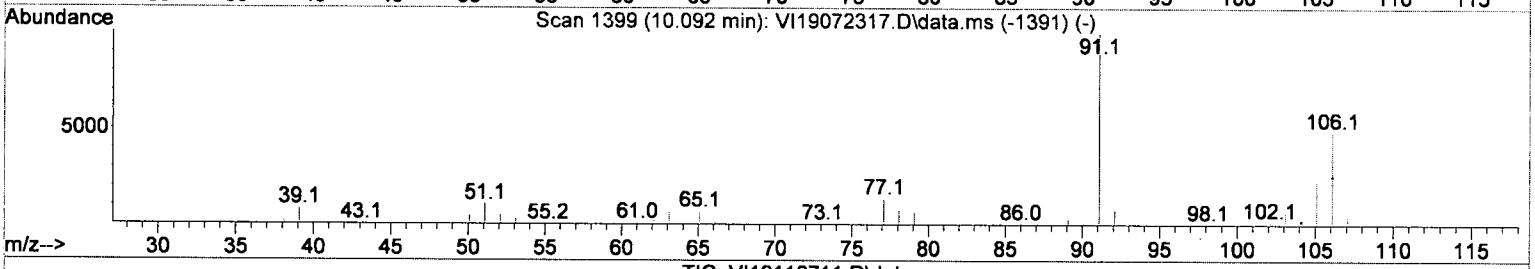
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(61) m,p-Xylenes (2)

10.086min (+ 0.000) 0.79 ug/L

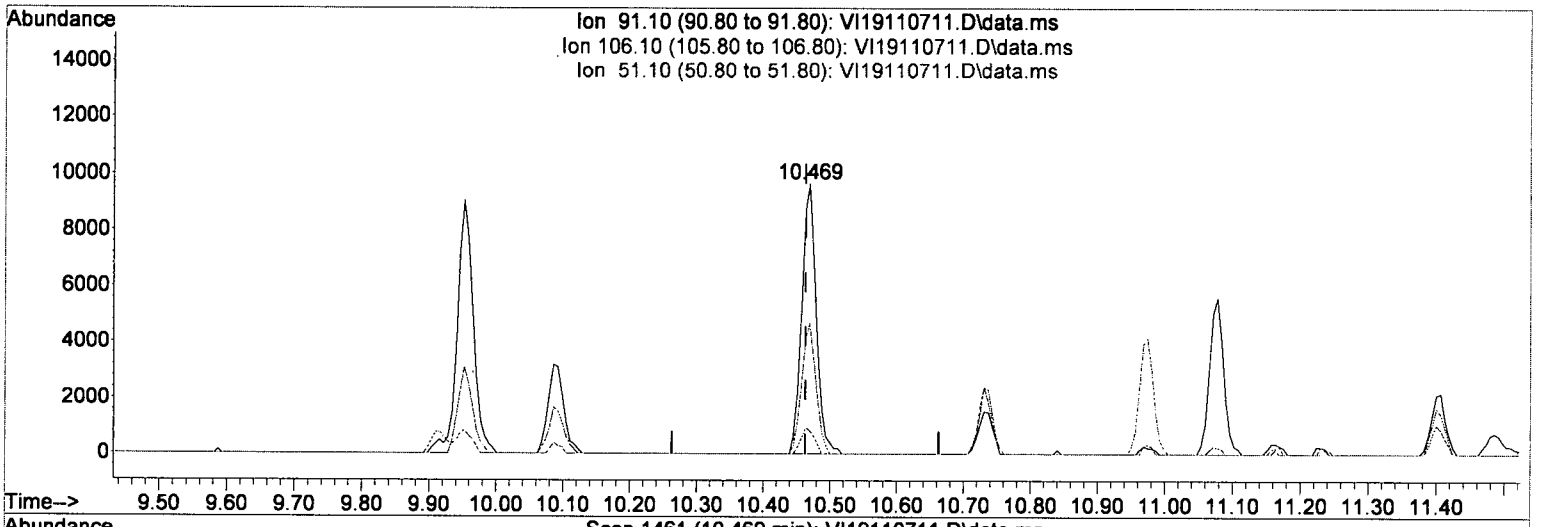
response 5232

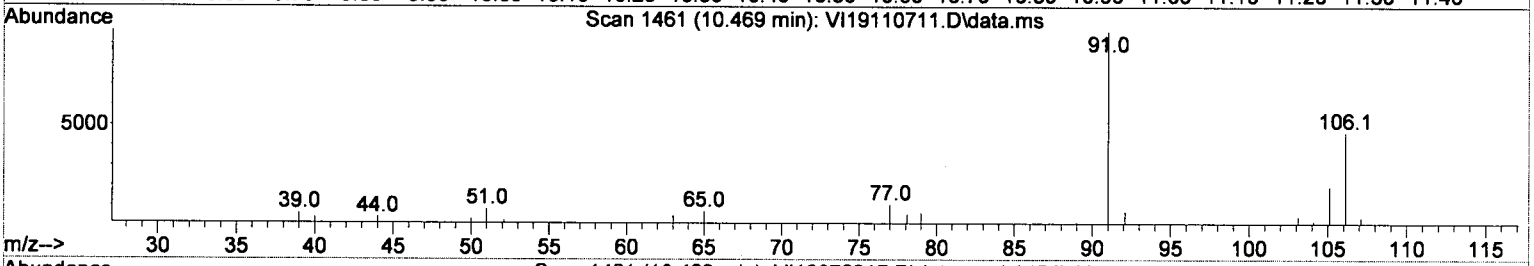
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	52.02
51.10	9.80	12.37
0.00	0.00	0.00

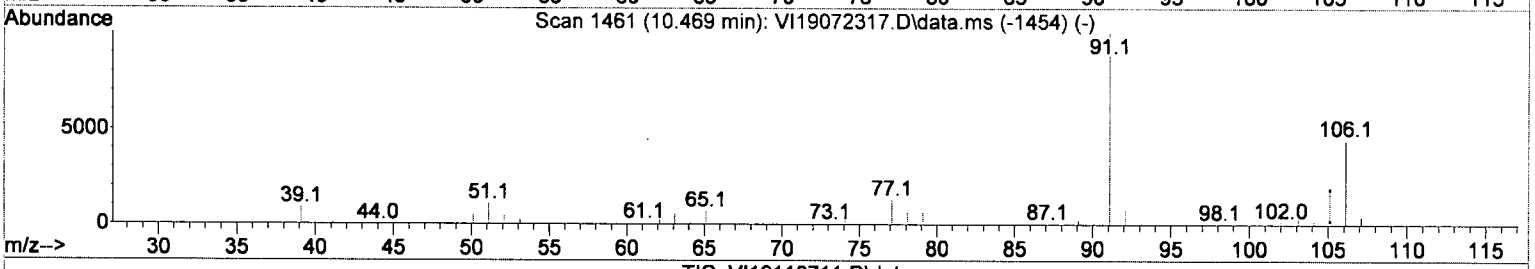
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(62) o-Xylene

10.469min (+ 0.006) 2.22 ug/L

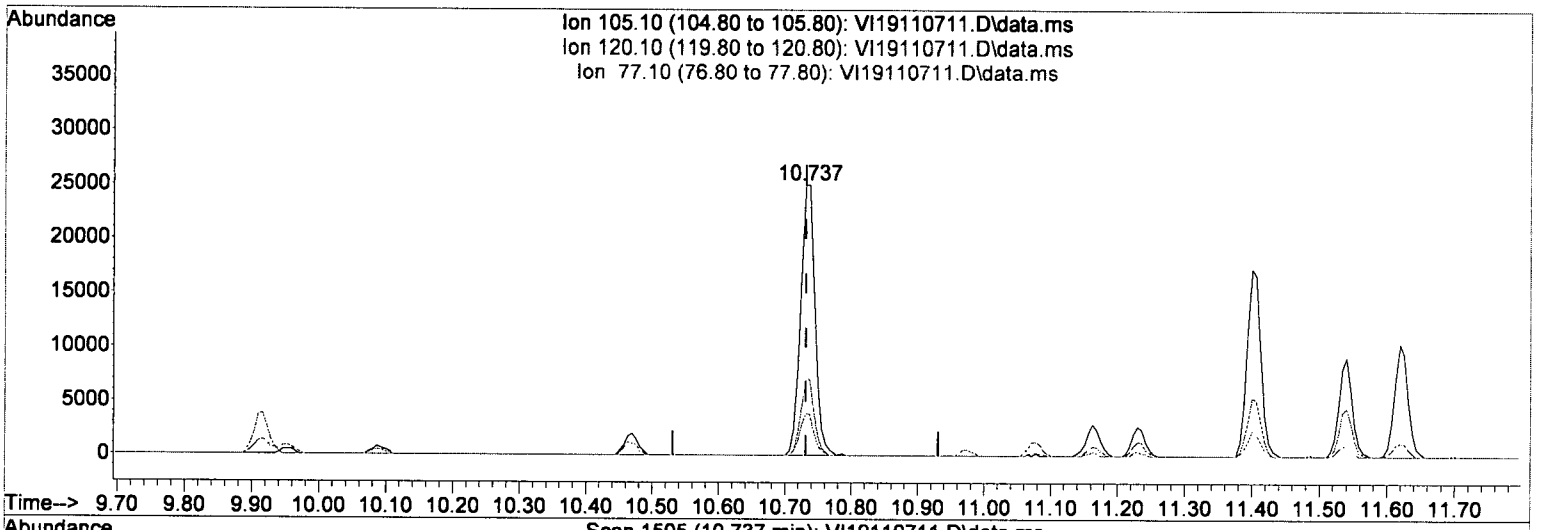
response 14582

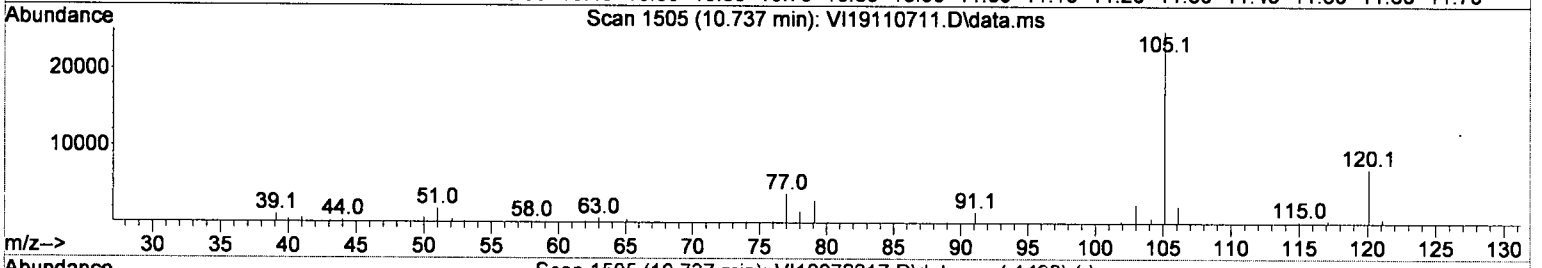
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	48.49
51.10	10.20	8.75
0.00	0.00	0.00

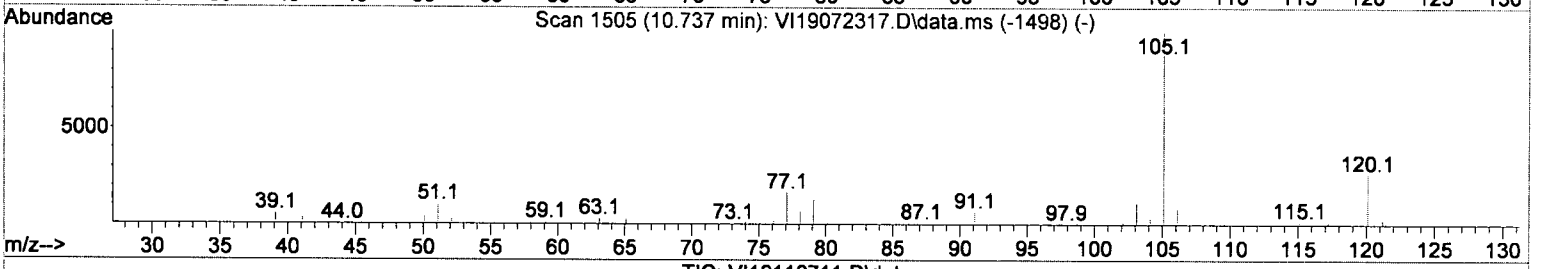
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(65) Isopropylbenzene

10.737min (+ 0.006) 4.76 ug/L

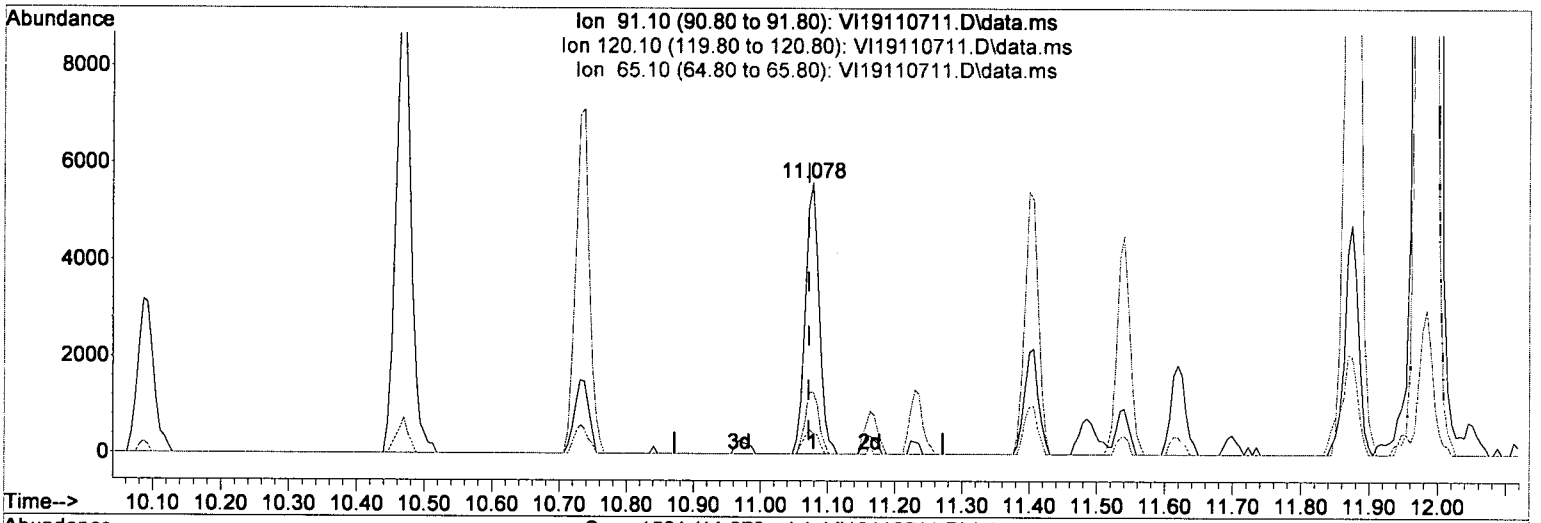
response 38111

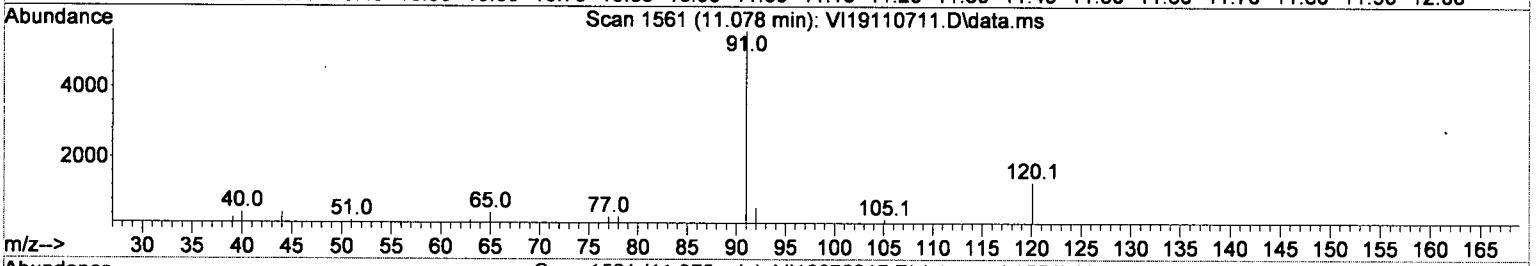
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	26.40	28.43
77.10	15.50	15.45
0.00	0.00	0.00

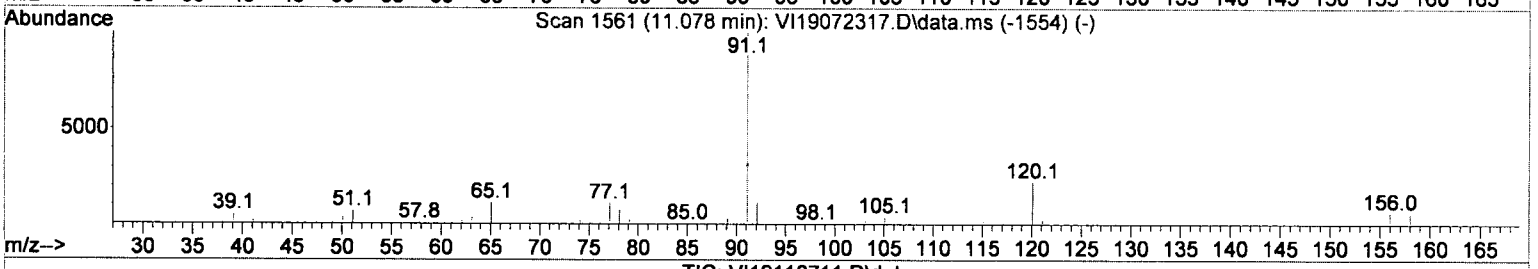
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(69) n-Propylbenzene

11.078min (+ 0.006) 0.87 ug/L

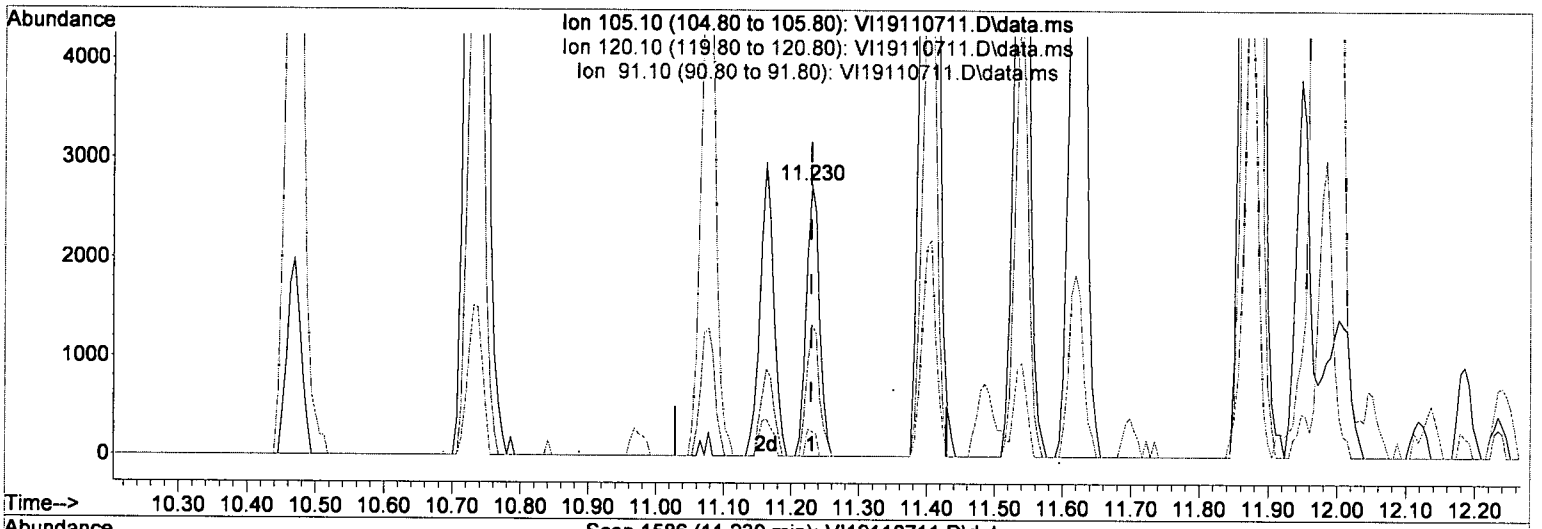
response 8077

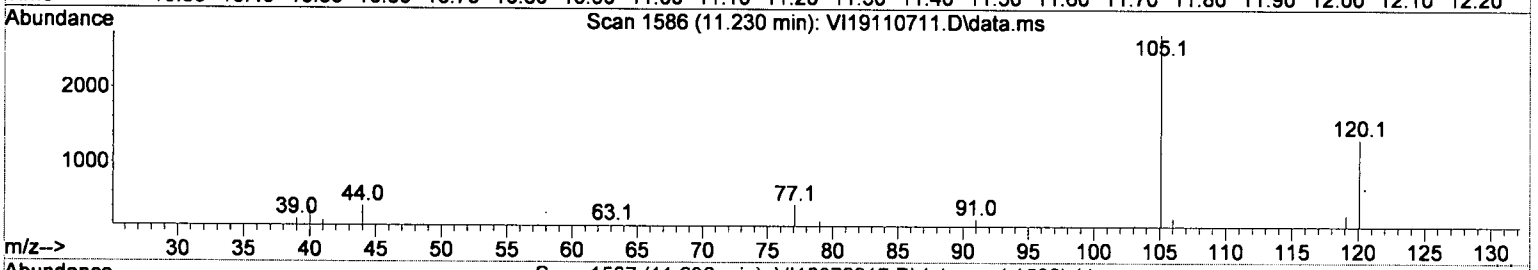
Ion	Exp%	Act%
91.10	100.00	100.00
120.10	23.50	23.25
65.10	9.80	7.86
0.00	0.00	0.00

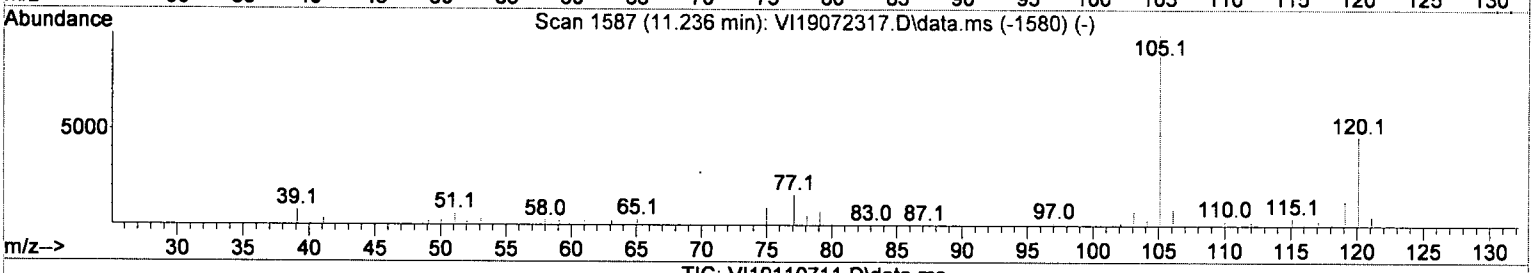
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(72) 1,3,5-Trimethylbenzene

11.230min (+ 0.001) 0.59 ug/L

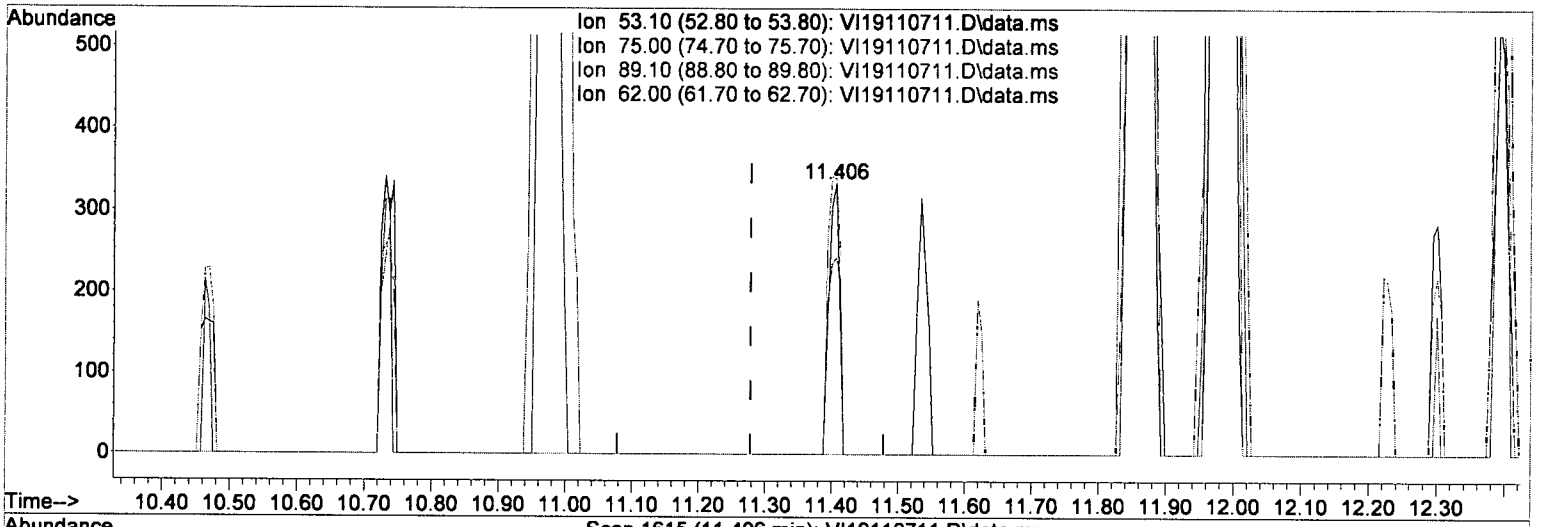
response 3739

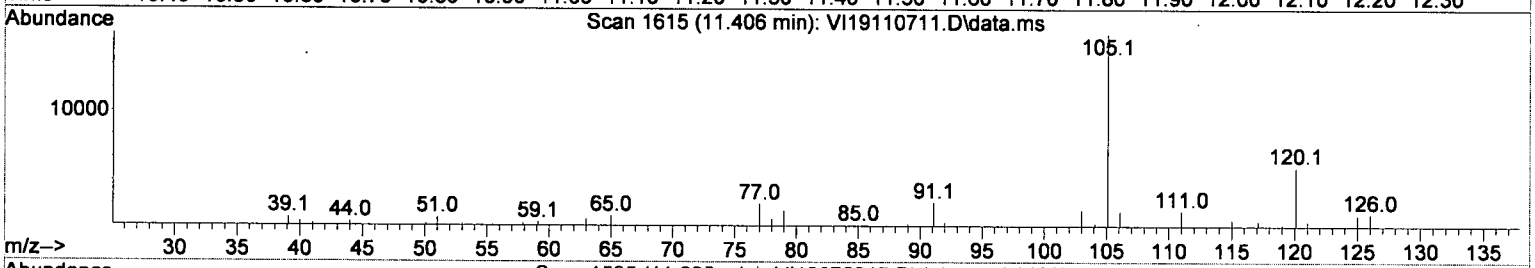
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.90	48.79
91.10	10.40	9.24
0.00	0.00	0.00

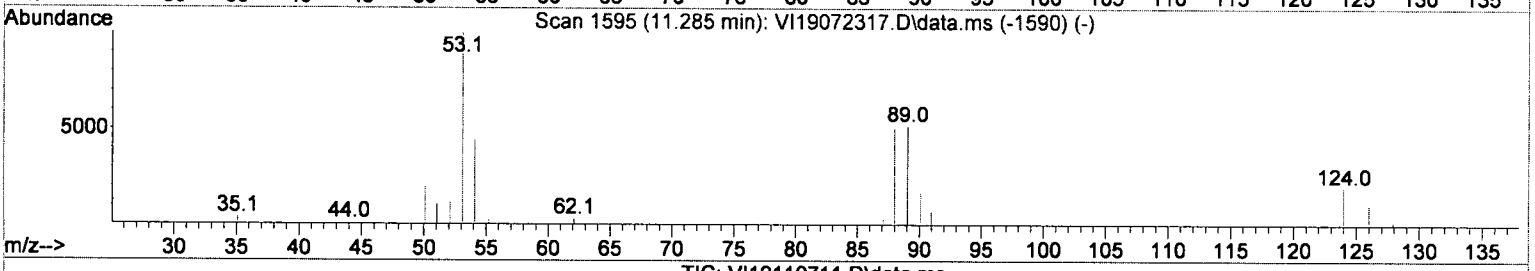
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(74) t-1,4-Dichloro-2-butene

11.406min (+ 0.128) 0.57 ug/L

response 360

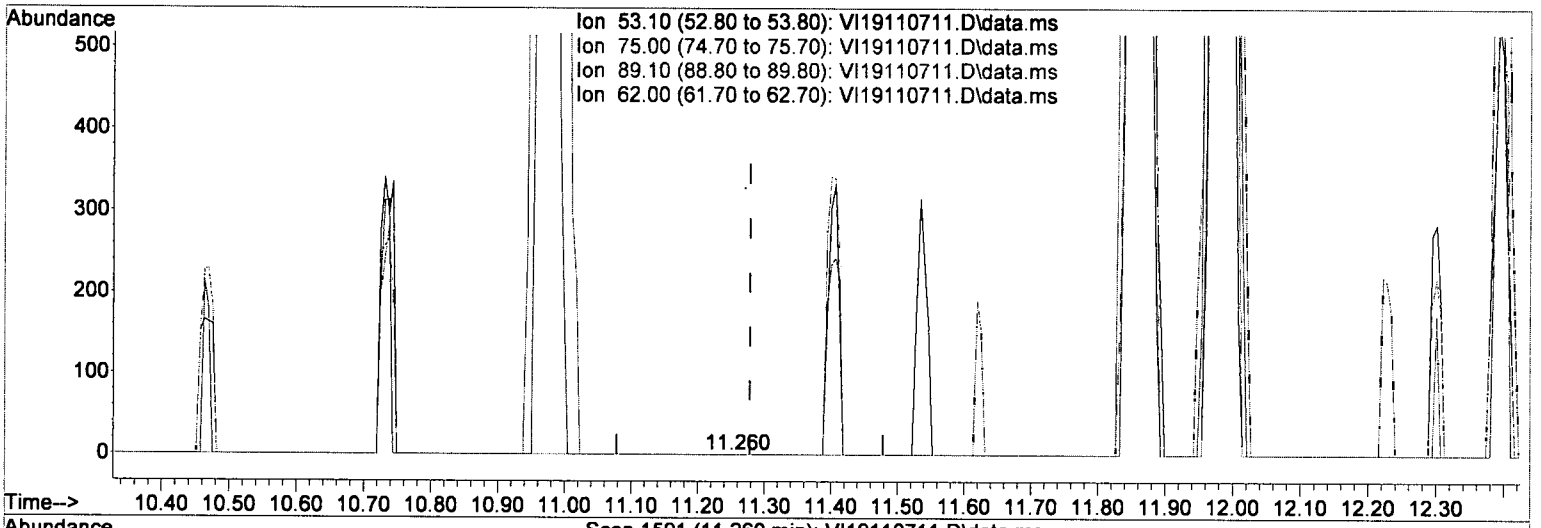
Ion	Exp%	Act%
53.10	100.00	100.00
75.00	148.70	0.00#
89.10	88.20	101.80
62.00	41.30	72.97#

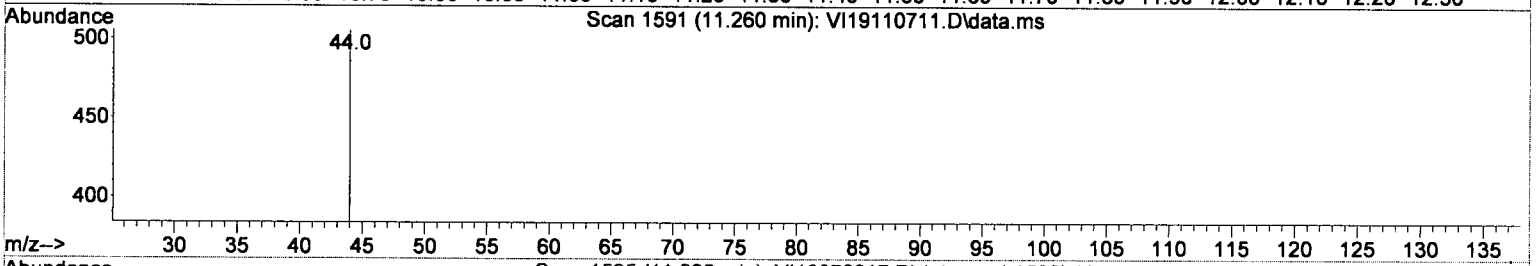
(MC) Hoffland

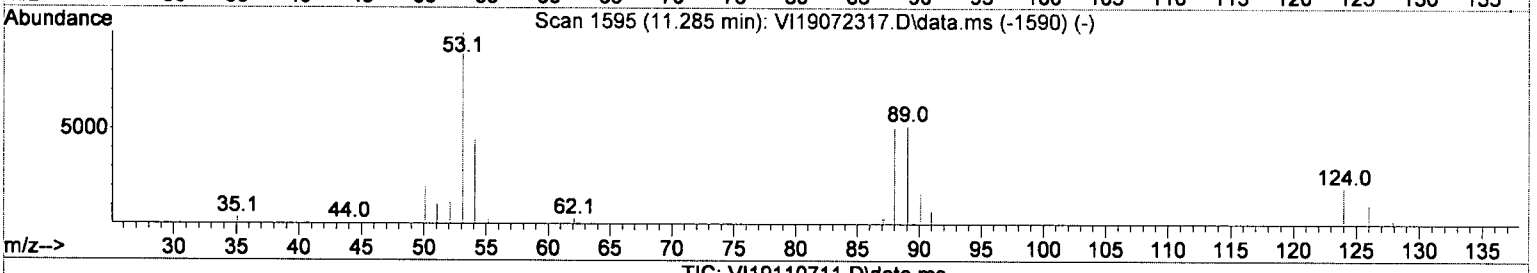
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(74) t-1,4-Dichloro-2-butene

11.260min (-0.018) 0.00 ug/L m

response 0

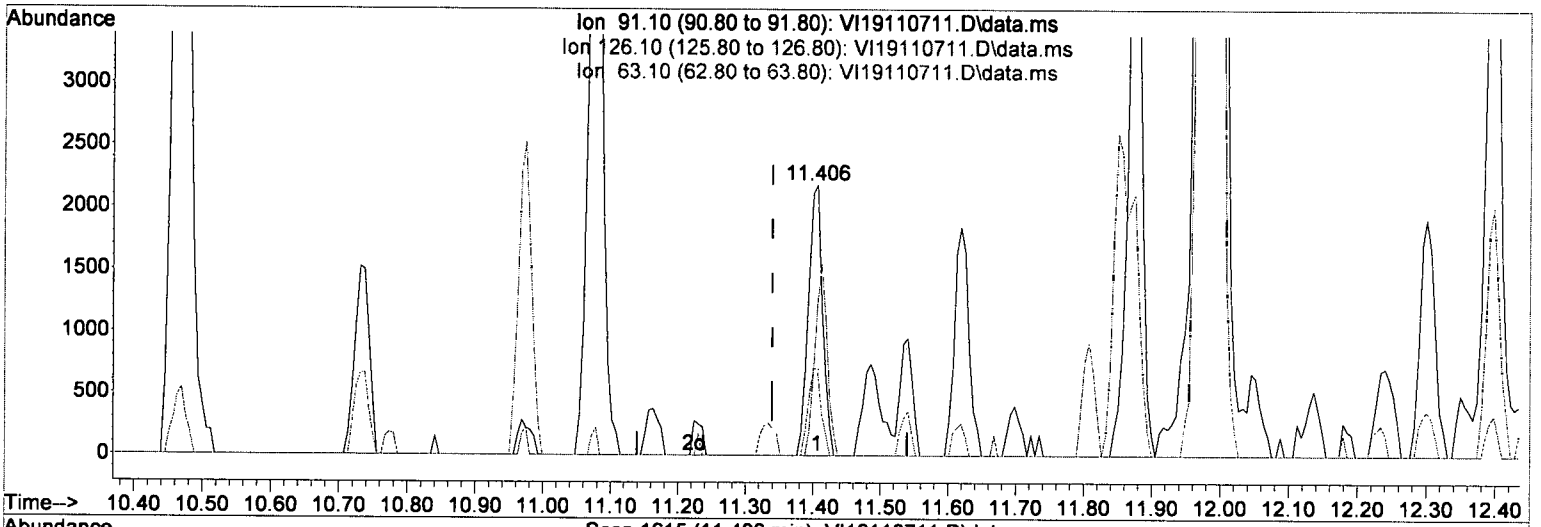
Ion	Exp%	Act%
53.10	100.00	0.00
75.00	148.70	0.00#
89.10	88.20	0.00#
62.00	41.30	0.00#

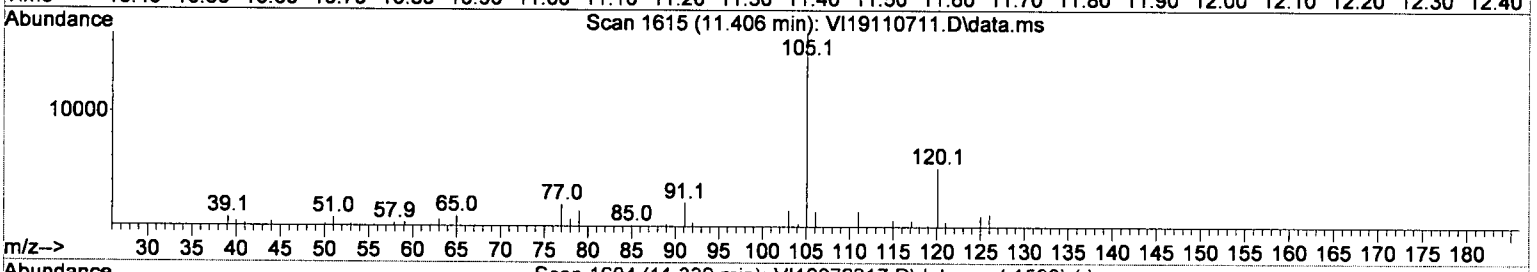
ND 11/7/19 tnl

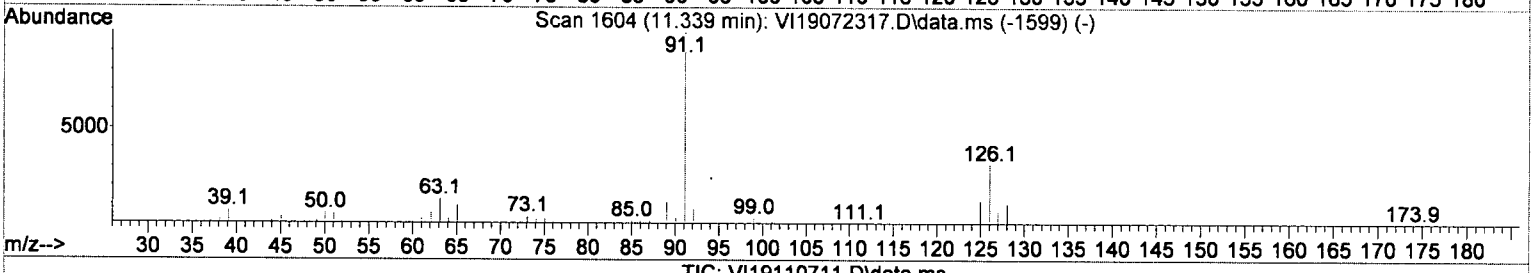
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(75) 4-Chlorotoluene

11.406min (+ 0.067) 0.56 ug/L

response 3178

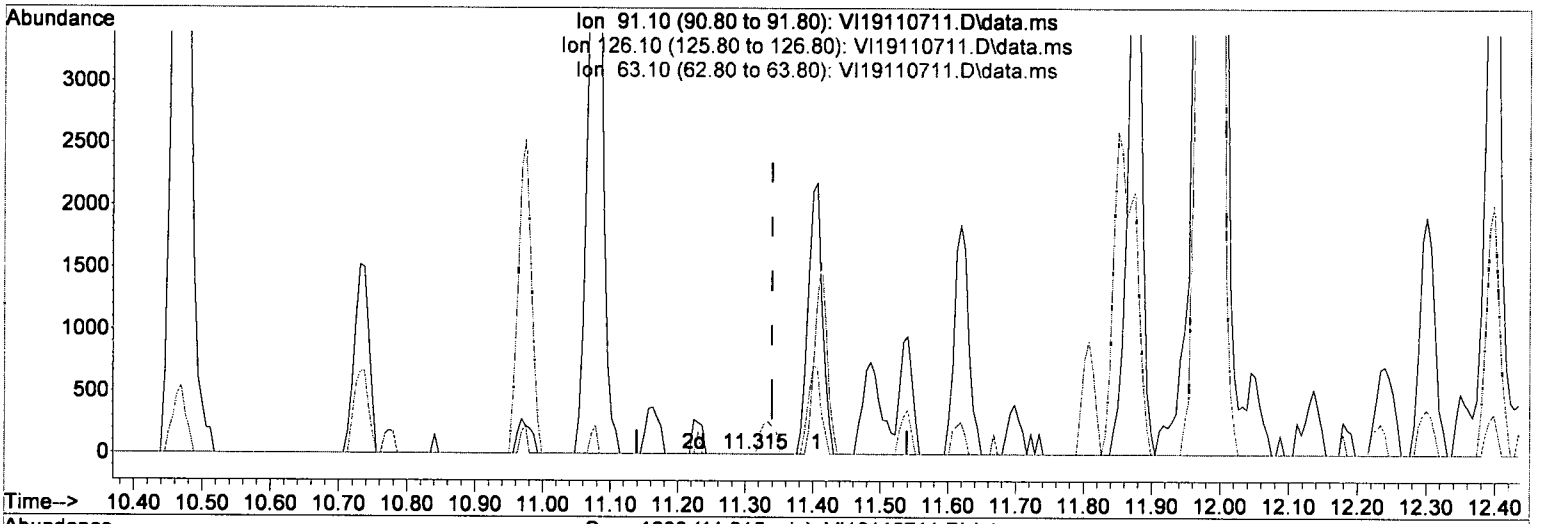
Ion	Exp%	Act%
91.10	100.00	100.00
126.10	37.20	55.76
63.10	12.10	31.90
0.00	0.00	0.00

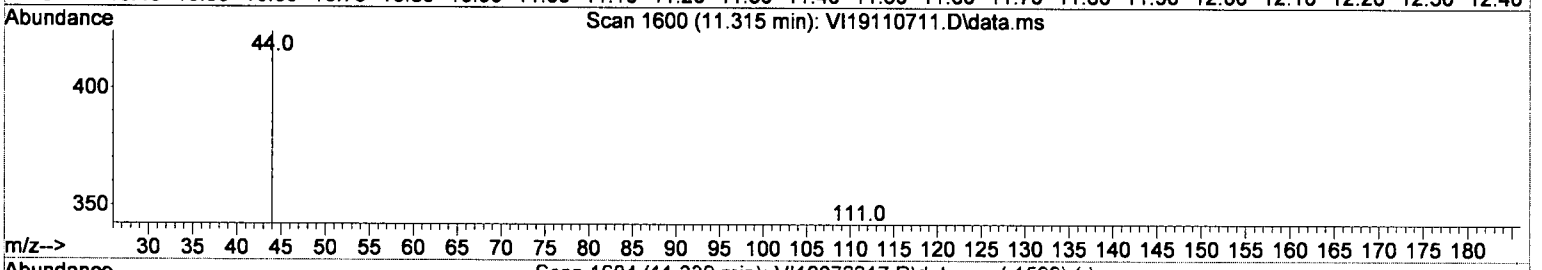
ME 11/7/19 MM

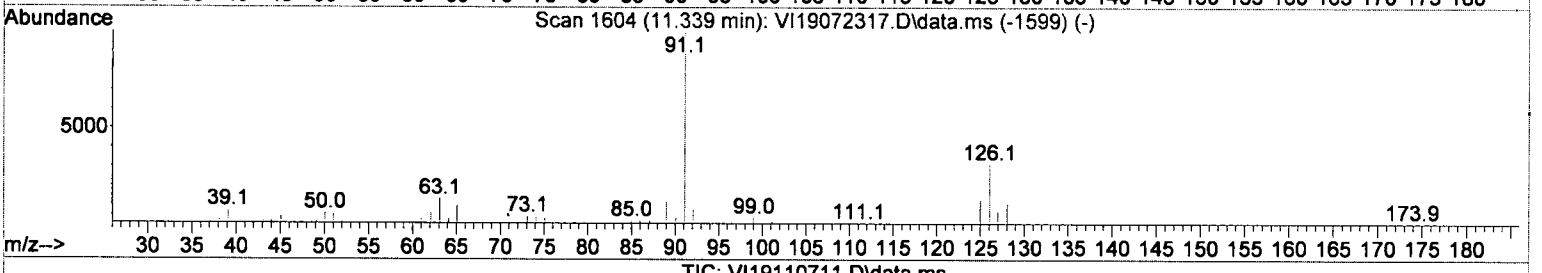
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(75) 4-Chlorotoluene

11.315min (-0.024) 0.00 ug/L m

response 0

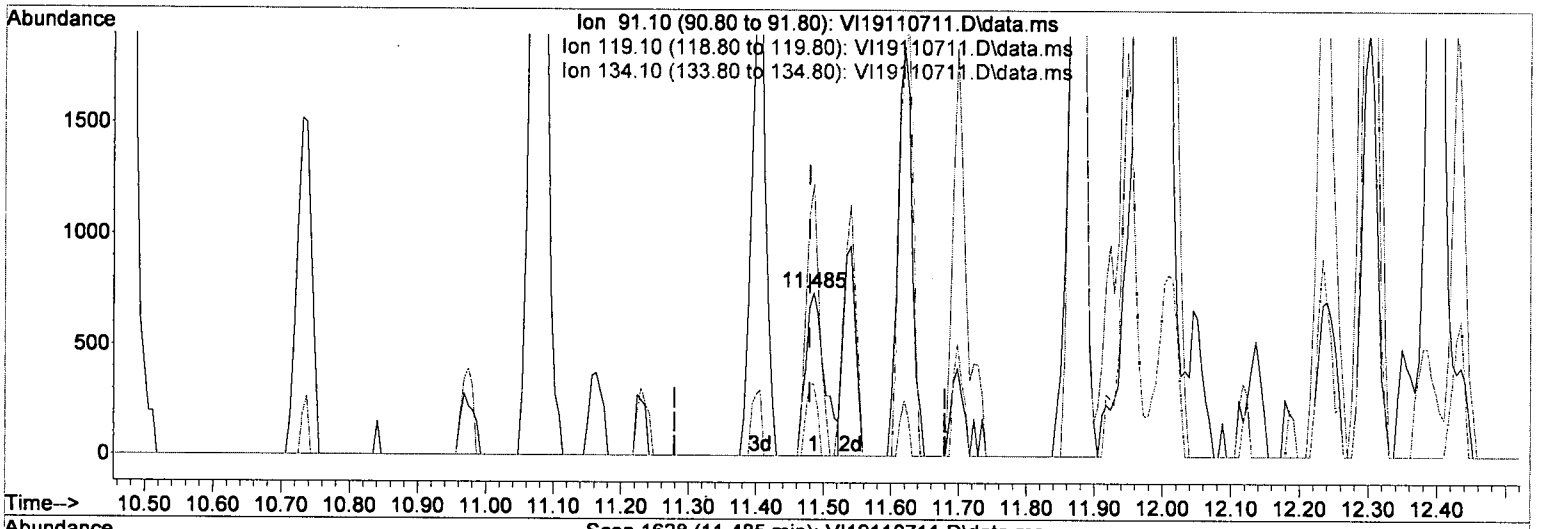
Ion	Exp%	Act%
91.10	100.00	0.00
126.10	37.20	0.00#
63.10	12.10	0.00
0.00	0.00	0.00

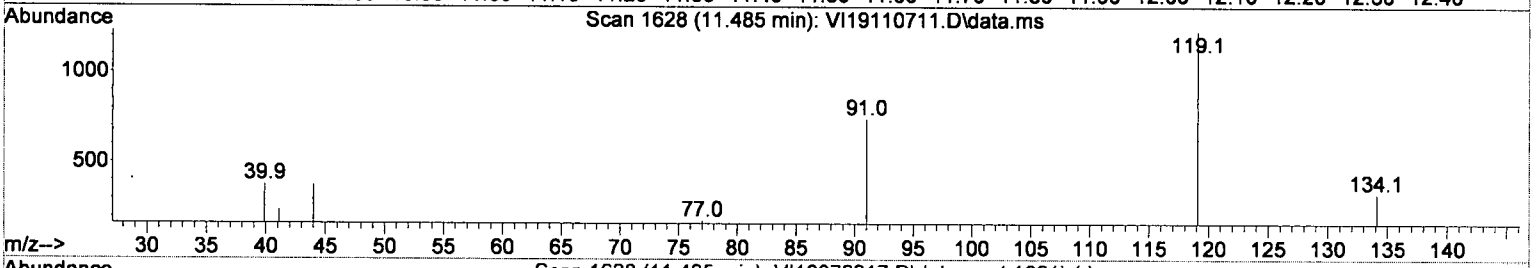
0 ND 11/7/19 hm

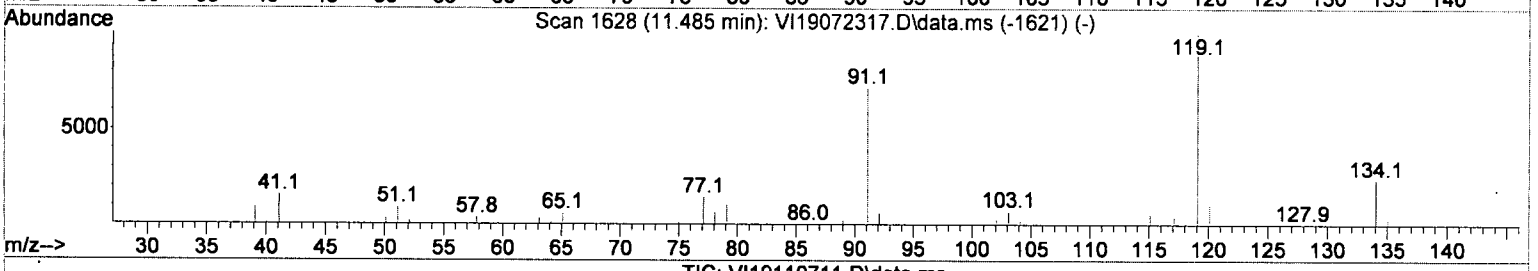
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(76) tert-Butylbenzene

11.485min (+ 0.006) 0.41 ug/L

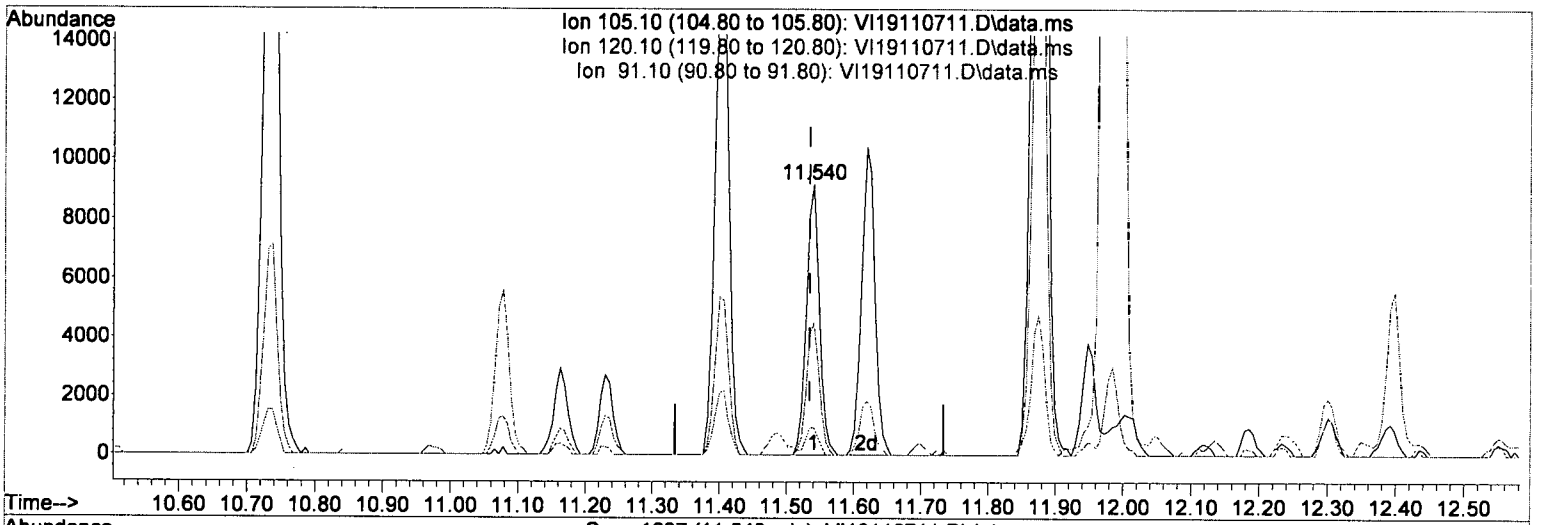
response 1455

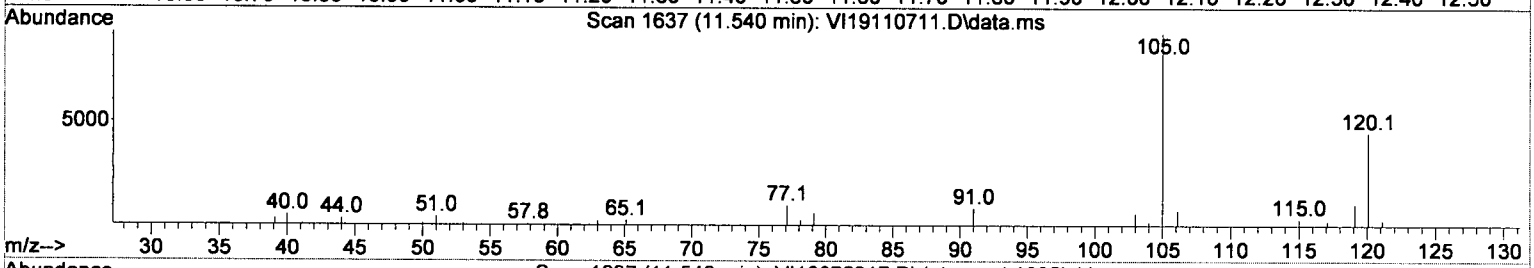
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	165.50
134.10	38.80	44.07
0.00	0.00	0.00

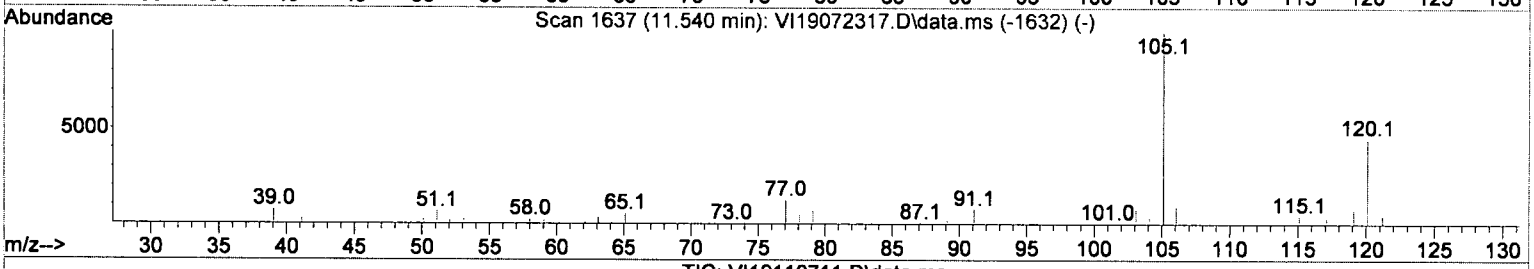
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (+ 0.006) 1.95 ug/L

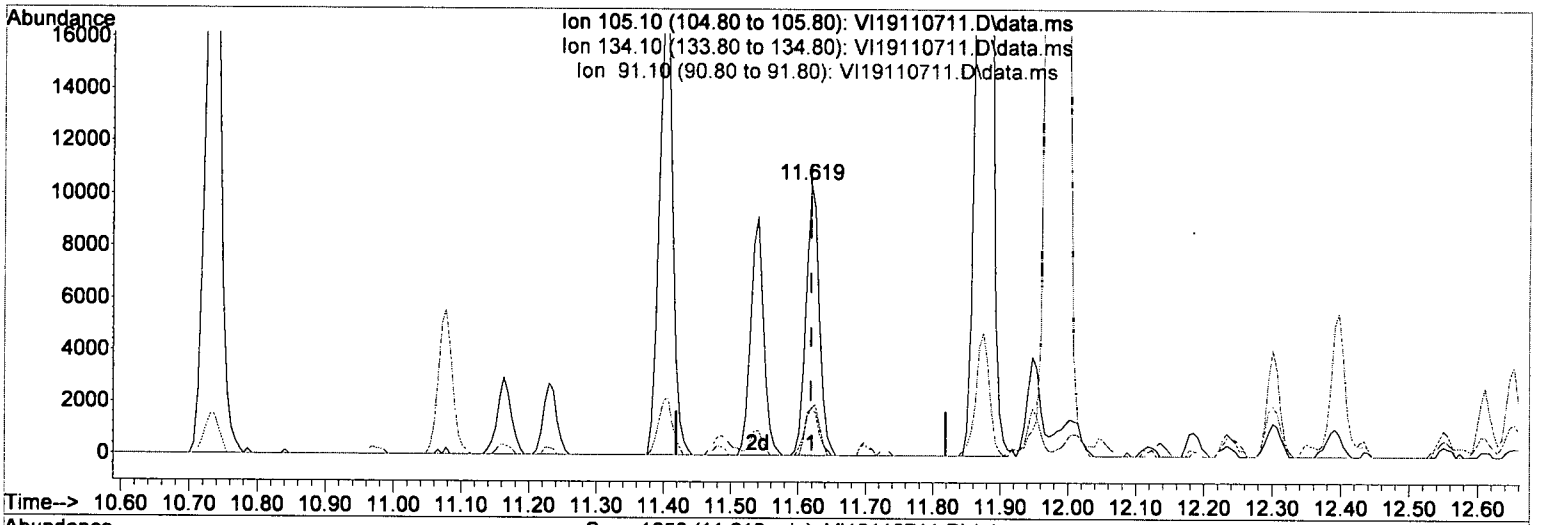
response 12409

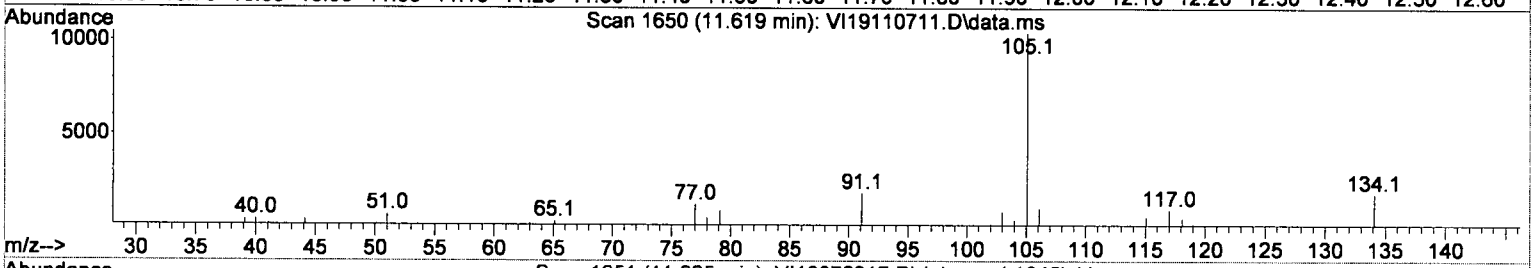
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	49.15
91.10	10.50	10.39
0.00	0.00	0.00

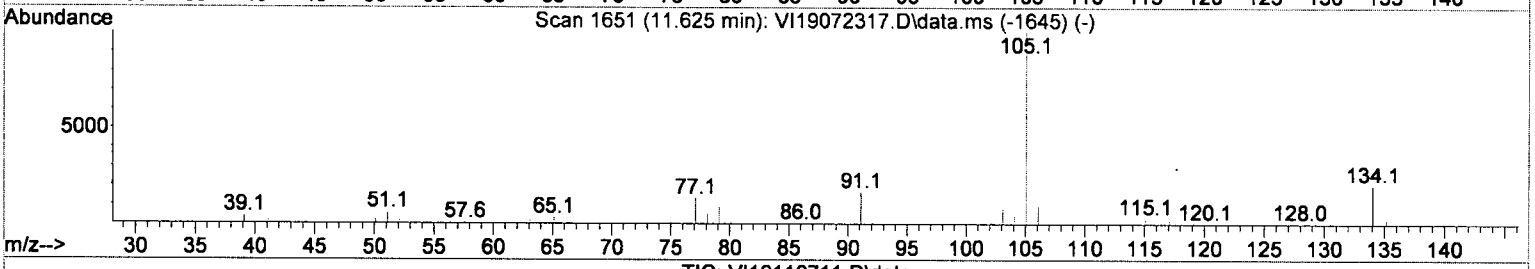
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(78) sec-Butylbenzene

11.619min (+ 0.000) 1.85 ug/L

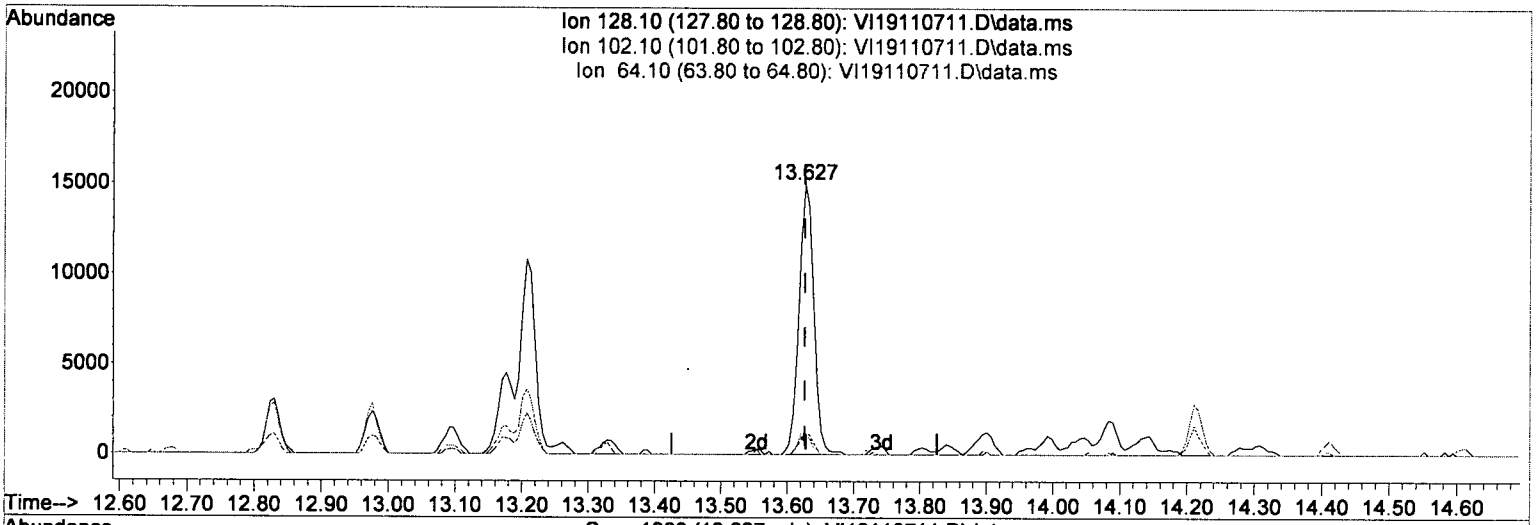
response 14436

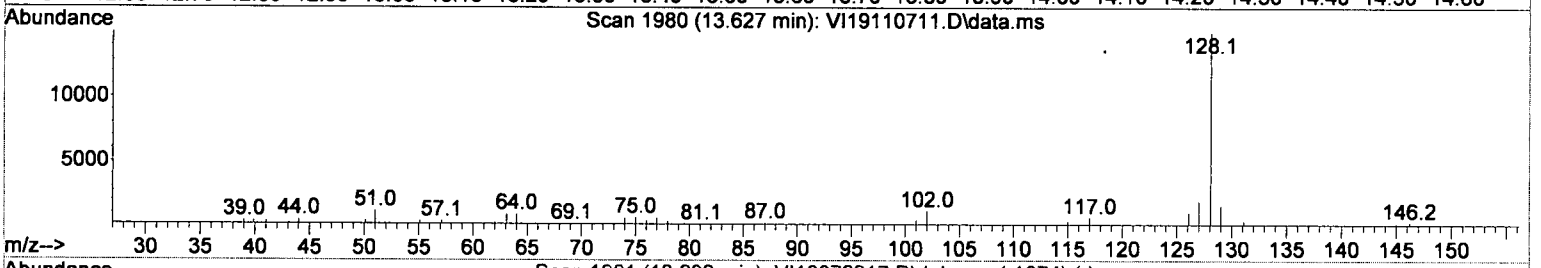
Ion	Exp%	Act%
105.10	100.00	100.00
134.10	19.90	17.43
91.10	16.40	17.75
0.00	0.00	0.00

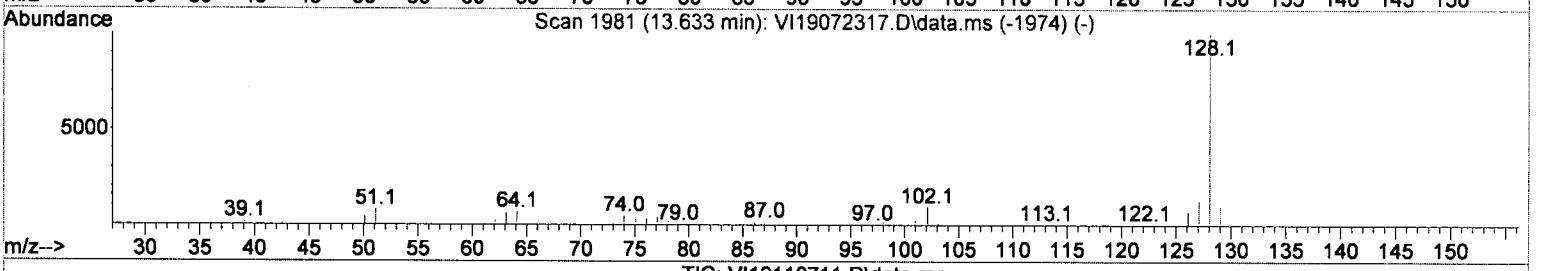
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110711.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 3.49 ug/L

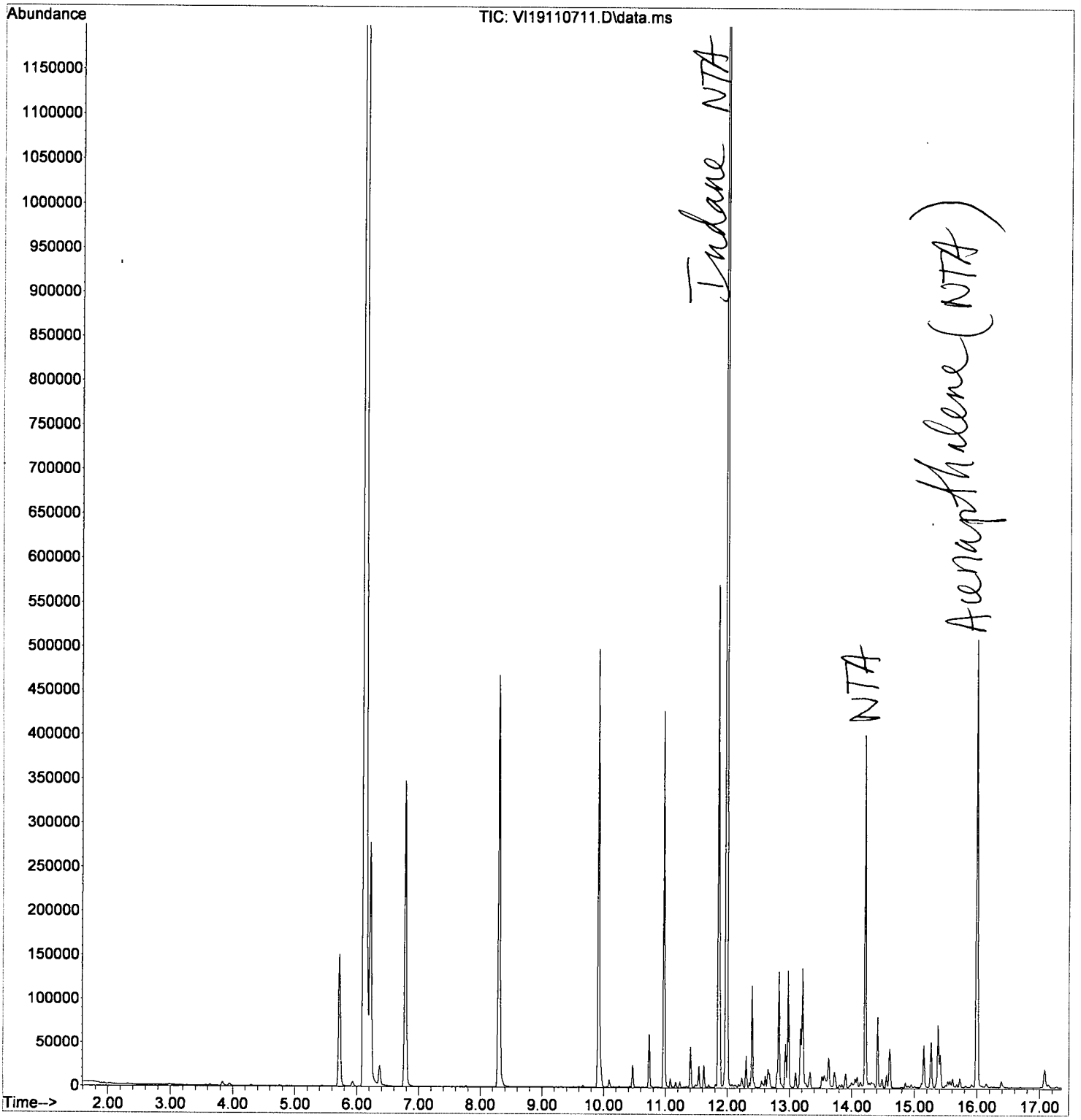
response 23431

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	7.81
64.10	4.70	5.88
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110711.D
Acq On : 7 Nov 2019 2:42 pm
Operator : TNL
Sample : A9K0165-04
Misc : 1X 5mL 8260C
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:08:00 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110712.D
Acq On : 7 Nov 2019 3:09 pm
Operator : TNL
Sample : A9K0165-07
Misc : 1X 5mL 8260C
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:59:24 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	109330	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	305718	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	138827	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	114134	53.13	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	367214	53.16	ug/L		0.00
48) Toluene-d8 (S)	8.298	98	404088	50.36	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	114561	51.07	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.892	50	383	0.16	ug/L	#	47
5) Bromomethane	2.360	96	157	0.11	ug/L		72
10) Carbon Disulfide	3.248	76	11956	2.50	ug/L		98
13) Acrolein	3.625	56	138	0.28	ug/L		63
15) Acetone	3.942	43	14677	15.32	ug/L		90
19) tert-Butanol (TBA)	4.301	59	524	1.24	ug/L		56
34) 2-Butanone (MEK)	5.864	43	3620	2.38	ug/L		98
35) Benzene	6.126	78	7828	0.94	ug/L		97
49) Toluene	8.358	91	919	0.10	ug/L		90
57) 2-Hexanone	9.660	43	1060	0.53	ug/L	#	31
59) Ethylbenzene	9.952	91	2583	0.27	ug/L		93
62) o-Xylene	10.469	91	1509	0.22	ug/L		84
65) Isopropylbenzene	10.731	105	6240	0.74	ug/L		98
69) n-Propylbenzene	11.078	91	1162	0.13	ug/L		89
72) 1,3,5-Trimethylbenzene	11.230	105	660	0.10	ug/L		83
77) 1,2,4-Trimethylbenzene	11.534	105	1421	0.22	ug/L		85
82) n-Butylbenzene	11.984	91	54163	10.37	ug/L	#	40
87) Naphthalene	13.627	128	167674	25.14	ug/L		98

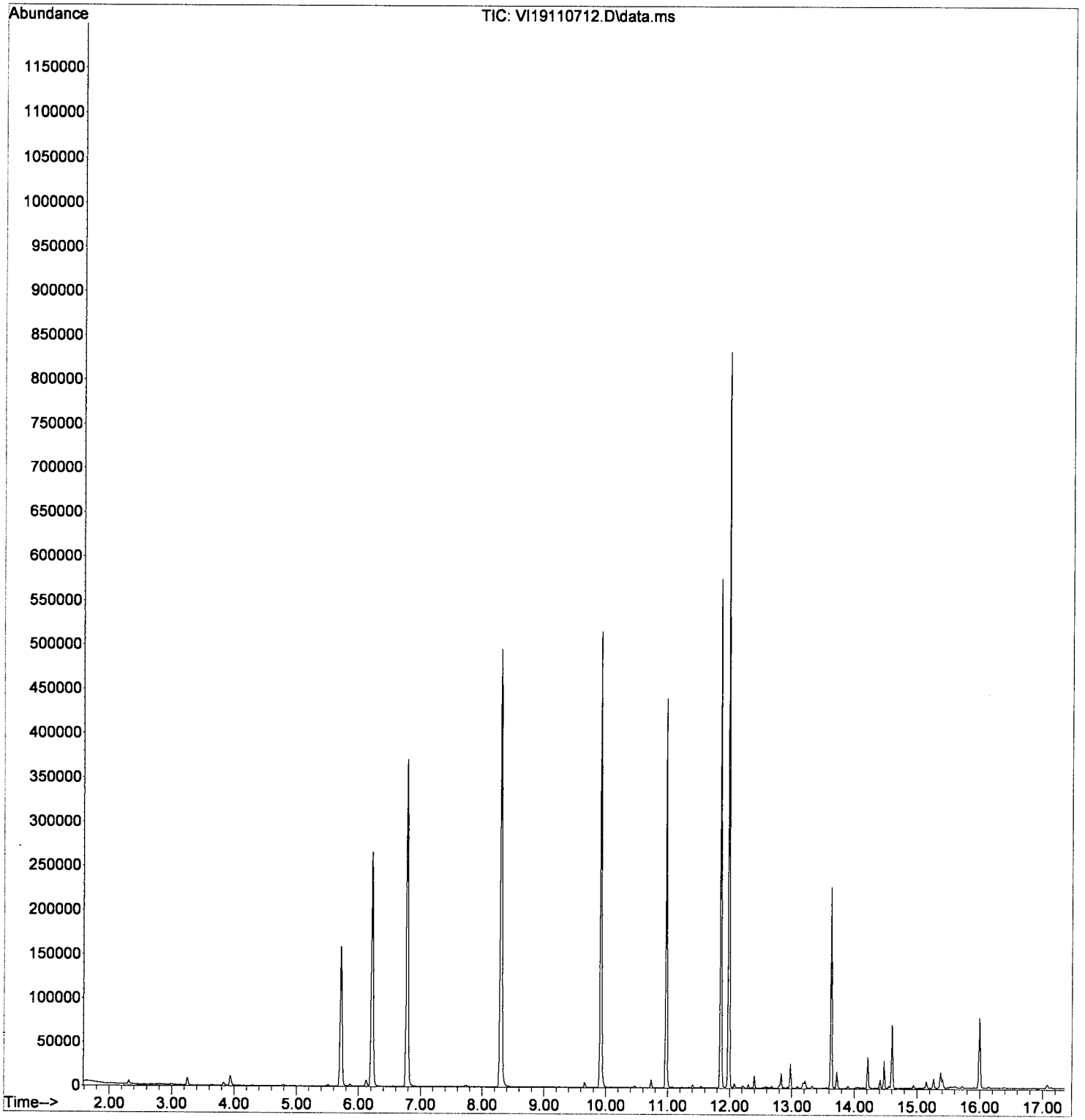
(#) = qualifier out of range (m) = manual integration (+) = signals summed

NR
11/7/19 bml
RL03

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110712.D
Acq On : 7 Nov 2019 3:09 pm
Operator : TNL
Sample : A9K0165-07
Misc : 1X 5mL 8260C
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 07 15:59:24 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110718.D
Acq On : 7 Nov 2019 5:50 pm
Operator : TNL
Sample : A9K0165-03@50
Misc : 50X 1mL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:21:59 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	94546	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	268548	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	120613	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	98965	53.27	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	316193	52.94	ug/L	0.00
48) Toluene-d8 (S)	8.304	98	359517	51.00	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	97656	50.11	ug/L	0.00
Target Compounds						Qvalue
5) Bromomethane	2.372	96	129	0.11	ug/L #	60
14) Methylene Chloride	3.881	84	845	Below Cal		86
15) Acetone	3.948	43	478	0.58	ug/L #	44
82) n-Butylbenzene	11.984	91	2087	0.46	ug/L #	42

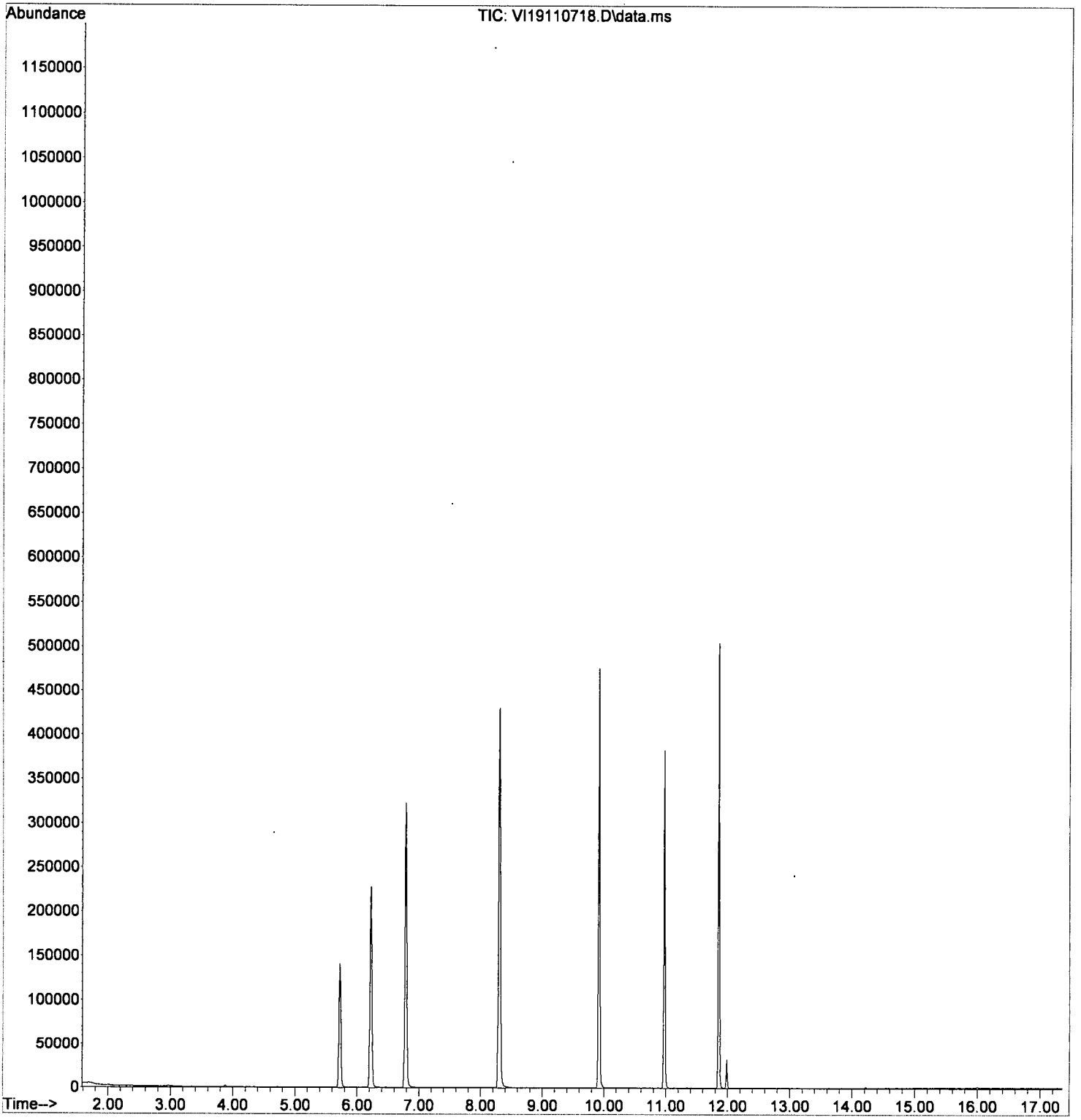
(#) = qualifier out of range (m) = manual integration (+) = signals summed

RRO1
11/8/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110718.D
Acq On : 7 Nov 2019 5:50 pm
Operator : TNL
Sample : A9K0165-03@50
Misc : 50X 1mL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:21:59 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	96904	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	272106	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	125859	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	100296	52.68 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	318385	52.01 ug/L	0.00
48) Toluene-d8 (S)	8.303	98	360701	50.50 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	100826	49.58 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.891	50	230	0.11 ug/L #	47
14) Methylene Chloride	3.881	84	829	Below Cal	85
15) Acetone	3.948	43	621	0.73 ug/L #	44
35) Benzene	6.126	78	80719	10.90 ug/L	96
49) Toluene	8.364	91	1614	0.20 ug/L	84
59) Ethylbenzene	9.952	91	29380	3.50 ug/L	97
61) m,p-Xylenes (2)	10.092	91	5071	0.82 ug/L	90
62) o-Xylene	10.469	91	5160	0.84 ug/L	98
72) 1,3,5-Trimethylbenzene	11.236	105	878	0.15 ug/L	94
77) 1,2,4-Trimethylbenzene	11.540	105	2999	0.52 ug/L	93
78) sec-Butylbenzene	11.540	105	2999	0.43 ug/L	69
82) n-Butylbenzene	11.984	91	8625	1.82 ug/L #	41
87) Naphthalene	13.627	128	835056	138.09 ug/L	97

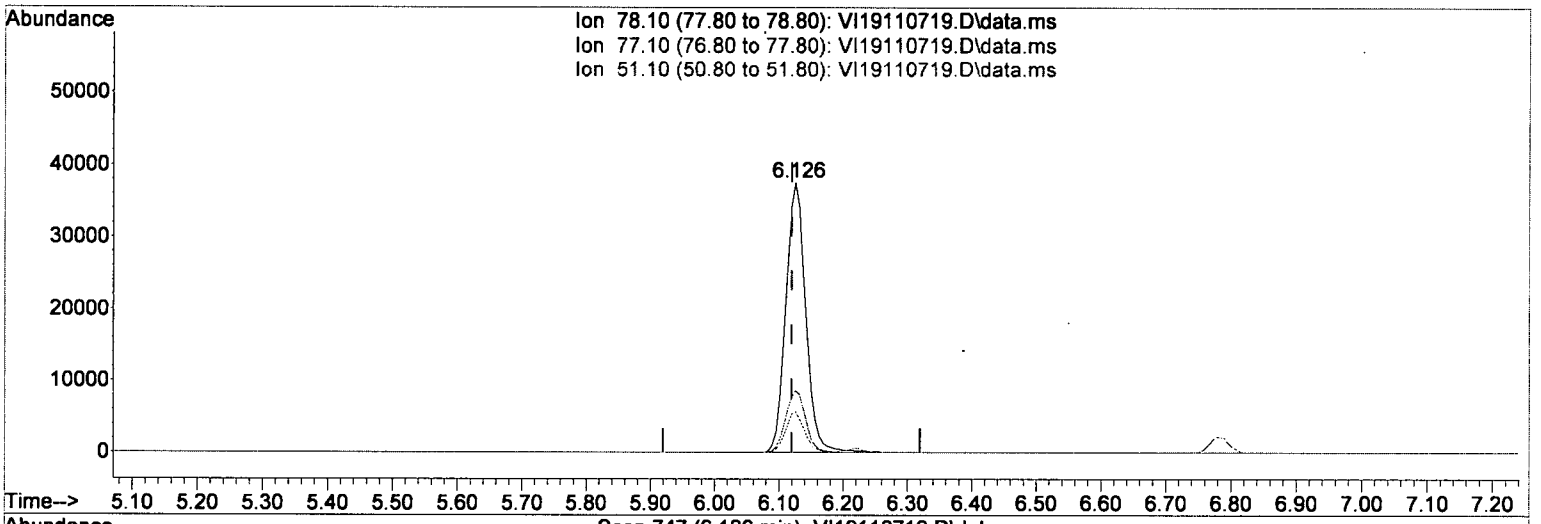
(#) = qualifier out of range (m) = manual integration (+) = signals summed

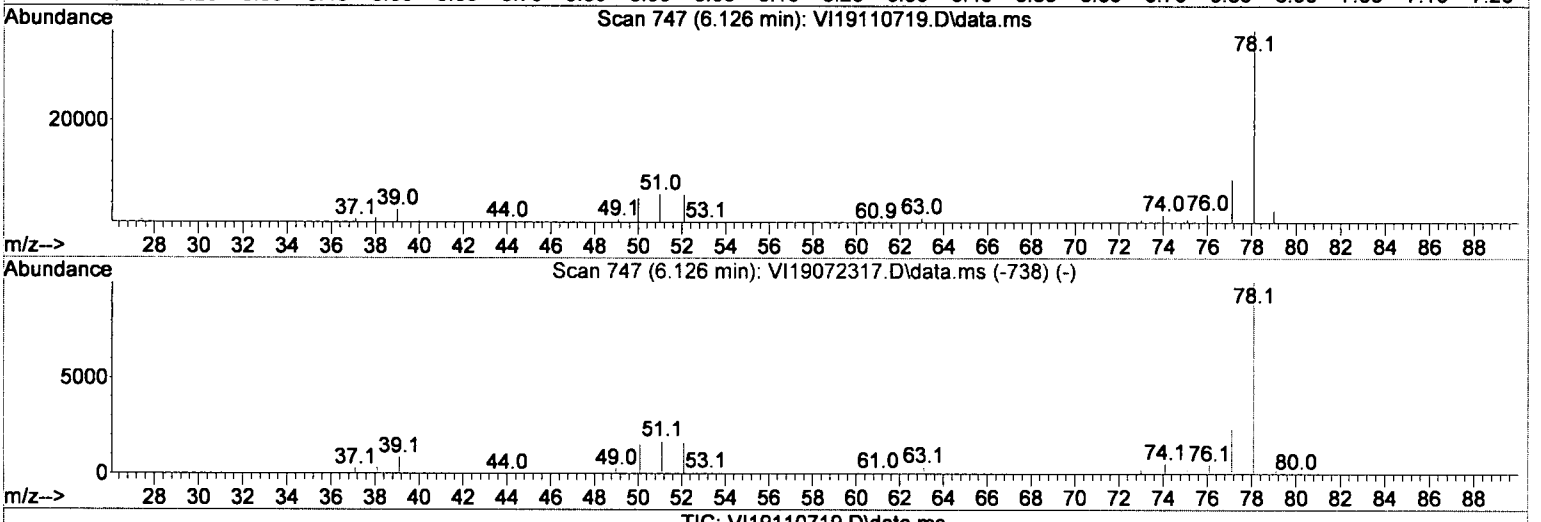
11/8/19 tnl

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration





TIC: VI19110719.D\data.ms

(35) Benzene

6.126min (+ 0.006) 10.90 ug/L

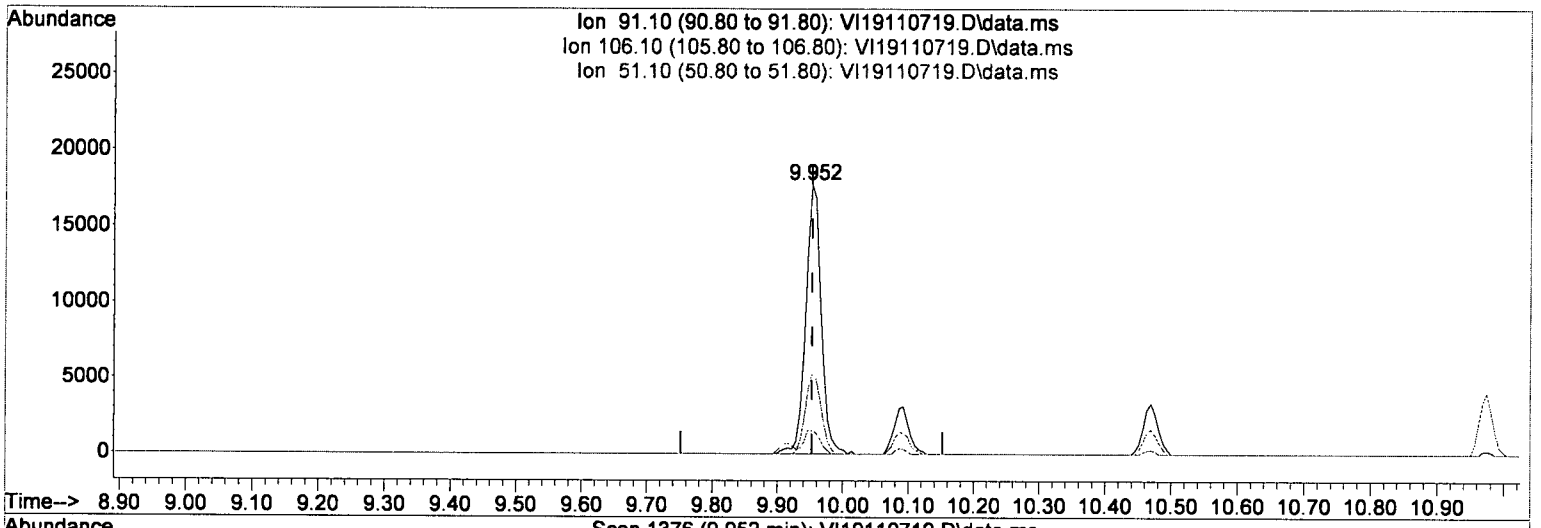
response 80719

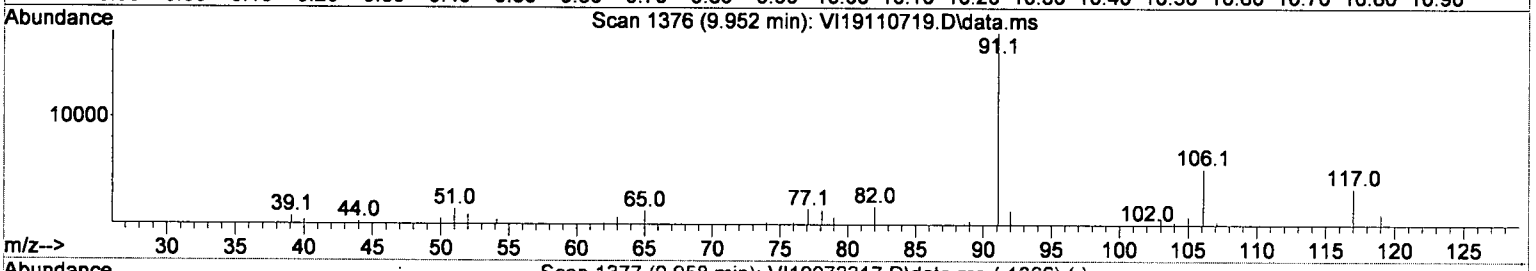
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	22.79
51.10	17.20	15.08
0.00	0.00	0.00

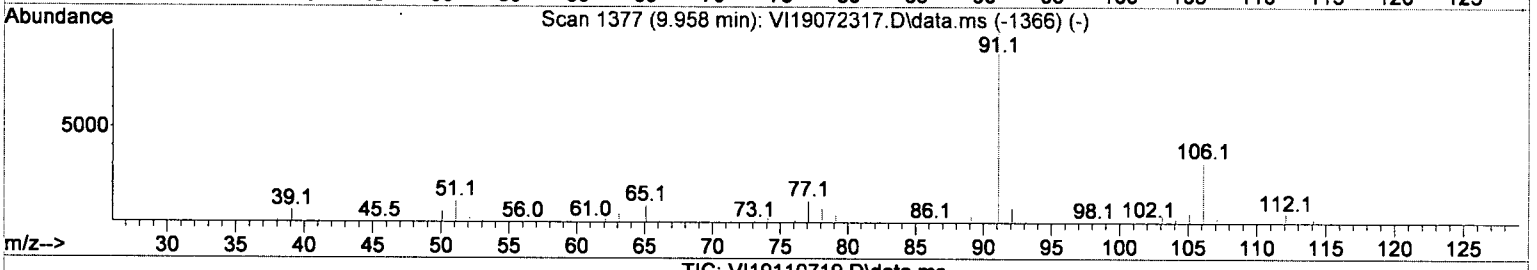
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110719.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 3.50 ug/L

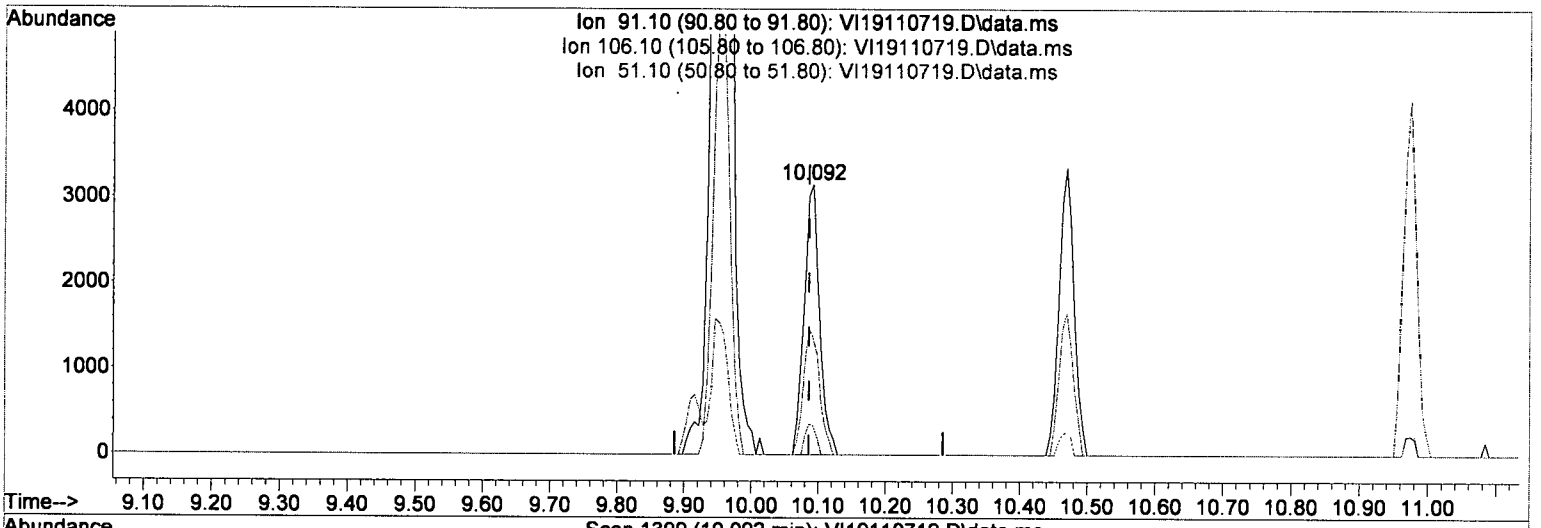
response 29380

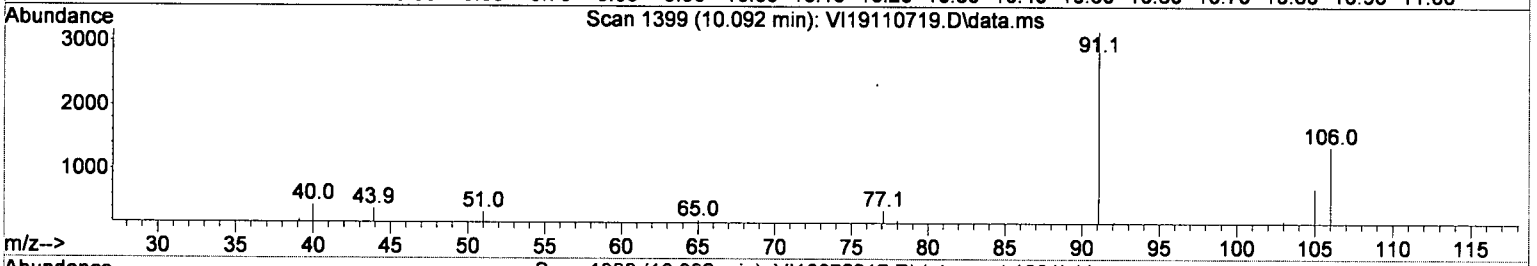
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	29.75
51.10	10.40	8.69
0.00	0.00	0.00

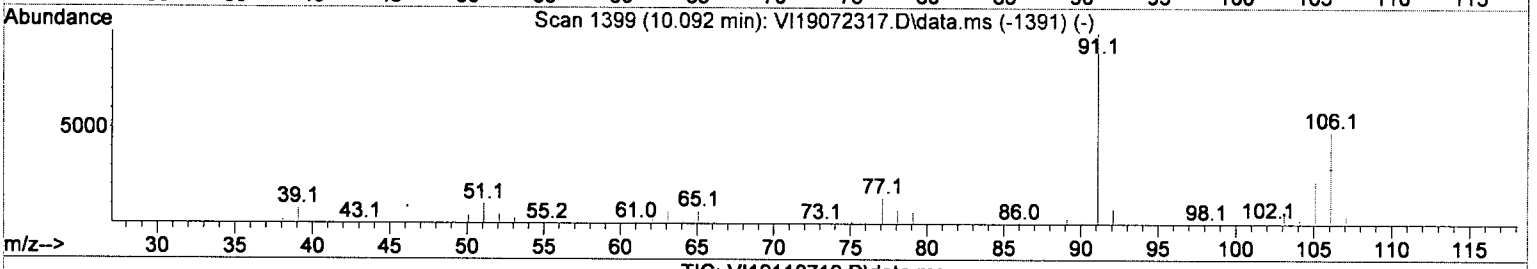
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110719.D\data.ms

(61) m,p-Xylenes (2)

10.092min (+ 0.006) 0.82 ug/L

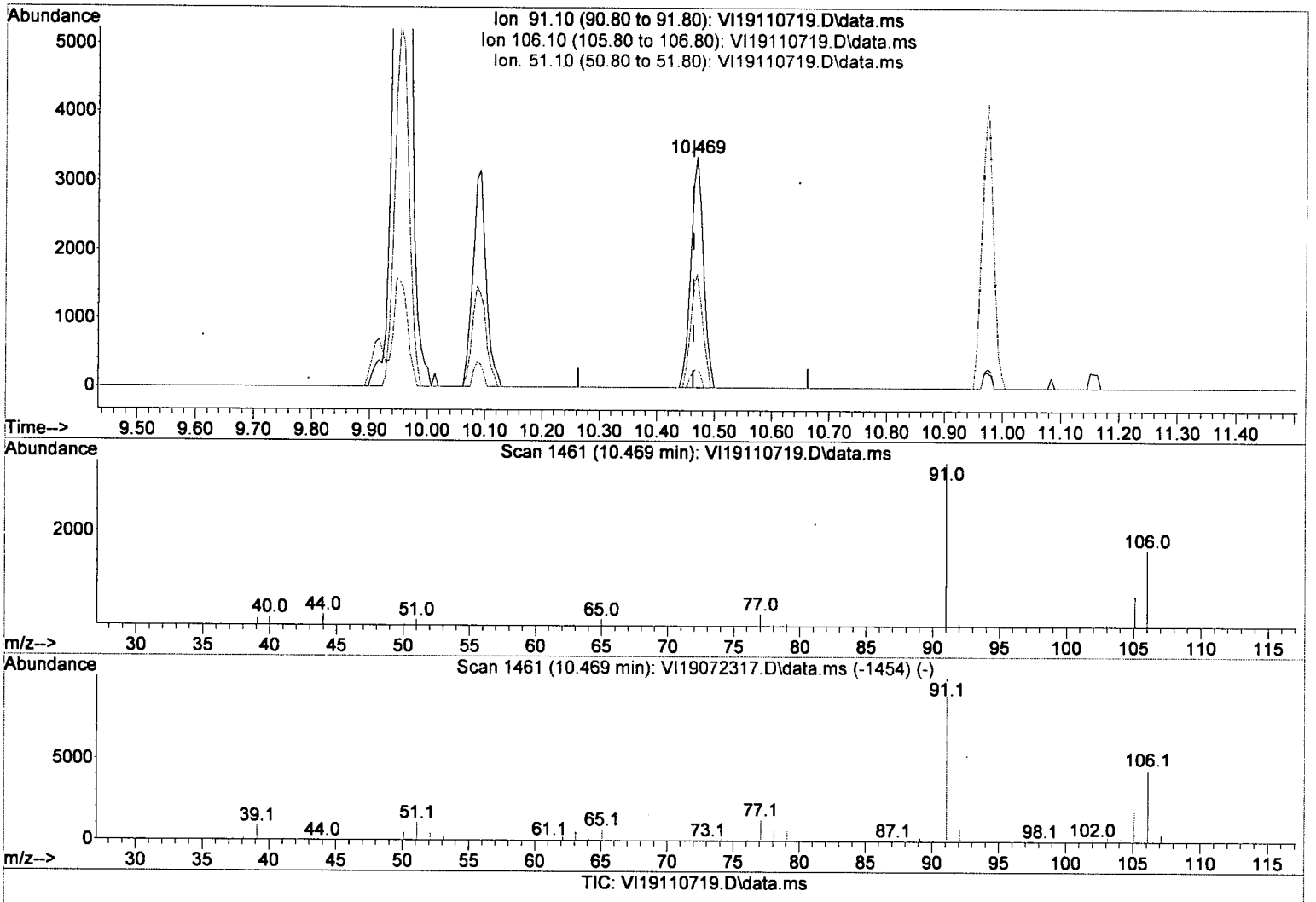
response 5071

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	43.04
51.10	9.80	10.56
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



TIC: VI19110719.D\data.ms

(62) o-Xylene

10.469min (+ 0.006) 0.84 ug/L

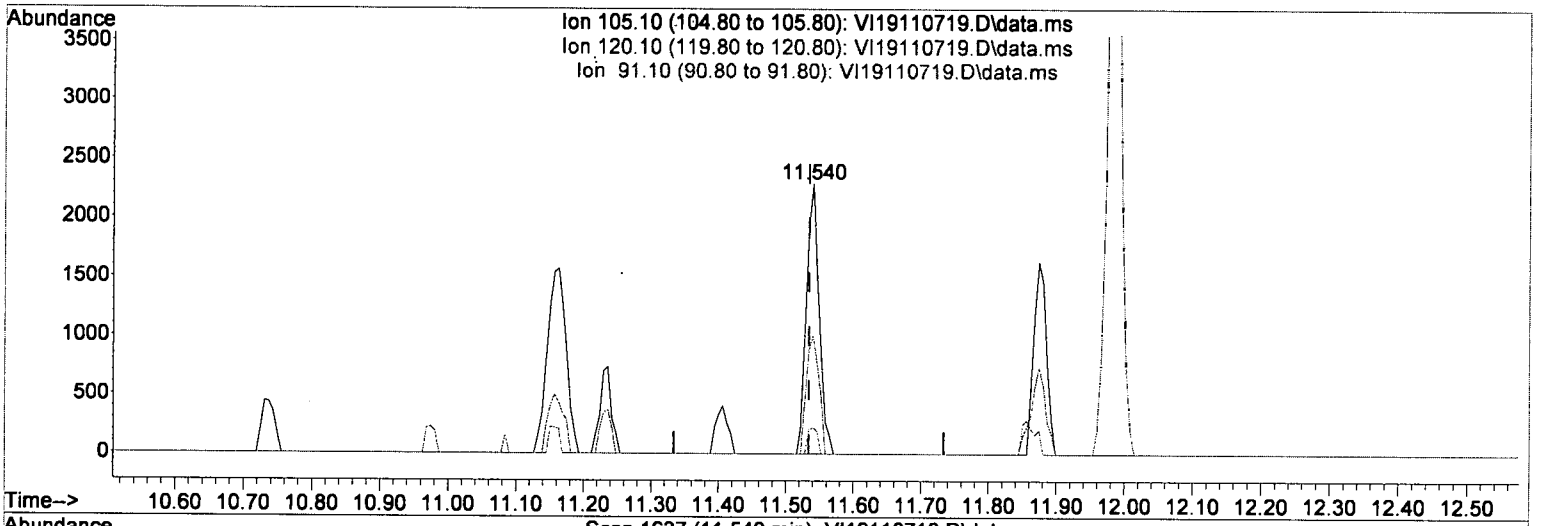
response 5160

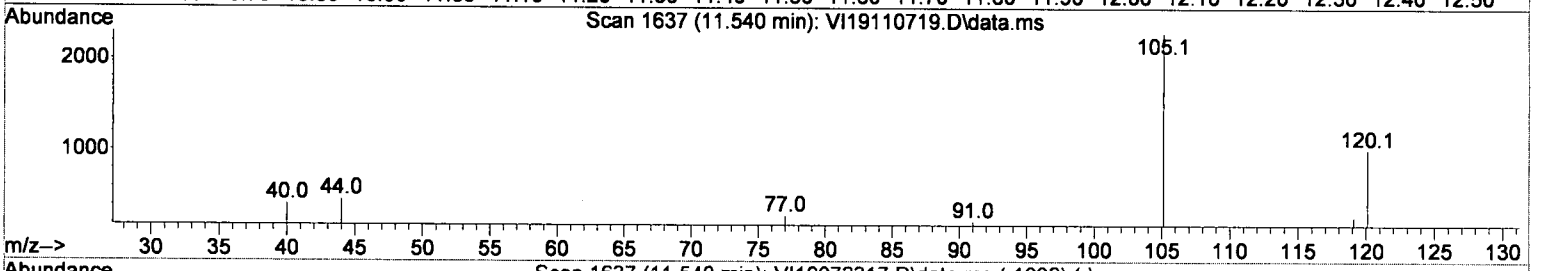
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	49.32
51.10	10.20	8.21
0.00	0.00	0.00

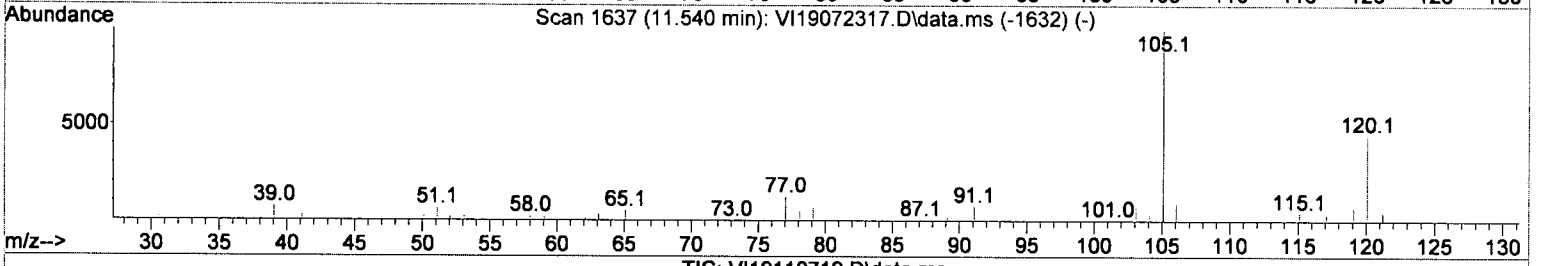
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110719.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (+ 0.006) 0.52 ug/L

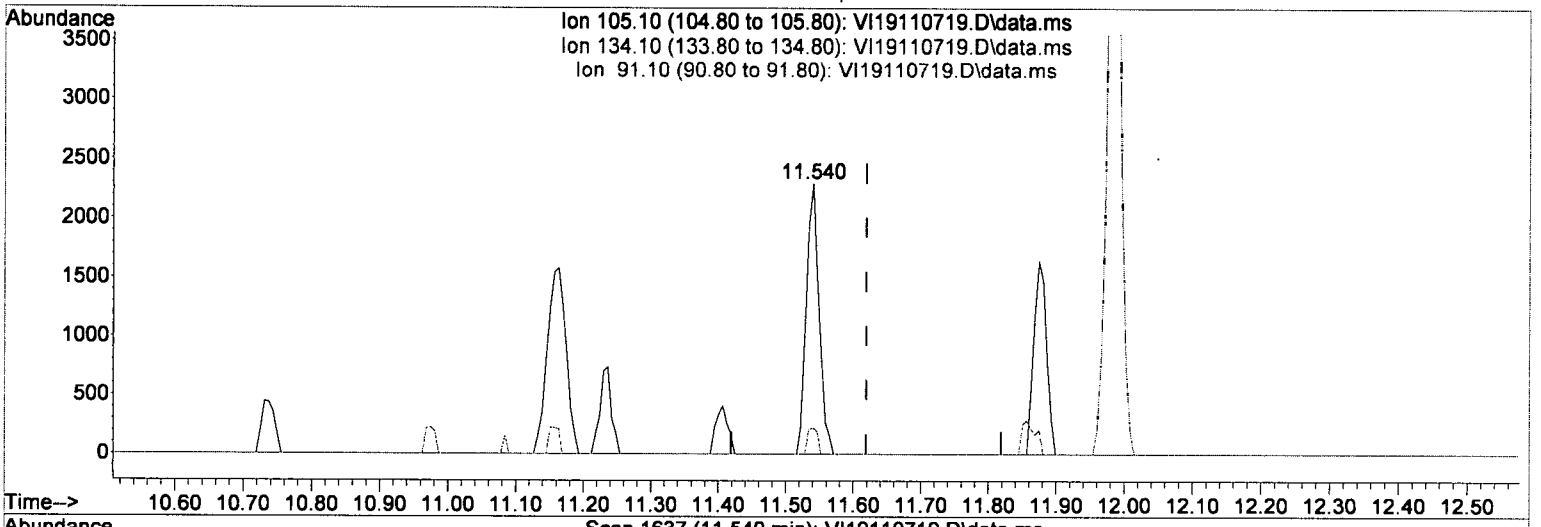
response 2999

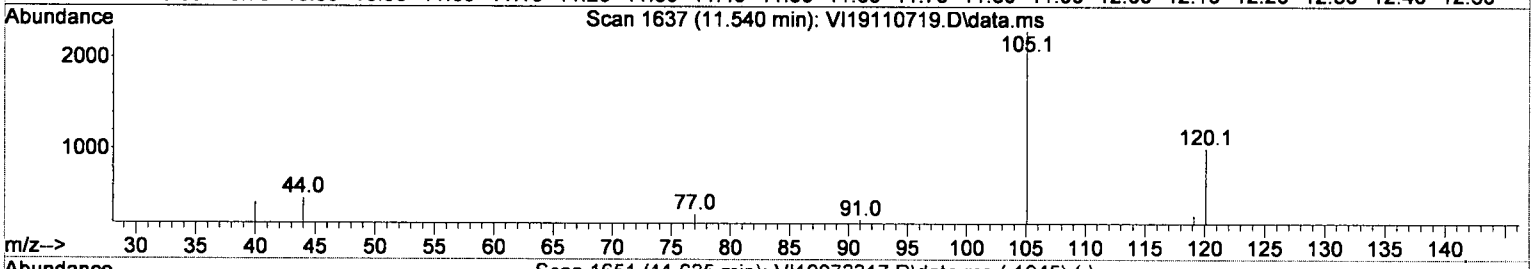
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	44.03
91.10	10.50	9.72
0.00	0.00	0.00

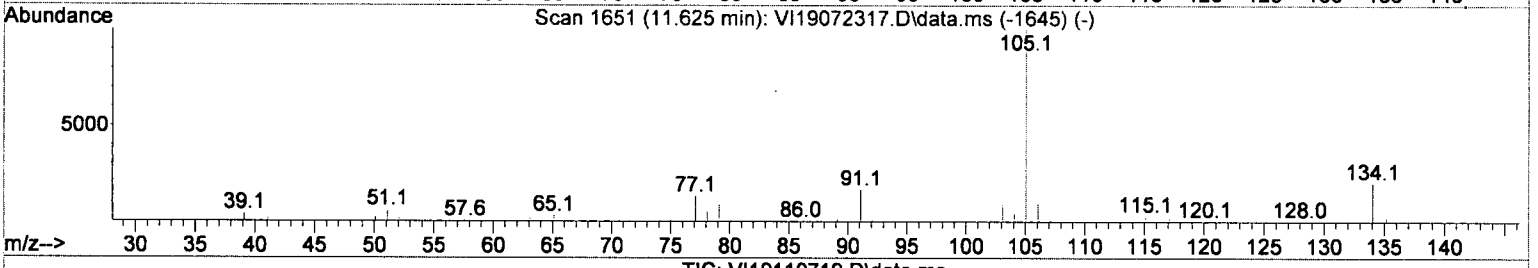
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110719.D\data.ms

(78) sec-Butylbenzene

11.540min (-0.079) 0.43 ug/L

response 2999

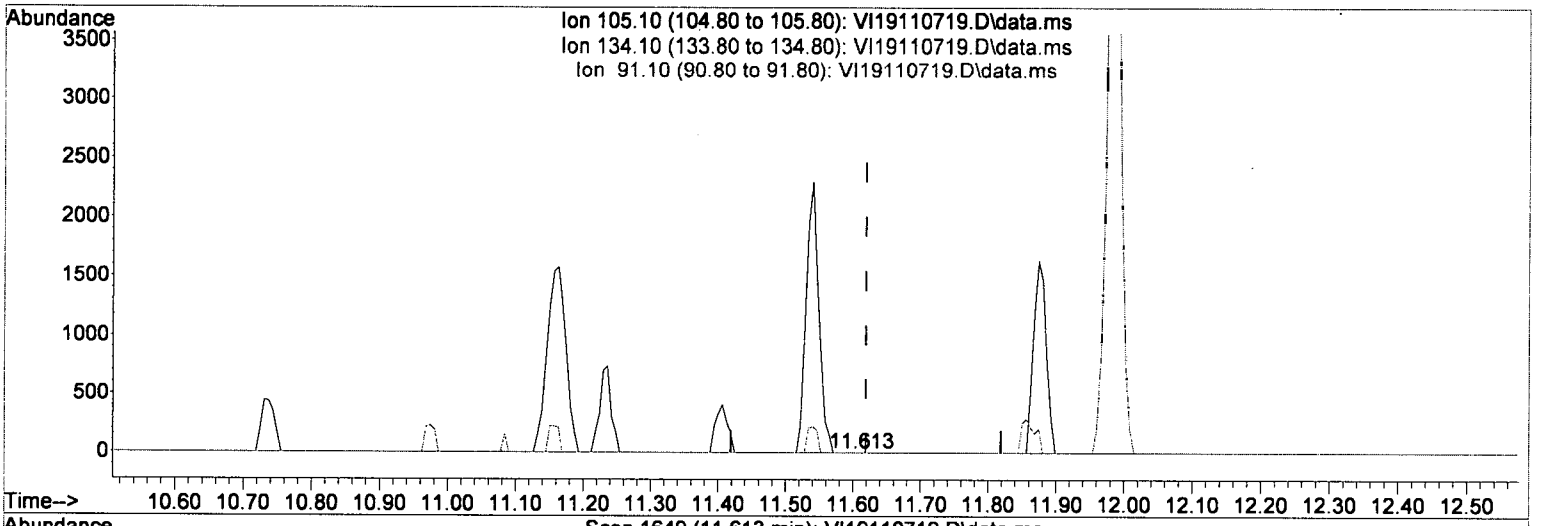
Ion	Exp%	Act%
105.10	100.00	100.00
134.10	19.90	0.00
91.10	16.40	9.72
0.00	0.00	0.00

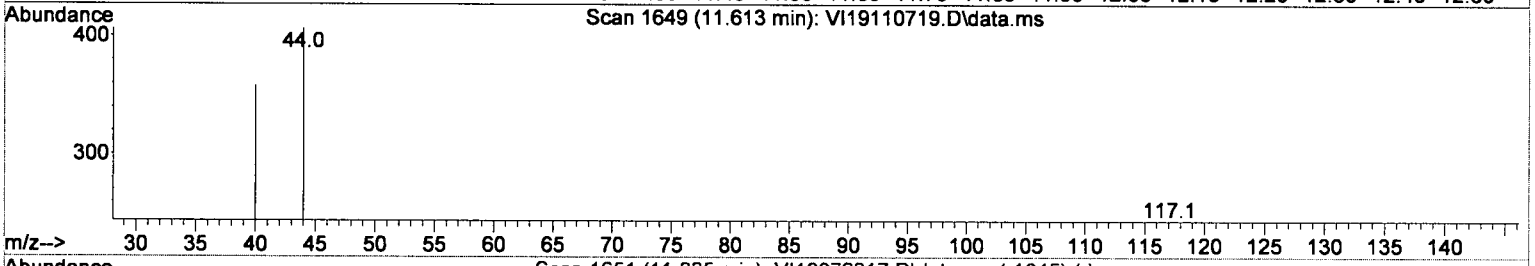
NE 11/8/19 tm

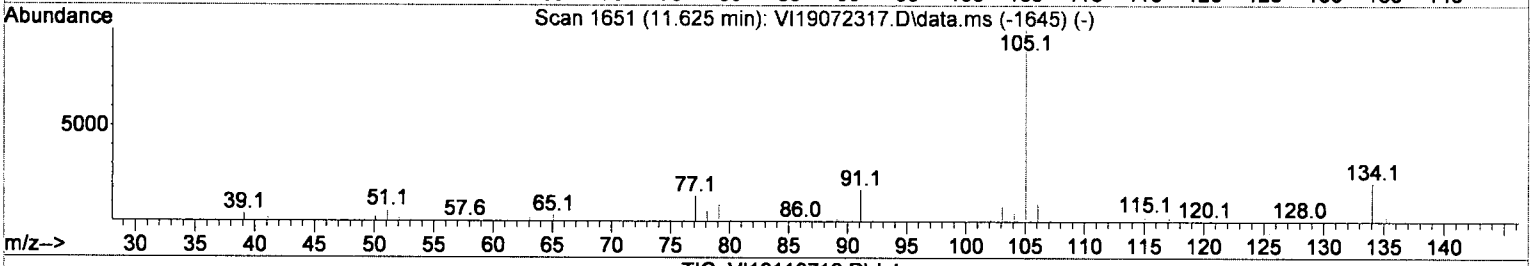
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110719.D\data.ms

(78) sec-Butylbenzene

11.613min (-0.006) 0.00 ug/L m

response 0

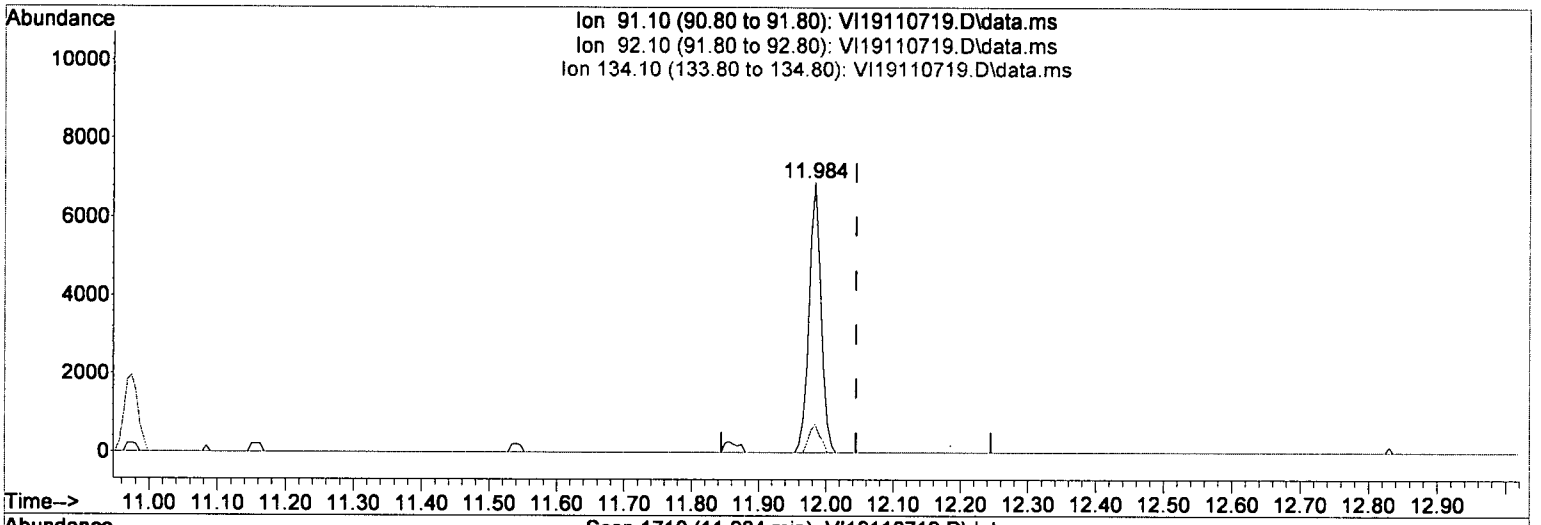
Ion	Exp%	Act%
105.10	100.00	0.00
134.10	19.90	0.00
91.10	16.40	0.00
0.00	0.00	0.00

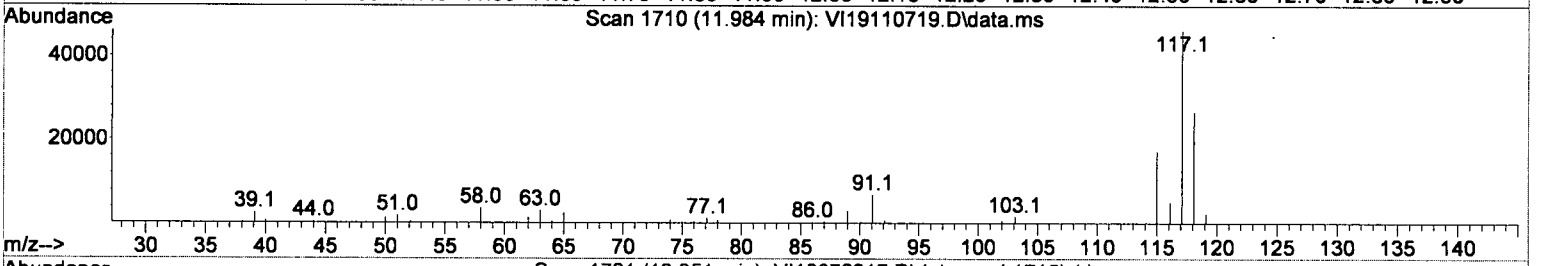
ND 11/8/19 tm

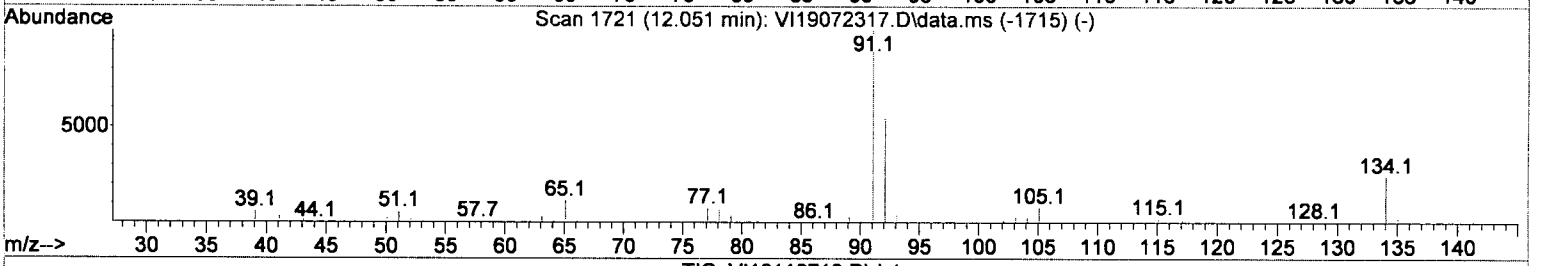
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110719.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 1.82 ug/L

response 8625

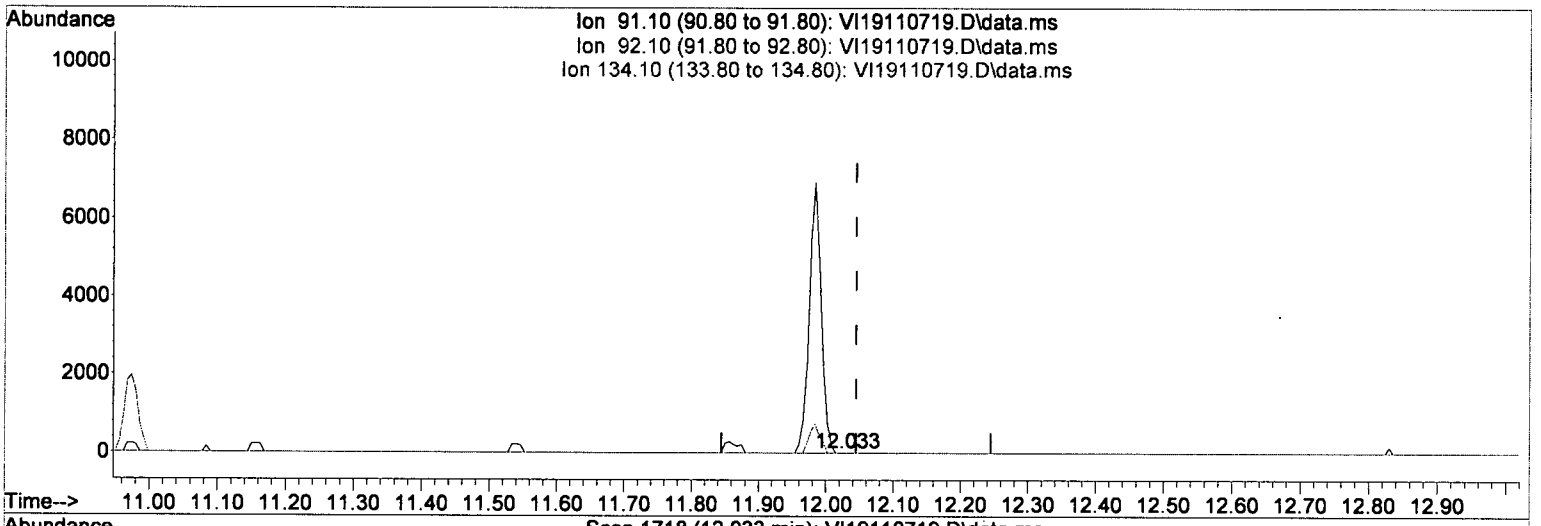
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	10.63#
134.10	28.20	0.00
0.00	0.00	0.00

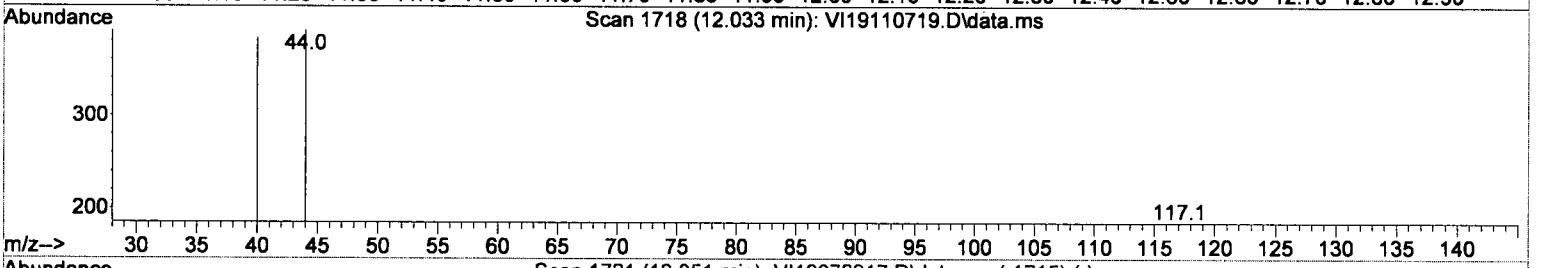
ME 11/8/19 bm

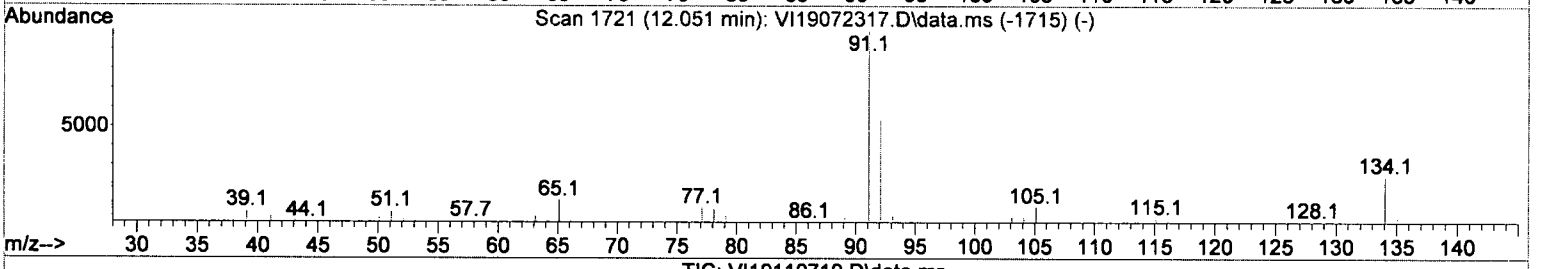
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration'







TIC: VI19110719.D\data.ms

(82) n-Butylbenzene

12.033min (-0.012) 0.00 ug/L m

response 0

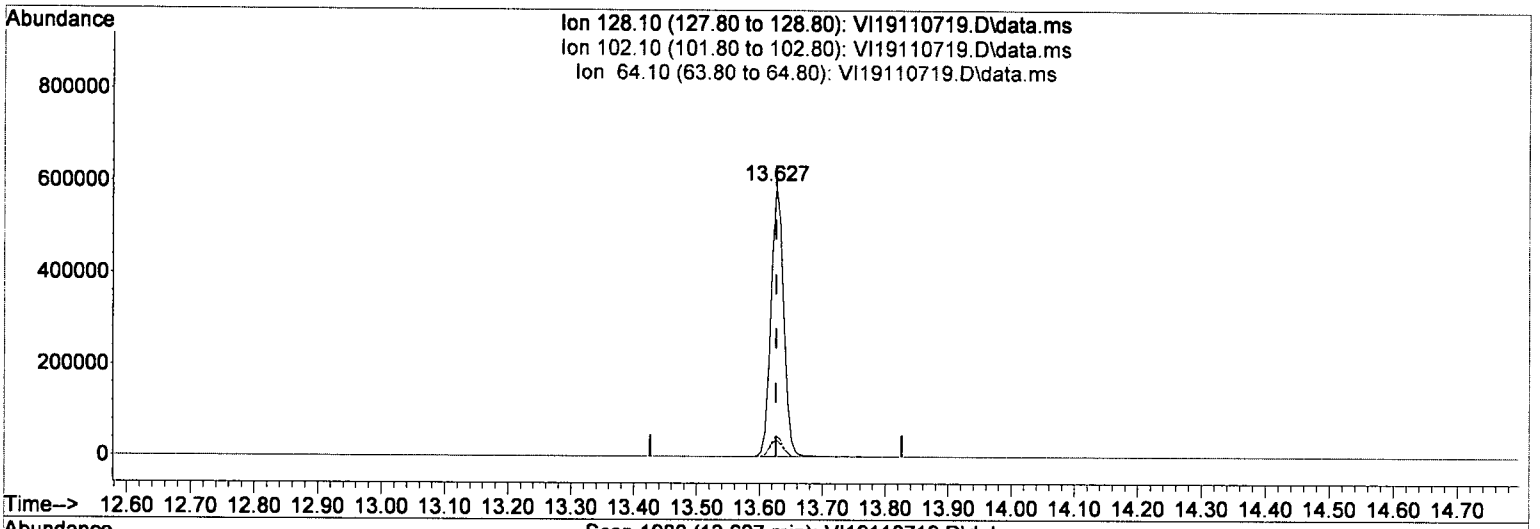
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

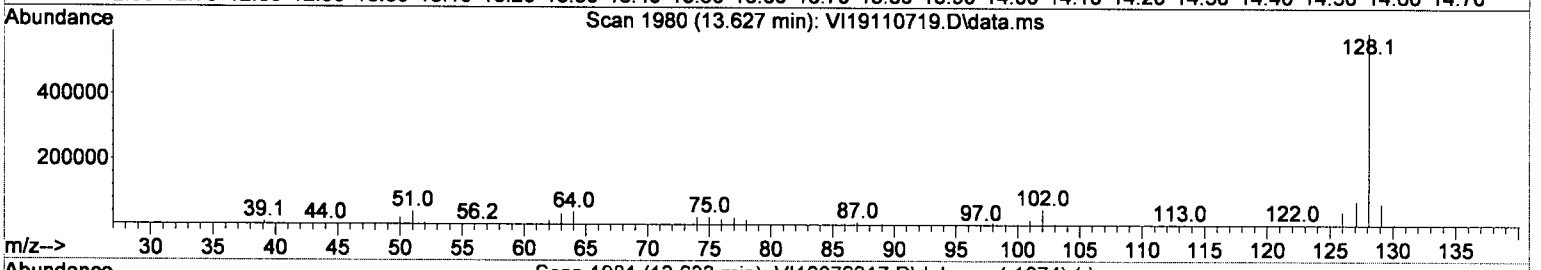
ND
11/8/19 bm

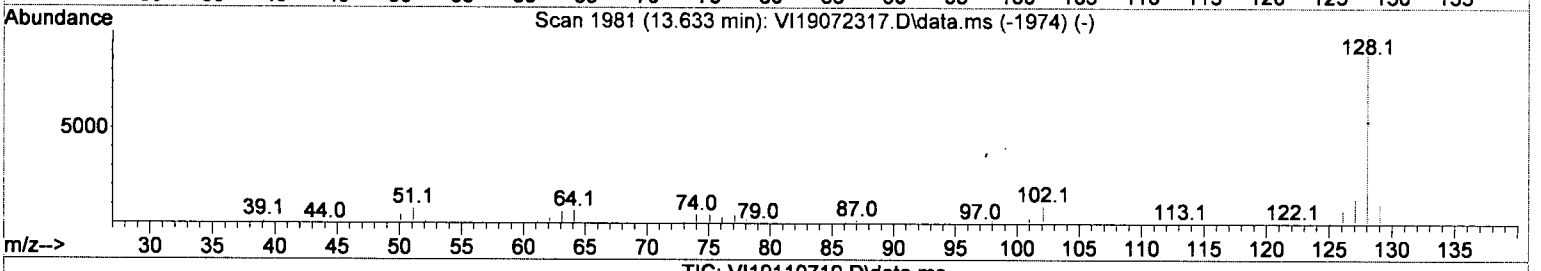
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110719.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 138.09 ug/L

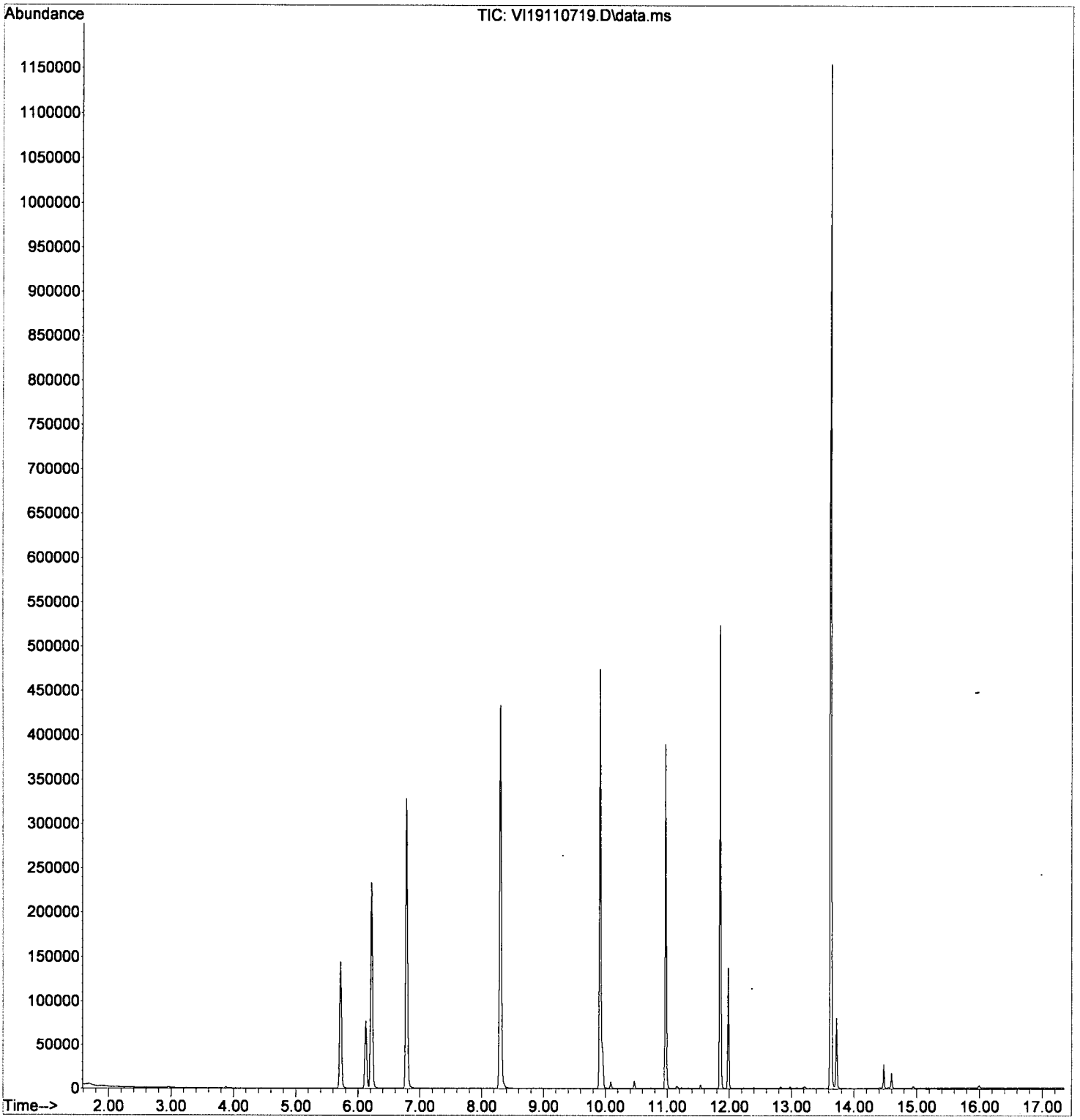
response 835056

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	7.99
64.10	4.70	6.34
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110719.D
Acq On : 7 Nov 2019 6:17 pm
Operator : TNL
Sample : A9K0165-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:02 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110720.D
Acq On : 7 Nov 2019 6:44 pm
Operator : TNL
Sample : 9110564-DUP1@100
Misc : 100X 500uL/50mL A9K0165-06
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:05 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	97261	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	269249	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	122790	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	101870	53.31	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	323761	52.69	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	360362	50.99	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	99145	49.97	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.892	50	227	0.11	ug/L #	47
5) Bromomethane	2.366	96	128	0.10	ug/L #	53
14) Methylene Chloride	3.875	84	985	Below Cal		93
15) Acetone	3.948	43	289	0.34	ug/L #	44
35) Benzene	6.126	78	79161	10.65	ug/L	95
49) Toluene	8.364	91	1518	0.19	ug/L	86
59) Ethylbenzene	9.952	91	28576	3.44	ug/L	97
61) m,p-Xylenes (2)	10.092	91	5055	0.83	ug/L	96
62) o-Xylene	10.469	91	5212	0.86	ug/L	98
72) 1,3,5-Trimethylbenzene	11.230	105	803	0.14	ug/L	86
77) 1,2,4-Trimethylbenzene	11.540	105	2866	0.51	ug/L	98
78) sec-Butylbenzene	11.540	105	2866	0.42	ug/L	71
82) n-Butylbenzene	11.984	91	8560	1.85	ug/L #	49
87) Naphthalene	13.627	128	838743	142.16	ug/L	97

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

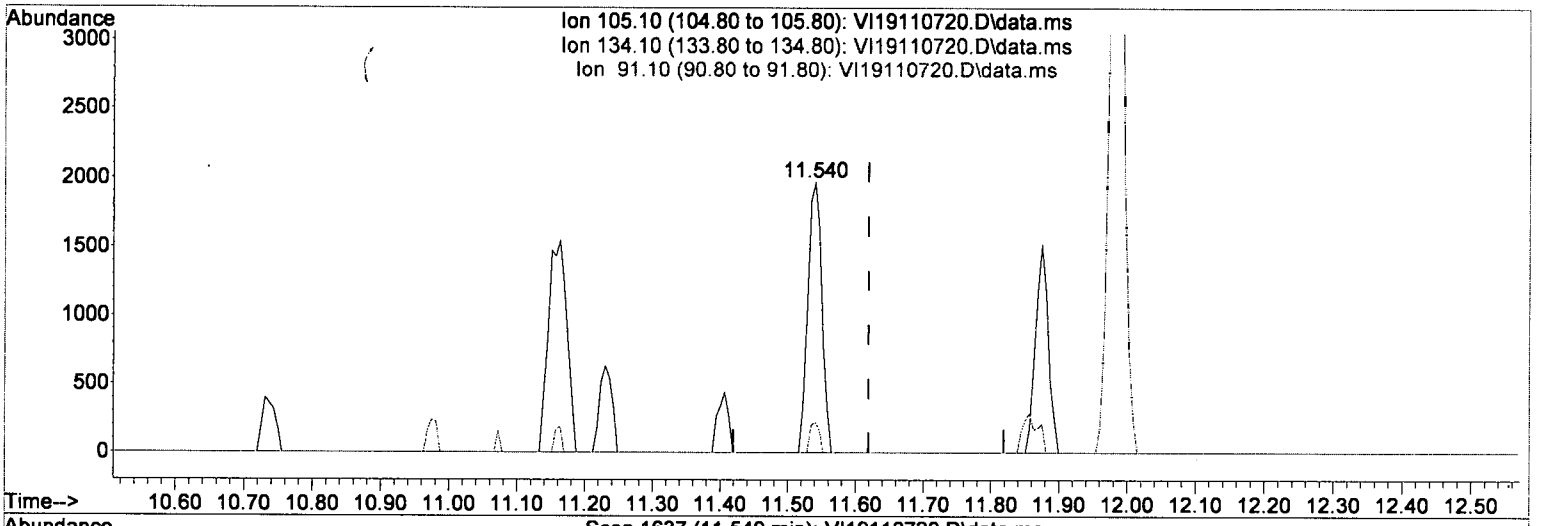
11/08/19 TNL

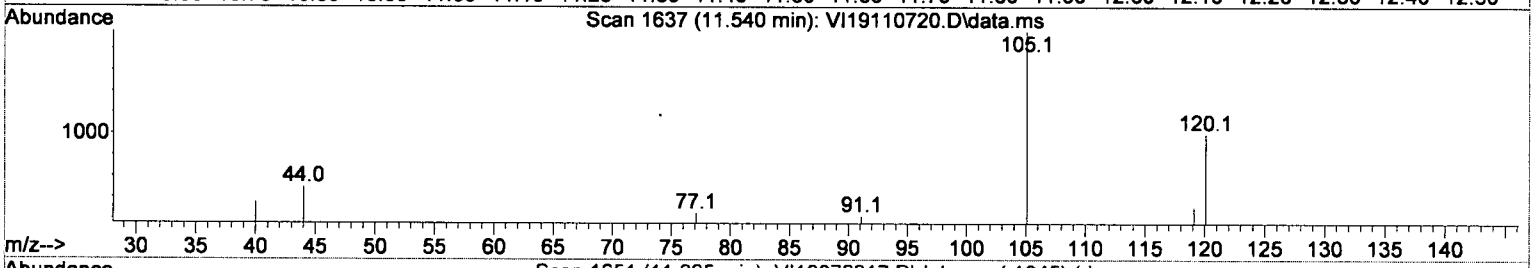
ME ND

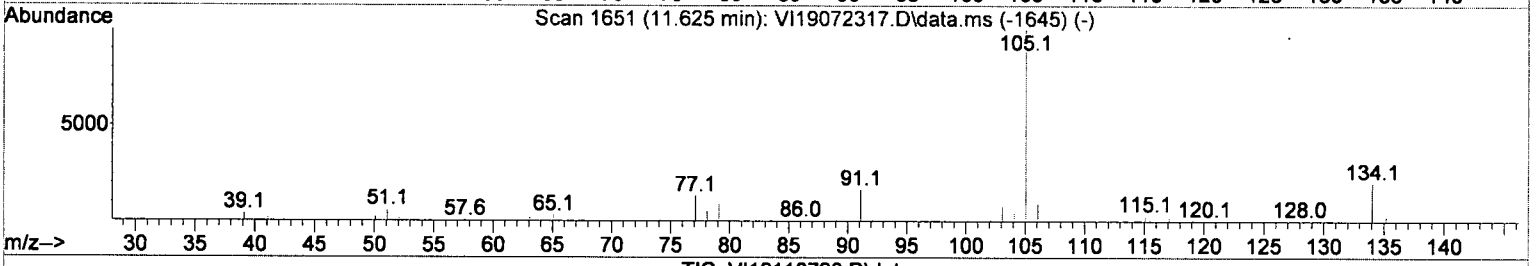
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110720.D
Acq On : 7 Nov 2019 6:44 pm
Operator : TNL
Sample : 9110564-DUP1@100
Misc : 100X 500uL/50mL A9K0165-06
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:05 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110720.D\data.ms

(78) sec-Butylbenzene

11.540min (-0.079) 0.42 ug/L

response 2866

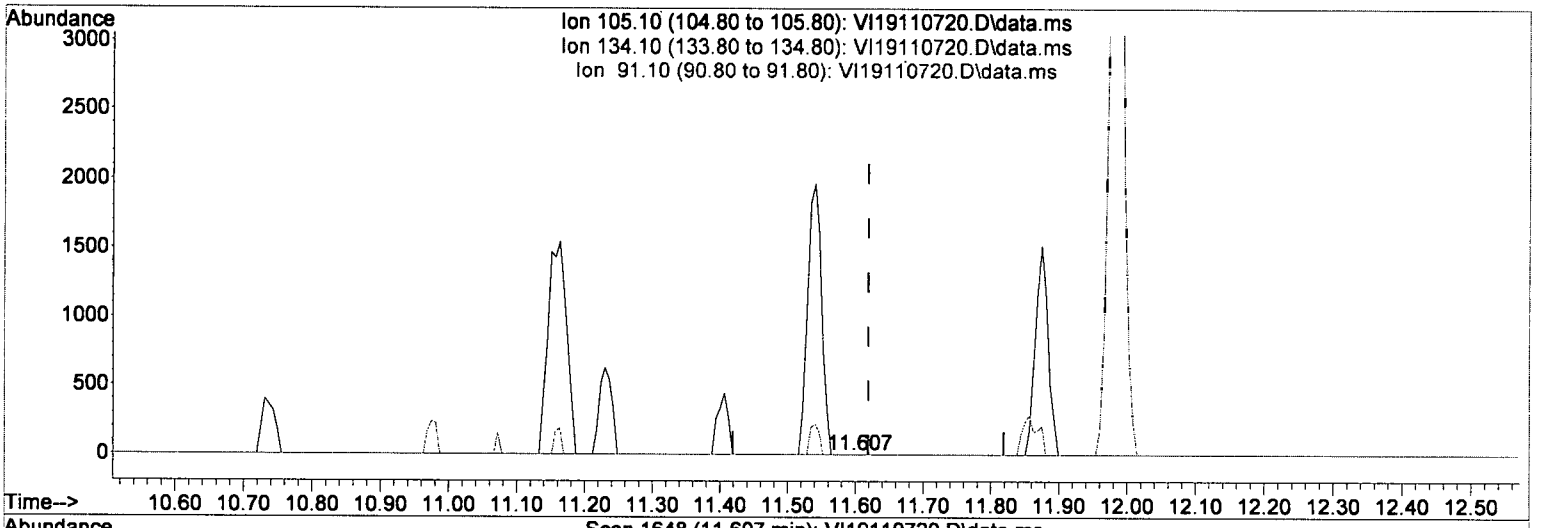
Ion	Exp%	Act%
105.10	100.00	100.00
134.10	19.90	0.00
91.10	16.40	11.28
0.00	0.00	0.00

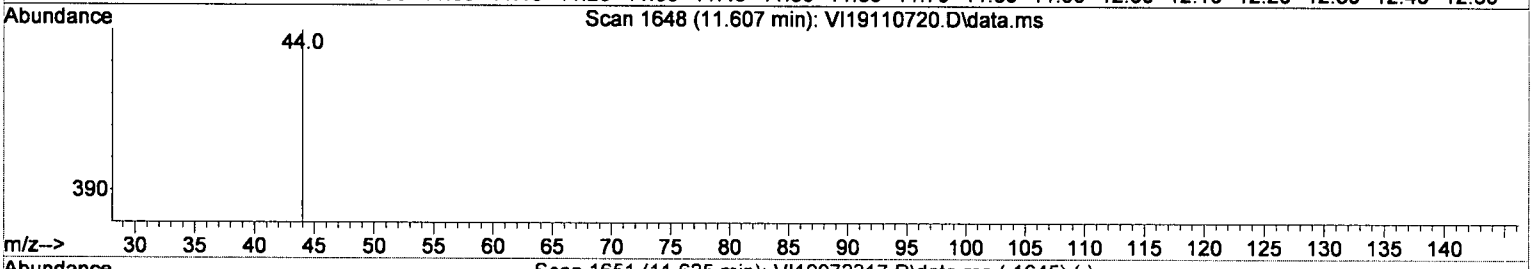
ME 11/8/19 dm

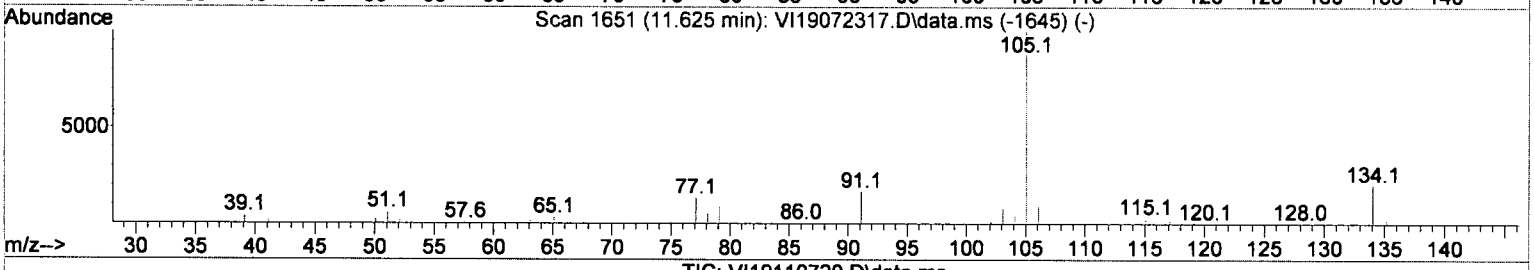
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110720.D
Acq On : 7 Nov 2019 6:44 pm
Operator : TNL
Sample : 9110564-DUP1@100
Misc : 100X 500uL/50mL A9K0165-06
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:05 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110720.D\data.ms

(78) sec-Butylbenzene

11.607min (-0.012) 0.00 ug/L (m)

response 0

Ion	Exp%	Act%
105.10	100.00	0.00
134.10	19.90	0.00
91.10	16.40	0.00
0.00	0.00	0.00

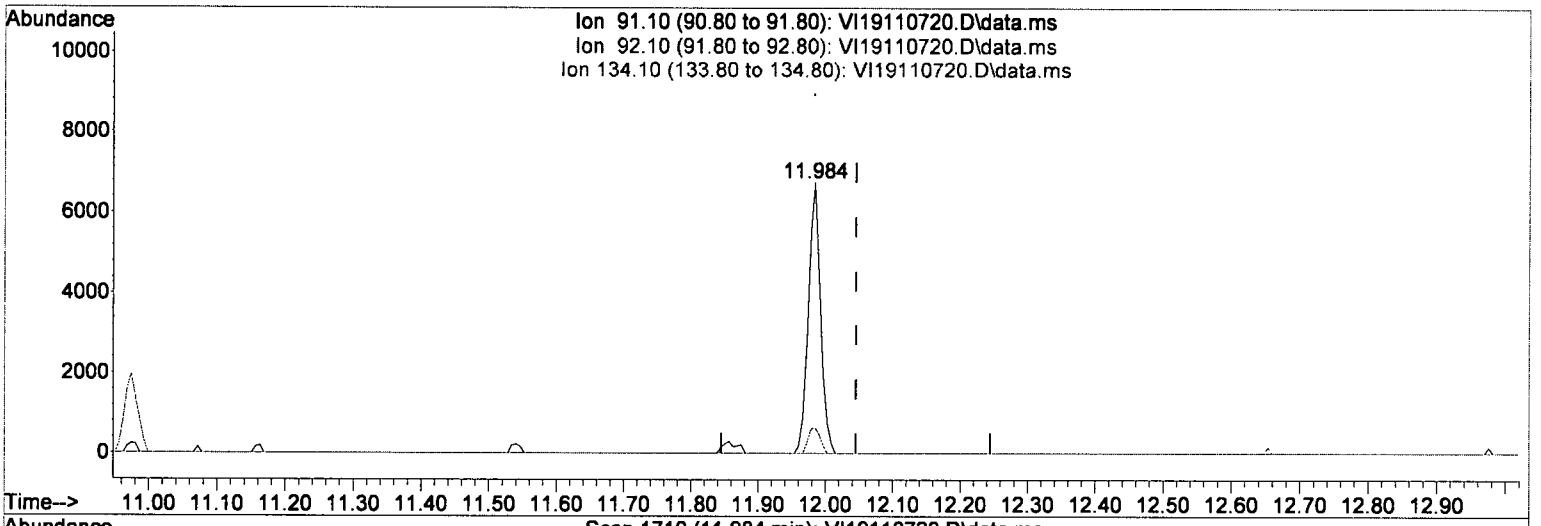
ND

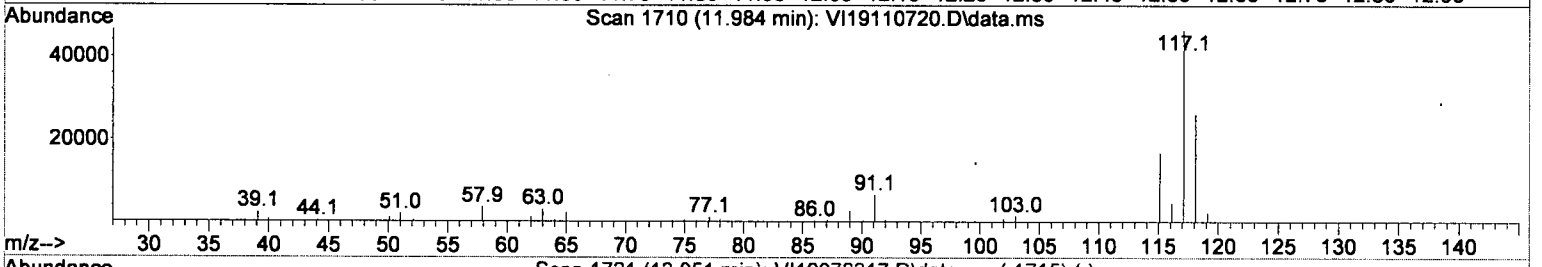
11/8/19 JM

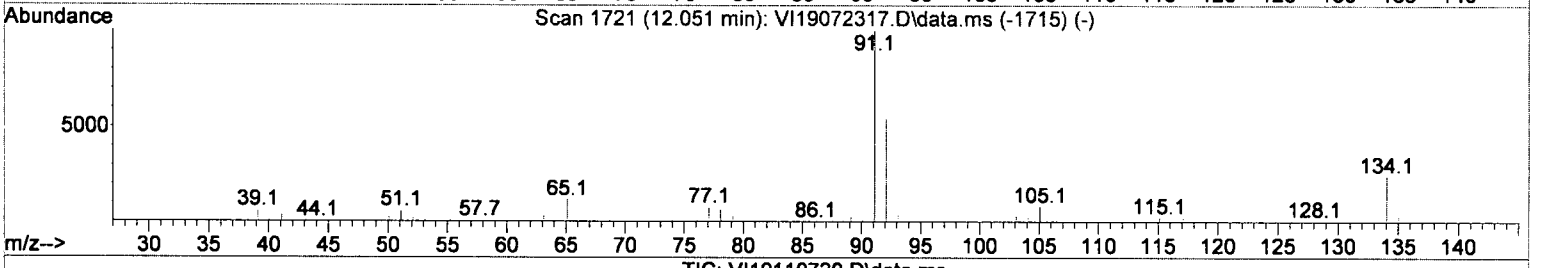
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110720.D
Acq On : 7 Nov 2019 6:44 pm
Operator : TNL
Sample : 9110564-DUP1@100
Misc : 100X 500uL/50mL A9K0165-06
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:05 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110720.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 1.85 ug/L

response 8560

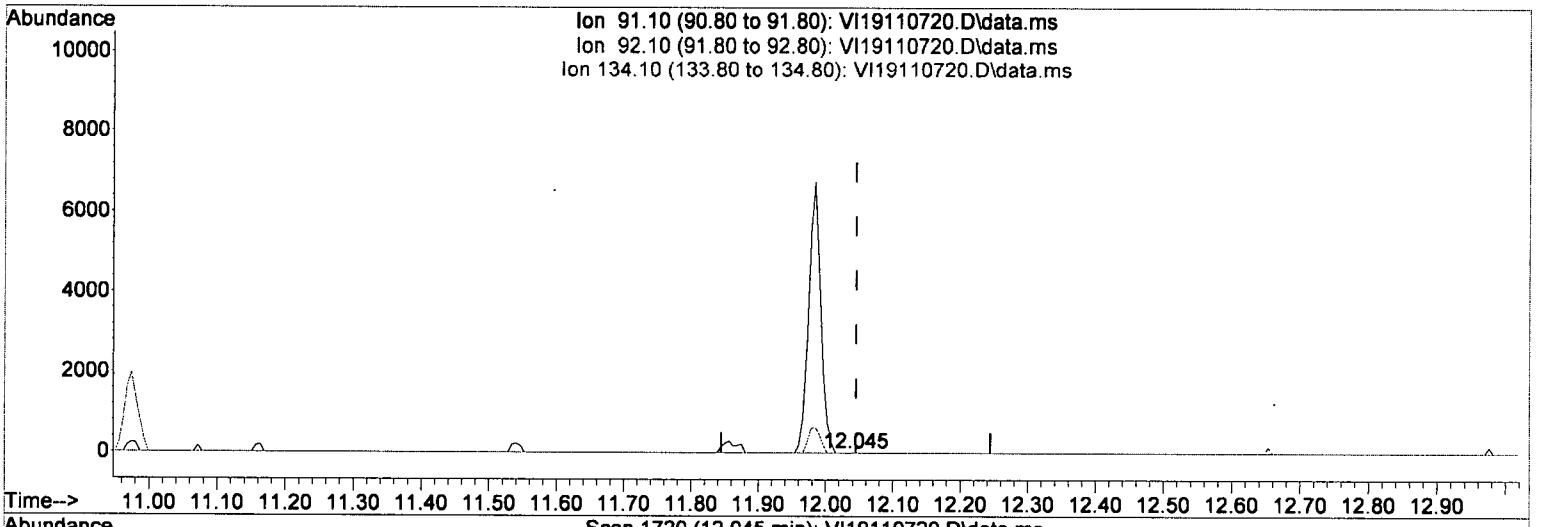
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	9.58#
134.10	28.20	0.00
0.00	0.00	0.00

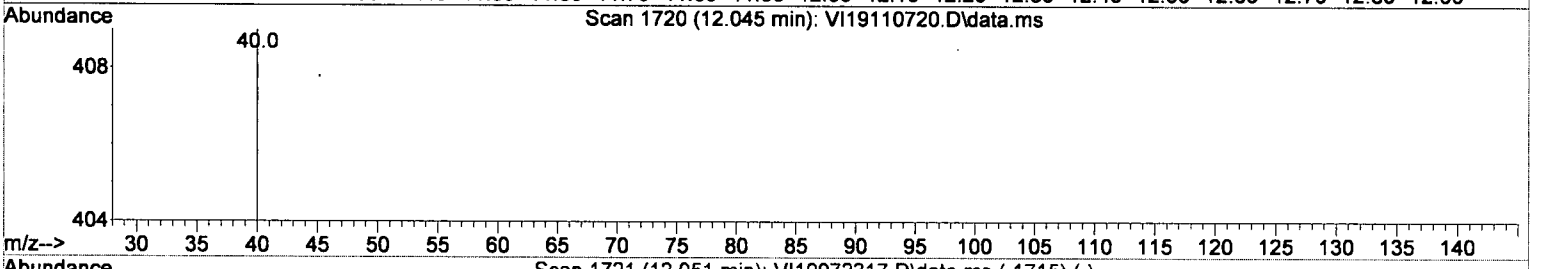
MF 11/8/19

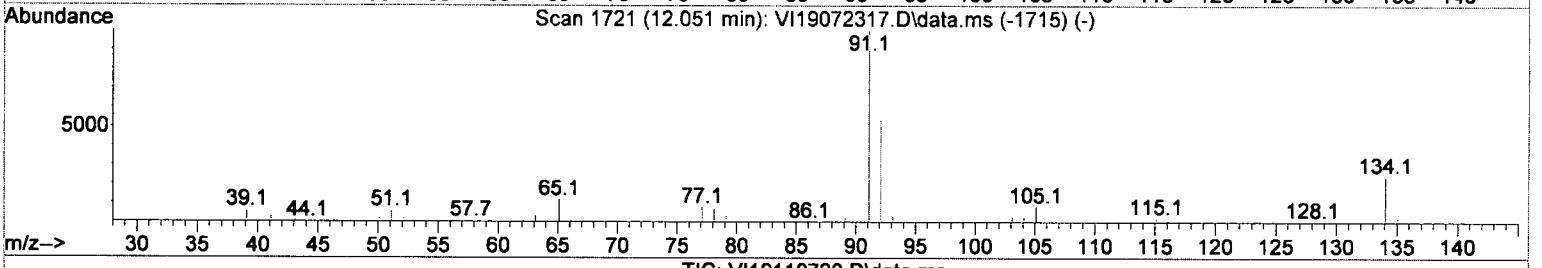
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110720.D
Acq On : 7 Nov 2019 6:44 pm
Operator : TNL
Sample : 9110564-DUP1@100
Misc : 100X 500uL/50mL A9K0165-06
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:05 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110720.D\data.ms

(82) n-Butylbenzene

12.045min (-0.000) 0.00 ug/L m

response 0

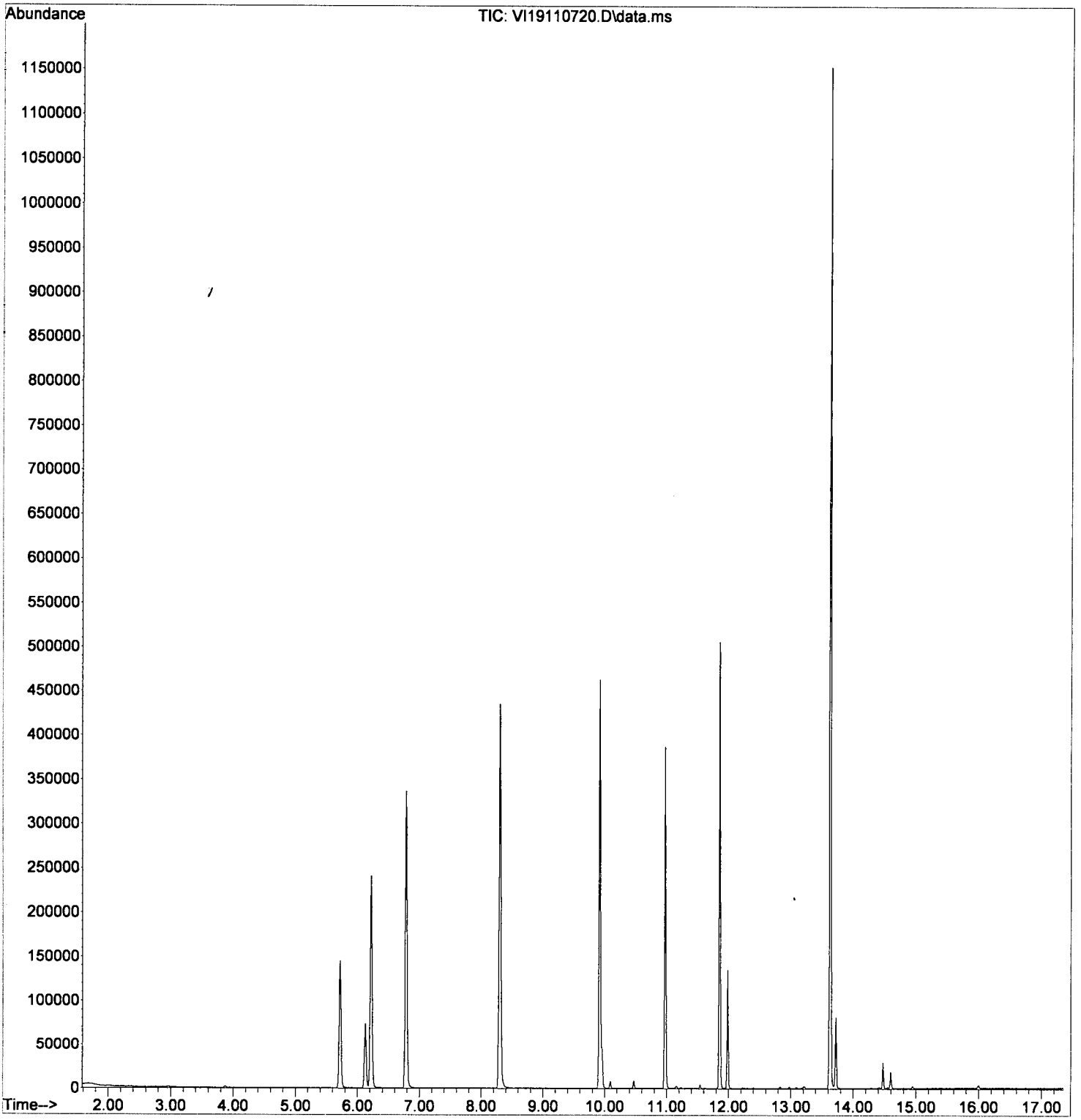
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

NP 11/8/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110720.D
Acq On : 7 Nov 2019 6:44 pm
Operator : TNL
Sample : 9110564-DUP1@100
Misc : 100X 500uL/50mL A9K0165-06
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:05 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

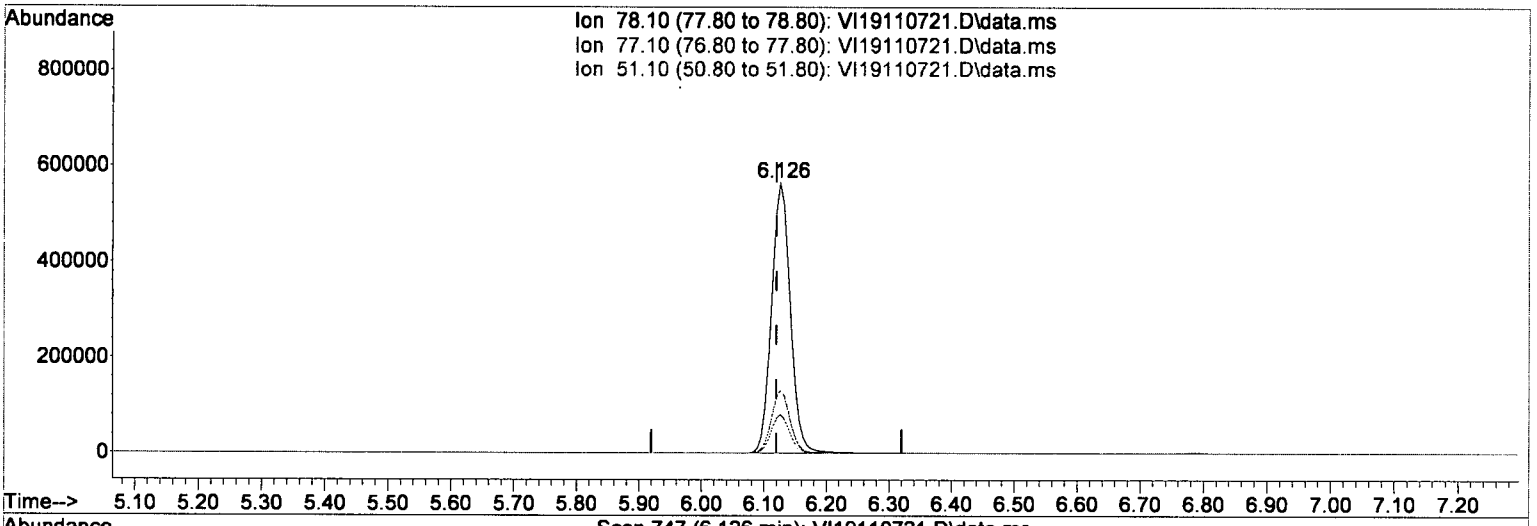
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	96386	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	266436	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	122768	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	97759	51.62 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	314304	51.62 ug/L	0.00
48) Toluene-d8 (S)	8.303	98	353879	50.60 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	98559	49.69 ug/L	0.00
Target Compounds					Qvalue
5) Bromomethane	2.372	96	190	0.15 ug/L	# 26
14) Methylene Chloride	3.881	84	883	Below Cal	# 80
15) Acetone	3.960	43	968	1.15 ug/L	98
35) Benzene	6.126	78	1183269	160.66 ug/L	96
49) Toluene	8.358	91	153303	19.57 ug/L	99
59) Ethylbenzene	9.952	91	35593	4.33 ug/L	97
61) m,p-Xylenes (2)	10.086	91	24185	4.00 ug/L	97
62) o-Xylene	10.469	91	10576	1.76 ug/L	94
63) Styrene	10.518	104	1848	0.38 ug/L	96
65) Isopropylbenzene	10.737	105	904	0.12 ug/L	81
72) 1,3,5-Trimethylbenzene	11.230	105	994	0.18 ug/L	95
77) 1,2,4-Trimethylbenzene	11.540	105	2853	0.51 ug/L	94
82) n-Butylbenzene	11.984	91	2642	0.57 ug/L #	40
87) Naphthalene	13.627	128	833177	141.25 ug/L	98

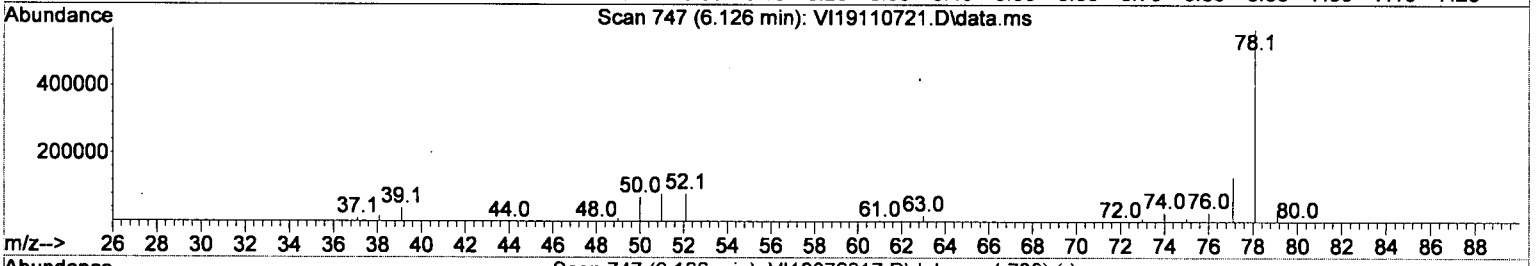
(#) = qualifier out of range (m) = manual integration (+) = signals summed

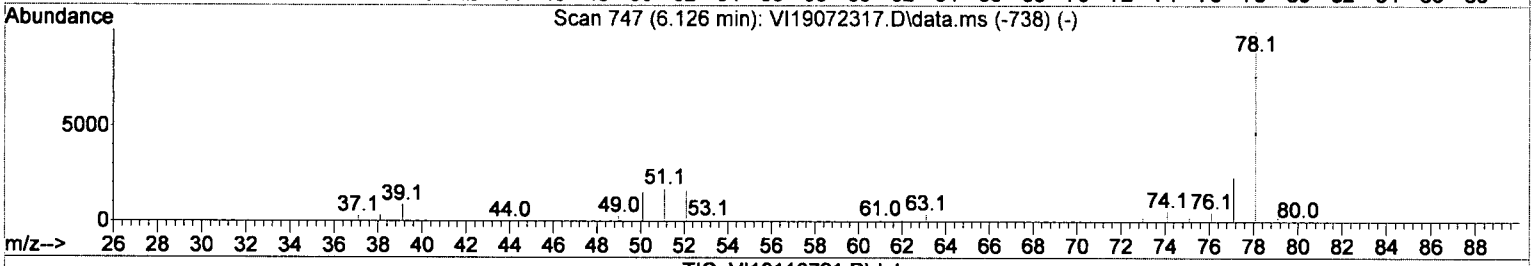
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110721.D\data.ms

(35) Benzene

6.126min (+ 0.006) 160.66 ug/L

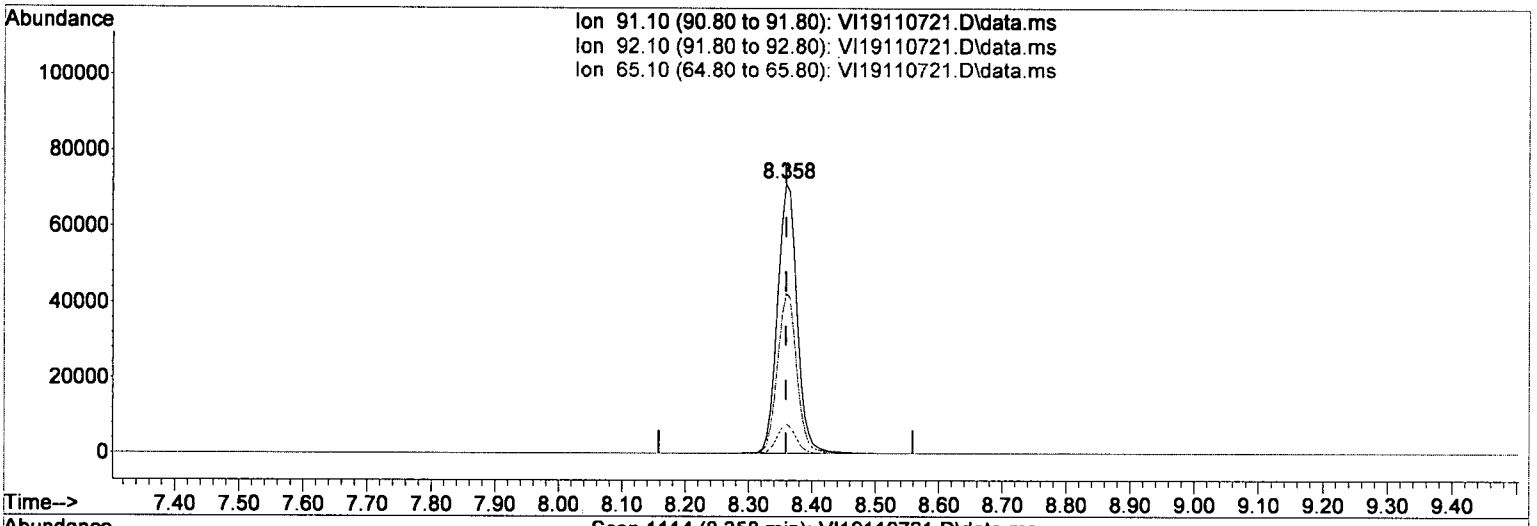
response 1183269

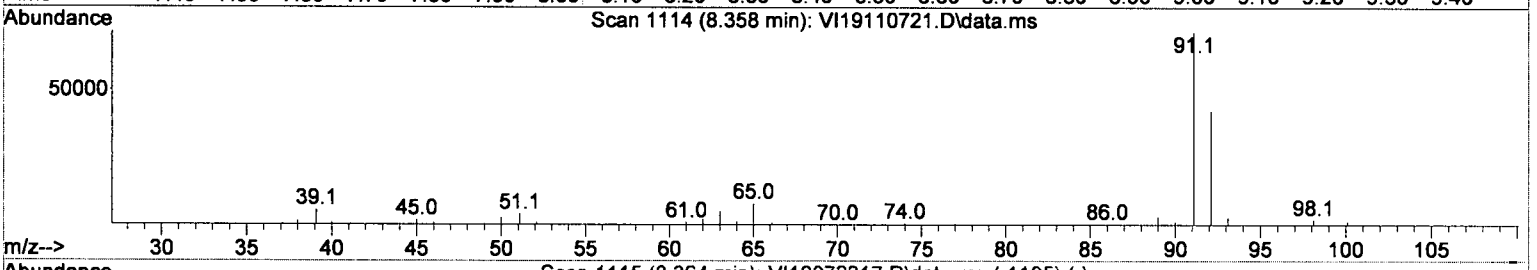
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	23.28
51.10	17.20	14.40
0.00	0.00	0.00

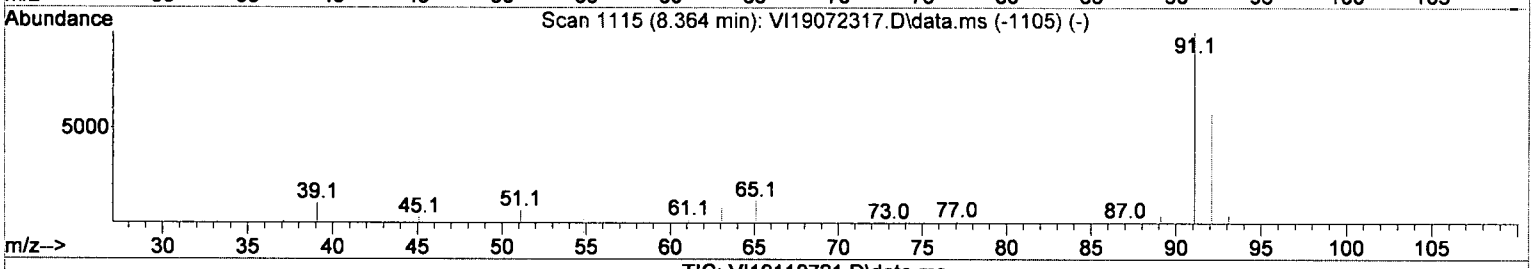
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110721.D\data.ms

(49) Toluene (C)

8.358min (-0.000) 19.57 ug/L

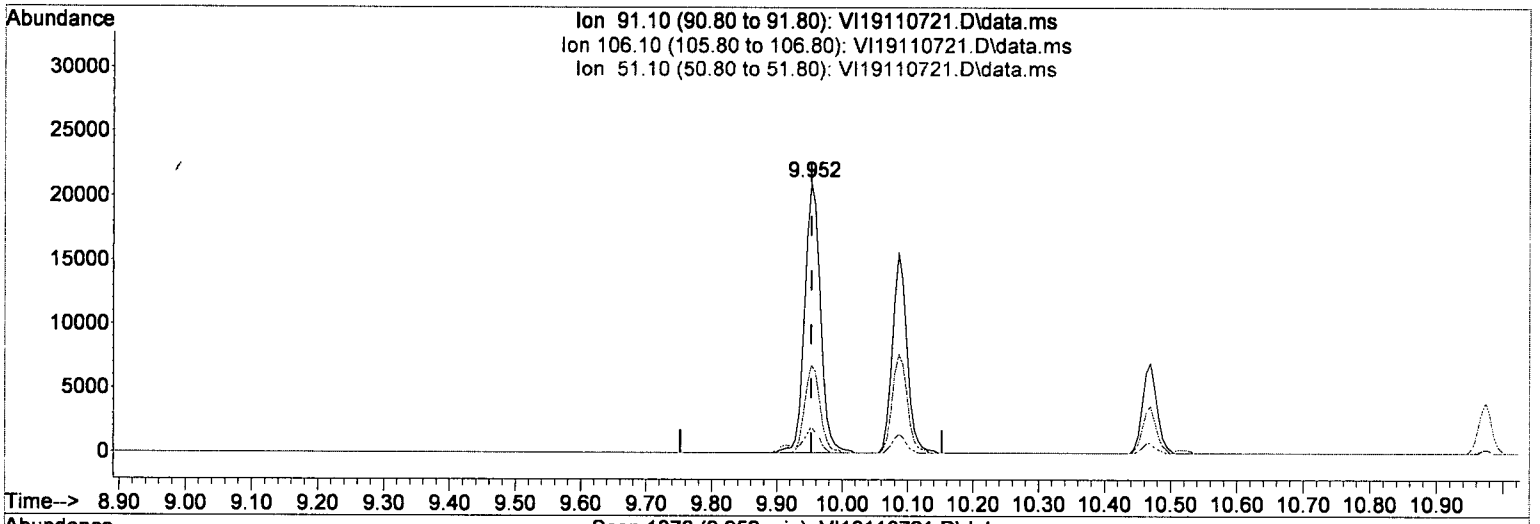
response 153303

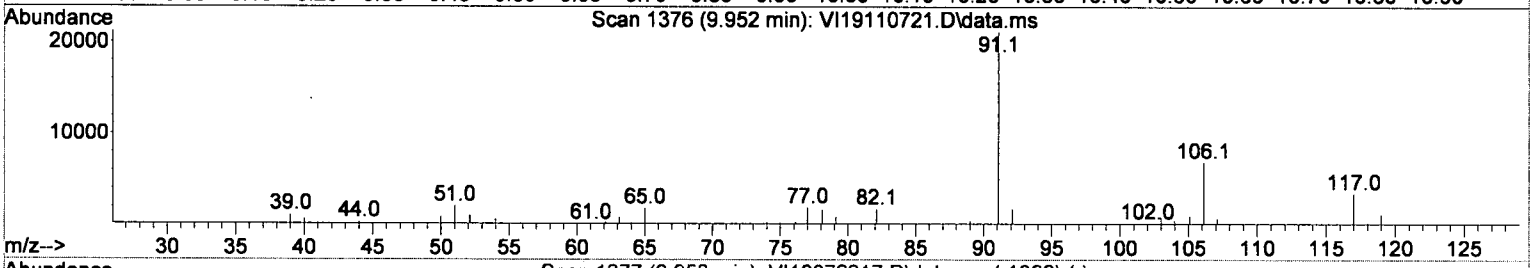
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	59.80	59.33
65.10	10.30	11.12
0.00	0.00	0.00

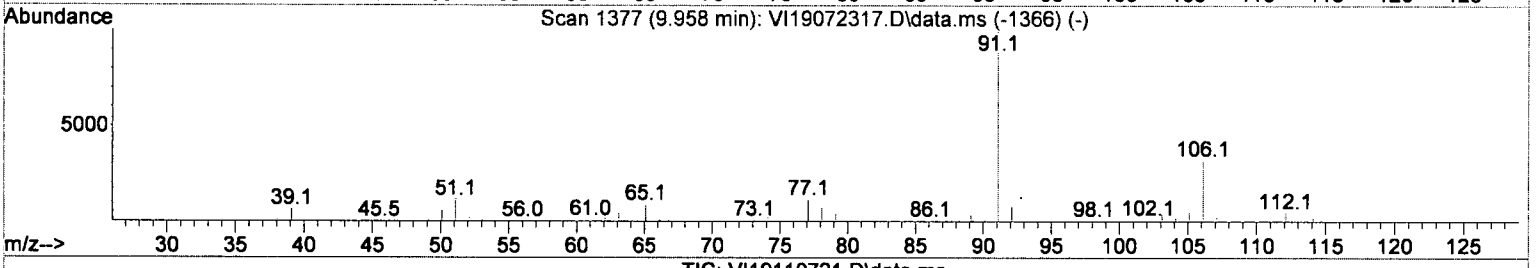
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110721.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 4.33 ug/L

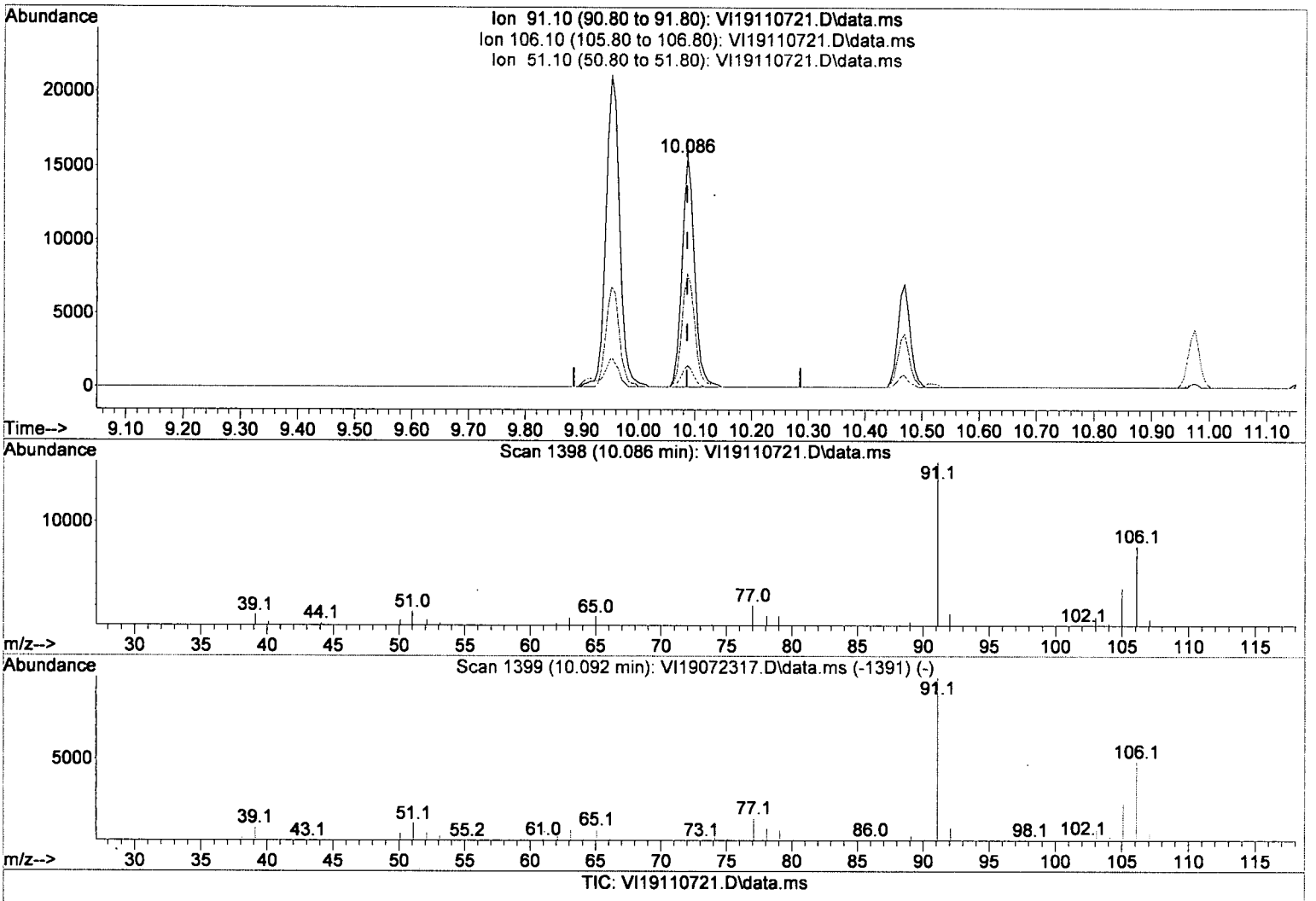
response 35593

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.34
51.10	10.40	9.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



TIC: VI19110721.D\data.ms

(61) m,p-Xylenes (2)

10.086min (-0.000) 4.00 ug/L

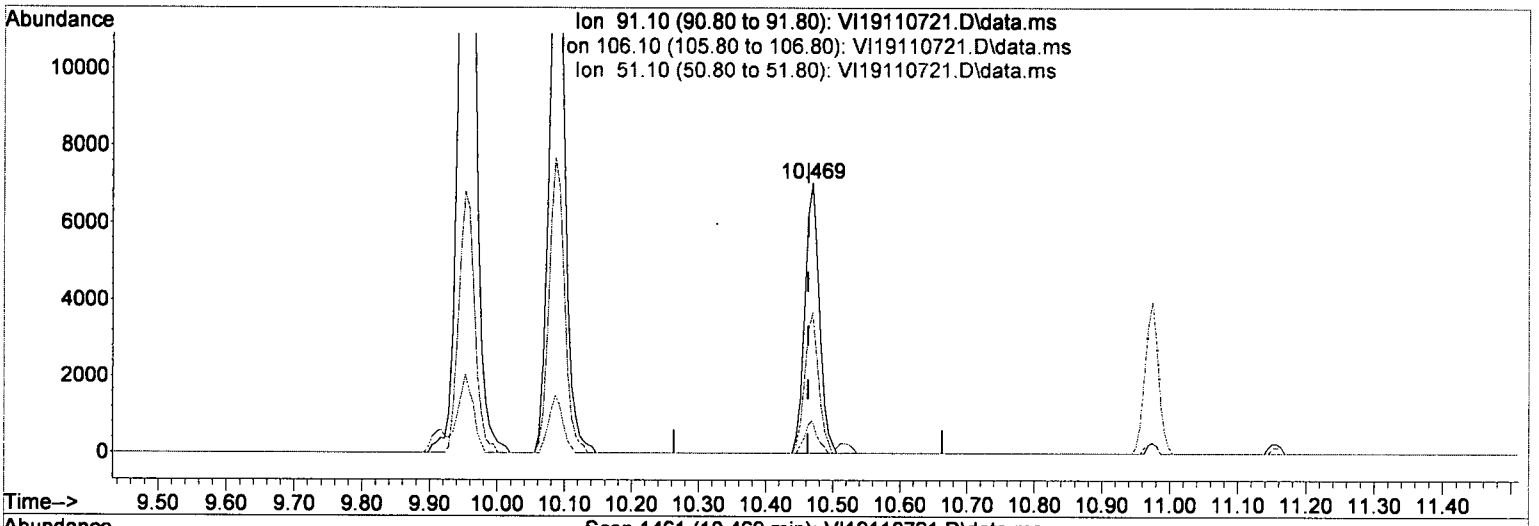
response 24185

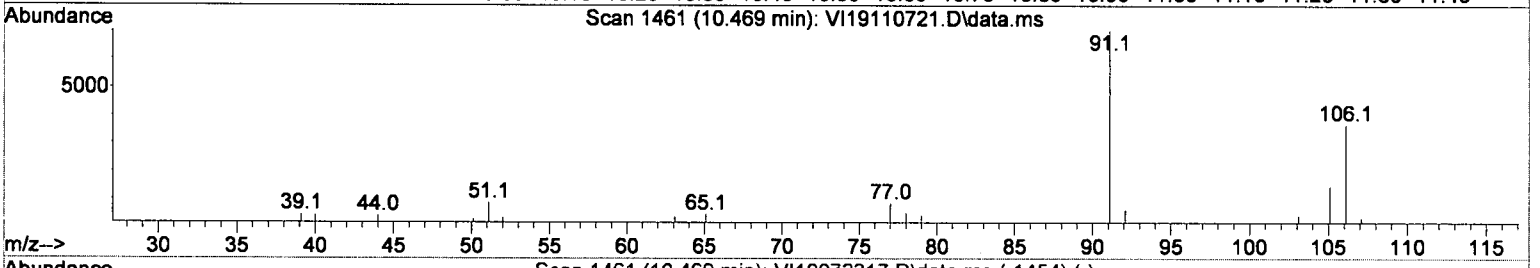
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	49.20
51.10	9.80	9.55
0.00	0.00	0.00

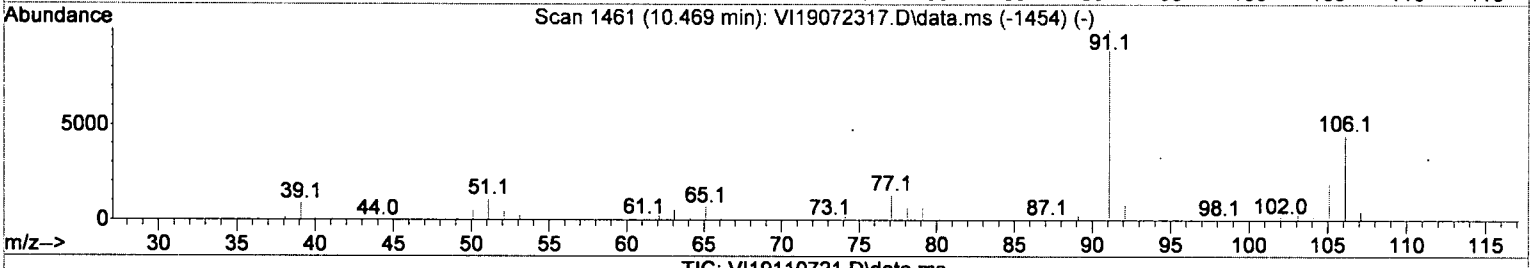
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110721.D\data.ms

(62) o-Xylene

10.469min (+ 0.006) 1.76 ug/L

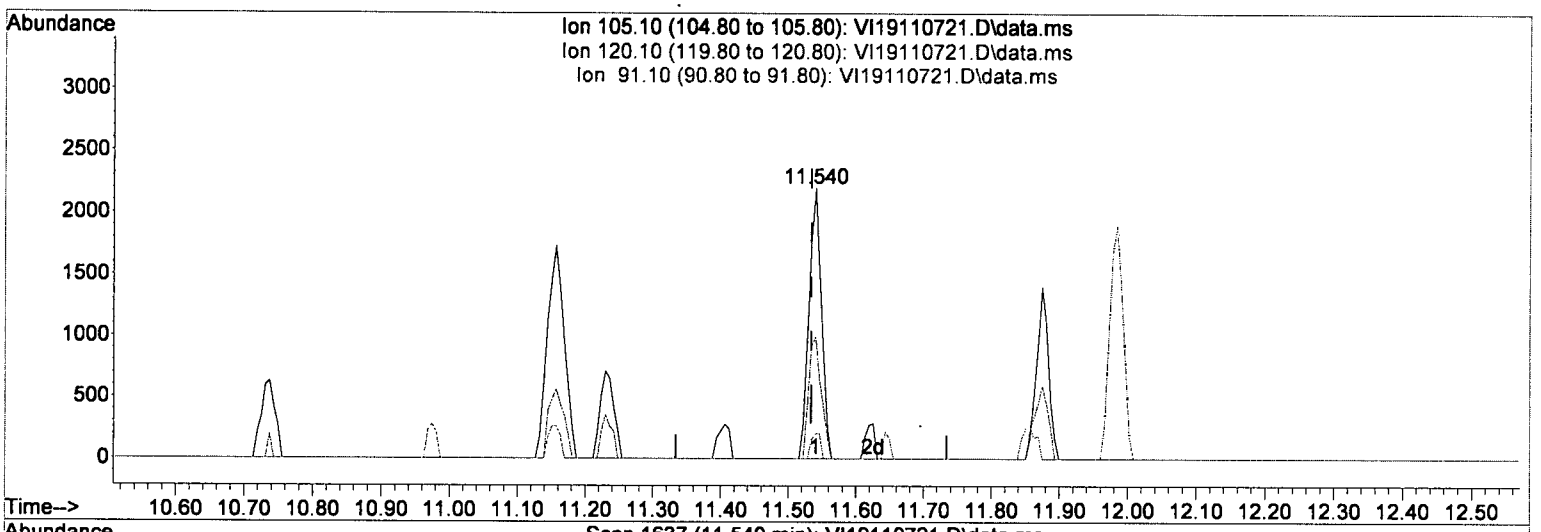
response 10576

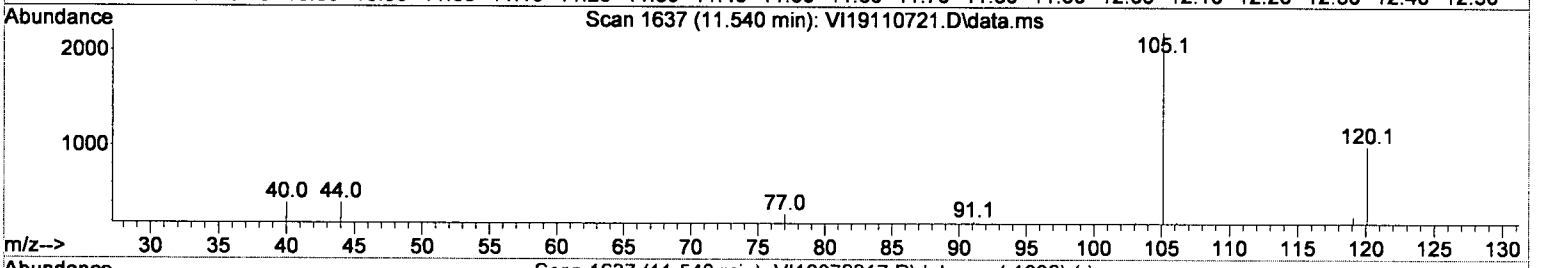
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	52.19
51.10	10.20	12.17
0.00	0.00	0.00

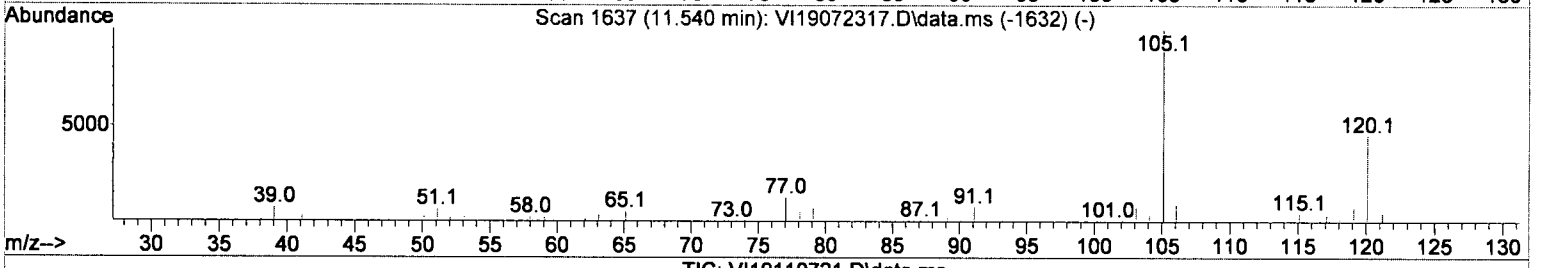
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110721.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (+ 0.006) 0.51 ug/L

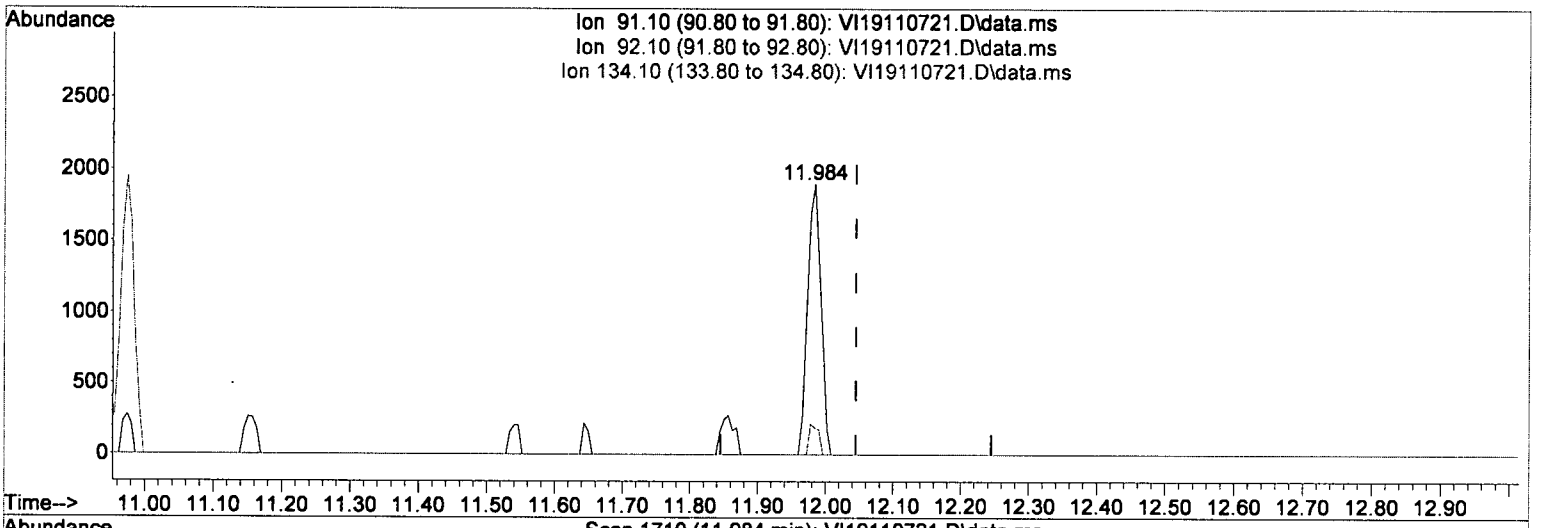
response 2853

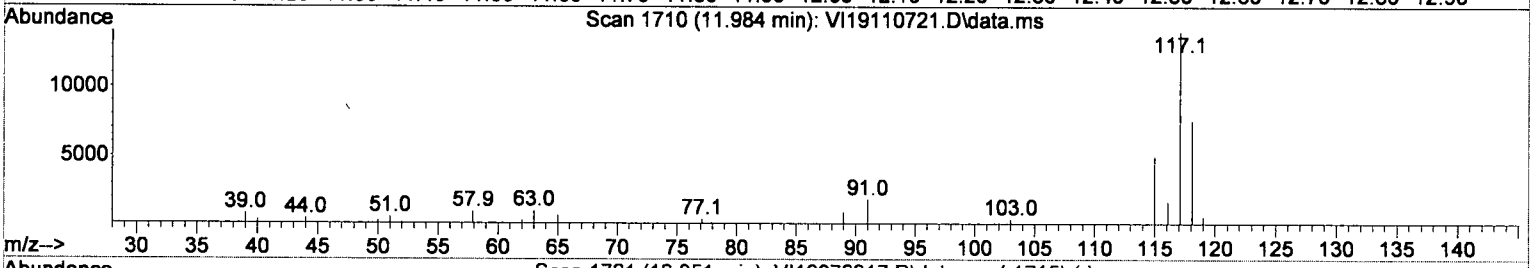
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	45.16
91.10	10.50	9.40
0.00	0.00	0.00

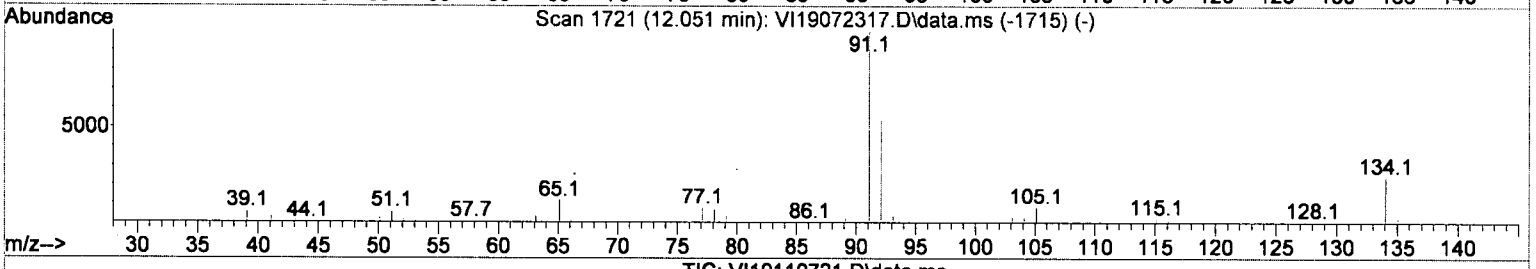
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110721.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 0.57 ug/L

response 2642

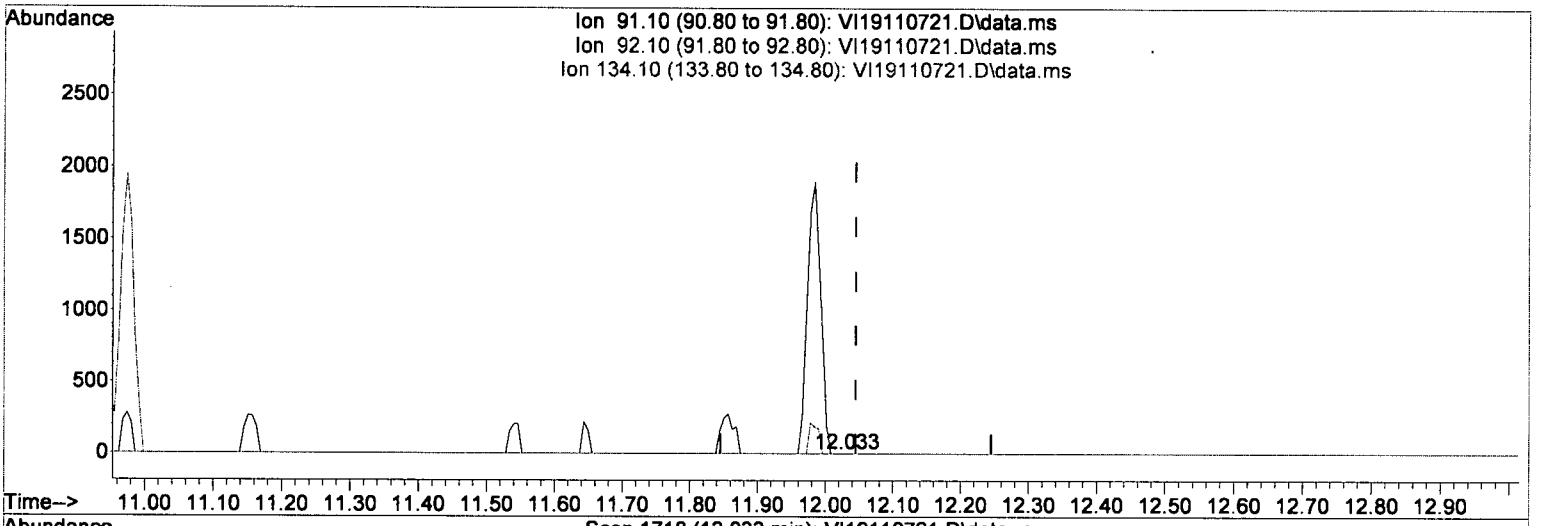
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	9.80#
134.10	28.20	0.00
0.00	0.00	0.00

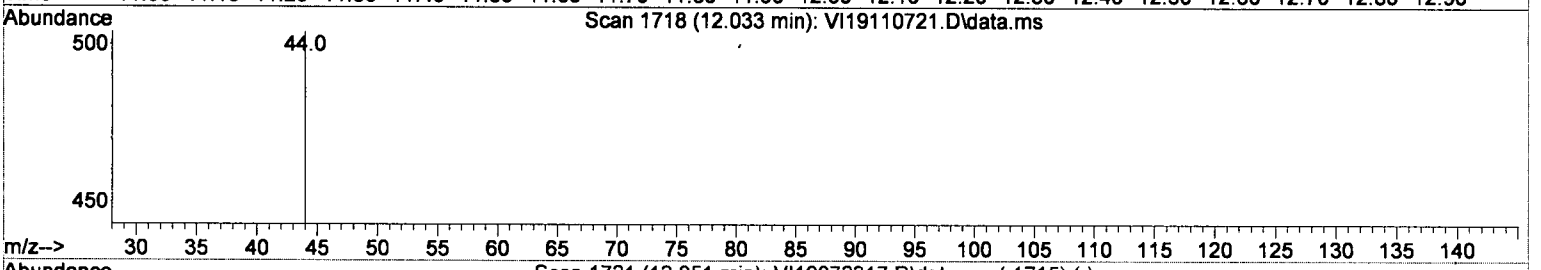
ME 11/8/19 tm

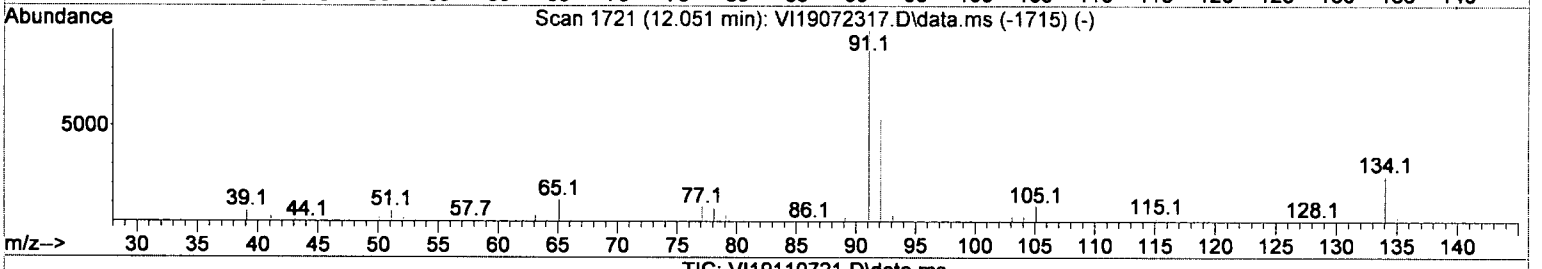
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110721.D\data.ms

(82) n-Butylbenzene

12.033min (-0.012) 0.00 ug/L m

response 0

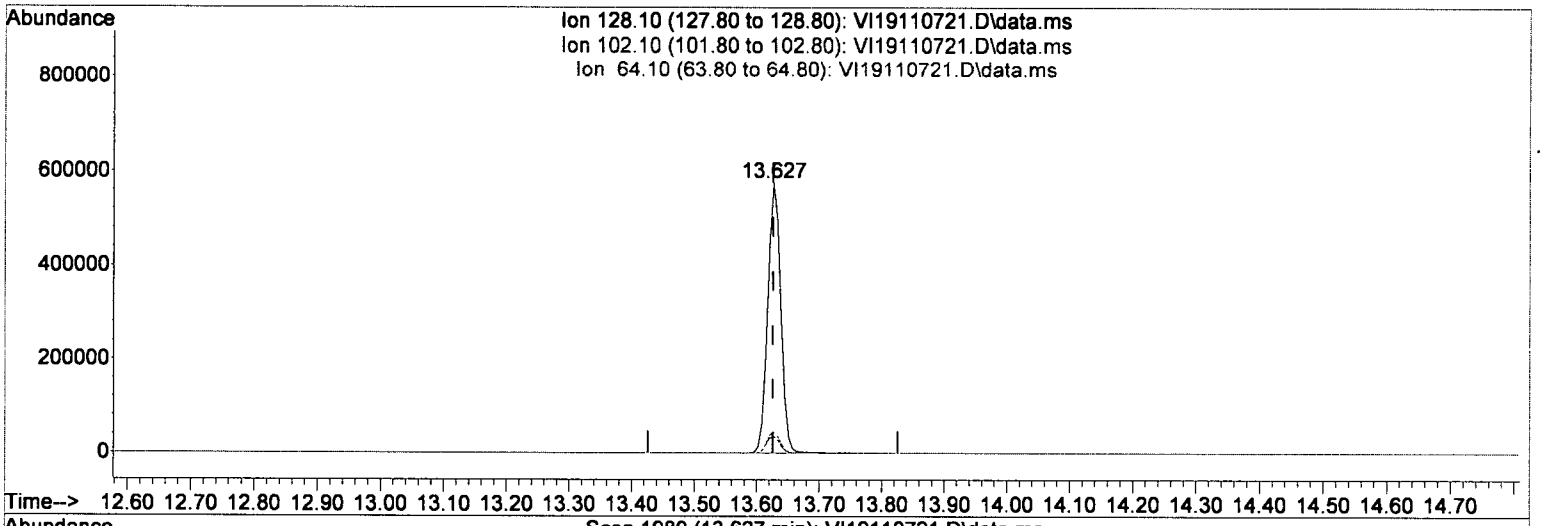
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

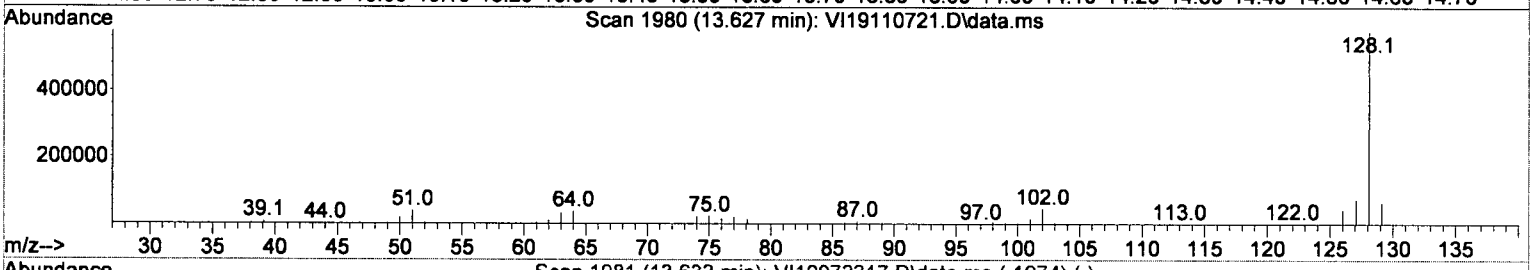
ND
11/8/19

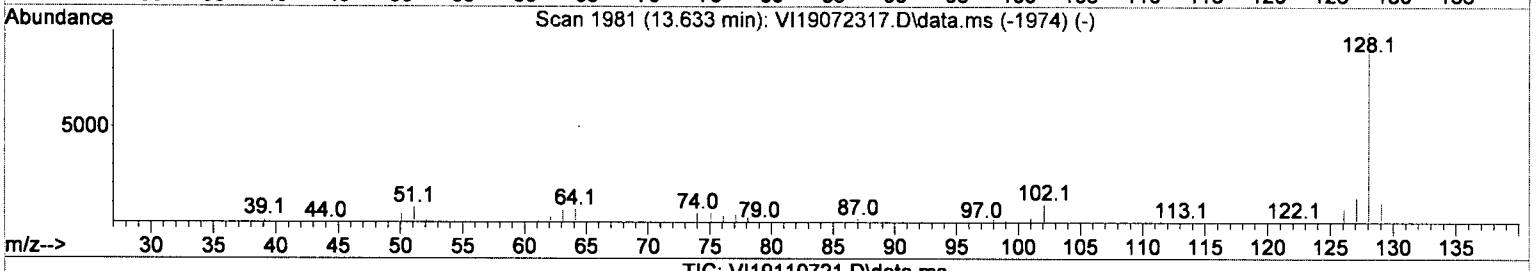
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110721.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 141.25 ug/L

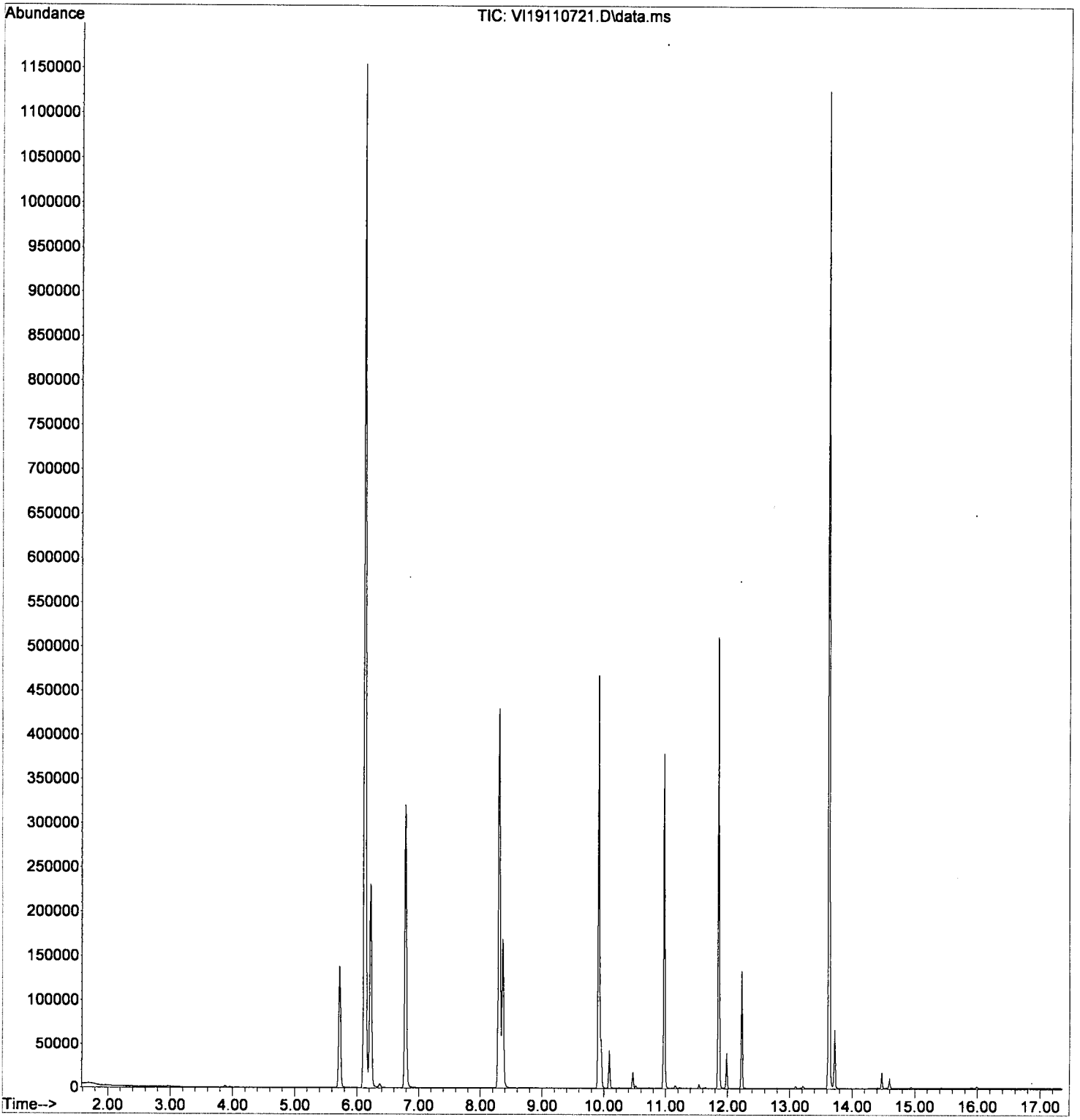
response 833177

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	7.88
64.10	4.70	6.41
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110721.D
Acq On : 7 Nov 2019 7:10 pm
Operator : TNL
Sample : A9K0165-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:08 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110722.D
Acq On : 7 Nov 2019 7:37 pm
Operator : TNL
Sample : 9110564-MS1@100
Misc : 100X 500uL/50mL A19K007 (A9K0165-05)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Hs VOI

Quant Time: Nov 08 09:22:11 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	100699	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	289578	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	142862	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	104514	52.82	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	333775	52.47	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	378056	49.74	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	110381	47.82	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.679	85	29343	17.83	ug/L	98
3) Chloromethane	1.891	50	46844	21.46	ug/L	95
4) Vinyl Chloride	1.995	62	46274	21.16	ug/L	97
5) Bromomethane	2.360	96	27535	21.36	ug/L	97
6) Chloroethane	2.494	64	16287	16.20	ug/L	81
7) Trichlorofluoromethane	2.664	101	53451	21.58	ug/L	94
8) Ethanol	3.230	45	58762	1214.29	ug/L	90
9) 1,1-Dichloroethene	3.230	61	50001	20.95	ug/L	90
10) Carbon Disulfide	3.248	76	89572	20.33	ug/L	99
11) Freon 113	3.285	101	38150	22.23	ug/L	96
12) Iodomethane	3.388	142	5648	11.15	ug/L	88
13) Acrolein	3.619	56	9444	20.64	ug/L	81
14) Methylene Chloride	3.869	84	40579	21.24	ug/L	88
15) Acetone	3.942	43	34497	39.09	ug/L	90
16) t-1,2-Dichloroethene	4.039	61	50902	21.79	ug/L	90
17) n-Hexane	4.118	86	7465	20.99	ug/L	93
18) Methyl-tert-butyl-ether	4.167	73	101910	18.77	ug/L	93
19) tert-Butanol (TBA)	4.288	59	453298	1162.70	ug/L	94
20) Diisopropyl ether (DIPE)	4.562	45	25079	4.29	ug/L	94
21) 1,1-Dichloroethane	4.684	63	68415	21.08	ug/L	96
22) Acrylonitrile	4.751	53	22010	22.53	ug/L	99
23) Ethyl-tert-butyl ether...	4.939	59	22833	4.07	ug/L	95
24) Vinyl Acetate	4.958	43	74933	19.12	ug/L	96
25) c-1,2-Dichloroethene	5.244	61	52300	20.88	ug/L	90
26) 2,2-Dichloropropane	5.353	77	38220	18.05	ug/L	97
27) Bromochloromethane	5.444	130	29448	23.96	ug/L	96
28) Chloroform	5.523	83	68768	21.68	ug/L	97
29) Carbon Tetrachloride	5.663	117	44331	22.97	ug/L	97
30) Tetrahydrofuran	5.700	42	18781	20.23	ug/L	89
31) 1,1,1-Trichloroethane	5.730	97	54870	20.49	ug/L	96
33) 1,1-Dichloropropene	5.864	75	53980	20.99	ug/L	94
34) 2-Butanone (MEK)	5.852	43	57601	41.17	ug/L	96
35) Benzene	6.120	78	1378918	179.20	ug/L	96
36) tert-Amyl methyl ether...	6.247	73	21233	4.07	ug/L	85
37) 1,2-Dichloroethane (EDC)	6.339	62	49295	19.56	ug/L	92
38) iso-Butyl Alcohol	6.369	43	73317	523.11	ug/L	97
40) Trichloroethene (TCE)	6.740	130	43630	22.01	ug/L	94
41) Tert-Amyl-Ethyl-Ether ...	6.996	59	14544	3.86	ug/L	87
42) Dibromomethane	7.196	93	27490	22.26	ug/L	93
43) 1,2-Dichloropropane	7.312	63	41023	21.37	ug/L	89
44) Bromodichloromethane	7.379	83	48966	22.13	ug/L	93
46) 2-Chloroethyl Vinyl Ether	8.024	63	3242	2.18	ug/L #	100
47) c-1,3-Dichloropropene	8.091	75	54430	19.01	ug/L	83

11/8/19 LH

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110722.D
Acq On : 7 Nov 2019 7:37 pm
Operator : TNL
Sample : 9110564-MS1@100
Misc : 100X 500uL/50mL A19K007 (A9K0165-05)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:11 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

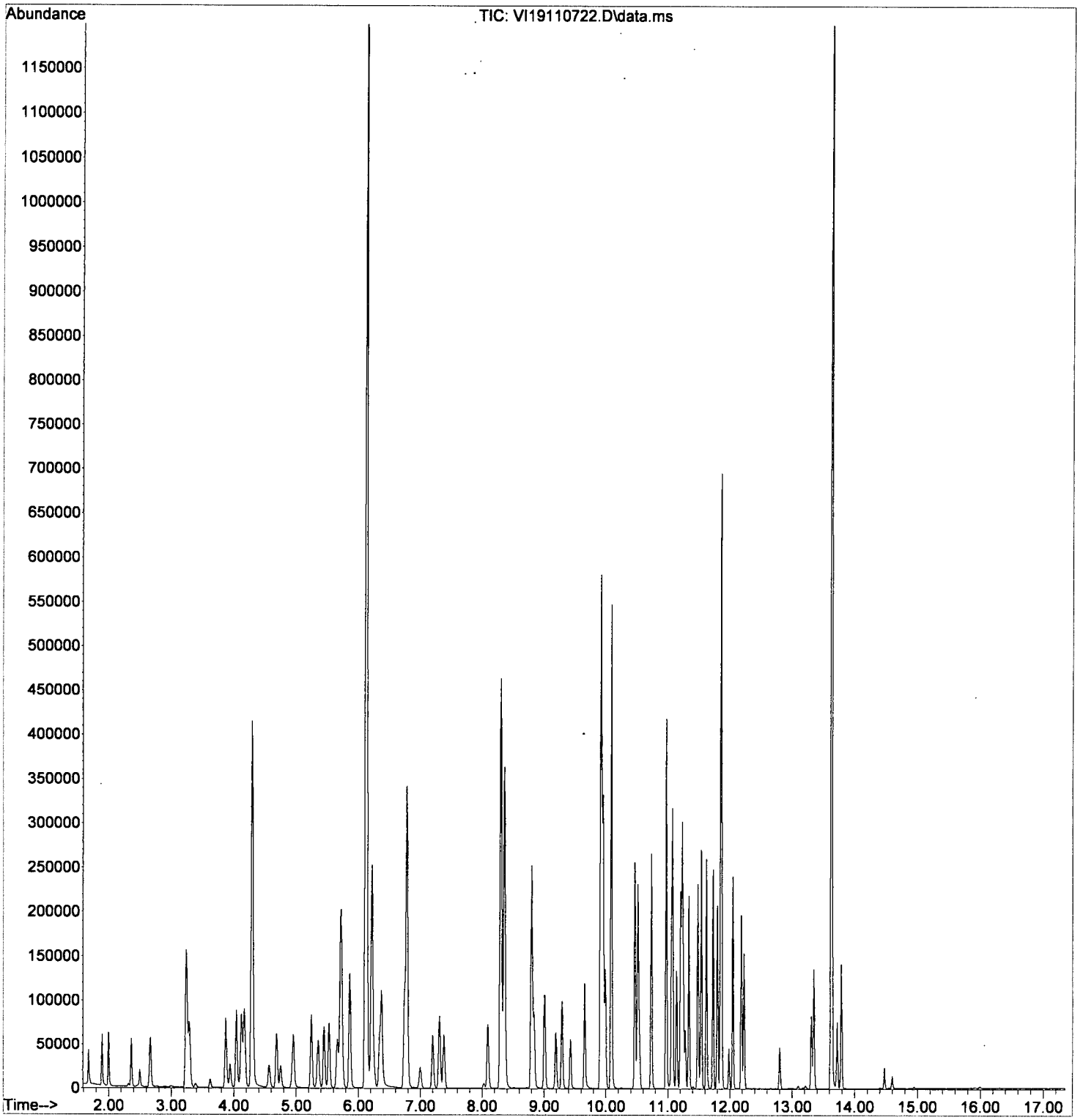
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.358	91	330950	38.86	ug/L	99
50) Tetrachloroethene (PCE)	8.796	166	41750	21.06	ug/L	91
51) 4-Methyl-2-Pentanone (...	8.796	43	103234	39.93	ug/L	95
52) t-1,3-Dichloropropene	8.839	75	48214	18.99	ug/L	99
53) 1,1,2-Trichloroethane	9.003	97	40496	21.45	ug/L	92
54) Dibromochloromethane	9.192	129	39049	25.59	ug/L	97
55) 1,3-Dichloropropane	9.289	76	66688	20.48	ug/L	88
56) 1,2-Dibromoethane (EDB)	9.423	107	41463	20.17	ug/L	93
57) 2-Hexanone	9.654	43	74511	39.33	ug/L	88
58) Chlorobenzene	9.928	112	113373	20.86	ug/L	98
59) Ethylbenzene	9.952	91	218622	24.48	ug/L	97
60) 1,1,1,2-Tetrachloroethane	9.989	131	35165	22.18	ug/L	96
61) m,p-Xylenes (2)	10.086	91	294856	44.84	ug/L	98
62) o-Xylene	10.463	91	142843	21.91	ug/L	99
63) Styrene	10.512	104	109681	20.93	ug/L	99
64) Bromoform	10.536	173	28455	24.98	ug/L	96
65) Isopropylbenzene	10.731	105	160405	20.17	ug/L	98
68) Bromobenzene	11.059	156	45691	20.64	ug/L	89
69) n-Propylbenzene	11.072	91	187737	19.77	ug/L	99
70) 1,1,2,2-Tetrachloroethane	11.139	85	38799	20.76	ug/L	96
71) 2-Chlorotoluene	11.205	126	40166	19.63	ug/L	95
72) 1,3,5-Trimethylbenzene	11.230	105	129684	19.99	ug/L	96
73) 1,2,3-Trichloropropane	11.248	110	18077	19.89	ug/L	90
74) t-1,4-Dichloro-2-butene	11.278	53	12170	18.71	ug/L	76
75) 4-Chlorotoluene	11.339	91	112967	19.33	ug/L	98
76) tert-Butylbenzene	11.485	91	68183	18.82	ug/L	98
77) 1,2,4-Trimethylbenzene	11.540	105	134862	20.66	ug/L	98
78) sec-Butylbenzene	11.619	105	158339	19.81	ug/L	99
79) 4-Isopropyltoluene	11.729	119	125681	19.87	ug/L	96
80) 1,3-Dichlorobenzene	11.796	146	77206	20.01	ug/L	99
81) 1,4-Dichlorobenzene	11.862	146	80166	19.93	ug/L	96
82) n-Butylbenzene	12.045	91	112677	20.96	ug/L	97
83) 1,2-Dichlorobenzene	12.185	146	74842	19.98	ug/L	97
84) 1,2-Dibromo-3-Chloropr...	12.799	157	12739	20.11	ug/L	94
85) Hexachlorobutadiene	13.310	223	9733	18.59	ug/L	95
86) 1,2,4-Trichlorobenzene	13.347	180	42360	19.62	ug/L	99
87) Naphthalene	13.627	128	1126248	164.07	ug/L	98
88) 1,2,3-Trichlorobenzene	13.785	180	41976	20.48	ug/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110722.D
Acq On : 7 Nov 2019 7:37 pm
Operator : TNL
Sample : 9110564-MS1@100
Misc : 100X 500uL/50mL A19K007 (A9K0165-05)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:11 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110723.D
Acq On : 7 Nov 2019 8:04 pm
Operator : TNL
Sample : 9110564-MSD1@100
Misc : 100X 500uL/50mL A19K007 (A9K0165-05)
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:14 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

#5 VOA

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	96990	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	280043	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	136396	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	101795	53.42	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	324147	52.90	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	363745	49.49	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	105959	48.08	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.679	85	29072	18.34	ug/L	98
3) Chloromethane	1.891	50	46008	21.88	ug/L	96
4) Vinyl Chloride	1.995	62	45702	21.70	ug/L	96
5) Bromomethane	2.360	96	26324	21.20	ug/L	92
6) Chloroethane	2.494	64	16280	16.82	ug/L	82
7) Trichlorofluoromethane	2.664	101	51349	21.53	ug/L	96
8) Ethanol	3.236	45	57858	1241.33	ug/L	87
9) 1,1-Dichloroethene	3.236	61	49186	21.39	ug/L	89
10) Carbon Disulfide	3.248	76	89061	20.99	ug/L	98
11) Freon 113	3.285	101	36968	22.36	ug/L	94
12) Iodomethane	3.388	142	7689	13.24	ug/L	98
13) Acrolein	3.619	56	9565	21.71	ug/L	81
14) Methylene Chloride	3.869	84	39766	21.63	ug/L	90
15) Acetone	3.942	43	34342	40.41	ug/L	90
16) t-1,2-Dichloroethene	4.039	61	50514	22.45	ug/L	89
17) n-Hexane	4.124	86	6987	20.39	ug/L	97
18) Methyl-tert-butyl-ether	4.167	73	101218	19.35	ug/L	91
19) tert-Butanol (TBA)	4.288	59	448947	1195.57	ug/L	94
20) Diisopropyl ether (DIPE)	4.568	45	25381	4.51	ug/L	93
21) 1,1-Dichloroethane	4.684	63	67048	21.45	ug/L	97
22) Acrylonitrile	4.751	53	21369	22.71	ug/L	98
23) Ethyl-tert-butyl ether...	4.939	59	22787	4.21	ug/L	96
24) Vinyl Acetate	4.958	43	75705	20.05	ug/L	97
25) c-1,2-Dichloroethene	5.243	61	51772	21.46	ug/L	92
26) 2,2-Dichloropropane	5.353	77	37892	18.58	ug/L	98
27) Bromochloromethane	5.444	130	28711	24.25	ug/L	96
28) Chloroform	5.529	83	67883	22.22	ug/L	96
29) Carbon Tetrachloride	5.663	117	43853	23.60	ug/L	95
30) Tetrahydrofuran	5.700	42	18974	21.22	ug/L	85
31) 1,1,1-Trichloroethane	5.736	97	54459	21.11	ug/L	97
33) 1,1-Dichloropropene	5.864	75	53890	21.76	ug/L	94
34) 2-Butanone (MEK)	5.852	43	57878	42.95	ug/L	97
35) Benzene	6.120	78	1385833	186.99	ug/L	95
36) tert-Amyl methyl ether...	6.247	73	20952	4.17	ug/L	88
37) 1,2-Dichloroethane (EDC)	6.339	62	49291	20.30	ug/L	91
38) iso-Butyl Alcohol	6.369	43	74784	553.98	ug/L	93
40) Trichloroethene (TCE)	6.740	130	43089	22.56	ug/L	97
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	14956	4.12	ug/L	86
42) Dibromomethane	7.196	93	27054	22.75	ug/L	94
43) 1,2-Dichloropropane	7.312	63	41126	22.25	ug/L	88
44) Bromodichloromethane	7.379	83	48163	22.60	ug/L	94
46) 2-Chloroethyl Vinyl Ether	8.024	63	2949	2.05	ug/L #	100
47) c-1,3-Dichloropropene	8.091	75	53881	19.46	ug/L	83

11/8/19 TM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110723.D
Acq On : 7 Nov 2019 8:04 pm
Operator : TNL
Sample : 9110564-MSD1@100
Misc : 100X 500uL/50mL A19K007 (A9K0165-05)
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:14 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

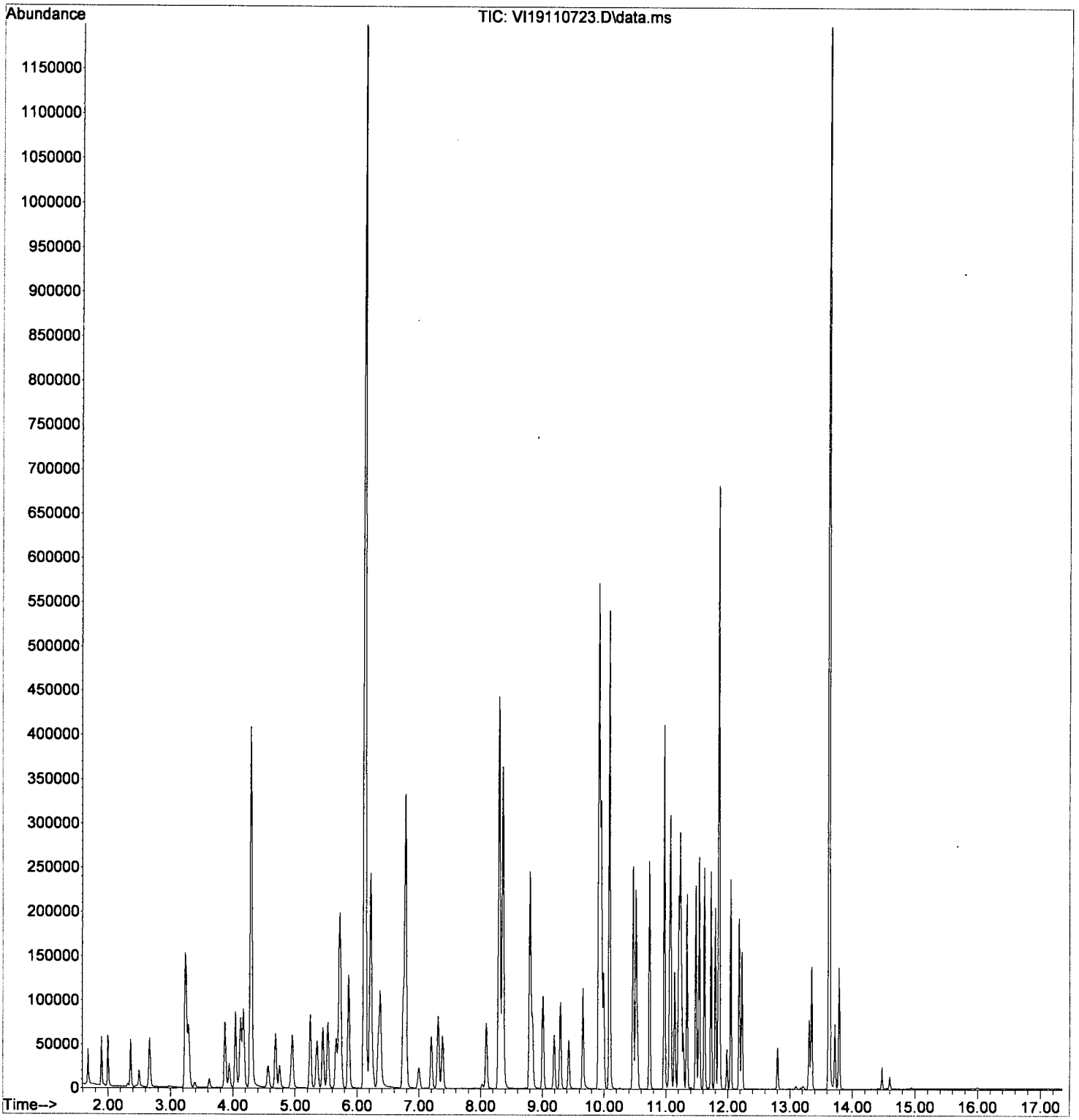
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	324628	39.42	ug/L		99
50) Tetrachloroethene (PCE)	8.796	166	41112	21.45	ug/L		94
51) 4-Methyl-2-Pentanone (...	8.796	43	102652	41.06	ug/L		95
52) t-1,3-Dichloropropene	8.839	75	47638	19.40	ug/L		98
53) 1,1,2-Trichloroethane	9.009	97	39347	21.55	ug/L		93
54) Dibromochloromethane	9.192	129	38097	25.81	ug/L		96
55) 1,3-Dichloropropane	9.289	76	65639	20.84	ug/L		87
56) 1,2-Dibromoethane (EDB)	9.423	107	41049	20.65	ug/L		95
57) 2-Hexanone	9.654	43	73187	39.95	ug/L		89
58) Chlorobenzene	9.928	112	109718	20.87	ug/L		98
59) Ethylbenzene	9.952	91	214624	24.85	ug/L		96
60) 1,1,1,2-Tetrachloroethane	9.989	131	34252	22.34	ug/L		96
61) m,p-Xylenes (2)	10.086	91	287882	45.27	ug/L		99
62) o-Xylene	10.469	91	140942	22.35	ug/L		99
63) Styrene	10.512	104	105674	20.85	ug/L		99
64) Bromoform	10.536	173	27612	25.06	ug/L		97
65) Isopropylbenzene	10.731	105	158398	20.59	ug/L		98
68) Bromobenzene	11.059	156	44274	20.94	ug/L		88
69) n-Propylbenzene	11.072	91	184563	20.36	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.138	85	39028	21.87	ug/L		96
71) 2-Chlorotoluene	11.205	126	39566	20.26	ug/L		98
72) 1,3,5-Trimethylbenzene	11.230	105	126605	20.44	ug/L		98
73) 1,2,3-Trichloropropane	11.248	110	17869	20.59	ug/L		93
74) t-1,4-Dichloro-2-butene	11.278	53	12025	19.36	ug/L	#	72
75) 4-Chlorotoluene	11.339	91	113082	20.27	ug/L		98
76) tert-Butylbenzene	11.485	91	66683	19.28	ug/L		99
77) 1,2,4-Trimethylbenzene	11.540	105	132425	21.25	ug/L		97
78) sec-Butylbenzene	11.619	105	153103	20.06	ug/L		98
79) 4-Isopropyltoluene	11.729	119	123516	20.45	ug/L		97
80) 1,3-Dichlorobenzene	11.795	146	75816	20.59	ug/L		99
81) 1,4-Dichlorobenzene	11.862	146	78090	20.33	ug/L		96
82) n-Butylbenzene	12.045	91	110132	21.46	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	71811	20.08	ug/L		97
84) 1,2-Dibromo-3-Chloropr...	12.799	157	12577	20.80	ug/L		92
85) Hexachlorobutadiene	13.310	223	9674	19.36	ug/L		95
86) 1,2,4-Trichlorobenzene	13.347	180	41404	20.09	ug/L		98
87) Naphthalene	13.627	128	1104987	168.61	ug/L		98
88) 1,2,3-Trichlorobenzene	13.785	180	41369	21.14	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K07019\
Data File : VI19110723.D
Acq On : 7 Nov 2019 8:04 pm
Operator : TNL
Sample : 9110564-MSD1@100
Misc : 100X 500uL/50mL A19K007 (A9K0165-05)
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 09:22:14 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



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

Volatile Organic Compounds by EPA 5035A/8260C
Benchsheet & Analysis Sequence Data

Batch 9110605
Sequence 9K08020 (A9K0165-01RE1,03RE1,04RE1,07RE1)

PREPARATION BENCH SHEET

BATCH #: 9110605 (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*
9110605-BLK1		QC	11/08/19 09:00	5	5							
9110605-BS1		QC	11/08/19 09:00	5	5	A19K007		5				
9110605-BS2		QC	11/08/19 09:00	5	5	A19J354		5				
A9K0163-05RE1	B	8260C Halogenated VOCs	11/08/19 11:39	5	5					3149-OS-04	2X RR-01 Pour off from 4oz jar	<2
A9K0163-06RE1	C	8260C Full List	11/08/19 11:39	5	5					3149-TS-01	2X RR-01 Pour off from 1L amber	<2
A9K0165-01RE1	B	8260C Full List	11/08/19 11:39	5	5					PDI-RB-1911060820	10X RR-02 Acetone	<2
A9K0165-03RE1	B	8260C Full List	11/08/19 11:39	5	5					PDI-052PW-06-08-191104	1X RR-03	<2
A9K0165-04RE1	B	8260C Full List	11/08/19 11:39	5	5					PDI-055PW-06-08-191104	50X RR-02 B	<2
A9K0165-07RE1	B	8260C Full List	11/08/19 11:39	5	5					PDI-075PW-01-03-191105	1X RR-01	<2
A9K0224-05	A	8260C Full List	11/08/19 11:39	5	5					JC05-B1-GW	Added for BatchQC in: 9110605	<2
A9K0224-05	A	8260C BTEX	11/08/19 11:39	5	5					JC05-B1-GW	Added for BatchQC in: 9110605	<2
A9K0224-05	A	8260C Halogenated VOCs	11/08/19 11:39	5	5					JC05-B1-GW	Added for BatchQC in: 9110605	<2
A9K0224-05	A	NWTPH-Gx	11/08/19 11:39	5	5					JC05-B1-GW		<2
9110605-MS1		QC	11/08/19 11:39	5	5	A19K007	A9K0224-05	5				<2
A9K0224-06	A	8260C BTEX	11/08/19 11:39	5	5					JC05-B2-GW		<2
A9K0224-06	A	NWTPH-Gx	11/08/19 11:39	5	5					JC05-B2-GW		<2
A9K0224-07	A	8260C BTEX	11/08/19 11:39	5	5					JC05-B3-GW		<2
A9K0224-07	A	NWTPH-Gx	11/08/19 11:39	5	5					JC05-B3-GW		<2
A9K0224-14	A	8260C Full List	11/08/19 11:39	5	5					JC05-B6-GW	Added for BatchQC in: 9110605	<2
A9K0224-14	A	8260C BTEX	11/08/19 11:39	5	5					JC05-B6-GW		<2
A9K0224-14	A	8260C Halogenated VOCs	11/08/19 11:39	5	5					JC05-B6-GW	Added for BatchQC in: 9110605	<2
A9K0224-14	A	NWTPH-Gx	11/08/19 11:39	5	5					JC05-B6-GW		<2

11/11/19 tm
Prepared By: Date

MC7 11/11/19
Reviewed By: Date

PREPARATION BENCH SHEET

BATCH #: 9110605 (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*
9110605-DUP1		QC	11/08/19 11:39	5	5		A9K0224-14					<2
A9K0224-15	A	8260C BTEX	11/08/19 11:39	5	5					JC05-B7-GW		<2
A9K0224-15	A	NWTPH-Gx	11/08/19 11:39	5	5					JC05-B7-GW		<2

*pH <2 verified 11/11/19

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description

Analyte Spike(s)

Std ID	Exp. Date	Description
A19J354	04/21/20	Prim NWTPH-Gx Spike (500 ug/mL)
A19K007	11/09/19	8260 Cal. Std. B VOCR+OXY Spike (20-40ug/r

Surrogate(s)

Std ID	Exp. Date	Description

GCMS9

Prepared By: Date

Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9K08020	Instrument:	VOA-GCMS9
Date:	11/08/19 09:02	Calibration:	A9J2503

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9K08020-IBL1	Water	QC	QC			A19I040	
2	9K08020-IBL2	Water	QC	QC			A19I040	
3	9K08020-TUN1	Water	QC	QC			A19I040	
4	9K08020-CCV1	Water	QC	QC			A19I040	
5	9110605-BS1	Water	QC	QC		9110605	A19I040	
6	9K08020-CCV2	Water	QC	QC			A19I040	
7	9110605-BS2	Water	QC	QC		9110605	A19I040	
8	9110605-BLK1	Water	QC	QC		9110605	A19I040	
9	A9K0165-03RE1	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110605	A19I040	
10	A9K0163-05RE1	Water	8260C Halogenated VOCs		11/12/19	9110605	A19I040	
11	A9K0163-06RE1	Water	8260C Full List		11/12/19	9110605	A19I040	
12	A9K0165-07RE1	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110605	A19I040	
13	A9K0165-01RE1	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110605	A19I040	
14	A9K0165-04RE1	Water	8260C Full List	Anchor QEA, LLC	11/19/19	9110605	A19I040	
15	9K08020-IBL3	Water	QC	QC			A19I040	
16	A9K0224-06	Water	8260C BTEX		11/15/19	9110605	A19I040	
"	"	Water	NWTPH-Gx	"	11/15/19	9110605	A19I040	
17	A9K0224-07	Water	8260C BTEX		11/15/19	9110605	A19I040	
"	"	Water	NWTPH-Gx	"	11/15/19	9110605	A19I040	
18	A9K0224-15	Water	8260C BTEX		11/15/19	9110605	A19I040	
"	"	Water	NWTPH-Gx	"	11/15/19	9110605	A19I040	
19	A9K0224-14	Water	8260C BTEX		11/15/19	9110605	A19I040	
"	"	Water	NWTPH-Gx	"	11/15/19	9110605	A19I040	
"	"	Water	8260C Full List	(QC Source)		9110605	A19I040	
"	"	Water	8260C Halogenated VOCs	(QC Source)		9110605	A19I040	
20	9110605-DUP1	Water	QC	QC		9110605	A19I040	
21	A9K0224-05	Water	NWTPH-Gx		11/15/19	9110605	A19I040	
"	"	Water	8260C Full List	(QC Source)		9110605	A19I040	
"	"	Water	8260C BTEX	(QC Source)		9110605	A19I040	
"	"	Water	8260C Halogenated VOCs	(QC Source)		9110605	A19I040	
22	9110605-MS1	Water	QC	QC		9110605	A19I040	
23	9K08020-IBL4	Water	QC	QC			A19I040	

Data Entered By: 11/11/19 bnl

Data Reviewed By: MM 11/11/19

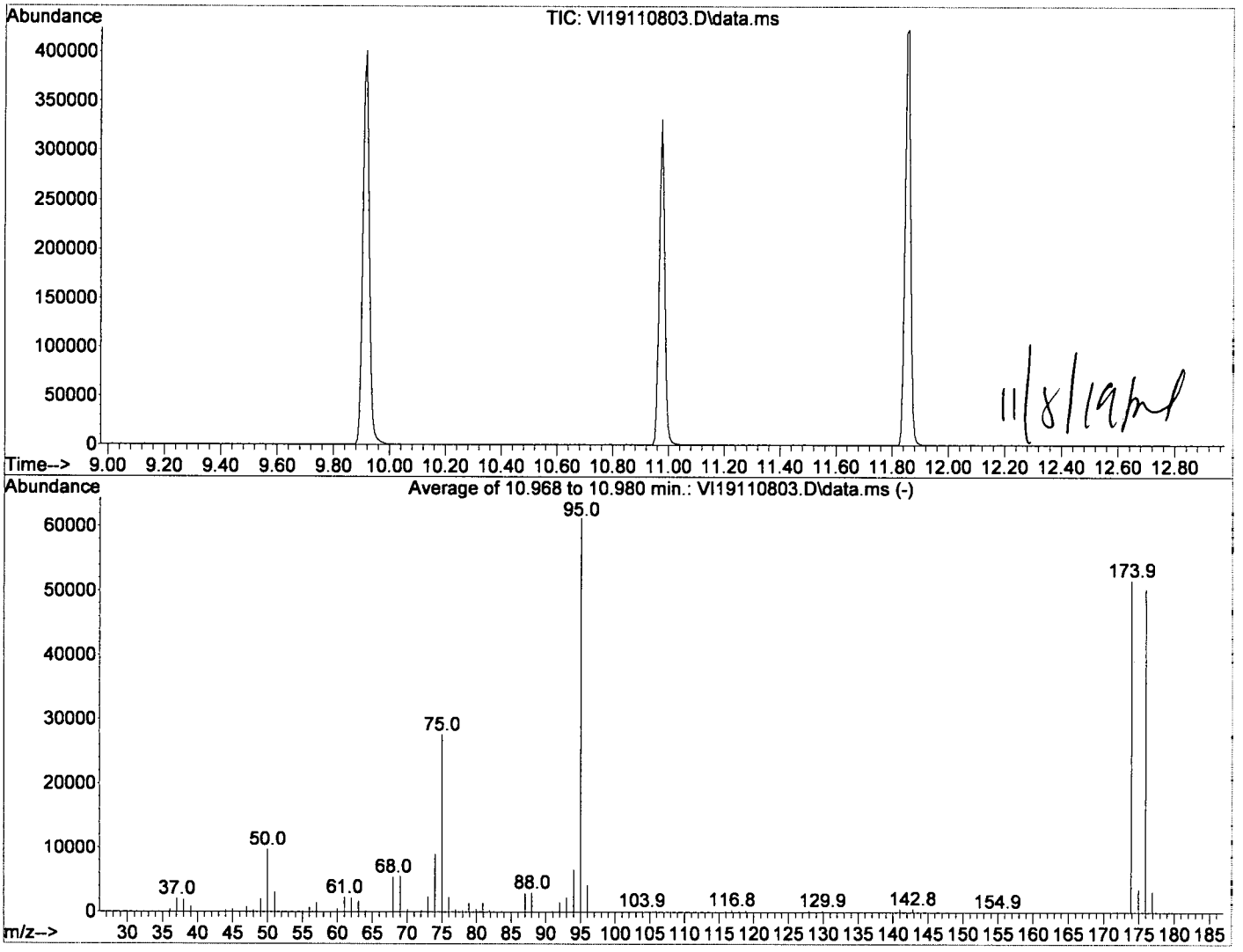
Comments: DCM → MDL ? MRL ? to 2-5 ppb / 5 ppb
CCl_2F_2 MDL = MRL @ 1 ppb Q55

BFB

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110803.D
Acq On : 8 Nov 2019 10:13 am
Operator : TNL
Sample : 9K08020-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VI191025W.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Oct 25 08:32:21 2019



11/8/19 mf

AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1536

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	118.4	61285	PASS
96	95	5	9	6.8	4141	PASS
173	174	0.00	2	0.2	88	PASS
174	95	50	200	84.5	51773	PASS
175	174	5	9	6.9	3562	PASS
176	174	95	105	97.4	50405	PASS
177	176	5	10	6.5	3299	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110803.D
Acq On : 8 Nov 2019 10:13 am
Operator : TNL
Sample : 9K08020-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 11:18:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	83123	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	232064	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	104417	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	88257	54.04	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	279654	53.25	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	316148	51.90	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	84197	49.91	ug/L	0.00
Target Compounds						Qvalue
5) Bromomethane	2.360	96	132	0.12	ug/L	# 65
14) Methylene Chloride	3.875	84	1953	0.42	ug/L	89
15) Acetone	3.948	43	1261	1.73	ug/L	94

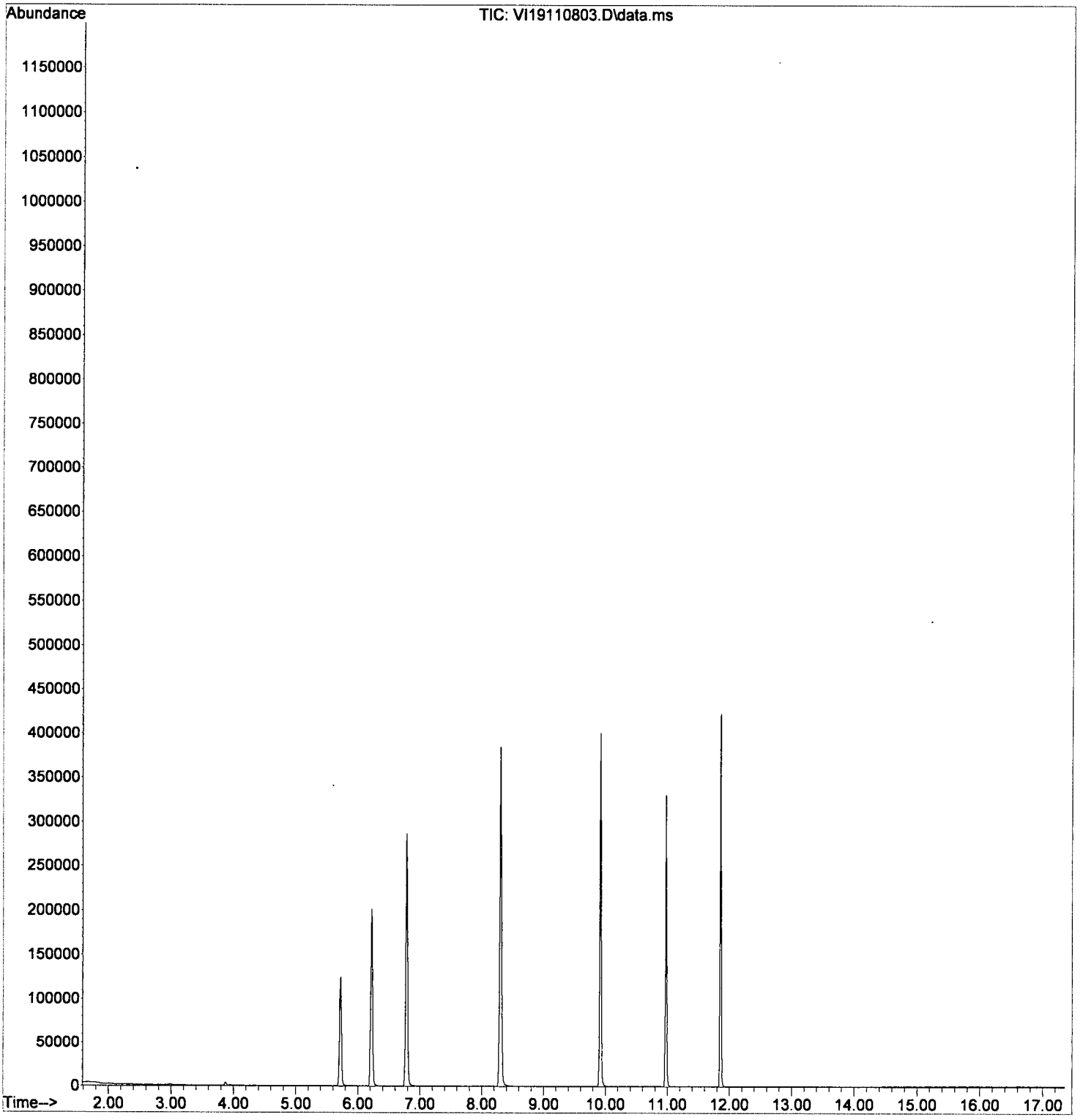
11/8/19 hm

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110803.D
Acq On : 8 Nov 2019 10:13 am
Operator : TNL
Sample : 9K08020-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 11:18:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110804.D
Acq On : 8 Nov 2019 10:40 am
Operator : TNL
Sample : 9110605-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 11:18:07 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

11/8/19 tm

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	87	0.00	
2		Dichlorodifluoromethane	20.000	15.730		21.3#	70	0.02	Q55
3	P	Chloromethane	20.000	19.070		4.6	90	0.01	
4	C	Vinyl Chloride	20.000	19.462		2.7	83	0.01	
5		Bromomethane	20.000	20.548		-2.7	94	0.02	
6		Chloroethane	20.000	16.405		18.0	81	0.02	
7		Trichlorofluoromethane	20.000	20.351		-1.8	85	0.02	
8		Ethanol	1250.000	1063.196		14.9	71	0.01	
9	C	1,1-Dichloroethene	20.000	19.212		3.9	83	0.01	
10		Carbon Disulfide	20.000	19.298		3.5	84	0.02	
11		Freon 113	20.000	20.380		-1.9	86	0.02	
12		Iodomethane	20.000	11.459	NR	42.7#	51	0.02	
13		Acrolein	20.000	19.190		4.0	82	0.01	
14		Methylene Chloride	20.000	20.875		-4.4	89	0.01	
15		Acetone	40.000	35.057		12.4	77	0.01	
16		t-1,2-Dichloroethene	20.000	20.224		-1.1	82	0.01	
17		n-Hexane	20.000	18.704		6.5	78	0.01	
18		Methyl-tert-butyl-ether	20.000	17.874		10.6	77	0.00	
19		tert-Butanol (TBA)	1250.000	1030.971		17.5	64	0.00	
20		Diisopropyl ether (DIPE)	5.000	4.080		18.4	67	0.00	
21	P	1,1-Dichloroethane	20.000	19.861		0.7	84	0.01	
22		Acrylonitrile	20.000	21.067		-5.3	87	0.00	
23		Ethyl-tert-butyl ether (ET	5.000	3.785	NR	24.3#	62	0.00	
24		Vinyl Acetate	20.000	18.235		8.8	77	0.01	
25		c-1,2-Dichloroethene	20.000	19.906		0.5	83	0.01	
26		2,2-Dichloropropane	20.000	18.585		7.1	80	0.00	
27		Bromochloromethane	20.000	23.302		-16.5	90	0.00	
28	C	Chloroform	20.000	20.611		-3.1	84	0.01	
29		Carbon Tetrachloride	20.000	21.409		-7.0	92	0.00	
30		Tetrahydrofuran	20.000	18.735		6.3	80	0.00	
31		1,1,1-Trichloroethane	20.000	19.026		4.9	80	0.00	
32	S	Dibromofluoromethane (S)	50.000	53.298		-6.6	94	0.00	
33		1,1-Dichloropropene	20.000	19.490		2.6	83	0.00	
34		2-Butanone (MEK)	40.000	37.849		5.4	80	0.00	
35		Benzene	20.000	20.297		-1.5	87	0.00	
36		tert-Amyl methyl ether (TA	5.000	3.880	NR	22.4#	65	0.00	
37		1,2-Dichloroethane (EDC)	20.000	18.846		5.8	79	0.00	
38		iso-Butyl Alcohol	500.000	481.079		3.8	79	0.00	
39	S	1,4-Difluorobenzene (S)	50.000	53.355		-6.7	93	0.00	
40		Trichloroethene (TCE)	20.000	21.398		-7.0	87	0.00	
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	3.701	NR	26.0#	60	0.00	
42		Dibromomethane	20.000	21.550		-7.8	88	0.00	
43	C	1,2-Dichloropropane	20.000	20.644		-3.2	87	0.00	
44		Bromodichloromethane	20.000	21.662		-8.3	91	0.00	
45		Chlorobenzene-d5 (I)	50.000	50.000		0.0	94	0.00	
46		2-Chloroethyl Vinyl Ether	20.000	16.307		18.5	73	0.00	
47		c-1,3-Dichloropropene	20.000	19.190		4.0	85	0.00	
48	S	Toluene-d8 (S)	50.000	49.437		1.1	94	0.00	
49	C	Toluene	20.000	18.454		7.7	85	0.00	
50		Tetrachloroethene (PCE)	20.000	19.578		2.1	85	0.00	

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110804.D
Acq On : 8 Nov 2019 10:40 am
Operator : TNL
Sample : 9110605-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 11:18:07 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 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	37.106	7.2	79	0.00	
52		t-1,3-Dichloropropene	20.000	18.601	7.0	82	0.00	
53		1,1,2-Trichloroethane	20.000	20.279	-1.4	88	0.00	
54		Dibromochloromethane	20.000	25.140	-25.7#	103	0.00	DSG
55		1,3-Dichloropropane	20.000	19.404	3.0	85	0.00	
56		1,2-Dibromoethane (EDB)	20.000	19.550	2.2	85	0.00	
57		2-Hexanone	40.000	35.372	11.6	76	0.00	
58	P	Chlorobenzene	20.000	19.530	2.3	87	0.00	
59	C	Ethylbenzene	20.000	18.595	7.0	85	0.00	
60		1,1,1,2-Tetrachloroethane	20.000	21.571	-7.9	94	0.00	
61		m,p-Xylenes (2)	40.000	37.031	7.4	82	0.00	
62		o-Xylene	20.000	18.154	9.2	79	0.00	
63		Styrene	20.000	18.912	5.4	82	0.00	
64	P	Bromoform	20.000	24.782	-23.9#	118	0.00	DSG
65		Isopropylbenzene	20.000	18.376	8.1	80	0.00	
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	91	0.00	
67	S	4-Bromofluorobenzene (S)	50.000	49.118	1.8	90	0.00	
68		Bromobenzene	20.000	20.187	-0.9	86	0.00	
69		n-Propylbenzene	20.000	18.743	6.3	81	0.00	
70	P	1,1,2,2-Tetrachloroethane	20.000	20.475	-2.4	88	0.00	
71		2-Chlorotoluene	20.000	19.043	4.8	82	0.00	
72		1,3,5-Trimethylbenzene	20.000	19.052	4.7	80	0.00	
73		1,2,3-Trichloropropane	20.000	19.497	2.5	84	0.00	
74		t-1,4-Dichloro-2-butene	20.000	18.725	6.4	81	0.00	
75		4-Chlorotoluene	20.000	18.877	5.6	82	0.00	
76		tert-Butylbenzene	20.000	17.594	12.0	75	0.00	
77		1,2,4-Trimethylbenzene	20.000	19.023	4.9	79	0.00	
78		sec-Butylbenzene	20.000	18.549	7.3	79	0.00	
79		4-Isopropyltoluene	20.000	18.987	5.1	76	0.00	
80		1,3-Dichlorobenzene	20.000	19.669	1.7	85	0.00	
81		1,4-Dichlorobenzene	20.000	19.383	3.1	84	0.00	
82		n-Butylbenzene	20.000	19.492	2.5	77	0.00	
83		1,2-Dichlorobenzene	20.000	19.679	1.6	85	0.00	
84		1,2-Dibromo-3-Chloropropane	20.000	19.694	1.5	87	0.00	
85		Hexachlorobutadiene	20.000	17.407	13.0	73	0.00	
86		1,2,4-Trichlorobenzene	20.000	18.315	8.4	75	0.00	
87		Naphthalene	20.000	18.005	10.0	73	0.00	
88		1,2,3-Trichlorobenzene	20.000	19.044	4.8	78	0.00	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110804.D
Acq On : 8 Nov 2019 10:40 am
Operator : TNL
Sample : 9110605-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 11:18:07 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

11/8/19 bnf

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	98305	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	288214	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	137464	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	102948	53.30	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.782	114	331369	53.36	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	373983	49.44	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	109096	49.12	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	25277	15.73	ug/L		98
3) Chloromethane	1.903	50	40637	19.07	ug/L		95
4) Vinyl Chloride	2.007	62	41550	19.46	ug/L		97
5) Bromomethane	2.372	96	25861	20.55	ug/L		96
6) Chloroethane	2.506	64	16097	16.41	ug/L		79
7) Trichlorofluoromethane	2.676	101	49197	20.35	ug/L		96
8) Ethanol	3.242	45	50227	1063.20	ug/L		88
9) 1,1-Dichloroethene	3.242	61	44770	19.21	ug/L		89
10) Carbon Disulfide	3.260	76	82987	19.30	ug/L		99
11) Freon 113	3.297	101	34149	20.38	ug/L		96
12) Iodomethane	3.400	142	5847	11.46	ug/L		99
13) Acrolein	3.625	56	8571	19.19	ug/L		70
14) Methylene Chloride	3.881	84	38956	20.87	ug/L		86
15) Acetone	3.948	43	30200	35.06	ug/L		89
16) t-1,2-Dichloroethene	4.045	61	46128	20.22	ug/L		91
17) n-Hexane	4.130	86	6495	18.70	ug/L	#	89
18) Methyl-tert-butyl-ether	4.173	73	94762	17.87	ug/L		91
19) tert-Butanol (TBA)	4.294	59	392386	1030.97	ug/L		94
20) Diisopropyl ether (DIPE)	4.568	45	23272	4.08	ug/L		93
21) 1,1-Dichloroethane	4.690	63	62916	19.86	ug/L		94
22) Acrylonitrile	4.751	53	20088	21.07	ug/L		98
23) Ethyl-tert-butyl ether...	4.945	59	20754	3.79	ug/L		93
24) Vinyl Acetate	4.964	43	69769	18.23	ug/L		95
25) c-1,2-Dichloroethene	5.249	61	48679	19.91	ug/L		87
26) 2,2-Dichloropropane	5.353	77	38420	18.59	ug/L		98
27) Bromochloromethane	5.450	130	27961	23.30	ug/L		93
28) Chloroform	5.535	83	63834	20.61	ug/L		96
29) Carbon Tetrachloride	5.663	117	40328	21.41	ug/L		94
30) Tetrahydrofuran	5.706	42	16983	18.74	ug/L		86
31) 1,1,1-Trichloroethane	5.736	97	49740	19.03	ug/L		97
33) 1,1-Dichloropropene	5.864	75	48928	19.49	ug/L		96
34) 2-Butanone (MEK)	5.858	43	51691	37.85	ug/L		93
35) Benzene	6.125	78	152465	20.30	ug/L		96
36) tert-Amyl methyl ether...	6.253	73	19773	3.88	ug/L		91
37) 1,2-Dichloroethane (EDC)	6.344	62	46374	18.85	ug/L		90
38) iso-Butyl Alcohol	6.375	43	65823	481.08	ug/L		96
40) Trichloroethene (TCE)	6.746	130	41418	21.40	ug/L		93
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	13621	3.70	ug/L		79
42) Dibromomethane	7.202	93	25980	21.55	ug/L		95
43) 1,2-Dichloropropane	7.312	63	38681	20.64	ug/L		88
44) Bromodichloromethane	7.385	83	46797	21.66	ug/L		96
46) 2-Chloroethyl Vinyl Ether	8.024	63	24126	16.31	ug/L	#	100
47) c-1,3-Dichloropropene	8.090	75	54683	19.19	ug/L		84

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110804.D
Acq On : 8 Nov 2019 10:40 am
Operator : TNL
Sample : 9110605-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 11:18:07 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

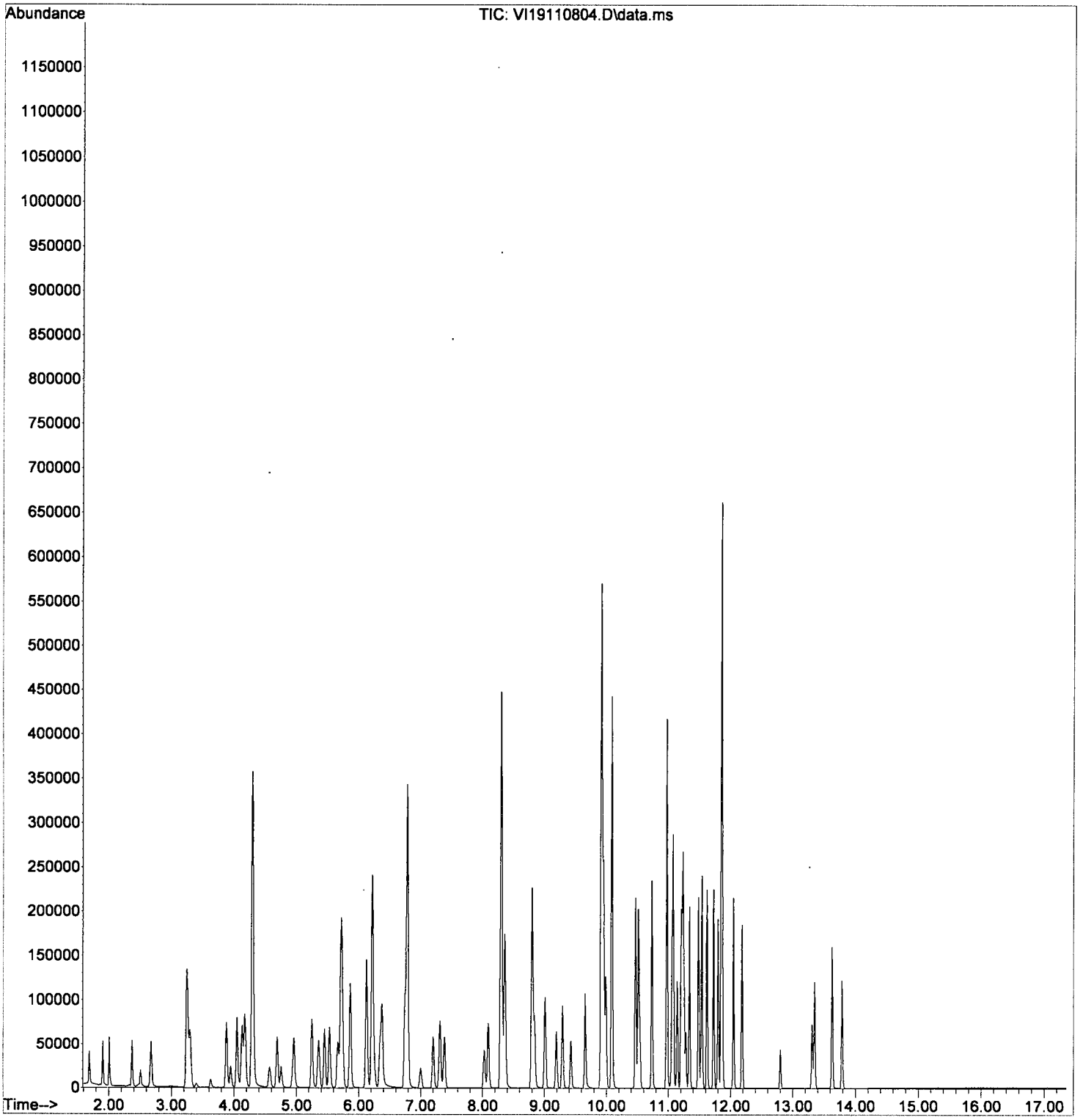
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)	
49) Toluene	8.358	91	156404	18.45 ug/L	99	
50) Tetrachloroethene (PCE)	8.796	166	38624	19.58 ug/L	92	
51) 4-Methyl-2-Pentanone (...	8.802	43	95472	37.11 ug/L	94	
52) t-1,3-Dichloropropene	8.839	75	47014	18.60 ug/L	99	
53) 1,1,2-Trichloroethane	9.009	97	38102	20.28 ug/L	91	
54) Dibromochloromethane	9.192	129	38186	25.14 ug/L	94	OSG
55) 1,3-Dichloropropane	9.289	76	62889	19.40 ug/L	87	
56) 1,2-Dibromoethane (EDB)	9.429	107	39993	19.55 ug/L	94	
57) 2-Hexanone	9.654	43	66688	35.37 ug/L	88	
58) Chlorobenzene	9.928	112	105654	19.53 ug/L	97	
59) Ethylbenzene	9.952	91	165276	18.59 ug/L	99	
60) 1,1,1,2-Tetrachloroethane	9.989	131	34033	21.57 ug/L	96	
61) m,p-Xylenes (2)	10.086	91	242375	37.03 ug/L	99	
62) o-Xylene	10.469	91	117799	18.15 ug/L	96	
63) Styrene	10.512	104	98635	18.91 ug/L	99	
64) Bromoform	10.536	173	28066	24.78 ug/L	95	OSG
65) Isopropylbenzene	10.731	105	145471	18.38 ug/L	99	
68) Bromobenzene	11.059	156	43009	20.19 ug/L	90	
69) n-Propylbenzene	11.078	91	171230	18.74 ug/L	99	
70) 1,1,2,2-Tetrachloroethane	11.138	85	36827	20.47 ug/L	96	
71) 2-Chlorotoluene	11.205	126	37487	19.04 ug/L	93	
72) 1,3,5-Trimethylbenzene	11.230	105	118939	19.05 ug/L	97	
73) 1,2,3-Trichloropropane	11.248	110	17054	19.50 ug/L	95	
74) t-1,4-Dichloro-2-butene	11.278	53	11720	18.73 ug/L	78	
75) 4-Chlorotoluene	11.339	91	106145	18.88 ug/L	98	
76) tert-Butylbenzene	11.485	91	61333	17.59 ug/L	95	
77) 1,2,4-Trimethylbenzene	11.540	105	119470	19.02 ug/L	99	
78) sec-Butylbenzene	11.619	105	142685	18.55 ug/L	98	
79) 4-Isopropyltoluene	11.728	119	115552	18.99 ug/L	97	
80) 1,3-Dichlorobenzene	11.795	146	73005	19.67 ug/L	97	
81) 1,4-Dichlorobenzene	11.862	146	75020	19.38 ug/L	97	
82) n-Butylbenzene	12.045	91	100816	19.49 ug/L	98	
83) 1,2-Dichlorobenzene	12.185	146	70931	19.68 ug/L	97	
84) 1,2-Dibromo-3-Chloropr...	12.799	157	12003	19.69 ug/L	92	
85) Hexachlorobutadiene	13.310	223	8767	17.41 ug/L	96	
86) 1,2,4-Trichlorobenzene	13.347	180	38046	18.31 ug/L	98	
87) Naphthalene	13.627	128	118919	18.00 ug/L	98	
88) 1,2,3-Trichlorobenzene	13.785	180	37560	19.04 ug/L	96	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110804.D
Acq On : 8 Nov 2019 10:40 am
Operator : TNL
Sample : 9110605-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 08 11:18:07 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110805.D
Acq On : 8 Nov 2019 11:06 am
Operator : TNL
Sample : 9110605-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:15:15 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

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	90	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	51.511	-3.0	93	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	48.409	3.2	88	0.00
4	H	NWTPH-Gx (TPH)	500.000	449.069	10.2	81	0.00
5	H	TPHg (C5-C9)	500.000	463.271	7.3	84	0.00
6	H	TPHg (C6-C10)	500.000	462.238	7.6	84	0.00
7	H	CA-LUFT (C5-C12)	500.000	455.105	9.0	83	0.00
8		Benzene (NR)	-1.000	0.000	0.0	95	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	90	0.00
10		Toluene (NR)	-1.000	0.000	0.0	90	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	91	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	89	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	99	0.00

11/11/19 mf

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110805.D
Acq On : 8 Nov 2019 11:06 am
Operator : TNL
Sample : 9110605-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:15:15 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	192336	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	322145	51.51	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	101070	48.41	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	357835	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	272518	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	199689	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	2416476m	449.07	ug/L	
5) TPHg (C5-C9)	9.890	TIC	3480943m	463.27	ug/L	
6) TPHg (C6-C10)	9.890	TIC	2945636m	462.24	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	4052346m	455.11	ug/L	

11/11/19 bmf

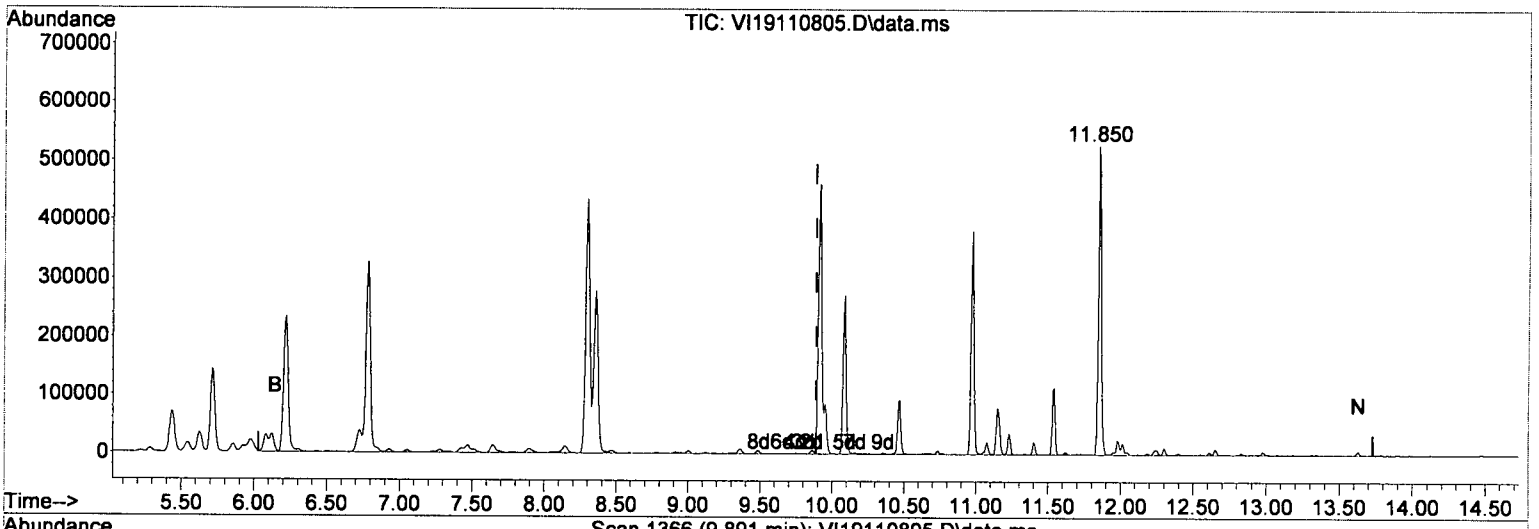
NR

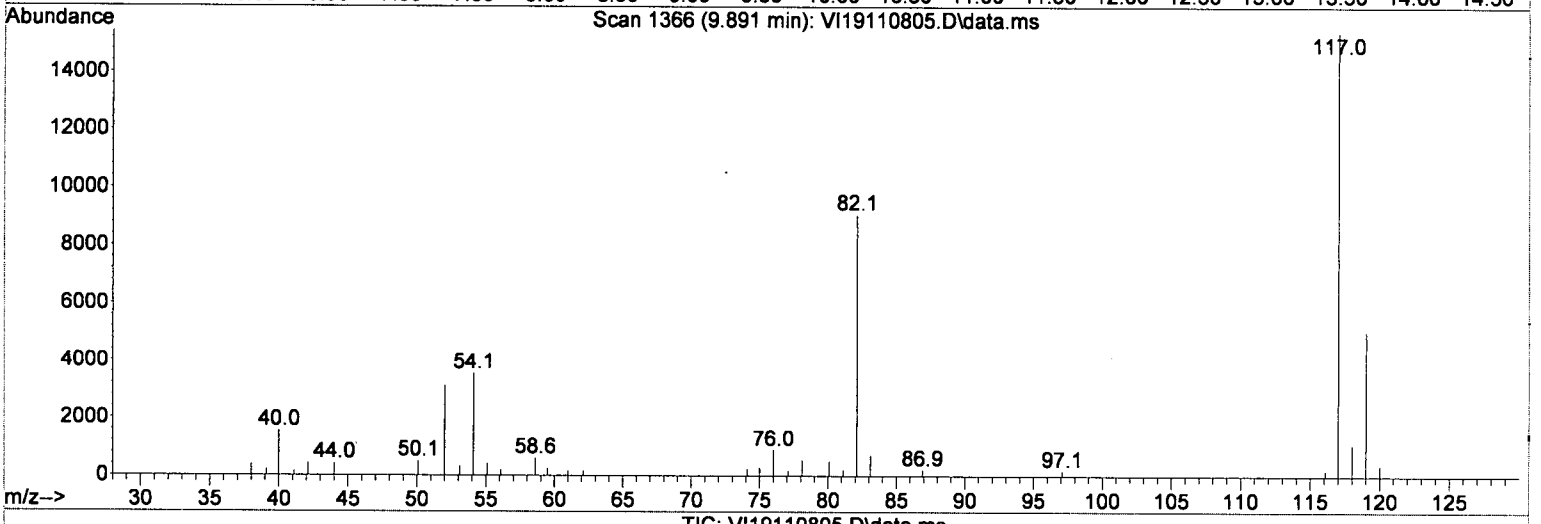
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110805.D
Acq On : 8 Nov 2019 11:06 am
Operator : TNL
Sample : 9110605-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:15:15 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





TIC: VI19110805.D\data.ms

(4) NWTPH-Gx (TPH) (H)

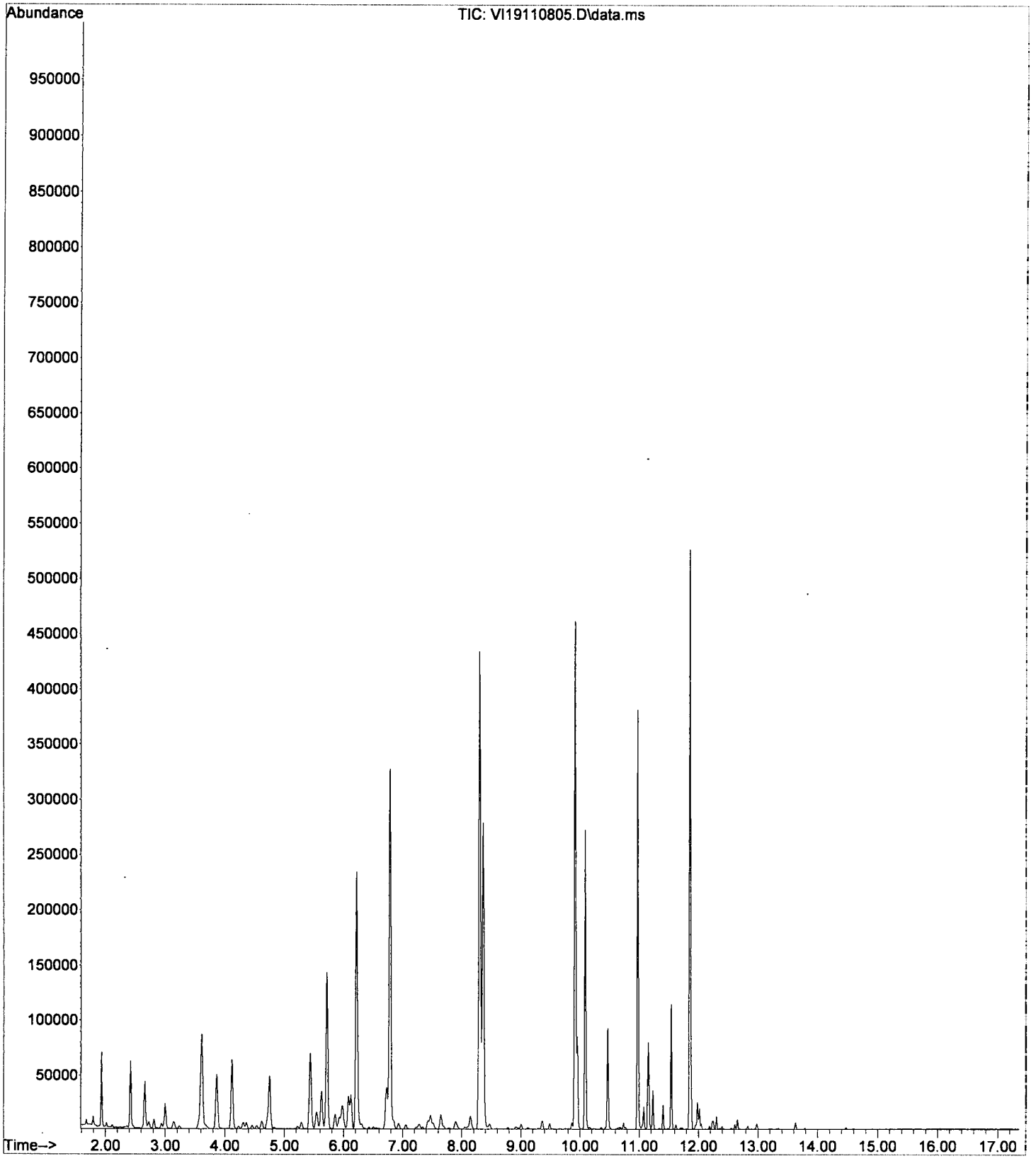
9.890min (0.000) 449.07 ug/L m

response 2416476

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

11/11/19 bn

File :C:\msdchem\1\data\2019-11\9K08020\VI19110805.D
Operator : TNL
Acquired : 8 Nov 2019 11:06 am using AcqMethod VI1611RUN.M
Instrument : VOA-GCMS9
Sample Name: 9110605-BS2
Misc Info : 1X 5mL 500PPB GX A19J354
Vial Number: 5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110806.D
Acq On : 8 Nov 2019 11:33 am
Operator : TNL
Sample : 9110605-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:12:37 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	185759	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	317165	52.51	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	94511	46.87	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	351156	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	261170	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	179815	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	385m	24.71	ug/L	
5) TPHg (C5-C9)	9.890	TIC	306653m	16.94	ug/L	
6) TPHg (C6-C10)	9.890	TIC	290173m	19.74	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	319257m	21.89	ug/L	

11/11/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110806.D
Acq On : 8 Nov 2019 11:33 am
Operator : TNL
Sample : 9110605-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:50 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	94024	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	261170	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	114399	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	99029	53.60	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	316952	53.36	ug/L	0.00
48) Toluene-d8 (S)	8.303	98	351156	51.23	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	94511	51.13	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.904	50	253	0.12	ug/L	# 47
14) Methylene Chloride	3.875	84	2140	0.38	ug/L	86
15) Acetone	3.954	43	532	0.65	ug/L	# 44
87) Naphthalene	13.633	128	570	0.10	ug/L	81

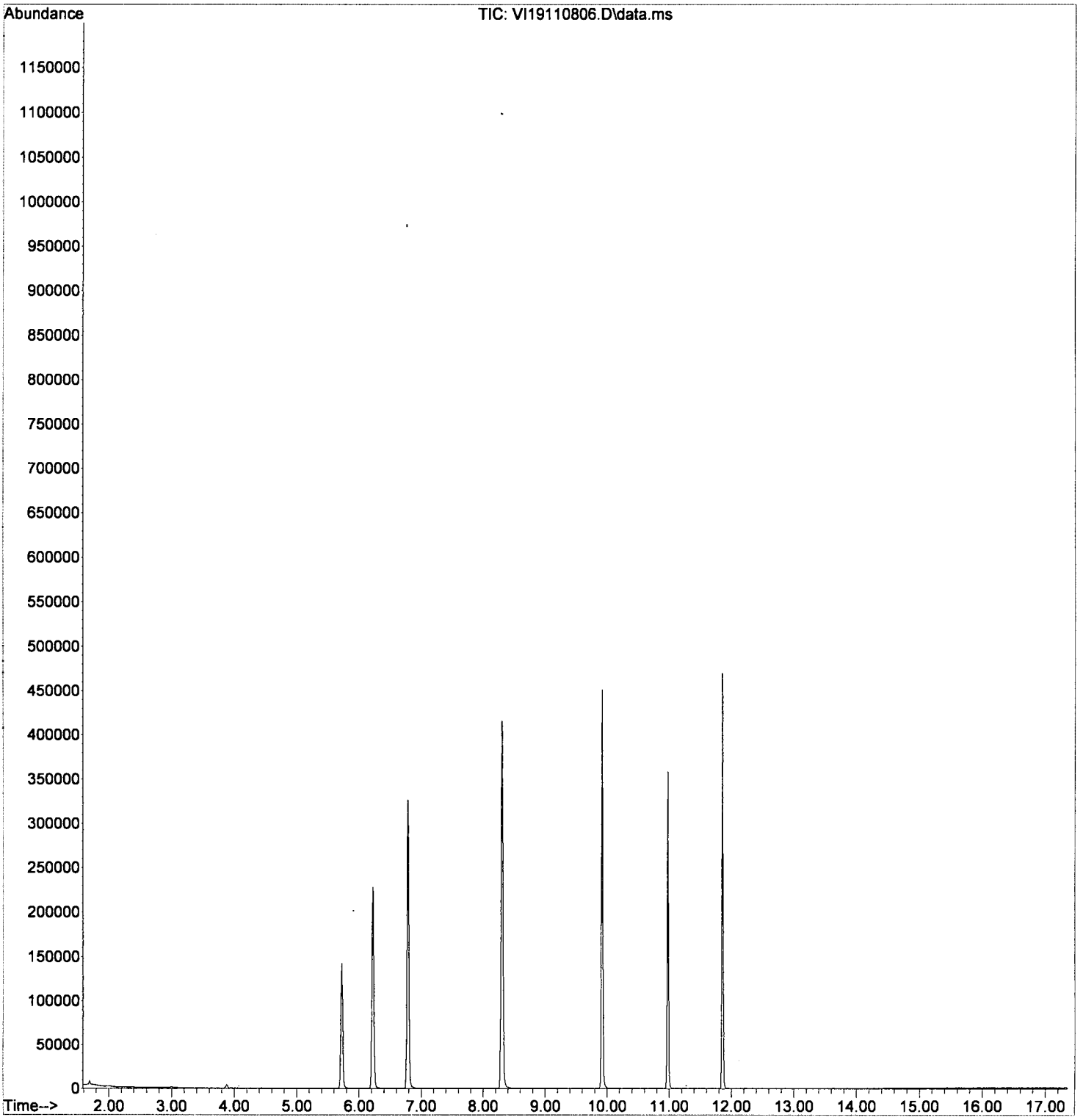
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/11/19 MV

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110806.D
Acq On : 8 Nov 2019 11:33 am
Operator : TNL
Sample : 9110605-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:50 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

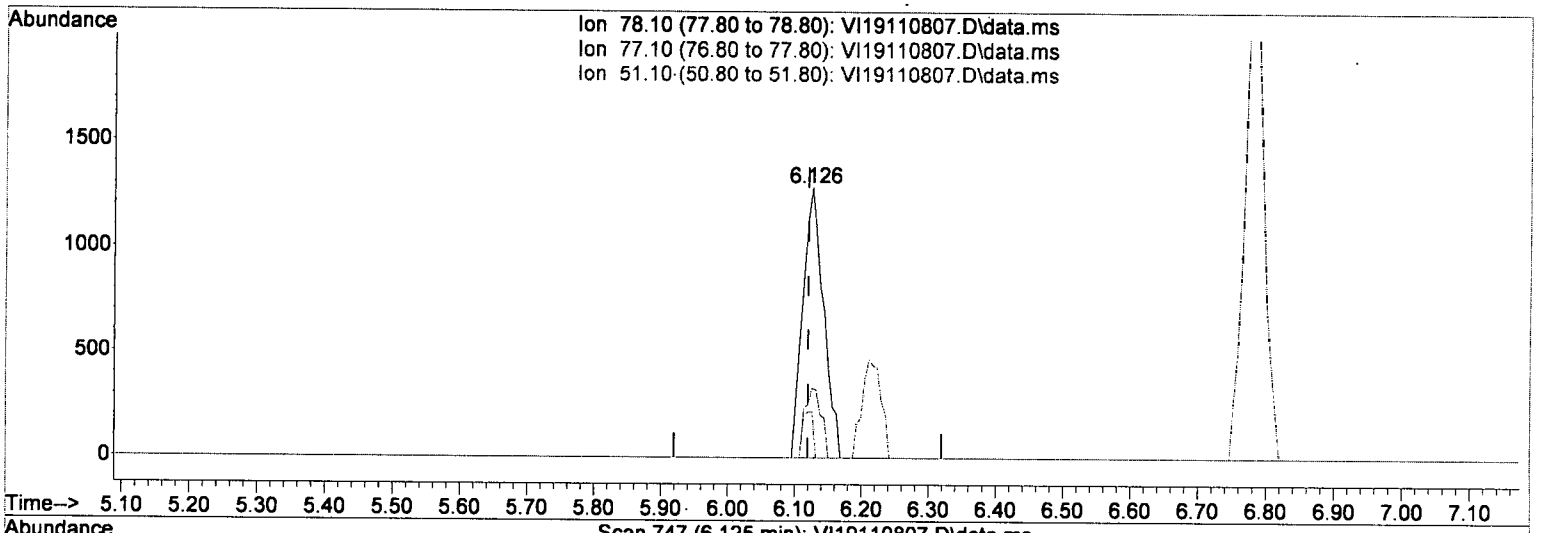
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	98321	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	288644	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	135193	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	103835	53.75 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	335012	53.93 ug/L	0.00
48) Toluene-d8 (S).	8.297	98	373699	49.33 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	108598	49.72 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.904	50	349	0.16 ug/L #	47
5) Bromomethane	2.372	96	188	0.15 ug/L #	48
6) Chloroethane	2.451	64	196	0.20 ug/L #	36
14) Methylene Chloride	3.875	84	127	Below Cal	91
15) Acetone	3.948	43	3104	3.60 ug/L	85
30) Tetrahydrofuran	5.663	42	1041	1.15 ug/L #	23
34) 2-Butanone (MEK)	5.858	43	779	0.57 ug/L	52
35) Benzene	6.125	78	2771	0.37 ug/L	98
49) Toluene	8.352	91	1405	0.17 ug/L	84
57) 2-Hexanone	9.660	43	846	0.45 ug/L #	1
59) Ethylbenzene	9.952	91	1676	0.19 ug/L	91
61) m,p-Xylenes (2)	10.086	91	2043	0.31 ug/L	94
62) o-Xylene	10.469	91	3050	0.47 ug/L	95
65) Isopropylbenzene	10.731	105	27186	3.43 ug/L	97
69) n-Propylbenzene	11.071	91	6082	0.68 ug/L	92
72) 1,3,5-Trimethylbenzene	11.230	105	1232	0.20 ug/L	94
74) t-1,4-Dichloro-2-butene	11.400	53	184	0.30 ug/L #	1
75) 4-Chlorotoluene	11.400	91	1807	~~0.33 ug/L #~~	~~73~~
76) tert-Butylbenzene	11.485	91	843	0.25 ug/L	90
77) 1,2,4-Trimethylbenzene	11.540	105	3770	0.61 ug/L	96
78) sec-Butylbenzene	11.619	105	6668	0.88 ug/L	96
79) 4-Isopropyltoluene	11.698	119	1338	0.22 ug/L	85
82) n-Butylbenzene	12.045	91	745	0.15 ug/L	75
87) Naphthalene	13.627	128	15600	2.40 ug/L	95

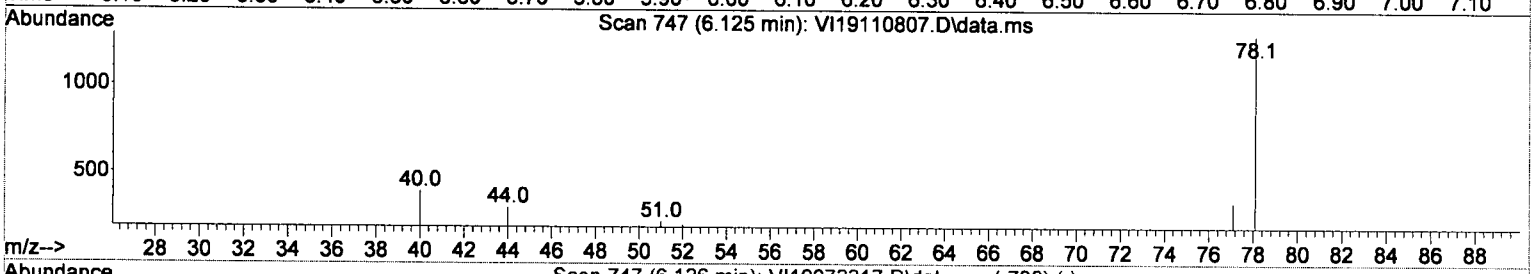
(#) = qualifier out of range (m) = manual integration (+) = signals summed

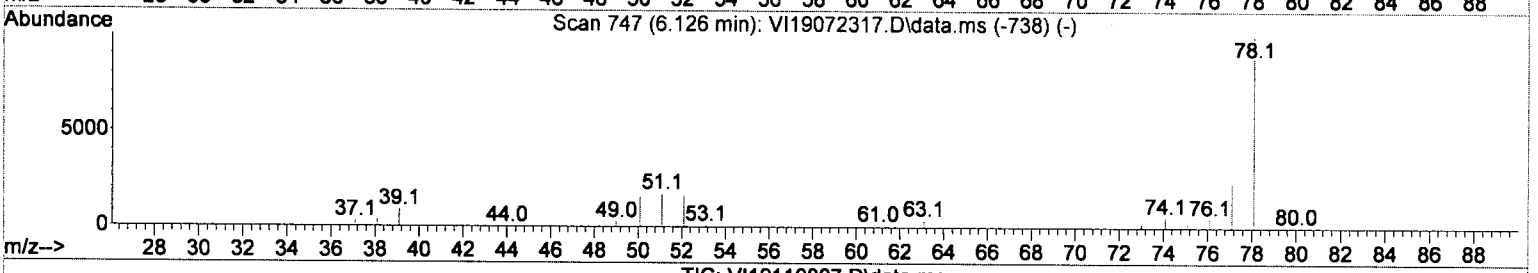
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110807.D\data.ms

(35) Benzene

6.125min (+ 0.006) 0.37 ug/L

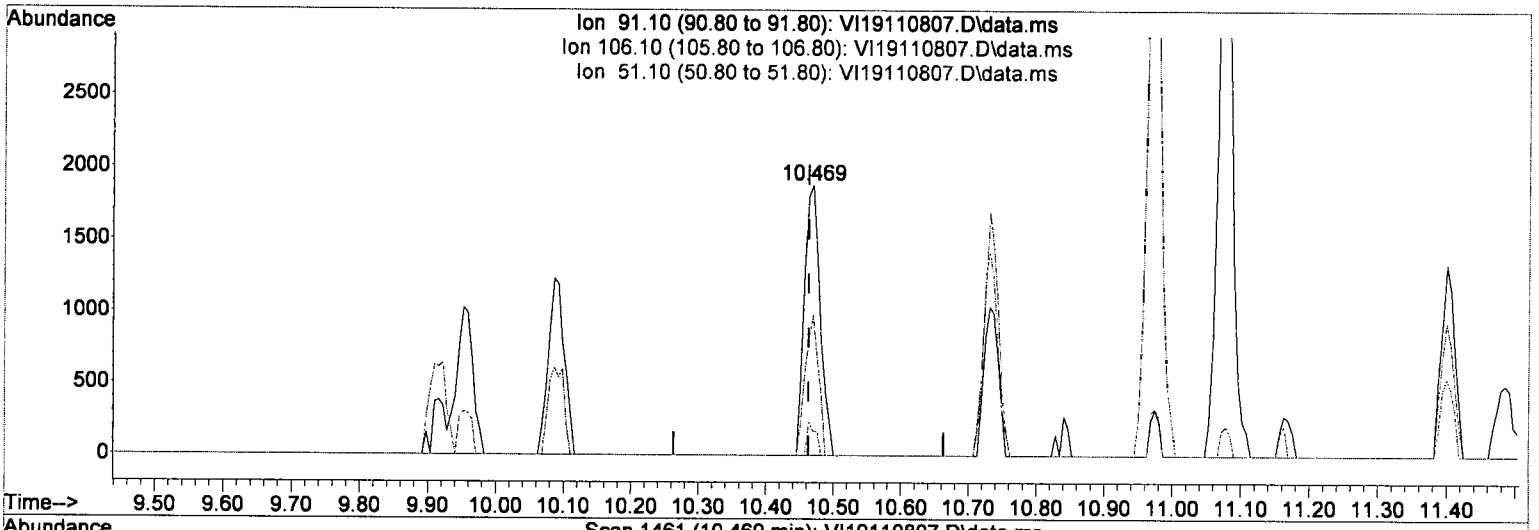
response 2771

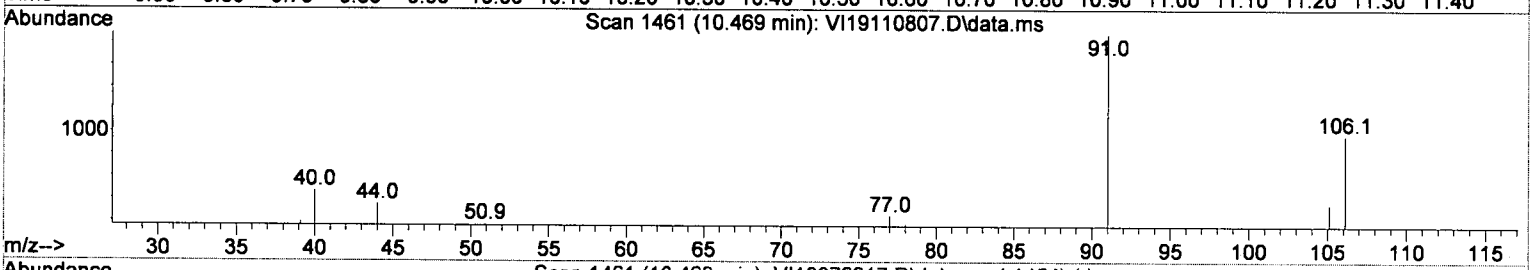
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	26.01
51.10	17.20	17.24
0.00	0.00	0.00

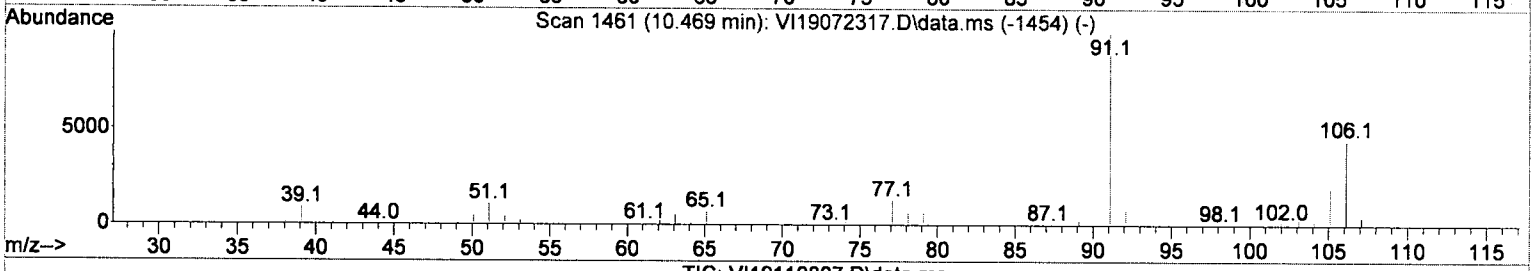
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110807.D\data.ms

(62) o-Xylene

10.469min (+ 0.006) 0.47 ug/L

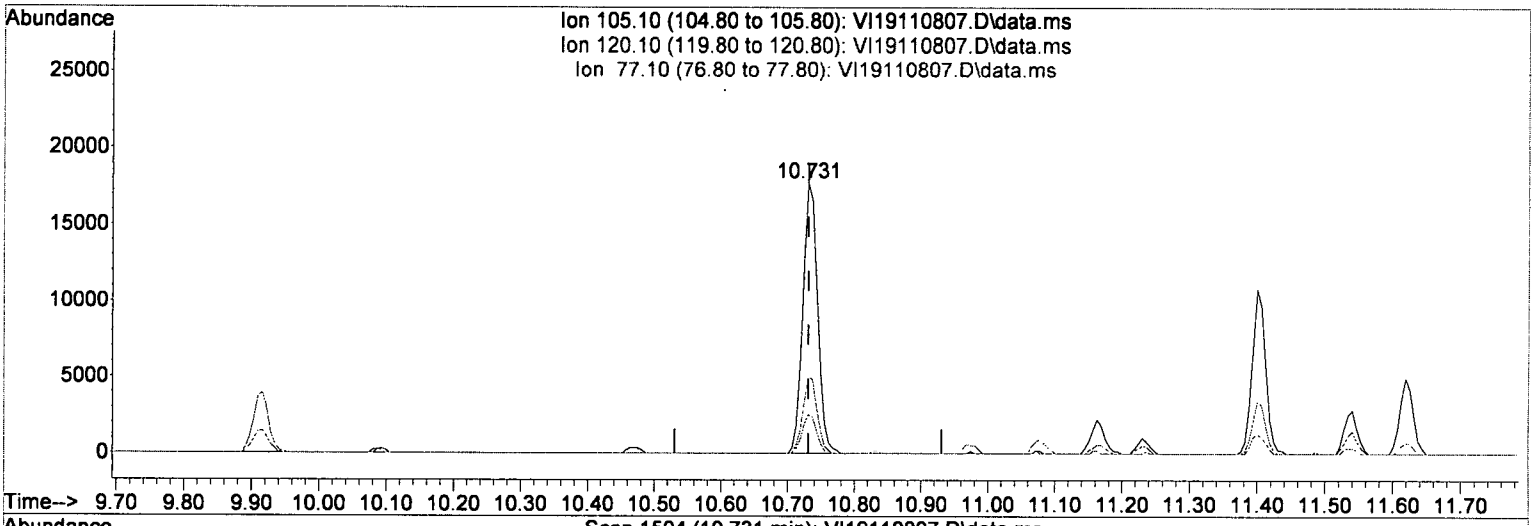
response 3050

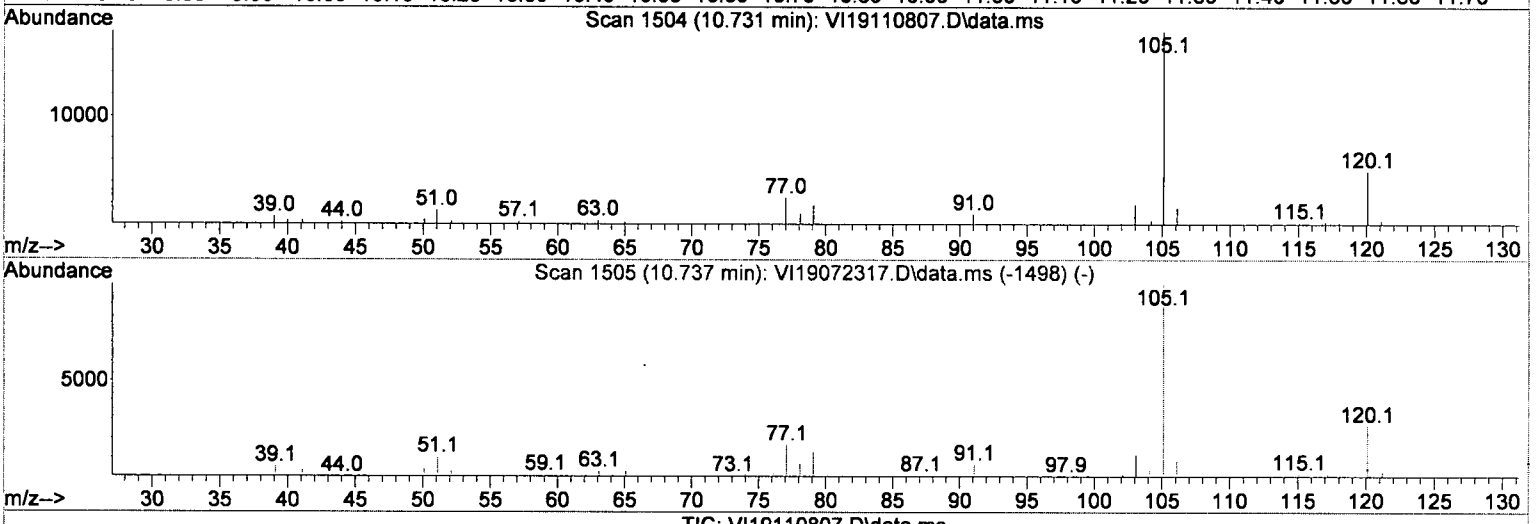
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	51.97
51.10	10.20	9.03
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration





TIC: VI19110807.D\data.ms

(65) Isopropylbenzene

10.731min (-0.000) 3.43 ug/L

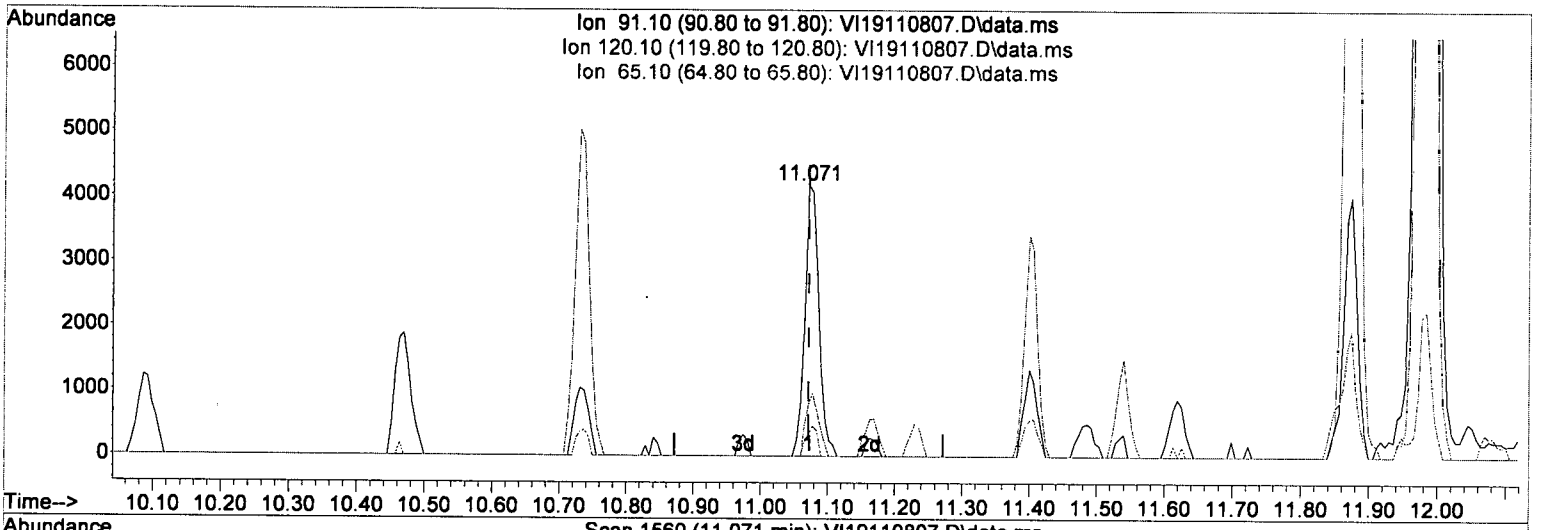
response 27186

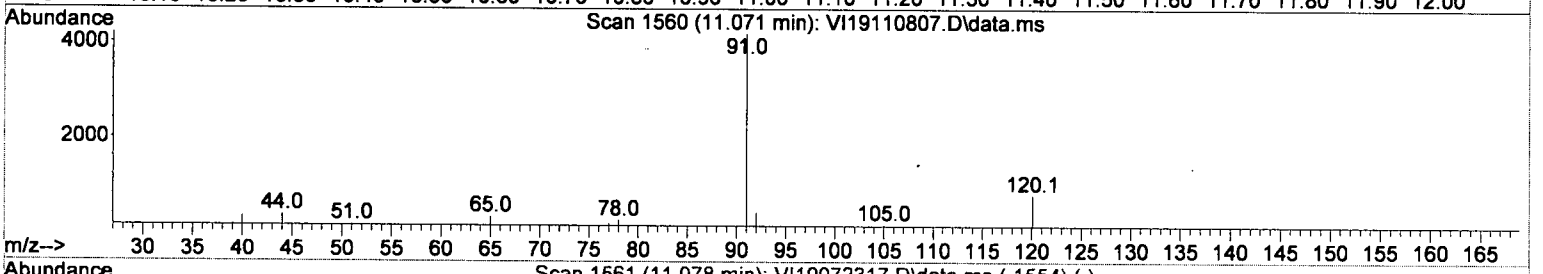
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	26.40	28.34
77.10	15.50	14.43
0.00	0.00	0.00

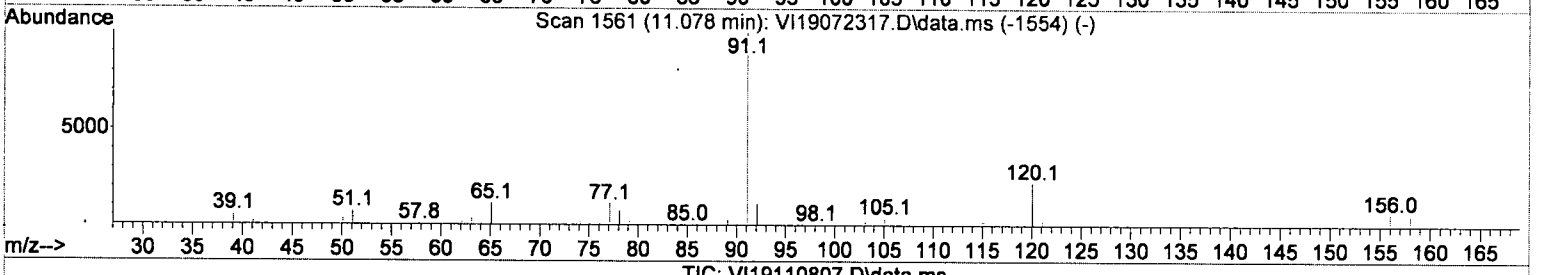
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110807.D\data.ms

(69) n-Propylbenzene

11.071min (-0.000) 0.68 ug/L

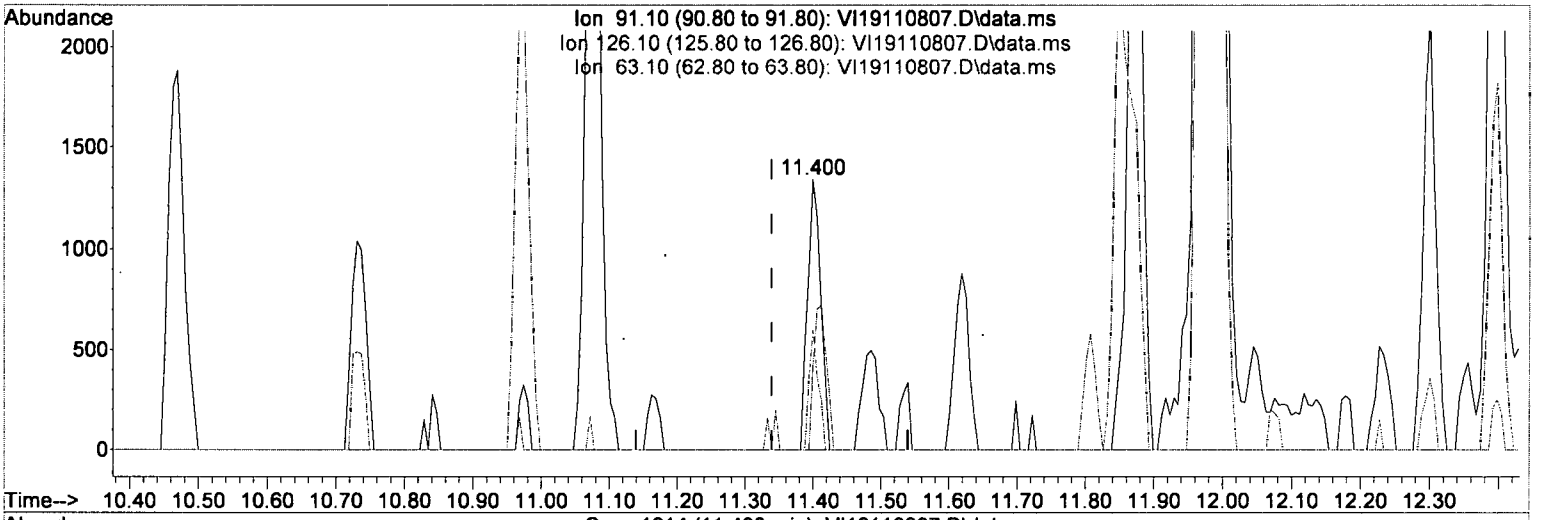
response 6082

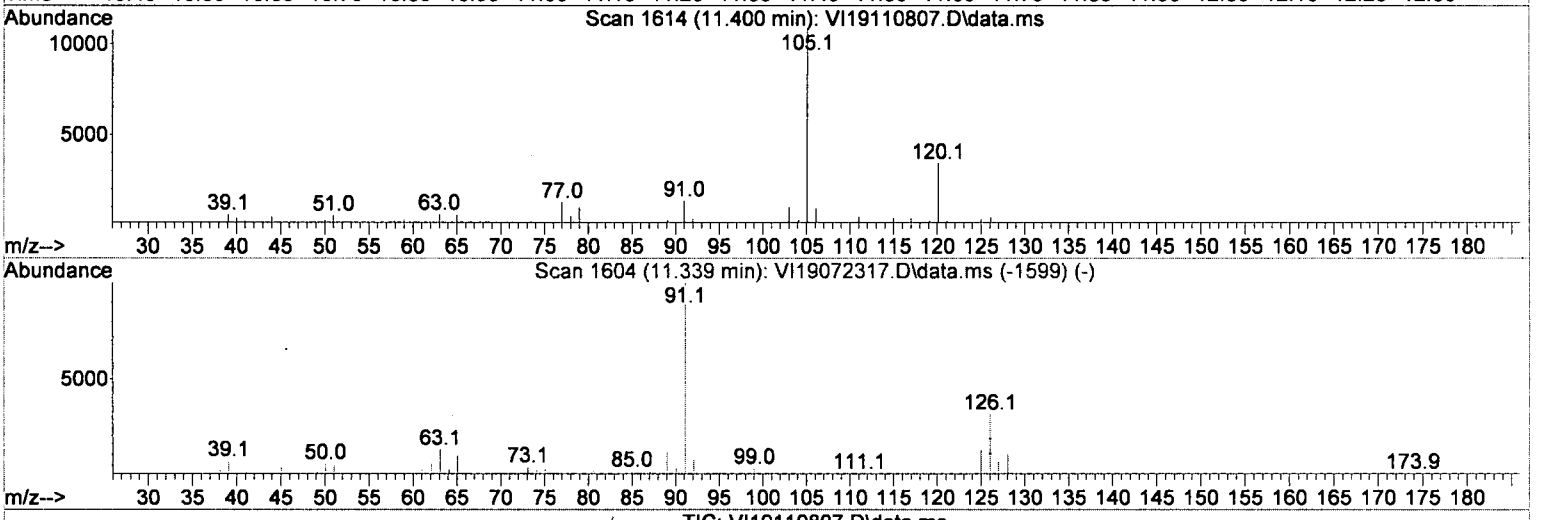
Ion	Exp%	Act%
91.10	100.00	100.00
120.10	23.50	19.13
65.10	9.80	7.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:59:35 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration





TIC: VI19110807.D\data.ms

(75) 4-Chlorotoluene

11.400min (+ 0.061) 0.33 ug/L

response 1807

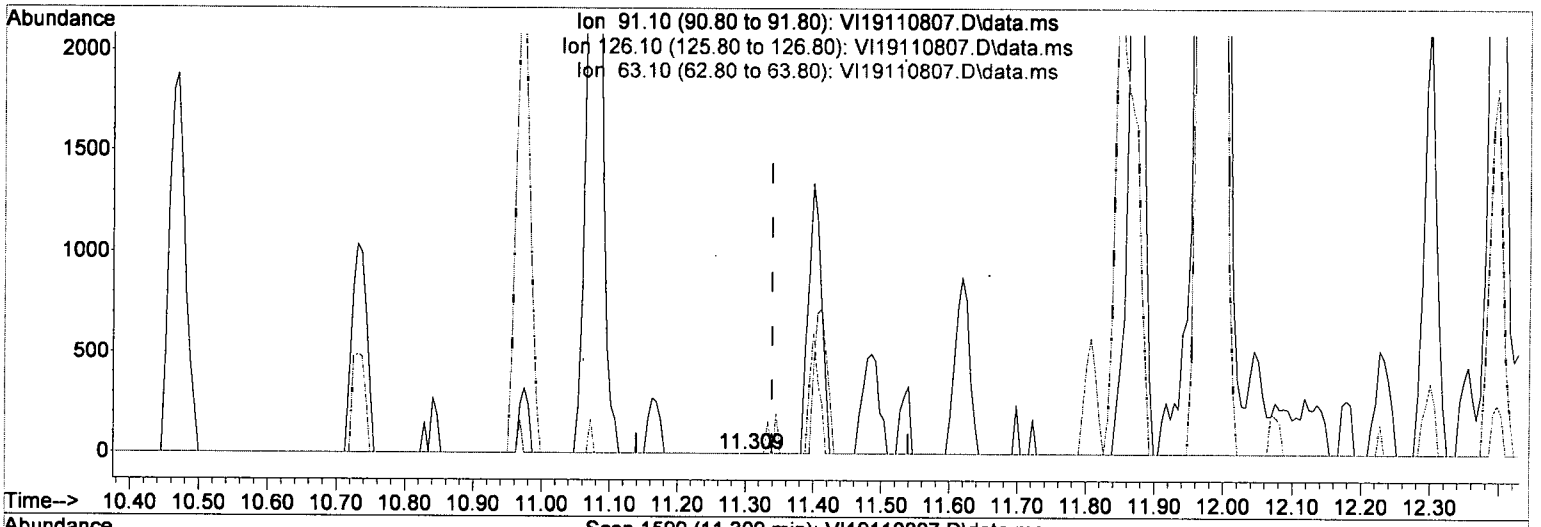
Ion	Exp%	Act%
91.10	100.00	100.00
126.10	37.20	31.67
63.10	12.10	44.63#
0.00	0.00	0.00

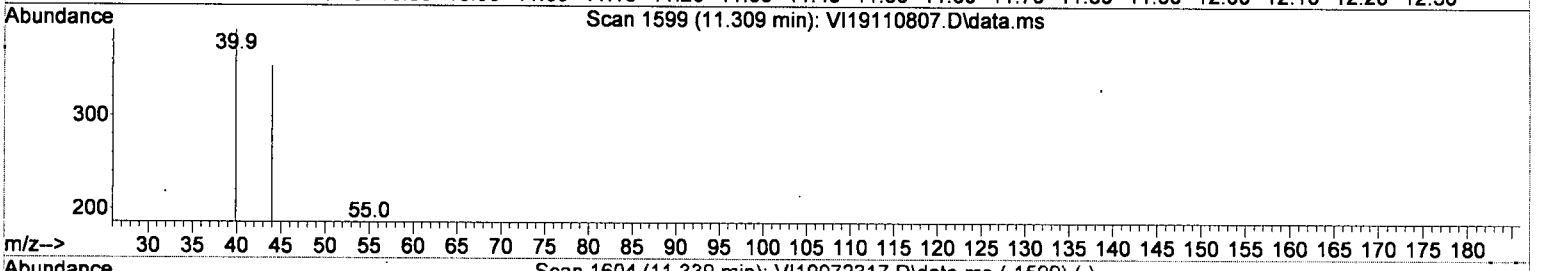
11/11/19 bm

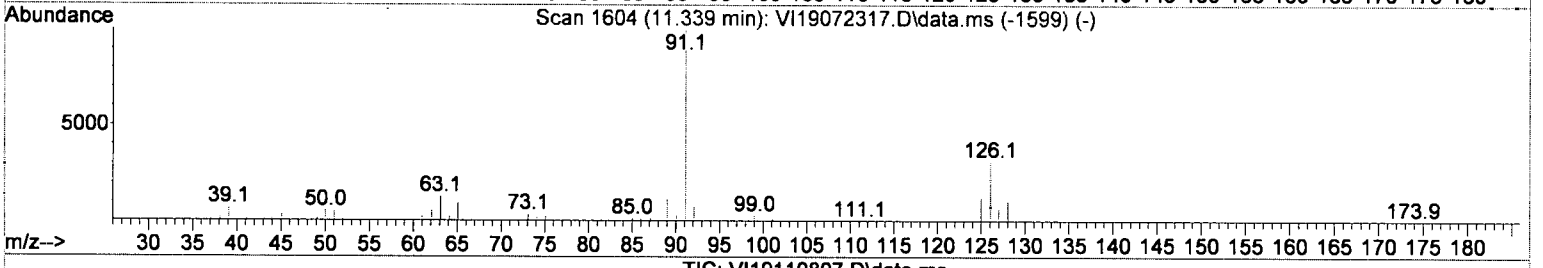
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:59:35 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110807.D\data.ms

(75) 4-Chlorotoluene

11.309min (-0.031) 0.00 ug/L m

response 0

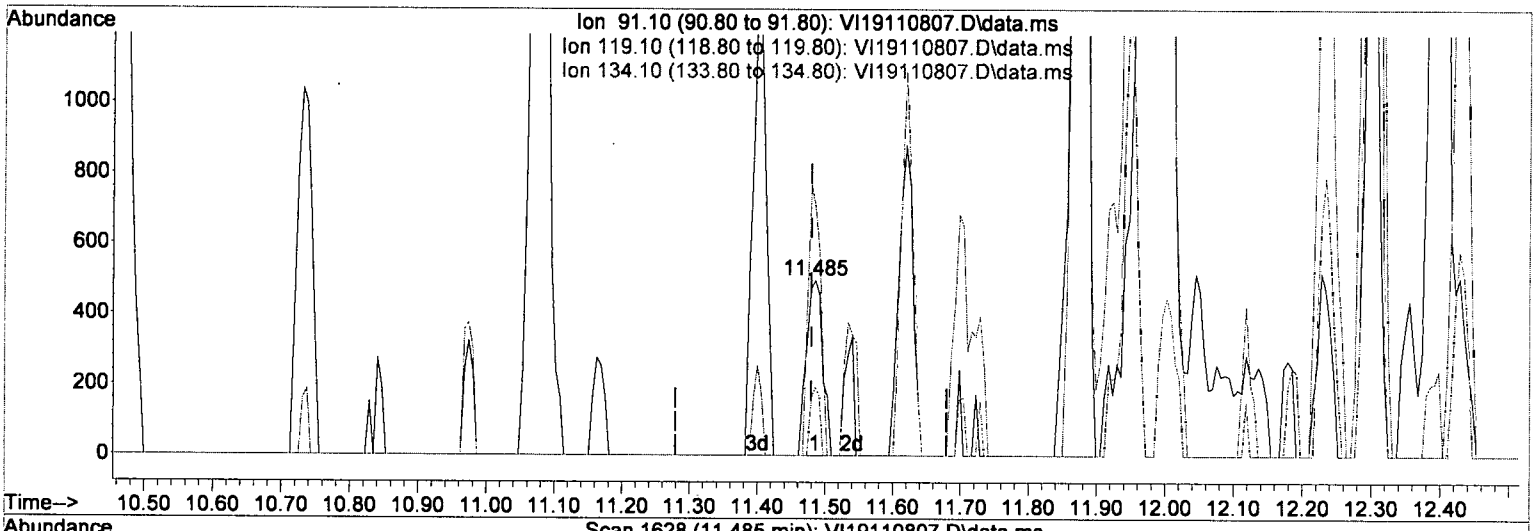
Ion	Exp%	Act%
91.10	100.00	0.00
126.10	37.20	0.00#
63.10	12.10	0.00
0.00	0.00	0.00

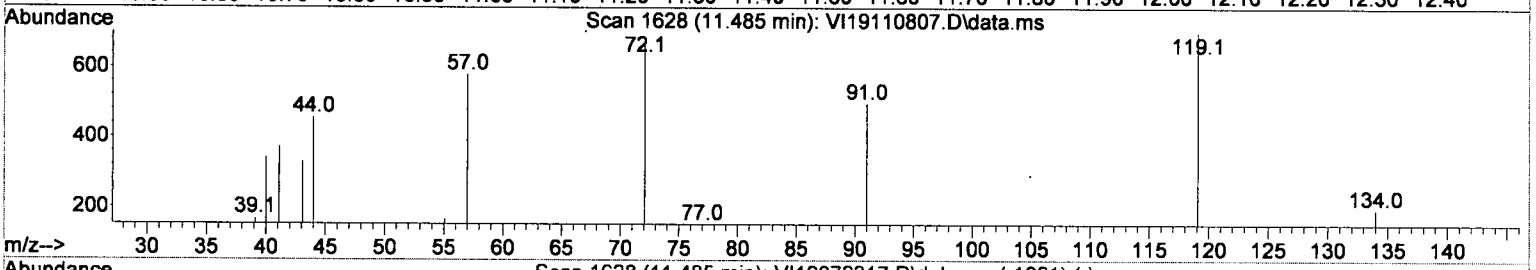
ND
11/11/19

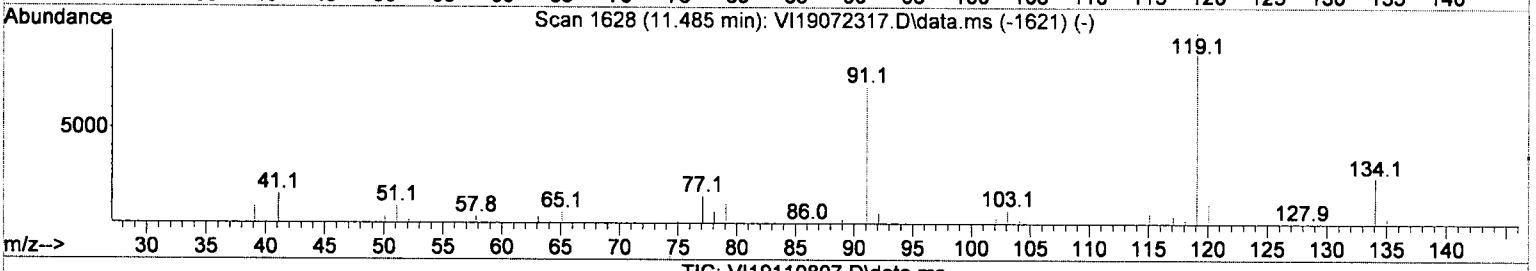
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110807.D\data.ms

(76) tert-Butylbenzene

11.485min (+ 0.006) 0.25 ug/L

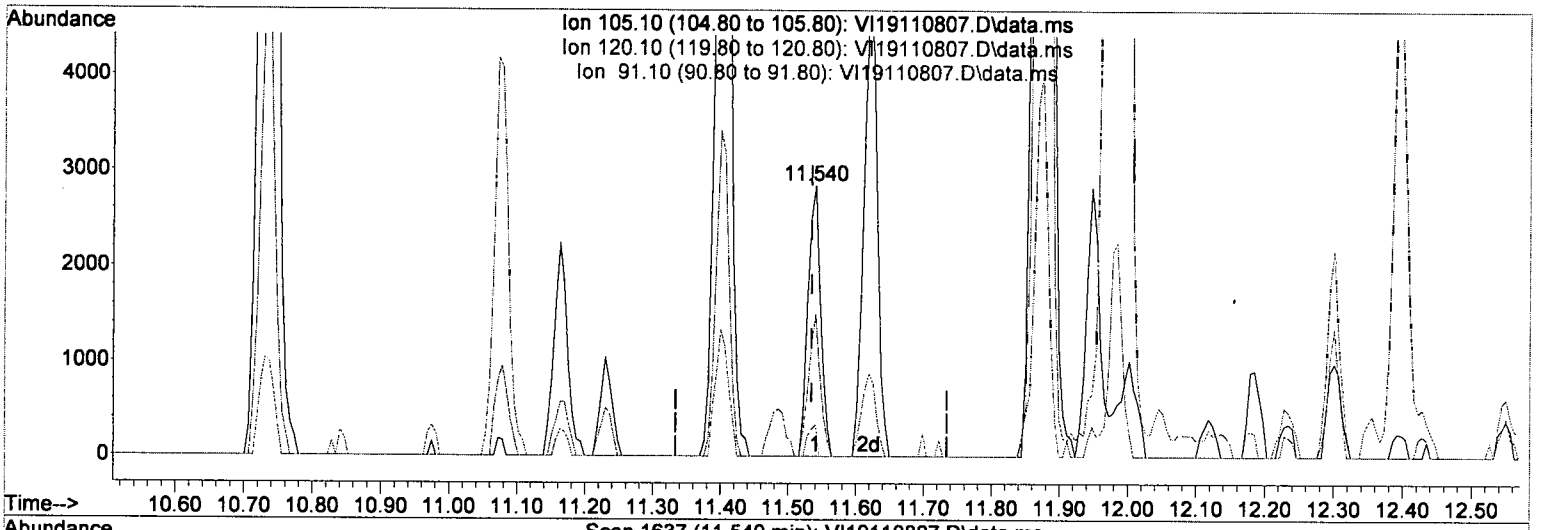
response 843

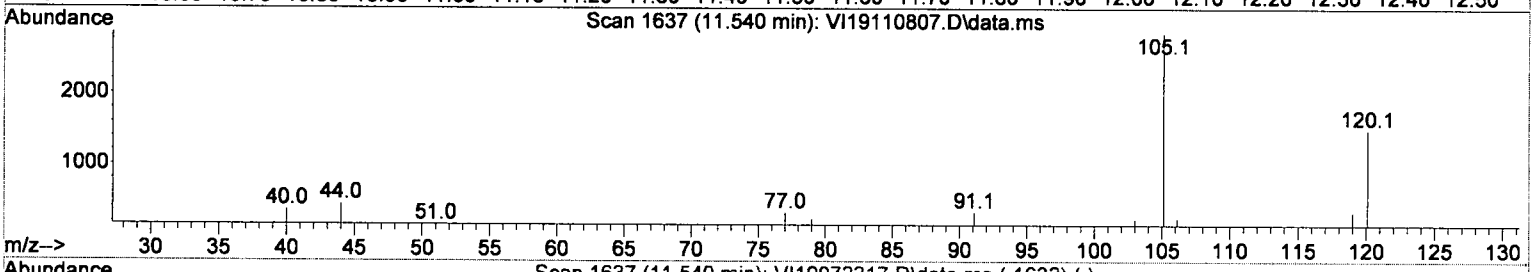
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	140.64
134.10	38.80	39.24
0.00	0.00	0.00

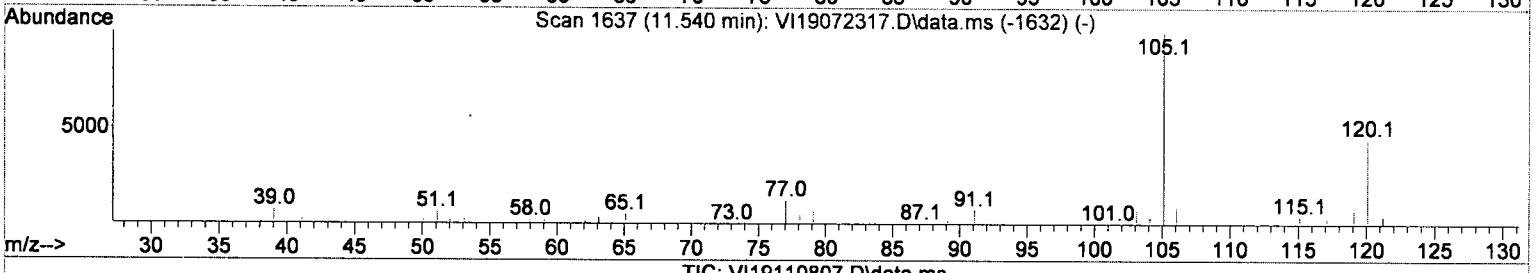
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110807.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (+ 0.006) 0.61 ug/L

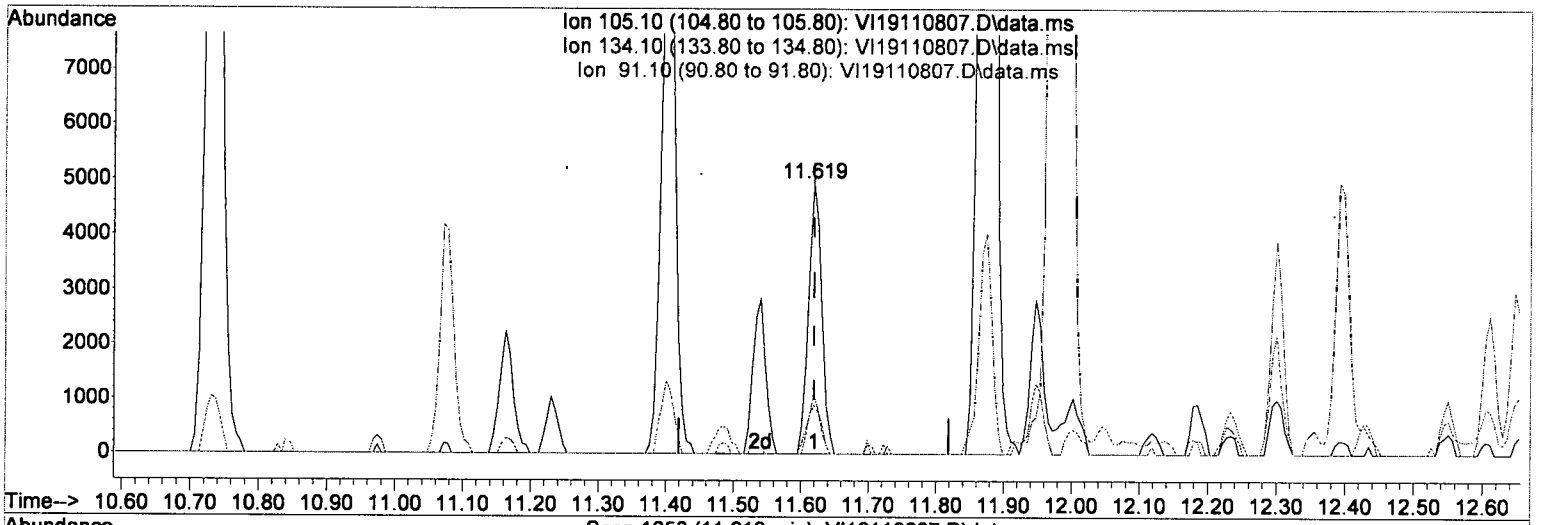
response 3770

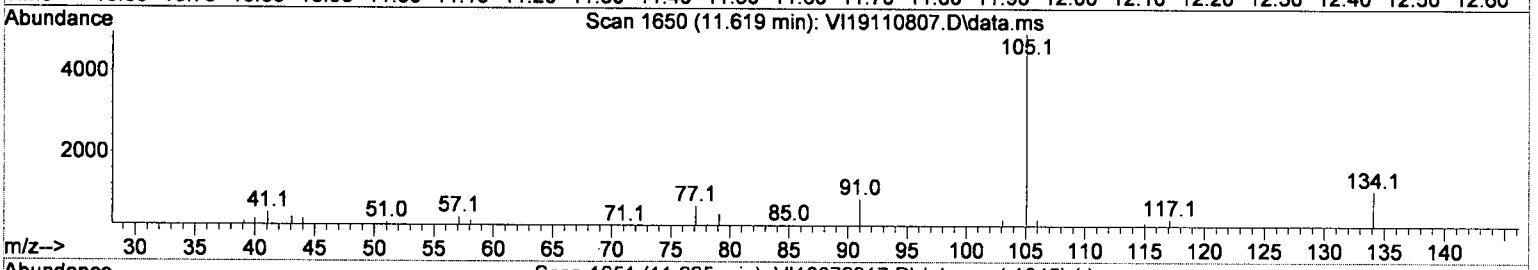
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	52.69
91.10	10.50	11.90
0.00	0.00	0.00

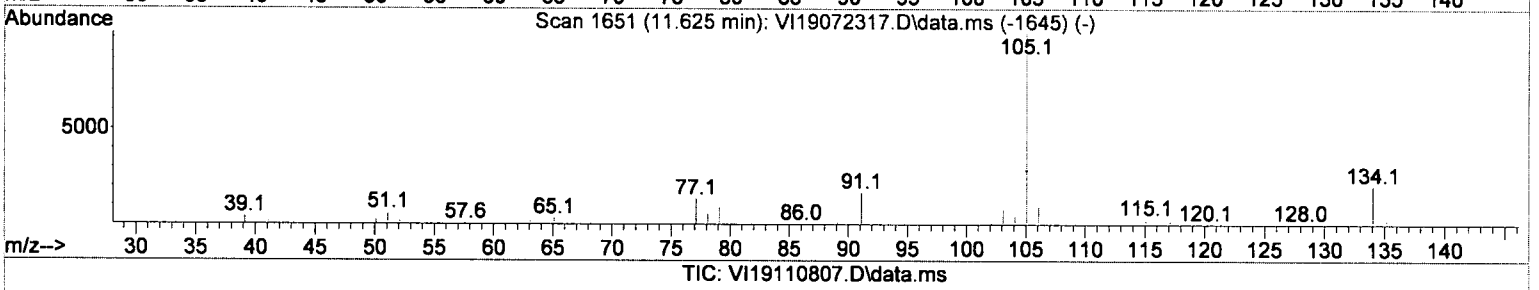
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110807.D\data.ms

(78) sec-Butylbenzene

11.619min (-0.000) 0.88 ug/L

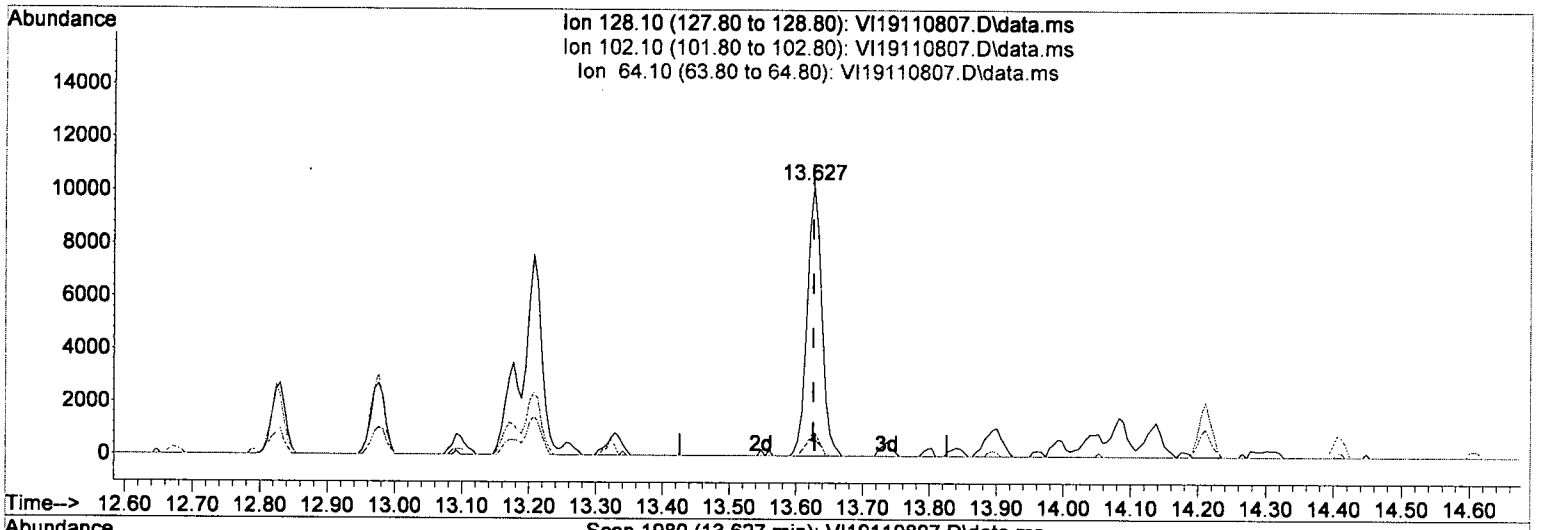
response 6668

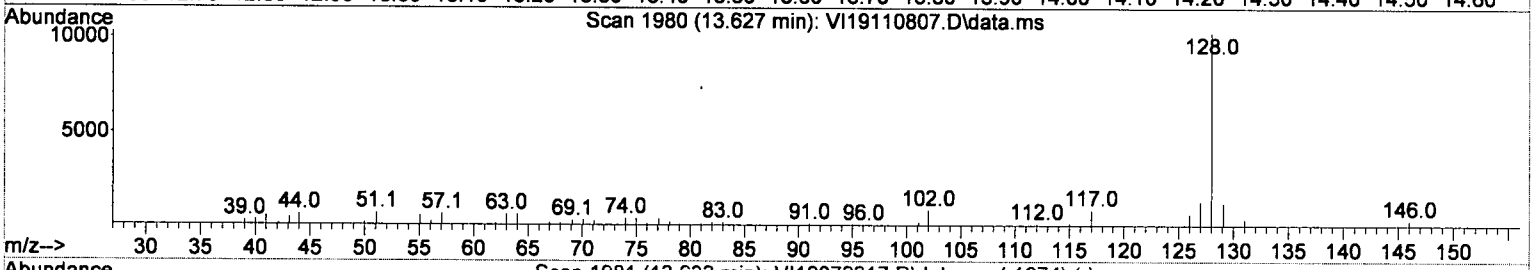
Ion	Exp%	Act%
105.10	100.00	100.00
134.10	19.90	22.00
91.10	16.40	17.81
0.00	0.00	0.00

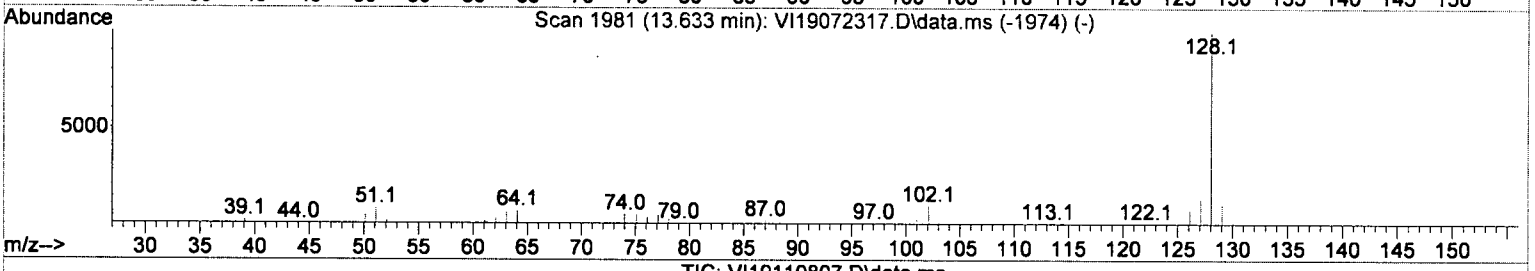
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110807.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 2.40 ug/L

response 15600

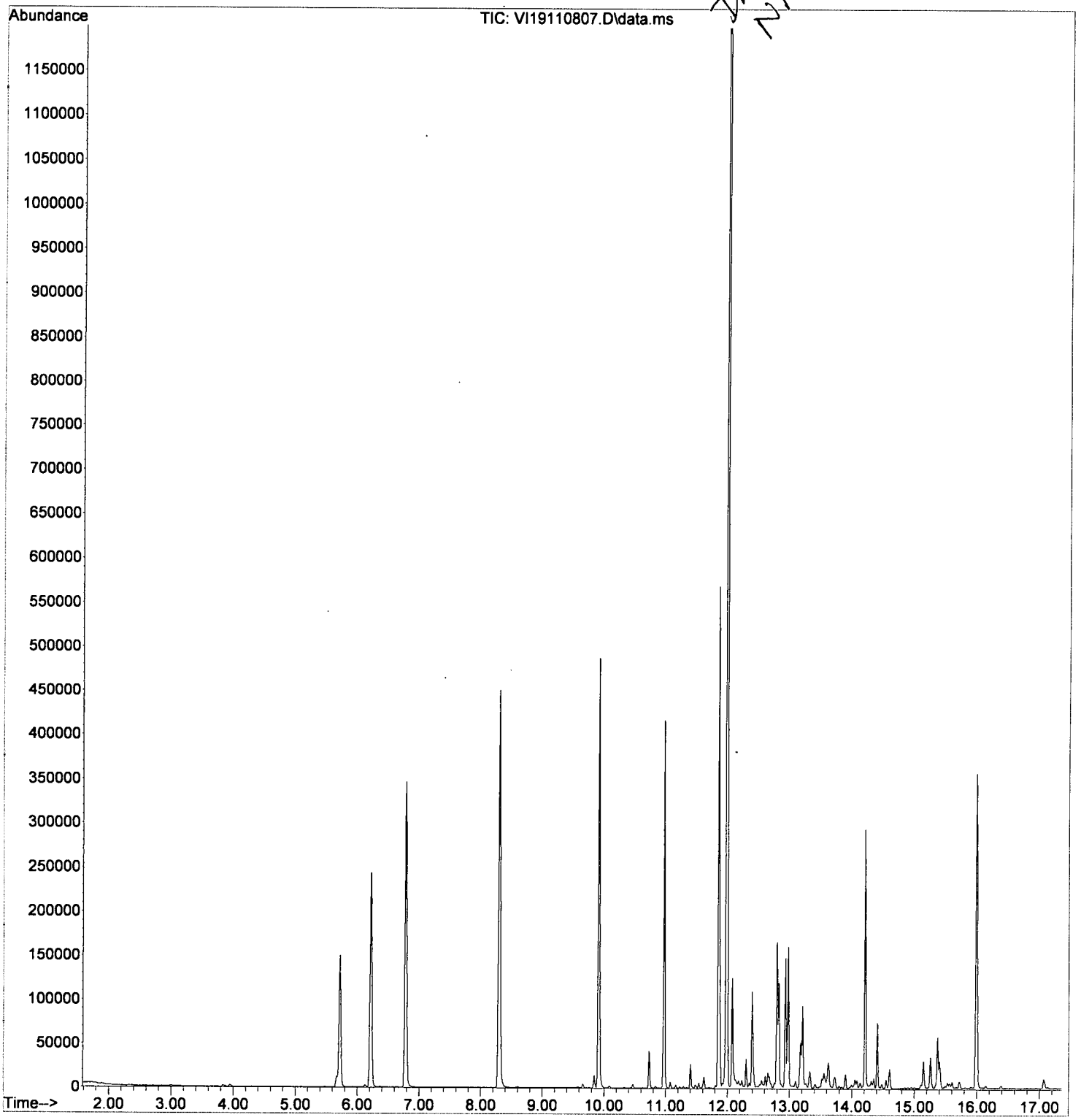
Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	9.08
64.10	4.70	6.67
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110807.D
Acq On : 8 Nov 2019 12:00 pm
Operator : TNL
Sample : A9K0165-03RE1
Misc : 1X 5mL 8260C RR-01
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:10:55 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Indane NTA



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110810.D
Acq On : 8 Nov 2019 1:21 pm
Operator : TNL
Sample : A9K0165-07RE1
Misc : 1X 5mL RR-03
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	100448	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	286130	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	131861	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	106329	53.87 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	340664	53.68 ug/L	0.00
48) Toluene-d8 (S)	8.297	98	376965	50.19 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	107113	50.27 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.898	50	332	0.15 ug/L #	47
5) Bromomethane	2.366	96	141	0.11 ug/L #	51
10) Carbon Disulfide	3.254	76	566	0.13 ug/L	78
14) Methylene Chloride	3.869	84	126	Below Cal #	51
15) Acetone	3.942	43	15115	17.17 ug/L	88
19) tert-Butanol (TBA)	4.301	59	783	2.01 ug/L	46
34) 2-Butanone (MEK)	5.864	43	3259	2.34 ug/L	95
35) Benzene	6.132	78	1640	0.21 ug/L	82
49) Toluene	8.364	91	823	0.10 ug/L	91
57) 2-Hexanone	9.660	43	848	0.45 ug/L #	2
59) Ethylbenzene	9.952	91	2387	0.27 ug/L	91
62) o-Xylene	10.475	91	1299	0.20 ug/L	83
65) Isopropylbenzene	10.731	105	5309	0.68 ug/L	97
69) n-Propylbenzene	11.078	91	949	0.11 ug/L	58
72) 1,3,5-Trimethylbenzene	11.236	105	557	0.09 ug/L	89
77) 1,2,4-Trimethylbenzene	11.540	105	1226	0.20 ug/L	85
78) sec-Butylbenzene	11.540	105	1226	0.17 ug/L	59
82) n-Butylbenzene	11.984	91	45543	9.18 ug/L #	40
87) Naphthalene	13.627	128	137934	21.77 ug/L	98

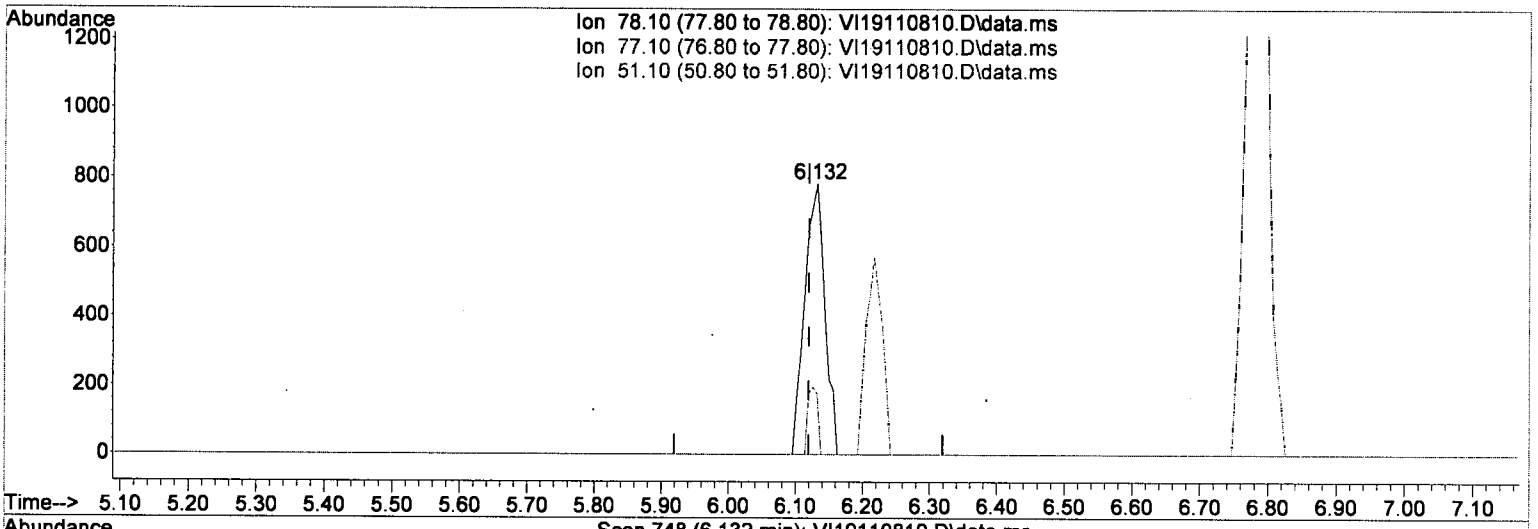
(#) = qualifier out of range (m) = manual integration (+) = signals summed

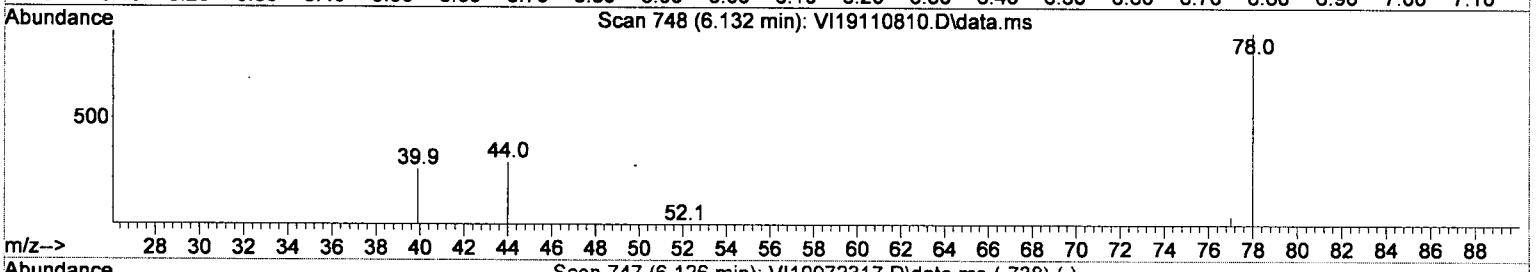
11/11/19

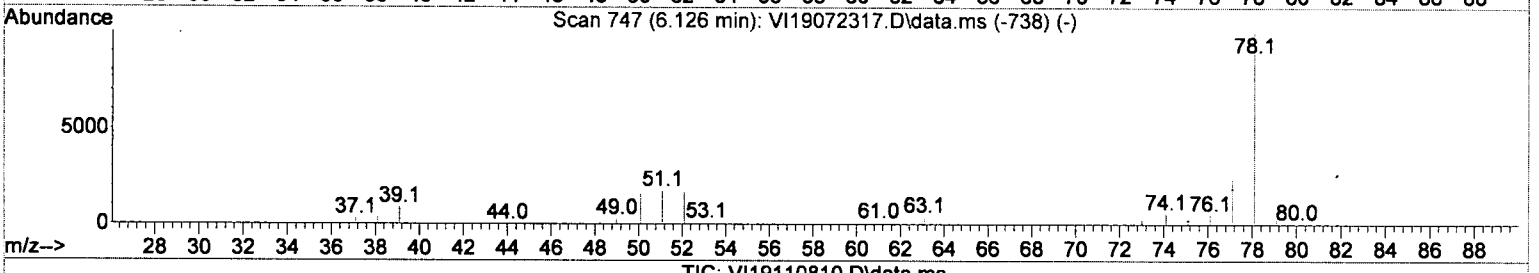
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110810.D
Acq On : 8 Nov 2019 1:21 pm
Operator : TNL
Sample : A9K0165-07RE1
Misc : 1X 5mL RR-03
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110810.D\data.ms

(35) Benzene

6.132min (+ 0.012) 0.21 ug/L

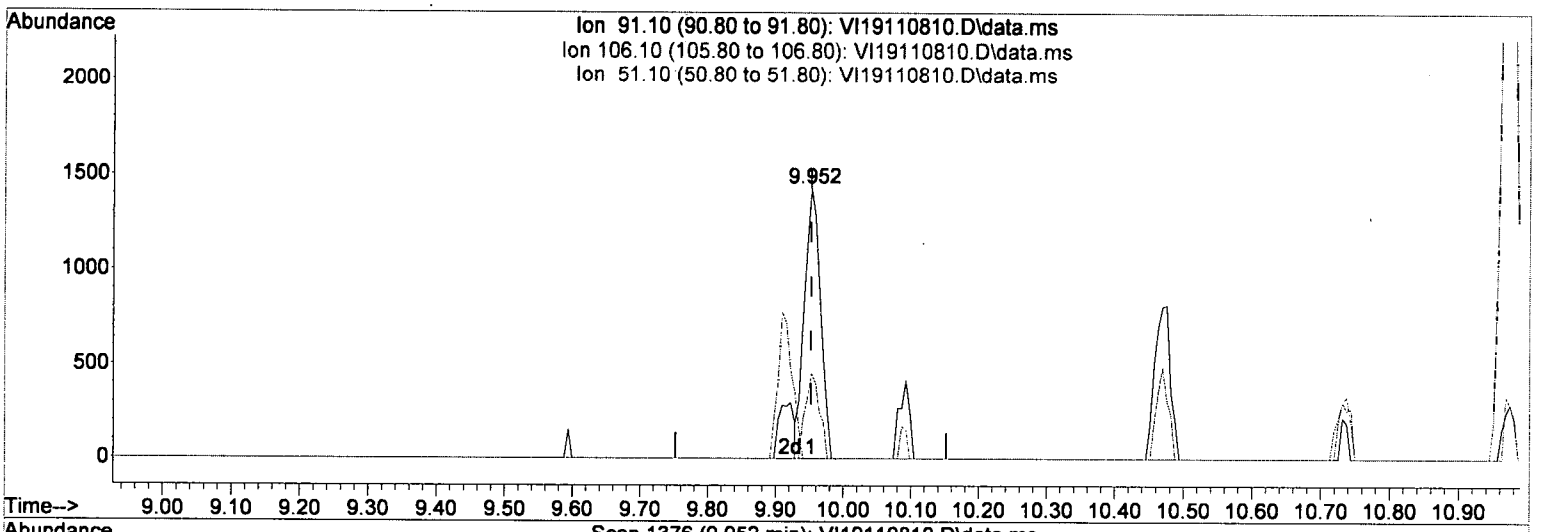
response 1640

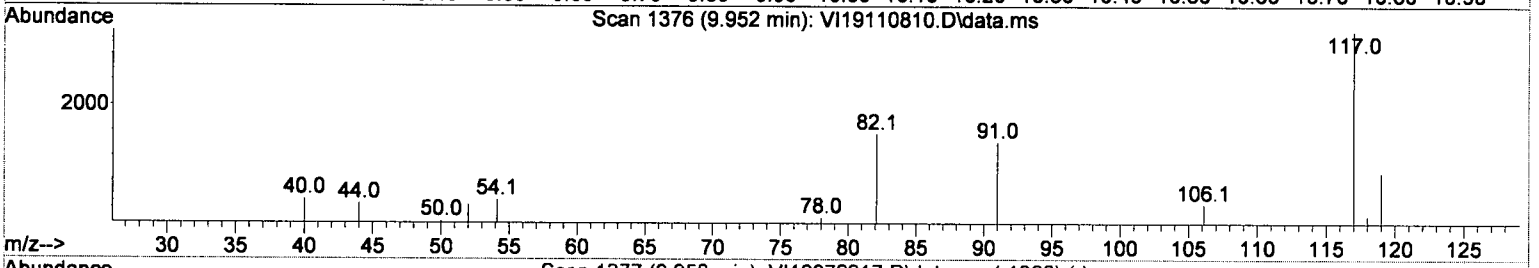
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	22.83
51.10	17.20	0.00
0.00	0.00	0.00

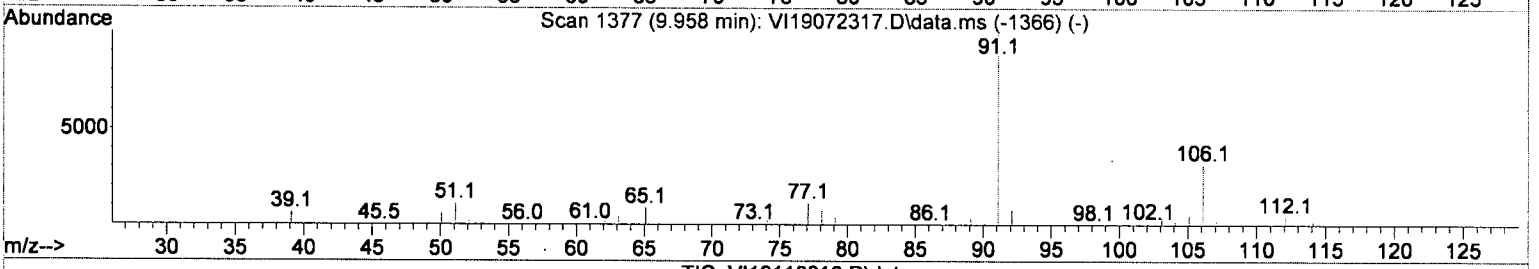
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110810.D
Acq On : 8 Nov 2019 1:21 pm
Operator : TNL
Sample : A9K0165-07RE1
Misc : 1X 5mL RR-03
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110810.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 0.27 ug/L

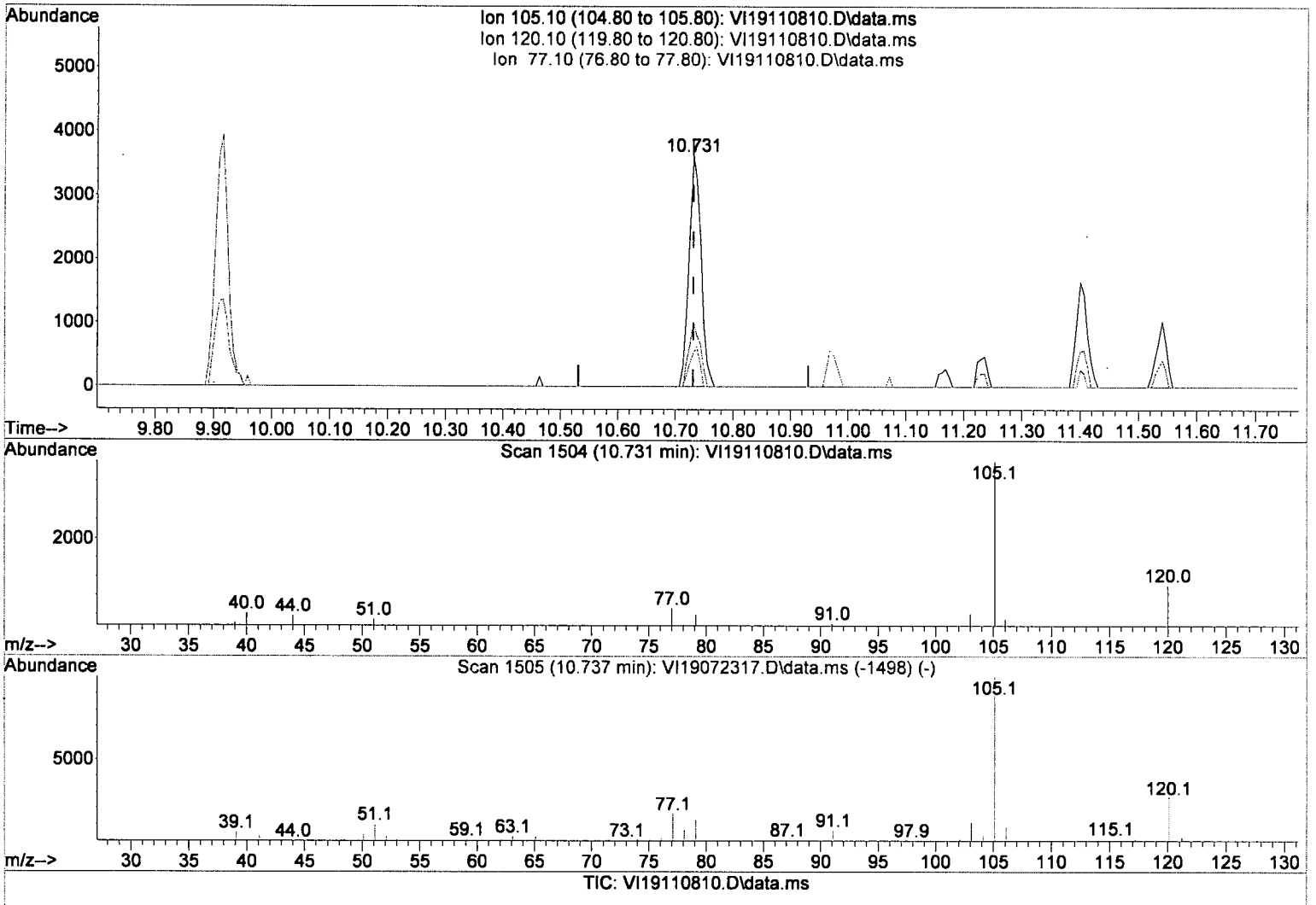
response 2387

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	31.89
51.10	10.40	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110810.D
Acq On : 8 Nov 2019 1:21 pm
Operator : TNL
Sample : A9K0165-07RE1
Misc : 1X 5mL RR-03
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



TIC: VI19110810.D\data.ms

(65) Isopropylbenzene

10.731min (-0.000) 0.68 ug/L

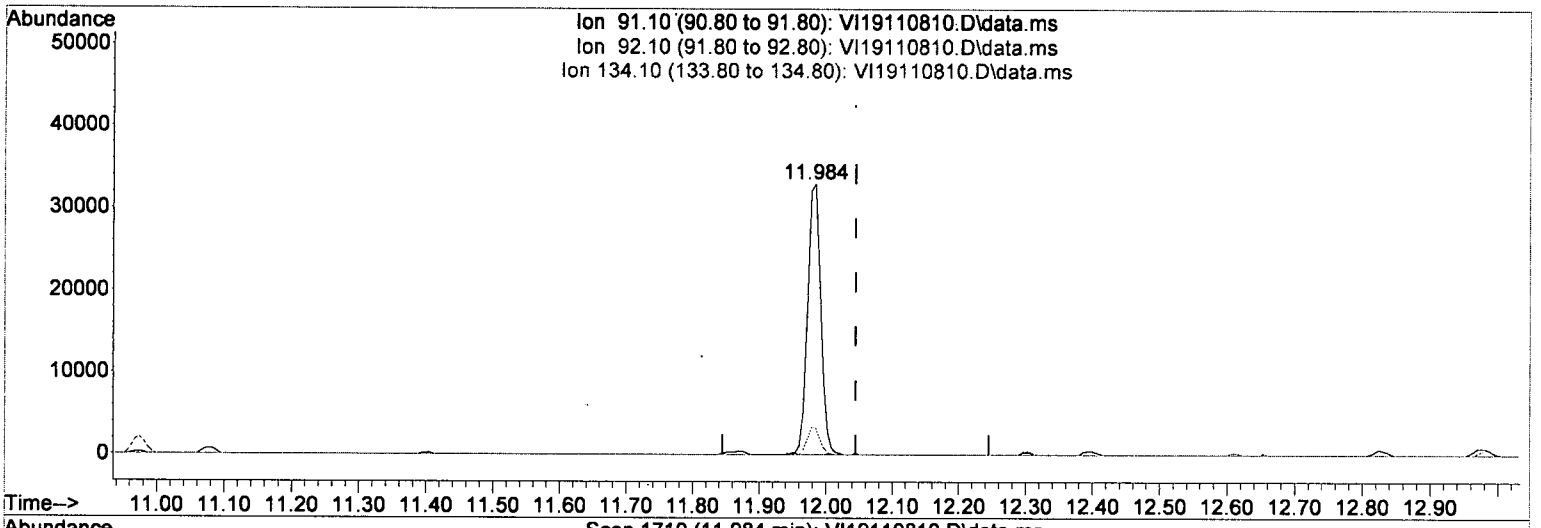
response 5309

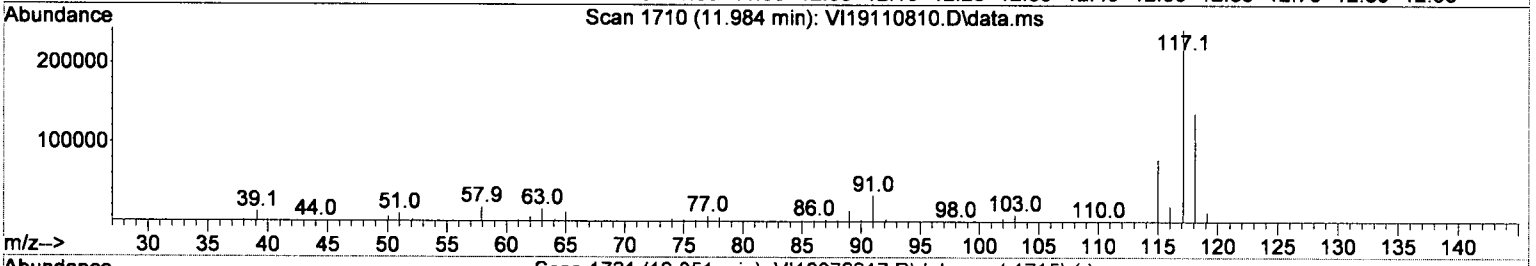
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	26.40	28.30
77.10	15.50	14.66
0.00	0.00	0.00

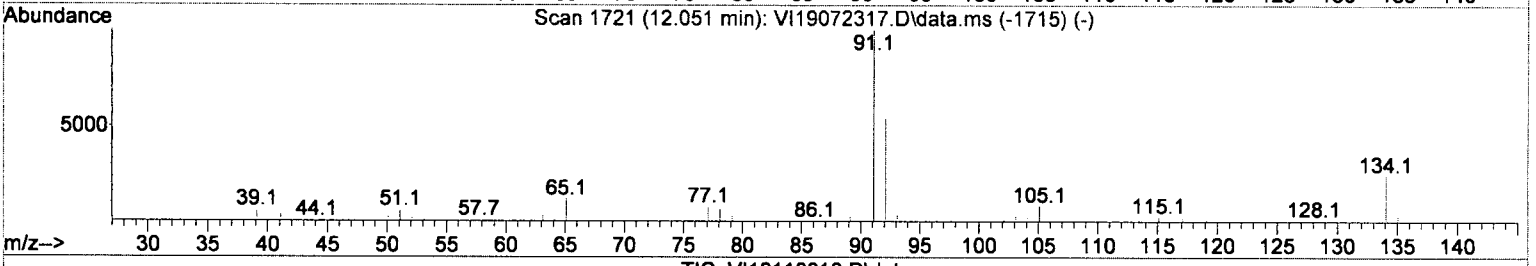
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110810.D
Acq On : 8 Nov 2019 1:21 pm
Operator : TNL
Sample : A9K0165-07RE1
Misc : 1X 5mL RR-03
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110810.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 9.18 ug/L

response 45543

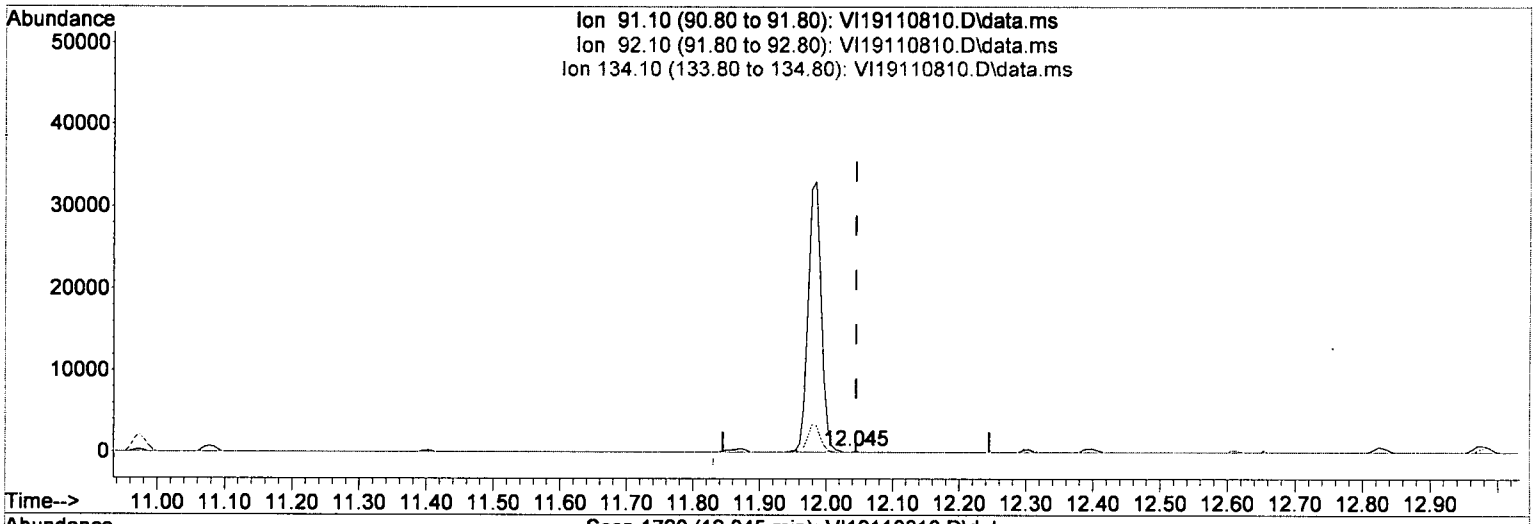
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	10.26#
134.10	28.20	0.00
0.00	0.00	0.00

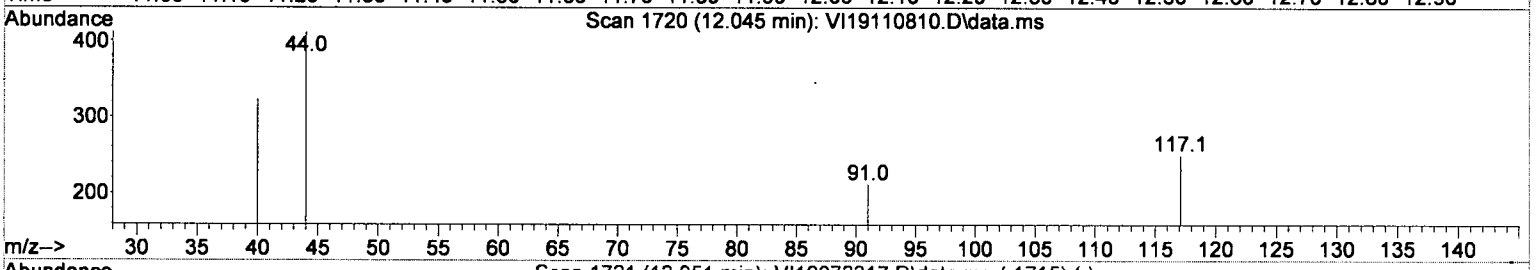
MI 11/11/19

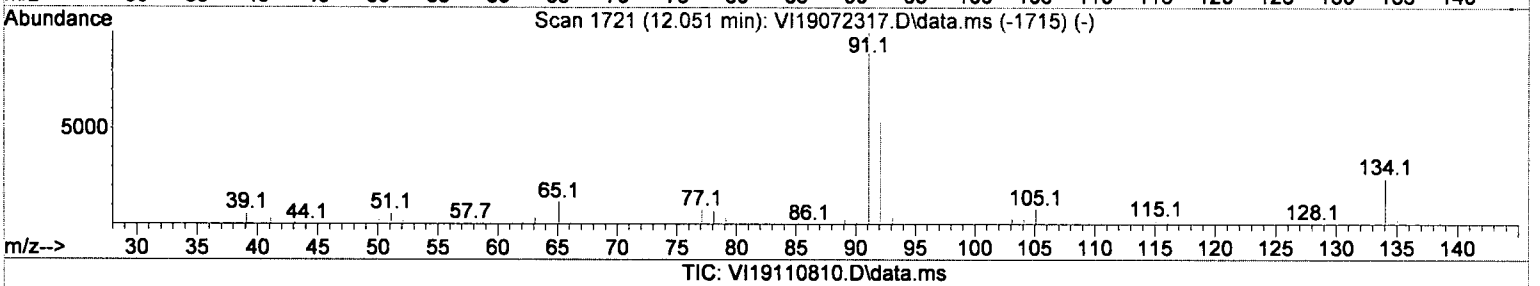
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110810.D
Acq On : 8 Nov 2019 1:21 pm
Operator : TNL
Sample : A9K0165-07RE1
Misc : 1X 5mL RR-03
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110810.D\data.ms

(82) n-Butylbenzene

12.045min (-0.000) 0.02 ug/L (m)

response 77

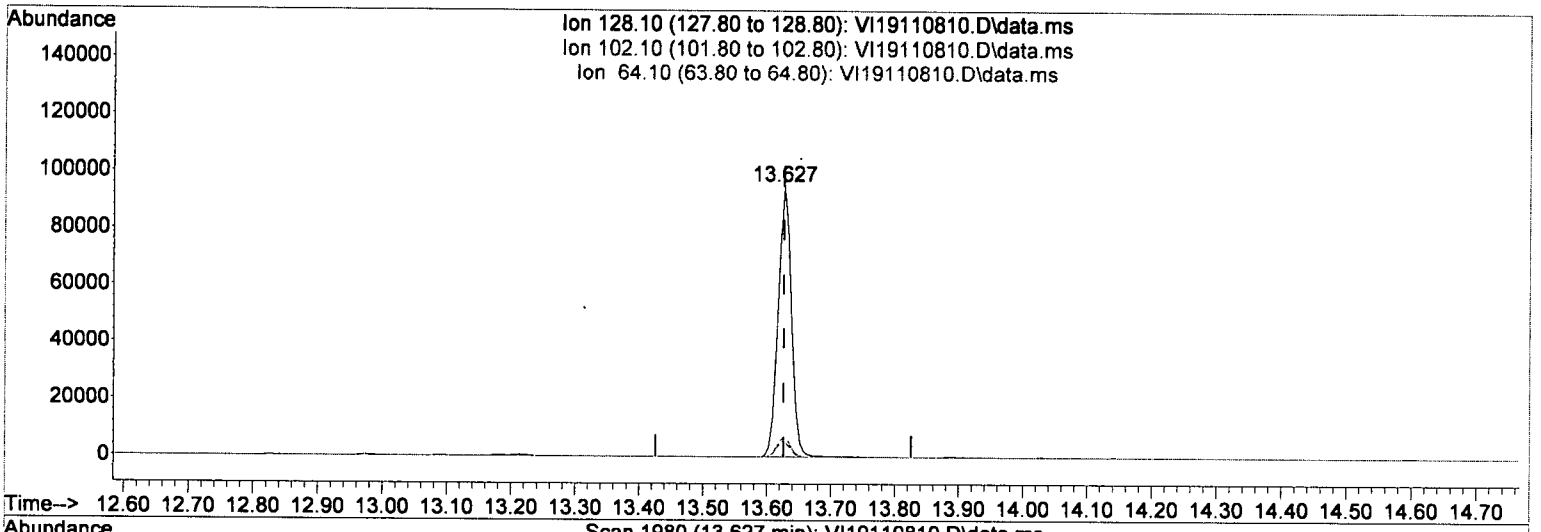
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

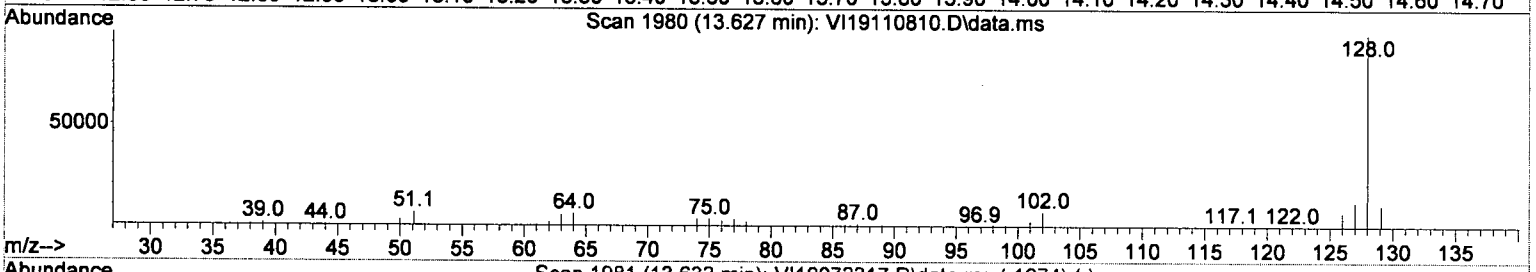
CMM 11/11/19

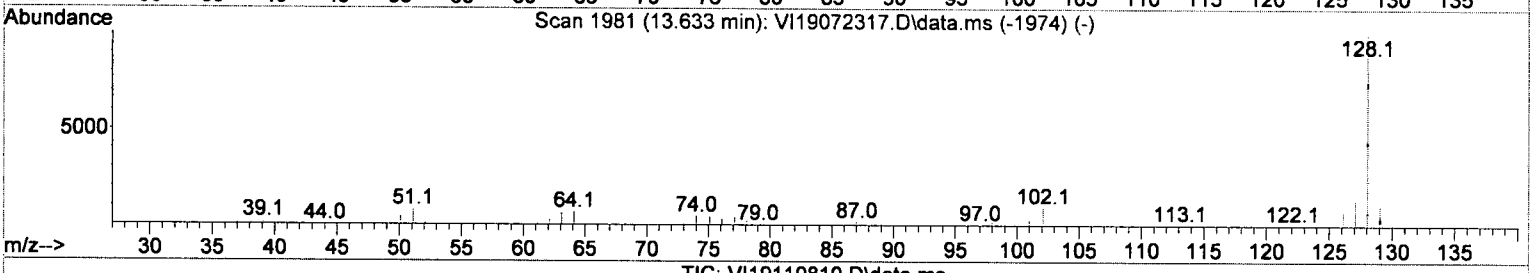
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110810.D
Acq On : 8 Nov 2019 1:21 pm
Operator : TNL
Sample : A9K0165-07RE1
Misc : 1X 5mL RR-03
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110810.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 21.77 ug/L

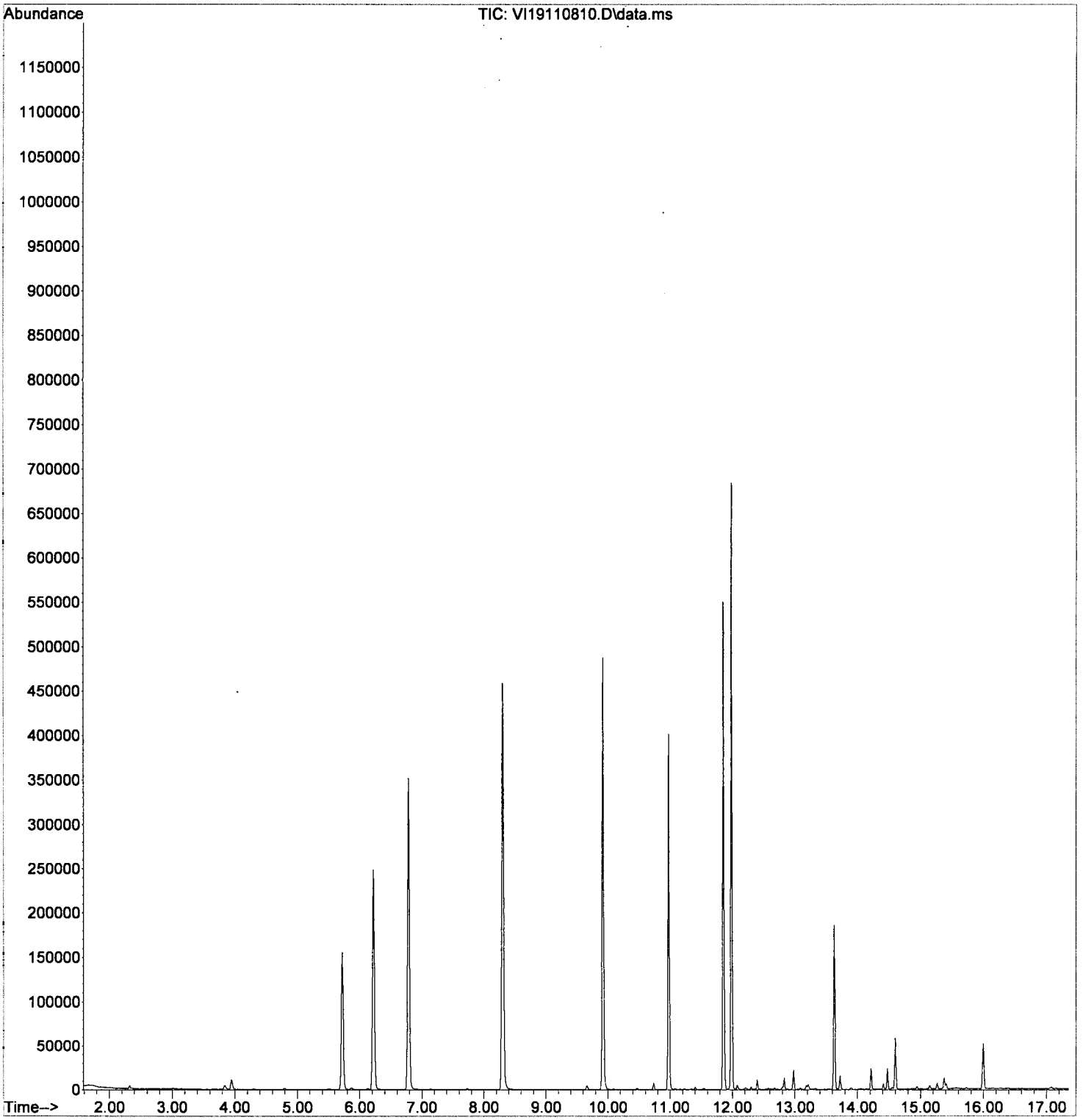
response 137934

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	7.56
64.10	4.70	6.32
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110810.D
Acq On : 8 Nov 2019 1:21 pm
Operator : TNL
Sample : A9K0165-07RE1
Misc : 1X 5mL RR-03
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110811.D
Acq On : 8 Nov 2019 1:48 pm
Operator : TNL
Sample : A9K0165-01RE1@10
Misc : 10X 5mL/50mL RR-02 Acetone
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:07 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	100218	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	281172	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	126275	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	105509	53.58 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	337939	53.37 ug/L	0.00
48) Toluene-d8 (S)	8.297	98	376968	51.08 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	104664	51.30 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.904	50	222	0.10 ug/L	# 47
5) Bromomethane	2.372	96	125	0.10 ug/L	# 34
14) Methylene Chloride	3.875	84	1186	Below Cal	84
15) Acetone	3.942	43	45250	51.52 ug/L	92
19) tert-Butanol (TBA)	4.294	59	744	1.92 ug/L	71
87) Naphthalene	13.627	128	1697	0.28 ug/L	81

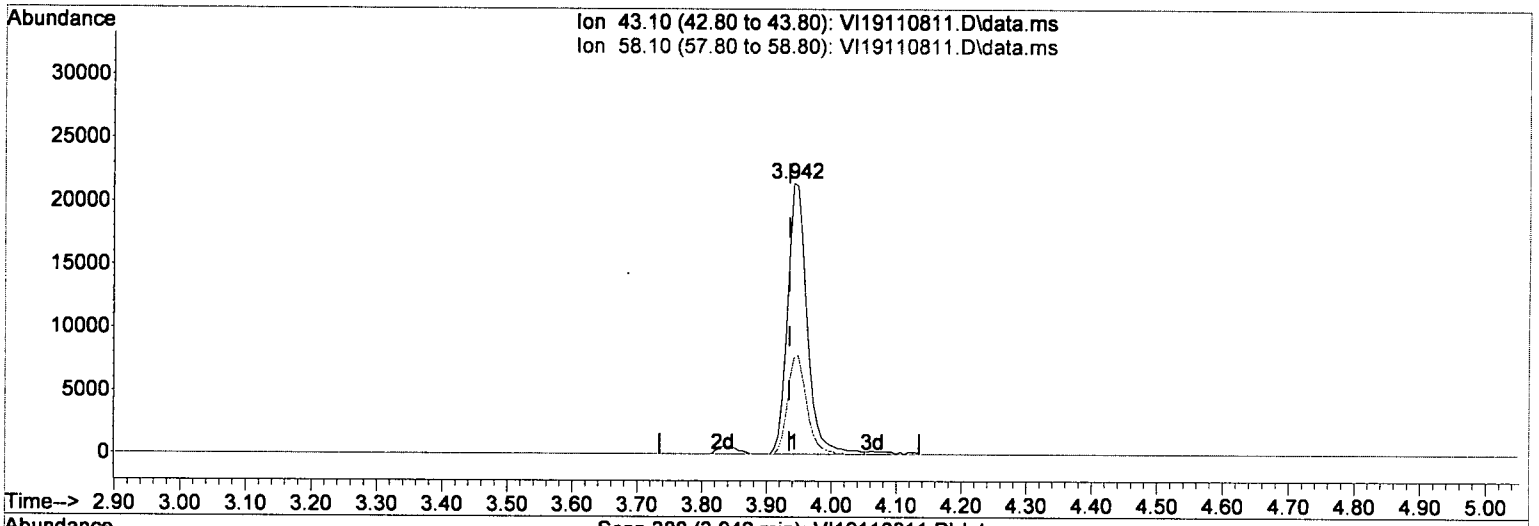
(#) = qualifier out of range (m) = manual integration (+) = signals summed

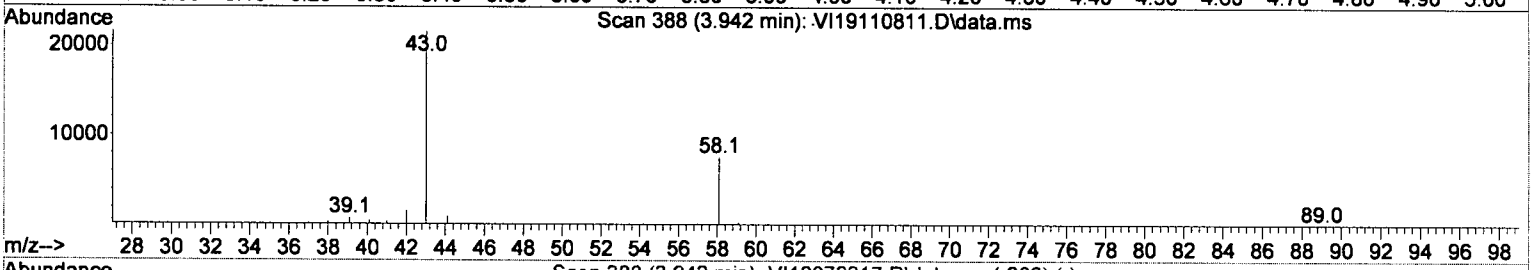
11/11/19 m

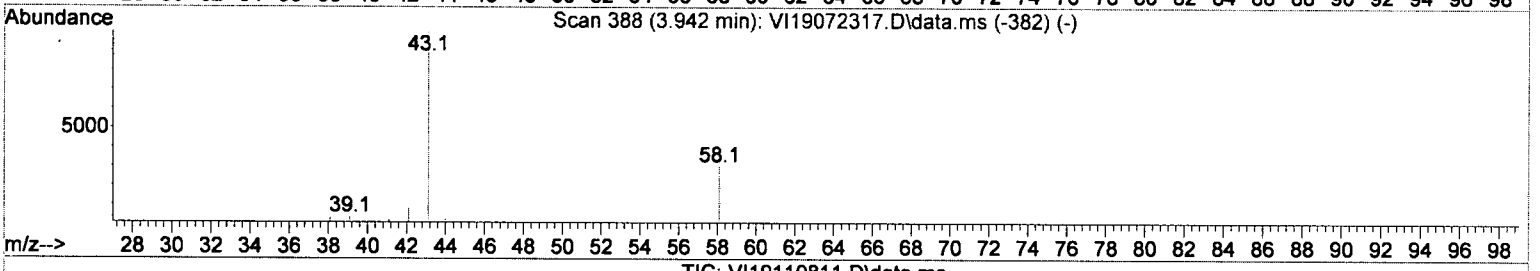
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110811.D
Acq On : 8 Nov 2019 1:48 pm
Operator : TNL
Sample : A9K0165-01RE1@10
Misc : 10X 5mL/50mL RR-02 Acetone
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:07 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110811.D\data.ms

(15) Acetone

3.942min (+ 0.007) 51.52 ug/L

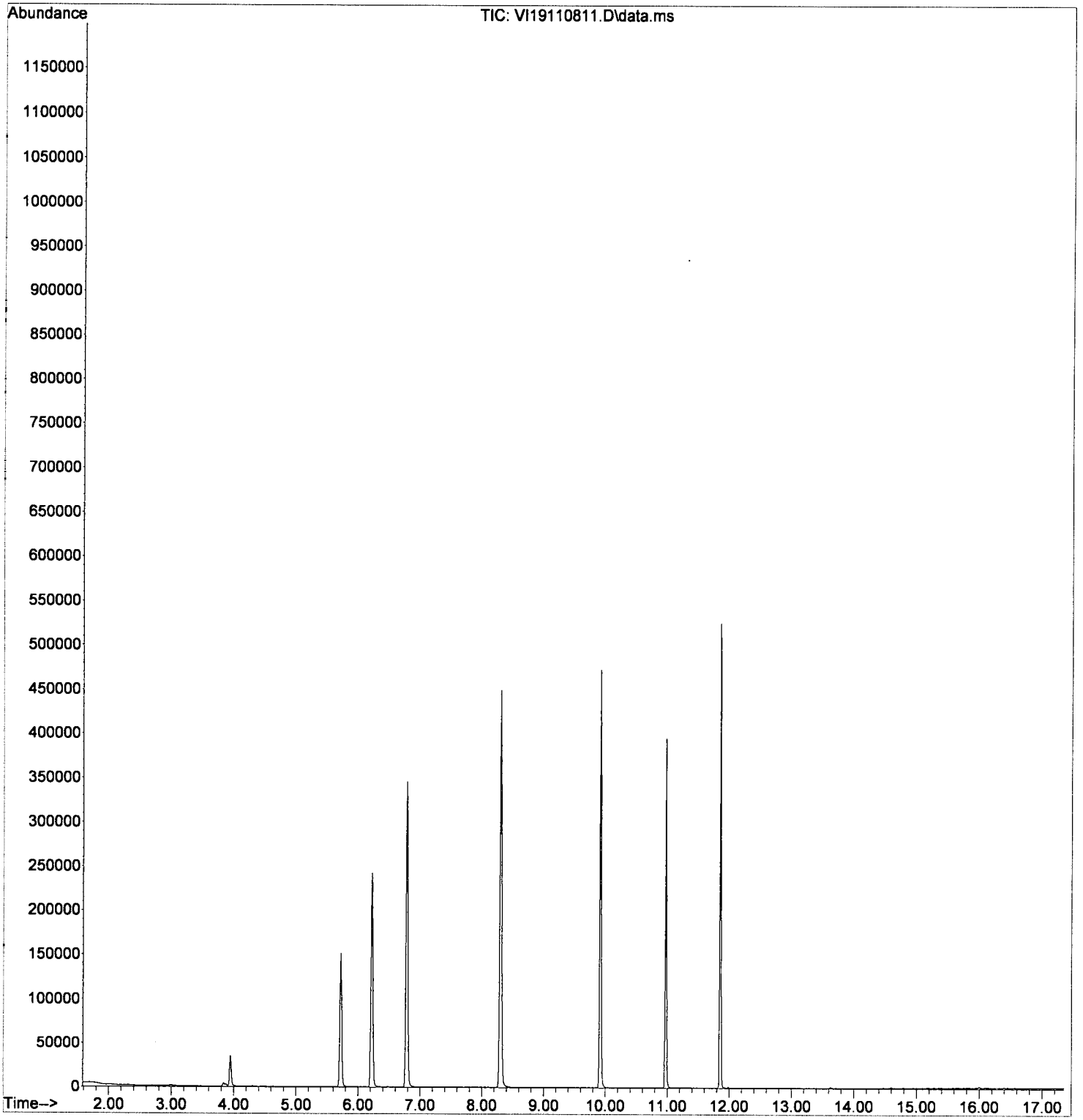
response 45250

Ion	Exp%	Act%
43.10	100.00	100.00
58.10	30.80	35.43
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110811.D
Acq On : 8 Nov 2019 1:48 pm
Operator : TNL
Sample : A9K0165-01RE1@10
Misc : 10X 5mL/50mL RR-02 Acetone
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:07 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110812.D
Acq On : 8 Nov 2019 2:15 pm
Operator : TNL
Sample : A9K0165-04RE1@50
Misc : 50X 1mL/50mL RR-02 Benzene
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:10 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	101475	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	280968	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	126866	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	103671	52.00 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	337093	52.58 ug/L	0.00
48) Toluene-d8 (S)	8.298	98	370455	50.23 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	101602	49.57 ug/L	0.00
Target Compounds					Qvalue
5) Bromomethane	2.366	96	146	0.11 ug/L #	55
14) Methylene Chloride	3.881	84	1132	Below Cal	82
15) Acetone	3.948	43	675	0.76 ug/L #	44
35) Benzene	6.126	78	163242	21.05 ug/L	97
82) n-Butylbenzene	11.984	91	3589	0.75 ug/L #	40
87) Naphthalene	13.627	128	753	0.12 ug/L	81

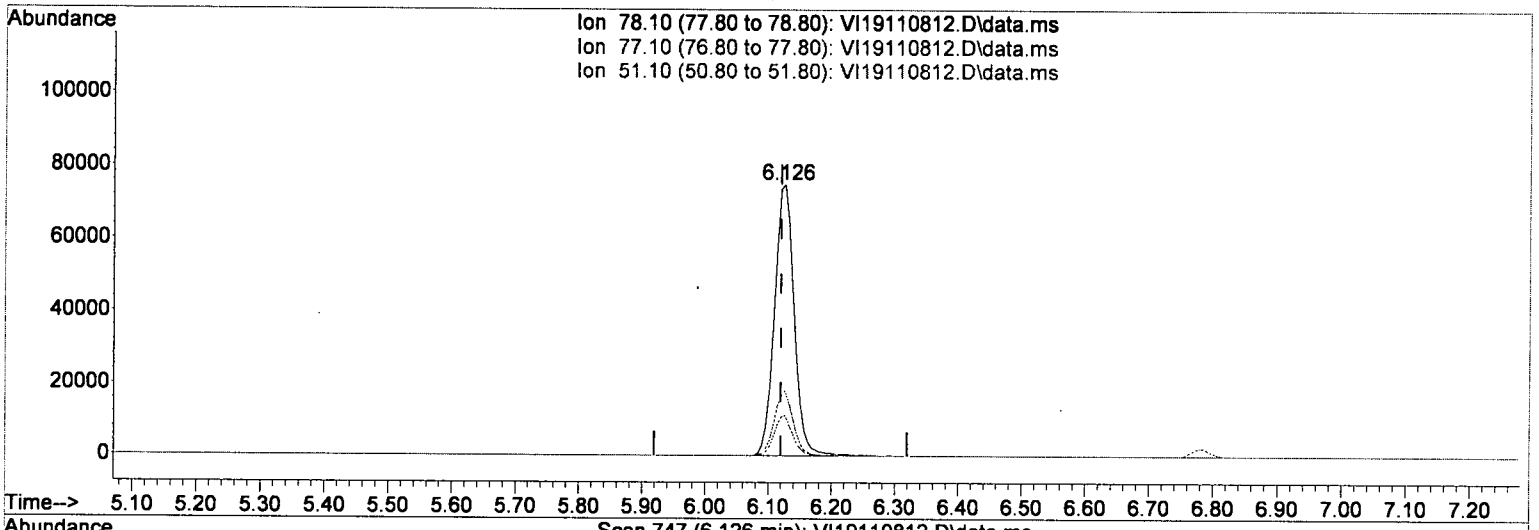
(#) = qualifier out of range (m) = manual integration (+) = signals summed

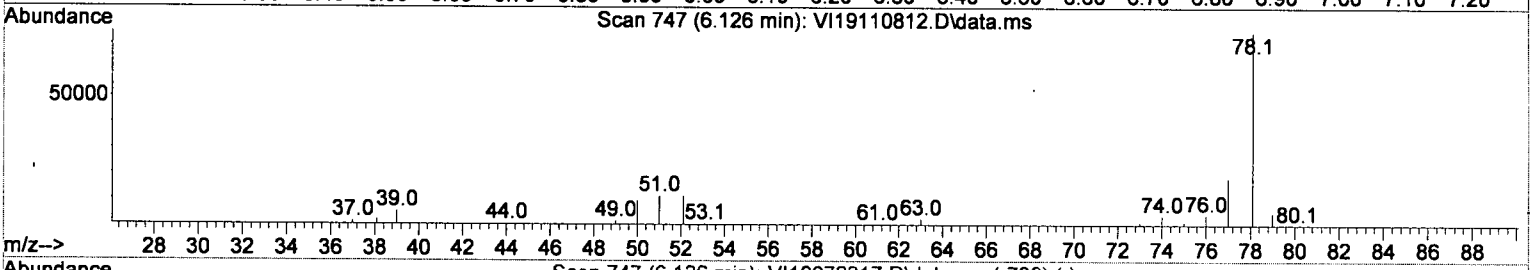
Matched 1x.
11/11/19 MJ

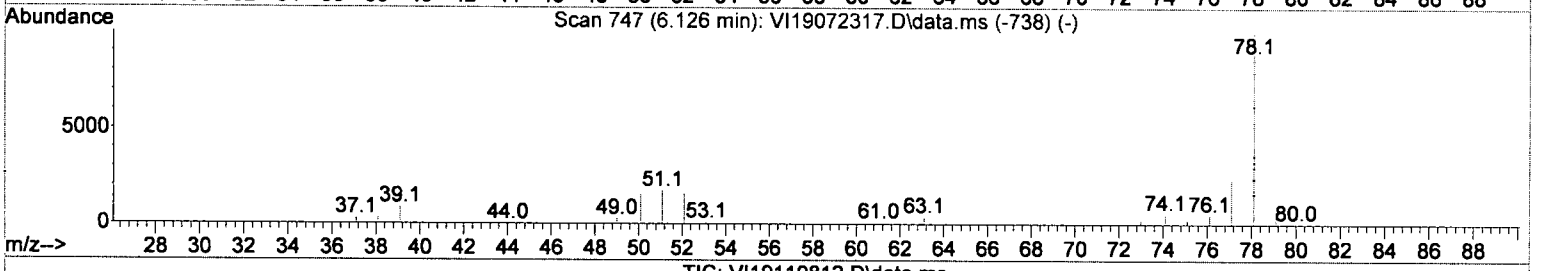
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110812.D
Acq On : 8 Nov 2019 2:15 pm
Operator : TNL
Sample : A9K0165-04RE1@50
Misc : 50X 1mL/50mL RR-02 Benzene
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:10 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19110812.D\data.ms

(35) Benzene

6.126min (+ 0.006) 21.05 ug/L

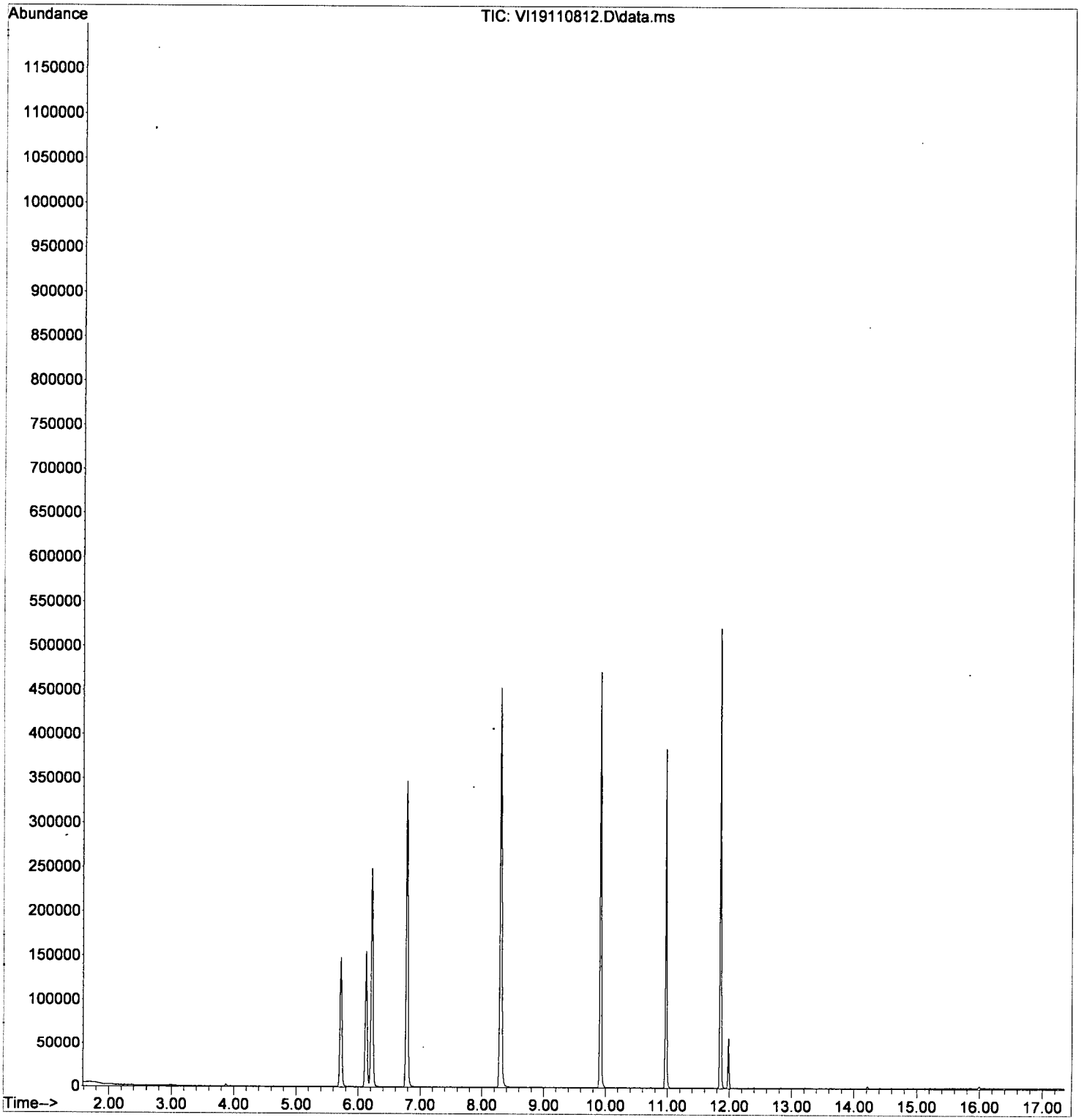
response 163242

Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	24.32
51.10	17.20	14.94
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K08020\
Data File : VI19110812.D
Acq On : 8 Nov 2019 2:15 pm
Operator : TNL
Sample : A9K0165-04RE1@50
Misc : 50X 1mL/50mL RR-02 Benzene
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 11 12:11:10 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



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

Volatile Organic Compounds by EPA 5035A/8260C
Calibration Data

Sequence 9J24043 (Cal ID A9J2503) VOA-GCMS9

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9J24043	Instrument:	VOA-GCMS9
Date:	10/24/19 14:12	Calibration:	A9J2503

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J24043-IBL1	Water	QC	QC			A19I040	
2	9J24043-TUN1	Water	QC	QC			A19I040	
3	9J24043-ICB1	Water	QC	QC			A19I040	
4	9J24043-CAL1	Water	QC	QC			A19I040	A19J377
5	9J24043-CAL2	Water	QC	QC			A19I040	A19J378
6	9J24043-CAL3	Water	QC	QC			A19I040	A19J379
7	9J24043-CAL4	Water	QC	QC			A19I040	A19J380
8	9J24043-CAL5	Water	QC	QC			A19I040	A19J381
9	9J24043-CAL6	Water	QC	QC			A19I040	A19J382
10	9J24043-CAL7	Water	QC	QC			A19I040	A19J383
11	9J24043-CAL8	Water	QC	QC			A19I040	A19J384
12	9J24043-CAL9	Water	QC	QC			A19I040	A19J385
13	9J24043-IBL2	Water	QC	QC			A19I040	
14	9J24043-CALA	Water	QC	QC			A19I040	A19J386
15	9J24043-IBL3	Water	QC	QC			A19I040	
16	9J24043-CALB	Water	QC	QC			A19I040	A19J387
17	9J24043-IBL4	Water	QC	QC			A19I040	
18	9J24043-IBL5	Water	QC	QC			A19I040	
19	9J24043-ICV1	Water	QC	QC			A19I040	A19J131
20	9J24043-ICV2	Water	QC	QC			A19I040	A19E195
21	9J24043-IBL6	Water	QC	QC			A19I040	
22	9J24043-TUN2	Water	QC	QC			A19I040	
23	9J24043-IBL7	Water	QC	QC			A19I040	
24	9J24043-ICB2	Water	QC	QC			A19I040	
25	9J24043-CALC	Water	QC	QC			A19I040	A19J388
26	9J24043-CALD	Water	QC	QC			A19I040	A19J389
27	9J24043-CALE	Water	QC	QC			A19I040	A19J390
28	9J24043-CALF	Water	QC	QC			A19I040	A19J391
29	9J24043-CALH	Water	QC	QC			A19I040	A19J393
30	9J24043-CALI	Water	QC	QC			A19I040	A19J394
31	9J24043-CALJ	Water	QC	QC			A19I040	A19J395
32	9J24043-IBL8	Water	QC	QC			A19I040	
33	9J24043-IBL9	Water	QC	QC			A19I040	
34	9J24043-IBLA	Water	QC	QC			A19I040	
35	9J24043-IBLB	Water	QC	QC			A19I040	
36	9J24043-CALG	Water	QC	QC			A19I040	A19J392
37	9J24043-ICV3	Water	QC	QC			A19I040	A19G350

Data Entered By: 10/25/19

Data Reviewed By: 10/28/19

Comments:

Calibration Status Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI191025W.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Oct 25 08:32:21 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	-1	50	C:\msdchem\1\data\2019-10\9J24043\VI19102417.D
2	0.2	0	50	C:\msdchem\1\data\2019-10\9J24043\VI19102418.D
3	0.5	0	50	C:\msdchem\1\data\2019-10\9J24043\VI19102419.D
4	1	1	50	C:\msdchem\1\data\2019-10\9J24043\VI19102420.D
5	2	2	50	C:\msdchem\1\data\2019-10\9J24043\VI19102421.D
6	5	5	50	C:\msdchem\1\data\2019-10\9J24043\VI19102422.D
7	10	10	50	C:\msdchem\1\data\2019-10\9J24043\VI19102423.D
8	20	20	50	C:\msdchem\1\data\2019-10\9J24043\VI19102424.D
9	50	50	50	C:\msdchem\1\data\2019-10\9J24043\VI19102425.D
10	100	100	50	C:\msdchem\1\data\2019-10\9J24043\VI19102427.D
11	200	200	50	C:\msdchem\1\data\2019-10\9J24043\VI19102429.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Oct 25 08:32 2019	Oct 25 08:17 2019	24 Oct 2019 3:55 pm
2	0.2	Oct 25 08:32 2019	Oct 25 08:19 2019	24 Oct 2019 4:21 pm
3	0.5	Oct 25 08:32 2019	Oct 25 08:21 2019	24 Oct 2019 4:48 pm
4	1	Oct 25 08:32 2019	Oct 25 08:23 2019	24 Oct 2019 5:15 pm
5	2	Oct 25 08:32 2019	Oct 25 08:24 2019	24 Oct 2019 5:42 pm
6	5	Oct 25 08:32 2019	Oct 25 08:25 2019	24 Oct 2019 6:09 pm
7	10	Oct 25 08:32 2019	Oct 25 08:10 2019	24 Oct 2019 6:36 pm
8	20	Oct 25 08:32 2019	Oct 25 08:10 2019	24 Oct 2019 7:03 pm
9	50	Oct 25 08:32 2019	Oct 25 08:10 2019	24 Oct 2019 7:30 pm
10	100	Oct 25 08:32 2019	Oct 25 08:10 2019	24 Oct 2019 8:24 pm
11	200	Oct 25 08:32 2019	Oct 25 08:30 2019	24 Oct 2019 9:17 pm

VI191025W.M Fri Oct 25 09:01:36 2019

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9J24043

Analysis Included

8260C Full List
8260C Additional Cpds
8260C Iodomethane Add On
8260C Oxygenates

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9J24043-TUN1	MS Tune	Water		A19I040	10/24/2019 3:01:00PM
9J24043-ICB1	Initial Cal Blank	Water		A19I040	10/24/2019 3:28:00PM
9J24043-CAL1	Cal Standard	Water	A19J377	"	10/24/2019 3:55:00PM
9J24043-CAL2	Cal Standard	Water	A19J378	"	10/24/2019 4:21:00PM
9J24043-CAL3	Cal Standard	Water	A19J379	"	10/24/2019 4:48:00PM
9J24043-CAL4	Cal Standard	Water	A19J380	"	10/24/2019 5:15:00PM
9J24043-CAL5	Cal Standard	Water	A19J381	"	10/24/2019 5:42:00PM
9J24043-CAL6	Cal Standard	Water	A19J382	"	10/24/2019 6:09:00PM
9J24043-CAL7	Cal Standard	Water	A19J383	"	10/24/2019 6:36:00PM
9J24043-CAL8	Cal Standard	Water	A19J384	"	10/24/2019 7:03:00PM
9J24043-CAL9	Cal Standard	Water	A19J385	"	10/24/2019 7:30:00PM
9J24043-CALA	Cal Standard	Water	A19J386	"	10/24/2019 8:24:00PM
9J24043-CALB	Cal Standard	Water	A19J387	"	10/24/2019 9:17:00PM
9J24043-ICV1	Initial Cal Check	Water	A19J131	"	10/24/2019 10:38:00PM
9J24043-ICV2	Initial Cal Check	Water	A19E195	"	10/24/2019 11:05:00PM

CALIBRATION STANDARD RECOVERIES

Calibration: A9J2503 Instrument: VOA-GCMS9

8260C Full List Sequence: 9J24043 Matrix: Water

9J24043-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9J24043-CALB	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9J24043

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: **A9J2503** Instrument: **VOA-GCMS9**

8260C Full List Sequence: **9J24043** Matrix: **Water**

9J24043-ICV1	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**
9J24043-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.

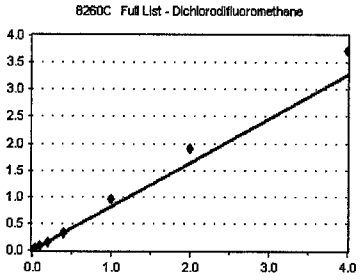
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

Dichlorodifluoromethane

Curve Fit: **AVERAGE RF**

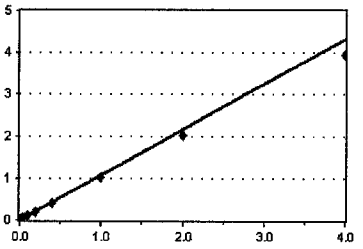


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	562	0.627	1.67
9J24043-CAL4	1	1583	0.682	1.68
9J24043-CAL5	2	3731	0.842	1.69
9J24043-CAL6	5	9010	0.812	1.68
9J24043-CAL7	10	18118	0.770	1.68
9J24043-CAL8	20	35982	0.800	1.67
9J24043-CAL9	50	109425	0.946	1.68
9J24043-CALA	100	212153	0.947	1.68
9J24043-CALB	200	431143	0.929	1.69

AVE RF **0.817** RF RSD **13.92** AVE RT **1.68**

Chloromethane

Curve Fit: **AVERAGE RF**

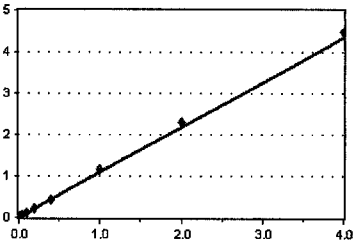


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~479~~	~~2.063~~	~~1.90~~
9J24043-CAL2	0.2	669	1.457	1.90
9J24043-CAL3	0.4	1136	1.268	1.89
9J24043-CAL4	1	2407	1.037	1.89
9J24043-CAL5	2	4743	1.070	1.90
9J24043-CAL6	5	11370	1.024	1.89
9J24043-CAL7	10	22449	0.954	1.90
9J24043-CAL8	20	45062	1.002	1.89
9J24043-CAL9	50	118956	1.029	1.89
9J24043-CALA	100	226754	1.012	1.90
9J24043-CALB	200	456703	0.984	1.90

AVE RF **1.084** RF RSD **14.45** AVE RT **1.90**

Vinyl chloride

Curve Fit: **AVERAGE RF**

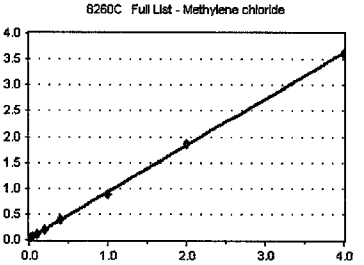


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	406	0.884	2.01
9J24043-CAL3	0.4	967	1.079	2.00
9J24043-CAL4	1	2351	1.013	2.00
9J24043-CAL5	2	5030	1.135	2.01
9J24043-CAL6	5	12653	1.140	2.00
9J24043-CAL7	10	25149	1.069	2.00
9J24043-CAL8	20	49916	1.110	2.00
9J24043-CAL9	50	133008	1.150	2.00
9J24043-CALA	100	258510	1.154	2.00
9J24043-CALB	200	521368	1.123	2.00

AVE RF **1.086** RF RSD **7.67** AVE RT **2.00**

Methylene chloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	2024	8.716	0.00
9J24043-CAL2	0.2	2201	4.794	0.00
9J24043-CAL3	0.4	2646	2.954	0.00
9J24043-CAL4	1	3939	1.697	0.00
9J24043-CAL5	2	6151	1.388	0.00
9J24043-CAL6	5	12549	1.130	3.87
9J24043-CAL7	10	22701	0.965	3.87
9J24043-CAL8	20	43598	0.970	3.87
9J24043-CAL9	50	102541	0.887	3.87
9J24043-CALA	100	209114	0.934	3.88
9J24043-CALB	200	419637	0.904	3.88

AVE RF **2.304** RF RSD **106.11** AVE RT **2.11**

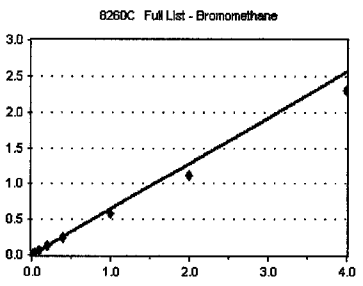
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

Bromomethane

Curve Fit: **AVERAGE RF**

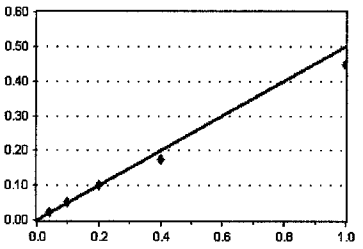


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~839~~	~~0.937~~	~~2.36~~
9J24043-CAL4	1	1763	0.760	2.36
9J24043-CAL5	2	3140	0.709	2.37
9J24043-CAL6	5	7782	0.701	2.36
9J24043-CAL7	10	14678	0.624	2.36
9J24043-CAL8	20	27599	0.614	2.35
9J24043-CAL9	50	66917	0.579	2.36
9J24043-CALA	100	125242	0.559	2.37
9J24043-CALB	200	267468	0.576	2.37

AVE RF **0.640** RF RSD **11.51** AVE RT **2.36**

Chloroethane

Curve Fit: **AVERAGE RF**

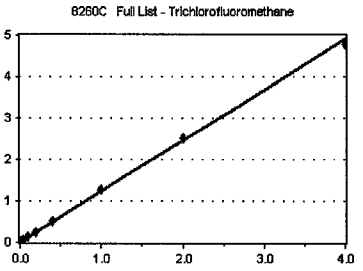


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL5	2	2540	0.573	2.52
9J24043-CAL6	5	5899	0.531	2.51
9J24043-CAL7	10	11813	0.502	2.50
9J24043-CAL8	20	19851	0.442	2.49
9J24043-CAL9	50	51695	0.447	2.49
~~9J24043-CALA~~	~~100~~	~~53786~~	~~0.240~~	~~2.51~~
~~9J24043-CALB~~	~~200~~	~~53331~~	~~0.115~~	~~2.49~~

AVE RF **0.499** RF RSD **11.23** AVE RT **2.50**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

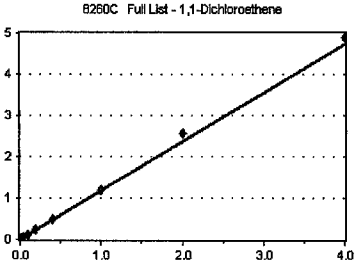


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	958	1.069	2.66
9J24043-CAL4	1	2784	1.200	2.66
9J24043-CAL5	2	5667	1.279	2.68
9J24043-CAL6	5	14236	1.282	2.66
9J24043-CAL7	10	29038	1.235	2.66
9J24043-CAL8	20	58162	1.294	2.66
9J24043-CAL9	50	145579	1.259	2.66
9J24043-CALA	100	279991	1.250	2.66
9J24043-CALB	200	556445	1.199	2.66

AVE RF **1.230** RF RSD **5.62** AVE RT **2.66**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1038	1.159	3.23
9J24043-CAL4	1	2476	1.067	3.23
9J24043-CAL5	2	5263	1.188	3.24
9J24043-CAL6	5	13321	1.200	3.23
9J24043-CAL7	10	27243	1.158	3.23
9J24043-CAL8	20	54074	1.203	3.23
9J24043-CAL9	50	137847	1.192	3.23
9J24043-CALA	100	286478	1.279	3.24
9J24043-CALB	200	567371	1.222	3.23

AVE RF **1.185** RF RSD **4.83** AVE RT **3.23**

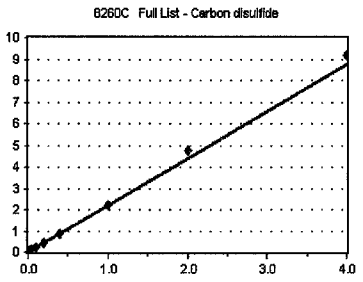
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

Carbon disulfide

Curve Fit: **AVERAGE RF**

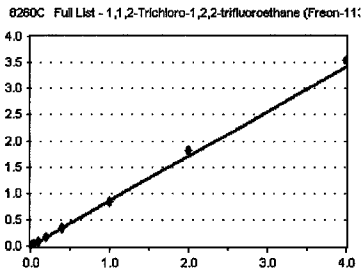


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	4573	1.970	3.25
9J24043-CAL5	2	9757	2.202	3.26
9J24043-CAL6	5	24060	2.167	3.25
9J24043-CAL7	10	49011	2.084	3.25
9J24043-CAL8	20	98898	2.200	3.24
9J24043-CAL9	50	254448	2.200	3.25
9J24043-CALA	100	531736	2.374	3.25
9J24043-CALB	200	1067583	2.300	3.25

AVE RF **2.187** RF RSD **5.64** AVE RT **3.25**

1,1,2-Trichloro-1,2,2-trifluoroethane

Curve Fit: **AVERAGE RF**

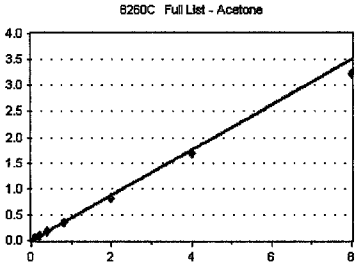


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	1717	0.740	3.29
9J24043-CAL5	2	3803	0.858	3.30
9J24043-CAL6	5	9544	0.860	3.29
9J24043-CAL7	10	19612	0.834	3.28
9J24043-CAL8	20	39711	0.883	3.28
9J24043-CAL9	50	97812	0.846	3.29
9J24043-CALA	100	204168	0.912	3.29
9J24043-CALB	200	411156	0.886	3.29

AVE RF **0.852** RF RSD **6.07** AVE RT **3.29**

Acetone

Curve Fit: **AVERAGE RF**

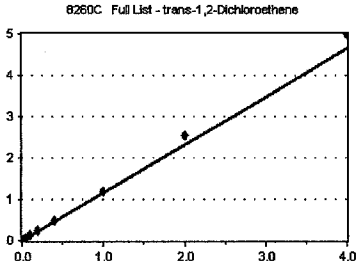


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.4~~	~~1168~~	~~1.272~~	~~3.95~~
~~9J24043-CAL3~~	~~0.8~~	~~1616~~	~~0.902~~	~~3.95~~
~~9J24043-CAL4~~	~~2~~	~~2940~~	~~0.633~~	~~3.95~~
9J24043-CAL5	4	4523	0.510	3.95
9J24043-CAL6	10	10355	0.466	3.94
9J24043-CAL7	20	19796	0.421	3.94
9J24043-CAL8	40	39380	0.438	3.94
9J24043-CAL9	100	93945	0.406	3.94
9J24043-CALA	200	188786	0.421	3.94
9J24043-CALB	400	375022	0.404	3.94

AVE RF **0.438** RF RSD **8.73** AVE RT **3.94**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	360	0.784	4.05
9J24043-CAL3	0.4	963	1.075	4.04
9J24043-CAL4	1	2657	1.145	4.04
9J24043-CAL5	2	5503	1.242	4.05
9J24043-CAL6	5	13685	1.233	4.04
9J24043-CAL7	10	27372	1.164	4.04
9J24043-CAL8	20	56066	1.247	4.03
9J24043-CAL9	50	137318	1.188	4.04
9J24043-CALA	100	285846	1.276	4.04
9J24043-CALB	200	579277	1.248	4.04

AVE RF **1.160** RF RSD **12.54** AVE RT **4.04**

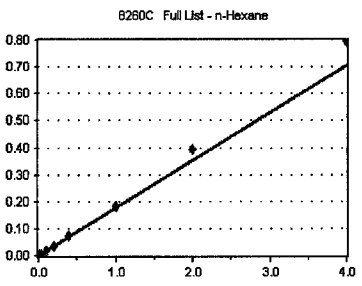
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

n-Hexane

Curve Fit: **AVERAGE RF**

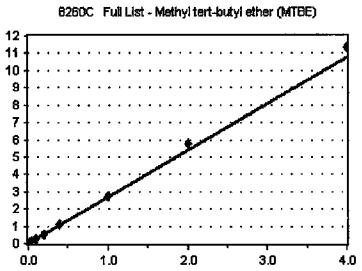


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	357	0.154	4.12
9J24043-CAL5	2	709	0.160	4.13
9J24043-CAL6	5	1836	0.165	4.12
9J24043-CAL7	10	4034	0.172	4.12
9J24043-CAL8	20	8308	0.185	4.12
9J24043-CAL9	50	21163	0.183	4.12
9J24043-CALA	100	43920	0.196	4.12
9J24043-CALB	200	92077	0.198	4.12

AVE RF **0.177** RF RSD **9.35** AVE RT **4.12**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

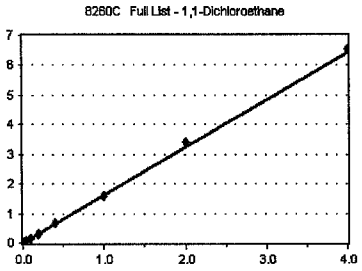


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	2309	2.577	4.17
9J24043-CAL4	1	5789	2.494	4.17
9J24043-CAL5	2	11957	2.698	4.17
9J24043-CAL6	5	29908	2.694	4.17
9J24043-CAL7	10	61557	2.617	4.17
9J24043-CAL8	20	123669	2.750	4.17
9J24043-CAL9	50	313020	2.707	4.17
9J24043-CALA	100	646936	2.888	4.17
9J24043-CALB	200	1318751	2.841	4.17

AVE RF **2.696** RF RSD **4.58** AVE RT **4.17**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

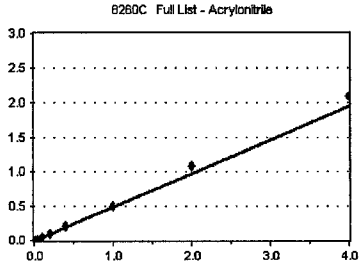


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1323	1.477	4.68
9J24043-CAL4	1	3672	1.582	4.68
9J24043-CAL5	2	7227	1.631	4.69
9J24043-CAL6	5	18307	1.649	4.68
9J24043-CAL7	10	36999	1.573	4.68
9J24043-CAL8	20	75120	1.671	4.68
9J24043-CAL9	50	182910	1.582	4.68
9J24043-CALA	100	379907	1.696	4.68
9J24043-CALB	200	761535	1.641	4.68

AVE RF **1.611** RF RSD **4.09** AVE RT **4.68**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	876	0.377	4.75
9J24043-CAL5	2	1949	0.440	4.76
9J24043-CAL6	5	5426	0.489	4.75
9J24043-CAL7	10	11383	0.484	4.74
9J24043-CAL8	20	22973	0.511	4.75
9J24043-CAL9	50	58667	0.507	4.75
9J24043-CALA	100	122564	0.547	4.75
9J24043-CALB	200	243406	0.524	4.75

AVE RF **0.485** RF RSD **11.08** AVE RT **4.75**

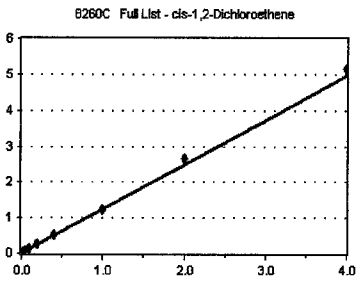
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

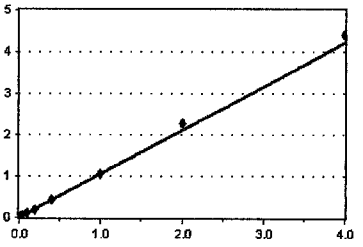


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1008	1.125	5.24
9J24043-CAL4	1	2744	1.182	5.24
9J24043-CAL5	2	5568	1.256	5.25
9J24043-CAL6	5	13959	1.257	5.24
9J24043-CAL7	10	28723	1.221	5.24
9J24043-CAL8	20	58359	1.298	5.24
9J24043-CAL9	50	143124	1.238	5.24
9J24043-CALA	100	297452	1.328	5.24
9J24043-CALB	200	597836	1.288	5.24

AVE RF **1.244** RF RSD **4.98** AVE RT **5.24**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

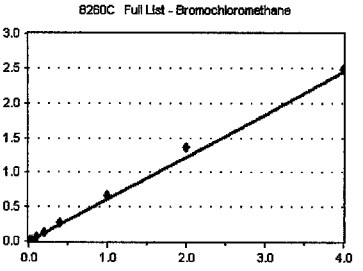


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	853	0.952	5.35
9J24043-CAL4	1	2316	0.998	5.35
9J24043-CAL5	2	4776	1.078	5.35
9J24043-CAL6	5	11793	1.062	5.35
9J24043-CAL7	10	23663	1.006	5.35
9J24043-CAL8	20	48254	1.073	5.35
9J24043-CAL9	50	122658	1.061	5.35
9J24043-CALA	100	252830	1.129	5.35
9J24043-CALB	200	512393	1.104	5.35

AVE RF **1.051** RF RSD **5.31** AVE RT **5.35**

Bromochloromethane

Curve Fit: **AVERAGE RF**

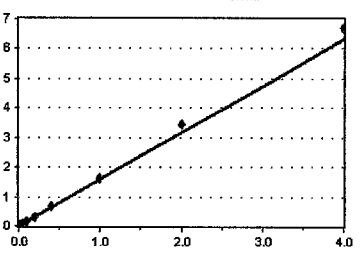


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	391	0.436	5.44
9J24043-CAL4	1	1188	0.512	5.45
9J24043-CAL5	2	2679	0.605	5.46
9J24043-CAL6	5	7172	0.646	5.44
9J24043-CAL7	10	14961	0.636	5.45
9J24043-CAL8	20	30935	0.688	5.44
9J24043-CAL9	50	77572	0.671	5.44
9J24043-CALA	100	151653	0.677	5.45
9J24043-CALB	200	288672	0.622	5.45

AVE RF **0.610** RF RSD **13.73** AVE RT **5.45**

Chloroform

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	587	1.278	5.53
9J24043-CAL3	0.4	1292	1.442	5.53
9J24043-CAL4	1	3341	1.440	5.53
9J24043-CAL5	2	7277	1.642	5.54
9J24043-CAL6	5	18186	1.638	5.53
9J24043-CAL7	10	37799	1.607	5.53
9J24043-CAL8	20	76239	1.696	5.52
9J24043-CAL9	50	186984	1.617	5.52
9J24043-CALA	100	385051	1.719	5.53
9J24043-CALB	200	776466	1.673	5.53

AVE RF **1.575** RF RSD **8.98** AVE RT **5.53**

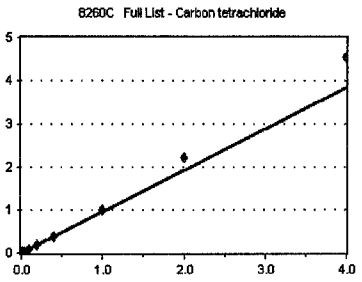
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

Carbon tetrachloride

Curve Fit: **AVERAGE RF**

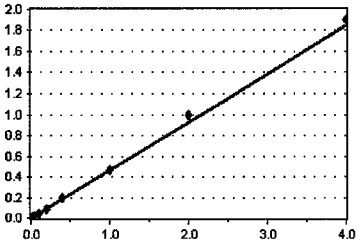


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~618~~	~~0.690~~	~~5.65~~
9J24043-CAL4	1	1791	0.772	5.66
9J24043-CAL5	2	4001	0.903	5.66
9J24043-CAL6	5	9957	0.897	5.66
9J24043-CAL7	10	20840	0.886	5.66
9J24043-CAL8	20	43938	0.977	5.66
9J24043-CAL9	50	114614	0.991	5.66
9J24043-CALA	100	247648	1.106	5.66
9J24043-CALB	200	525973	1.133	5.66

AVE RF **0.958** RF RSD **12.52** AVE RT **5.66**

Tetrahydrofuran

Curve Fit: **AVERAGE RF**

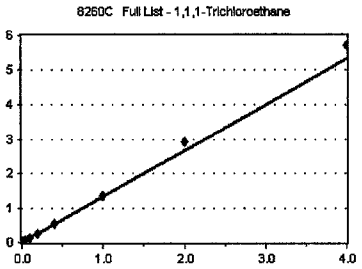


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	945	0.407	5.71
9J24043-CAL5	2	2045	0.461	5.71
9J24043-CAL6	5	5112	0.460	5.71
9J24043-CAL7	10	10375	0.441	5.70
9J24043-CAL8	20	21330	0.474	5.70
9J24043-CAL9	50	54072	0.468	5.69
9J24043-CALA	100	111881	0.500	5.70
9J24043-CALB	200	221252	0.477	5.69

AVE RF **0.461** RF RSD **5.94** AVE RT **5.70**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**

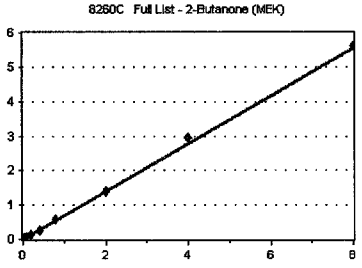


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1012	1.130	5.73
9J24043-CAL4	1	2903	1.251	5.73
9J24043-CAL5	2	5937	1.340	5.74
9J24043-CAL6	5	14957	1.347	5.73
9J24043-CAL7	10	30210	1.284	5.74
9J24043-CAL8	20	62000	1.379	5.73
9J24043-CAL9	50	156566	1.354	5.73
9J24043-CALA	100	325398	1.453	5.74
9J24043-CALB	200	663507	1.430	5.74

AVE RF **1.330** RF RSD **7.37** AVE RT **5.73**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	2	2900	0.625	5.86
9J24043-CAL5	4	6243	0.704	5.87
9J24043-CAL6	10	15638	0.704	5.86
9J24043-CAL7	20	31158	0.662	5.86
9J24043-CAL8	40	64474	0.717	5.85
9J24043-CAL9	100	162223	0.701	5.85
9J24043-CALA	200	331914	0.741	5.85
9J24043-CALB	400	651518	0.702	5.85

AVE RF **0.695** RF RSD **5.12** AVE RT **5.86**

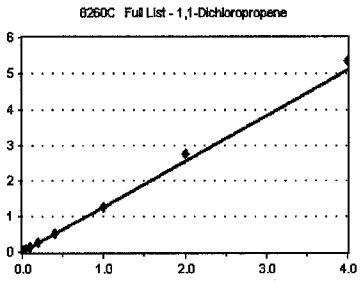
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

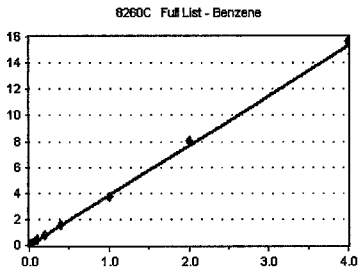


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1049	1.171	5.87
9J24043-CAL4	1	2749	1.184	5.86
9J24043-CAL5	2	5724	1.292	5.87
9J24043-CAL6	5	14423	1.299	5.86
9J24043-CAL7	10	29295	1.245	5.86
9J24043-CAL8	20	59019	1.313	5.86
9J24043-CAL9	50	146998	1.271	5.86
9J24043-CALA	100	308104	1.376	5.86
9J24043-CALB	200	622283	1.341	5.86

AVE RF **1.277** RF RSD **5.30** AVE RT **5.86**

Benzene

Curve Fit: **AVERAGE RF**

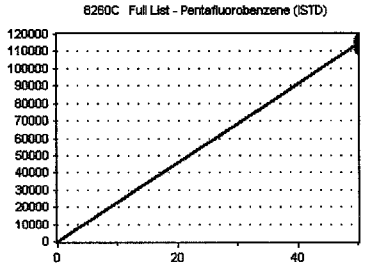


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	917	3.949	6.13
9J24043-CAL2	0.2	1584	3.450	6.13
9J24043-CAL3	0.4	3381	3.774	6.12
9J24043-CAL4	1	8314	3.582	6.13
9J24043-CAL5	2	17935	4.047	6.13
9J24043-CAL6	5	43404	3.910	6.12
9J24043-CAL7	10	87359	3.714	6.12
9J24043-CAL8	20	175817	3.910	6.12
9J24043-CAL9	50	434612	3.758	6.12
9J24043-CALA	100	900809	4.022	6.12
9J24043-CALB	200	1815119	3.911	6.12

AVE RF **3.821** RF RSD **4.86** AVE RT **6.12**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

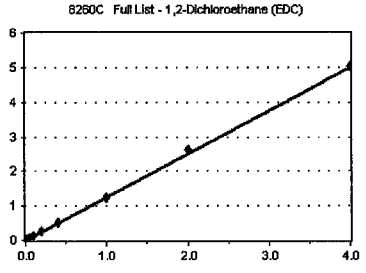


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116102	2322.040	6.22
9J24043-CAL2	50	114788	2295.760	6.22
9J24043-CAL3	50	111985	2239.700	6.21
9J24043-CAL4	50	116043	2320.860	6.21
9J24043-CAL5	50	110790	2215.800	6.22
9J24043-CAL6	50	111010	2220.200	6.21
9J24043-CAL7	50	117608	2352.160	6.22
9J24043-CAL8	50	112406	2248.120	6.21
9J24043-CAL9	50	115635	2312.700	6.21
9J24043-CALA	50	111989	2239.780	6.22
9J24043-CALB	50	116034	2320.680	6.22

AVE RF **2280.709** RF RSD **2.13** AVE RT **6.21**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1073	1.198	6.33
9J24043-CAL4	1	2623	1.130	6.34
9J24043-CAL5	2	5726	1.292	6.35
9J24043-CAL6	5	14359	1.293	6.34
9J24043-CAL7	10	28935	1.230	6.34
9J24043-CAL8	20	58731	1.306	6.34
9J24043-CAL9	50	143950	1.245	6.34
9J24043-CALA	100	294149	1.313	6.34
9J24043-CALB	200	583025	1.256	6.34

AVE RF **1.252** RF RSD **4.76** AVE RT **6.34**

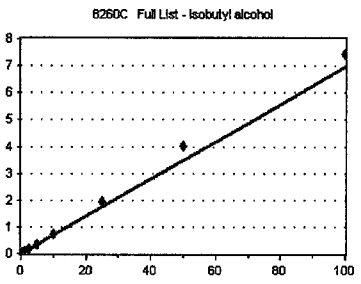
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

Isobutyl alcohol

Curve Fit: **AVERAGE RF**

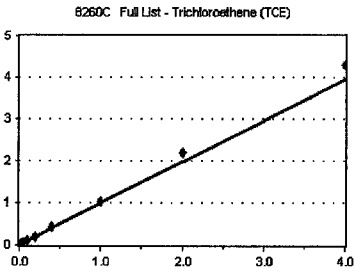


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~2.5~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~5~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	10	1172	5.233	6.39
9J24043-CAL4	25	3120	5.377	6.38
9J24043-CAL5	50	7968	7.192	6.38
9J24043-CAL6	125	20710	7.462	6.38
9J24043-CAL7	250	39286	6.681	6.38
9J24043-CAL8	500	83527	7.431	6.37
9J24043-CAL9	1250	224878	0.078	6.37
9J24043-CALA	2500	450055	8.037	6.38
9J24043-CALB	5000	863259	7.440	6.38

AVE RF **6.959** RF RSD **14.51** AVE RT **6.38**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**

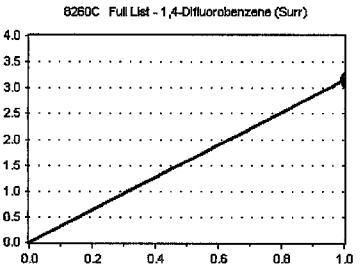


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	372	0.810	6.75
9J24043-CAL3	0.4	718	0.801	6.75
9J24043-CAL4	1	2166	0.933	6.74
9J24043-CAL5	2	4576	1.033	6.75
9J24043-CAL6	5	11340	1.022	6.74
9J24043-CAL7	10	23449	0.997	6.74
9J24043-CAL8	20	47359	1.053	6.74
9J24043-CAL9	50	118626	1.026	6.74
9J24043-CALA	100	245311	1.095	6.75
9J24043-CALB	200	498651	1.074	6.74

AVE RF **0.984** RF RSD **10.55** AVE RT **6.74**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

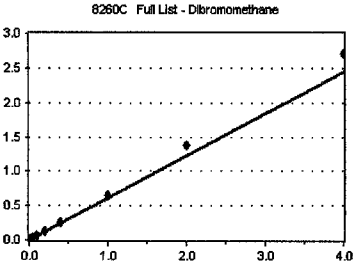


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	364447	3.139	6.78
9J24043-CAL2	50	359462	3.132	6.78
9J24043-CAL3	50	352302	3.146	6.78
9J24043-CAL4	50	366642	3.160	6.78
9J24043-CAL5	50	347212	3.134	6.78
9J24043-CAL6	50	353918	3.188	6.78
9J24043-CAL7	50	367409	3.124	6.78
9J24043-CAL8	50	354922	3.158	6.78
9J24043-CAL9	50	370144	3.201	6.78
9J24043-CALA	50	356857	3.187	6.78
9J24043-CALB	50	369003	3.180	6.78

AVE RF **3.159** RF RSD **0.84** AVE RT **6.78**

Dibromomethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	378	0.422	7.20
9J24043-CAL4	1	1285	0.554	7.20
9J24043-CAL5	2	2755	0.622	7.20
9J24043-CAL6	5	7023	0.633	7.20
9J24043-CAL7	10	14594	0.620	7.20
9J24043-CAL8	20	29514	0.656	7.20
9J24043-CAL9	50	74270	0.642	7.20
9J24043-CALA	100	155032	0.692	7.20
9J24043-CALB	200	314382	0.677	7.20

AVE RF **0.613** RF RSD **13.36** AVE RT **7.20**

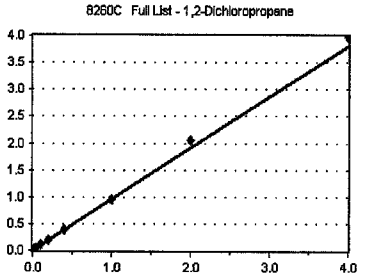
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

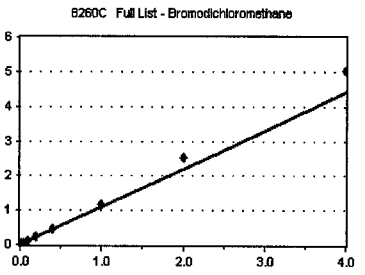


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	797	0.890	7.31
9J24043-CAL4	1	1944	0.838	7.31
9J24043-CAL5	2	4373	0.987	7.31
9J24043-CAL6	5	10897	0.982	7.31
9J24043-CAL7	10	21915	0.932	7.31
9J24043-CAL8	20	44422	0.988	7.31
9J24043-CAL9	50	109124	0.944	7.31
9J24043-CALA	100	229327	1.024	7.31
9J24043-CALB	200	461364	0.994	7.31

AVE RF **0.953** RF RSD **6.18** AVE RT **7.31**

Bromodichloromethane

Curve Fit: **AVERAGE RF**

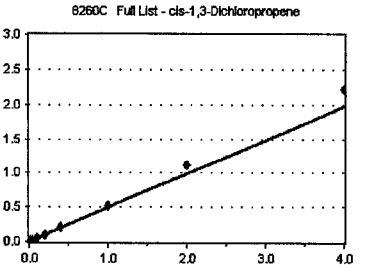


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	800	0.893	7.38
9J24043-CAL4	1	2259	0.973	7.38
9J24043-CAL5	2	4681	1.056	7.39
9J24043-CAL6	5	12021	1.083	7.38
9J24043-CAL7	10	25055	1.065	7.38
9J24043-CAL8	20	51693	1.150	7.38
9J24043-CAL9	50	133532	1.155	7.38
9J24043-CALA	100	282119	1.260	7.38
9J24043-CALB	200	582259	1.255	7.38

AVE RF **1.099** RF RSD **11.01** AVE RT **7.38**

cis-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

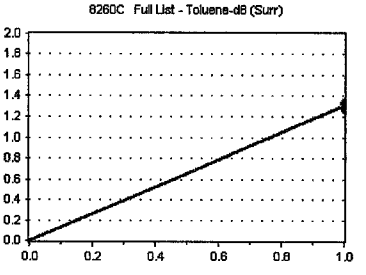


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1014	0.431	8.09
9J24043-CAL4	1	2667	0.429	8.09
9J24043-CAL5	2	5578	0.468	8.09
9J24043-CAL6	5	14229	0.474	8.09
9J24043-CAL7	10	30482	0.487	8.09
9J24043-CAL8	20	64475	0.525	8.09
9J24043-CAL9	50	166893	0.520	8.09
9J24043-CALA	100	356393	0.559	8.09
9J24043-CALB	200	736312	0.556	8.09

AVE RF **0.494** RF RSD **9.88** AVE RT **8.09**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	406288	1.321	8.30
9J24043-CAL2	50	403793	1.333	8.30
9J24043-CAL3	50	396027	1.345	8.30
9J24043-CAL4	50	410518	1.321	8.30
9J24043-CAL5	50	395017	1.327	8.30
9J24043-CAL6	50	397005	1.322	8.30
9J24043-CAL7	50	415174	1.327	8.30
9J24043-CAL8	50	399810	1.302	8.30
9J24043-CAL9	50	415062	1.292	8.30
9J24043-CALA	50	405945	1.274	8.30
9J24043-CALB	50	420947	1.272	8.30

AVE RF **1.312** RF RSD **1.83** AVE RT **8.30**

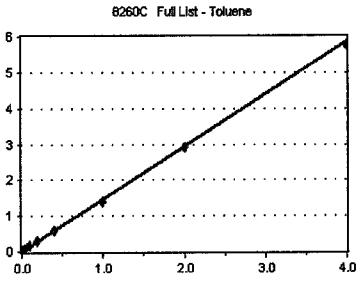
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

Toluene

Curve Fit: **AVERAGE RF**

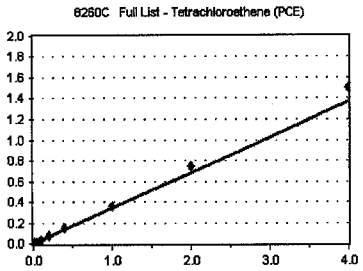


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	978	1.590	8.36
9J24043-CAL2	0.2	1744	1.439	8.35
9J24043-CAL3	0.4	3505	1.488	8.36
9J24043-CAL4	1	9040	1.454	8.35
9J24043-CAL5	2	17851	1.499	8.36
9J24043-CAL6	5	44272	1.474	8.36
9J24043-CAL7	10	90400	1.445	8.36
9J24043-CAL8	20	183309	1.492	8.36
9J24043-CAL9	50	446611	1.391	8.36
9J24043-CALA	100	931584	1.462	8.36
9J24043-CALB	200	1905088	1.439	8.36

AVE RF **1.470** RF RSD **3.41** AVE RT **8.36**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

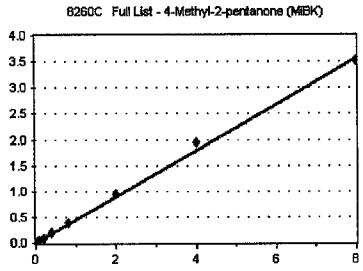


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	267	0.220	8.81
9J24043-CAL3	0.4	787	0.334	8.80
9J24043-CAL4	1	1994	0.321	8.80
9J24043-CAL5	2	4333	0.364	8.80
9J24043-CAL6	5	10847	0.361	8.80
9J24043-CAL7	10	22099	0.353	8.80
9J24043-CAL8	20	45467	0.370	8.80
9J24043-CAL9	50	113079	0.352	8.80
9J24043-CALA	100	236880	0.372	8.80
9J24043-CALB	200	496433	0.375	8.80

AVE RF **0.342** RF RSD **13.48** AVE RT **8.80**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**

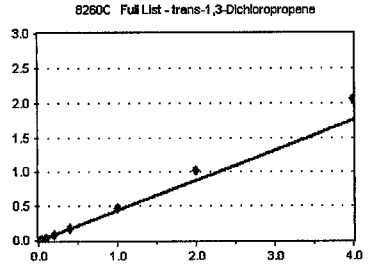


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.4	890	0.367	8.80
9J24043-CAL3	0.8	1912	0.406	8.81
9J24043-CAL4	2	5042	0.406	8.80
9J24043-CAL5	4	11029	0.463	8.81
9J24043-CAL6	10	28183	0.469	8.80
9J24043-CAL7	20	58009	0.464	8.80
9J24043-CAL8	40	120524	0.491	8.80
9J24043-CAL9	100	304356	0.474	8.80
9J24043-CALA	200	616767	0.484	8.80
9J24043-CALB	400	1166981	0.441	8.80

AVE RF **0.446** RF RSD **9.09** AVE RT **8.80**

trans-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~610~~	~~0.259~~	~~8.84~~
9J24043-CAL4	1	2122	0.341	8.84
9J24043-CAL5	2	4500	0.378	8.84
9J24043-CAL6	5	12130	0.404	8.84
9J24043-CAL7	10	26302	0.420	8.84
9J24043-CAL8	20	57085	0.465	8.83
9J24043-CAL9	50	151987	0.473	8.83
9J24043-CALA	100	327146	0.513	8.84
9J24043-CALB	200	678927	0.513	8.84

AVE RF **0.438** RF RSD **14.34** AVE RT **8.84**

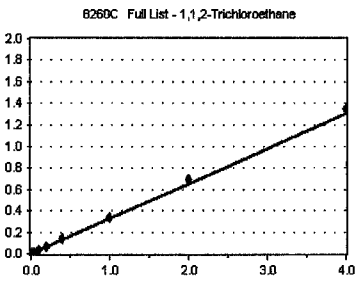
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**

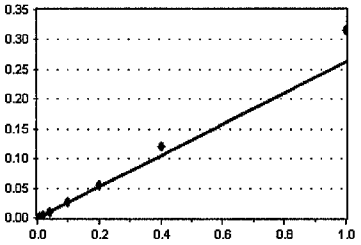


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	288	0.238	9.01
9J24043-CAL3	0.4	717	0.304	9.00
9J24043-CAL4	1	1944	0.313	9.00
9J24043-CAL5	2	4134	0.347	9.00
9J24043-CAL6	5	10336	0.344	9.00
9J24043-CAL7	10	21402	0.342	9.01
9J24043-CAL8	20	43171	0.351	9.00
9J24043-CAL9	50	107594	0.335	9.00
9J24043-CALA	100	221018	0.347	9.01
9J24043-CALB	200	447395	0.338	9.01

AVE RF **0.326** RF RSD **10.62** AVE RT **9.01**

Dibromochloromethane

Curve Fit: **AVERAGE RF**

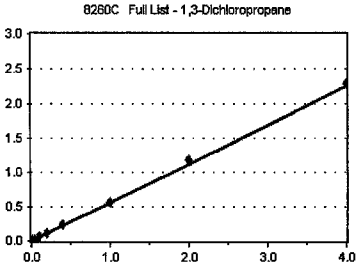


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	505	0.214	9.19
9J24043-CAL4	1	1349	0.217	9.19
9J24043-CAL5	2	3038	0.255	9.19
9J24043-CAL6	5	8016	0.267	9.19
9J24043-CAL7	10	17208	0.275	9.19
9J24043-CAL8	20	36932	0.301	9.19
9J24043-CAL9	50	101291	0.315	9.19
~~9J24043-CALA~~	~~100~~	~~222919~~	~~0.360~~	~~9.19~~
~~9J24043-CALB~~	~~200~~	~~473598~~	~~0.358~~	~~9.19~~

AVE RF **0.264** RF RSD **14.58** AVE RT **9.19**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

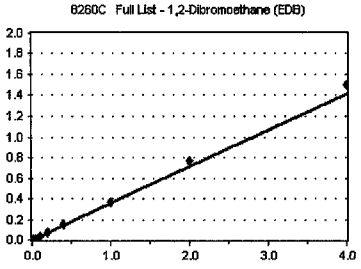


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	568	0.469	9.29
9J24043-CAL3	0.4	1253	0.532	9.29
9J24043-CAL4	1	3361	0.541	9.29
9J24043-CAL5	2	6889	0.578	9.29
9J24043-CAL6	5	17551	0.584	9.29
9J24043-CAL7	10	36354	0.581	9.29
9J24043-CAL8	20	73700	0.600	9.29
9J24043-CAL9	50	183541	0.571	9.29
9J24043-CALA	100	379039	0.595	9.29
9J24043-CALB	200	755862	0.571	9.29

AVE RF **0.562** RF RSD **6.98** AVE RT **9.29**

1,2-Dibromoethane (EDB)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~279~~	~~0.230~~	~~9.42~~
9J24043-CAL3	0.4	615	0.261	9.42
9J24043-CAL4	1	1928	0.310	9.42
9J24043-CAL5	2	4499	0.378	9.43
9J24043-CAL6	5	11270	0.375	9.42
9J24043-CAL7	10	22884	0.366	9.42
9J24043-CAL8	20	46797	0.381	9.42
9J24043-CAL9	50	117418	0.366	9.42
9J24043-CALA	100	243688	0.382	9.42
9J24043-CALB	200	496207	0.375	9.42

AVE RF **0.355** RF RSD **11.70** AVE RT **9.42**

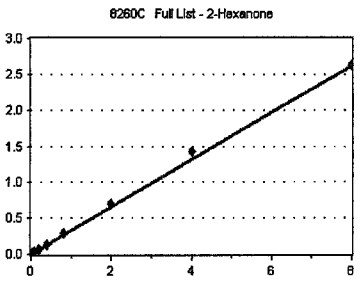
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

2-Hexanone

Curve Fit: **AVERAGE RF**

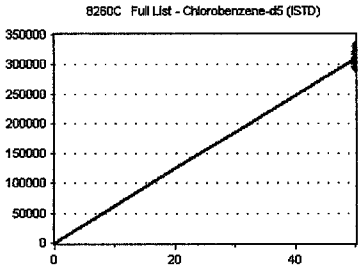


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.8	1346	0.286	9.66
9J24043-CAL4	2	3526	0.284	9.66
9J24043-CAL5	4	7610	0.319	9.66
9J24043-CAL6	10	19724	0.328	9.65
9J24043-CAL7	20	41881	0.335	9.65
9J24043-CAL8	40	87528	0.356	9.65
9J24043-CAL9	100	224495	0.350	9.65
9J24043-CALA	200	456833	0.358	9.65
9J24043-CALB	400	866990	0.327	9.65

AVE RF **0.327** RF RSD **8.41** AVE RT **9.66**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

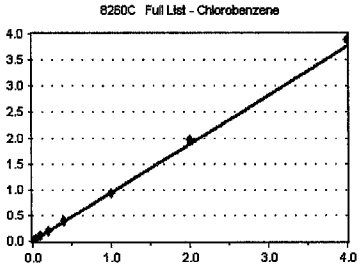


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	307577	6151.540	9.91
9J24043-CAL2	50	302974	6059.480	9.92
9J24043-CAL3	50	294372	5887.440	9.91
9J24043-CAL4	50	310797	6215.940	9.91
9J24043-CAL5	50	297754	5955.080	9.92
9J24043-CAL6	50	300317	6006.340	9.91
9J24043-CAL7	50	312833	6256.660	9.91
9J24043-CAL8	50	307093	6141.860	9.91
9J24043-CAL9	50	321159	6423.180	9.91
9J24043-CALA	50	318635	6372.700	9.91
9J24043-CALB	50	330915	6618.300	9.92

AVE RF **6189.865** RF RSD **3.53** AVE RT **9.91**

Chlorobenzene

Curve Fit: **AVERAGE RF**

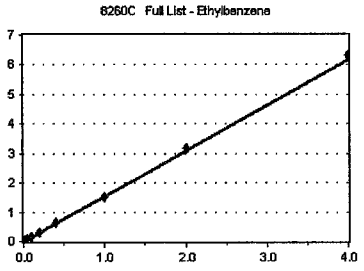


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	480	0.780	9.93
9J24043-CAL2	0.2	1045	0.862	9.93
9J24043-CAL3	0.4	2226	0.945	9.93
9J24043-CAL4	1	5770	0.928	9.93
9J24043-CAL5	2	11701	0.982	9.93
9J24043-CAL6	5	29555	0.984	9.93
9J24043-CAL7	10	60359	0.965	9.93
9J24043-CAL8	20	120984	0.985	9.93
9J24043-CAL9	50	301806	0.940	9.93
9J24043-CALA	100	624905	0.981	9.93
9J24043-CALB	200	1285529	0.971	9.93

AVE RF **0.939** RF RSD **6.80** AVE RT **9.93**

Ethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	942	1.531	9.95
9J24043-CAL2	0.2	1835	1.514	9.95
9J24043-CAL3	0.4	3584	1.522	9.95
9J24043-CAL4	1	8761	1.409	9.95
9J24043-CAL5	2	19157	1.608	9.95
9J24043-CAL6	5	46860	1.560	9.95
9J24043-CAL7	10	96018	1.535	9.95
9J24043-CAL8	20	195460	1.591	9.95
9J24043-CAL9	50	486890	1.516	9.95
9J24043-CALA	100	1015747	1.594	9.95
9J24043-CALB	200	2091382	1.580	9.95

AVE RF **1.542** RF RSD **3.61** AVE RT **9.95**

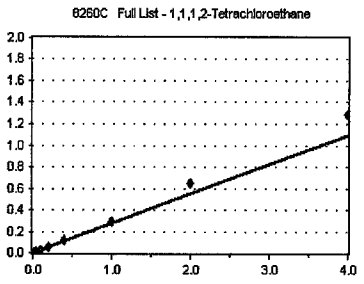
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

1,1,1,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

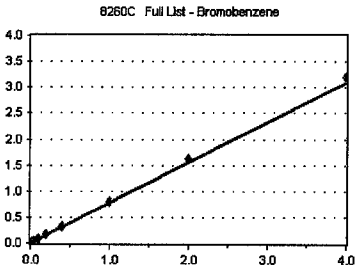


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~129~~	~~0.106~~	~~0.00~~
9J24043-CAL3	0.4	470	0.200	9.99
9J24043-CAL4	1	1476	0.237	9.99
9J24043-CAL5	2	2985	0.251	9.99
9J24043-CAL6	5	7981	0.266	9.99
9J24043-CAL7	10	16995	0.272	9.99
9J24043-CAL8	20	36336	0.296	9.99
9J24043-CAL9	50	95075	0.296	9.99
9J24043-CALA	100	206263	0.324	9.99
9J24043-CALB	200	427244	0.323	9.99

AVE RF **0.274** RF RSD **14.90** AVE RT **9.99**

Bromobenzene

Curve Fit: **AVERAGE RF**

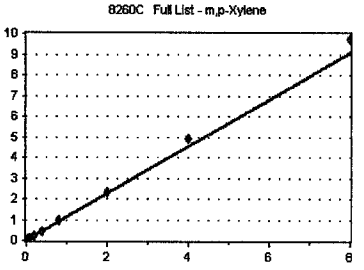


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	124	0.444	0.00
9J24043-CAL2	0.2	432	0.800	11.06
9J24043-CAL3	0.4	875	0.813	11.06
9J24043-CAL4	1	2220	0.771	11.06
9J24043-CAL5	2	4634	0.830	11.06
9J24043-CAL6	5	11623	0.819	11.06
9J24043-CAL7	10	24222	0.812	11.06
9J24043-CAL8	20	50013	0.825	11.06
9J24043-CAL9	50	126180	0.798	11.06
9J24043-CALA	100	265287	0.813	11.06
9J24043-CALB	200	542011	0.800	11.06

AVE RF **0.775** RF RSD **14.32** AVE RT **10.05**

m,p-Xylene

Curve Fit: **AVERAGE RF**

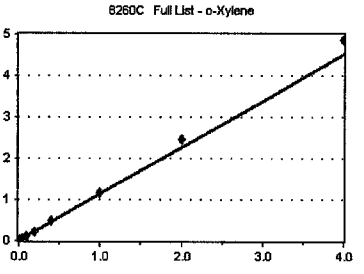


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.2	1368	1.112	10.09
9J24043-CAL2	0.4	2470	1.019	10.09
9J24043-CAL3	0.8	5197	1.103	10.09
9J24043-CAL4	2	12789	1.029	10.09
9J24043-CAL5	4	27092	1.137	10.09
9J24043-CAL6	10	68847	1.146	10.09
9J24043-CAL7	20	142004	1.135	10.09
9J24043-CAL8	40	297066	1.209	10.09
9J24043-CAL9	100	738497	1.150	10.09
9J24043-CALA	200	1568164	1.230	10.09
9J24043-CALB	400	3227914	1.219	10.09

AVE RF **1.135** RF RSD **6.12** AVE RT **10.09**

o-Xylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	585	0.951	10.47
9J24043-CAL2	0.2	1221	1.008	10.47
9J24043-CAL3	0.4	2605	1.106	10.47
9J24043-CAL4	1	6630	1.067	10.46
9J24043-CAL5	2	13605	1.142	10.47
9J24043-CAL6	5	34456	1.147	10.46
9J24043-CAL7	10	71417	1.141	10.46
9J24043-CAL8	20	149422	1.216	10.46
9J24043-CAL9	50	371768	1.158	10.46
9J24043-CALA	100	785588	1.233	10.46
9J24043-CALB	200	1606355	1.214	10.46

AVE RF **1.126** RF RSD **7.83** AVE RT **10.47**

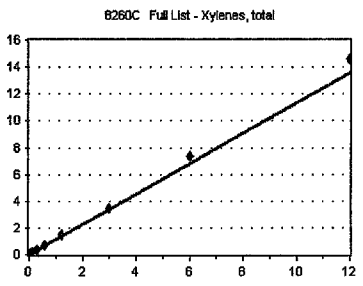
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

Xylenes, total

Curve Fit: **AVERAGE RF**

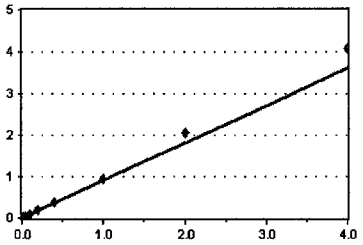


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.3	1953	1.058	10.47
9J24043-CAL2	0.6	3691	1.015	10.47
9J24043-CAL3	1.2	7802	1.104	10.47
9J24043-CAL4	3	19419	1.041	10.46
9J24043-CAL5	6	40697	1.139	10.47
9J24043-CAL6	15	103303	1.147	10.46
9J24043-CAL7	30	213421	1.137	10.46
9J24043-CAL8	60	446488	1.212	10.46
9J24043-CAL9	150	1110265	1.152	10.46
9J24043-CALA	300	2353752	1.231	10.46
9J24043-CALB	600	4834269	1.217	10.46

AVE RF **1.132** RF RSD **6.38** AVE RT **10.47**

Styrene

Curve Fit: **AVERAGE RF**

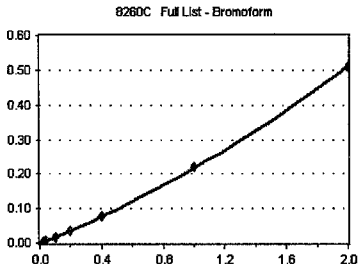


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~754~~	~~0.622~~	~~10.52~~
9J24043-CAL3	0.4	1656	0.703	10.52
9J24043-CAL4	1	4878	0.785	10.52
9J24043-CAL5	2	10363	0.870	10.52
9J24043-CAL6	5	26739	0.890	10.51
9J24043-CAL7	10	57022	0.911	10.51
9J24043-CAL8	20	120205	0.979	10.51
9J24043-CAL9	50	307044	0.956	10.51
9J24043-CALA	100	653902	1.026	10.51
9J24043-CALB	200	1353743	1.023	10.51

AVE RF **0.905** RF RSD **11.93** AVE RT **10.51**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

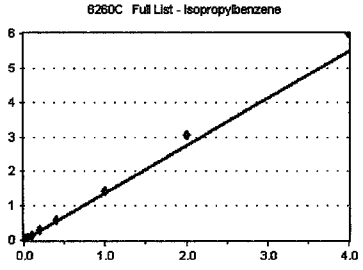


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	795	0.128	10.54
9J24043-CAL5	2	1771	0.149	10.54
9J24043-CAL6	5	4690	0.156	10.54
9J24043-CAL7	10	10701	0.171	10.54
9J24043-CAL8	20	23844	0.194	10.54
9J24043-CAL9	50	71080	0.221	10.54
9J24043-CALA	100	162527	0.255	10.54
~~9J24043-CALB~~	~~200~~	~~351162~~	~~0.265~~	~~10.54~~

AVE RF **0.182** RF RSD **24.41** AVE RT **10.54**

Isopropylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	1347	1.111	10.74
9J24043-CAL3	0.4	3067	1.302	10.73
9J24043-CAL4	1	7662	1.233	10.73
9J24043-CAL5	2	16325	1.371	10.73
9J24043-CAL6	5	41801	1.392	10.73
9J24043-CAL7	10	86673	1.385	10.73
9J24043-CAL8	20	182751	1.488	10.73
9J24043-CAL9	50	458349	1.427	10.73
9J24043-CALA	100	973691	1.528	10.73
9J24043-CALB	200	1980670	1.496	10.73

AVE RF **1.373** RF RSD **9.37** AVE RT **10.73**

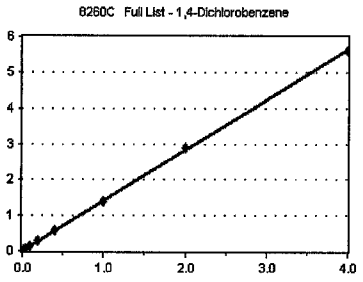
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

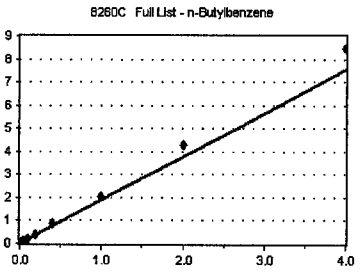


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	311	1.113	0.00
9J24043-CAL2	0.2	725	1.342	11.86
9J24043-CAL3	0.4	1564	1.454	11.86
9J24043-CAL4	1	4177	1.451	11.86
9J24043-CAL5	2	8550	1.531	11.86
9J24043-CAL6	5	20421	1.440	11.86
9J24043-CAL7	10	42771	1.433	11.86
9J24043-CAL8	20	89594	1.478	11.86
9J24043-CAL9	50	222386	1.406	11.86
9J24043-CALA	100	468883	1.436	11.86
9J24043-CALB	200	949679	1.402	11.86

AVE RF **1.408** RF RSD **7.70** AVE RT **10.78**

n-Butylbenzene

Curve Fit: **AVERAGE RF**

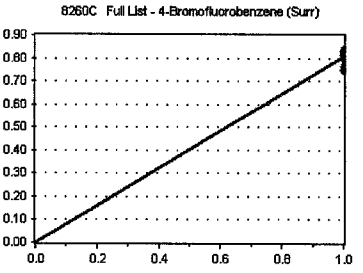


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	379	1.357	0.00
9J24043-CAL2	0.2	805	1.491	12.05
9J24043-CAL3	0.4	1867	1.735	12.05
9J24043-CAL4	1	4997	1.735	12.05
9J24043-CAL5	2	10626	1.903	12.05
9J24043-CAL6	5	28526	2.011	12.05
9J24043-CAL7	10	59515	1.994	12.05
9J24043-CAL8	20	130970	2.160	12.05
9J24043-CAL9	50	325681	2.060	12.05
9J24043-CALA	100	694929	2.129	12.05
9J24043-CALB	200	1435776	2.119	12.05

AVE RF **1.881** RF RSD **14.34** AVE RT **10.95**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

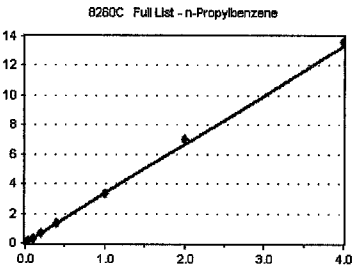


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116090	0.831	10.97
9J24043-CAL2	50	113180	0.838	10.97
9J24043-CAL3	50	112304	0.835	10.97
9J24043-CAL4	50	118563	0.823	10.97
9J24043-CAL5	50	115163	0.825	10.97
9J24043-CAL6	50	115652	0.815	10.97
9J24043-CAL7	50	121121	0.812	10.97
9J24043-CAL8	50	120976	0.798	10.97
9J24043-CAL9	50	125801	0.796	10.97
9J24043-CALA	50	124392	0.762	10.97
9J24043-CALB	50	127221	0.751	10.97

AVE RF **0.808** RF RSD **3.58** AVE RT **10.97**

n-Propylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	873	3.125	11.08
9J24043-CAL2	0.2	1649	3.053	11.08
9J24043-CAL3	0.4	3544	3.294	11.08
9J24043-CAL4	1	9160	3.181	11.08
9J24043-CAL5	2	19292	3.455	11.08
9J24043-CAL6	5	48000	3.384	11.07
9J24043-CAL7	10	99009	3.318	11.07
9J24043-CAL8	20	210703	3.475	11.07
9J24043-CAL9	50	530991	3.358	11.07
9J24043-CALA	100	1142995	3.501	11.07
9J24043-CALB	200	2308779	3.408	11.07

AVE RF **3.323** RF RSD **4.44** AVE RT **11.07**

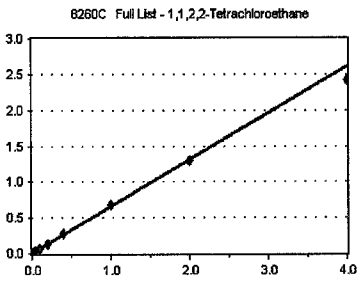
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

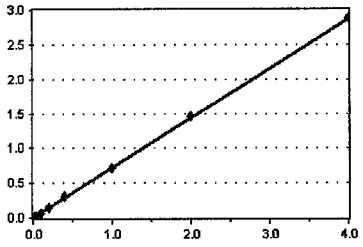


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	305	0.565	11.14
9J24043-CAL3	0.4	671	0.624	11.14
9J24043-CAL4	1	1876	0.651	11.14
9J24043-CAL5	2	4008	0.718	11.14
9J24043-CAL6	5	9843	0.694	11.14
9J24043-CAL7	10	20098	0.673	11.14
9J24043-CAL8	20	41819	0.690	11.14
9J24043-CAL9	50	106506	0.674	11.14
9J24043-CALA	100	212550	0.651	11.14
9J24043-CALB	200	408430	0.603	11.14

AVE RF **0.654** RF RSD **7.07** AVE RT **11.14**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**

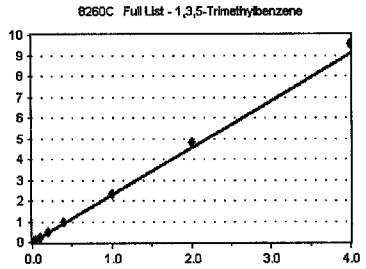


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	719	0.668	11.21
9J24043-CAL4	1	1910	0.663	11.21
9J24043-CAL5	2	4172	0.747	11.21
9J24043-CAL6	5	10150	0.716	11.21
9J24043-CAL7	10	21625	0.725	11.21
9J24043-CAL8	20	45664	0.753	11.21
9J24043-CAL9	50	113724	0.719	11.21
9J24043-CALA	100	238214	0.730	11.21
9J24043-CALB	200	490093	0.723	11.21

AVE RF **0.716** RF RSD **4.34** AVE RT **11.21**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**

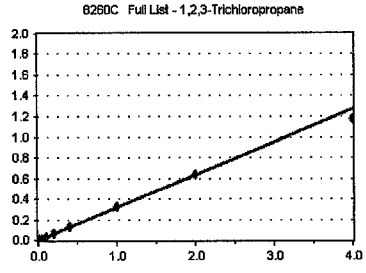


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	556	1.990	11.23
9J24043-CAL2	0.2	1127	2.087	11.23
9J24043-CAL3	0.4	2289	2.127	11.23
9J24043-CAL4	1	6197	2.152	11.23
9J24043-CAL5	2	13089	2.344	11.23
9J24043-CAL6	5	33314	2.349	11.23
9J24043-CAL7	10	69892	2.342	11.23
9J24043-CAL8	20	148694	2.452	11.23
9J24043-CAL9	50	370702	2.344	11.23
9J24043-CALA	100	783721	2.400	11.23
9J24043-CALB	200	1618836	2.390	11.23

AVE RF **2.271** RF RSD **6.72** AVE RT **11.23**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	271	0.252	11.25
9J24043-CAL4	1	887	0.308	11.25
9J24043-CAL5	2	1935	0.347	11.25
9J24043-CAL6	5	4862	0.343	11.25
9J24043-CAL7	10	10162	0.341	11.25
9J24043-CAL8	20	20199	0.333	11.25
9J24043-CAL9	50	51746	0.327	11.25
9J24043-CALA	100	103994	0.319	11.25
9J24043-CALB	200	199656	0.295	11.25

AVE RF **0.318** RF RSD **9.47** AVE RT **11.25**

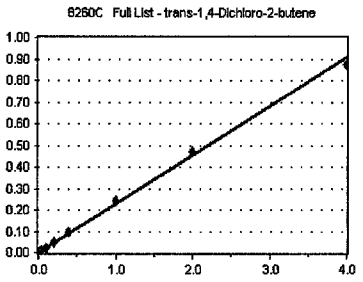
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

trans-1,4-Dichloro-2-butene

Curve Fit: **AVERAGE RF**

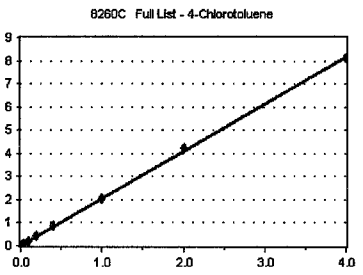


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	531	0.184	11.29
9J24043-CAL5	2	1313	0.235	11.28
9J24043-CAL6	5	3293	0.232	11.28
9J24043-CAL7	10	6985	0.234	11.28
9J24043-CAL8	20	14515	0.239	11.28
9J24043-CAL9	50	38431	0.243	11.28
9J24043-CALA	100	76466	0.234	11.28
9J24043-CALB	200	148266	0.219	11.28

AVE RF **0.228** RF RSD **8.27** AVE RT **11.28**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**

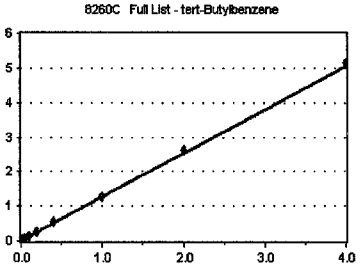


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	1020	1.889	11.34
9J24043-CAL3	0.4	2178	2.024	11.34
9J24043-CAL4	1	5461	1.896	11.34
9J24043-CAL5	2	11718	2.099	11.34
9J24043-CAL6	5	30239	2.132	11.34
9J24043-CAL7	10	61742	2.069	11.34
9J24043-CAL8	20	129933	2.143	11.34
9J24043-CAL9	50	325043	2.056	11.33
9J24043-CALA	100	688819	2.110	11.34
9J24043-CALB	200	1379272	2.036	11.34

AVE RF **2.045** RF RSD **4.37** AVE RT **11.34**

tert-Butylbenzene

Curve Fit: **AVERAGE RF**

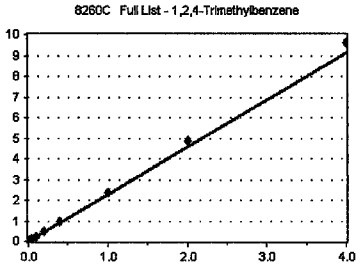


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	602	1.115	11.49
9J24043-CAL3	0.4	1248	1.160	11.49
9J24043-CAL4	1	3551	1.233	11.49
9J24043-CAL5	2	7395	1.324	11.49
9J24043-CAL6	5	18808	1.326	11.48
9J24043-CAL7	10	38411	1.287	11.48
9J24043-CAL8	20	81742	1.348	11.48
9J24043-CAL9	50	202040	1.278	11.48
9J24043-CALA	100	431117	1.320	11.48
9J24043-CALB	200	872573	1.288	11.48

AVE RF **1.268** RF RSD **6.05** AVE RT **11.48**

1,2,4-Trimethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	536	1.919	11.54
9J24043-CAL2	0.2	1066	1.974	11.54
9J24043-CAL3	0.4	2387	2.218	11.54
9J24043-CAL4	1	6319	2.194	11.53
9J24043-CAL5	2	12974	2.324	11.53
9J24043-CAL6	5	34216	2.412	11.54
9J24043-CAL7	10	70882	2.375	11.53
9J24043-CAL8	20	151018	2.491	11.53
9J24043-CAL9	50	374779	2.370	11.53
9J24043-CALA	100	798406	2.445	11.53
9J24043-CALB	200	1629601	2.405	11.53

AVE RF **2.284** RF RSD **8.30** AVE RT **11.54**

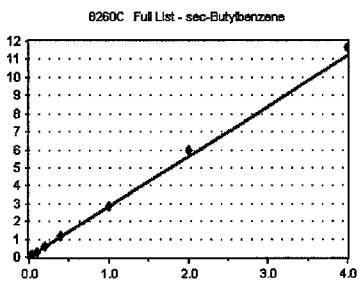
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

sec-Butylbenzene

Curve Fit: **AVERAGE RF**

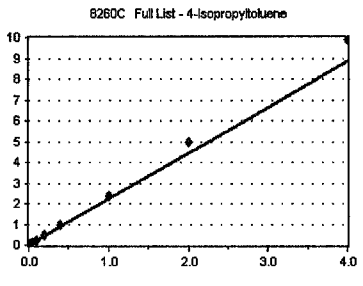


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	1301	2.409	11.62
9J24043-CAL3	0.4	2990	2.779	11.62
9J24043-CAL4	1	7450	2.587	11.62
9J24043-CAL5	2	15756	2.822	11.62
9J24043-CAL6	5	40240	2.837	11.62
9J24043-CAL7	10	83977	2.814	11.62
9J24043-CAL8	20	180894	2.983	11.62
9J24043-CAL9	50	451933	2.858	11.62
9J24043-CALA	100	969880	2.971	11.62
9J24043-CALB	200	1977513	2.919	11.62

AVE RF **2.798** RF RSD **6.31** AVE RT **11.62**

4-Isopropyltoluene

Curve Fit: **AVERAGE RF**

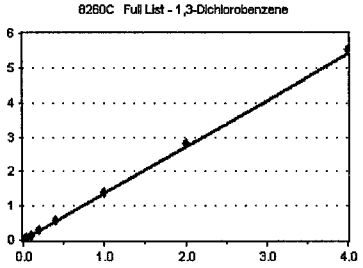


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	481	1.722	11.73
9J24043-CAL2	0.2	919	1.702	11.72
9J24043-CAL3	0.4	2236	2.078	11.73
9J24043-CAL4	1	6086	2.114	11.73
9J24043-CAL5	2	12523	2.243	11.73
9J24043-CAL6	5	33176	2.339	11.73
9J24043-CAL7	10	68628	2.300	11.73
9J24043-CAL8	20	151382	2.497	11.73
9J24043-CAL9	50	378247	2.392	11.73
9J24043-CALA	100	812481	2.489	11.73
9J24043-CALB	200	1677679	2.476	11.73

AVE RF **2.214** RF RSD **12.88** AVE RT **11.73**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

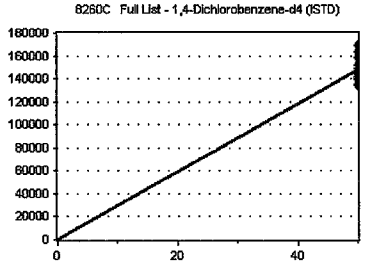


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	629	1.165	11.80
9J24043-CAL3	0.4	1412	1.312	11.80
9J24043-CAL4	1	3650	1.268	11.80
9J24043-CAL5	2	7718	1.382	11.80
9J24043-CAL6	5	19712	1.390	11.80
9J24043-CAL7	10	41299	1.384	11.80
9J24043-CAL8	20	86247	1.422	11.80
9J24043-CAL9	50	218694	1.383	11.80
9J24043-CALA	100	461068	1.412	11.80
9J24043-CALB	200	936572	1.382	11.80

AVE RF **1.350** RF RSD **5.93** AVE RT **11.80**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	139681	2793.620	11.85
9J24043-CAL2	50	135021	2700.420	11.85
9J24043-CAL3	50	134501	2690.020	11.85
9J24043-CAL4	50	143979	2879.580	11.85
9J24043-CAL5	50	139582	2791.640	11.85
9J24043-CAL6	50	141843	2836.860	11.85
9J24043-CAL7	50	149215	2984.300	11.85
9J24043-CAL8	50	151591	3031.820	11.85
9J24043-CAL9	50	158122	3162.440	11.85
9J24043-CALA	50	163243	3264.860	11.85
9J24043-CALB	50	169365	3387.300	11.85

AVE RF **2956.624** RF RSD **7.86** AVE RT **11.85**

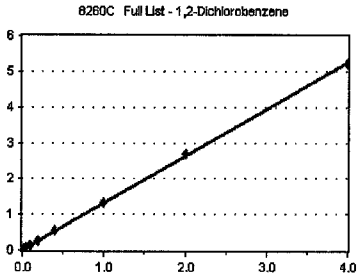
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

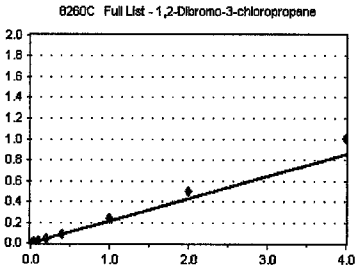


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	624	1.155	12.19
9J24043-CAL3	0.4	1284	1.193	12.19
9J24043-CAL4	1	3650	1.268	12.19
9J24043-CAL5	2	7854	1.407	12.19
9J24043-CAL6	5	19460	1.372	12.19
9J24043-CAL7	10	40125	1.345	12.18
9J24043-CAL8	20	83871	1.383	12.19
9J24043-CAL9	50	211431	1.337	12.18
9J24043-CALA	100	439251	1.345	12.19
9J24043-CALB	200	884385	1.305	12.19

AVE RF **1.311** RF RSD **6.28** AVE RT **12.18**

1,2-Dibromo-3-chloropropane

Curve Fit: **AVERAGE RF**

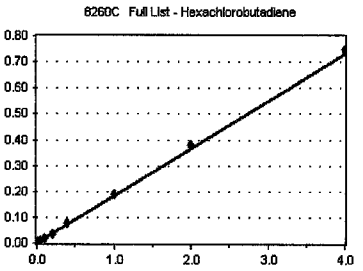


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL4~~	1	447	0.155	12.80
9J24043-CAL5	2	1006	0.180	12.80
9J24043-CAL6	5	2728	0.192	12.80
9J24043-CAL7	10	6234	0.209	12.80
9J24043-CAL8	20	13740	0.227	12.80
9J24043-CAL9	50	38435	0.243	12.80
9J24043-CALA	100	81625	0.250	12.80
9J24043-CALB	200	169849	0.251	12.80

AVE RF **0.213** RF RSD **16.56** 12.84 AVE RT **12.80**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

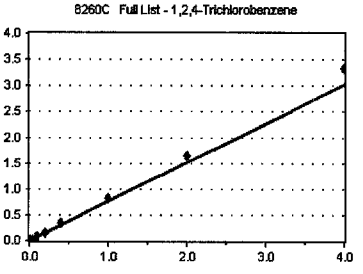


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	443	0.154	13.31
9J24043-CAL5	2	963	0.172	13.30
9J24043-CAL6	5	2715	0.191	13.30
9J24043-CAL7	10	5468	0.183	13.30
9J24043-CAL8	20	12054	0.199	13.30
9J24043-CAL9	50	29829	0.189	13.30
9J24043-CALA	100	62008	0.190	13.30
9J24043-CALB	200	126838	0.187	13.30

AVE RF **0.183** RF RSD **7.66** AVE RT **13.30**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~244~~	~~0.452~~	~~13.35~~
9J24043-CAL3	0.4	615	0.572	13.35
9J24043-CAL4	1	1833	0.637	13.35
9J24043-CAL5	2	4043	0.724	13.34
9J24043-CAL6	5	11114	0.784	13.35
9J24043-CAL7	10	23133	0.775	13.35
9J24043-CAL8	20	50962	0.840	13.35
9J24043-CAL9	50	128379	0.812	13.34
9J24043-CALA	100	268764	0.823	13.35
9J24043-CALB	200	564943	0.834	13.35

AVE RF **0.756** RF RSD **12.49** AVE RT **13.35**

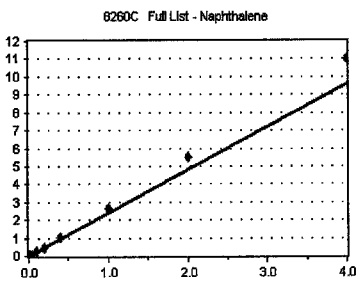
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI191025W.M VI191025G.M**

Naphthalene

Curve Fit: **AVERAGE RF**

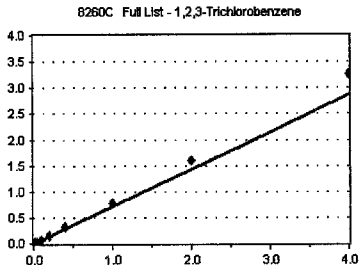


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~924~~	~~1.711~~	~~13.63~~
9J24043-CAL3	0.4	2009	1.867	13.63
9J24043-CAL4	1	5345	1.856	13.63
9J24043-CAL5	2	12724	2.279	13.63
9J24043-CAL6	5	32892	2.319	13.63
9J24043-CAL7	10	72324	2.423	13.63
9J24043-CAL8	20	161860	2.669	13.63
9J24043-CAL9	50	425207	2.689	13.63
9J24043-CALA	100	899370	2.755	13.63
9J24043-CALB	200	1872418	2.764	13.63

AVE RF **2.402** RF RSD **14.83** AVE RT **13.63**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	261	0.483	13.79
9J24043-CAL3	0.4	687	0.638	13.78
9J24043-CAL4	1	1879	0.653	13.79
9J24043-CAL5	2	4073	0.729	13.79
9J24043-CAL6	5	10402	0.733	13.79
9J24043-CAL7	10	22293	0.747	13.79
9J24043-CAL8	20	48345	0.797	13.79
9J24043-CAL9	50	123175	0.779	13.79
9J24043-CALA	100	260549	0.798	13.79
9J24043-CALB	200	552458	0.815	13.79

AVE RF **0.717** RF RSD **14.16** AVE RT **13.79**

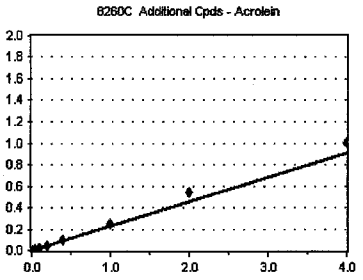
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **VI191025W.M VI191025G.M**

Acrolein

Curve Fit: **AVERAGE RF**

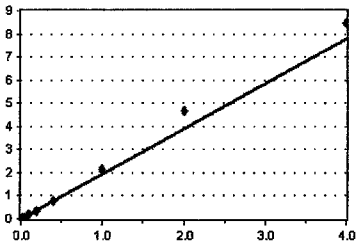


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	420	0.181	3.63
9J24043-CAL5	2	927	0.209	3.63
9J24043-CAL6	5	2465	0.222	3.62
9J24043-CAL7	10	4855	0.206	3.62
9J24043-CAL8	20	10458	0.233	3.61
9J24043-CAL9	50	28604	0.247	3.61
9J24043-CALA	100	60054	0.268	3.63
9J24043-CALB	200	116360	0.251	3.62

AVE RF **0.227** RF RSD **12.43** AVE RT **3.62**

Vinyl acetate

Curve Fit: **AVERAGE RF**

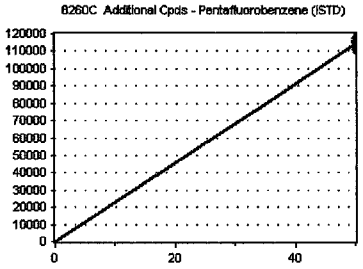


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	3620	1.560	4.96
9J24043-CAL5	2	7854	1.772	4.96
9J24043-CAL6	5	20467	1.844	4.96
9J24043-CAL7	10	42656	1.813	4.96
9J24043-CAL8	20	90141	2.005	4.95
9J24043-CAL9	50	246127	2.128	4.95
9J24043-CALA	100	522592	2.333	4.96
9J24043-CALB	200	980632	2.113	4.96

AVE RF **1.946** RF RSD **12.62** AVE RT **4.96**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

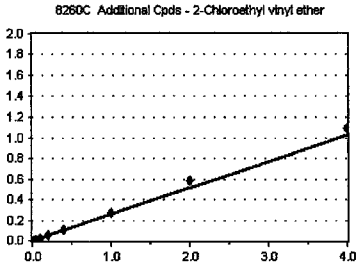


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116102	2322.040	6.22
9J24043-CAL2	50	114788	2295.760	6.22
9J24043-CAL3	50	111985	2239.700	6.21
9J24043-CAL4	50	116043	2320.860	6.21
9J24043-CAL5	50	110790	2215.800	6.22
9J24043-CAL6	50	111010	2220.200	6.21
9J24043-CAL7	50	117608	2352.160	6.22
9J24043-CAL8	50	112406	2248.120	6.21
9J24043-CAL9	50	115635	2312.700	6.21
9J24043-CALA	50	111989	2239.780	6.22
9J24043-CALB	50	116034	2320.680	6.22

AVE RF **2280.709** RF RSD **2.13** AVE RT **6.21**

2-Chloroethyl vinyl ether

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~369~~	~~0.152~~	~~8.04~~
9J24043-CAL4	1	1378	0.222	8.03
9J24043-CAL5	2	2589	0.217	8.03
9J24043-CAL6	5	7592	0.253	8.02
9J24043-CAL7	10	15685	0.251	8.02
9J24043-CAL8	20	33274	0.271	8.02
9J24043-CAL9	50	88331	0.275	8.02
9J24043-CALA	100	185987	0.292	8.02
9J24043-CALB	200	361318	0.273	8.02

AVE RF **0.257** RF RSD **10.27** AVE RT **8.02**

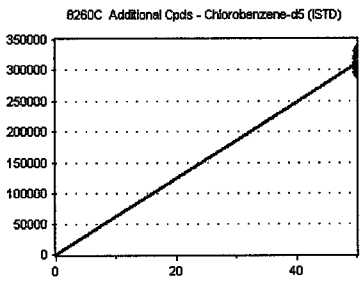
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **VI191025W.M VI191025G.M**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	307577	6151.540	9.91
9J24043-CAL2	50	302974	6059.480	9.92
9J24043-CAL3	50	294372	5887.440	9.91
9J24043-CAL4	50	310797	6215.940	9.91
9J24043-CAL5	50	297754	5955.080	9.92
9J24043-CAL6	50	300317	6006.340	9.91
9J24043-CAL7	50	312833	6256.660	9.91
9J24043-CAL8	50	307093	6141.860	9.91
9J24043-CAL9	50	321159	6423.180	9.91
9J24043-CALA	50	318635	6372.700	9.91
9J24043-CALB	50	330915	6618.300	9.92

AVE RF **6189.865** RF RSD **3.53** AVE RT **9.91**

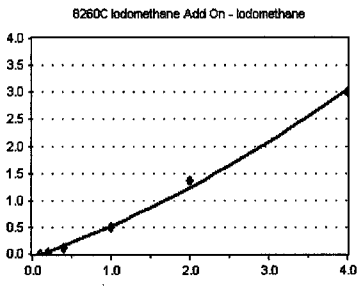
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Iodomethane Add On** Instrument Cal ID: **VI191025W.M VI191025G.M**

Iodomethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

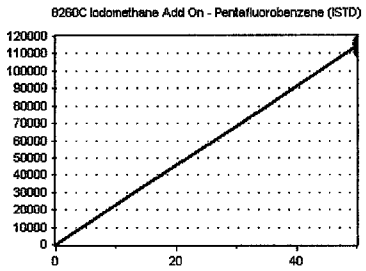


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL5~~	~~2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL6	5	916	8.252	3.38
9J24043-CAL7	10	3125	0.133	3.39
9J24043-CAL8	20	11472	0.255	3.38
9J24043-CAL9	50	57651	0.499	3.38
9J24043-CALA	100	153366	0.685	3.39
9J24043-CALB	200	348091	0.750	3.39

AVE RF **0.401** RF RSD **71.16** AVE RT **3.39**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116102	2322.040	6.22
9J24043-CAL2	50	114788	2295.760	6.22
9J24043-CAL3	50	111985	2239.700	6.21
9J24043-CAL4	50	116043	2320.860	6.21
9J24043-CAL5	50	110790	2215.800	6.22
9J24043-CAL6	50	111010	2220.200	6.21
9J24043-CAL7	50	117608	2352.160	6.22
9J24043-CAL8	50	112406	2248.120	6.21
9J24043-CAL9	50	115635	2312.700	6.21
9J24043-CALA	50	111989	2239.780	6.22
9J24043-CALB	50	116034	2320.680	6.22

AVE RF **2280.709** RF RSD **2.13** AVE RT **6.21**

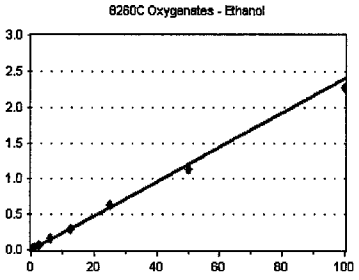
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI191025W.M VI191025G.M**

Ethanol

Curve Fit: **AVERAGE RF**

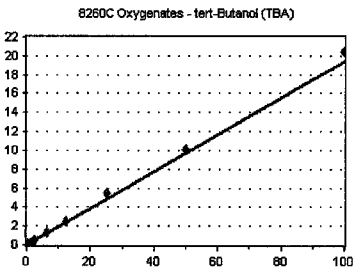


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~6.25~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~12.5~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	25	1315	2.349	3.23
9J24043-CAL4	62.5	3446	2.376	3.24
9J24043-CAL5	125	7229	2.610	3.24
9J24043-CAL6	312	17243	2.489	3.23
9J24043-CAL7	625	34617	2.355	3.24
9J24043-CAL8	1250	70360	2.504	3.23
9J24043-CAL9	2500	131053	2.267	3.23
9J24043-CALA	5000	254643	2.274	3.24

AVE RF **2.403** RF RSD **5.02** AVE RT **3.23**

tert-Butanol (TBA)

Curve Fit: **AVERAGE RF**

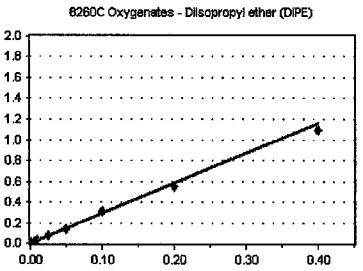


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	6.25	2472	0.170	4.30
9J24043-CAL2	12.5	4690	0.163	4.30
9J24043-CAL3	25	10086	0.180	4.29
9J24043-CAL4	62.5	25977	0.179	4.30
9J24043-CAL5	125	58093	0.210	4.30
9J24043-CAL6	312	143817	0.208	4.29
9J24043-CAL7	625	292252	0.199	4.29
9J24043-CAL8	1250	614954	0.219	4.29
9J24043-CAL9	2500	1172838	0.203	4.29
9J24043-CALA	5000	2295578	0.205	4.29

AVE RF **0.194** RF RSD **9.71** AVE RT **4.29**

Diisopropyl ether (DIPE)

Curve Fit: **AVERAGE RF**

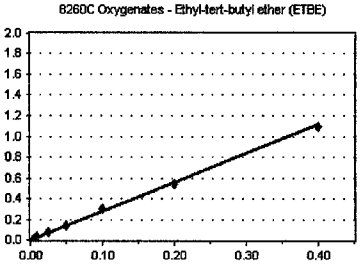


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.1	638	2.849	4.56
9J24043-CAL4	0.25	1604	2.764	4.56
9J24043-CAL5	0.5	3305	2.983	4.57
9J24043-CAL6	1.25	8576	3.090	4.57
9J24043-CAL7	2.5	17135	2.914	4.57
9J24043-CAL8	5	34871	3.102	4.56
9J24043-CAL9	10	63994	2.767	4.56
9J24043-CALA	20	122827	2.742	4.57

AVE RF **2.901** RF RSD **5.01** AVE RT **4.57**

Ethyl-tert-butyl ether (ETBE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	0.25	1449	2.497	4.94
9J24043-CAL5	0.5	3145	2.839	4.94
9J24043-CAL6	1.25	8071	2.908	4.94
9J24043-CAL7	2.5	16756	2.849	4.94
9J24043-CAL8	5	33471	2.978	4.94
9J24043-CAL9	10	63126	2.730	4.94
9J24043-CALA	20	121788	2.719	4.94

AVE RF **2.789** RF RSD **5.66** AVE RT **4.94**

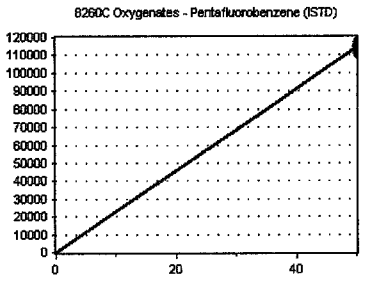
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI191025W.M VI191025G.M**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

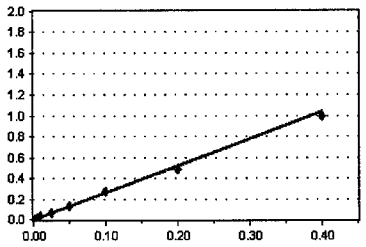


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116102	2322.040	6.22
9J24043-CAL2	50	114788	2295.760	6.22
9J24043-CAL3	50	111985	2239.700	6.21
9J24043-CAL4	50	116043	2320.860	6.21
9J24043-CAL5	50	110790	2215.800	6.22
9J24043-CAL6	50	111010	2220.200	6.21
9J24043-CAL7	50	117608	2352.160	6.22
9J24043-CAL8	50	112406	2248.120	6.21
9J24043-CAL9	50	115635	2312.700	6.21
9J24043-CALA	50	111989	2239.780	6.22
9J24043-CALB	50	116034	2320.680	6.22

AVE RF **2280.709** RF RSD **2.13** AVE RT **6.21**

tert-Amyl methyl ether (TAME)

Curve Fit: **AVERAGE RF**

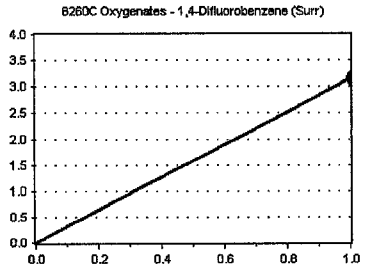


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.1	580	2.590	6.25
9J24043-CAL4	0.25	1462	2.520	6.25
9J24043-CAL5	0.5	2996	2.704	6.25
9J24043-CAL6	1.25	7445	2.683	6.25
9J24043-CAL7	2.5	15349	2.610	6.25
9J24043-CAL8	5	30296	2.695	6.25
9J24043-CAL9	10	56793	2.456	6.24
9J24043-CALA	20	111127	2.481	6.25

AVE RF **2.592** RF RSD **3.80** AVE RT **6.25**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

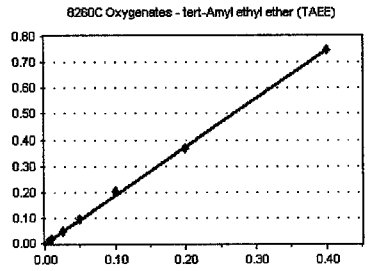


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	364447	3.139	6.78
9J24043-CAL2	50	359462	3.132	6.78
9J24043-CAL3	50	352302	3.146	6.78
9J24043-CAL4	50	366642	3.160	6.78
9J24043-CAL5	50	347212	3.134	6.78
9J24043-CAL6	50	353918	3.188	6.78
9J24043-CAL7	50	367409	3.124	6.78
9J24043-CAL8	50	354922	3.158	6.78
9J24043-CAL9	50	370144	3.201	6.78
9J24043-CALA	50	356857	3.187	6.78
9J24043-CALB	50	369003	3.180	6.78

AVE RF **3.159** RF RSD **0.84** AVE RT **6.78**

tert-Amyl ethyl ether (TAEE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	0.25	950	1.637	7.00
9J24043-CAL5	0.5	2147	1.938	7.00
9J24043-CAL6	1.25	5331	1.921	7.00
9J24043-CAL7	2.5	11032	1.876	7.00
9J24043-CAL8	5	22696	2.019	7.00
9J24043-CAL9	10	42660	1.845	7.00
9J24043-CALA	20	83591	1.866	7.00

AVE RF **1.872** RF RSD **6.33** AVE RT **7.00**

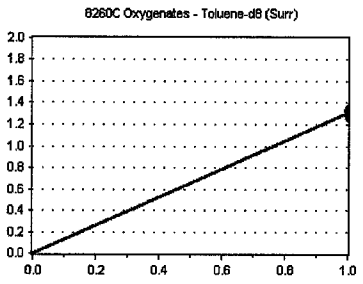
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI191025W.M VI191025G.M**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

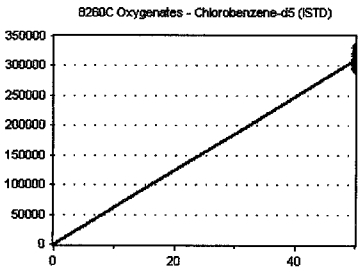


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	406288	1.321	8.30
9J24043-CAL2	50	403793	1.333	8.30
9J24043-CAL3	50	396027	1.345	8.30
9J24043-CAL4	50	410518	1.321	8.30
9J24043-CAL5	50	395017	1.327	8.30
9J24043-CAL6	50	397005	1.322	8.30
9J24043-CAL7	50	415174	1.327	8.30
9J24043-CAL8	50	399810	1.302	8.30
9J24043-CAL9	50	415062	1.292	8.30
9J24043-CALA	50	405945	1.274	8.30
9J24043-CALB	50	420947	1.272	8.30

AVE RF **1.312** RF RSD **1.83** AVE RT **8.30**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

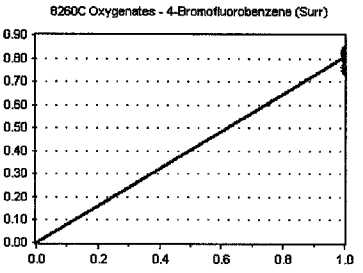


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	307577	6151.540	9.91
9J24043-CAL2	50	302974	6059.480	9.92
9J24043-CAL3	50	294372	5887.440	9.91
9J24043-CAL4	50	310797	6215.940	9.91
9J24043-CAL5	50	297754	5955.080	9.92
9J24043-CAL6	50	300317	6006.340	9.91
9J24043-CAL7	50	312833	6256.660	9.91
9J24043-CAL8	50	307093	6141.860	9.91
9J24043-CAL9	50	321159	6423.180	9.91
9J24043-CALA	50	318635	6372.700	9.91
9J24043-CALB	50	330915	6618.300	9.92

AVE RF **6189.865** RF RSD **3.53** AVE RT **9.91**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

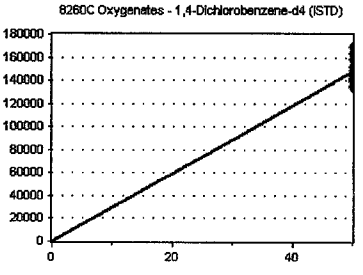


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116090	0.831	10.97
9J24043-CAL2	50	113180	0.838	10.97
9J24043-CAL3	50	112304	0.835	10.97
9J24043-CAL4	50	118563	0.823	10.97
9J24043-CAL5	50	115163	0.825	10.97
9J24043-CAL6	50	115652	0.815	10.97
9J24043-CAL7	50	121121	0.812	10.97
9J24043-CAL8	50	120976	0.798	10.97
9J24043-CAL9	50	125801	0.796	10.97
9J24043-CALA	50	124392	0.762	10.97
9J24043-CALB	50	127221	0.751	10.97

AVE RF **0.808** RF RSD **3.58** AVE RT **10.97**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	139681	2793.620	11.85
9J24043-CAL2	50	135021	2700.420	11.85
9J24043-CAL3	50	134501	2690.020	11.85
9J24043-CAL4	50	143979	2879.580	11.85
9J24043-CAL5	50	139582	2791.640	11.85
9J24043-CAL6	50	141843	2836.860	11.85
9J24043-CAL7	50	149215	2984.300	11.85
9J24043-CAL8	50	151591	3031.820	11.85
9J24043-CAL9	50	158122	3162.440	11.85
9J24043-CALA	50	163243	3264.860	11.85
9J24043-CALB	50	169365	3387.300	11.85

AVE RF **2956.624** RF RSD **7.86** AVE RT **11.85**

Response Factor Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI191025W.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Oct 25 08:32:21 2019
Response Via : Initial Calibration

Calibration Files
0.1 =VI19102417.D 0.2 =VI19102418.D 0.5 =VI19102419.D 1 =VI19102420.D 2 =VI19102421.D 5 =VI19102422.D
10 =VI19102423.D 20 =VI19102424.D 50 =VI19102425.D 100 =VI19102427.D 200 =VI19102429.D

		Compound	0.1	0.2	0.5	1	2	5	10	20	50	100	200	Avg	%RSD
1)	I	Pentafluorobenzene...	----------				ISTD								
2)		Dichlorodifluo...			0.627	0.682	0.842	0.812	0.770	0.800	0.946	0.947	0.929	0.817	13.92
3)	P	Chloromethane		1.457	1.268	1.037	1.070	1.024	0.954	1.002	1.029	1.012	0.984	1.084	14.45
4)	C	Vinyl Chloride		0.884	1.079	1.013	1.135	1.140	1.069	1.110	1.150	1.154	1.123	1.086	7.67
5)		Bromomethane				0.760	0.709	0.701	0.624	0.614	0.579	0.559	0.576	0.640	11.51
6)		Chloroethane					0.573	0.531	0.502	0.442	0.447			0.499	11.23
7)		Trichlorofluor...			1.069	1.200	1.279	1.282	1.235	1.294	1.259	1.250	1.199	1.230	5.62
8)		Ethanol			0.023	0.024	0.026	0.025	0.024	0.025	0.023	0.023		0.024	5.02
9)	C	1,1-Dichloroet...			1.159	1.067	1.188	1.200	1.158	1.203	1.192	1.279	1.222	1.185	4.83
10)		Carbon Disulfide				1.970	2.202	2.167	2.084	2.200	2.200	2.374	2.300	2.187	5.64
11)		Freon 113				0.740	0.858	0.860	0.834	0.883	0.846	0.912	0.886	0.852	6.07
12)		Iodomethane						0.083	0.133	0.255	0.499	0.685	0.750	0.401	71.16
13)		Acrolein				0.181	0.209	0.222	0.206	0.233	0.247	0.268	0.251	0.227	12.43
14)		Methylene Chlo...	8.716	4.794	2.954	1.697	1.388	1.130	0.965	0.970	0.887	0.934	0.904	2.304	106.11
15)		Acetone					0.510	0.466	0.421	0.438	0.406	0.421	0.404	0.438	8.73
16)		t-1,2-Dichloro...		0.784	1.075	1.145	1.242	1.233	1.164	1.247	1.188	1.276	1.248	1.160	12.54
17)		n-Hexane				0.154	0.160	0.165	0.172	0.185	0.183	0.196	0.198	0.177	9.35
18)		Methyl-tert-bu...			2.577	2.494	2.698	2.694	2.617	2.750	2.707	2.888	2.841	2.696	4.58
19)		tert-Butanol ...	0.170	0.163	0.180	0.179	0.210	0.208	0.199	0.219	0.203	0.205		0.194	9.71
20)		Diisopropyl et...			2.849	2.764	2.983	3.090	2.914	3.102	2.767	2.742		2.901	5.01
21)	P	1,1-Dichloroet...			1.477	1.582	1.631	1.649	1.573	1.671	1.582	1.696	1.641	1.611	4.09
22)		Acrylonitrile				0.377	0.440	0.489	0.484	0.511	0.507	0.547	0.524	0.485	11.08
23)		Ethyl-tert-but...				2.497	2.839	2.908	2.849	2.978	2.730	2.719		2.789	5.66
24)		Vinyl Acetate				1.560	1.772	1.844	1.813	2.005	2.128	2.333	2.113	1.946	12.62
25)		c-1,2-Dichloro...			1.125	1.182	1.256	1.257	1.221	1.298	1.238	1.328	1.288	1.244	4.98
26)		2,2-Dichloropr...			0.952	0.998	1.078	1.062	1.006	1.073	1.061	1.129	1.104	1.051	5.31
27)		Bromochloromet...			0.436	0.512	0.605	0.646	0.636	0.688	0.671	0.677	0.622	0.610	13.73
28)	C	Chloroform		1.278	1.442	1.440	1.642	1.638	1.607	1.696	1.617	1.719	1.673	1.575	8.98
29)		Carbon Tetrach...				0.772	0.903	0.897	0.886	0.977	0.991	1.106	1.133	0.958	12.52
30)		Tetrahydrofuran				0.407	0.461	0.460	0.441	0.474	0.468	0.500	0.477	0.461	5.94
31)		1,1,1-Trichlor...			1.130	1.251	1.340	1.347	1.284	1.379	1.354	1.453	1.430	1.330	7.37
32)	S	Dibromofluorom...	0.960	0.964	0.965	0.962	0.982	0.984	0.967	0.975	1.010	1.016	1.023	0.982	2.38
33)		1,1-Dichloropr...			1.171	1.184	1.292	1.299	1.245	1.313	1.271	1.376	1.341	1.277	5.30
34)		2-Butanone (MEK)				0.625	0.704	0.704	0.662	0.717	0.701	0.741	0.702	0.695	5.12
35)		Benzene	3.949	3.450	3.774	3.582	4.047	3.910	3.714	3.910	3.758	4.022	3.911	3.821	4.86
36)		tert-Amyl meth...			2.590	2.520	2.704	2.683	2.610	2.695	2.456	2.481		2.592	3.80
37)		1,2-Dichloroet...			1.198	1.130	1.292	1.293	1.230	1.306	1.245	1.313	1.256	1.252	4.76
38)		iso-Butyl Alcohol			0.052	0.054	0.072	0.075	0.067	0.074	0.078	0.080	0.074	0.070	14.51
39)	S	1,4-Difluorobe...	3.139	3.132	3.146	3.160	3.134	3.188	3.124	3.158	3.201	3.187	3.180	3.159	0.84
40)		Trichloroethen...		0.810	0.801	0.933	1.033	1.022	0.997	1.053	1.026	1.095	1.074	0.984	10.55
41)		Tert-Amyl-Ethy...				1.637	1.938	1.921	1.876	2.019	1.845	1.866		1.872	6.33

Method Path : C:\msdchem\1\methods\
Method File : VI191025W.M
Title : EPA 8260: Volatile Organic Compounds

42)		Dibromomethane			0.422	0.554	0.622	0.633	0.620	0.656	0.642	0.692	0.677	0.613	13.36
43)	C	1,2-Dichloropr...			0.890	0.838	0.987	0.982	0.932	0.988	0.944	1.024	0.994	0.953	6.18
44)		Bromodichlorom...			0.893	0.973	1.056	1.083	1.065	1.150	1.155	1.260	1.255	1.099	11.01
45)		Chlorobenzene-d5 (I)	----------ISTD----------												
46)		2-Chloroethyl ...				0.222	0.217	0.253	0.251	0.271	0.275	0.292	0.273	0.257	10.27
47)		c-1,3-Dichloro...			0.431	0.429	0.468	0.474	0.487	0.525	0.520	0.559	0.556	0.494	9.88
48)	S	Toluene-d8 (S)	1.321	1.333	1.345	1.321	1.327	1.322	1.327	1.302	1.292	1.274	1.272	1.312	1.83
49)	C	Toluene	1.590	1.439	1.488	1.454	1.499	1.474	1.445	1.492	1.391	1.462	1.439	1.470	3.41
50)		Tetrachloroeth...		0.220	0.334	0.321	0.364	0.361	0.353	0.370	0.352	0.372	0.375	0.342	13.48
51)		4-Methyl-2-Pen...		0.367	0.406	0.406	0.463	0.469	0.464	0.491	0.474	0.484	0.441	0.446	9.09
52)		t-1,3-Dichloro...				0.341	0.378	0.404	0.420	0.465	0.473	0.513	0.513	0.438	14.34
53)		1,1,2-Trichlor...		0.238	0.304	0.313	0.347	0.344	0.342	0.351	0.335	0.347	0.338	0.326	10.62
54)		Dibromochlorom...			0.214	0.217	0.255	0.267	0.275	0.301	0.315			0.264	14.58
55)		1,3-Dichloropr...		0.469	0.532	0.541	0.578	0.584	0.581	0.600	0.571	0.595	0.571	0.562	6.98
56)		1,2-Dibromoeth...			0.261	0.310	0.378	0.375	0.366	0.381	0.366	0.382	0.375	0.355	11.70
57)		2-Hexanone			0.286	0.284	0.319	0.328	0.335	0.356	0.350	0.358	0.327	0.327	8.41
58)	P	Chlorobenzene	0.780	0.862	0.945	0.928	0.982	0.984	0.965	0.985	0.940	0.981	0.971	0.939	6.80
59)	C	Ethylbenzene	1.531	1.514	1.522	1.409	1.608	1.560	1.535	1.591	1.516	1.594	1.580	1.542	3.61
60)		1,1,1,2-Tetrac...			0.200	0.237	0.251	0.266	0.272	0.296	0.296	0.324	0.323	0.274	14.90
61)		m,p-Xylenes (2)	1.112	1.019	1.103	1.029	1.137	1.146	1.135	1.209	1.150	1.230	1.219	1.135	6.12
62)		o-Xylene	0.951	1.008	1.106	1.067	1.142	1.147	1.141	1.216	1.158	1.233	1.214	1.126	7.83
63)		Styrene			0.703	0.785	0.870	0.890	0.911	0.979	0.956	1.026	1.023	0.905	11.93
64)	P	Bromoform				0.128	0.149	0.156	0.171	0.194	0.221	0.255		0.182	24.41
65)		Isopropylbenzene		1.111	1.302	1.233	1.371	1.392	1.385	1.488	1.427	1.528	1.496	1.373	9.37
66)	I	1,4-Dichlorobenzen...	----------ISTD----------												
67)	S	4-Bromofluorob...	0.831	0.838	0.835	0.823	0.825	0.815	0.812	0.798	0.796	0.762	0.751	0.808	3.58
68)		Bromobenzene	0.444	0.800	0.813	0.771	0.830	0.819	0.812	0.825	0.798	0.813	0.800	0.775	14.32
69)		n-Propylbenzene	3.125	3.053	3.294	3.181	3.455	3.384	3.318	3.475	3.358	3.501	3.408	3.323	4.44
70)	P	1,1,2,2-Tetrac...		0.565	0.624	0.651	0.718	0.694	0.673	0.690	0.674	0.651	0.603	0.654	7.07
71)		2-Chlorotoluene			0.668	0.663	0.747	0.716	0.725	0.753	0.719	0.730	0.723	0.716	4.34
72)		1,3,5-Trimethy...	1.990	2.087	2.127	2.152	2.344	2.349	2.342	2.452	2.344	2.400	2.390	2.271	6.72
73)		1,2,3-Trichlor...			0.252	0.308	0.347	0.343	0.341	0.333	0.327	0.319	0.295	0.318	9.47
74)		t-1,4-Dichloro...				0.184	0.235	0.232	0.234	0.239	0.243	0.234	0.219	0.228	8.27
75)		4-Chlorotoluene		1.889	2.024	1.896	2.099	2.132	2.069	2.143	2.056	2.110	2.036	2.045	4.37
76)		tert-Butylbenzene		1.115	1.160	1.233	1.324	1.326	1.287	1.348	1.278	1.320	1.288	1.268	6.05
77)		1,2,4-Trimethy...	1.919	1.974	2.218	2.194	2.324	2.412	2.375	2.491	2.370	2.445	2.405	2.284	8.30
78)		sec-Butylbenzene		2.409	2.779	2.587	2.822	2.837	2.814	2.983	2.858	2.971	2.919	2.798	6.32
79)		4-Isopropyltol...	1.722	1.702	2.078	2.114	2.243	2.339	2.300	2.497	2.392	2.489	2.476	2.214	12.88
80)		1,3-Dichlorobe...		1.165	1.312	1.268	1.382	1.390	1.384	1.422	1.383	1.412	1.382	1.350	5.93
81)		1,4-Dichlorobe...	1.113	1.342	1.454	1.451	1.531	1.440	1.433	1.478	1.406	1.436	1.402	1.408	7.70
82)		n-Butylbenzene	1.357	1.491	1.735	1.735	1.903	2.011	1.994	2.160	2.060	2.129	2.119	1.881	14.34
83)		1,2-Dichlorobe...		1.155	1.193	1.268	1.407	1.372	1.345	1.383	1.337	1.345	1.305	1.311	6.28
84)		1,2-Dibromo-3-...					0.180	0.192	0.209	0.227	0.243	0.250	0.251	0.222	12.86
85)		Hexachlorobuta...				0.154	0.172	0.191	0.183	0.199	0.189	0.190	0.187	0.183	7.66
86)		1,2,4-Trichlor...			0.572	0.637	0.724	0.784	0.775	0.840	0.812	0.823	0.834	0.756	12.49
87)		Naphthalene			1.867	1.856	2.279	2.319	2.423	2.669	2.689	2.755	2.764	2.402	14.83
88)		1,2,3-Trichlor...		0.483	0.638	0.653	0.729	0.733	0.747	0.797	0.779	0.798	0.815	0.717	14.16

(#) = Out of Range

Compound List Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI191025W.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Oct 25 08:32:21 2019
Response Via : Initial Calibration

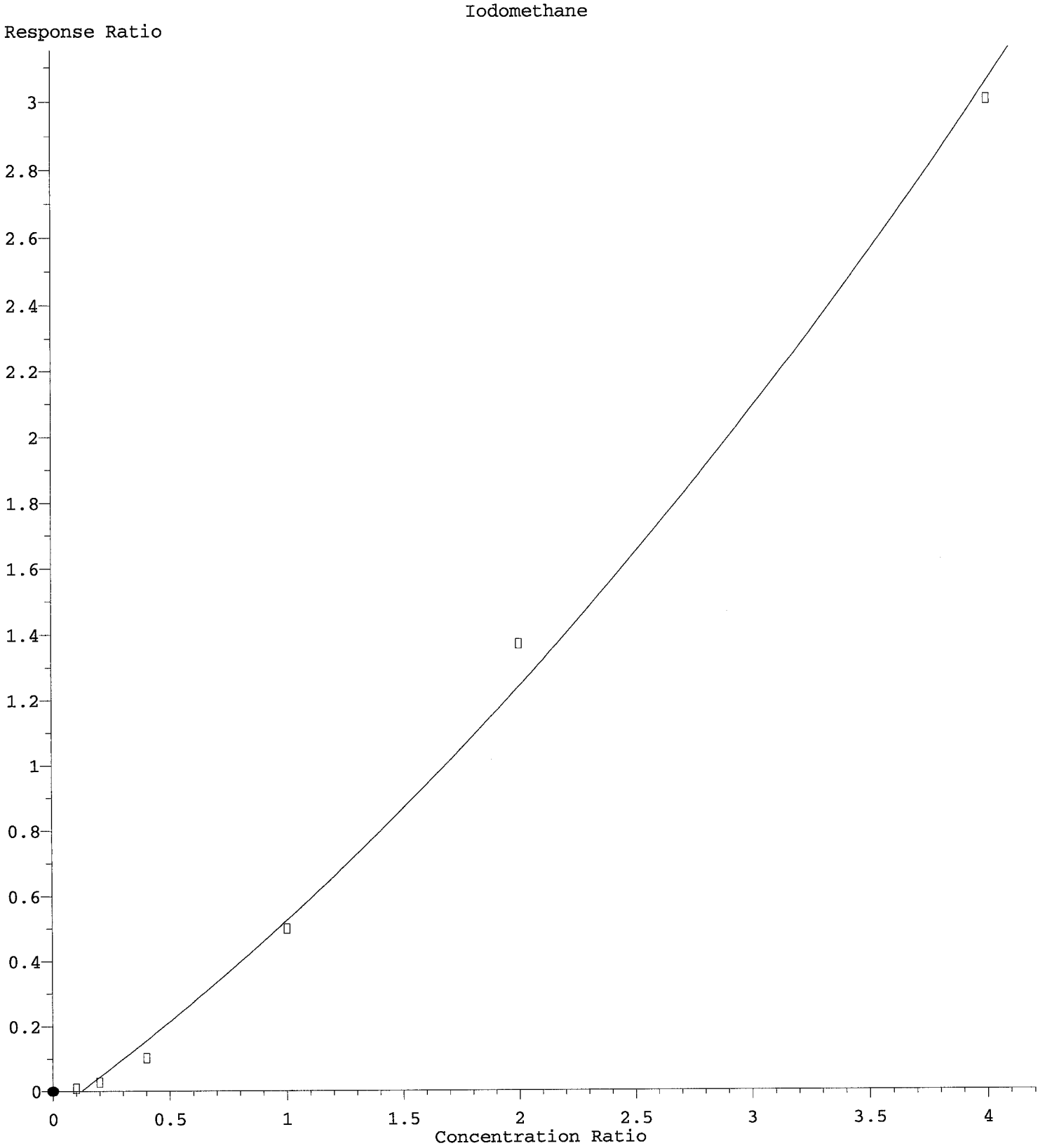
Total Cpnds : 88

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (I)	99	6.211	1.000	A	2	A	R
2		Dichlorodifluoromethane	85	1.673	0.269	A	2	A	R
3	P	Chloromethane	50	1.891	0.304	A	2	A	R
4	C	Vinyl Chloride	62	1.995	0.321	A	2	A	R
5		Bromomethane	96	2.353	0.379	A	2	A	R
6		Chloroethane	64	2.487	0.400	A	2	A	R
7		Trichlorofluoromethane	101	2.658	0.428	A	2	A	R
8		Ethanol	45	3.230	0.520	A	1	A	R
9	C	1,1-Dichloroethene	61	3.230	0.520	A	2	A	R
10		Carbon Disulfide	76	3.242	0.522	A	2	A	R
11		Freon 113	101	3.279	0.528	A	2	A	R
12		Iodomethane	142	3.382	0.545	QV	2	A	R
13		Acrolein	56	3.613	0.582	A	2	A	R
14		Methylene Chloride	84	3.868	0.623	QV	2	A	R
15		Acetone	43	3.935	0.634	A	1	A	R
16		t-1,2-Dichloroethene	61	4.033	0.649	A	2	A	R
17		n-Hexane	86	4.118	0.663	A	3	A	R
18		Methyl-tert-butyl-ether	73	4.167	0.671	A	3	A	R
19		tert-Butanol (TBA)	59	4.288	0.690	A	1	A	R
20		Diisopropyl ether (DIPE)	45	4.562	0.735	A	2	A	R
21	P	1,1-Dichloroethane	63	4.678	0.753	A	2	A	R
22		Acrylonitrile	53	4.745	0.764	A	2	A	R
23		Ethyl-tert-butyl ether (ETBE)	59	4.939	0.795	A	2	A	R
24		Vinyl Acetate	43	4.951	0.797	A	2	A	R
25		c-1,2-Dichloroethene	61	5.238	0.843	A	2	A	R
26		2,2-Dichloropropane	77	5.347	0.861	A	2	A	R
27		Bromochloromethane	130	5.444	0.877	A	2	A	R
28	C	Chloroform	83	5.523	0.889	A	2	A	R
29		Carbon Tetrachloride	117	5.657	0.911	A	2	A	R
30		Tetrahydrofuran	42	5.700	0.918	A	2	A	R
31		1,1,1-Trichloroethane	97	5.730	0.923	A	2	A	R
32	S	Dibromofluoromethane (S)	111	5.712	0.920	A	2	A	R
33		1,1-Dichloropropene	75	5.858	0.943	A	2	A	R
34		2-Butanone (MEK)	43	5.852	0.942	A	2	A	R
35		Benzene	78	6.120	0.985	A	2	A	R
36		tert-Amyl methyl ether (TAME)	73	6.247	1.006	A	2	A	R
37		1,2-Dichloroethane (EDC)	62	6.339	1.021	A	2	A	R
38		iso-Butyl Alcohol	43	6.369	1.025	A	2	A	R
39	S	1,4-Difluorobenzene (S)	114	6.777	1.091	A	2	A	R
40		Trichloroethene (TCE)	130	6.740	1.085	A	2	A	R
41		Tert-Amyl-Ethyl-Ether (TAEE)	59	6.996	1.126	A	2	A	R
42		Dibromomethane	93	7.196	1.159	A	2	A	R
43	C	1,2-Dichloropropane	63	7.306	1.176	A	2	A	R
44		Bromodichloromethane	83	7.379	1.188	A	2	A	R
45	I	Chlorobenzene-d5 (I)	117	9.910	1.000	A	2	A	R
46		2-Chloroethyl Vinyl Ether	63	8.017	0.809	A	2	A	R
47		c-1,3-Dichloropropene	75	8.091	0.816	A	2	A	R
48	S	Toluene-d8 (S)	98	8.298	0.837	A	2	A	R
49	C	Toluene	91	8.358	0.843	A	2	A	R
50		Tetrachloroethene (PCE)	166	8.796	0.888	A	2	A	R
51		4-Methyl-2-Pentanone (MIBK)	43	8.796	0.888	A	2	A	R
52		t-1,3-Dichloropropene	75	8.832	0.891	A	2	A	R
53		1,1,2-Trichloroethane	97	9.003	0.909	A	2	A	R
54		Dibromochloromethane	129	9.185	0.927	A	2	A	R
55		1,3-Dichloropropane	76	9.289	0.937	A	2	A	R

56		1,2-Dibromoethane (EDB)	107	9.423	0.951	A	2	A	R
57		2-Hexanone	43	9.654	0.974	A	2	A	R
58	P	Chlorobenzene	112	9.928	1.002	A	2	A	R
59	C	Ethylbenzene	91	9.952	1.004	A	2	A	R
60		1,1,1,2-Tetrachloroethane	131	9.988	1.008	A	2	A	R
61		m,p-Xylenes (2)	91	10.086	1.018	A	2	A	R
62		o-Xylene	91	10.463	1.056	A	2	A	R
63		Styrene	104	10.512	1.061	A	2	A	R
64	P	Bromoform	173	10.536	1.063	Q	2	A	R
65		Isopropylbenzene	105	10.731	1.083	A	2	A	R
66	I	1,4-Dichlorobenzene-d4 (I)	152	11.850	1.000	A	2	A	R
67	S	4-Bromofluorobenzene (S)	174	10.974	0.926	A	2	A	R
68		Bromobenzene	156	11.060	0.933	A	2	A	R
69		n-Propylbenzene	91	11.072	0.934	A	2	A	R
70	P	1,1,2,2-Tetrachloroethane	85	11.139	0.940	A	2	A	R
71		2-Chlorotoluene	126	11.206	0.946	A	2	A	R
72		1,3,5-Trimethylbenzene	105	11.229	0.948	A	2	A	R
73		1,2,3-Trichloropropane	110	11.248	0.949	A	2	A	R
74		t-1,4-Dichloro-2-butene	53	11.279	0.952	A	3	A	R
75		4-Chlorotoluene	91	11.339	0.957	A	2	A	R
76		tert-Butylbenzene	91	11.479	0.969	A	2	A	R
77		1,2,4-Trimethylbenzene	105	11.534	0.973	A	2	A	R
78		sec-Butylbenzene	105	11.619	0.980	A	2	A	R
79		4-Isopropyltoluene	119	11.728	0.990	A	2	A	R
80		1,3-Dichlorobenzene	146	11.796	0.995	A	2	A	R
81		1,4-Dichlorobenzene	146	11.863	1.001	A	2	A	R
82		n-Butylbenzene	91	12.045	1.016	A	2	A	R
83		1,2-Dichlorobenzene	146	12.185	1.028	A	2	A	R
84		1,2-Dibromo-3-Chloropropane	157	12.799	1.080	A	2	A	R
85		Hexachlorobutadiene	223	13.304	1.123	A	3	A	R
86		1,2,4-Trichlorobenzene	180	13.346	1.126	A	2	A	R
87		Naphthalene	128	13.626	1.150	A	2	A	R
88		1,2,3-Trichlorobenzene	180	13.784	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

VI191025W.M Fri Oct 25 09:01:32 2019

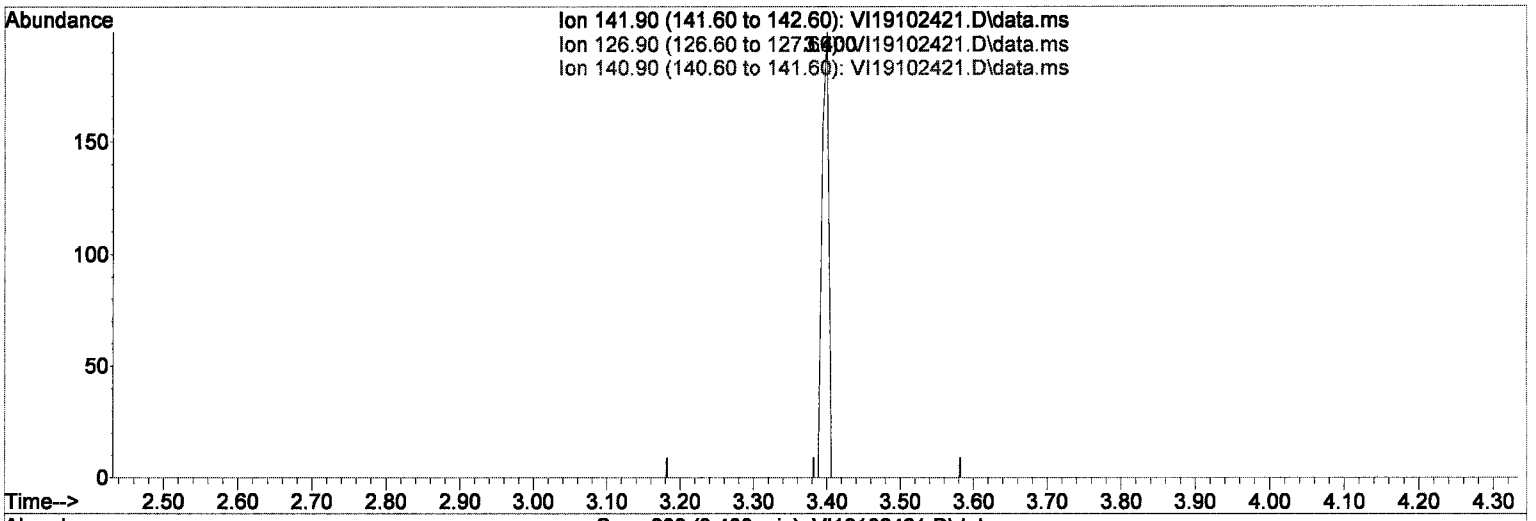


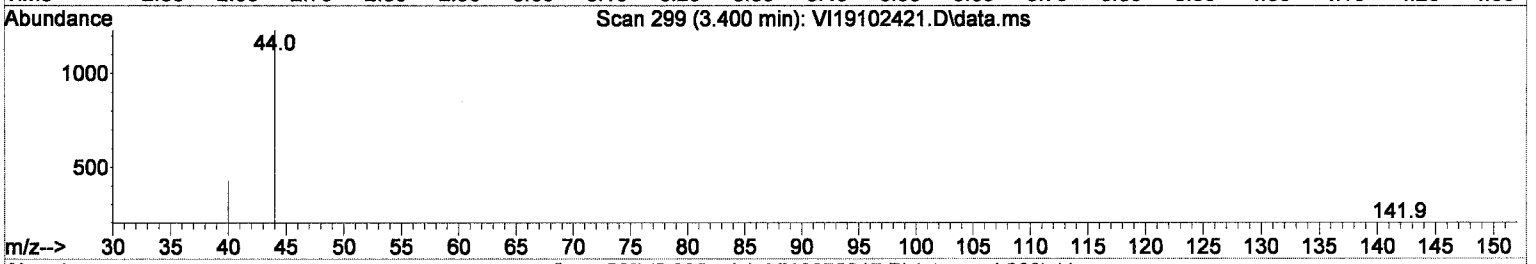
R = 6.36e-002 A*A + 5.25e-001 A - 6.41e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025W.M
Calibration Table Last Updated: Fri Oct 25 08:33:22 2019

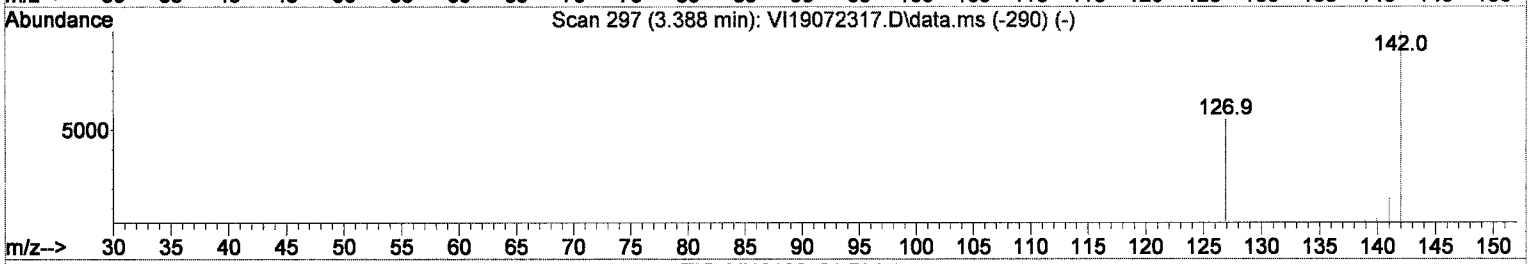
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\REQUANT\
Data File : VI19102421.D
Acq On : 24 Oct 2019 5:42 pm
Operator : MM
Sample : 9J24043-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:42:43 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







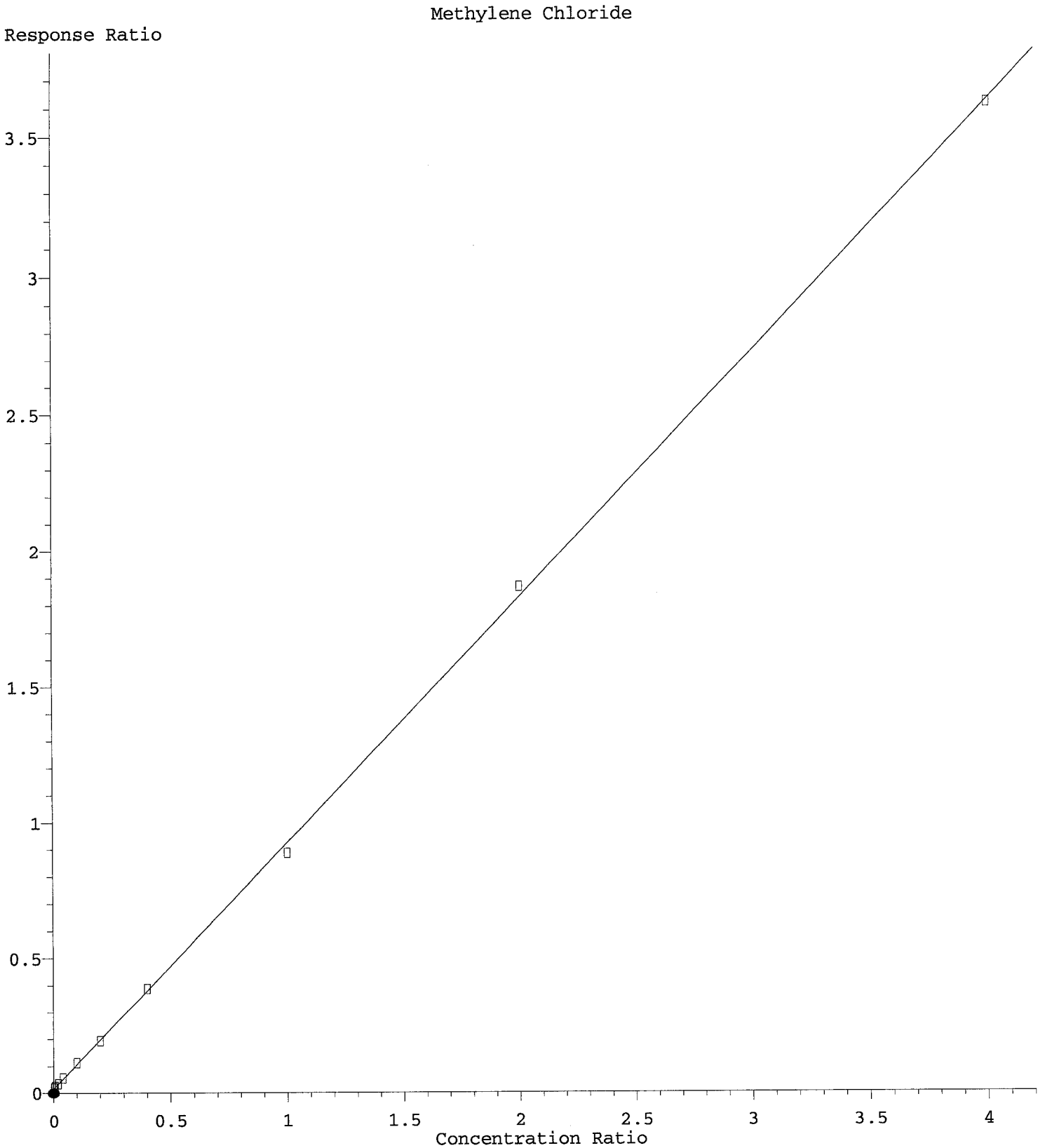
TIC: VI19102421.D\data.ms

(12) Iodomethane

3.400min (+ 0.018) 6.13 ug/L m

response 130

Ion	Exp%	Act%
141.90	100.00	100.00
126.90	34.80	0.00#
140.90	15.30	0.00#
0.00	0.00	0.00

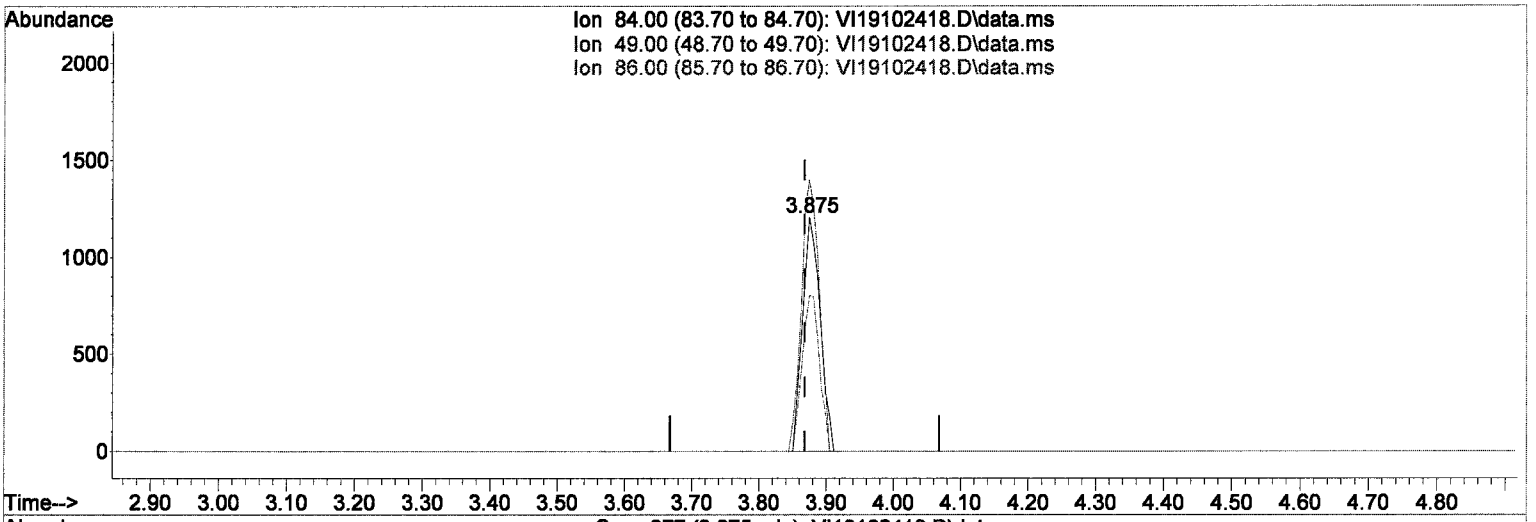


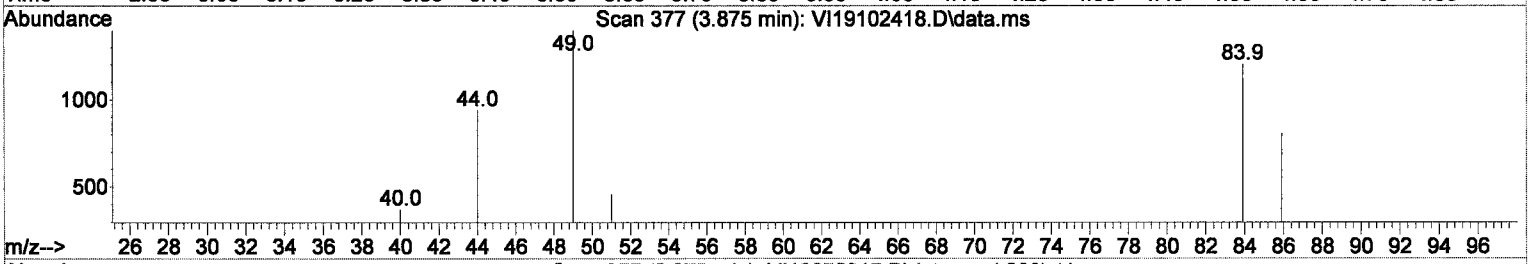
R = -2.46e-003 A*A + 9.12e-001 A + 1.58e-002
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025W.M
Calibration Table Last Updated: Fri Oct 25 08:34:03 2019

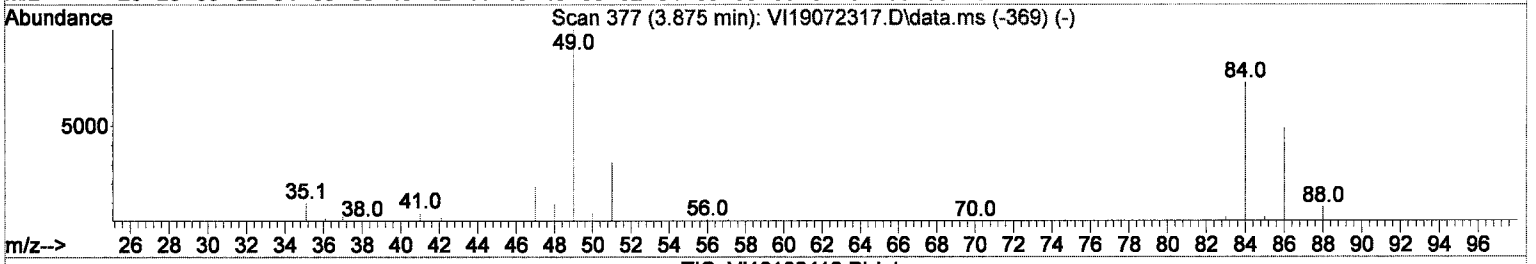
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\REQUANT\
Data File : VI19102418.D
Acq On : 24 Oct 2019 4:21 pm
Operator : MM
Sample : 9J24043-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:42:34 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







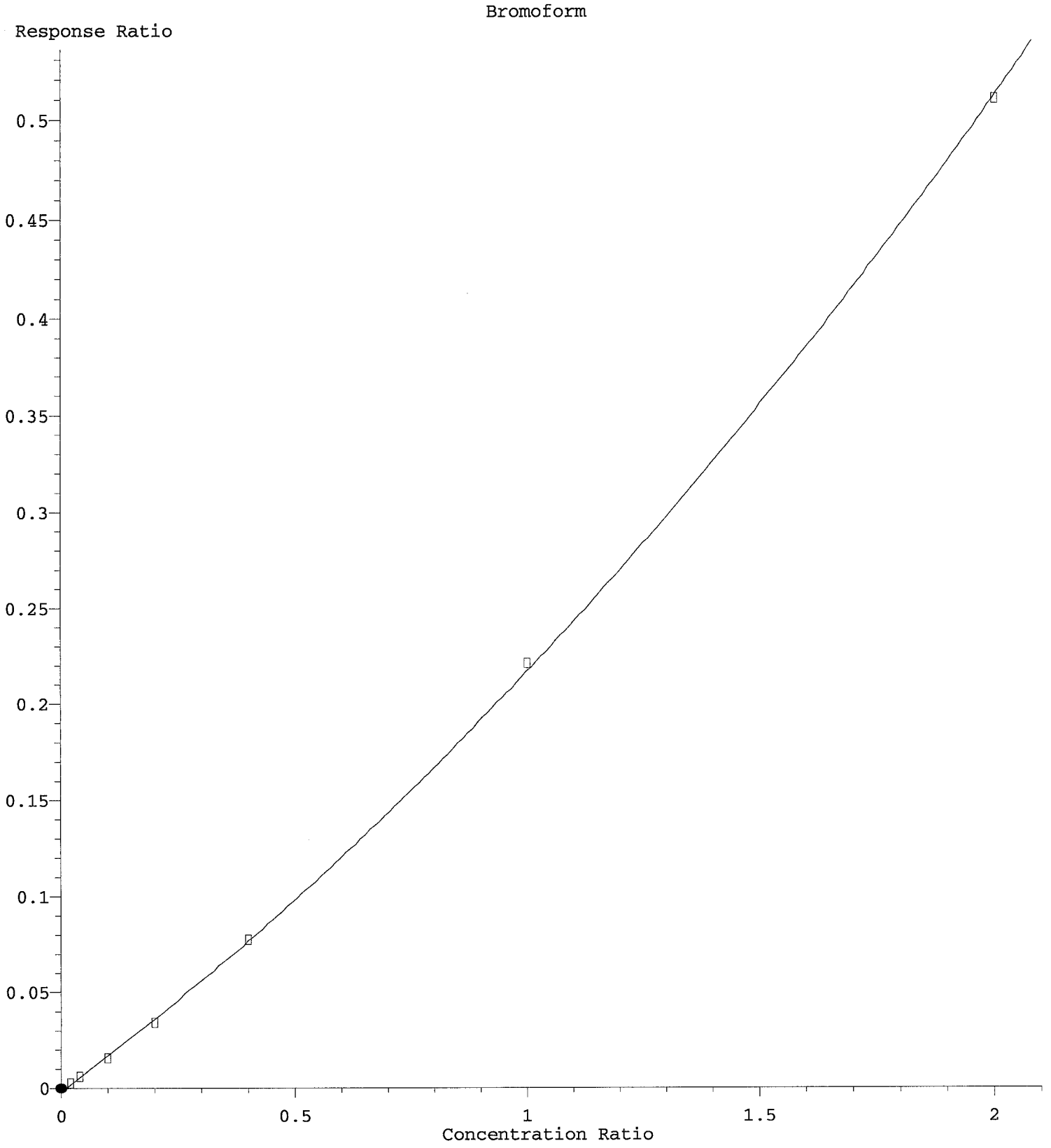
TIC: VI19102418.D\data.ms

(14) Methylene Chloride

3.875min (+ 0.007) 0.18 ug/L

response 2201

Ion	Exp%	Act%
84.00	100.00	100.00
49.00	134.70	116.13
86.00	61.50	66.92
0.00	0.00	0.00

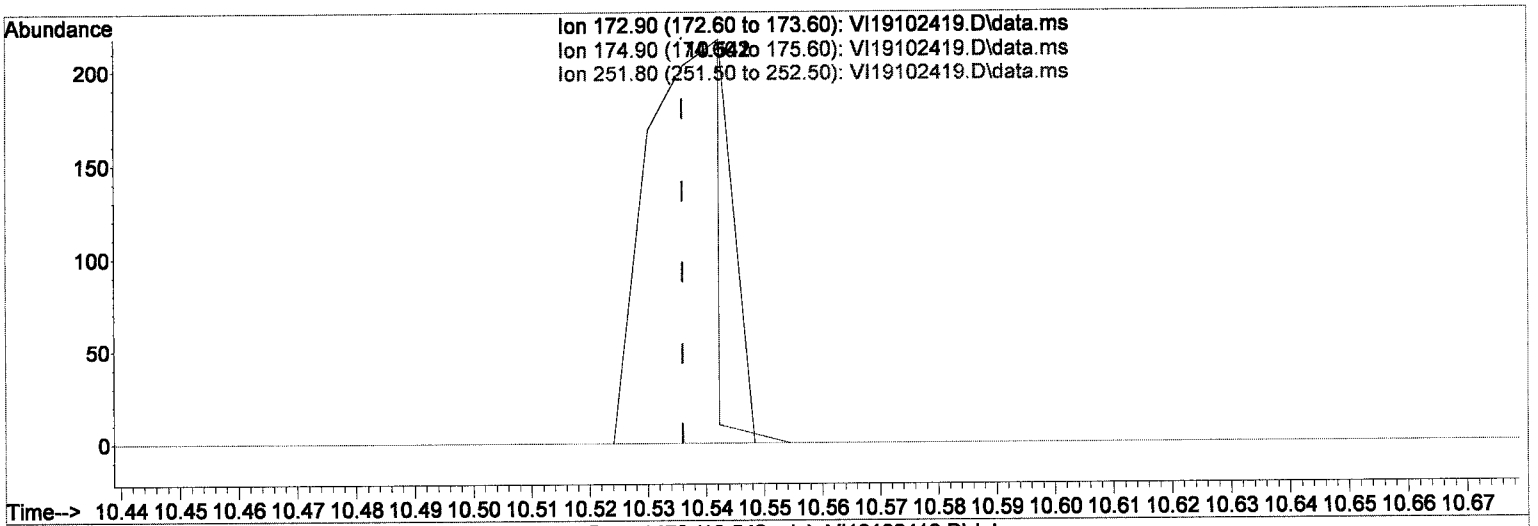


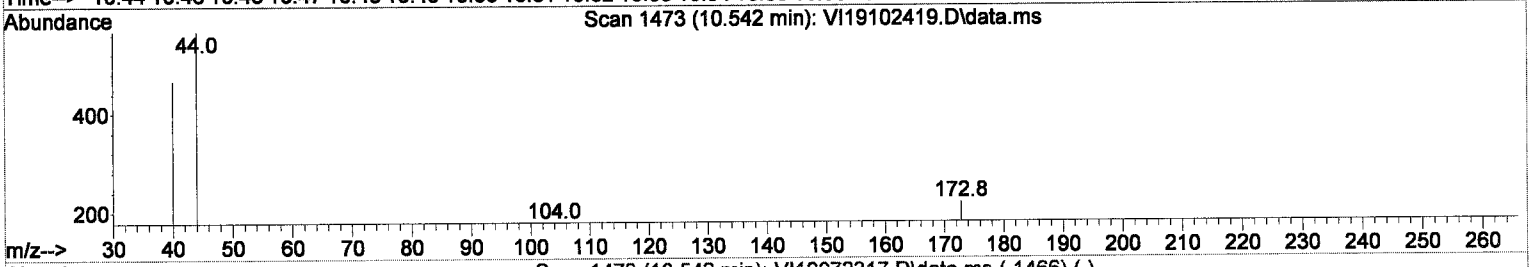
R = 3.82e-002 A*A + 1.80e-001 A - 1.40e-003
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w/(1/a)
Method Name: C:\msdchem\1\methods\VI191025W.M
Calibration Table Last Updated: Fri Oct 25 08:48:07 2019

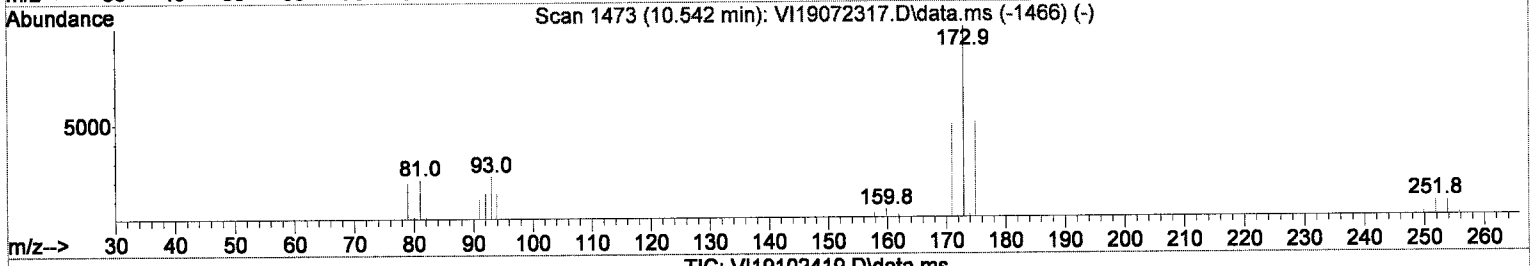
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\REQUANT\
Data File : VI19102419.D
Acq On : 24 Oct 2019 4:48 pm
Operator : MM
Sample : 9J24043-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:48:10 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration







TIC: VI19102419.D\data.ms

(64) Bromoform (P)

10.542min (+ 0.006) 0.38 ug/L m

response -4

Ion	Exp%	Act%
172.90	100.00	100.00
174.90	49.20	0.00#
251.80	13.30	0.00
0.00	0.00	-0.00

10/25

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102432.D
Acq On : 24 Oct 2019 10:38 pm
Operator : MM
Sample : 9J24043-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

MM 10/25/19

Quant Time: Oct 25 08:52:53 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 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	25.235	-26.2#	133	0.00
3	P	Chloromethane	20.000	20.727	-3.6	115	0.00
4	C	Vinyl Chloride	20.000	22.118	-10.6	111	0.00
5		Bromomethane	20.000	22.648	-13.2	122	0.00
6		Chloroethane	20.000	17.519	12.4	102	0.00
7		Trichlorofluoromethane	20.000	20.686	-3.4	101	0.00
8		~~Ethanol~~	~~1250.000~~	~~37.145~~	~~97.0#~~	~~3~~	~~0.00~~
9	C	1,1-Dichloroethene	20.000	19.721	1.4	100	0.00
10		Carbon Disulfide	20.000	18.350	8.2	94	0.00
11		Freon 113	20.000	19.089	4.6	95	0.00
12		Iodomethane	20.000	16.515	17.4	117	0.00
13		Acrolein	20.000	20.473	-2.4	103	0.00
14		Methylene Chloride	20.000	19.959	0.2	101	0.00
15		Acetone	40.000	37.600	6.0	97	0.00
16		t-1,2-Dichloroethene	20.000	20.982	-4.9	100	0.00
17		n-Hexane	20.000	19.272	3.6	95	0.00
18		Methyl-tert-butyl-ether	20.000	19.588	2.1	99	0.00
19		~~tert-Butanol (TBA)~~	~~1250.000~~	~~28.139~~	~~97.7#~~	~~2~~	~~0.00~~
20		~~Diisopropyl ether (DIPE)~~	~~5.000~~	~~0.181~~	~~96.4#~~	~~3~~	~~0.00~~
21	P	1,1-Dichloroethane	20.000	20.526	-2.6	102	0.00
22		Acrylonitrile	20.000	19.587	2.1	96	0.00
23		~~Ethyl-tert-butyl ether (ET~~	~~5.000~~	~~0.158~~	~~96.8#~~	~~3~~	~~0.00~~
24		Vinyl Acetate	20.000	19.888	0.6	99	0.00
25		c-1,2-Dichloroethene	20.000	20.039	-0.2	99	0.00
26		2,2-Dichloropropane	20.000	17.720	11.4	89	0.00
27		Bromochloromethane	20.000	22.053	-10.3	101	0.00
28	C	Chloroform	20.000	20.857	-4.3	100	0.00
29		Carbon Tetrachloride	20.000	20.695	-3.5	104	0.00
30		Tetrahydrofuran	20.000	19.026	4.9	95	0.00
31		1,1,1-Trichloroethane	20.000	19.935	0.3	99	0.00
32	S	Dibromofluoromethane (S)	50.000	50.291	-0.6	104	0.00
33		1,1-Dichloropropene	20.000	19.605	2.0	98	0.00
34		2-Butanone (MEK)	40.000	37.882	5.3	94	0.00
35		Benzene	20.000	19.670	1.6	99	0.00
36		~~tert-Amyl methyl ether (TA~~	~~5.000~~	~~0.175~~	~~96.5#~~	~~3~~	~~0.01~~
37		1,2-Dichloroethane (EDC)	20.000	20.160	-0.8	99	0.00
38		iso-Butyl Alcohol	500.000	519.105	-3.8	100	0.00
39	S	1,4-Difluorobenzene (S)	50.000	50.364	-0.7	104	0.00
40		Trichloroethene (TCE)	20.000	21.245	-6.2	102	0.00
41		~~Tert-Amyl-Ethyl-Ether (TAEE~~	~~5.000~~	~~0.144~~	~~97.1#~~	~~3~~	~~0.00~~
42		Dibromomethane	20.000	21.130	-5.6	102	0.00
43	C	1,2-Dichloropropane	20.000	20.286	-1.4	101	0.00
44		Bromodichloromethane	20.000	20.751	-3.8	102	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	104	0.00
46		2-Chloroethyl Vinyl Ether	20.000	20.093	-0.5	99	0.00
47		c-1,3-Dichloropropene	20.000	19.890	0.5	98	0.00
48	S	Toluene-d8 (S)	50.000	49.306	1.4	104	0.00
49	C	Toluene	20.000	19.385	3.1	99	0.00
50		Tetrachloroethene (PCE)	20.000	20.889	-4.4	101	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102432.D
Acq On : 24 Oct 2019 10:38 pm
Operator : MM
Sample : 9J24043-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:53 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 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	41.038	-2.6	97	0.00
52		t-1,3-Dichloropropene	20.000	20.701	-3.5	102	0.00
53		1,1,2-Trichloroethane	20.000	21.234	-6.2	103	0.00
54		Dibromochloromethane	20.000	23.749	-18.7	108	0.00
55		1,3-Dichloropropane	20.000	20.475	-2.4	100	0.00
56		1,2-Dibromoethane (EDB)	20.000	20.657	-3.3	100	0.00
57		2-Hexanone	40.000	40.560	-1.4	97	0.00
58	P	Chlorobenzene	20.000	20.598	-3.0	102	0.00
59	C	Ethylbenzene	20.000	20.146	-0.7	102	0.00
60		1,1,1,2-Tetrachloroethane	20.000	21.774	-8.9	105	0.00
61		m,p-Xylenes (2)	40.000	40.933	-2.3	100	0.00
62		o-Xylene	20.000	20.989	-4.9	101	0.00
63		Styrene	20.000	20.857	-4.3	100	0.00
64	P	Bromoform	20.000	21.372	-6.9	111	0.00
65		Isopropylbenzene	20.000	20.931	-4.7	101	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	49.582	0.8	105	0.00
68		Bromobenzene	20.000	20.988	-4.9	103	0.00
69		n-Propylbenzene	20.000	20.099	-0.5	100	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.344	-1.7	100	0.00
71		2-Chlorotoluene	20.000	19.935	0.3	99	0.00
72		1,3,5-Trimethylbenzene	20.000	20.663	-3.3	100	0.00
73		1,2,3-Trichloropropane	20.000	20.663	-3.3	103	0.00
74		t-1,4-Dichloro-2-butene	20.000	17.538	12.3	87	0.00
75		4-Chlorotoluene	20.000	20.563	-2.8	102	0.00
76		tert-Butylbenzene	20.000	20.366	-1.8	100	0.00
77		1,2,4-Trimethylbenzene	20.000	20.724	-3.6	99	0.00
78		sec-Butylbenzene	20.000	20.458	-2.3	100	0.00
79		4-Isopropyltoluene	20.000	21.662	-8.3	100	0.00
80		1,3-Dichlorobenzene	20.000	20.840	-4.2	103	0.00
81		1,4-Dichlorobenzene	20.000	20.477	-2.4	102	0.00
82		n-Butylbenzene	20.000	22.267	-11.3	101	0.00
83		1,2-Dichlorobenzene	20.000	20.819	-4.1	103	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	20.036	-0.2	102	0.00
85		Hexachlorobutadiene	20.000	21.851	-9.3	105	0.00
86		1,2,4-Trichlorobenzene	20.000	22.259	-11.3	104	0.00
87		Naphthalene	20.000	21.916	-9.6	103	0.00
88		1,2,3-Trichlorobenzene	20.000	22.607	-13.0	106	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102433.D
Acq On : 24 Oct 2019 11:05 pm
Operator : MM
Sample : 9J24043-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

M 10/25/19

Quant Time: Oct 25 08:52:56 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 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	99	0.00
2		Dichlorodifluoromethane	20.000	0.142	99.3#	1	0.00
3	P	Chloromethane	20.000	0.423	97.9#	2	0.00
4	C	Vinyl Chloride	20.000	0.200	99.0#	1	0.00
5		Bromomethane	20.000	0.740	96.3#	4	0.00
6		Chloroethane	20.000	0.736	96.3#	4	0.03
7		Trichlorofluoromethane	20.000	0.052	99.7#	0	0.01
8		Ethanol	1250.000	1059.187	15.3	80	0.00
9	C	1,1-Dichloroethene	20.000	0.161	99.2#	1	0.00
10		Carbon Disulfide	20.000	0.494	97.5#	2	0.01
11		Freon 113	20.000	0.000	100.0#	0	-3.28#
12		Iodomethane	20.000	6.269	68.7#	3	0.00
13		Acrolein	20.000	0.000	100.0#	0	-3.61#
14		Methylene Chloride	20.000	0.401	98.0#	6	0.00
15		Acetone	40.000	1.018	97.5#	3	0.01
16		t-1,2-Dichloroethene	20.000	0.302	98.5#	1	0.00
17		n-Hexane	20.000	0.000	100.0#	0	-4.12#
18		Methyl-tert-butyl-ether	20.000	0.085	99.6#	0	0.00
19		tert-Butanol (TBA)	1250.000	1179.792	5.6	83	0.00
20		Diisopropyl ether (DIPE)	5.000	4.407	11.9	82	0.00
21	P	1,1-Dichloroethane	20.000	0.254	98.7#	1	0.00
22		Acrylonitrile	20.000	0.000	100.0#	0	-4.74#
23		Ethyl-tert-butyl ether (ET	5.000	4.402	12.0	82	0.00
24		Vinyl Acetate	20.000	0.689	96.6#	3	-0.02
25		c-1,2-Dichloroethene	20.000	0.236	98.8#	1	0.00
26		2,2-Dichloropropane	20.000	0.080	99.6#	0	0.01
27		Bromochloromethane	20.000	0.000	100.0#	0	-5.44#
28	C	Chloroform	20.000	0.223	98.9#	1	0.00
29		Carbon Tetrachloride	20.000	0.000	100.0#	0	-5.66#
30		Tetrahydrofuran	20.000	0.000	100.0#	0	-5.70#
31		1,1,1-Trichloroethane	20.000	0.094	99.5#	0	0.00
32	S	Dibromofluoromethane (S)	50.000	49.641	0.7	99	0.00
33		1,1-Dichloropropene	20.000	0.226	98.9#	1	0.00
34		2-Butanone (MEK)	40.000	0.000	100.0#	0	-5.85#
35		Benzene	20.000	0.266	98.7#	1	0.00
36		tert-Amyl methyl ether (TA	5.000	4.185	16.3	80	0.00
37		1,2-Dichloroethane (EDC)	20.000	0.071	99.6#	0	0.01
38		iso-Butyl Alcohol	500.000	0.000	100.0#	0	-6.37#
39	S	1,4-Difluorobenzene (S)	50.000	50.455	-0.9	100	0.00
40		Trichloroethene (TCE)	20.000	0.257	98.7#	1	0.01
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	4.278	14.4	78	0.00
42		Dibromomethane	20.000	0.000	100.0#	0	-7.20#
43	C	1,2-Dichloropropane	20.000	0.177	99.1#	1	0.00
44		Bromodichloromethane	20.000	0.108	99.5#	1	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	97	0.00
46		2-Chloroethyl Vinyl Ether	20.000	0.000	100.0#	0	-8.02#
47		c-1,3-Dichloropropene	20.000	0.143	99.3#	1	0.00
48	S	Toluene-d8 (S)	50.000	50.620	-1.2	99	0.00
49	C	Toluene	20.000	0.283	98.6#	1	0.00
50		Tetrachloroethene (PCE)	20.000	0.334	98.3#	1	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102433.D
Acq On : 24 Oct 2019 11:05 pm
Operator : MM
Sample : 9J24043-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:56 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 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	0.000	100.0#	0	-8.80#
52		t-1,3-Dichloropropene	20.000	0.080	99.6#	0	0.02
53		1,1,2-Trichloroethane	20.000	0.000	100.0#	0	-9.00#
54		Dibromochloromethane	20.000	0.000	100.0#	0	-9.19#
55		1,3-Dichloropropane	20.000	0.089	99.6#	0	0.00
56		1,2-Dibromoethane (EDB)	20.000	0.000	100.0#	0	-9.42#
57		2-Hexanone	40.000	0.000	100.0#	0	-9.65#
58	P	Chlorobenzene	20.000	0.297	98.5#	1	0.00
59	C	Ethylbenzene	20.000	0.274	98.6#	1	0.00
60		1,1,1,2-Tetrachloroethane	20.000	0.153	99.2#	1	0.00
61		m,p-Xylenes (2)	40.000	0.530	98.7#	1	0.00
62		o-Xylene	20.000	0.258	98.7#	1	0.00
63		Styrene	20.000	0.234	98.8#	1	0.00
64	P	Bromoform	20.000	0.000	100.0#	0	-10.54#
65		Isopropylbenzene	20.000	0.224	98.9#	1	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	92	0.00
67	S	4-Bromofluorobenzene (S)	50.000	50.894	-1.8	94	0.00
68		Bromobenzene	20.000	0.267	98.7#	1	0.00
69		n-Propylbenzene	20.000	0.308	98.5#	1	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	0.000	100.0#	0	-11.14#
71		2-Chlorotoluene	20.000	0.261	98.7#	1	0.00
72		1,3,5-Trimethylbenzene	20.000	0.279	98.6#	1	0.00
73		1,2,3-Trichloropropane	20.000	0.000	100.0#	0	-11.25#
74		t-1,4-Dichloro-2-butene	20.000	0.000	100.0#	0	-11.28#
75		4-Chlorotoluene	20.000	0.357	98.2#	2	0.00
76		tert-Butylbenzene	20.000	0.243	98.8#	1	0.00
77		1,2,4-Trimethylbenzene	20.000	0.300	98.5#	1	0.00
78		sec-Butylbenzene	20.000	0.275	98.6#	1	0.00
79		4-Isopropyltoluene	20.000	0.295	98.5#	1	0.00
80		1,3-Dichlorobenzene	20.000	0.371	98.1#	2	0.00
81		1,4-Dichlorobenzene	20.000	0.404	98.0#	2	0.00
82		n-Butylbenzene	20.000	0.398	98.0#	2	0.00
83		1,2-Dichlorobenzene	20.000	0.272	98.6#	1	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	0.000	100.0#	0	-12.80#
85		Hexachlorobutadiene	20.000	0.497	97.5#	2	0.00
86		1,2,4-Trichlorobenzene	20.000	0.570	97.2#	2	0.00
87		Naphthalene	20.000	0.356	98.2#	1	0.00
88		1,2,3-Trichlorobenzene	20.000	0.570	97.2#	2	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Calibration Status Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI191025G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Oct 25 10:31:05 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	50	50	50	C:\msdchem\1\data\2019-10\9J24043\VI19102439.D
2	100	100	50	C:\msdchem\1\data\2019-10\9J24043\VI19102440.D
3	250	250	50	C:\msdchem\1\data\2019-10\9J24043\VI19102441.D
4	500	500	50	C:\msdchem\1\data\2019-10\9J24043\VI19102442.D
5	1000	1000	50	C:\msdchem\1\data\2019-10\9J24043\VI19102452.D
6	2500	2500	50	C:\msdchem\1\data\2019-10\9J24043\VI19102444.D
7	5000	5000	50	C:\msdchem\1\data\2019-10\9J24043\VI19102445.D
8	10K	10000	50	C:\msdchem\1\data\2019-10\9J24043\VI19102446.D

#	ID	Update Time	Quant Time	Acquisition Time
1	50	Oct 25 09:04 2019	Oct 25 08:55 2019	25 Oct 2019 1:46 am
2	100	Oct 25 09:04 2019	Oct 25 08:55 2019	25 Oct 2019 2:13 am
3	250	Oct 25 09:04 2019	Oct 25 08:55 2019	25 Oct 2019 2:40 am
4	500	Oct 25 09:04 2019	Oct 25 08:55 2019	25 Oct 2019 3:07 am
5	1000	Oct 25 10:31 2019	Oct 25 10:30 2019	25 Oct 2019 10:13 am
6	2500	Oct 25 09:04 2019	Oct 25 08:55 2019	25 Oct 2019 4:00 am
7	5000	Oct 25 09:04 2019	Oct 25 08:55 2019	25 Oct 2019 4:27 am
8	10K	Oct 25 09:04 2019	Oct 25 08:55 2019	25 Oct 2019 4:54 am

VI191025G.M Fri Oct 25 10:41:17 2019

Response Factor Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI191025G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Oct 25 10:31:05 2019
Response Via : Initial Calibration

Calibration Files
50 =VI19102439.D 100 =VI19102440.D 250 =VI19102441.D 500 =VI19102442.D 1000=VI19102452.D 2500=VI19102444.D
5000=VI19102445.D 10K =VI19102446.D

		Compound	50	100	250	500	1000	2500	5000	10K	Avg	%RSD
1)	I	Pentafluorobenzene...	----------ISTD----------									
2)	S	1,4-Difluorobe...	1.634	1.635	1.620	1.616	1.606	1.628	1.624	1.644	1.626	0.73
3)	S	4-Bromofluorob...	0.521	0.525	0.529	0.536	0.539	0.555	0.563	0.574	0.543	3.54
4)	H	NWTPH-Gx (TPH)	0.926	1.028	1.244	1.386	1.437	1.550	1.569	1.699	1.355	19.99
5)	H	TPHg (C5-C9)	3.091	2.191	1.950	1.925	1.927	1.943	1.882	1.984	2.112	19.26
6)	H	TPHg (C6-C10)	2.666	1.908	1.665	1.633	1.632	1.643	1.597	1.694	1.805	20.00
7)	H	CA-LUFT (C5-C12)	3.259	2.422	2.257	2.271	2.291	2.353	2.307	2.441	2.450	13.62
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-GCMS9

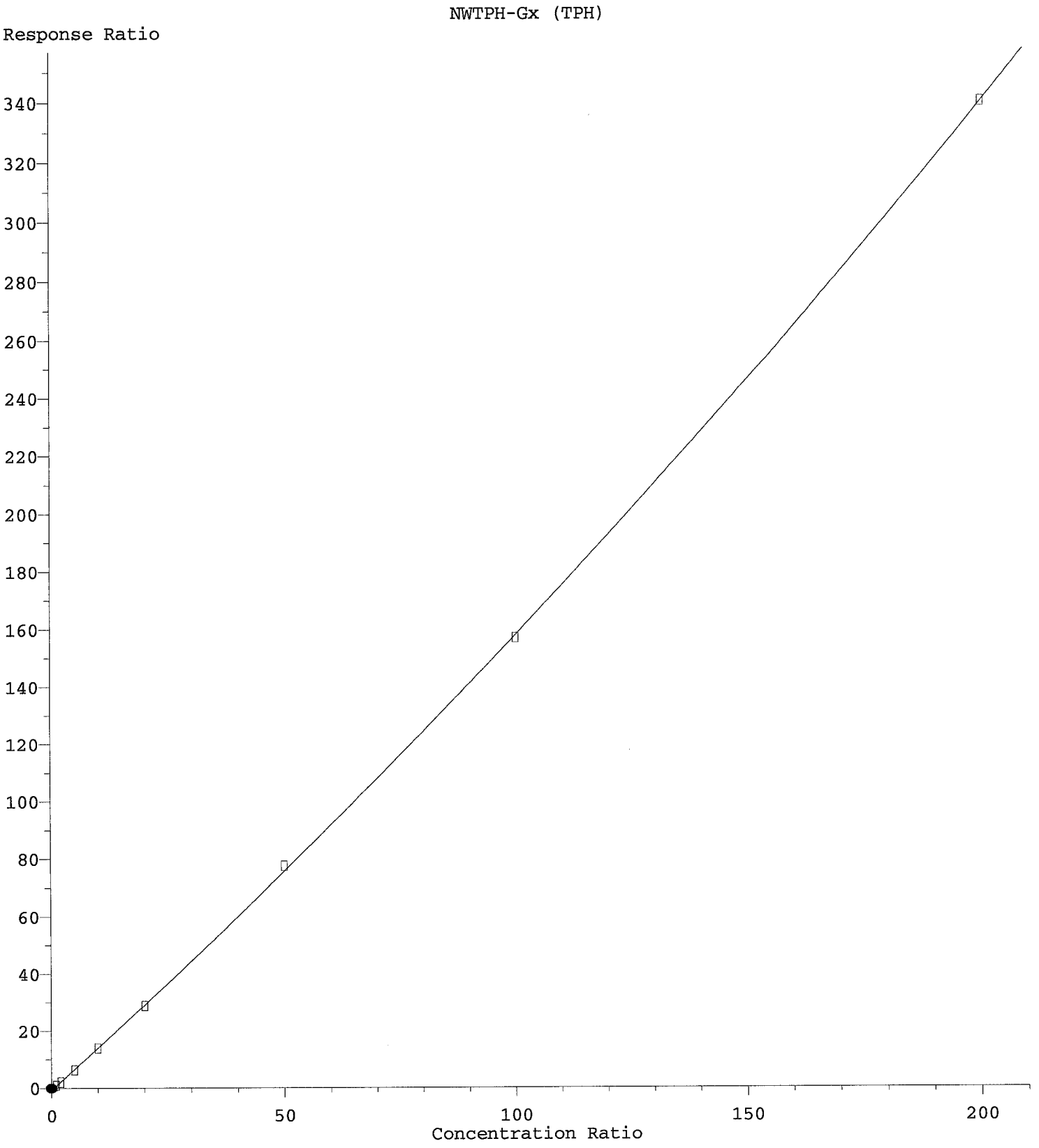
Method Path : C:\msdchem\1\methods\
Method File : VI191025G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Oct 25 10:31:05 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.217	1.000	A	2	A	B
2	S	1,4-Difluorobenzene (Sur)	114	6.783	1.091	A	2	A	B
3	S	4-Bromofluorobenzene (Sur)	174	10.974	1.765	A	2	A	B
4	H	NWTPH-Gx (TPH)	TIC	9.890	1.591	Q	0	A	B
5	H	TPHg (C5-C9)	TIC	9.890	1.591	Q	0	A	B
6	H	TPHg (C6-C10)	TIC	9.890	1.591	Q	0	A	B
7	H	CA-LUFT (C5-C12)	TIC	9.890	1.591	Q	0	A	B
8		Benzene (NR)	78	6.120	0.984	A	2	A	B
9	S	Toluene-d8 (NR)	98	8.298	1.335	A	2	A	B
10		Toluene (NR)	91	8.358	1.344	A	2	A	B
11	S	Chlorobenzene-d5 (NR)	117	9.916	1.595	A	2	A	B
12	S	1,4-Dichlorobenzene-d4 (NR)	150	11.850	1.906	A	2	A	B
13		Naphthalene (NR)	128	13.627	2.192	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

VI191025G.M Fri Oct 25 10:41:12 2019

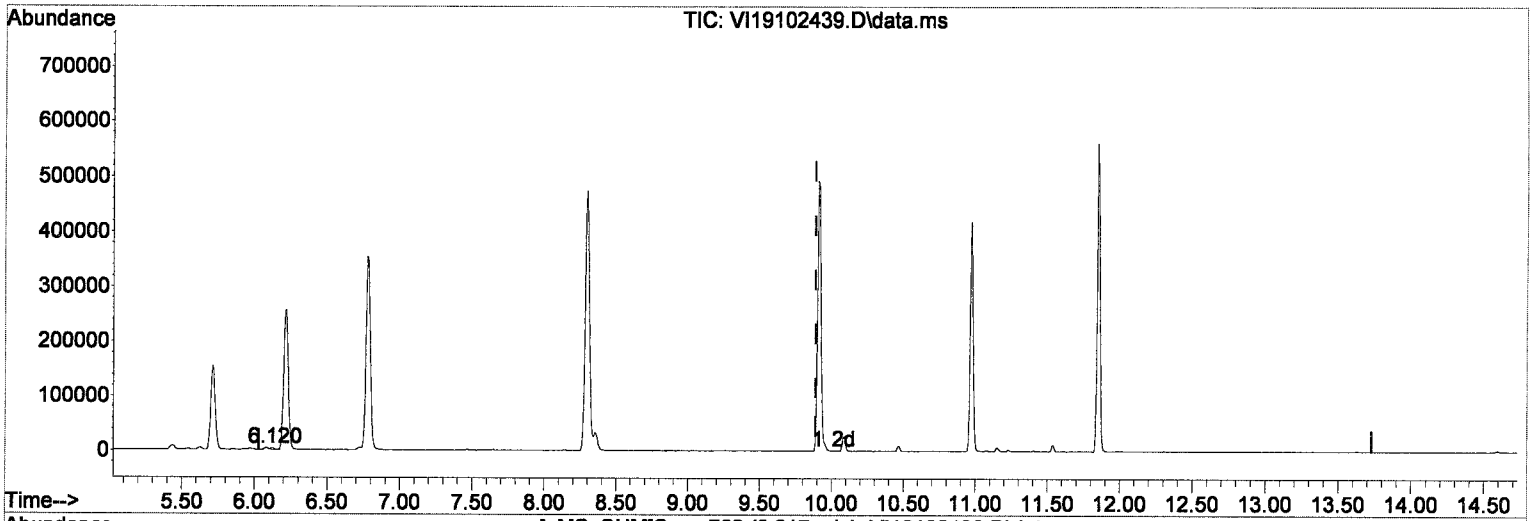


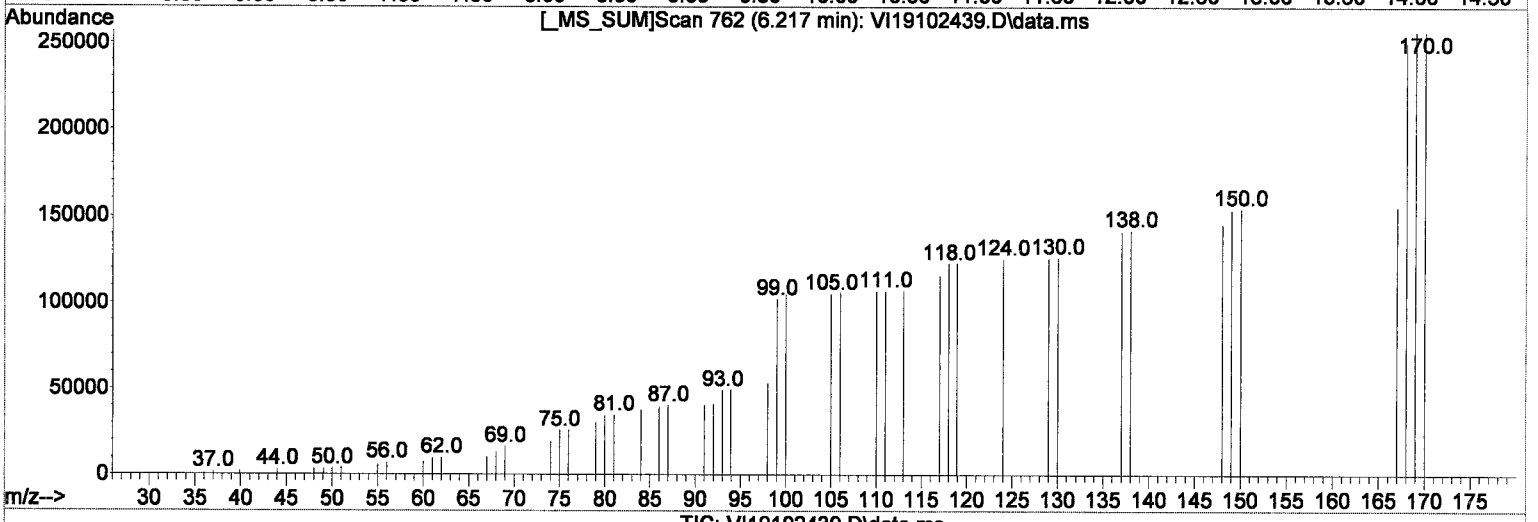
R = 1.17e-003 A*A + 1.47e+000 A - 7.24e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025G.M
Calibration Table Last Updated: Fri Oct 25 10:31:34 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\REQUANT\
Data File : VI19102439.D
Acq On : 25 Oct 2019 1:46 am
Operator : MM
Sample : 9J24043-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:32:52 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





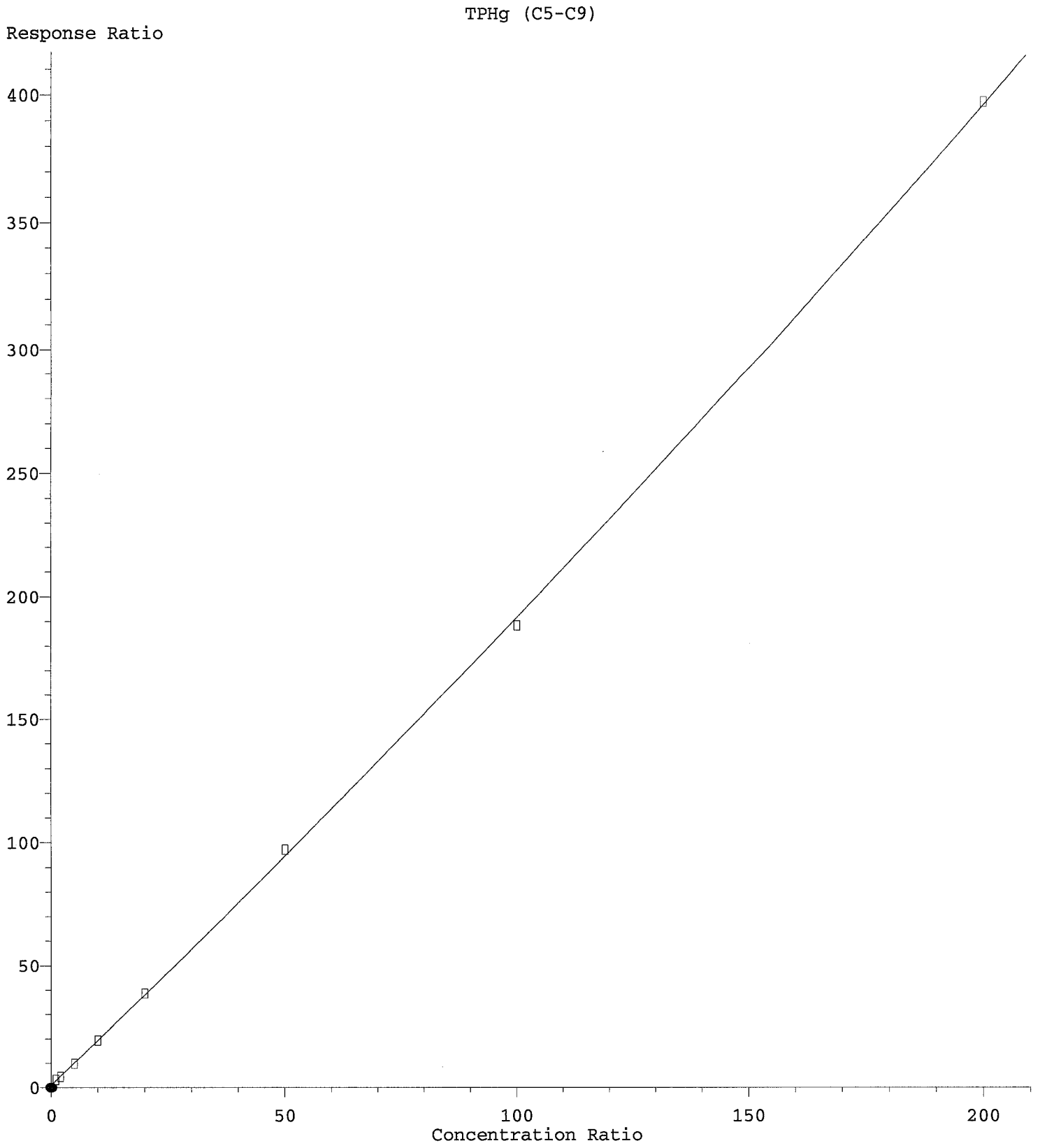
TIC: VI19102439.D\data.ms

(4) NWTPH-Gx (TPH) (H)

9.890min (0.000) 25.47 ug/L m

response 5099

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

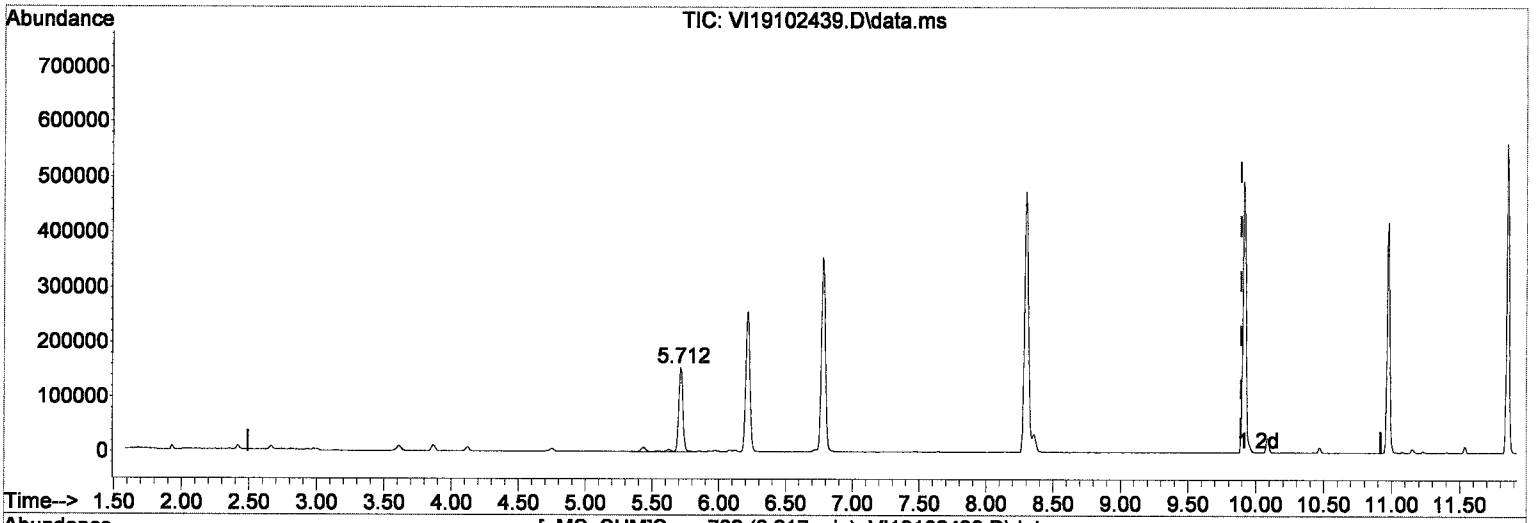


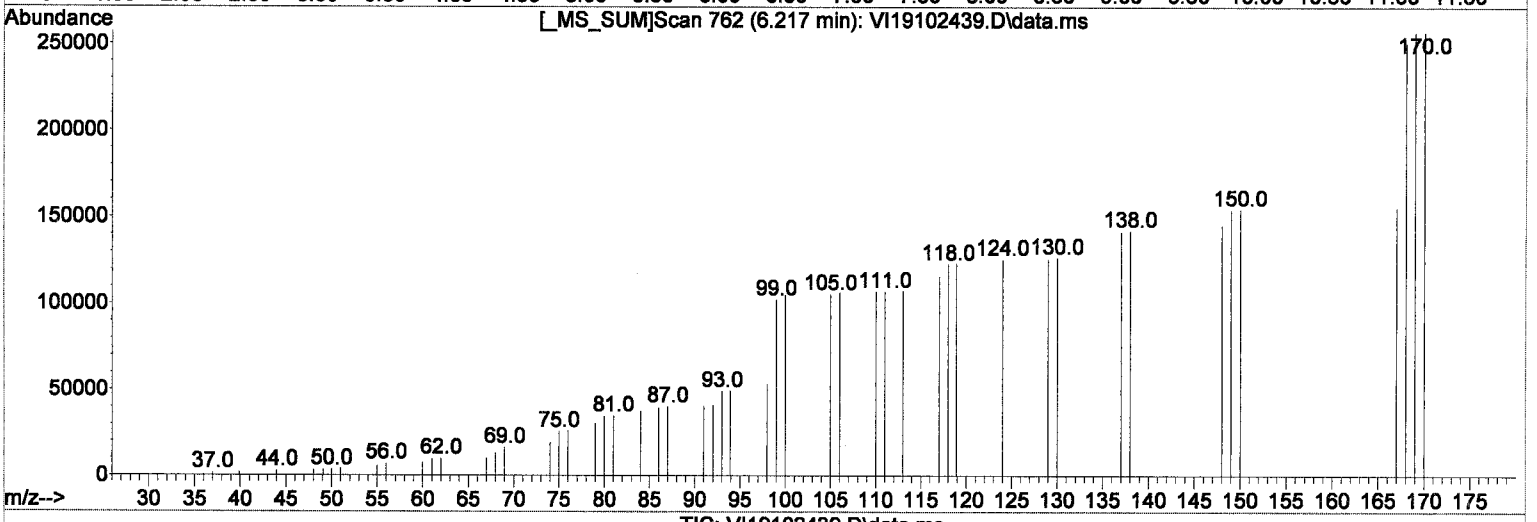
R = 6.91e-004 A*A + 1.84e+000 A + 1.03e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025G.M
Calibration Table Last Updated: Fri Oct 25 10:31:34 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\REQUANT\
Data File : VI19102439.D
Acq On : 25 Oct 2019 1:46 am
Operator : MM
Sample : 9J24043-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:32:52 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





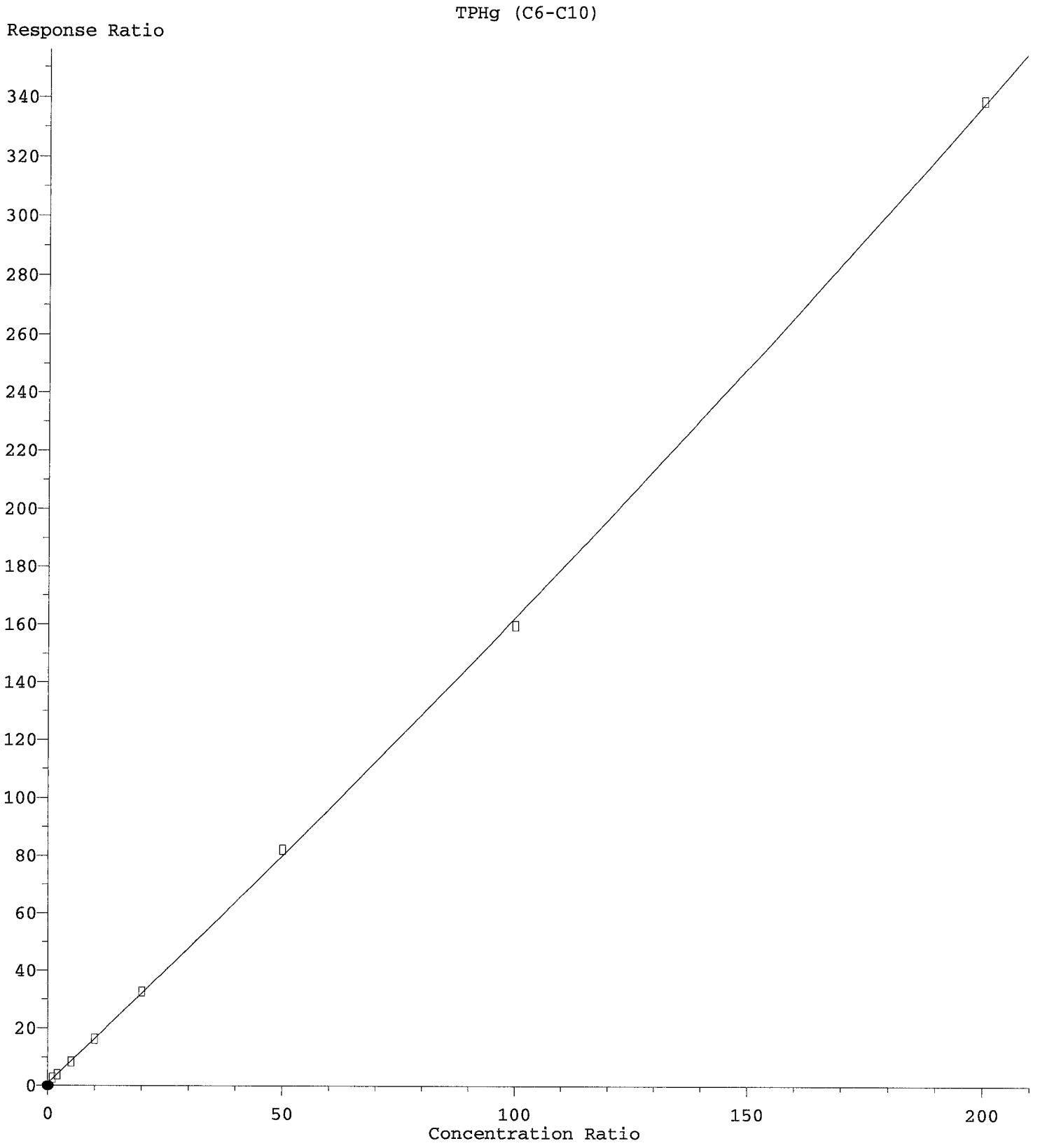
TIC: VI19102439.D\data.ms

(5) TPHg (C5-C9) (H)

9.890min (0.000) 19.12 ug/L m

response 362226

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

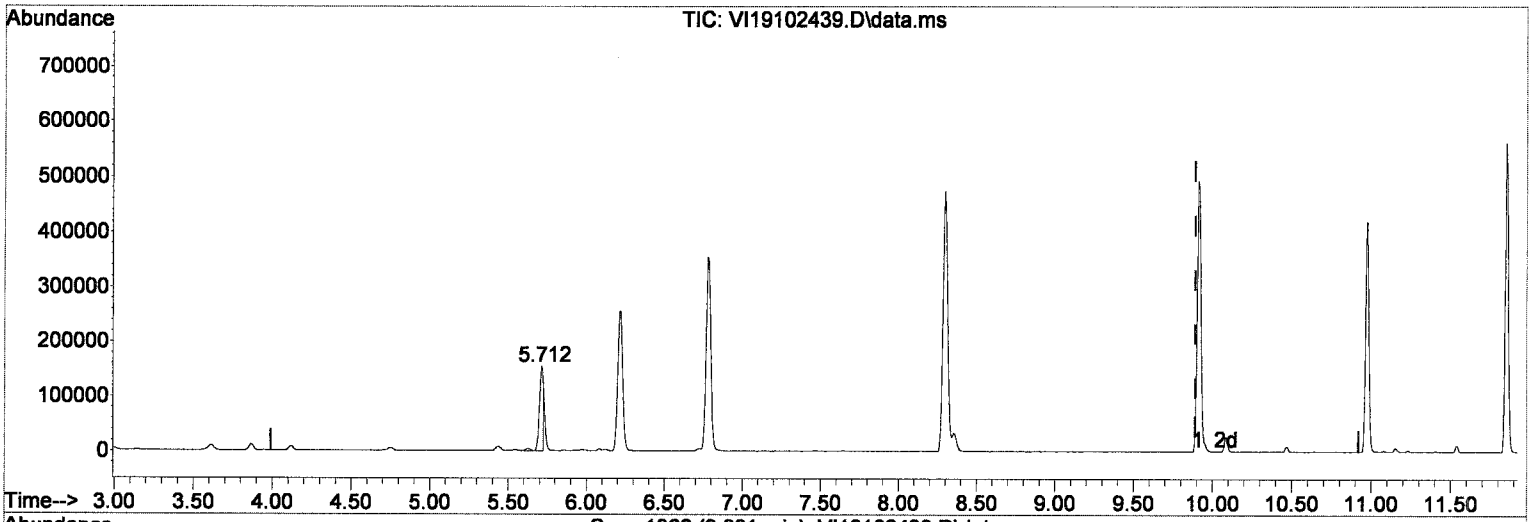


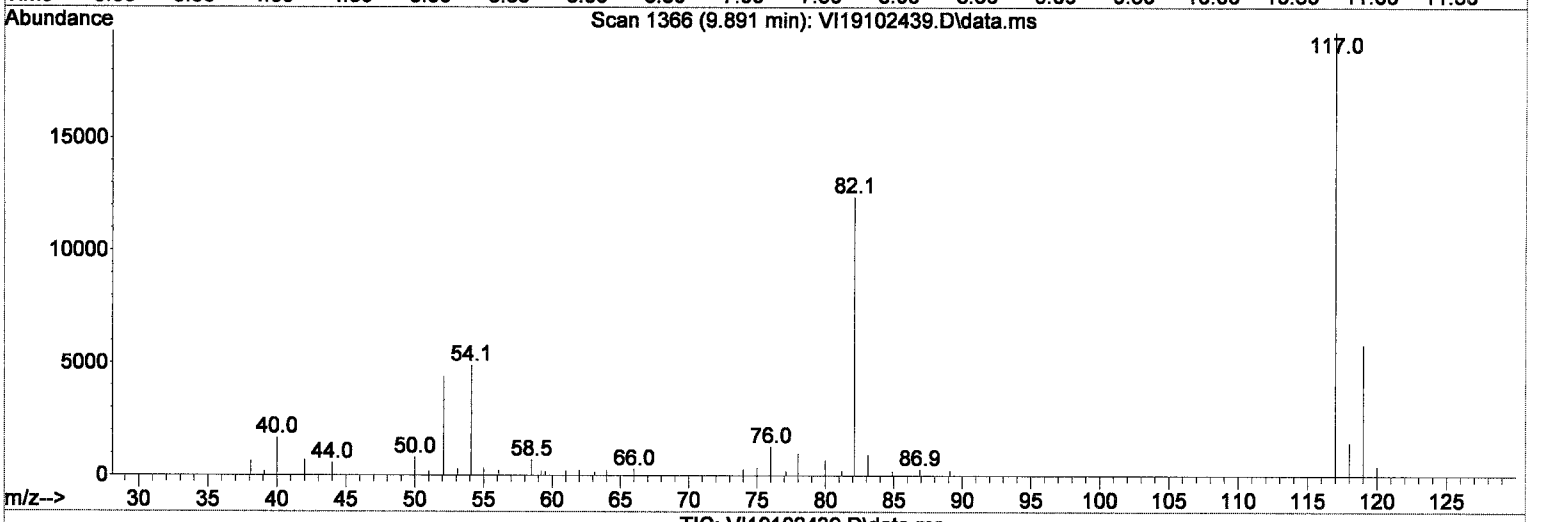
R = 6.87e-004 A*A + 1.55e+000 A + 9.51e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025G.M
Calibration Table Last Updated: Fri Oct 25 10:31:34 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\REQUANT\
Data File : VI19102439.D
Acq On : 25 Oct 2019 1:46 am
Operator : MM
Sample : 9J24043-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:32:52 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





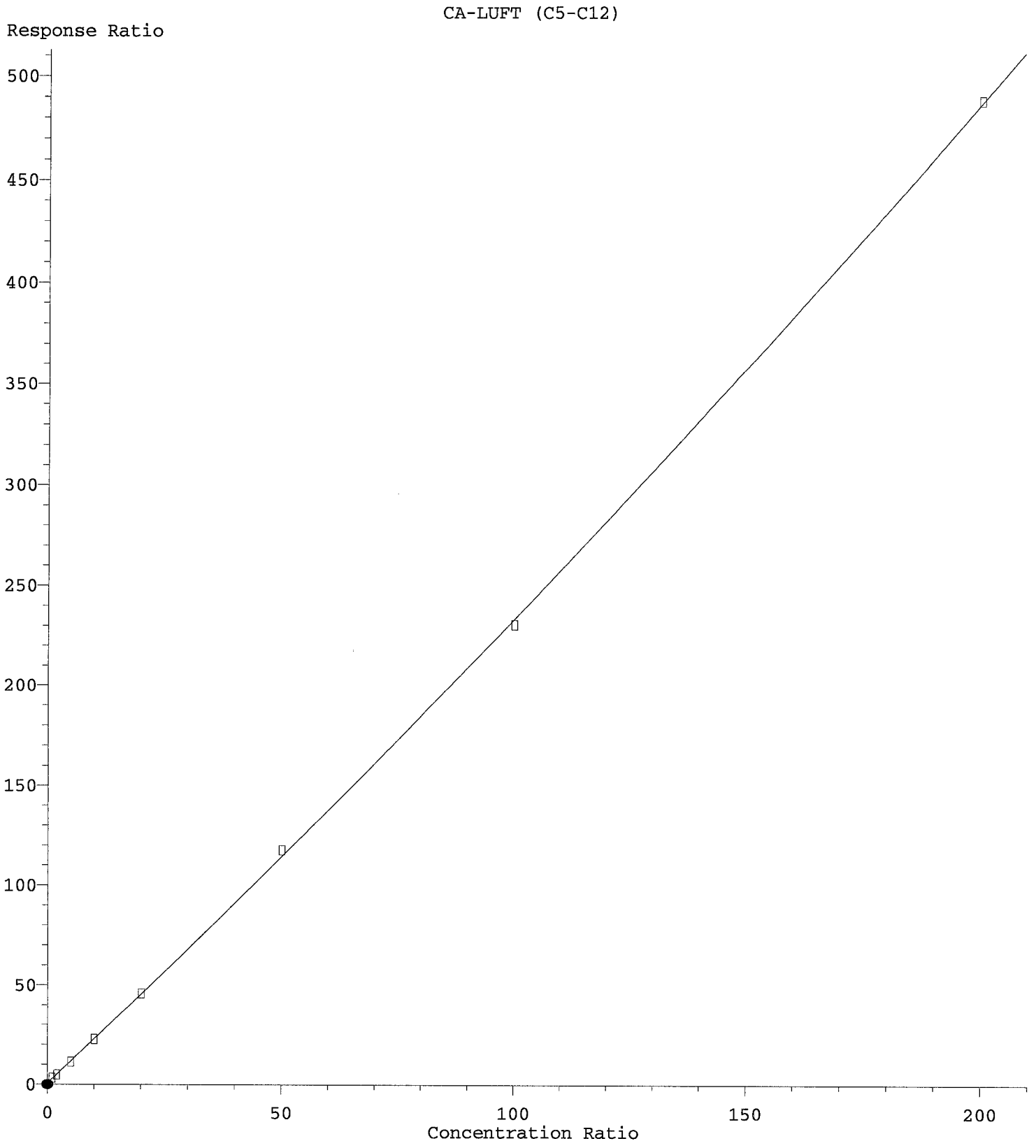
TIC: VI19102439.D\data.ms

(6) TPHg (C6-C10) (H)

9.890min (0.000) 12.28 ug/L m

response 278598

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

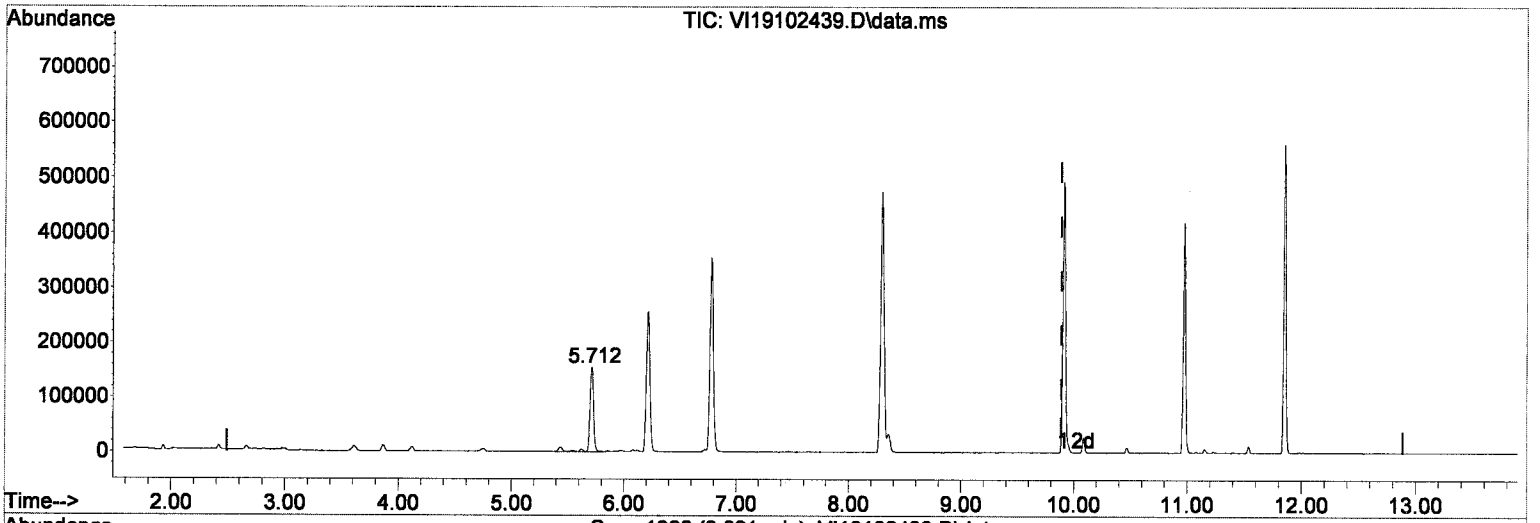


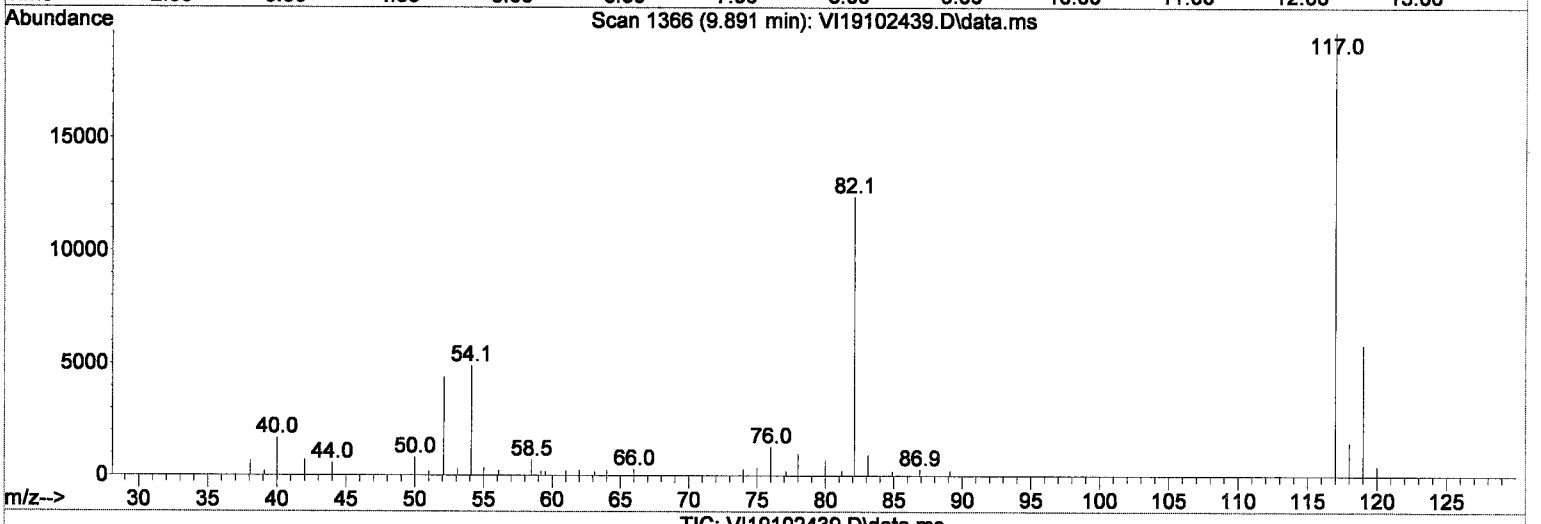
R = 1.05e-003 A*A + 2.22e+000 A + 7.45e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025G.M
Calibration Table Last Updated: Fri Oct 25 10:31:34 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\REQUANT\
Data File : VI19102439.D
Acq On : 25 Oct 2019 1:46 am
Operator : MM
Sample : 9J24043-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:32:52 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





TIC: VI19102439.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.890min (0.000) 22.21 ug/L m

response 362637

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102453.D
Acq On : 25 Oct 2019 10:40 am
Operator : MM
Sample : 9J24043-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:55:48 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

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	103	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	49.705	0.6	103	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	48.785	2.4	102	0.00
4	H	NWTPH-Gx (TPH)	500.000	512.008	-2.4	108	0.00
5	H	TPHg (C5-C9)	500.000	489.707	2.1	102	0.00
6	H	TPHg (C6-C10)	500.000	503.040	-0.6	105	0.00
7	H	CA-LUFT (C5-C12)	500.000	493.527	1.3	104	0.00
8		Benzene (NR)	-1.000	0.000	0.0	100	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	103	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	103	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	100	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	114	0.00

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

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9J24043

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
9J24043-TUN2	MS Tune	Water		A19I040	10/24/2019 11:59:00PM
9J24043-ICB2	Initial Cal Blank	Water		A19I040	10/25/2019 1:19:00AM
9J24043-CALC	Cal Standard	Water	A19J388	"	10/25/2019 1:46:00AM
9J24043-CALD	Cal Standard	Water	A19J389	"	10/25/2019 2:13:00AM
9J24043-CALE	Cal Standard	Water	A19J390	"	10/25/2019 2:40:00AM
9J24043-CALF	Cal Standard	Water	A19J391	"	10/25/2019 3:07:00AM
9J24043-CALH	Cal Standard	Water	A19J393	"	10/25/2019 4:00:00AM
9J24043-CALI	Cal Standard	Water	A19J394	"	10/25/2019 4:27:00AM
9J24043-CALJ	Cal Standard	Water	A19J395	"	10/25/2019 4:54:00AM
9J24043-CALG	Cal Standard	Water	A19J392	"	10/25/2019 10:13:00AM
9J24043-ICV3	Initial Cal Check	Water	A19G350	"	10/25/2019 10:40:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9J2503** Instrument: **VOA-GCMS9**

8015D-Mod Gasoline (C6-C10 Sequence: **9J24043** Matrix: **Water**

9J24043-CALC	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9J24043-CALD	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9J24043-CALE	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9J24043-CALF	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9J24043-CALG	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9J24043-CALH	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9J24043-CALI	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9J24043-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: 9J24043

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: **A9J2503** Instrument: **VOA-GCMS9**

NWTPH-Gx Sequence: **9J24043** Matrix: **Water**

9J24043-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.

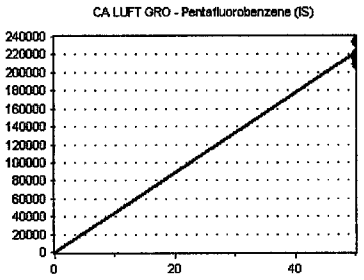
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **VI191025W.M VI191025G.M**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

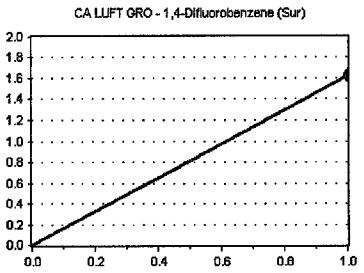


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	209290	4185.800	6.22
9J24043-CALD	50	209478	4189.560	6.22
9J24043-CALE	50	220921	4418.420	6.22
9J24043-CALF	50	214780	4295.600	6.22
9J24043-CALG	50	234293	4685.860	6.22
9J24043-CALH	50	216435	4328.700	6.22
9J24043-CALI	50	233849	4676.980	6.22
9J24043-CALJ	50	234183	4683.660	6.22

AVE RF **4433.073** RF RSD **4.95** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

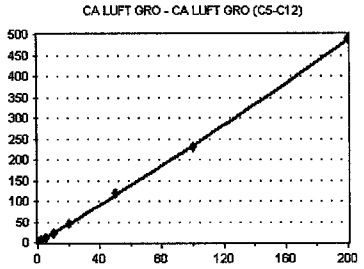


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	341977	1.634	6.78
9J24043-CALD	50	342473	1.635	6.78
9J24043-CALE	50	357958	1.620	6.78
9J24043-CALF	50	347086	1.616	6.78
9J24043-CALG	50	376297	1.606	6.78
9J24043-CALH	50	352248	1.628	6.78
9J24043-CALI	50	379658	1.624	6.78
9J24043-CALJ	50	384961	1.644	6.78

AVE RF **1.626** RF RSD **0.73** AVE RT **6.78**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

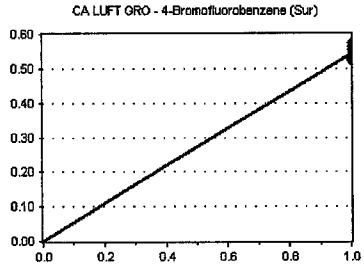


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	681991	3.259	9.89
9J24043-CALD	100	1014687	2.422	9.89
9J24043-CALE	250	2493143	2.257	9.89
9J24043-CALF	500	4877141	2.271	9.89
9J24043-CALG	1000	1.073362E+07	2.291	9.89
9J24043-CALH	2500	2.54612E+07	2.353	9.89
9J24043-CALI	5000	5.393736E+07	2.307	9.89
9J24043-CALJ	10000	1.143412E+08	2.441	9.89

AVE RF **2.450** RF RSD **13.62** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	109139	0.521	10.97
9J24043-CALD	50	110020	0.525	10.97
9J24043-CALE	50	116770	0.529	10.97
9J24043-CALF	50	115043	0.536	10.97
9J24043-CALG	50	126230	0.539	10.97
9J24043-CALH	50	120135	0.555	10.97
9J24043-CALI	50	131653	0.563	10.97
9J24043-CALJ	50	134509	0.574	10.97

AVE RF **0.543** RF RSD **3.54** AVE RT **10.97**

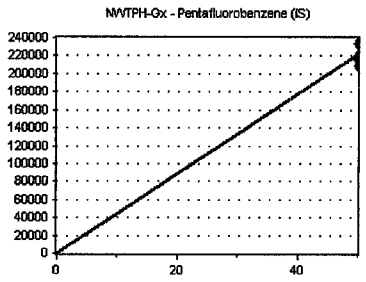
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **VI191025W.M VI191025G.M**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

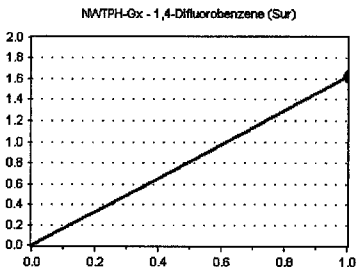


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	209290	4185.800	6.22
9J24043-CALD	50	209478	4189.560	6.22
9J24043-CALE	50	220921	4418.420	6.22
9J24043-CALF	50	214780	4295.600	6.22
9J24043-CALG	50	234293	4685.860	6.22
9J24043-CALH	50	216435	4328.700	6.22
9J24043-CALI	50	233849	4676.980	6.22
9J24043-CALJ	50	234183	4683.660	6.22

AVE RF **4433.073** RF RSD **4.95** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

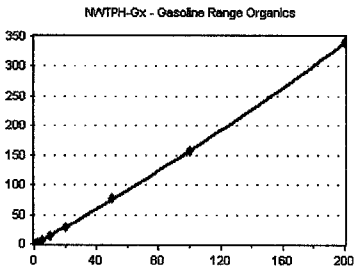


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	341977	1.634	6.78
9J24043-CALD	50	342473	1.635	6.78
9J24043-CALE	50	357958	1.620	6.78
9J24043-CALF	50	347086	1.616	6.78
9J24043-CALG	50	376297	1.606	6.78
9J24043-CALH	50	352248	1.628	6.78
9J24043-CALI	50	379658	1.624	6.78
9J24043-CALJ	50	384961	1.644	6.78

AVE RF **1.626** RF RSD **0.73** AVE RT **6.78**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

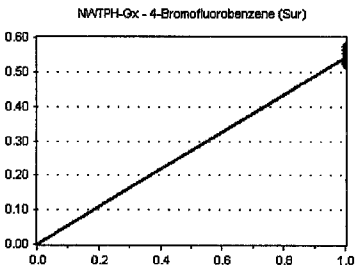


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	193702	0.926	9.89
9J24043-CALD	100	430822	1.028	9.89
9J24043-CALE	250	1374008	1.244	9.89
9J24043-CALF	500	2976997	1.386	9.89
9J24043-CALG	1000	6735895	1.437	9.89
9J24043-CALH	2500	1.67752E+07	1.550	9.89
9J24043-CALI	5000	3.669824E+07	1.569	9.89
9J24043-CALJ	10000	7.956248E+07	1.699	9.89

AVE RF **1.355** RF RSD **19.99** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	109139	0.521	10.97
9J24043-CALD	50	110020	0.525	10.97
9J24043-CALE	50	116770	0.529	10.97
9J24043-CALF	50	115043	0.536	10.97
9J24043-CALG	50	126230	0.539	10.97
9J24043-CALH	50	120135	0.555	10.97
9J24043-CALI	50	131653	0.563	10.97
9J24043-CALJ	50	134509	0.574	10.97

AVE RF **0.543** RF RSD **3.54** AVE RT **10.97**

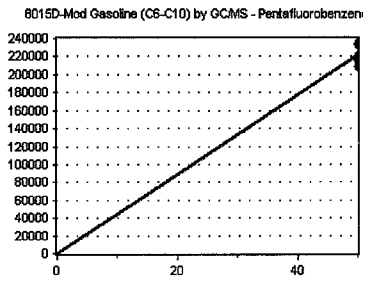
Element Calibration Review Sheet

Calibration ID: **A9J2503** Instrument: **VOA-GCMS9** Calibration Date: **10/25/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **VI191025W.M VI191025G.M**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

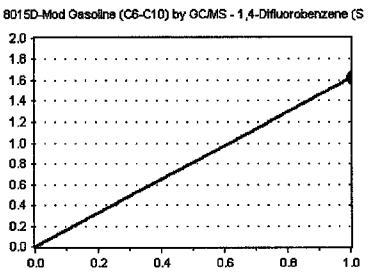


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	209290	4185.800	6.22
9J24043-CALD	50	209478	4189.560	6.22
9J24043-CALE	50	220921	4418.420	6.22
9J24043-CALF	50	214780	4295.600	6.22
9J24043-CALG	50	234293	4685.860	6.22
9J24043-CALH	50	216435	4328.700	6.22
9J24043-CALI	50	233849	4676.980	6.22
9J24043-CALJ	50	234183	4683.660	6.22

AVE RF **4433.073** RF RSD **4.95** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

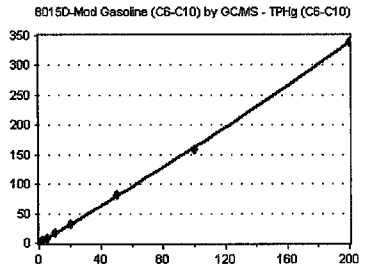


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	341977	1.634	6.78
9J24043-CALD	50	342473	1.635	6.78
9J24043-CALE	50	357958	1.620	6.78
9J24043-CALF	50	347086	1.616	6.78
9J24043-CALG	50	376297	1.606	6.78
9J24043-CALH	50	352248	1.628	6.78
9J24043-CALI	50	379658	1.624	6.78
9J24043-CALJ	50	384961	1.644	6.78

AVE RF **1.626** RF RSD **0.73** AVE RT **6.78**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

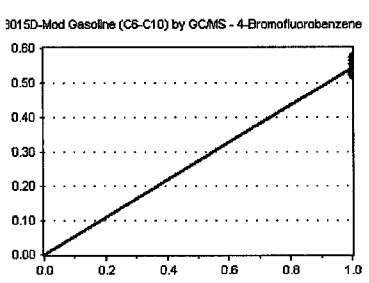


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	557886	2.666	9.89
9J24043-CALD	100	799328	1.908	9.89
9J24043-CALE	250	1839524	1.665	9.89
9J24043-CALF	500	3507779	1.633	9.89
9J24043-CALG	1000	7648071	1.632	9.89
9J24043-CALH	2500	1.778026E+07	1.643	9.89
9J24043-CALI	5000	3.735262E+07	1.597	9.89
9J24043-CALJ	10000	7.933946E+07	1.694	9.89

AVE RF **1.805** RF RSD **20.00** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	109139	0.521	10.97
9J24043-CALD	50	110020	0.525	10.97
9J24043-CALE	50	116770	0.529	10.97
9J24043-CALF	50	115043	0.536	10.97
9J24043-CALG	50	126230	0.539	10.97
9J24043-CALH	50	120135	0.555	10.97
9J24043-CALI	50	131653	0.563	10.97
9J24043-CALJ	50	134509	0.574	10.97

AVE RF **0.543** RF RSD **3.54** AVE RT **10.97**

Injection Log

Directory: v:\data\2019-10\9J24043

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	Vi19102414.d	1.	9J24043-IBL1	1X 5mL DI	24 Oct 2019 14:34
2	2	Vi19102415.d	1.	9J24043-TUN1	A19I040 BFB (IS/...	24 Oct 2019 15:01
3	3	Vi19102416.d	1.	9J24043-ICB1	1X 5mL DI	24 Oct 2019 15:28
4	4	Vi19102417.d	1.	9J24043-CAL1	1X 5mL 0.1/0.2...	24 Oct 2019 15:55
5	5	Vi19102418.d	1.	9J24043-CAL2	1X 5mL 0.2/0.4...	24 Oct 2019 16:21
6	6	Vi19102419.d	1.	9J24043-CAL3	1X 5mL 0.4/0.8...	24 Oct 2019 16:48
7	7	Vi19102420.d	1.	9J24043-CAL4	1X 5mL 1/2PPB ...	24 Oct 2019 17:15
8	8	Vi19102421.d	1.	9J24043-CAL5	1X 5mL 2/4PPB ...	24 Oct 2019 17:42
9	9	Vi19102422.d	1.	9J24043-CAL6	1X 5mL 5/10PPB...	24 Oct 2019 18:09
10	10	Vi19102423.d	1.	9J24043-CAL7	1X 5mL 10/20PP...	24 Oct 2019 18:36
11	11	Vi19102424.d	1.	9J24043-CAL8	1X 5mL 20/40PP...	24 Oct 2019 19:03
12	12	Vi19102425.d	1.	9J24043-CAL9	1X 5mL 50/100P...	24 Oct 2019 19:30
13	13	Vi19102426.d	1.	9J24043-IBL2	1X 5mL DI	24 Oct 2019 19:57
14	14	Vi19102427.d	1.	9J24043-CALA	1X 5mL 100/200...	24 Oct 2019 20:24
15	15	Vi19102428.d	1.	9J24043-IBL3	1X 5mL DI	24 Oct 2019 20:51
16	16	Vi19102429.d	1.	9J24043-CALB	1X 5mL 200/400...	24 Oct 2019 21:17
17	17	Vi19102430.d	1.	9J24043-IBL4	1X 5mL DI	24 Oct 2019 21:44
18	18	Vi19102431.d	1.	9J24043-IBL5	1X 5mL DI	24 Oct 2019 22:11
19	19	Vi19102432.d	1.	9J24043-ICV1	1X 5mL 20/40PP...	24 Oct 2019 22:38
20	20	Vi19102433.d	1.	9J24043-ICV2	1X 5mL 5/1250P...	24 Oct 2019 23:05
21	21	Vi19102434.d	1.	9J24043-IBL6	1X 5mL DI	24 Oct 2019 23:32
22	22	Vi19102435.d	1.	9J24043-TUN2	A19I040 BFB (IS/...	24 Oct 2019 23:59
23	23	Vi19102436.d	1.	9J24043-RT1	A18A167 VPH RT STD	25 Oct 2019 00:26
24	24	Vi19102437.d	1.	9J24043-IBL7	1X 5mL DI	25 Oct 2019 00:52
25	25	Vi19102438.d	1.	9J24043-ICB2	1X 5mL DI	25 Oct 2019 01:19
26	26	Vi19102439.d	1.	9J24043-CALC	1X 5mL 50PPB GX	25 Oct 2019 01:46
27	27	Vi19102440.d	1.	9J24043-CALD	1X 5mL 100PPB GX	25 Oct 2019 02:13
28	28	Vi19102441.d	1.	9J24043-CALE	1X 5mL 250PPB GX	25 Oct 2019 02:40
29	29	Vi19102442.d	1.	9J24043-CALF	1X 5mL 500PPB GX	25 Oct 2019 03:07
30	30	Vi19102443.d	1.	9J24043-CALG	1X 5mL 1000PPB GX	25 Oct 2019 03:34
31	31	Vi19102444.d	1.	9J24043-CALH	1X 5mL 2500PPB GX	25 Oct 2019 04:00
32	32	Vi19102445.d	1.	9J24043-CALI	1X 5mL 5000PPB GX	25 Oct 2019 04:27
33	33	Vi19102446.d	1.	9J24043-CALJ	1X 5mL 10000PP...	25 Oct 2019 04:54
34	34	Vi19102447.d	1.	9J24043-IBL8	1X 5mL DI	25 Oct 2019 05:21
35	35	Vi19102448.d	1.	9J24043-IBL9	1X 5mL DI	25 Oct 2019 05:48
36	36	Vi19102449.d	1.	9J24043-ICV3	1X 5mL 500PPB GX	25 Oct 2019 06:15
37	37	Vi19102450.d	1.	9J24043-IBLA	1X 5mL DI	25 Oct 2019 06:42

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102414.D
Acq On : 24 Oct 2019 2:34 pm
Operator : MM
Sample : 9J24043-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

NR

Quant Time: Oct 25 08:52:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

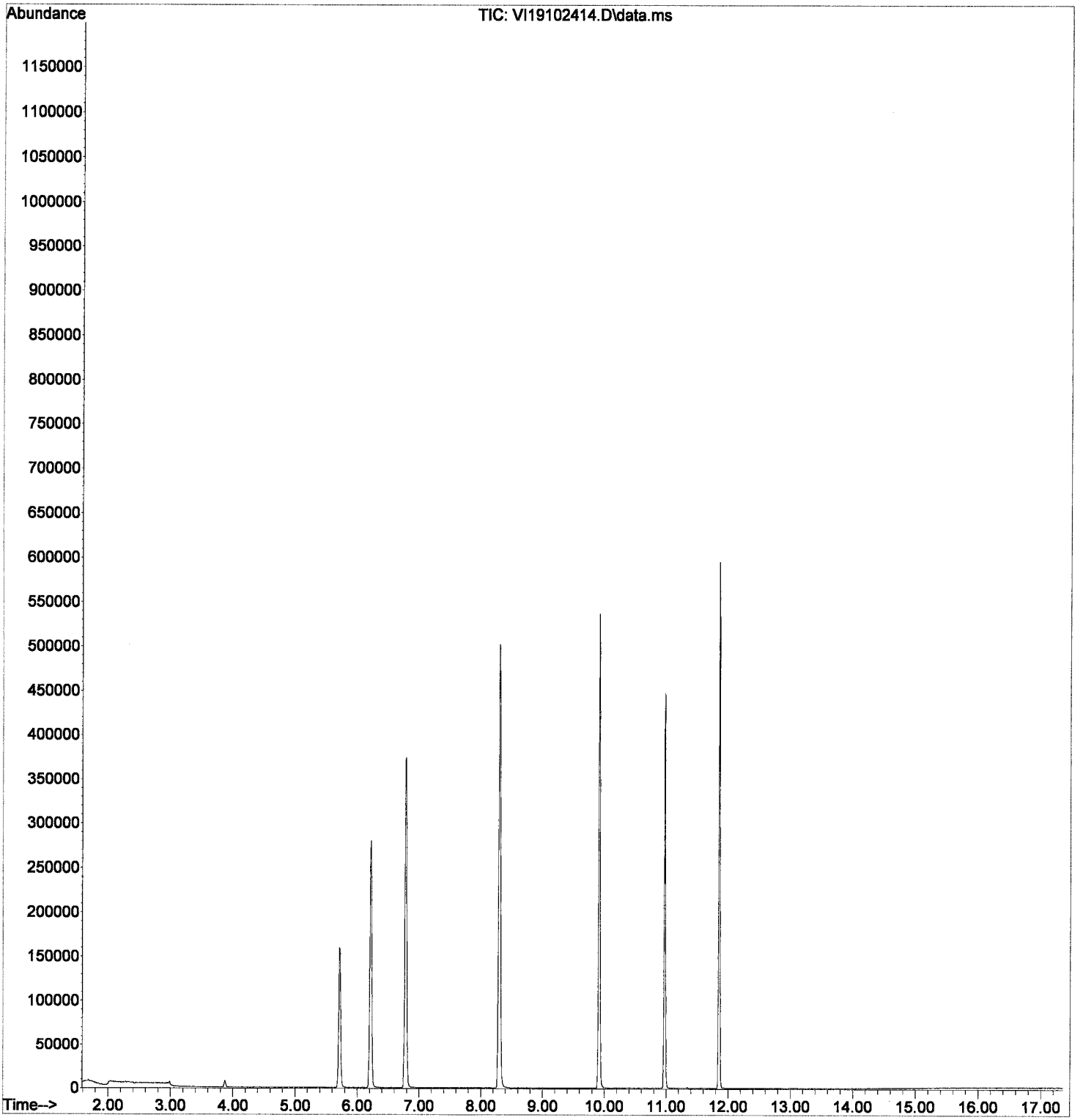
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	116268	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.909	117	306026	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	138672	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	110907	48.55	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	362815	49.39	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	408743	50.89	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	116096	51.81	ug/L	0.00
Target Compounds						Qvalue
6) Chloroethane	2.451	64	166	0.14	ug/L	# 58
14) Methylene Chloride	3.868	84	3943	0.99	ug/L	87
15) Acetone	3.948	43	891	0.87	ug/L	93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102414.D
Acq On : 24 Oct 2019 2:34 pm
Operator : MM
Sample : 9J24043-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:04 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

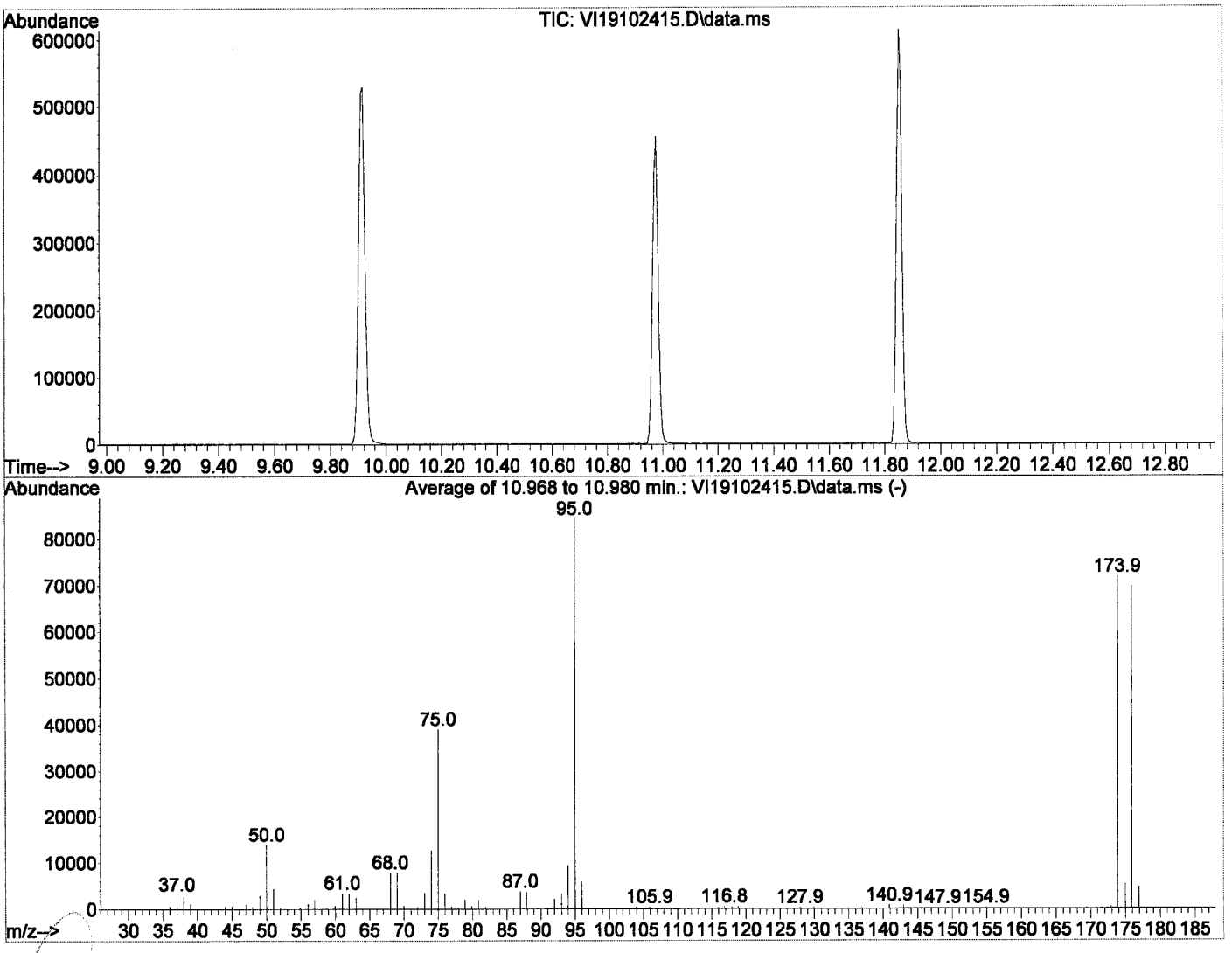


BFB

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102415.D
Acq On : 24 Oct 2019 3:01 pm
Operator : MM
Sample : 9J24043-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VI191025W.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Oct 25 08:32:21 2019



AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1536

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	117.9	84595	PASS
96	95	5	9	6.8	5736	PASS
173	174	0.00	2	0.4	280	PASS
174	95	50	200	84.8	71757	PASS
175	174	5	9	7.2	5145	PASS
176	174	95	105	97.0	69587	PASS
177	176	5	10	6.5	4525	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102415.D
Acq On : 24 Oct 2019 3:01 pm
Operator : MM
Sample : 9J24043-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

M 10/25/19

Quant Time: Oct 25 08:52:12 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

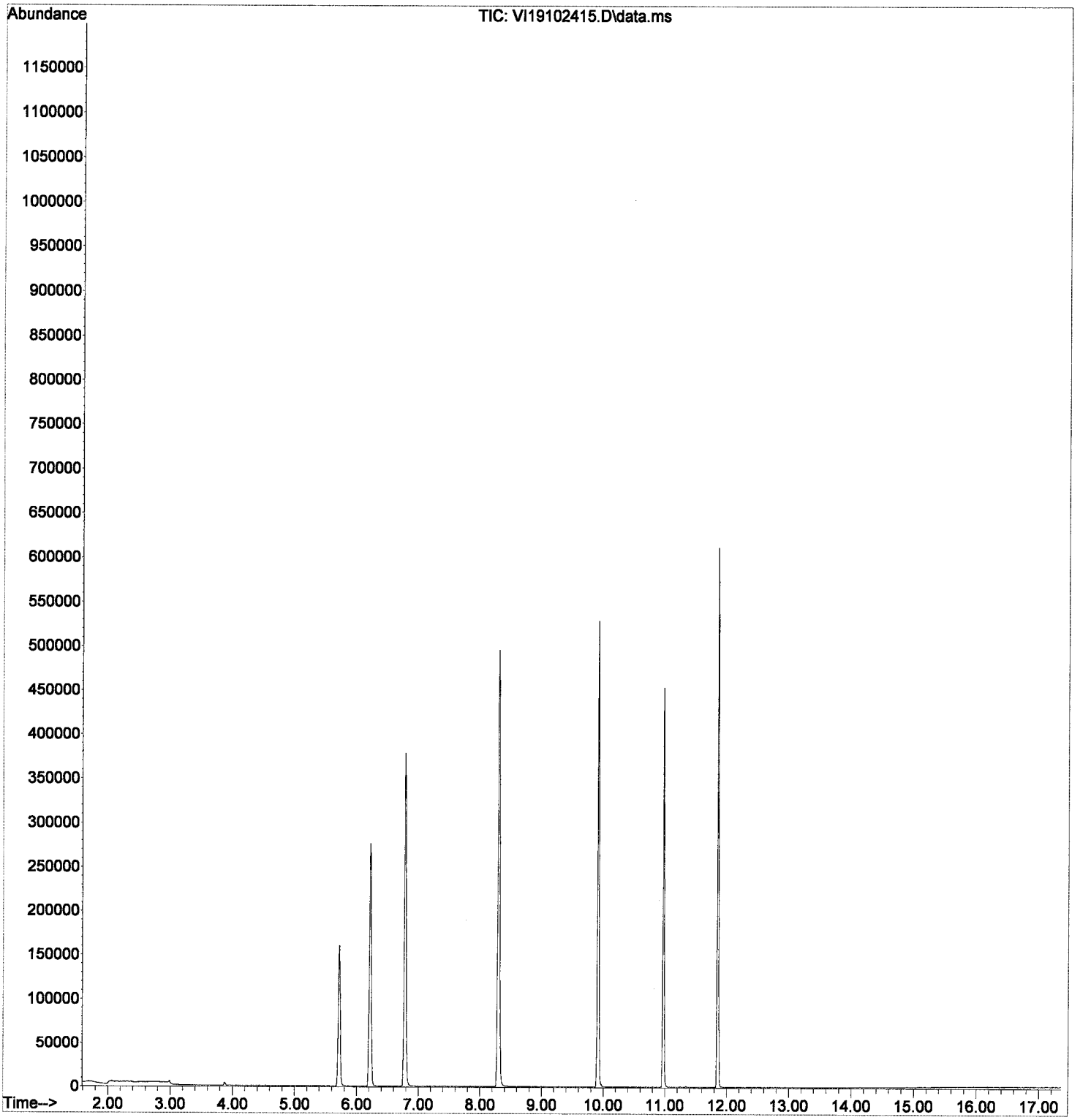
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	115135	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	306446	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	141323	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	110753	48.96	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	360182	49.52	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	404469	50.29	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	115450	50.56	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.904	50	226	0.09	ug/L	#	47
6) Chloroethane	2.463	64	432	0.38	ug/L	#	36
14) Methylene Chloride	3.875	84	1793	Below Cal		#	76
15) Acetone	3.948	43	857	0.85	ug/L	#	44
19) tert-Butanol (TBA)	4.307	59	115	0.26	ug/L		46

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102415.D
Acq On : 24 Oct 2019 3:01 pm
Operator : MM
Sample : 9J24043-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:12 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102416.D
Acq On : 24 Oct 2019 3:28 pm
Operator : MM
Sample : 9J24043-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

10/25/19

Quant Time: Oct 25 08:52:24 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

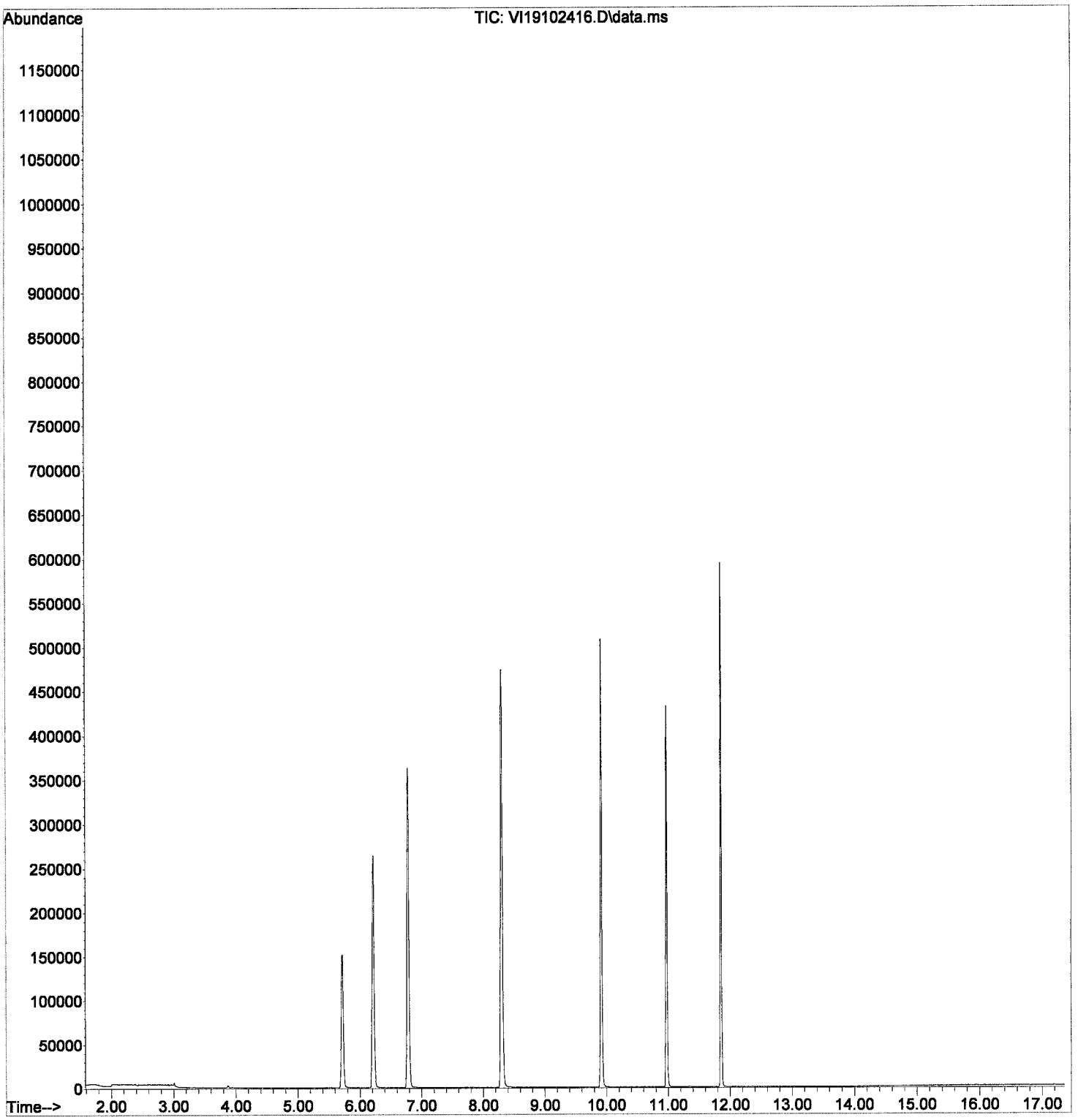
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	109157	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	292802	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	134268	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	106415	49.62	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.782	114	343590	49.82	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	387024	50.36	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	109949	50.68	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.897	50	228	0.10	ug/L	#	47
6) Chloroethane	2.530	64	212	0.19	ug/L	#	36
14) Methylene Chloride	3.868	84	1359	Below Cal			85
15) Acetone	3.948	43	763	0.80	ug/L	#	44

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102416.D
Acq On : 24 Oct 2019 3:28 pm
Operator : MM
Sample : 9J24043-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:24 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102417.D
Acq On : 24 Oct 2019 3:55 pm
Operator : MM
Sample : 9J24043-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:17:09 2019
Quant Method : C:\msdchem\1\methods\~~VI191025W~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	116102	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.909	117	307577	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	139681	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	111441	46.79	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	364447	54.80	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	406288	51.17	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	116090	51.67	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	1.897	50	479	0.18	ug/L	91
4) Vinyl Chloride	0.000		0	N.D.	d	
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.	d	
8) Ethanol	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.	d	
10) Carbon Disulfide	0.000		0	N.D.	d	
11) Freon 113	0.000		0	N.D.		
12) Iodomethane	0.000		0	N.D.		
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	3.875	84	2024	Below Cal		84
15) Acetone	0.000		0	N.D.	d	
16) t-1,2-Dichloroethene	0.000		0	N.D.		
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.	d	
19) tert-Butanol (TBA)	4.300	59	2472	6.89	ug/L	83
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.	d	
22) Acrylonitrile	0.000		0	N.D.		
23) Ethyl-tert-butyl ether...	0.000		0	N.D.		
24) Vinyl Acetate	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	0.000		0	N.D.		
31) 1,1,1-Trichloroethane	0.000		0	N.D.		
33) 1,1-Dichloropropene	0.000		0	N.D.		
34) 2-Butanone (MEK)	0.000		0	N.D.	d	
35) Benzene	6.132	78	917	0.12	ug/L	55
36) tert-Amyl methyl ether...	0.000		0	N.D.		
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	d	
38) iso-Butyl Alcohol	0.000		0	N.D.		
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.		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102417.D
Acq On : 24 Oct 2019 3:55 pm
Operator : MM
Sample : 9J24043-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:17:09 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.358	91	978	0.11	ug/L	85
50) Tetrachloroethene (PCE)	0.000		0	N.D.		
51) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	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.	d	
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
57) 2-Hexanone	0.000		0	N.D.		
58) Chlorobenzene	9.934	112	480	0.09	ug/L #	35
59) Ethylbenzene	9.952	91	942	0.10	ug/L	91
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
61) m,p-Xylenes (2)	10.086	91	1368	0.27	ug/L	84
62) o-Xylene	10.469	91	585	0.15	ug/L	89
63) Styrene	0.000		0	N.D.	d	
64) Bromoform	0.000		0	N.D.		
65) Isopropylbenzene	0.000		0	N.D.	d	
68) Bromobenzene	11.059	156	124	0.06	ug/L #	82
69) n-Propylbenzene	11.078	91	873	0.10	ug/L	58
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71) 2-Chlorotoluene	0.000		0	N.D.		
72) 1,3,5-Trimethylbenzene	11.230	105	556	0.10	ug/L	92
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	0.000		0	N.D.	d	
76) tert-Butylbenzene	0.000		0	N.D.	d	
77) 1,2,4-Trimethylbenzene	11.540	105	536	0.17	ug/L	80
78) sec-Butylbenzene	0.000		0	N.D.	d	
79) 4-Isopropyltoluene	11.728	119	481	0.20	ug/L	68
80) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
81) 1,4-Dichlorobenzene	11.868	146	311	0.08	ug/L #	41
82) n-Butylbenzene	12.045	91	379	0.08	ug/L	81
83) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
85) Hexachlorobutadiene	0.000		0	N.D.		
86) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
87) Naphthalene	0.000		0	N.D.	d	
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\2019-10\9J24043\
Data File : VI19102417.D
Acq On : 24 Oct 2019 3:55 pm
Operator : MM
Sample : 9J24043-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:12 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	116102	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.909	117	307577	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	139681	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	111441	46.79	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	364447	54.80	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	406288	51.17	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	116090	51.67	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	1.897	50	479	0.18	ug/L		91
4) Vinyl Chloride	2.001	62	158	0.07	ug/L	#	50
5) Bromomethane	2.372	96	279	0.15	ug/L	#	64
6) Chloroethane	2.506	64	114	0.09	ug/L	#	61
7) Trichlorofluoromethane	2.676	101	188	0.05	ug/L	#	27
8) Ethanol	3.236	45	213	4.59	ug/L	#	29
9) 1,1-Dichloroethene	3.236	61	133	0.05	ug/L	#	28
10) Carbon Disulfide	3.254	76	531	0.11	ug/L		78
11) Freon 113	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	0.000		0	N.D.			
14) Methylene Chloride	3.875	84	2024	Below Cal			84
15) Acetone	3.948	43	877	0.88	ug/L	#	44
16) t-1,2-Dichloroethene	0.000		0	N.D.			
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.167	73	444	0.08	ug/L		63
19) tert-Butanol (TBA)	4.300	59	2472	6.89	ug/L		83
20) Diisopropyl ether (DIPE)	0.000		0	N.D.			
21) 1,1-Dichloroethane	4.690	63	147	0.04	ug/L	#	48
22) Acrylonitrile	0.000		0	N.D.			
23) Ethyl-tert-butyl ether...	0.000		0	N.D.			
24) Vinyl Acetate	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	0.000		0	N.D.			
31) 1,1,1-Trichloroethane	0.000		0	N.D.			
33) 1,1-Dichloropropene	0.000		0	N.D.			
34) 2-Butanone (MEK)	5.882	43	122	0.08	ug/L		52
35) Benzene	6.132	78	917	0.12	ug/L		55
36) tert-Amyl methyl ether...	0.000		0	N.D.			
37) 1,2-Dichloroethane (EDC)	6.345	62	176	0.05	ug/L		54
38) iso-Butyl Alcohol	0.000		0	N.D.			
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.			

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102417.D
Acq On : 24 Oct 2019 3:55 pm
Operator : MM
Sample : 9J24043-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:12 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

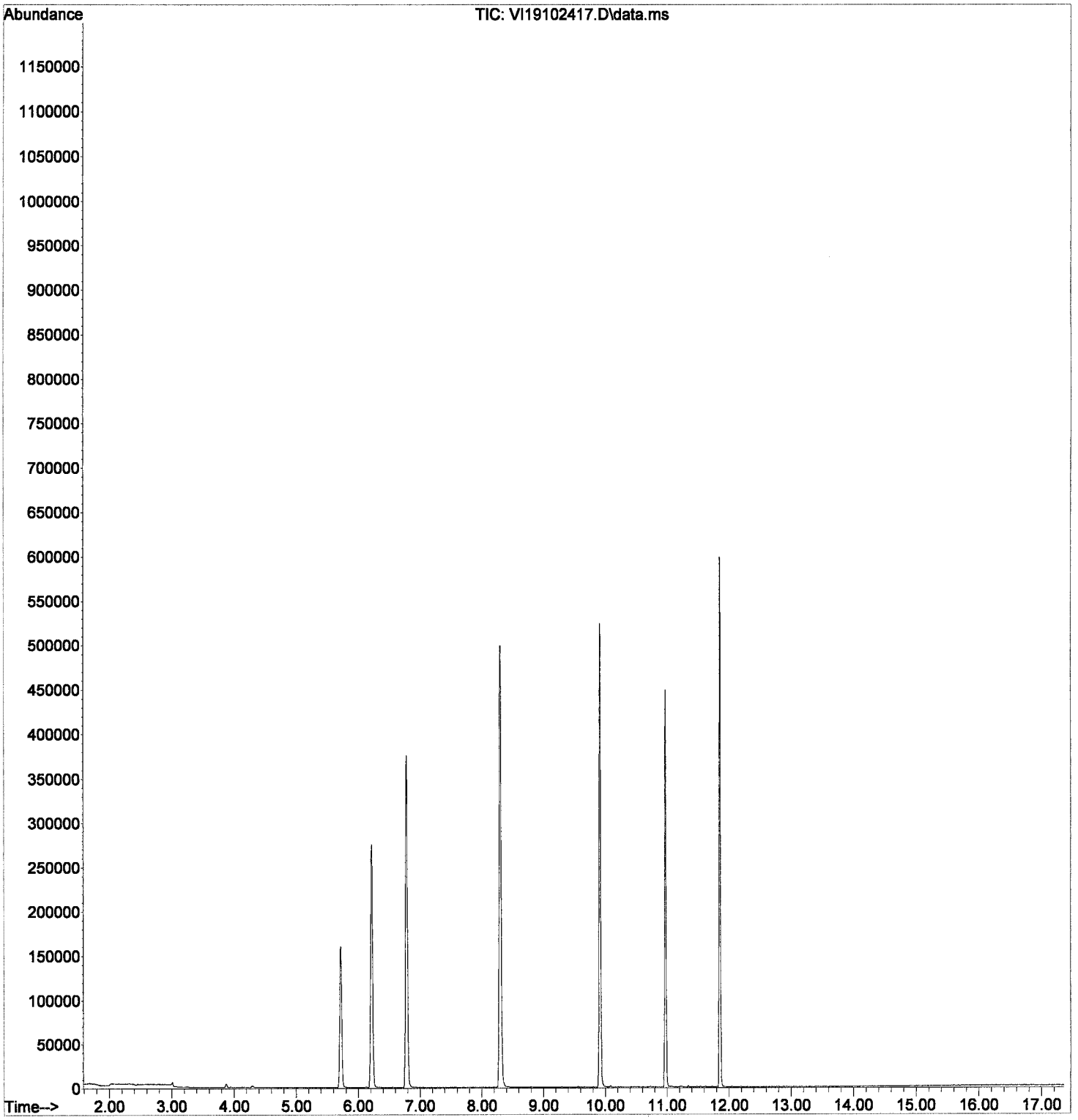
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	978	0.11	ug/L		85
50) Tetrachloroethene (PCE)	0.000		0	N.D.			
51) 4-Methyl-2-Pentanone (...	8.808	43	433	0.16	ug/L	#	43
52) t-1,3-Dichloropropene	0.000		0	N.D.			
53) 1,1,2-Trichloroethane	0.000		0	N.D.			
54) Dibromochloromethane	0.000		0	N.D.			
55) 1,3-Dichloropropane	9.289	76	204	0.06	ug/L	#	27
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.			
57) 2-Hexanone	0.000		0	N.D.			
58) Chlorobenzene	9.934	112	480	0.09	ug/L	#	35
59) Ethylbenzene	9.952	91	942	0.10	ug/L		91
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
61) m,p-Xylenes (2)	10.086	91	1368	0.27	ug/L		84
62) o-Xylene	10.469	91	585	0.15	ug/L		89
63) Styrene	10.524	104	329	0.22	ug/L	#	42
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.731	105	805	0.22	ug/L		54
68) Bromobenzene	11.059	156	124	0.06	ug/L	#	82
69) n-Propylbenzene	11.078	91	873	0.10	ug/L		58
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.			
71) 2-Chlorotoluene	0.000		0	N.D.			
72) 1,3,5-Trimethylbenzene	11.230	105	556	0.10	ug/L		92
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	11.339	91	458	0.09	ug/L	#	45
76) tert-Butylbenzene	11.485	91	177	0.06	ug/L	#	74
77) 1,2,4-Trimethylbenzene	11.540	105	536	0.17	ug/L		80
78) sec-Butylbenzene	11.619	105	687	0.10	ug/L		59
79) 4-Isopropyltoluene	11.728	119	481	0.20	ug/L		68
80) 1,3-Dichlorobenzene	11.801	146	273	0.08	ug/L	#	76
81) 1,4-Dichlorobenzene	11.868	146	311	0.08	ug/L	#	41
82) n-Butylbenzene	12.045	91	379	0.08	ug/L		81
83) 1,2-Dichlorobenzene	12.185	146	241	0.07	ug/L	#	25
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	0.000		0	N.D.			
87) Naphthalene	13.633	128	452	0.48	ug/L		81
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\2019-10\9J24043\
Data File : VI19102417.D
Acq On : 24 Oct 2019 3:55 pm
Operator : MM
Sample : 9J24043-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:12 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102418.D
Acq On : 24 Oct 2019 4:21 pm
Operator : MM
Sample : 9J24043-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:19:21 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	114788	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	302974	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	135021	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	110610	46.98	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	359462	54.66	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	403793	51.63	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	113180	52.11	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d	
3) Chloromethane	1.904	50	669	0.25	ug/L	89
4) Vinyl Chloride	2.007	62	406	0.17	ug/L	91
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.	d	
8) Ethanol	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.	d	
10) Carbon Disulfide	0.000		0	N.D.	d	
11) Freon 113	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.		
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	3.875	84	2201	Below Cal		87
15) Acetone	3.954	43	1168	1.18	ug/L	93
16) t-1,2-Dichloroethene	4.045	61	360	0.14	ug/L	74
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.	d	
19) tert-Butanol (TBA)	4.300	59	4690	13.22	ug/L	91
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.	d	
22) Acrylonitrile	0.000		0	N.D.		
23) Ethyl-tert-butyl ether...	0.000		0	N.D.		
24) Vinyl Acetate	0.000		0	N.D.	d	
25) c-1,2-Dichloroethene	0.000		0	N.D.	d	
26) 2,2-Dichloropropane	0.000		0	N.D.	d	
27) Bromochloromethane	0.000		0	N.D.		
28) Chloroform	5.529	83	587	0.15	ug/L	74
29) Carbon Tetrachloride	0.000		0	N.D.	d	
30) Tetrahydrofuran	0.000		0	N.D.		
31) 1,1,1-Trichloroethane	0.000		0	N.D.	d	
33) 1,1-Dichloropropene	0.000		0	N.D.	d	
34) 2-Butanone (MEK)	0.000		0	N.D.	d	
35) Benzene	6.126	78	1584	0.20	ug/L	77
36) tert-Amyl methyl ether...	0.000		0	N.D.		
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	d	
38) iso-Butyl Alcohol	0.000		0	N.D.	d	
40) Trichloroethene (TCE)	6.752	130	372	0.19	ug/L #	75
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.		
42) Dibromomethane	0.000		0	N.D.	d	
43) 1,2-Dichloropropane	0.000		0	N.D.	d	
44) Bromodichloromethane	0.000		0	N.D.	d	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102418.D
Acq On : 24 Oct 2019 4:21 pm
Operator : MM
Sample : 9J24043-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:19:21 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.352	91	1744	0.21	ug/L		93
50) Tetrachloroethene (PCE)	8.808	166	267	0.14	ug/L	#	25
51) 4-Methyl-2-Pentanone (...	8.796	43	890	0.33	ug/L		85
52) t-1,3-Dichloropropene	0.000		0	N.D.	d		
53) 1,1,2-Trichloroethane	9.009	97	288	0.14	ug/L	#	10
54) Dibromochloromethane	0.000		0	N.D.			
55) 1,3-Dichloropropane	9.289	76	568	0.17	ug/L		84
56) 1,2-Dibromoethane (EDB)	9.423	107	279	0.13	ug/L		84
57) 2-Hexanone	0.000		0	N.D.	d		
58) Chlorobenzene	9.928	112	1045	0.19	ug/L	#	25
59) Ethylbenzene	9.952	91	1835	0.21	ug/L		93
60) 1,1,1,2-Tetrachloroethane	9.989	131	129	0.07	ug/L	#	74
61) m,p-Xylenes (2)	10.086	91	2470	0.45	ug/L		93
62) o-Xylene	10.469	91	1221	0.26	ug/L		90
63) Styrene	10.518	104	754	0.31	ug/L		82
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.737	105	1347	0.29	ug/L		86
68) Bromobenzene	11.059	156	432	0.22	ug/L		89
69) n-Propylbenzene	11.078	91	1649	0.19	ug/L		94
70) 1,1,2,2-Tetrachloroethane	11.138	85	305	0.17	ug/L	#	75
71) 2-Chlorotoluene	0.000		0	N.D.	d		
72) 1,3,5-Trimethylbenzene	11.230	105	1127	0.20	ug/L		79
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	11.339	91	1020	0.20	ug/L		80
76) tert-Butylbenzene	11.485	91	602	0.19	ug/L	#	77
77) 1,2,4-Trimethylbenzene	11.540	105	1066	0.27	ug/L		83
78) sec-Butylbenzene	11.619	105	1301	0.19	ug/L		81
79) 4-Isopropyltoluene	11.722	119	919	0.29	ug/L		98
80) 1,3-Dichlorobenzene	11.802	146	629	0.18	ug/L		91
81) 1,4-Dichlorobenzene	11.862	146	725	0.19	ug/L	#	31
82) n-Butylbenzene	12.045	91	805	0.17	ug/L		79
83) 1,2-Dichlorobenzene	12.185	146	624	0.19	ug/L		90
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.347	180	244	0.16	ug/L		66
87) Naphthalene	13.627	128	924	0.58	ug/L		81
88) 1,2,3-Trichlorobenzene	13.791	180	261	0.17	ug/L		76

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102418.D
Acq On : 24 Oct 2019 4:21 pm
Operator : MM
Sample : 9J24043-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:16 2019
Quant Method : C:\msdchem\1\methods\VI~~191025W~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	114788	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	302974	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	135021	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	110610	46.98	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	359462	54.66	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	403793	51.63	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	113180	52.11	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	202	0.09	ug/L	#	49
3) Chloromethane	1.904	50	669	0.25	ug/L		89
4) Vinyl Chloride	2.007	62	406	0.17	ug/L		91
5) Bromomethane	2.366	96	403	0.22	ug/L	#	8
6) Chloroethane	2.512	64	534	0.44	ug/L	#	62
7) Trichlorofluoromethane	2.670	101	442	0.12	ug/L	#	76
8) Ethanol	3.242	45	573	12.50	ug/L	#	29
9) 1,1-Dichloroethene	3.236	61	354	0.12	ug/L	#	62
10) Carbon Disulfide	3.260	76	912	0.19	ug/L		78
11) Freon 113	3.297	101	119	0.06	ug/L	#	19
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	0.000		0	N.D.			
14) Methylene Chloride	3.875	84	2201	Below Cal			87
15) Acetone	3.954	43	1168	1.18	ug/L		93
16) t-1,2-Dichloroethene	4.045	61	360	0.14	ug/L		74
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.167	73	1035	0.18	ug/L		63
19) tert-Butanol (TBA)	4.300	59	4690	13.22	ug/L		91
20) Diisopropyl ether (DIPE)	0.000		0	N.D.			
21) 1,1-Dichloroethane	4.690	63	650	0.18	ug/L	#	48
22) Acrylonitrile	0.000		0	N.D.			
23) Ethyl-tert-butyl ether...	0.000		0	N.D.			
24) Vinyl Acetate	4.982	43	476	0.11	ug/L		74
25) c-1,2-Dichloroethene	5.243	61	345	0.12	ug/L	#	70
26) 2,2-Dichloropropane	5.359	77	299	0.12	ug/L	#	30
27) Bromochloromethane	0.000		0	N.D.			
28) Chloroform	5.529	83	587	0.15	ug/L		74
29) Carbon Tetrachloride	5.675	117	123	0.05	ug/L	#	14
30) Tetrahydrofuran	0.000		0	N.D.			
31) 1,1,1-Trichloroethane	5.730	97	415	0.13	ug/L	#	25
33) 1,1-Dichloropropene	5.864	75	388	0.15	ug/L	#	43
34) 2-Butanone (MEK)	5.876	43	395	0.26	ug/L		52
35) Benzene	6.126	78	1584	0.20	ug/L		77
36) tert-Amyl methyl ether...	0.000		0	N.D.			
37) 1,2-Dichloroethane (EDC)	6.351	62	371	0.12	ug/L		54
38) iso-Butyl Alcohol	6.387	43	468	3.43	ug/L		89
40) Trichloroethene (TCE)	6.752	130	372	0.19	ug/L	#	75
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.			
42) Dibromomethane	7.196	93	115	0.08	ug/L	#	2
43) 1,2-Dichloropropane	7.312	63	259	0.12	ug/L	#	35
44) Bromodichloromethane	7.379	83	222	0.08	ug/L	#	27
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.			
47) c-1,3-Dichloropropene	8.097	75	326	0.11	ug/L	#	31

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102418.D
Acq On : 24 Oct 2019 4:21 pm
Operator : MM
Sample : 9J24043-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:16 2019
Quant Method : C:\msdchem\1\methods\~~VI191025W~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

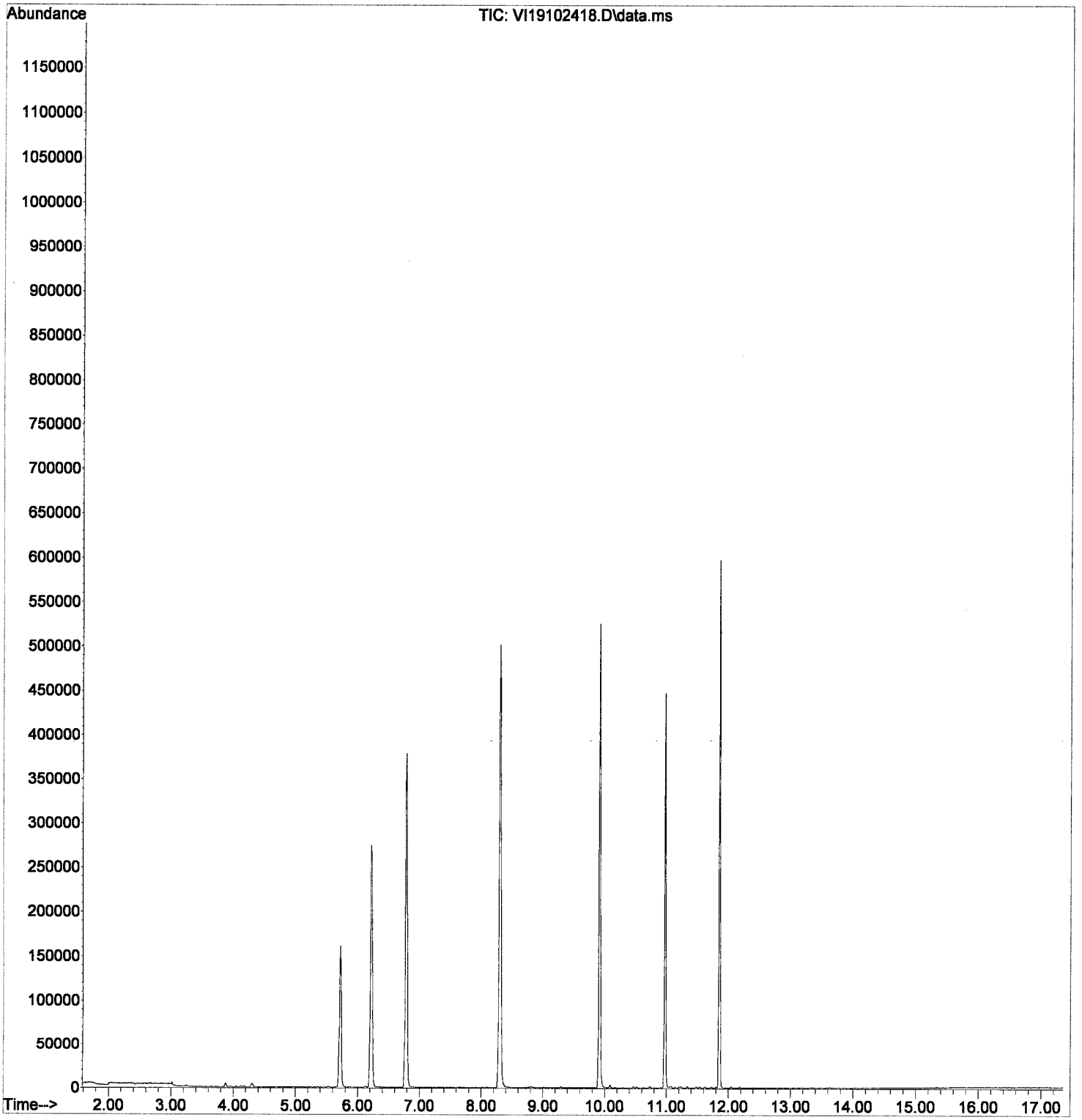
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.352	91	1744	0.21	ug/L		93
50) Tetrachloroethene (PCE)	8.808	166	267	0.14	ug/L	#	25
51) 4-Methyl-2-Pentanone (...	8.796	43	890	0.33	ug/L		85
52) t-1,3-Dichloropropene	8.839	75	300	0.11	ug/L	#	45
53) 1,1,2-Trichloroethane	9.009	97	288	0.14	ug/L	#	10
54) Dibromochloromethane	0.000		0	N.D.			
55) 1,3-Dichloropropane	9.289	76	568	0.17	ug/L		84
56) 1,2-Dibromoethane (EDB)	9.423	107	279	0.13	ug/L		84
57) 2-Hexanone	9.666	43	516	0.27	ug/L	#	35
58) Chlorobenzene	9.928	112	1045	0.19	ug/L	#	25
59) Ethylbenzene	9.952	91	1835	0.21	ug/L		93
60) 1,1,1,2-Tetrachloroethane	9.989	131	129	0.07	ug/L	#	74
61) m,p-Xylenes (2)	10.086	91	2470	0.45	ug/L		93
62) o-Xylene	10.469	91	1221	0.26	ug/L		90
63) Styrene	10.518	104	754	0.31	ug/L		82
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.737	105	1347	0.29	ug/L		86
68) Bromobenzene	11.059	156	432	0.22	ug/L		89
69) n-Propylbenzene	11.078	91	1649	0.19	ug/L		94
70) 1,1,2,2-Tetrachloroethane	11.138	85	305	0.17	ug/L	#	75
71) 2-Chlorotoluene	11.211	126	229	0.14	ug/L	#	88
72) 1,3,5-Trimethylbenzene	11.230	105	1127	0.20	ug/L		79
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	11.339	91	1020	0.20	ug/L		80
76) tert-Butylbenzene	11.485	91	602	0.19	ug/L	#	77
77) 1,2,4-Trimethylbenzene	11.540	105	1066	0.27	ug/L		83
78) sec-Butylbenzene	11.619	105	1301	0.19	ug/L		81
79) 4-Isopropyltoluene	11.722	119	919	0.29	ug/L		98
80) 1,3-Dichlorobenzene	11.802	146	629	0.18	ug/L		91
81) 1,4-Dichlorobenzene	11.862	146	725	0.19	ug/L	#	31
82) n-Butylbenzene	12.045	91	805	0.17	ug/L		79
83) 1,2-Dichlorobenzene	12.185	146	624	0.19	ug/L		90
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.347	180	244	0.16	ug/L		66
87) Naphthalene	13.627	128	924	0.58	ug/L		81
88) 1,2,3-Trichlorobenzene	13.791	180	261	0.17	ug/L		76

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102418.D
Acq On : 24 Oct 2019 4:21 pm
Operator : MM
Sample : 9J24043-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:16 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102419.D
Acq On : 24 Oct 2019 4:48 pm
Operator : MM
Sample : 9J24043-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:21:58 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	111985	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	294372	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	134501	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	108083	47.05	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.777	114	352302	54.92	ug/L		-0.01
48) Toluene-d8 (S)	8.297	98	396027	52.12	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	112304	51.91	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.672	85	562	0.26	ug/L		90
3) Chloromethane	1.891	50	1136	0.44	ug/L		91
4) Vinyl Chloride	1.995	62	967	0.42	ug/L		83
5) Bromomethane	2.360	96	839	0.47	ug/L		69
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	2.664	101	958	0.26	ug/L		86
8) Ethanol	3.230	45	1315	29.40	ug/L		96
9) 1,1-Dichloroethene	3.230	61	1038	0.37	ug/L		87
10) Carbon Disulfide	0.000		0	N.D.	d		
11) Freon 113	0.000		0	N.D.	d		
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	0.000		0	N.D.			
14) Methylene Chloride	3.869	84	2646	Below Cal			89
15) Acetone	3.948	43	1616	1.67	ug/L		96
16) t-1,2-Dichloroethene	4.039	61	963	0.38	ug/L		98
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.167	73	2309	0.41	ug/L		94
19) tert-Butanol (TBA)	4.294	59	10086	29.13	ug/L		91
20) Diisopropyl ether (DIPE)	4.562	45	638	0.11	ug/L		76
21) 1,1-Dichloroethane	4.684	63	1323	0.37	ug/L		87
22) Acrylonitrile	0.000		0	N.D.	d		
23) Ethyl-tert-butyl ether...	0.000		0	N.D.	d		
24) Vinyl Acetate	0.000		0	N.D.	d		
25) c-1,2-Dichloroethene	5.244	61	1008	0.36	ug/L		91
26) 2,2-Dichloropropane	5.347	77	853	0.34	ug/L		76
27) Bromochloromethane	5.444	130	391	0.28	ug/L		94
28) Chloroform	5.529	83	1292	0.34	ug/L		95
29) Carbon Tetrachloride	5.651	117	618	0.24	ug/L		90
30) Tetrahydrofuran	0.000		0	N.D.	d		
31) 1,1,1-Trichloroethane	5.730	97	1012	0.32	ug/L		93
33) 1,1-Dichloropropene	5.870	75	1049	0.41	ug/L	#	43
34) 2-Butanone (MEK)	0.000		0	N.D.	d		
35) Benzene	6.120	78	3381	0.44	ug/L		99
36) tert-Amyl methyl ether...	6.247	73	580	0.11	ug/L	#	21
37) 1,2-Dichloroethane (EDC)	6.332	62	1073	0.34	ug/L		54
38) iso-Butyl Alcohol	6.387	43	1172	8.80	ug/L		84
40) Trichloroethene (TCE)	6.746	130	718	0.37	ug/L		74
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.			
42) Dibromomethane	7.202	93	378	0.27	ug/L		86
43) 1,2-Dichloropropane	7.312	63	797	0.38	ug/L		95
44) Bromodichloromethane	7.379	83	800	0.29	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.036	63	359	1.00	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	1014	0.36	ug/L		89

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102419.D
Acq On : 24 Oct 2019 4:48 pm
Operator : MM
Sample : 9J24043-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:21:58 2019
Quant Method : C:\msdchem\1\methods\~~VI191025~~W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	3505	0.43	ug/L		93
50) Tetrachloroethene (PCE)	8.796	166	787	0.42	ug/L		94
51) 4-Methyl-2-Pentanone (...	8.808	43	1912	0.73	ug/L		91
52) t-1,3-Dichloropropene	8.839	75	610	0.22	ug/L	#	45
53) 1,1,2-Trichloroethane	9.003	97	717	0.36	ug/L		82
54) Dibromochloromethane	9.186	129	505	0.24	ug/L		86
55) 1,3-Dichloropropane	9.289	76	1253	0.38	ug/L		95
56) 1,2-Dibromoethane (EDB)	9.423	107	615	0.30	ug/L		96
57) 2-Hexanone	9.660	43	1346	0.71	ug/L		91
58) Chlorobenzene	9.928	112	2226	0.43	ug/L	#	64
59) Ethylbenzene	9.952	91	3584	0.42	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.989	131	470	0.26	ug/L	#	66
61) m,p-Xylenes (2)	10.086	91	5197	0.91	ug/L		96
62) o-Xylene	10.469	91	2605	0.49	ug/L		93
63) Styrene	10.518	104	1656	0.51	ug/L		93
64) Bromoform	0.000		0	N.D.	d		
65) Isopropylbenzene	10.731	105	3067	0.54	ug/L		92
68) Bromobenzene	11.059	156	875	0.45	ug/L		92
69) n-Propylbenzene	11.078	91	3544	0.42	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.139	85	671	0.38	ug/L		87
71) 2-Chlorotoluene	11.205	126	719	0.43	ug/L		98
72) 1,3,5-Trimethylbenzene	11.230	105	2289	0.41	ug/L		92
73) 1,2,3-Trichloropropane	11.248	110	271	0.32	ug/L		91
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
75) 4-Chlorotoluene	11.339	91	2178	0.44	ug/L		99
76) tert-Butylbenzene	11.485	91	1248	0.40	ug/L		99
77) 1,2,4-Trimethylbenzene	11.540	105	2387	0.51	ug/L		98
78) sec-Butylbenzene	11.619	105	2990	0.44	ug/L		97
79) 4-Isopropyltoluene	11.729	119	2236	0.56	ug/L		92
80) 1,3-Dichlorobenzene	11.802	146	1412	0.41	ug/L		95
81) 1,4-Dichlorobenzene	11.862	146	1564	0.42	ug/L	#	54
82) n-Butylbenzene	12.045	91	1867	0.40	ug/L		85
83) 1,2-Dichlorobenzene	12.185	146	1284	0.39	ug/L		95
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.347	180	615	0.40	ug/L		89
87) Naphthalene	13.633	128	2009	0.81	ug/L		81
88) 1,2,3-Trichlorobenzene	13.779	180	687	0.45	ug/L		72

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102419.D
Acq On : 24 Oct 2019 4:48 pm
Operator : MM
Sample : 9J24043-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:19 2019
Quant Method : C:\msdchem\1\methods\~~VI191025~~W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	111985	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	294372	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	134501	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	108083	47.05	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.777	114	352302	54.92	ug/L		-0.01
48) Toluene-d8 (S)	8.297	98	396027	52.12	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	112304	51.91	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.672	85	562	0.26	ug/L		90
3) Chloromethane	1.891	50	1136	0.44	ug/L		91
4) Vinyl Chloride	1.995	62	967	0.42	ug/L		83
5) Bromomethane	2.360	96	839	0.47	ug/L		69
6) Chloroethane	2.512	64	672	0.57	ug/L	#	66
7) Trichlorofluoromethane	2.664	101	958	0.26	ug/L		86
8) Ethanol	3.230	45	1315	29.40	ug/L		96
9) 1,1-Dichloroethene	3.230	61	1038	0.37	ug/L		87
10) Carbon Disulfide	3.242	76	1798	0.39	ug/L		78
11) Freon 113	3.285	101	569	0.31	ug/L	#	63
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	0.000		0	N.D.			
14) Methylene Chloride	3.869	84	2646	Below Cal			89
15) Acetone	3.948	43	1616	1.67	ug/L		96
16) t-1,2-Dichloroethene	4.039	61	963	0.38	ug/L		98
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.167	73	2309	0.41	ug/L		94
19) tert-Butanol (TBA)	4.294	59	10086	29.13	ug/L		91
20) Diisopropyl ether (DIPE)	4.562	45	638	0.11	ug/L		76
21) 1,1-Dichloroethane	4.684	63	1323	0.37	ug/L		87
22) Acrylonitrile	4.751	53	129	0.12	ug/L	#	15
23) Ethyl-tert-butyl ether...	4.945	59	438	0.09	ug/L	#	38
24) Vinyl Acetate	4.964	43	1231	0.29	ug/L		74
25) c-1,2-Dichloroethene	5.244	61	1008	0.36	ug/L		91
26) 2,2-Dichloropropane	5.347	77	853	0.34	ug/L		76
27) Bromochloromethane	5.444	130	391	0.28	ug/L		94
28) Chloroform	5.529	83	1292	0.34	ug/L		95
29) Carbon Tetrachloride	5.651	117	618	0.24	ug/L		90
30) Tetrahydrofuran	5.712	42	281	0.30	ug/L	#	62
31) 1,1,1-Trichloroethane	5.730	97	1012	0.32	ug/L		93
33) 1,1-Dichloropropene	5.870	75	1049	0.41	ug/L	#	43
34) 2-Butanone (MEK)	5.864	43	1016	0.69	ug/L		52
35) Benzene	6.120	78	3381	0.44	ug/L		99
36) tert-Amyl methyl ether...	6.247	73	580	0.11	ug/L	#	21
37) 1,2-Dichloroethane (EDC)	6.332	62	1073	0.34	ug/L		54
38) iso-Butyl Alcohol	6.387	43	1172	8.80	ug/L		84
40) Trichloroethene (TCE)	6.746	130	718	0.37	ug/L		74
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.			
42) Dibromomethane	7.202	93	378	0.27	ug/L		86
43) 1,2-Dichloropropane	7.312	63	797	0.38	ug/L		95
44) Bromodichloromethane	7.379	83	800	0.29	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.036	63	359	1.00	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	1014	0.36	ug/L		89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102419.D
Acq On : 24 Oct 2019 4:48 pm
Operator : MM
Sample : 9J24043-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:19 2019
Quant Method : C:\msdchem\1\methods\~~VI191025~~W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

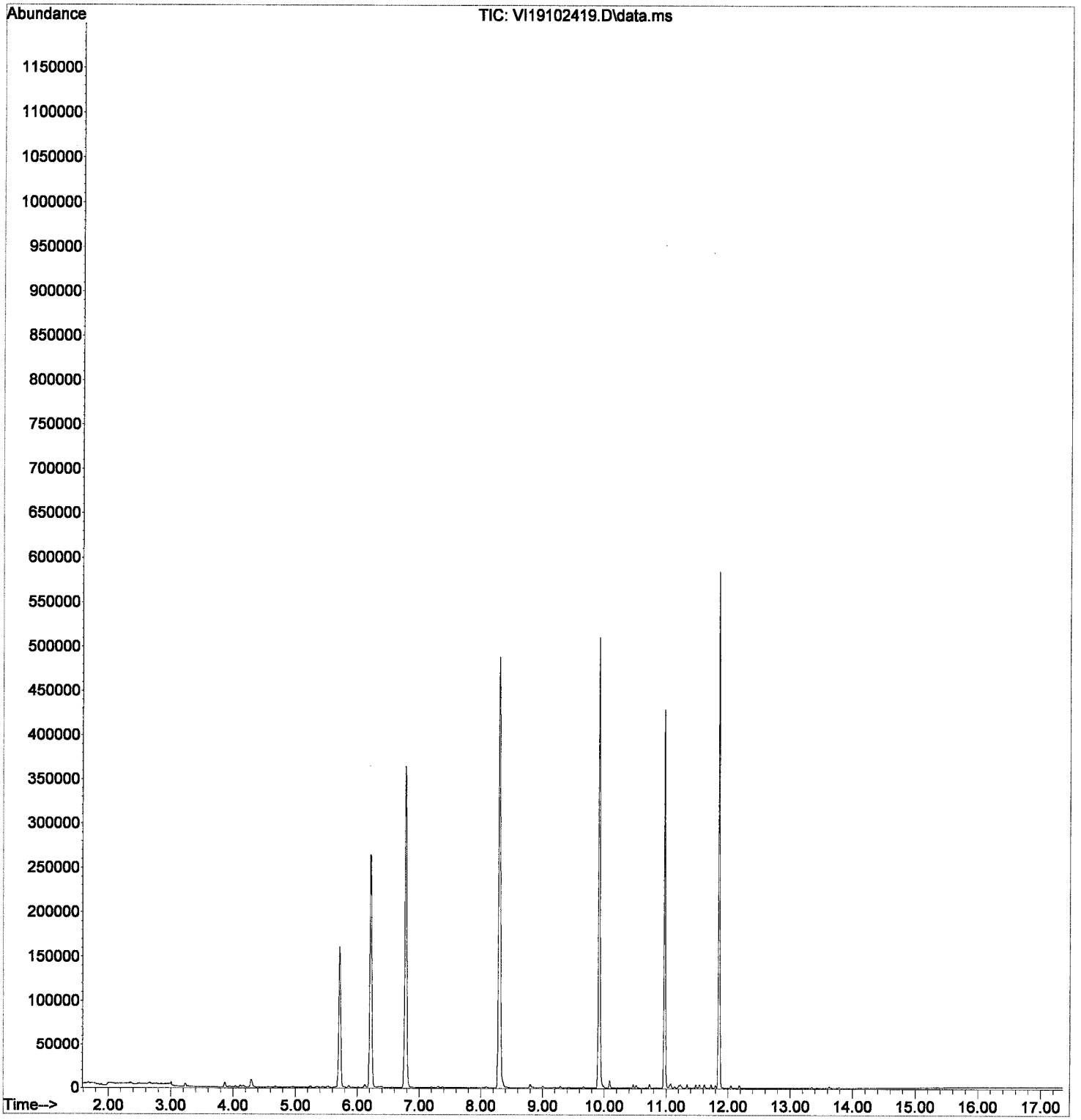
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	3505	0.43	ug/L		93
50) Tetrachloroethene (PCE)	8.796	166	787	0.42	ug/L		94
51) 4-Methyl-2-Pentanone (...	8.808	43	1912	0.73	ug/L		91
52) t-1,3-Dichloropropene	8.839	75	610	0.22	ug/L	#	45
53) 1,1,2-Trichloroethane	9.003	97	717	0.36	ug/L		82
54) Dibromochloromethane	9.186	129	505	0.24	ug/L		86
55) 1,3-Dichloropropane	9.289	76	1253	0.38	ug/L		95
56) 1,2-Dibromoethane (EDB)	9.423	107	615	0.30	ug/L		96
57) 2-Hexanone	9.660	43	1346	0.71	ug/L		91
58) Chlorobenzene	9.928	112	2226	0.43	ug/L	#	64
59) Ethylbenzene	9.952	91	3584	0.42	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.989	131	470	0.26	ug/L	#	66
61) m,p-Xylenes (2)	10.086	91	5197	0.91	ug/L		96
62) o-Xylene	10.469	91	2605	0.49	ug/L		93
63) Styrene	10.518	104	1656	0.51	ug/L		93
64) Bromoform	10.542	173	215	0.15	ug/L	#	36
65) Isopropylbenzene	10.731	105	3067	0.54	ug/L		92
68) Bromobenzene	11.059	156	875	0.45	ug/L		92
69) n-Propylbenzene	11.078	91	3544	0.42	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.139	85	671	0.38	ug/L		87
71) 2-Chlorotoluene	11.205	126	719	0.43	ug/L		98
72) 1,3,5-Trimethylbenzene	11.230	105	2289	0.41	ug/L		92
73) 1,2,3-Trichloropropane	11.248	110	271	0.32	ug/L		91
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
75) 4-Chlorotoluene	11.339	91	2178	0.44	ug/L		99
76) tert-Butylbenzene	11.485	91	1248	0.40	ug/L		99
77) 1,2,4-Trimethylbenzene	11.540	105	2387	0.51	ug/L		98
78) sec-Butylbenzene	11.619	105	2990	0.44	ug/L		97
79) 4-Isopropyltoluene	11.729	119	2236	0.56	ug/L		92
80) 1,3-Dichlorobenzene	11.802	146	1412	0.41	ug/L		95
81) 1,4-Dichlorobenzene	11.862	146	1564	0.42	ug/L	#	54
82) n-Butylbenzene	12.045	91	1867	0.40	ug/L		85
83) 1,2-Dichlorobenzene	12.185	146	1284	0.39	ug/L		95
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.347	180	615	0.40	ug/L		89
87) Naphthalene	13.633	128	2009	0.81	ug/L		81
88) 1,2,3-Trichlorobenzene	13.779	180	687	0.45	ug/L		72

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102419.D
Acq On : 24 Oct 2019 4:48 pm
Operator : MM
Sample : 9J24043-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:19 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102420.D
Acq On : 24 Oct 2019 5:15 pm
Operator : MM
Sample : 9J24043-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:23 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	116043	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	310797	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	143979	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	111608	46.89	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	366642	55.15	ug/L		0.00
48) Toluene-d8 (S)	8.298	98	410518	51.17	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	118563	51.20	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	1583	0.69	ug/L		98
3) Chloromethane	1.892	50	2407	0.90	ug/L		90
4) Vinyl Chloride	1.995	62	2351	0.98	ug/L		95
5) Bromomethane	2.360	96	1763	0.95	ug/L	#	71
6) Chloroethane	2.500	64	2425	1.99	ug/L		75
7) Trichlorofluoromethane	2.664	101	2784	0.73	ug/L		90
8) Ethanol	3.236	45	3446	74.35	ug/L		88
9) 1,1-Dichloroethene	3.230	61	2476	0.85	ug/L		86
10) Carbon Disulfide	3.248	76	4573	0.95	ug/L		96
11) Freon 113	3.285	101	1717	0.90	ug/L		98
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	3.625	56	420	1.01	ug/L		60
14) Methylene Chloride	3.869	84	3939	Below Cal			91
15) Acetone	3.948	43	2940	2.94	ug/L		92
16) t-1,2-Dichloroethene	4.039	61	2657	1.01	ug/L		94
17) n-Hexane	4.124	86	357	1.11	ug/L	#	60
18) Methyl-tert-butyl-ether	4.167	73	5789	1.00	ug/L		81
19) tert-Butanol (TBA)	4.295	59	25977	72.41	ug/L		88
20) Diisopropyl ether (DIPE)	4.562	45	1604	0.27	ug/L		98
21) 1,1-Dichloroethane	4.684	63	3672	0.99	ug/L		94
22) Acrylonitrile	4.751	53	876	0.80	ug/L		79
23) Ethyl-tert-butyl ether...	4.939	59	1449	0.28	ug/L		83
24) Vinyl Acetate	4.964	43	3620	0.82	ug/L		88
25) c-1,2-Dichloroethene	5.244	61	2744	0.95	ug/L		83
26) 2,2-Dichloropropane	5.353	77	2316	0.90	ug/L		92
27) Bromochloromethane	5.450	130	1188	0.83	ug/L		88
28) Chloroform	5.530	83	3341	0.84	ug/L		98
29) Carbon Tetrachloride	5.663	117	1791	0.66	ug/L		91
30) Tetrahydrofuran	5.706	42	945	0.99	ug/L		87
31) 1,1,1-Trichloroethane	5.730	97	2903	0.89	ug/L		93
33) 1,1-Dichloropropene	5.864	75	2749	1.05	ug/L		93
34) 2-Butanone (MEK)	5.858	43	2900	1.90	ug/L		90
35) Benzene	6.126	78	8314	1.05	ug/L		96
36) tert-Amyl methyl ether...	6.247	73	1462	0.28	ug/L		60
37) 1,2-Dichloroethane (EDC)	6.339	62	2623	0.81	ug/L		91
38) iso-Butyl Alcohol	6.375	43	3120	22.60	ug/L		86
40) Trichloroethene (TCE)	6.740	130	2166	1.08	ug/L		94
41) Tert-Amyl-Ethyl-Ether ...	6.996	59	950	0.29	ug/L		74
42) Dibromomethane	7.196	93	1285	0.90	ug/L		96
43) 1,2-Dichloropropane	7.306	63	1944	0.91	ug/L		93
44) Bromodichloromethane	7.379	83	2259	0.78	ug/L		96
46) 2-Chloroethyl Vinyl Ether	8.030	63	1378	1.78	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	2667	0.91	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102420.D
Acq On : 24 Oct 2019 5:15 pm
Operator : MM
Sample : 9J24043-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:23 2019
Quant Method : C:\msdchem\1\methods\VI~~191025W~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

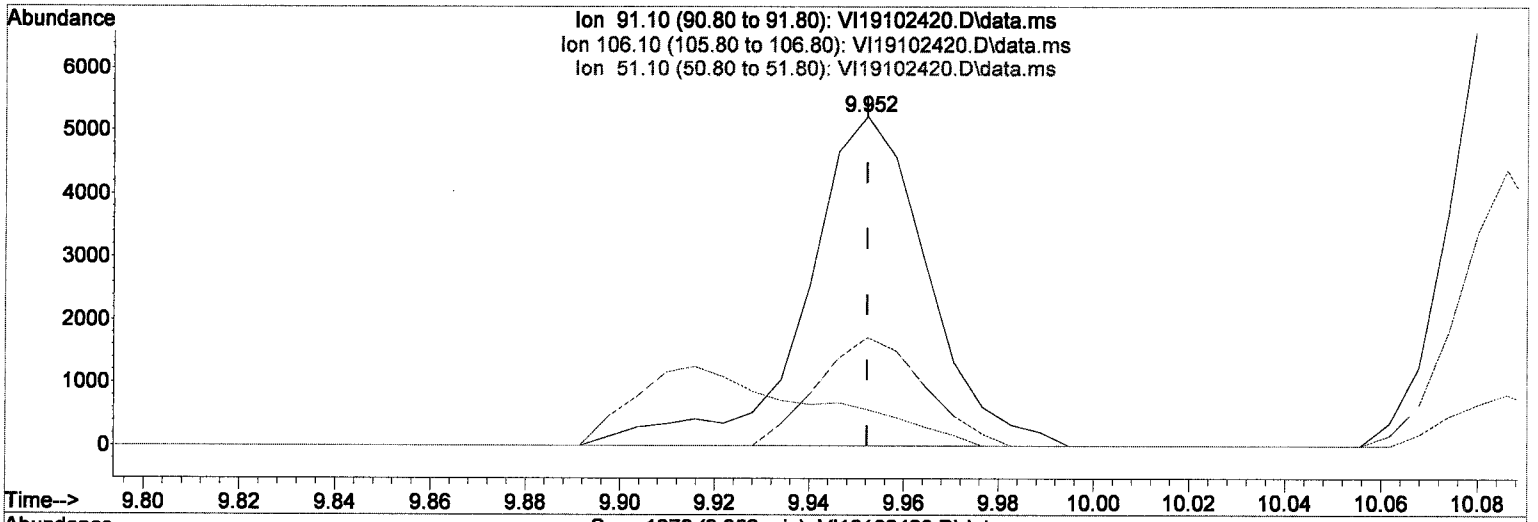
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.352	91	9040	1.04	ug/L		99
50) Tetrachloroethene (PCE)	8.796	166	1994	1.00	ug/L		91
51) 4-Methyl-2-Pentanone (...	8.802	43	5042	1.83	ug/L		93
52) t-1,3-Dichloropropene	8.839	75	2122	0.72	ug/L		95
53) 1,1,2-Trichloroethane	9.003	97	1944	0.93	ug/L		92
54) Dibromochloromethane	9.186	129	1349	0.61	ug/L		88
55) 1,3-Dichloropropane	9.289	76	3361	0.96	ug/L		93
56) 1,2-Dibromoethane (EDB)	9.423	107	1928	0.90	ug/L		93
57) 2-Hexanone	9.660	43	3526	1.77	ug/L		99
58) Chlorobenzene	9.928	112	5770	1.05	ug/L		93
59) Ethylbenzene	9.952	91	~~9335~~ 8761	1.03	ug/L		97
60) 1,1,1,2-Tetrachloroethane	9.989	131	1476	0.77	ug/L		91
61) m,p-Xylenes (2)	10.086	91	12789	2.05	ug/L		99
62) o-Xylene	10.463	91	6630	1.11	ug/L		97
63) Styrene	10.518	104	4878	1.15	ug/L		95
64) Bromoform	10.536	173	795	0.51	ug/L		91
65) Isopropylbenzene	10.731	105	7662	1.14	ug/L		98
68) Bromobenzene	11.059	156	2220	1.07	ug/L		88
69) n-Propylbenzene	11.078	91	9160	1.02	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.139	85	1876	1.00	ug/L		85
71) 2-Chlorotoluene	11.205	126	1910	1.07	ug/L		98
72) 1,3,5-Trimethylbenzene	11.230	105	6197	1.03	ug/L		90
73) 1,2,3-Trichloropropane	11.248	110	887	0.97	ug/L		97
74) t-1,4-Dichloro-2-butene	11.285	53	531	0.74	ug/L	#	41
75) 4-Chlorotoluene	11.339	91	5461	1.02	ug/L		98
76) tert-Butylbenzene	11.485	91	3551	1.07	ug/L		94
77) 1,2,4-Trimethylbenzene	11.534	105	6319	1.16	ug/L		93
78) sec-Butylbenzene	11.619	105	7450	1.03	ug/L		98
79) 4-Isopropyltoluene	11.729	119	6086	1.25	ug/L		98
80) 1,3-Dichlorobenzene	11.796	146	3650	1.00	ug/L		96
81) 1,4-Dichlorobenzene	11.863	146	4177	1.04	ug/L		86
82) n-Butylbenzene	12.045	91	4997	1.00	ug/L		93
83) 1,2-Dichlorobenzene	12.185	146	3650	1.04	ug/L		97
84) 1,2-Dibromo-3-Chloropr...	12.799	157	447	0.82	ug/L	#	69
85) Hexachlorobutadiene	13.310	223	443	0.91	ug/L		96
86) 1,2,4-Trichlorobenzene	13.347	180	1833	1.10	ug/L		94
87) Naphthalene	13.627	128	5345	1.42	ug/L		98
88) 1,2,3-Trichlorobenzene	13.785	180	1879	1.15	ug/L		89

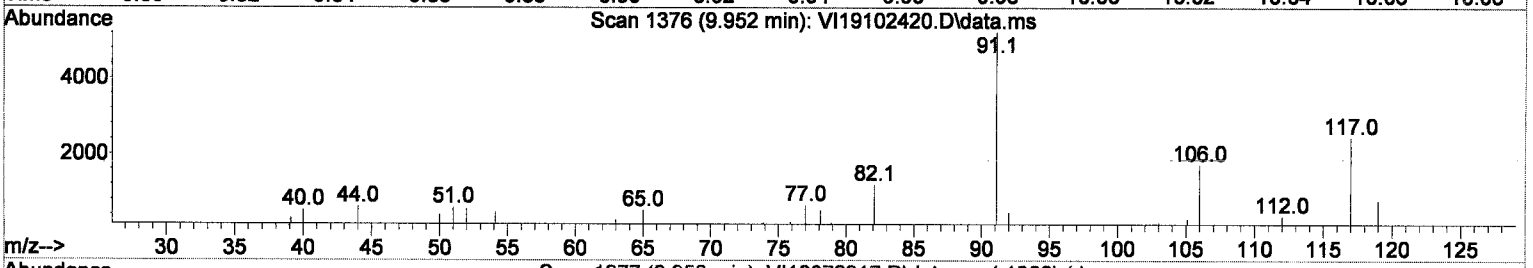
(#) = qualifier out of range (m) = manual integration (+) = signals summed

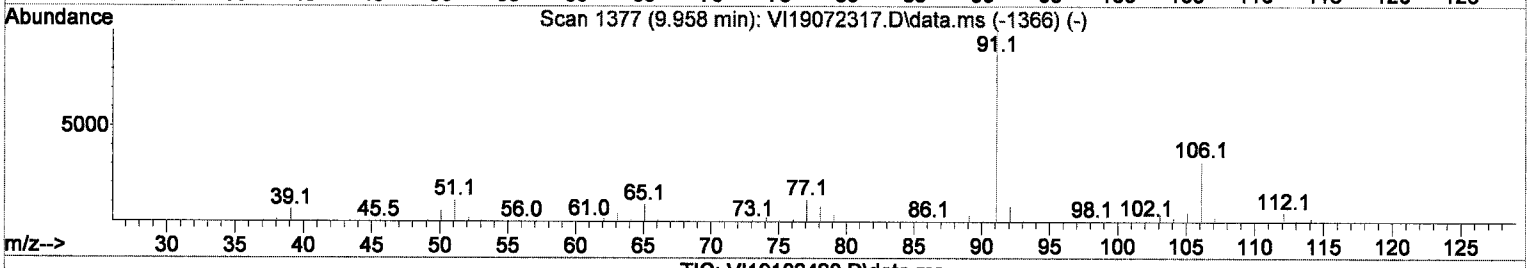
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102420.D
Acq On : 24 Oct 2019 5:15 pm
Operator : MM
Sample : 9J24043-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:23 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration







TIC: VI19102420.D\data.ms

(59) Ethylbenzene (C)

9.952min (+ 0.000) 1.03 ug/L

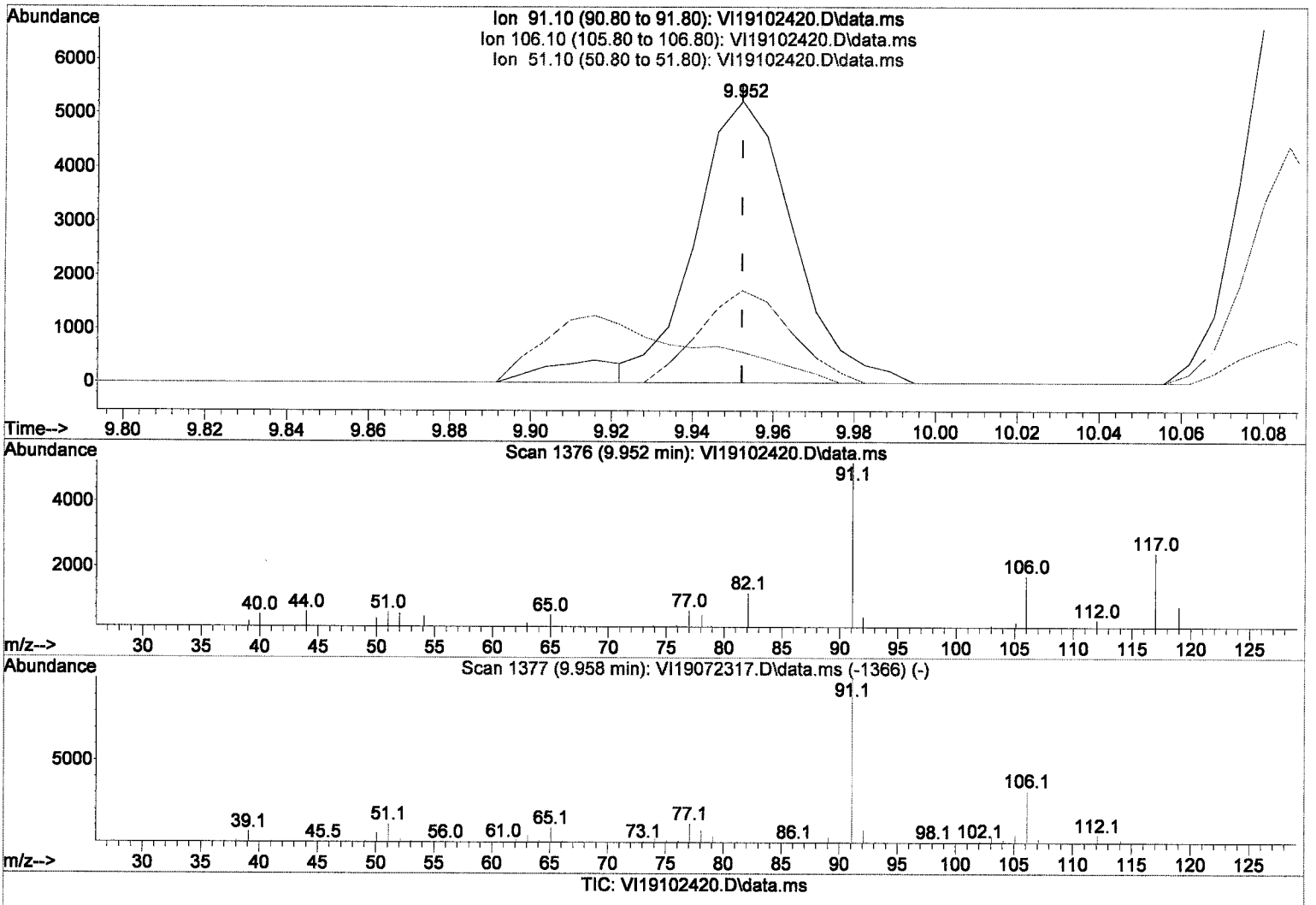
response 9335

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.98
51.10	10.40	11.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102420.D
Acq On : 24 Oct 2019 5:15 pm
Operator : MM
Sample : 9J24043-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:23 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



TIC: VI19102420.D\data.ms

(59) Ethylbenzene (C)

9.952min (+ 0.000) 0.96 ug/L m

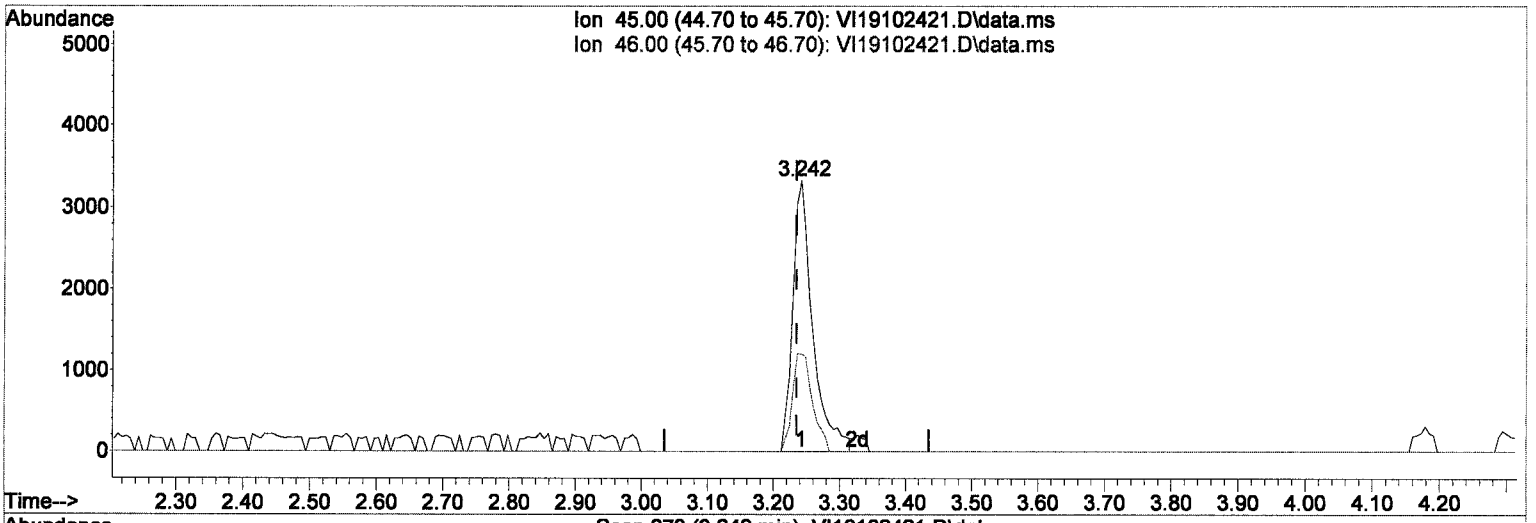
response 8761

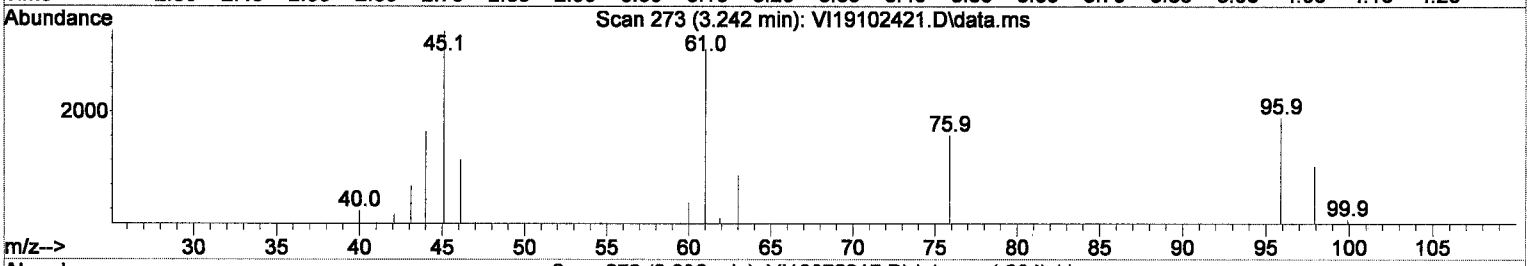
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.98
51.10	10.40	11.11
0.00	0.00	0.00

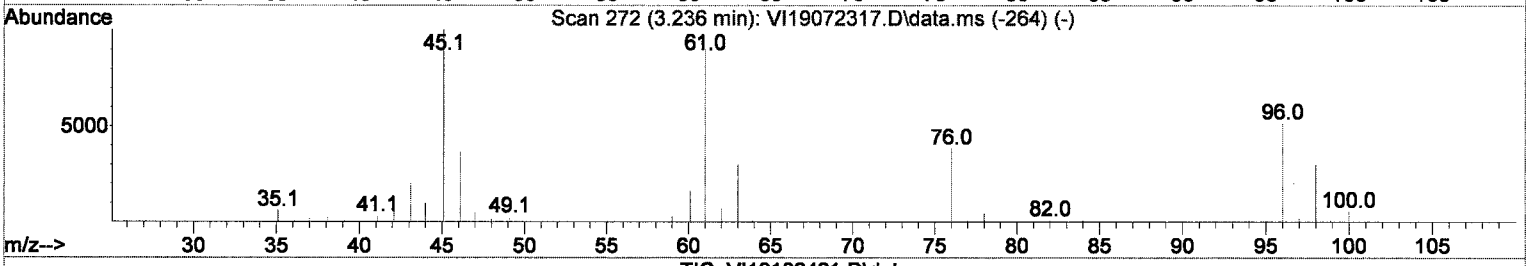
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102421.D
Acq On : 24 Oct 2019 5:42 pm
Operator : MM
Sample : 9J24043-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:26 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration







TIC: VI19102421.D\data.ms

(8) Ethanol

3.242min (+ 0.007) 157.83 ug/L

response 6984

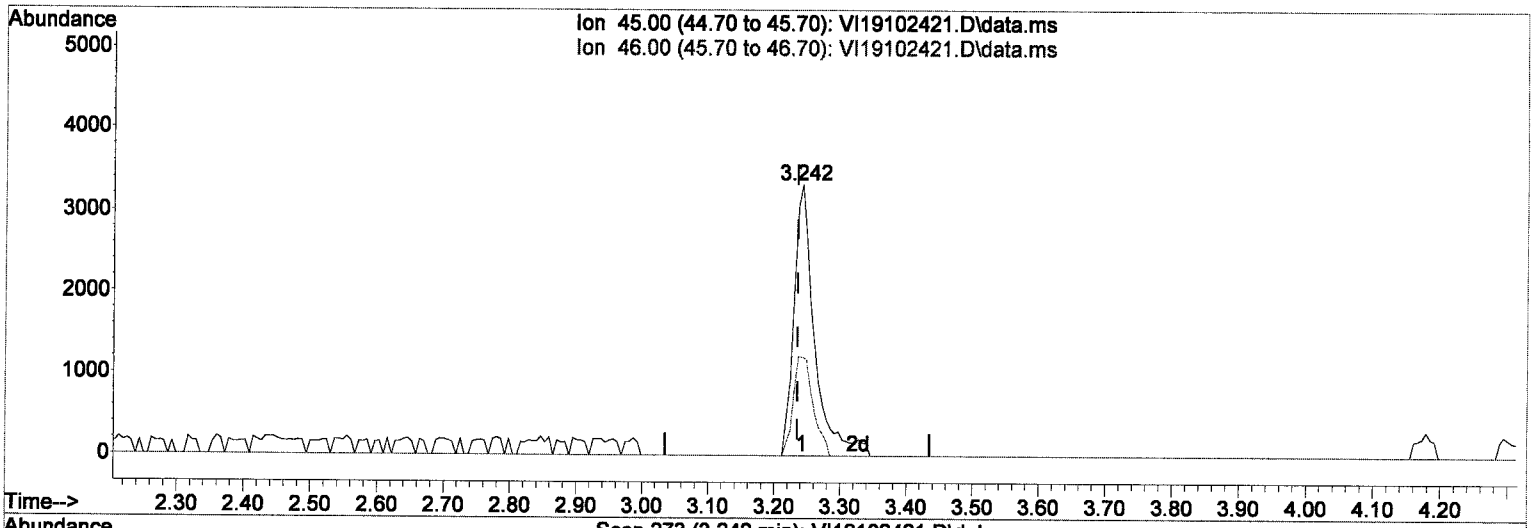
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	36.12
0.00	0.00	0.00
0.00	0.00	0.00

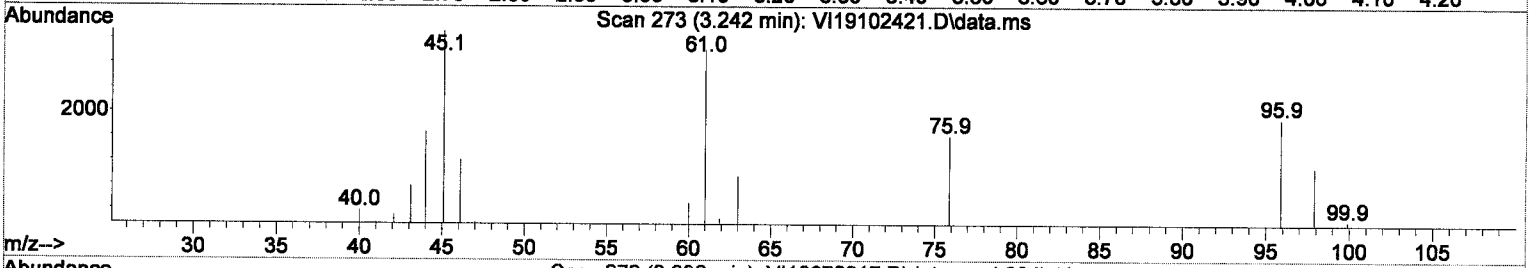
M.2.

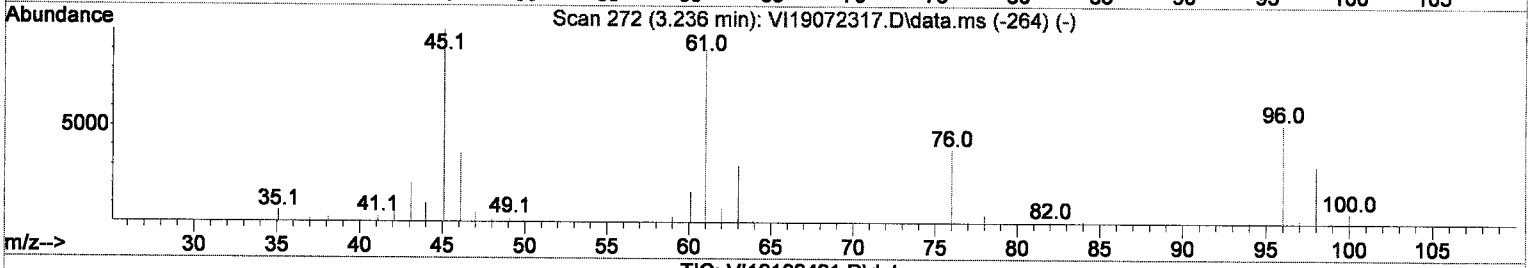
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102421.D
Acq On : 24 Oct 2019 5:42 pm
Operator : MM
Sample : 9J24043-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:26 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration







TIC: VI19102421.D\data.ms

(8) Ethanol

3.242min (+ 0.007) 163.37 ug/L m

response 7229

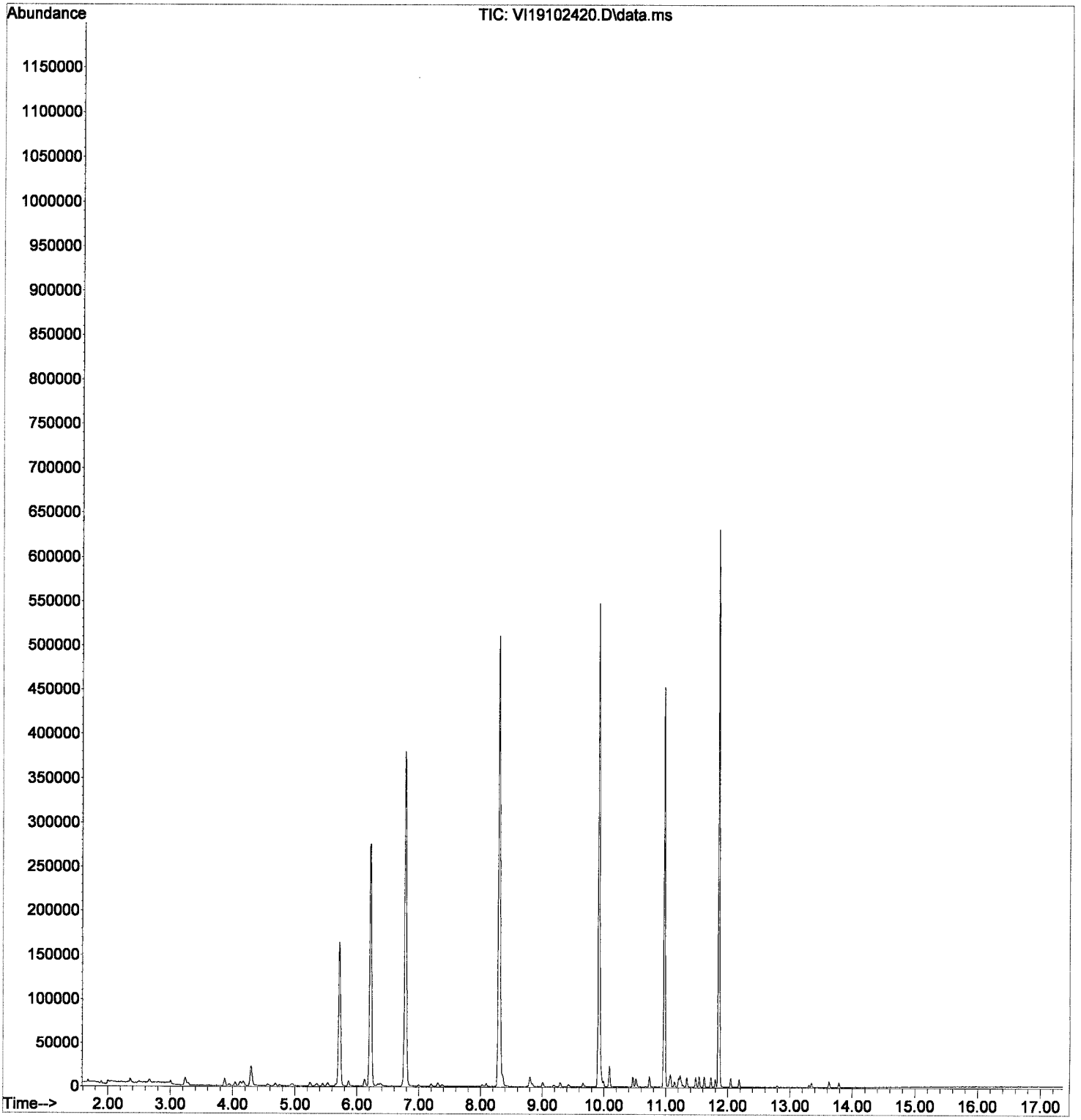
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	36.12
0.00	0.00	0.00
0.00	0.00	0.00

M 10/25/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102420.D
Acq On : 24 Oct 2019 5:15 pm
Operator : MM
Sample : 9J24043-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:23 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102421.D
Acq On : 24 Oct 2019 5:42 pm
Operator : MM
Sample : 9J24043-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

MM 10/25/19

Quant Time: Oct 25 08:10:26 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	110790	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	297754	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	139582	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	108776	47.86	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	347212	54.71	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	395017	51.39	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	115163	51.29	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	3731	1.71	ug/L		97
3) Chloromethane	1.904	50	4743	1.85	ug/L		90
4) Vinyl Chloride	2.007	62	5030	2.20	ug/L		95
5) Bromomethane	2.372	96	3140	1.78	ug/L		93
6) Chloroethane	2.524	64	2540	2.19	ug/L		82
7) Trichlorofluoromethane	2.682	101	5667	1.55	ug/L		97
8) Ethanol	3.242	45	~~6984~~ 7129	157.83	ug/L		83
9) 1,1-Dichloroethene	3.242	61	5263	1.88	ug/L		96
10) Carbon Disulfide	3.260	76	9757	2.13	ug/L		99
11) Freon 113	3.297	101	3803	2.08	ug/L		95
12) Iodomethane	~~3.400~~	~~142~~	~~130~~	5.22	ug/L	#	47 Qdel
13) Acrolein	3.625	56	927	2.34	ug/L		71
14) Methylene Chloride	3.881	84	6151	Below Cal			89
15) Acetone	3.948	43	4523	4.74	ug/L		93
16) t-1,2-Dichloroethene	4.051	61	5503	2.20	ug/L		91
17) n-Hexane	4.130	86	709	2.31	ug/L	#	84
18) Methyl-tert-butyl-ether	4.173	73	11957	2.16	ug/L		93
19) tert-Butanol (TBA)	4.301	59	58093	169.62	ug/L		94
20) Diisopropyl ether (DIPE)	4.568	45	3305	0.59	ug/L		95
21) 1,1-Dichloroethane	4.690	63	7227	2.05	ug/L		100
22) Acrylonitrile	4.763	53	1949	1.87	ug/L		96
23) Ethyl-tert-butyl ether...	4.939	59	3145	0.63	ug/L		96
24) Vinyl Acetate	4.964	43	7854	1.87	ug/L		99
25) c-1,2-Dichloroethene	5.250	61	5568	2.02	ug/L		93
26) 2,2-Dichloropropane	5.353	77	4776	1.94	ug/L		95
27) Bromochloromethane	5.456	130	2679	1.97	ug/L		99
28) Chloroform	5.536	83	7277	1.92	ug/L		99
29) Carbon Tetrachloride	5.663	117	4001	1.54	ug/L		98
30) Tetrahydrofuran	5.706	42	2045	2.23	ug/L		88
31) 1,1,1-Trichloroethane	5.736	97	5937	1.90	ug/L		97
33) 1,1-Dichloropropene	5.870	75	5724	2.28	ug/L		95
34) 2-Butanone (MEK)	5.870	43	6243	4.29	ug/L		98
35) Benzene	6.126	78	17935	2.38	ug/L		94
36) tert-Amyl methyl ether...	6.247	73	2996	0.60	ug/L		72
37) 1,2-Dichloroethane (EDC)	6.345	62	5726	1.86	ug/L		98
38) iso-Butyl Alcohol	6.381	43	7968	60.45	ug/L		93
40) Trichloroethene (TCE)	6.746	130	4576	2.38	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	2147	0.68	ug/L		90
42) Dibromomethane	7.202	93	2755	2.01	ug/L		88
43) 1,2-Dichloropropane	7.312	63	4373	2.13	ug/L		93
44) Bromodichloromethane	7.385	83	4681	1.70	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.030	63	2589	2.82	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	5578	1.98	ug/L		90

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102421.D
Acq On : 24 Oct 2019 5:42 pm
Operator : MM
Sample : 9J24043-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:26 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

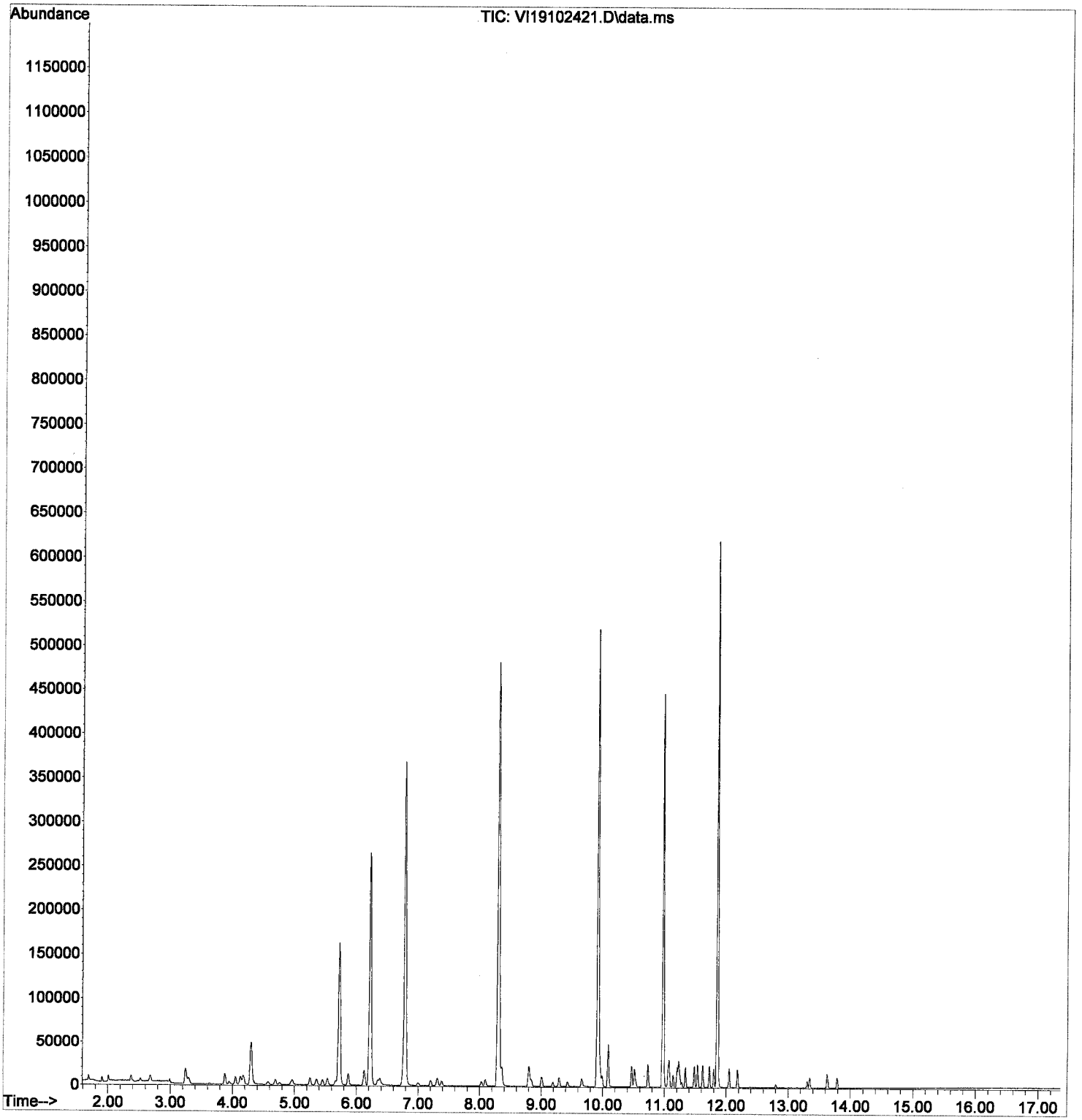
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	17851	2.14	ug/L		99
50) Tetrachloroethene (PCE)	8.796	166	4333	2.28	ug/L		92
51) 4-Methyl-2-Pentanone (...	8.809	43	11029	4.18	ug/L		98
52) t-1,3-Dichloropropene	8.839	75	4500	1.60	ug/L		95
53) 1,1,2-Trichloroethane	9.003	97	4134	2.06	ug/L		93
54) Dibromochloromethane	9.192	129	3038	1.44	ug/L		91
55) 1,3-Dichloropropane	9.289	76	6889	2.05	ug/L		90
56) 1,2-Dibromoethane (EDB)	9.429	107	4499	2.18	ug/L		100
57) 2-Hexanone	9.660	43	7610	3.99	ug/L		92
58) Chlorobenzene	9.928	112	11701	2.22	ug/L		98
59) Ethylbenzene	9.952	91	19157	2.20	ug/L		95
60) 1,1,1,2-Tetrachloroethane	9.989	131	2985	1.63	ug/L		94
61) m,p-Xylenes (2)	10.086	91	27092	4.47	ug/L		98
62) o-Xylene	10.469	91	13605	2.31	ug/L		96
63) Styrene	10.518	104	10363	2.35	ug/L		98
64) Bromoform	10.536	173	1771	1.19	ug/L		90
65) Isopropylbenzene	10.731	105	16325	2.39	ug/L		97
68) Bromobenzene	11.059	156	4634	2.30	ug/L		83
69) n-Propylbenzene	11.078	91	19292	2.21	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.139	85	4008	2.20	ug/L		91
71) 2-Chlorotoluene	11.205	126	4172	2.40	ug/L		98
72) 1,3,5-Trimethylbenzene	11.230	105	13089	2.24	ug/L		97
73) 1,2,3-Trichloropropane	11.248	110	1935	2.17	ug/L		93
74) t-1,4-Dichloro-2-butene	11.278	53	1313	1.90	ug/L	#	50
75) 4-Chlorotoluene	11.339	91	11718	2.26	ug/L		99
76) tert-Butylbenzene	11.485	91	7395	2.30	ug/L		98
77) 1,2,4-Trimethylbenzene	11.534	105	12974	2.38	ug/L		98
78) sec-Butylbenzene	11.619	105	15756	2.25	ug/L		99
79) 4-Isopropyltoluene	11.729	119	12523	2.53	ug/L		97
80) 1,3-Dichlorobenzene	11.802	146	7718	2.18	ug/L		97
81) 1,4-Dichlorobenzene	11.862	146	8550	2.20	ug/L		91
82) n-Butylbenzene	12.045	91	10626	2.18	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	7854	2.32	ug/L		97
84) 1,2-Dibromo-3-Chloropr...	12.799	157	1006	1.90	ug/L		77
85) Hexachlorobutadiene	13.304	223	963	2.05	ug/L		87
86) 1,2,4-Trichlorobenzene	13.341	180	4043	2.51	ug/L		89
87) Naphthalene	13.627	128	12724	2.92	ug/L		97
88) 1,2,3-Trichlorobenzene	13.785	180	4073	2.58	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102421.D
Acq On : 24 Oct 2019 5:42 pm
Operator : MM
Sample : 9J24043-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:26 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102422.D
Acq On : 24 Oct 2019 6:09 pm
Operator : MM
Sample : 9J24043-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

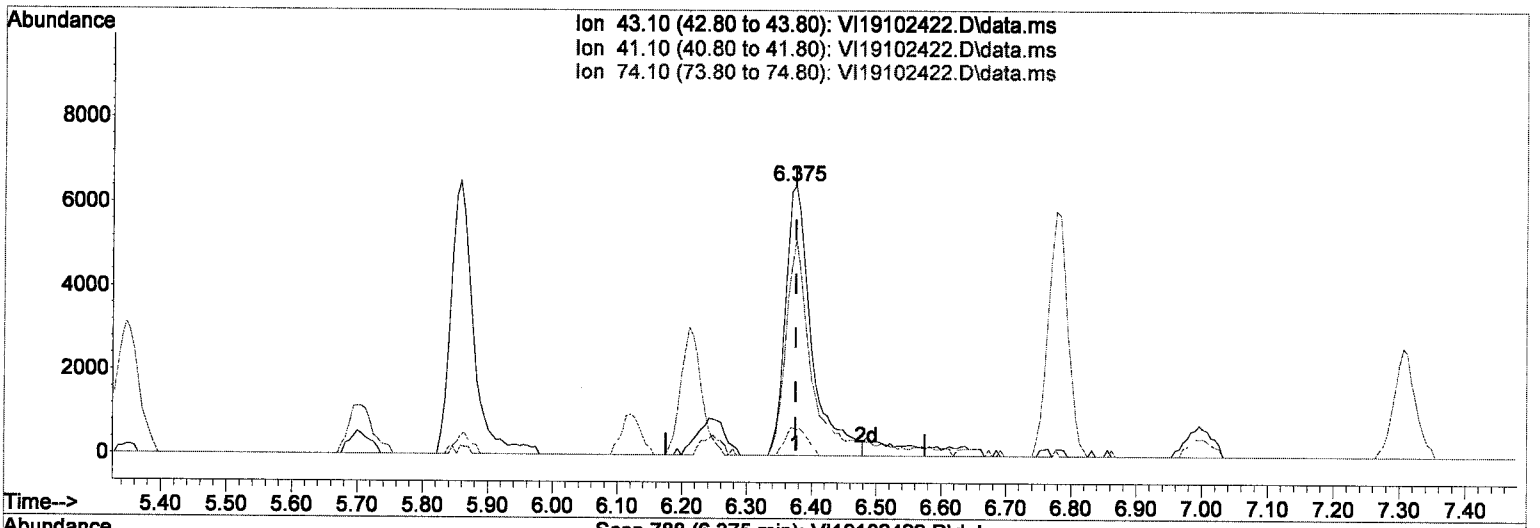
Quant Time: Oct 25 08:10:29 2019
Quant Method : C:\msdchem\1\methods\~~VI191025W~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

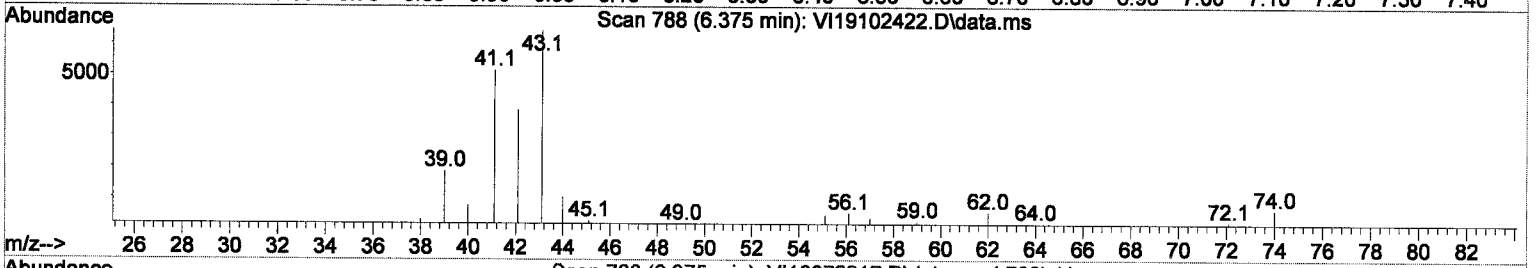
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	111010	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	300317	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	141843	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	109232	47.97	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.777	114	353918	55.65	ug/L		-0.01
48) Toluene-d8 (S)	8.297	98	397005	51.21	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	115652	50.69	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	9010	4.13	ug/L		98
3) Chloromethane	1.891	50	11370	4.42	ug/L		96
4) Vinyl Chloride	1.995	62	12653	5.52	ug/L		96
5) Bromomethane	2.360	96	7782	4.40	ug/L		97
6) Chloroethane	2.506	64	5899	5.07	ug/L		79
7) Trichlorofluoromethane	2.664	101	14236	3.89	ug/L		96
8) Ethanol	3.230	45	17243	388.90	ug/L		85
9) 1,1-Dichloroethene	3.230	61	13321	4.75	ug/L		93
10) Carbon Disulfide	3.248	76	24060	5.23	ug/L		98
11) Freon 113	3.291	101	9544	5.22	ug/L		91
12) Iodomethane	3.382	142	916	6.05	ug/L	#	79
13) Acrolein	3.619	56	2465	6.22	ug/L		88
14) Methylene Chloride	3.869	84	12549	2.62	ug/L		87
15) Acetone	3.942	43	10355	10.83	ug/L		98
16) t-1,2-Dichloroethene	4.039	61	13685	5.45	ug/L		96
17) n-Hexane	4.118	86	1836	5.97	ug/L		92
18) Methyl-tert-butyl-ether	4.167	73	29908	5.40	ug/L		93
19) tert-Butanol (TBA)	4.288	59	143817	419.08	ug/L		97
20) Diisopropyl ether (DIPE)	4.568	45	8576	1.52	ug/L		93
21) 1,1-Dichloroethane	4.684	63	18307	5.17	ug/L		95
22) Acrylonitrile	4.751	53	5426	5.19	ug/L		98
23) Ethyl-tert-butyl ether...	4.939	59	8071	1.61	ug/L		98
24) Vinyl Acetate	4.958	43	20467	4.86	ug/L		97
25) c-1,2-Dichloroethene	5.244	61	13959	5.05	ug/L		90
26) 2,2-Dichloropropane	5.353	77	11793	4.78	ug/L		98
27) Bromochloromethane	5.444	130	7172	5.26	ug/L		96
28) Chloroform	5.529	83	18186	4.79	ug/L		96
29) Carbon Tetrachloride	5.657	117	9957	3.83	ug/L		96
30) Tetrahydrofuran	5.706	42	5112	5.57	ug/L		83
31) 1,1,1-Trichloroethane	5.730	97	14957	4.77	ug/L		94
33) 1,1-Dichloropropene	5.864	75	14423	5.74	ug/L		94
34) 2-Butanone (MEK)	5.858	43	15638	10.72	ug/L		94
35) Benzene	6.120	78	43404	5.74	ug/L		97
36) tert-Amyl methyl ether...	6.247	73	7445	1.48	ug/L		89
37) 1,2-Dichloroethane (EDC)	6.339	62	14359	4.65	ug/L		90
38) iso-Butyl Alcohol	6.375	43	~~18074~~ 20710	136.86	ug/L		98
40) Trichloroethene (TCE)	6.740	130	11340	5.89	ug/L		97
41) Tert-Amyl-Ethyl-Ether ...	6.996	59	5331	1.68	ug/L		83
42) Dibromomethane	7.196	93	7023	5.12	ug/L		97
43) 1,2-Dichloropropane	7.306	63	10897	5.31	ug/L		88
44) Bromodichloromethane	7.379	83	12021	4.36	ug/L		95
46) 2-Chloroethyl Vinyl Ether	8.024	63	7592	6.83	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	14229	5.00	ug/L		87

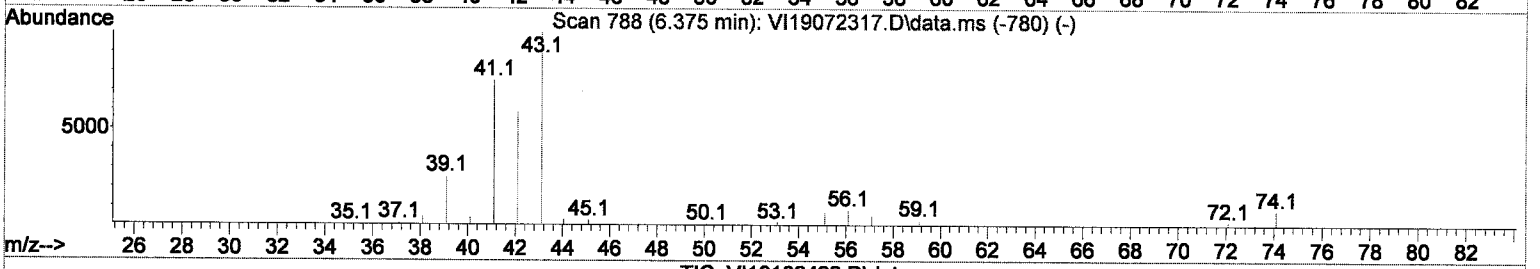
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102422.D
Acq On : 24 Oct 2019 6:09 pm
Operator : MM
Sample : 9J24043-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:29 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration







TIC: VI19102422.D\data.ms

(38) iso-Butyl Alcohol

6.375min (+ 0.000) 136.86 ug/L

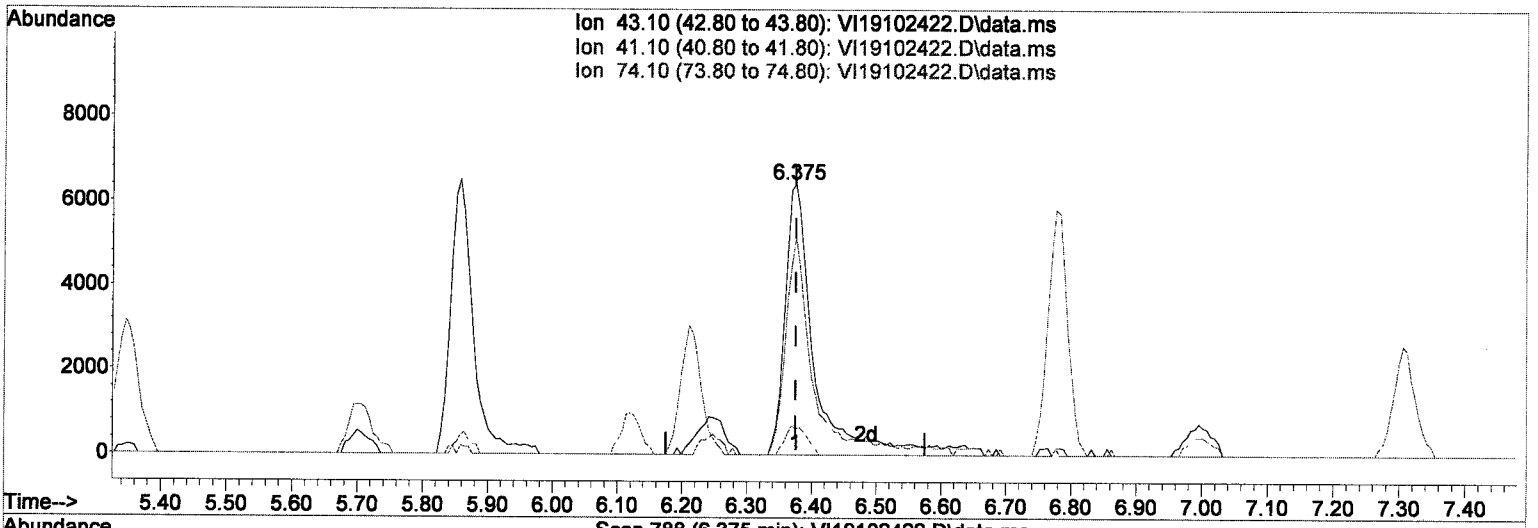
response 18074

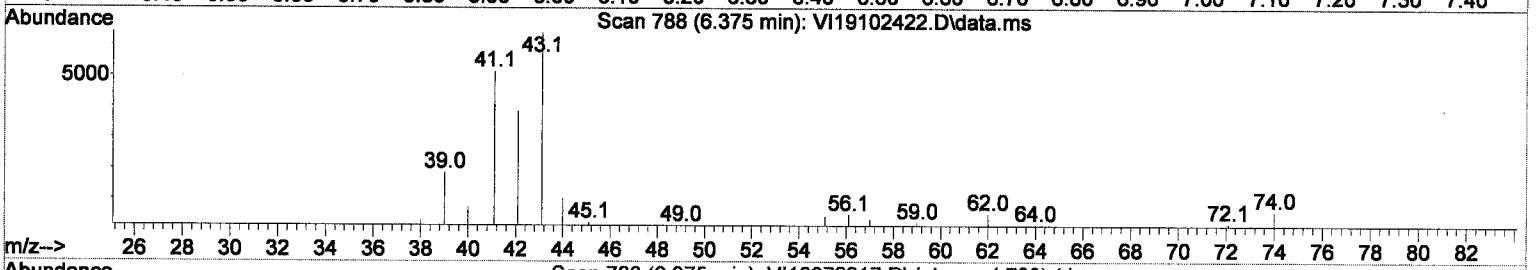
Ion	Exp%	Act%
43.10	100.00	100.00
41.10	78.60	80.03
74.10	11.20	9.63
0.00	0.00	0.00

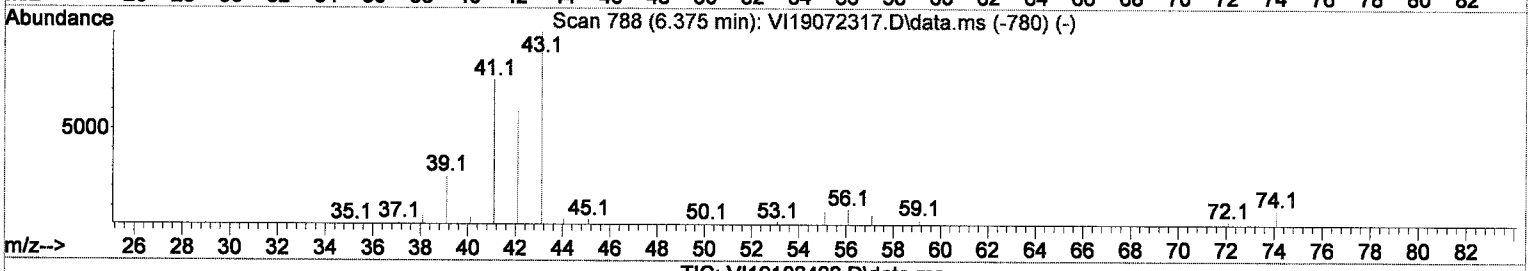
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102422.D
Acq On : 24 Oct 2019 6:09 pm
Operator : MM
Sample : 9J24043-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:29 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration







TIC: VI19102422.D\data.ms

(38) iso-Butyl Alcohol

6.375min (+ 0.000) 156.81 ug/L m

response 20710

Ion	Exp%	Act%
43.10	100.00	100.00
41.10	78.60	80.03
74.10	11.20	9.63
0.00	0.00	0.00

M 10/25/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102422.D
Acq On : 24 Oct 2019 6:09 pm
Operator : MM
Sample : 9J24043-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:29 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

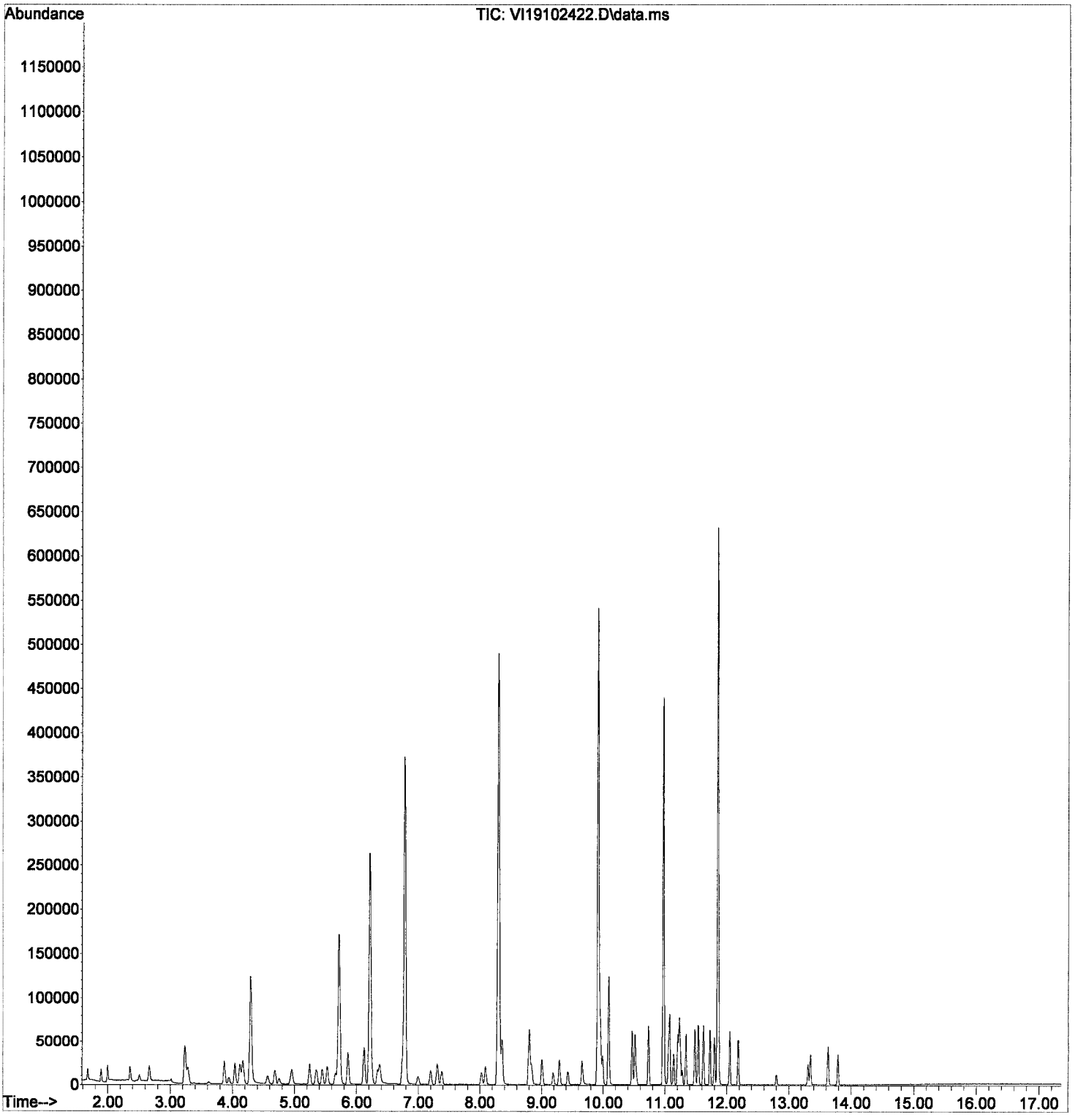
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	44272	5.27	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	10847	5.65	ug/L		90
51) 4-Methyl-2-Pentanone (...	8.796	43	28183	10.59	ug/L		97
52) t-1,3-Dichloropropene	8.839	75	12130	4.29	ug/L		98
53) 1,1,2-Trichloroethane	9.003	97	10336	5.11	ug/L		93
54) Dibromochloromethane	9.186	129	8016	3.77	ug/L		99
55) 1,3-Dichloropropane	9.289	76	17551	5.18	ug/L		88
56) 1,2-Dibromoethane (EDB)	9.423	107	11270	5.42	ug/L		98
57) 2-Hexanone	9.654	43	19724	10.24	ug/L		92
58) Chlorobenzene	9.928	112	29555	5.55	ug/L		97
59) Ethylbenzene	9.952	91	46860	5.34	ug/L		98
60) 1,1,1,2-Tetrachloroethane	9.989	131	7981	4.33	ug/L		94
61) m,p-Xylenes (2)	10.086	91	68847	11.15	ug/L		99
62) o-Xylene	10.463	91	34456	5.68	ug/L		99
63) Styrene	10.512	104	26739	5.76	ug/L		98
64) Bromoform	10.536	173	4690	3.11	ug/L		97
65) Isopropylbenzene	10.731	105	41801	5.88	ug/L		99
68) Bromobenzene	11.059	156	11623	5.69	ug/L		87
69) n-Propylbenzene	11.072	91	48000	5.40	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.139	85	9843	5.31	ug/L		96
71) 2-Chlorotoluene	11.205	126	10150	5.76	ug/L		90
72) 1,3,5-Trimethylbenzene	11.230	105	33314	5.62	ug/L		97
73) 1,2,3-Trichloropropane	11.248	110	4862	5.37	ug/L		96
74) t-1,4-Dichloro-2-butene	11.278	53	3293	4.68	ug/L	#	57
75) 4-Chlorotoluene	11.339	91	30239	5.73	ug/L		95
76) tert-Butylbenzene	11.479	91	18808	5.76	ug/L		94
77) 1,2,4-Trimethylbenzene	11.540	105	34216	6.04	ug/L		97
78) sec-Butylbenzene	11.619	105	40240	5.67	ug/L		98
79) 4-Isopropyltoluene	11.729	119	33176	6.39	ug/L		99
80) 1,3-Dichlorobenzene	11.796	146	19712	5.49	ug/L		98
81) 1,4-Dichlorobenzene	11.862	146	20421	5.17	ug/L		94
82) n-Butylbenzene	12.045	91	28526	5.77	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	19460	5.65	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.799	157	2728	5.06	ug/L		90
85) Hexachlorobutadiene	13.304	223	2715	5.67	ug/L		94
86) 1,2,4-Trichlorobenzene	13.347	180	11114	6.78	ug/L		93
87) Naphthalene	13.627	128	32892	6.76	ug/L		97
88) 1,2,3-Trichlorobenzene	13.785	180	10402	6.49	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102422.D
Acq On : 24 Oct 2019 6:09 pm
Operator : MM
Sample : 9J24043-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:29 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102423.D
Acq On : 24 Oct 2019 6:36 pm
Operator : MM
Sample : 9J24043-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:32 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	117608	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.909	117	312833	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	149215	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	113697	47.13	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.782	114	367409	54.53	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	415174	51.41	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	121121	50.47	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.678	85	18118	7.84	ug/L	99
3) Chloromethane	1.897	50	22449	8.25	ug/L	98
4) Vinyl Chloride	2.001	62	25149	10.35	ug/L	96
5) Bromomethane	2.360	96	14678	7.84	ug/L	99
6) Chloroethane	2.500	64	11813	9.58	ug/L	80
7) Trichlorofluoromethane	2.664	101	29038	7.49	ug/L	94
8) Ethanol	3.236	45	34617	736.96	ug/L	86
9) 1,1-Dichloroethene	3.230	61	27243	9.18	ug/L	93
10) Carbon Disulfide	3.248	76	49011	10.06	ug/L	98
11) Freon 113	3.284	101	19612	10.13	ug/L	99
12) Iodomethane	3.388	142	3125	8.20	ug/L	93
13) Acrolein	3.619	56	4855	11.57	ug/L	76
14) Methylene Chloride	3.868	84	22701	7.47	ug/L	90
15) Acetone	3.941	43	19796	19.53	ug/L	95
16) t-1,2-Dichloroethene	4.039	61	27372	10.29	ug/L	93
17) n-Hexane	4.124	86	4034	12.37	ug/L	92
18) Methyl-tert-butyl-ether	4.167	73	61557	10.49	ug/L	95
19) tert-Butanol (TBA)	4.294	59	292252	803.84	ug/L	99
20) Diisopropyl ether (DIPE)	4.568	45	17135	2.87	ug/L	96
21) 1,1-Dichloroethane	4.684	63	36999	9.87	ug/L	97
22) Acrylonitrile	4.744	53	11383	10.28	ug/L	91
23) Ethyl-tert-butyl ether...	4.939	59	16756	3.15	ug/L	98
24) Vinyl Acetate	4.957	43	42656	9.56	ug/L	97
25) c-1,2-Dichloroethene	5.243	61	28723	9.81	ug/L	90
26) 2,2-Dichloropropane	5.353	77	23663	9.05	ug/L	99
27) Bromochloromethane	5.450	130	14961	10.35	ug/L	91
28) Chloroform	5.529	83	37799	9.40	ug/L	97
29) Carbon Tetrachloride	5.657	117	20840	7.56	ug/L	94
30) Tetrahydrofuran	5.700	42	10375	10.67	ug/L	83
31) 1,1,1-Trichloroethane	5.736	97	30210	9.09	ug/L	97
33) 1,1-Dichloropropene	5.864	75	29295	11.00	ug/L	95
34) 2-Butanone (MEK)	5.858	43	31158	20.17	ug/L	96
35) Benzene	6.119	78	87359	10.91	ug/L	96
36) tert-Amyl methyl ether...	6.247	73	15349	2.88	ug/L	94
37) 1,2-Dichloroethane (EDC)	6.338	62	28935	8.85	ug/L	92
38) iso-Butyl Alcohol	6.375	43	39286	280.78	ug/L	94
40) Trichloroethene (TCE)	6.740	130	23449	11.49	ug/L	96
41) Tert-Amyl-Ethyl-Ether ...	7.001	59	11032	3.28	ug/L	85
42) Dibromomethane	7.196	93	14594	10.04	ug/L	95
43) 1,2-Dichloropropane	7.312	63	21915	10.08	ug/L	94
44) Bromodichloromethane	7.379	83	25055	8.58	ug/L	99
46) 2-Chloroethyl Vinyl Ether	8.023	63	15685	12.76	ug/L #	100
47) c-1,3-Dichloropropene	8.090	75	30482	10.29	ug/L	89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102423.D
Acq On : 24 Oct 2019 6:36 pm
Operator : MM
Sample : 9J24043-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:32 2019
Quant Method : C:\msdchem\1\methods\~~VI191025W.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

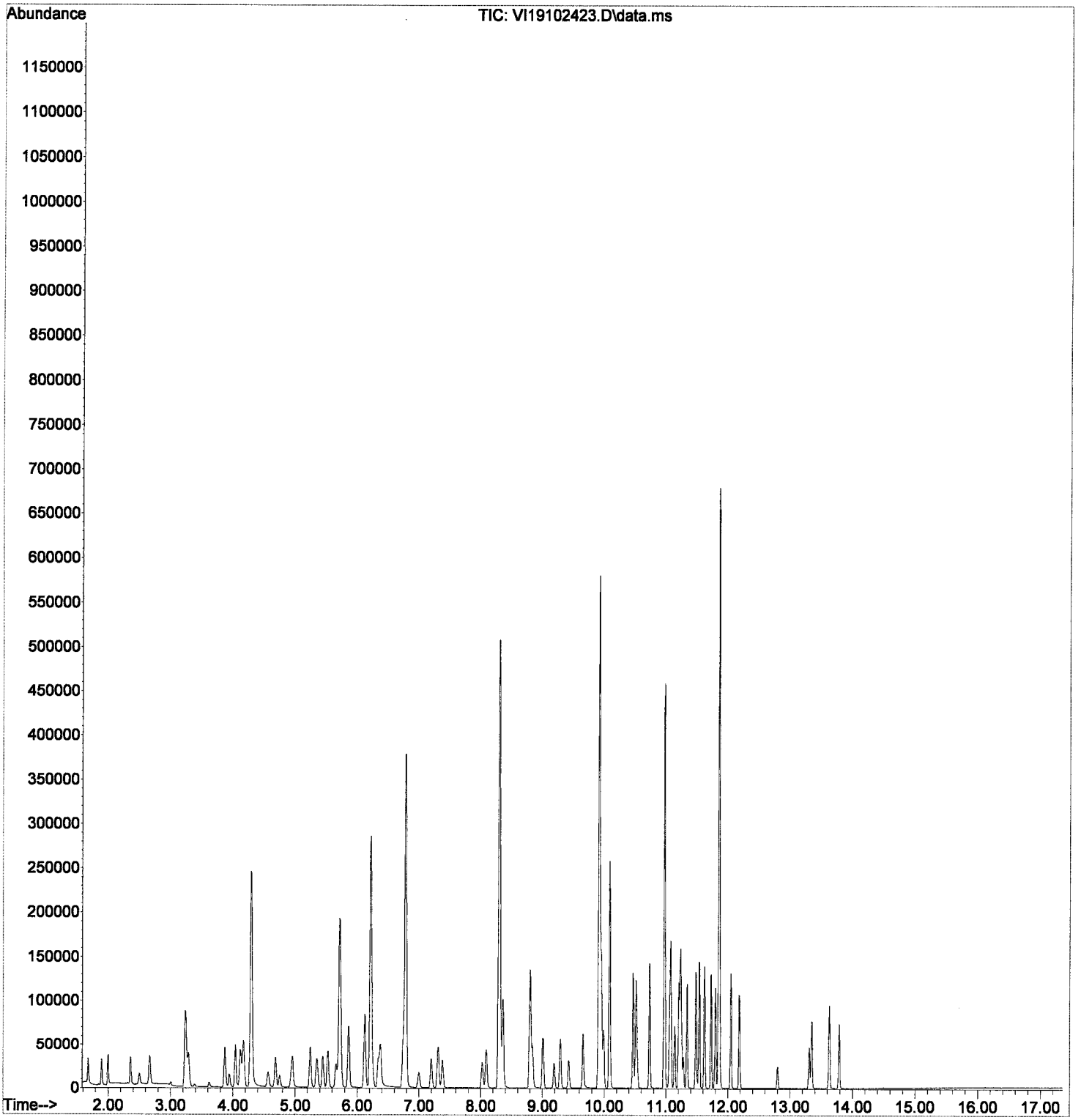
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	90400	10.33	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	22099	11.06	ug/L		92
51) 4-Methyl-2-Pentanone (...	8.802	43	58009	20.92	ug/L		92
52) t-1,3-Dichloropropene	8.839	75	26302	8.92	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	21402	10.15	ug/L		91
54) Dibromochloromethane	9.192	129	17208	7.78	ug/L		98
55) 1,3-Dichloropropane	9.289	76	36354	10.31	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.423	107	22884	10.57	ug/L		92
57) 2-Hexanone	9.654	43	41881	20.88	ug/L		91
58) Chlorobenzene	9.928	112	60359	10.89	ug/L		98
59) Ethylbenzene	9.952	91	96018	10.49	ug/L		97
60) 1,1,1,2-Tetrachloroethane	9.988	131	16995	8.86	ug/L		94
61) m,p-Xylenes (2)	10.086	91	142004	21.90	ug/L		100
62) o-Xylene	10.463	91	71417	11.16	ug/L		99
63) Styrene	10.512	104	57022	11.55	ug/L		96
64) Bromoform	10.536	173	10701	6.82	ug/L		97
65) Isopropylbenzene	10.731	105	86673	11.50	ug/L		99
68) Bromobenzene	11.059	156	24222	11.27	ug/L		89
69) n-Propylbenzene	11.071	91	99009	10.59	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.138	85	20098	10.31	ug/L		97
71) 2-Chlorotoluene	11.205	126	21625	11.66	ug/L		93
72) 1,3,5-Trimethylbenzene	11.230	105	69892	11.21	ug/L		98
73) 1,2,3-Trichloropropane	11.248	110	10162	10.68	ug/L		92
74) t-1,4-Dichloro-2-butene	11.278	53	6985	9.43	ug/L	#	66
75) 4-Chlorotoluene	11.339	91	61742	11.13	ug/L		98
76) tert-Butylbenzene	11.479	91	38411	11.19	ug/L		96
77) 1,2,4-Trimethylbenzene	11.534	105	70882	11.77	ug/L		98
78) sec-Butylbenzene	11.619	105	83977	11.24	ug/L		99
79) 4-Isopropyltoluene	11.728	119	68628	12.35	ug/L		98
80) 1,3-Dichlorobenzene	11.795	146	41299	10.93	ug/L		98
81) 1,4-Dichlorobenzene	11.862	146	42771	10.30	ug/L		96
82) n-Butylbenzene	12.045	91	59515	11.45	ug/L		98
83) 1,2-Dichlorobenzene	12.179	146	40125	11.07	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.799	157	6234	10.99	ug/L		83
85) Hexachlorobutadiene	13.304	223	5468	10.86	ug/L		93
86) 1,2,4-Trichlorobenzene	13.347	180	23133	13.41	ug/L		99
87) Naphthalene	13.626	128	72324	13.49	ug/L		97
88) 1,2,3-Trichlorobenzene	13.785	180	22293	13.22	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102423.D
Acq On : 24 Oct 2019 6:36 pm
Operator : MM
Sample : 9J24043-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:32 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102424.D
Acq On : 24 Oct 2019 7:03 pm
Operator : MM
Sample : 9J24043-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:35 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

MM 10/25/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	112406	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	307093	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	151591	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	109549	47.51	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.777	114	354922	55.12	ug/L		-0.01
48) Toluene-d8 (S)	8.298	98	399810	50.43	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	120976	49.61	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.673	85	35982	16.29	ug/L		98
3) Chloromethane	1.892	50	45062	17.32	ug/L		97
4) Vinyl Chloride	1.995	62	49916	21.50	ug/L		96
5) Bromomethane	2.354	96	27599	15.42	ug/L		98
6) Chloroethane	2.488	64	19851	16.84	ug/L		80
7) Trichlorofluoromethane	2.658	101	58162	15.70	ug/L		96
8) Ethanol	3.230	45	70360	1567.21	ug/L		87
9) 1,1-Dichloroethene	3.230	61	54074	19.06	ug/L		94
10) Carbon Disulfide	3.242	76	98898	21.25	ug/L		98
11) Freon 113	3.279	101	39711	21.45	ug/L		97
12) Iodomethane	3.382	142	11472	16.74	ug/L		96
13) Acrolein	3.613	56	10458	26.07	ug/L		77
14) Methylene Chloride	3.869	84	43598	19.20	ug/L		88
15) Acetone	3.936	43	39380	40.66	ug/L		94
16) t-1,2-Dichloroethene	4.033	61	56066	22.05	ug/L		94
17) n-Hexane	4.118	86	8308	26.66	ug/L		95
18) Methyl-tert-butyl-ether	4.167	73	123669	22.05	ug/L		95
19) tert-Butanol (TBA)	4.289	59	614954	1769.71	ug/L		97
20) Diisopropyl ether (DIPE)	4.562	45	34871	6.10	ug/L		94
21) 1,1-Dichloroethane	4.678	63	75120	20.96	ug/L		96
22) Acrylonitrile	4.745	53	22973	21.71	ug/L		97
23) Ethyl-tert-butyl ether...	4.939	59	33471	6.59	ug/L		98
24) Vinyl Acetate	4.952	43	90141	21.14	ug/L		97
25) c-1,2-Dichloroethene	5.238	61	58359	20.86	ug/L		92
26) 2,2-Dichloropropane	5.347	77	48254	19.30	ug/L		97
27) Bromochloromethane	5.444	130	30935	22.39	ug/L		93
28) Chloroform	5.523	83	76239	19.85	ug/L		97
29) Carbon Tetrachloride	5.657	117	43938	16.68	ug/L		92
30) Tetrahydrofuran	5.700	42	21330	22.95	ug/L		89
31) 1,1,1-Trichloroethane	5.730	97	62000	19.52	ug/L		96
33) 1,1-Dichloropropene	5.858	75	59019	23.19	ug/L		96
34) 2-Butanone (MEK)	5.852	43	64474	43.67	ug/L		98
35) Benzene	6.120	78	175817	22.96	ug/L		96
36) tert-Amyl methyl ether...	6.247	73	30296	5.94	ug/L		96
37) 1,2-Dichloroethane (EDC)	6.339	62	58731	18.79	ug/L		91
38) iso-Butyl Alcohol	6.369	43	83527	624.61	ug/L		94
40) Trichloroethene (TCE)	6.740	130	47359	24.28	ug/L		92
41) Tert-Amyl-Ethyl-Ether ...	6.996	59	22696	7.05	ug/L		83
42) Dibromomethane	7.196	93	29514	21.24	ug/L		94
43) 1,2-Dichloropropane	7.306	63	44422	21.38	ug/L		92
44) Bromodichloromethane	7.379	83	51693	18.52	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.018	63	33274	26.29	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	64475	22.18	ug/L		87

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102424.D
Acq On : 24 Oct 2019 7:03 pm
Operator : MM
Sample : 9J24043-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:35 2019
Quant Method : C:\msdchem\1\methods\~~VI191025~~W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

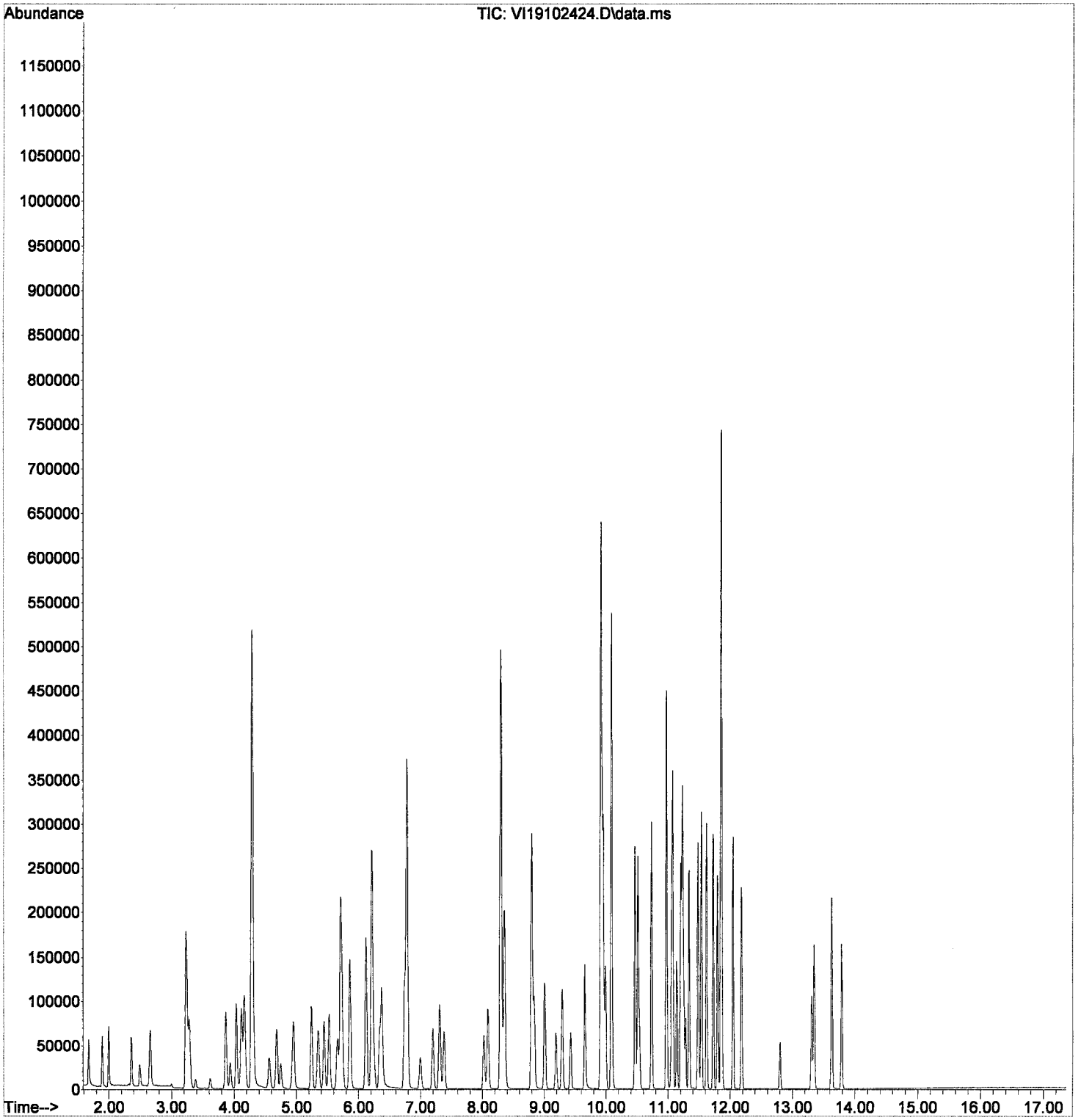
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	183309	21.33	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	45467	23.17	ug/L		91
51) 4-Methyl-2-Pentanone (...	8.796	43	120524	44.27	ug/L		94
52) t-1,3-Dichloropropene	8.833	75	57085	19.72	ug/L		96
53) 1,1,2-Trichloroethane	9.003	97	43171	20.86	ug/L		95
54) Dibromochloromethane	9.186	129	36932	17.00	ug/L		99
55) 1,3-Dichloropropane	9.289	76	73700	21.29	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.423	107	46797	22.02	ug/L		95
57) 2-Hexanone	9.654	43	87528	44.45	ug/L		92
58) Chlorobenzene	9.928	112	120984	22.23	ug/L		99
59) Ethylbenzene	9.952	91	195460	21.76	ug/L		96
60) 1,1,1,2-Tetrachloroethane	9.989	131	36336	19.29	ug/L		96
61) m,p-Xylenes (2)	10.086	91	297066	46.05	ug/L		100
62) o-Xylene	10.463	91	149422	23.36	ug/L		99
63) Styrene	10.512	104	120205	24.26	ug/L		98
64) Bromoform	10.536	173	23844	15.48	ug/L		97
65) Isopropylbenzene	10.731	105	182751	24.16	ug/L		100
68) Bromobenzene	11.060	156	50013	22.90	ug/L		89
69) n-Propylbenzene	11.072	91	210703	22.19	ug/L		100
70) 1,1,2,2-Tetrachloroethane	11.139	85	41819	21.12	ug/L		95
71) 2-Chlorotoluene	11.206	126	45664	24.23	ug/L		95
72) 1,3,5-Trimethylbenzene	11.230	105	148694	23.48	ug/L		98
73) 1,2,3-Trichloropropane	11.248	110	20199	20.89	ug/L		96
74) t-1,4-Dichloro-2-butene	11.279	53	14515	19.29	ug/L	#	73
75) 4-Chlorotoluene	11.339	91	129933	23.05	ug/L		99
76) tert-Butylbenzene	11.479	91	81742	23.44	ug/L		95
77) 1,2,4-Trimethylbenzene	11.534	105	151018	24.30	ug/L		97
78) sec-Butylbenzene	11.619	105	180894	23.84	ug/L		99
79) 4-Isopropyltoluene	11.729	119	151382	26.15	ug/L		97
80) 1,3-Dichlorobenzene	11.796	146	86247	22.48	ug/L		98
81) 1,4-Dichlorobenzene	11.863	146	89594	21.23	ug/L		97
82) n-Butylbenzene	12.045	91	130970	24.80	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	83871	22.77	ug/L		97
84) 1,2-Dibromo-3-Chloropr...	12.799	157	13740	23.83	ug/L		96
85) Hexachlorobutadiene	13.304	223	12054	23.57	ug/L		92
86) 1,2,4-Trichlorobenzene	13.347	180	50962	29.09	ug/L		98
87) Naphthalene	13.627	128	161860	28.24	ug/L		98
88) 1,2,3-Trichlorobenzene	13.785	180	48345	28.22	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102424.D
Acq On : 24 Oct 2019 7:03 pm
Operator : MM
Sample : 9J24043-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:35 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102425.D
Acq On : 24 Oct 2019 7:30 pm
Operator : MM
Sample : 9J24043-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:38 2019
Quant Method : C:\msdchem\1\methods\~~VI191025~~W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	115635	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	321159	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	158122	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	116809	49.24	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.777	114	370144	55.88	ug/L		-0.01
48) Toluene-d8 (S)	8.298	98	415062	50.06	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	125801	49.46	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	109425	48.15	ug/L		99
3) Chloromethane	1.892	50	118956	44.44	ug/L		96
4) Vinyl Chloride	1.995	62	133008	55.69	ug/L		97
5) Bromomethane	2.360	96	66917	36.34	ug/L		96
6) Chloroethane	2.494	64	51695	42.64	ug/L		82
7) Trichlorofluoromethane	2.664	101	145579	38.20	ug/L		95
8) Ethanol	3.230	45	131053	2837.58	ug/L		88
9) 1,1-Dichloroethene	3.230	61	137847	47.23	ug/L		91
10) Carbon Disulfide	3.248	76	254448	53.14	ug/L		98
11) Freon 113	3.285	101	97812	51.37	ug/L		94
12) Iodomethane	3.382	142	57651	55.87	ug/L		92
13) Acrolein	3.613	56	28604	69.32	ug/L		78
14) Methylene Chloride	3.869	84	102541	48.75	ug/L		89
15) Acetone	3.936	43	93945	94.28	ug/L		97
16) t-1,2-Dichloroethene	4.039	61	137318	52.49	ug/L		92
17) n-Hexane	4.118	86	21163	66.01	ug/L	#	91
18) Methyl-tert-butyl-ether	4.167	73	313020	54.26	ug/L		94
19) tert-Butanol (TBA)	4.288	59	1172838	3280.93	ug/L		94
20) Diisopropyl ether (DIPE)	4.562	45	63994	10.88	ug/L		93
21) 1,1-Dichloroethane	4.684	63	182910	49.62	ug/L		96
22) Acrylonitrile	4.745	53	58667	53.90	ug/L		96
23) Ethyl-tert-butyl ether...	4.939	59	63126	12.08	ug/L		96
24) Vinyl Acetate	4.952	43	246127	56.12	ug/L		96
25) c-1,2-Dichloroethene	5.238	61	143124	49.74	ug/L		92
26) 2,2-Dichloropropane	5.347	77	122658	47.70	ug/L		96
27) Bromochloromethane	5.444	130	77572	54.59	ug/L		95
28) Chloroform	5.523	83	186984	47.32	ug/L		97
29) Carbon Tetrachloride	5.657	117	114614	42.30	ug/L		94
30) Tetrahydrofuran	5.694	42	54072	56.56	ug/L		88
31) 1,1,1-Trichloroethane	5.730	97	156566	47.91	ug/L		96
33) 1,1-Dichloropropene	5.858	75	146998	56.14	ug/L		96
34) 2-Butanone (MEK)	5.852	43	162223	106.80	ug/L		96
35) Benzene	6.120	78	434612	55.18	ug/L		96
36) tert-Amyl methyl ether...	6.241	73	56793	10.83	ug/L		98
37) 1,2-Dichloroethane (EDC)	6.339	62	143950	44.78	ug/L		92
38) iso-Butyl Alcohol	6.369	43	224878	1634.66	ug/L		92
40) Trichloroethene (TCE)	6.740	130	118626	59.12	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	6.996	59	42660	12.88	ug/L		84
42) Dibromomethane	7.196	93	74270	51.96	ug/L		96
43) 1,2-Dichloropropane	7.306	63	109124	51.04	ug/L		92
44) Bromodichloromethane	7.379	83	133532	46.50	ug/L		95
46) 2-Chloroethyl Vinyl Ether	8.018	63	88331	62.62	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	166893	54.89	ug/L		87

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102425.D
Acq On : 24 Oct 2019 7:30 pm
Operator : MM
Sample : 9J24043-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:38 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

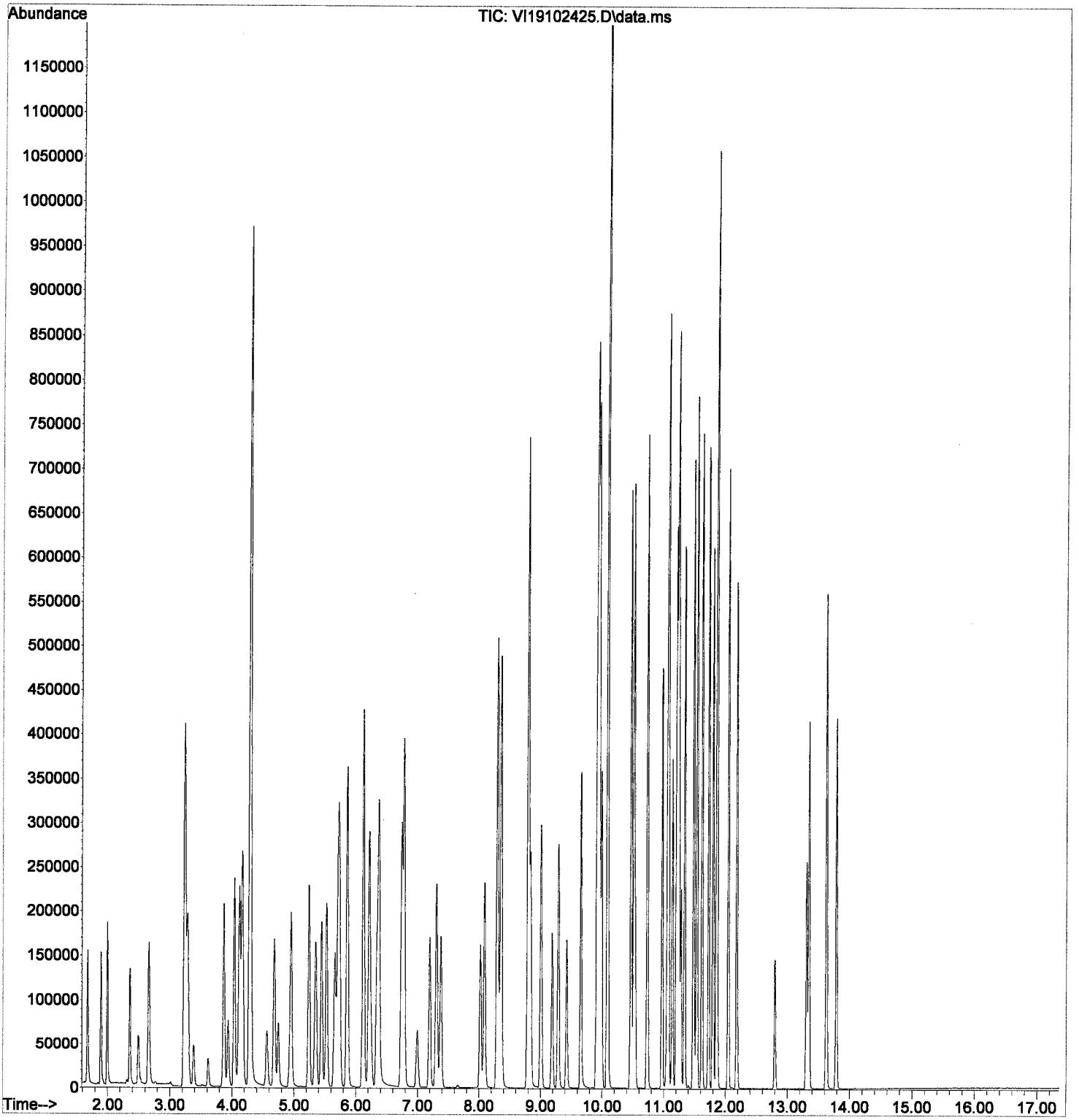
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.358	91	446611	49.69	ug/L	99
50) Tetrachloroethene (PCE)	8.796	166	113079	55.11	ug/L	92
51) 4-Methyl-2-Pentanone (...	8.796	43	304356	106.90	ug/L	94
52) t-1,3-Dichloropropene	8.833	75	151987	50.21	ug/L	97
53) 1,1,2-Trichloroethane	9.003	97	107594	49.71	ug/L	94
54) Dibromochloromethane	9.186	129	101291	44.59	ug/L	96
55) 1,3-Dichloropropane	9.289	76	183541	50.70	ug/L	91
56) 1,2-Dibromoethane (EDB)	9.423	107	117418	52.83	ug/L	95
57) 2-Hexanone	9.648	43	224495	109.02	ug/L	91
58) Chlorobenzene	9.928	112	301806	53.03	ug/L	98
59) Ethylbenzene	9.952	91	486890	51.84	ug/L	97
60) 1,1,1,2-Tetrachloroethane	9.989	131	95075	48.26	ug/L	97
61) m,p-Xylenes (2)	10.086	91	738497	106.14	ug/L	99
62) o-Xylene	10.463	91	371768	53.47	ug/L	99
63) Styrene	10.512	104	307044	56.78	ug/L	98
64) Bromoform	10.536	173	71080	44.14	ug/L	96
65) Isopropylbenzene	10.731	105	458349	55.46	ug/L	98
68) Bromobenzene	11.060	156	126180	55.39	ug/L	90
69) n-Propylbenzene	11.072	91	530991	53.60	ug/L	100
70) 1,1,2,2-Tetrachloroethane	11.139	85	106506	51.56	ug/L	94
71) 2-Chlorotoluene	11.206	126	113724	57.85	ug/L	93
72) 1,3,5-Trimethylbenzene	11.230	105	370702	56.11	ug/L	97
73) 1,2,3-Trichloropropane	11.248	110	51746	51.31	ug/L	92
74) t-1,4-Dichloro-2-butene	11.279	53	38431	48.98	ug/L	84
75) 4-Chlorotoluene	11.333	91	325043	55.29	ug/L	95
76) tert-Butylbenzene	11.479	91	202040	55.54	ug/L	97
77) 1,2,4-Trimethylbenzene	11.534	105	374779	56.03	ug/L	96
78) sec-Butylbenzene	11.619	105	451933	57.09	ug/L	98
79) 4-Isopropyltoluene	11.729	119	378247	59.61	ug/L	97
80) 1,3-Dichlorobenzene	11.796	146	218694	54.64	ug/L	99
81) 1,4-Dichlorobenzene	11.863	146	222386	50.52	ug/L	98
82) n-Butylbenzene	12.045	91	325681	59.11	ug/L	99
83) 1,2-Dichlorobenzene	12.179	146	211431	55.02	ug/L	98
84) 1,2-Dibromo-3-Chloropr...	12.799	157	38435	63.92	ug/L	93
85) Hexachlorobutadiene	13.304	223	29829	55.92	ug/L	96
86) 1,2,4-Trichlorobenzene	13.341	180	128379	70.24	ug/L	96
87) Naphthalene	13.627	128	425207	64.94	ug/L	98
88) 1,2,3-Trichlorobenzene	13.785	180	123175	68.94	ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102425.D
Acq On : 24 Oct 2019 7:30 pm
Operator : MM
Sample : 9J24043-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:38 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102426.D
Acq On : 24 Oct 2019 7:57 pm
Operator : MM
Sample : 9J24043-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:40 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

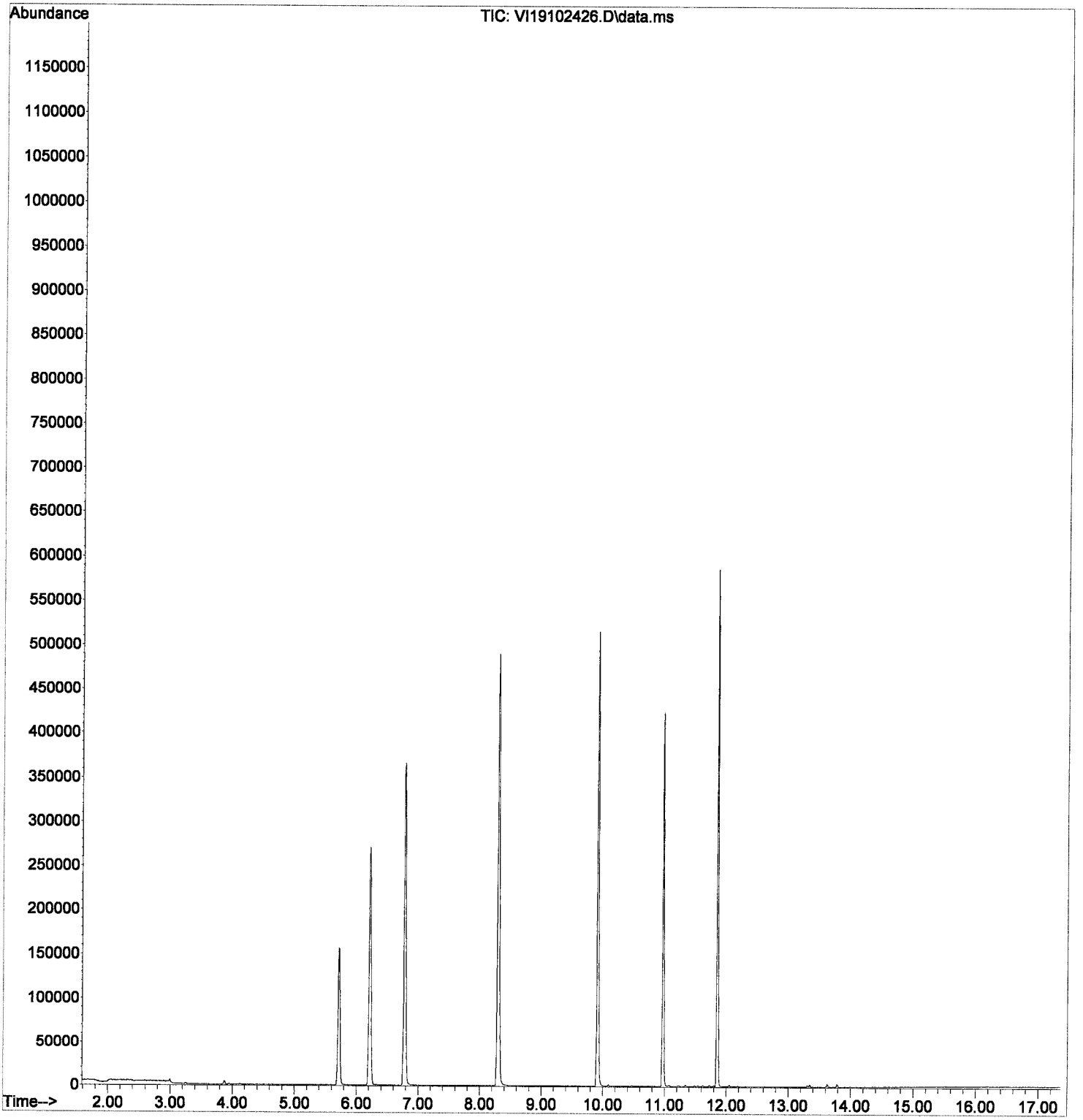
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	112457	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.910	117	299558	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	136435	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	110045	49.80	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	354886	49.95	ug/L		0.00
48) Toluene-d8 (S)	8.298	98	401381	51.05	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	112112	50.86	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	219	0.12	ug/L	#	49
3) Chloromethane	1.898	50	309	0.13	ug/L	#	47
5) Bromomethane	2.366	96	254	0.18	ug/L	#	43
6) Chloroethane	2.518	64	211	0.19	ug/L	#	36
10) Carbon Disulfide	3.248	76	1601	0.33	ug/L		78
15) Acetone	3.948	43	1040	1.06	ug/L		95
50) Tetrachloroethene (PCE)	8.803	166	260	0.13	ug/L	#	25
61) m,p-Xylenes (2)	10.092	91	1118	0.16	ug/L		95
69) n-Propylbenzene	11.072	91	1265	0.14	ug/L		91
72) 1,3,5-Trimethylbenzene	11.230	105	651	0.11	ug/L		81
75) 4-Chlorotoluene	11.339	91	738	0.13	ug/L		86
76) tert-Butylbenzene	11.485	91	323	0.09	ug/L	#	83
77) 1,2,4-Trimethylbenzene	11.540	105	743	0.12	ug/L		92
78) sec-Butylbenzene	11.625	105	1155	0.15	ug/L		94
79) 4-Isopropyltoluene	11.729	119	1010	0.17	ug/L		89
80) 1,3-Dichlorobenzene	11.802	146	590	0.16	ug/L		93
81) 1,4-Dichlorobenzene	11.863	146	797	0.21	ug/L	#	7
82) n-Butylbenzene	12.051	91	1166	0.23	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	421	0.12	ug/L	#	70
85) Hexachlorobutadiene	13.304	223	332	0.66	ug/L	#	72
86) 1,2,4-Trichlorobenzene	13.341	180	1230	0.60	ug/L		94
87) Naphthalene	13.627	128	3549	0.54	ug/L		93
88) 1,2,3-Trichlorobenzene	13.785	180	1510	0.77	ug/L		82

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102426.D
Acq On : 24 Oct 2019 7:57 pm
Operator : MM
Sample : 9J24043-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:40 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102427.D
Acq On : 24 Oct 2019 8:24 pm
Operator : MM
Sample : 9J24043-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:41 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	111989	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.909	117	318635	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	163243	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113819	49.55	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	356857	55.62	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	405945	49.35	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	124392	47.37	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.684	85	212153	96.39	ug/L		98
3) Chloromethane	1.897	50	226754	87.47	ug/L		96
4) Vinyl Chloride	2.001	62	258510	111.76	ug/L		98
5) Bromomethane	2.366	96	125242	70.23	ug/L		98
6) Chloroethane	2.506	64	53786	45.81	ug/L		81
7) Trichlorofluoromethane	2.664	101	279991	75.86	ug/L		97
8) Ethanol	3.242	45	254643	5693.08	ug/L		88
9) 1,1-Dichloroethene	3.236	61	286478	101.36	ug/L		92
10) Carbon Disulfide	3.254	76	531736	114.66	ug/L		98
11) Freon 113	3.291	101	204168	110.71	ug/L		97
12) Iodomethane	3.388	142	153366	122.76	ug/L		92
13) Acrolein	3.625	56	60054	150.27	ug/L		72
14) Methylene Chloride	3.875	84	209114	104.97	ug/L		88
15) Acetone	3.942	43	188786	195.63	ug/L		96
16) t-1,2-Dichloroethene	4.039	61	285846	112.82	ug/L		95
17) n-Hexane	4.124	86	43920	141.46	ug/L		93
18) Methyl-tert-butyl-ether	4.167	73	646936	115.78	ug/L		92
19) tert-Butanol (TBA)	4.294	59	2295578	6630.79	ug/L		91
20) Diisopropyl ether (DIPE)	4.568	45	122827	21.57	ug/L		93
21) 1,1-Dichloroethane	4.684	63	379907	106.41	ug/L		96
22) Acrylonitrile	4.751	53	122564	116.27	ug/L		98
23) Ethyl-tert-butyl ether...	4.939	59	121788	24.06	ug/L		98
24) Vinyl Acetate	4.957	43	522592	123.03	ug/L		95
25) c-1,2-Dichloroethene	5.243	61	297452	106.74	ug/L		91
26) 2,2-Dichloropropane	5.353	77	252830	101.52	ug/L		95
27) Bromochloromethane	5.450	130	151653	110.19	ug/L		94
28) Chloroform	5.529	83	385051	100.61	ug/L		97
29) Carbon Tetrachloride	5.663	117	247648	94.37	ug/L		94
30) Tetrahydrofuran	5.700	42	111881	120.85	ug/L		86
31) 1,1,1-Trichloroethane	5.736	97	325398	102.81	ug/L		96
33) 1,1-Dichloropropene	5.864	75	308104	121.49	ug/L		95
34) 2-Butanone (MEK)	5.852	43	331914	225.64	ug/L		97
35) Benzene	6.119	78	900809	118.09	ug/L		96
36) tert-Amyl methyl ether...	6.247	73	111127	21.87	ug/L		99
37) 1,2-Dichloroethane (EDC)	6.338	62	294149	94.48	ug/L		92
38) iso-Butyl Alcohol	6.375	43	450055	3378.00	ug/L		92
40) Trichloroethene (TCE)	6.746	130	245311	126.23	ug/L		94
41) Tert-Amyl-Ethyl-Ether ...	6.995	59	83591	26.07	ug/L		86
42) Dibromomethane	7.196	93	155032	111.99	ug/L		94
43) 1,2-Dichloropropane	7.312	63	229327	110.76	ug/L		90
44) Bromodichloromethane	7.379	83	282119	101.45	ug/L		92
46) 2-Chloroethyl Vinyl Ether	8.024	63	185987	122.70	ug/L	#	100
47) c-1,3-Dichloropropene	8.090	75	356393	118.14	ug/L		86

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102427.D
Acq On : 24 Oct 2019 8:24 pm
Operator : MM
Sample : 9J24043-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:41 2019
Quant Method : C:\msdchem\1\methods\~~VI191025~~W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

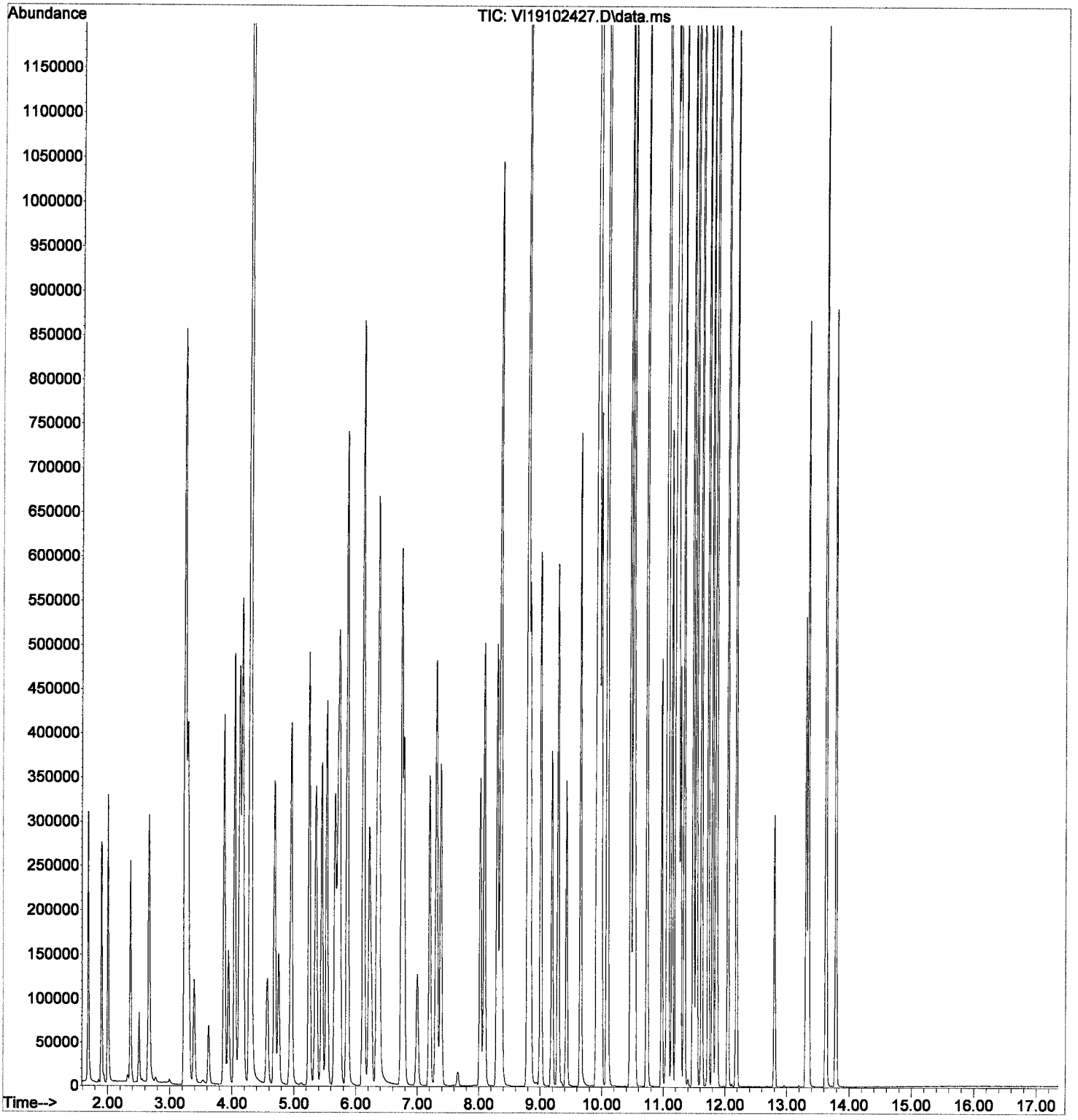
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.358	91	931584	104.48	ug/L	99
50) Tetrachloroethene (PCE)	8.796	166	236880	116.36	ug/L	92
51) 4-Methyl-2-Pentanone (...	8.796	43	616767	218.34	ug/L	92
52) t-1,3-Dichloropropene	8.839	75	327146	108.93	ug/L	98
53) 1,1,2-Trichloroethane	9.009	97	221018	102.93	ug/L	92
54) Dibromochloromethane	9.186	129	222919	98.91	ug/L	98
55) 1,3-Dichloropropane	9.289	76	379039	105.53	ug/L	90
56) 1,2-Dibromoethane (EDB)	9.423	107	243688	110.52	ug/L	94
57) 2-Hexanone	9.654	43	456833	223.60	ug/L	90
58) Chlorobenzene	9.928	112	624905	110.67	ug/L	98
59) Ethylbenzene	9.952	91	1015747	109.00	ug/L	97
60) 1,1,1,2-Tetrachloroethane	9.989	131	206263	105.52	ug/L	96
61) m,p-Xylenes (2)	10.086	91	1568164	215.46	ug/L	98
62) o-Xylene	10.463	91	785588	106.87	ug/L	100
63) Styrene	10.512	104	653902	114.07	ug/L	98
64) Bromoform	10.536	173	162527	101.72	ug/L	98
65) Isopropylbenzene	10.731	105	973691	110.72	ug/L	98
68) Bromobenzene	11.059	156	265287	112.81	ug/L	91
69) n-Propylbenzene	11.071	91	1142995	111.76	ug/L	100
70) 1,1,2,2-Tetrachloroethane	11.138	85	212550	99.67	ug/L	94
71) 2-Chlorotoluene	11.205	126	238214	117.38	ug/L	96
72) 1,3,5-Trimethylbenzene	11.230	105	783721	114.91	ug/L	97
73) 1,2,3-Trichloropropane	11.248	110	103994	99.89	ug/L	91
74) t-1,4-Dichloro-2-butene	11.278	53	76466	94.39	ug/L	93
75) 4-Chlorotoluene	11.339	91	688819	113.48	ug/L	98
76) tert-Butylbenzene	11.479	91	431117	114.79	ug/L	98
77) 1,2,4-Trimethylbenzene	11.534	105	798406	110.07	ug/L	97
78) sec-Butylbenzene	11.619	105	969880	118.68	ug/L	98
79) 4-Isopropyltoluene	11.728	119	812481	115.11	ug/L	97
80) 1,3-Dichlorobenzene	11.795	146	461068	111.58	ug/L	98
81) 1,4-Dichlorobenzene	11.862	146	468883	103.17	ug/L	97
82) n-Butylbenzene	12.045	91	694929	122.18	ug/L	99
83) 1,2-Dichlorobenzene	12.185	146	439251	110.73	ug/L	98
84) 1,2-Dibromo-3-Chloropr...	12.799	157	81625	131.48	ug/L	92
85) Hexachlorobutadiene	13.304	223	62008	112.60	ug/L	96
86) 1,2,4-Trichlorobenzene	13.347	180	268764	142.44	ug/L	98
87) Naphthalene	13.627	128	899370	118.81	ug/L	98
88) 1,2,3-Trichlorobenzene	13.785	180	260549	141.24	ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102427.D
Acq On : 24 Oct 2019 8:24 pm
Operator : MM
Sample : 9J24043-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:41 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102428.D
Acq On : 24 Oct 2019 8:51 pm
Operator : MM
Sample : 9J24043-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:44 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	111004	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	296306	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	134814	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	109567	50.24	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	354190	50.51	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	395820	50.89	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	112213	51.51	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	460	0.25	ug/L	#	49
3) Chloromethane	1.904	50	377	0.16	ug/L	#	47
4) Vinyl Chloride	2.007	62	243	0.10	ug/L	#	50
5) Bromomethane	2.378	96	380	0.27	ug/L	#	63
6) Chloroethane	2.475	64	250	0.23	ug/L	#	36
7) Trichlorofluoromethane	2.676	101	332	0.12	ug/L	#	27
9) 1,1-Dichloroethene	3.242	61	244	0.09	ug/L	#	66
10) Carbon Disulfide	3.260	76	3074	0.63	ug/L		91
11) Freon 113	3.303	101	464	0.25	ug/L	#	64
12) Iodomethane	3.394	142	124	6.13	ug/L	#	47
14) Methylene Chloride	3.881	84	3969	1.09	ug/L	#	77
15) Acetone	3.948	43	1229	1.26	ug/L		100
16) t-1,2-Dichloroethene	4.045	61	638	0.25	ug/L		95
19) tert-Butanol (TBA)	4.307	59	387	0.90	ug/L		46
33) 1,1-Dichloropropene	5.870	75	460	0.16	ug/L	#	43
40) Trichloroethene (TCE)	6.752	130	288	0.13	ug/L	#	77
49) Toluene	8.352	91	913	0.10	ug/L		85
50) Tetrachloroethene (PCE)	8.796	166	577	0.28	ug/L	#	68
58) Chlorobenzene	9.928	112	773	0.14	ug/L	#	1
59) Ethylbenzene	9.958	91	1209	0.13	ug/L		91
61) m,p-Xylenes (2)	10.092	91	2162	0.32	ug/L		89
62) o-Xylene	10.469	91	668	0.10	ug/L		82
63) Styrene	10.524	104	495	0.09	ug/L	#	42
65) Isopropylbenzene	10.731	105	1275	0.16	ug/L		97
68) Bromobenzene	11.059	156	288	0.14	ug/L		83
69) n-Propylbenzene	11.078	91	2421	0.27	ug/L		95
71) 2-Chlorotoluene	11.211	126	168	0.09	ug/L	#	78
72) 1,3,5-Trimethylbenzene	11.230	105	1309	0.21	ug/L		93
75) 4-Chlorotoluene	11.345	91	1369	0.25	ug/L		91
76) tert-Butylbenzene	11.485	91	751	0.22	ug/L		89
77) 1,2,4-Trimethylbenzene	11.540	105	1395	0.23	ug/L		94
78) sec-Butylbenzene	11.619	105	2367	0.31	ug/L		93
79) 4-Isopropyltoluene	11.729	119	2004	0.34	ug/L		95
80) 1,3-Dichlorobenzene	11.795	146	1269	0.35	ug/L		90
81) 1,4-Dichlorobenzene	11.862	146	1515	0.40	ug/L	#	64
82) n-Butylbenzene	12.045	91	2454	0.48	ug/L		99
83) 1,2-Dichlorobenzene	12.185	146	829	0.23	ug/L		91
85) Hexachlorobutadiene	13.304	223	765	1.55	ug/L		89
86) 1,2,4-Trichlorobenzene	13.341	180	2446	1.20	ug/L		96
87) Naphthalene	13.627	128	6843	1.06	ug/L		97
88) 1,2,3-Trichlorobenzene	13.785	180	2978	1.54	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102428.D
Acq On : 24 Oct 2019 8:51 pm
Operator : MM
Sample : 9J24043-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:44 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

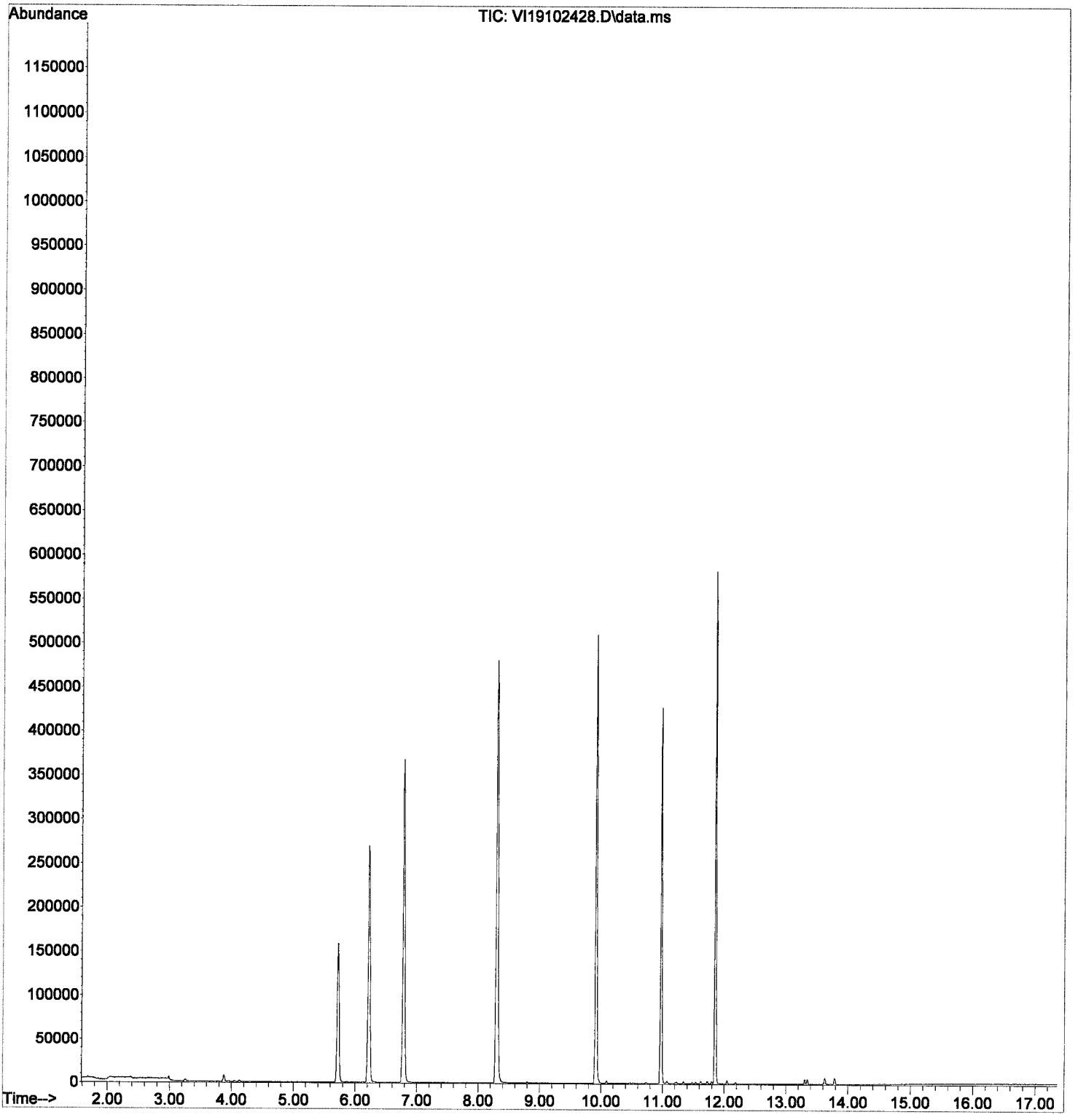
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102428.D
Acq On : 24 Oct 2019 8:51 pm
Operator : MM
Sample : 9J24043-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:44 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102429.D
Acq On : 24 Oct 2019 9:17 pm
Operator : MM
Sample : 9J24043-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:44 2019
Quant Method : C:\msdchem\1\methods\~~VI191025~~W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	116034	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	330915	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	169365	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	118677	49.86	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	369003	55.51	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	420947	49.28	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	127221	46.70	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	431143	189.06	ug/L		99
3) Chloromethane	1.897	50	456703	170.02	ug/L		96
4) Vinyl Chloride	2.001	62	521368	217.54	ug/L		97
5) Bromomethane	2.366	96	267468	144.76	ug/L		99
6) Chloroethane	2.494	64	53331	43.84	ug/L		86
7) Trichlorofluoromethane	2.658	101	556445	145.51	ug/L		96
8) ~~Ethanol~~	~~3.248~~	~~45~~	~~3815~~	~~82.32~~	~~ug/L~~	~~#~~	~~1~~
9) 1,1-Dichloroethene	3.230	61	567371	193.74	ug/L		92
10) Carbon Disulfide	3.248	76	1067583	222.18	ug/L		98
11) Freon 113	3.285	101	411156	215.18	ug/L		96
12) Iodomethane	3.388	142	348091	216.50	ug/L		94
13) Acrolein	3.619	56	116360	281.01	ug/L		72
14) Methylene Chloride	3.875	84	419637	199.87	ug/L		87
15) Acetone	3.942	43	375022	375.07	ug/L		94
16) t-1,2-Dichloroethene	4.039	61	579277	220.67	ug/L		91
17) n-Hexane	4.124	86	92077	286.23	ug/L		96
18) Methyl-tert-butyl-ether	4.167	73	1318751	227.79	ug/L		93
19) ~~tert-Butanol (TBA)~~	~~4.294~~	~~59~~	~~1885~~	~~5.26~~	~~ug/L~~	~~#~~	~~34~~
20) ~~Diisopropyl ether (DIPE)~~	~~4.568~~	~~45~~	~~1263~~	~~0.21~~	~~ug/L~~		~~96~~
21) 1,1-Dichloroethane	4.684	63	761535	205.86	ug/L		97
22) Acrylonitrile	4.751	53	243406	222.86	ug/L		99
23) ~~Ethyl-tert-butyl ether...~~	~~4.939~~	~~59~~	~~984~~	~~0.19~~	~~ug/L~~	~~#~~	~~1~~
24) Vinyl Acetate	4.957	43	980632	222.81	ug/L		94
25) c-1,2-Dichloroethene	5.243	61	597836	207.05	ug/L		89
26) 2,2-Dichloropropane	5.353	77	512393	198.56	ug/L		92
27) Bromochloromethane	5.450	130	288672	202.44	ug/L		91
28) Chloroform	5.529	83	776466	195.81	ug/L		96
29) Carbon Tetrachloride	5.663	117	525973	193.45	ug/L		95
30) Tetrahydrofuran	5.694	42	221252	230.66	ug/L		85
31) 1,1,1-Trichloroethane	5.736	97	663507	202.33	ug/L		95
33) 1,1-Dichloropropene	5.864	75	622283	236.82	ug/L		94
34) 2-Butanone (MEK)	5.852	43	651518	427.47	ug/L		95
35) Benzene	6.119	78	1815119	229.66	ug/L		96
36) ~~tert-Amyl methyl ether...~~	~~6.253~~	~~73~~	~~804~~	~~0.15~~	~~ug/L~~	~~#~~	~~44~~
37) 1,2-Dichloroethane (EDC)	6.338	62	583025	180.73	ug/L		92
38) iso-Butyl Alcohol	6.375	43	863259	6253.53	ug/L		90
40) Trichloroethene (TCE)	6.740	130	498651	247.64	ug/L		95
41) ~~Tert-Amyl-Ethyl-Ether ...~~	~~7.002~~	~~59~~	~~794~~	~~0.24~~	~~ug/L~~		~~83~~
42) Dibromomethane	7.196	93	314382	219.17	ug/L		96
43) 1,2-Dichloropropane	7.312	63	461364	215.06	ug/L		91
44) Bromodichloromethane	7.379	83	582259	202.08	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.024	63	361318	207.89	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	736312	235.01	ug/L		86

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102429.D
Acq On : 24 Oct 2019 9:17 pm
Operator : MM
Sample : 9J24043-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:44 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

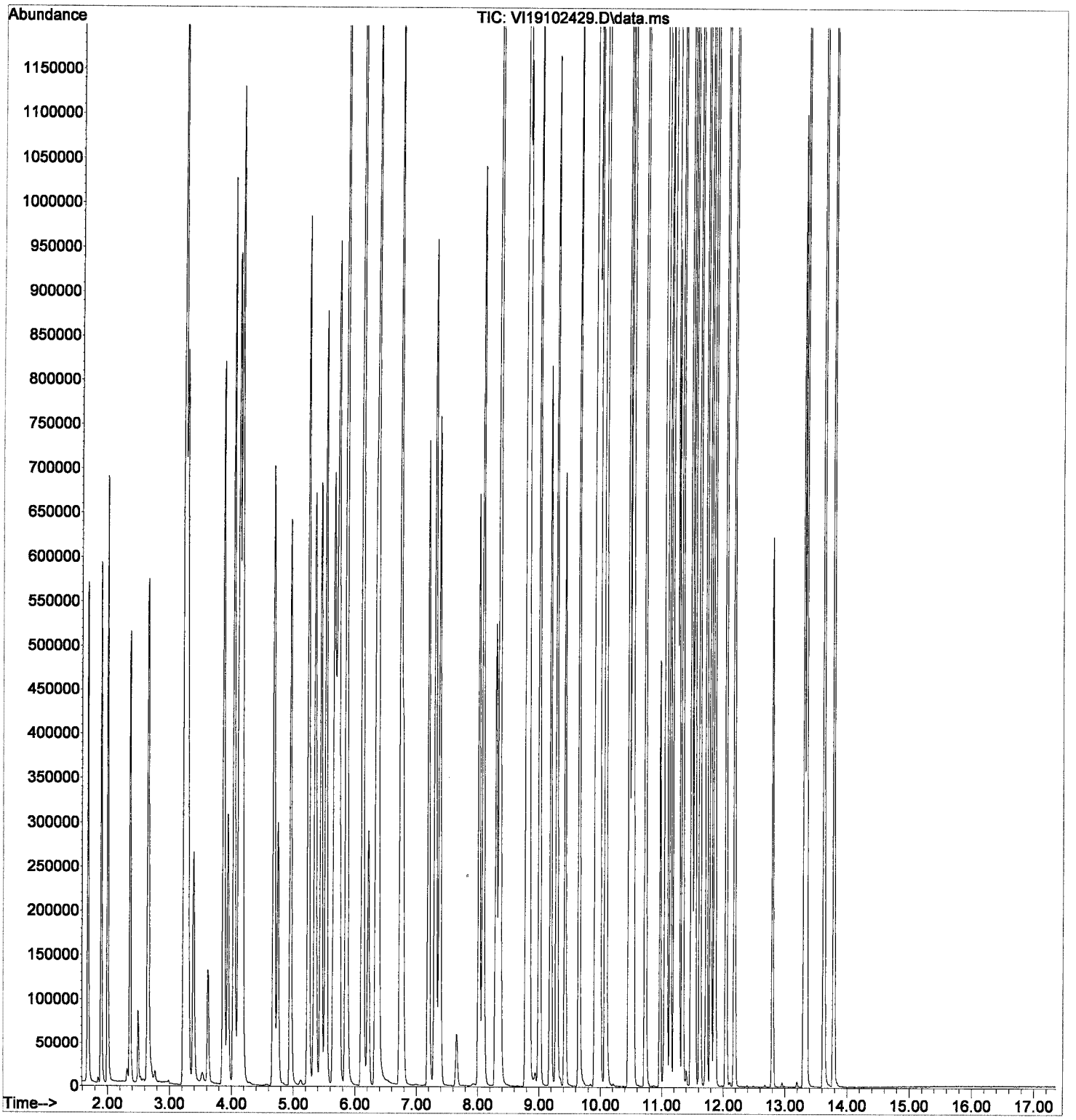
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.358	91	1905088	205.73	ug/L	100
50) Tetrachloroethene (PCE)	8.796	166	496433	234.81	ug/L	93
51) 4-Methyl-2-Pentanone (...	8.796	43	1166981	397.79	ug/L	90
52) t-1,3-Dichloropropene	8.839	75	678927	217.67	ug/L	98
53) 1,1,2-Trichloroethane	9.009	97	447395	200.62	ug/L	91
54) Dibromochloromethane	9.186	129	473598	202.33	ug/L	98
55) 1,3-Dichloropropane	9.289	76	755862	202.63	ug/L	88
56) 1,2-Dibromoethane (EDB)	9.423	107	496207	216.69	ug/L	95
57) 2-Hexanone	9.654	43	866990	408.61	ug/L	89
58) Chlorobenzene	9.928	112	1285529	219.22	ug/L	98
59) Ethylbenzene	9.952	91	2091382	216.09	ug/L	96
60) 1,1,1,2-Tetrachloroethane	9.989	131	427244	210.45	ug/L	97
61) m,p-Xylenes (2)	10.086	91	3227914	393.99	ug/L	97
62) o-Xylene	10.463	91	1606355	191.75	ug/L	99
63) Styrene	10.512	104	1353743	206.36	ug/L	98
64) Bromoform	10.536	173	351162	211.63	ug/L	97
65) Isopropylbenzene	10.731	105	1980670	196.46	ug/L	98
68) Bromobenzene	11.059	156	542011	222.15	ug/L	92
69) n-Propylbenzene	11.071	91	2308779	217.60	ug/L	99
70) 1,1,2,2-Tetrachloroethane	11.138	85	408430	184.60	ug/L	94
71) 2-Chlorotoluene	11.205	126	490093	232.77	ug/L	92
72) 1,3,5-Trimethylbenzene	11.230	105	1618836	228.77	ug/L	97
73) 1,2,3-Trichloropropane	11.248	110	199656	184.85	ug/L	91
74) t-1,4-Dichloro-2-butene	11.278	53	148266	176.41	ug/L	93
75) 4-Chlorotoluene	11.339	91	1379272	219.02	ug/L	99
76) tert-Butylbenzene	11.479	91	872573	223.94	ug/L	99
77) 1,2,4-Trimethylbenzene	11.534	105	1629601	200.54	ug/L	97
78) sec-Butylbenzene	11.619	105	1977513	233.24	ug/L	98
79) 4-Isopropyltoluene	11.729	119	1677679	205.31	ug/L	96
80) 1,3-Dichlorobenzene	11.795	146	936572	218.47	ug/L	99
81) 1,4-Dichlorobenzene	11.862	146	949679	201.41	ug/L	97
82) n-Butylbenzene	12.045	91	1435776	243.31	ug/L	100
83) 1,2-Dichlorobenzene	12.185	146	884385	214.88	ug/L	98
84) 1,2-Dibromo-3-Chloropr...	12.799	157	169849	263.70	ug/L	91
85) Hexachlorobutadiene	13.304	223	126838	221.99	ug/L	96
86) 1,2,4-Trichlorobenzene	13.347	180	564943	288.60	ug/L	97
87) Naphthalene	13.627	128	1872418	204.22	ug/L	98
88) 1,2,3-Trichlorobenzene	13.785	180	552458	288.66	ug/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102429.D
Acq On : 24 Oct 2019 9:17 pm
Operator : MM
Sample : 9J24043-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:10:44 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102430.D
Acq On : 24 Oct 2019 9:44 pm
Operator : MM
Sample : 9J24043-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:47 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	114565	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	310520	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	145083	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	112455	49.96	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	365140	50.45	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	412521	50.61	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	119053	50.79	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	901	0.48	ug/L		86
3) Chloromethane	1.904	50	702	0.28	ug/L		91
4) Vinyl Chloride	2.007	62	555	0.22	ug/L		76
5) Bromomethane	2.366	96	620	0.42	ug/L	#	66
6) Chloroethane	2.475	64	119	0.10	ug/L	#	36
7) Trichlorofluoromethane	2.682	101	785	0.28	ug/L		75
9) 1,1-Dichloroethene	3.242	61	667	0.25	ug/L	#	68
10) Carbon Disulfide	3.254	76	6515	1.30	ug/L		94
11) Freon 113	3.291	101	931	0.48	ug/L		95
12) Iodomethane	3.394	142	137	6.13	ug/L	#	47
14) Methylene Chloride	3.875	84	7612	2.78	ug/L		89
15) Acetone	3.954	43	1615	1.61	ug/L		99
16) t-1,2-Dichloroethene	4.045	61	1218	0.46	ug/L		78
17) n-Hexane	4.136	86	112	0.28	ug/L	#	32
25) c-1,2-Dichloroethene	5.250	61	460	0.16	ug/L		83
33) 1,1-Dichloropropene	5.870	75	1080	0.37	ug/L		91
35) Benzene	6.132	78	1050	0.12	ug/L		55
40) Trichloroethene (TCE)	6.746	130	726	0.32	ug/L		83
49) Toluene	8.364	91	1892	0.21	ug/L		82
50) Tetrachloroethene (PCE)	8.802	166	1170	0.55	ug/L		97
52) t-1,3-Dichloropropene	8.851	75	248	0.09	ug/L	#	45
58) Chlorobenzene	9.928	112	1487	0.26	ug/L	#	41
59) Ethylbenzene	9.952	91	2481	0.26	ug/L		98
61) m,p-Xylenes (2)	10.086	91	3988	0.57	ug/L		87
62) o-Xylene	10.469	91	1347	0.19	ug/L		91
63) Styrene	10.518	104	1067	0.19	ug/L		84
65) Isopropylbenzene	10.731	105	2410	0.28	ug/L		98
68) Bromobenzene	11.059	156	607	0.27	ug/L	#	77
69) n-Propylbenzene	11.078	91	4614	0.48	ug/L		96
71) 2-Chlorotoluene	11.205	126	614	0.30	ug/L		91
72) 1,3,5-Trimethylbenzene	11.230	105	2535	0.38	ug/L		94
75) 4-Chlorotoluene	11.339	91	2932	0.49	ug/L		94
76) tert-Butylbenzene	11.479	91	1522	0.41	ug/L	#	74
77) 1,2,4-Trimethylbenzene	11.540	105	2816	0.42	ug/L		95
78) sec-Butylbenzene	11.619	105	4551	0.56	ug/L		94
79) 4-Isopropyltoluene	11.729	119	3934	0.61	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	2380	0.61	ug/L		96
81) 1,4-Dichlorobenzene	11.862	146	2728	0.67	ug/L	#	77
82) n-Butylbenzene	12.045	91	4783	0.88	ug/L		94
83) 1,2-Dichlorobenzene	12.185	146	1646	0.43	ug/L		95
85) Hexachlorobutadiene	13.304	223	1948	3.66	ug/L		90
86) 1,2,4-Trichlorobenzene	13.347	180	4827	2.20	ug/L		92
87) Naphthalene	13.627	128	13602	1.95	ug/L		98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102430.D
Acq On : 24 Oct 2019 9:44 pm
Operator : MM
Sample : 9J24043-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:47 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

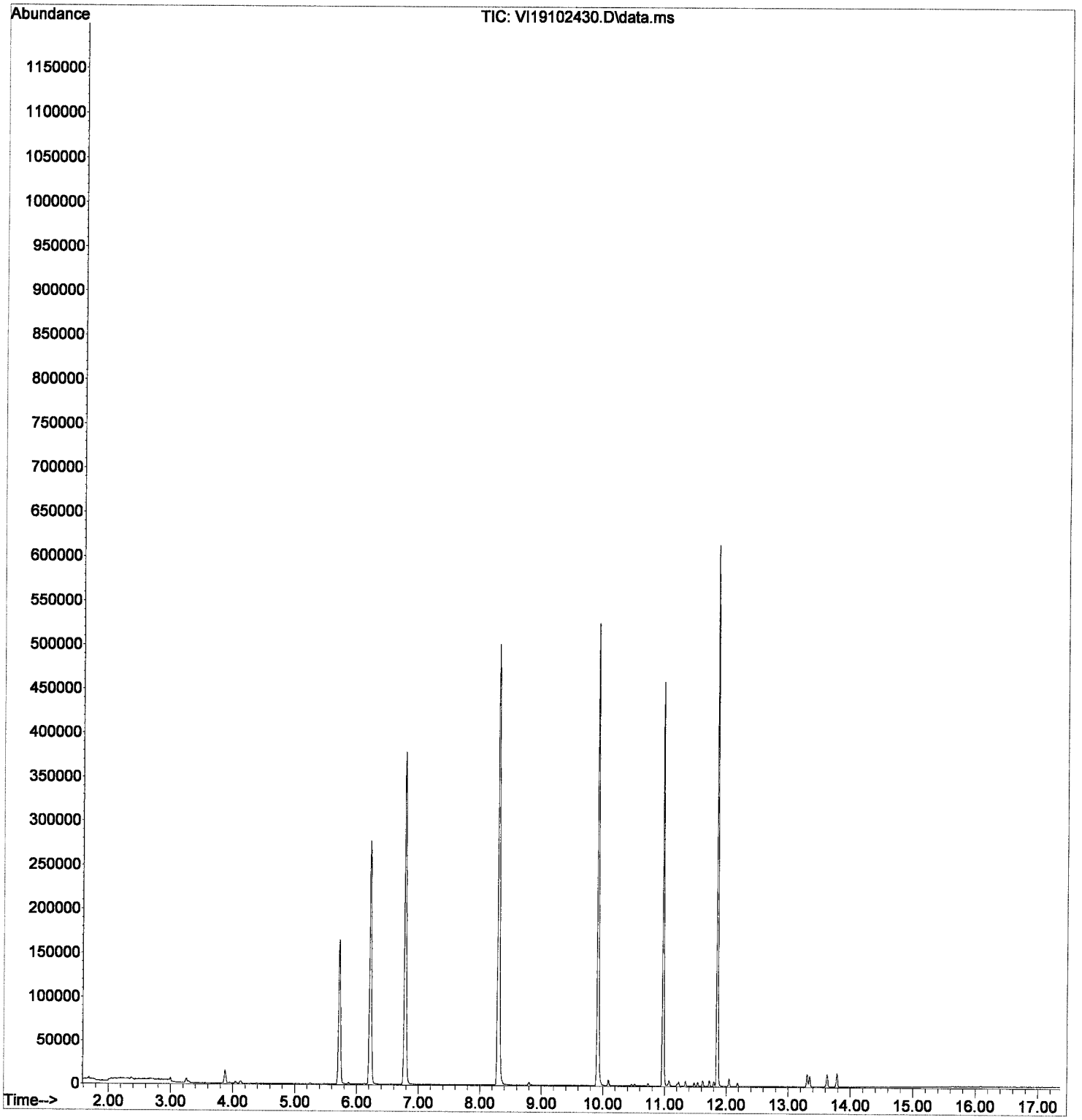
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
88) 1,2,3-Trichlorobenzene	13.785	180	5992	2.88	ug/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102430.D
Acq On : 24 Oct 2019 9:44 pm
Operator : MM
Sample : 9J24043-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:47 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102431.D
Acq On : 24 Oct 2019 10:11 pm
Operator : MM
Sample : 9J24043-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:50 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

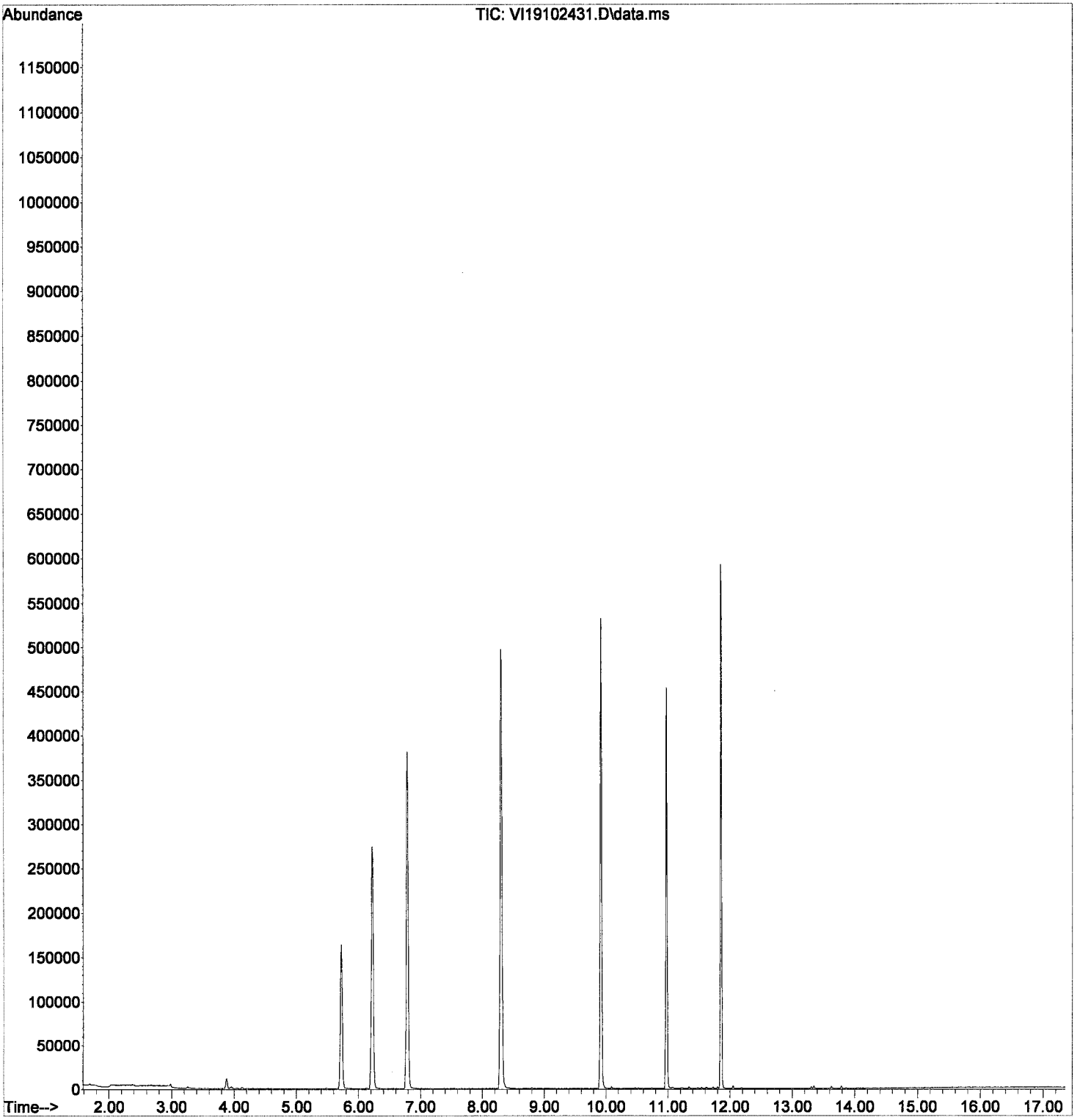
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	114296	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	308297	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	139384	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	112321	50.01 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	364393	50.46 ug/L	0.00
48) Toluene-d8 (S)	8.297	98	406006	50.17 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	117384	52.12 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.691	85	321	0.17 ug/L #	49
3) Chloromethane	1.904	50	302	0.12 ug/L #	47
5) Bromomethane	2.378	96	484	0.33 ug/L #	56
6) Chloroethane	2.500	64	259	0.23 ug/L #	36
10) Carbon Disulfide	3.260	76	2655	0.53 ug/L	89
11) Freon 113	3.291	101	416	0.21 ug/L #	74
14) Methylene Chloride	3.881	84	5891	1.96 ug/L	86
15) Acetone	3.954	43	3138	3.13 ug/L	97
16) t-1,2-Dichloroethene	4.039	61	402	0.15 ug/L #	70
33) 1,1-Dichloropropene	5.870	75	357	0.12 ug/L #	43
49) Toluene	8.358	91	884	0.10 ug/L	92
50) Tetrachloroethene (PCE)	8.802	166	422	0.20 ug/L #	70
58) Chlorobenzene	9.928	112	577	0.10 ug/L #	5
59) Ethylbenzene	9.952	91	980	0.10 ug/L	83
61) m,p-Xylenes (2)	10.086	91	1705	0.24 ug/L	86
65) Isopropylbenzene	10.737	105	735	0.09 ug/L	54
69) n-Propylbenzene	11.072	91	1706	0.18 ug/L	90
72) 1,3,5-Trimethylbenzene	11.230	105	901	0.14 ug/L	86
75) 4-Chlorotoluene	11.339	91	1026	0.18 ug/L	91
76) tert-Butylbenzene	11.479	91	379	0.11 ug/L #	75
77) 1,2,4-Trimethylbenzene	11.540	105	984	0.15 ug/L	90
78) sec-Butylbenzene	11.625	105	1431	0.18 ug/L	80
79) 4-Isopropyltoluene	11.729	119	1483	0.24 ug/L	96
80) 1,3-Dichlorobenzene	11.802	146	846	0.22 ug/L	96
81) 1,4-Dichlorobenzene	11.862	146	1023	0.26 ug/L #	40
82) n-Butylbenzene	12.051	91	1702	0.32 ug/L	91
83) 1,2-Dichlorobenzene	12.191	146	544	0.15 ug/L #	66
85) Hexachlorobutadiene	13.304	223	353	0.69 ug/L	94
86) 1,2,4-Trichlorobenzene	13.347	180	1099	0.52 ug/L	84
87) Naphthalene	13.627	128	2260	0.34 ug/L	81
88) 1,2,3-Trichlorobenzene	13.785	180	993	0.50 ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102431.D
Acq On : 24 Oct 2019 10:11 pm
Operator : MM
Sample : 9J24043-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:50 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102432.D
Acq On : 24 Oct 2019 10:38 pm
Operator : MM
Sample : 9J24043-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

JV 10/25/19

Quant Time: Oct 25 08:52:53 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	115739	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.909	117	319865	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	157880	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	114369	50.29	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.782	114	368262	50.36	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	413951	49.31	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	126483	49.58	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.678	85	47743	25.24	ug/L		99
3) Chloromethane	1.891	50	52000	20.73	ug/L		96
4) Vinyl Chloride	1.995	62	55595	22.12	ug/L		97
5) Bromomethane	2.360	96	33560	22.65	ug/L		98
6) Chloroethane	2.494	64	20238	17.52	ug/L		79
7) Trichlorofluoromethane	2.658	101	58875	20.69	ug/L		97
8) Ethanol	3.236	45	2066	37.15	ug/L		95
9) 1,1-Dichloroethene	3.230	61	54108	19.72	ug/L		91
10) Carbon Disulfide	3.248	76	92901	18.35	ug/L		98
11) Freon 113	3.278	101	37659	19.09	ug/L		97
12) Iodomethane	3.382	142	13440	16.51	ug/L		90
13) Acrolein	3.619	56	10766	20.47	ug/L		64
14) Methylene Chloride	3.868	84	43934	19.96	ug/L		87
15) Acetone	3.935	43	38135	37.60	ug/L		96
16) t-1,2-Dichloroethene	4.039	61	56343	20.98	ug/L		89
17) n-Hexane	4.124	86	7879	19.27	ug/L	#	88
18) Methyl-tert-butyl-ether	4.167	73	122260	19.59	ug/L		93
19) tert-Butanol (TBA)	4.294	59	12609	28.14	ug/L		83
20) Diisopropyl ether (DIPE)	4.562	45	1214	0.18	ug/L		74
21) 1,1-Dichloroethane	4.684	63	76555	20.53	ug/L		97
22) Acrylonitrile	4.744	53	21989	19.59	ug/L		99
23) Ethyl-tert-butyl ether...	4.945	59	1021	0.16	ug/L		69
24) Vinyl Acetate	4.957	43	89589	19.89	ug/L		95
25) c-1,2-Dichloroethene	5.243	61	57695	20.04	ug/L		92
26) 2,2-Dichloropropane	5.347	77	43127	17.72	ug/L		97
27) Bromochloromethane	5.444	130	31156	22.05	ug/L		93
28) Chloroform	5.523	83	76051	20.86	ug/L		96
29) Carbon Tetrachloride	5.657	117	45898	20.70	ug/L		97
30) Tetrahydrofuran	5.700	42	20305	19.03	ug/L		86
31) 1,1,1-Trichloroethane	5.730	97	61359	19.94	ug/L		97
33) 1,1-Dichloropropene	5.858	75	57945	19.60	ug/L		96
34) 2-Butanone (MEK)	5.852	43	60911	37.88	ug/L		97
35) Benzene	6.119	78	173963	19.67	ug/L		97
36) tert-Amyl methyl ether...	6.259	73	1053	0.18	ug/L		74
37) 1,2-Dichloroethane (EDC)	6.338	62	58405	20.16	ug/L		94
38) iso-Butyl Alcohol	6.375	43	83622	519.10	ug/L		92
40) Trichloroethene (TCE)	6.740	130	48413	21.24	ug/L		94
41) Tert-Amyl-Ethyl-Ether ...	6.995	59	625	0.14	ug/L	#	64
42) Dibromomethane	7.196	93	29991	21.13	ug/L		96
43) 1,2-Dichloropropane	7.306	63	44751	20.29	ug/L		93
44) Bromodichloromethane	7.379	83	52780	20.75	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.023	63	32992	20.09	ug/L	#	100
47) c-1,3-Dichloropropene	8.090	75	62899	19.89	ug/L		88

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102432.D
Acq On : 24 Oct 2019 10:38 pm
Operator : MM
Sample : 9J24043-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:53 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

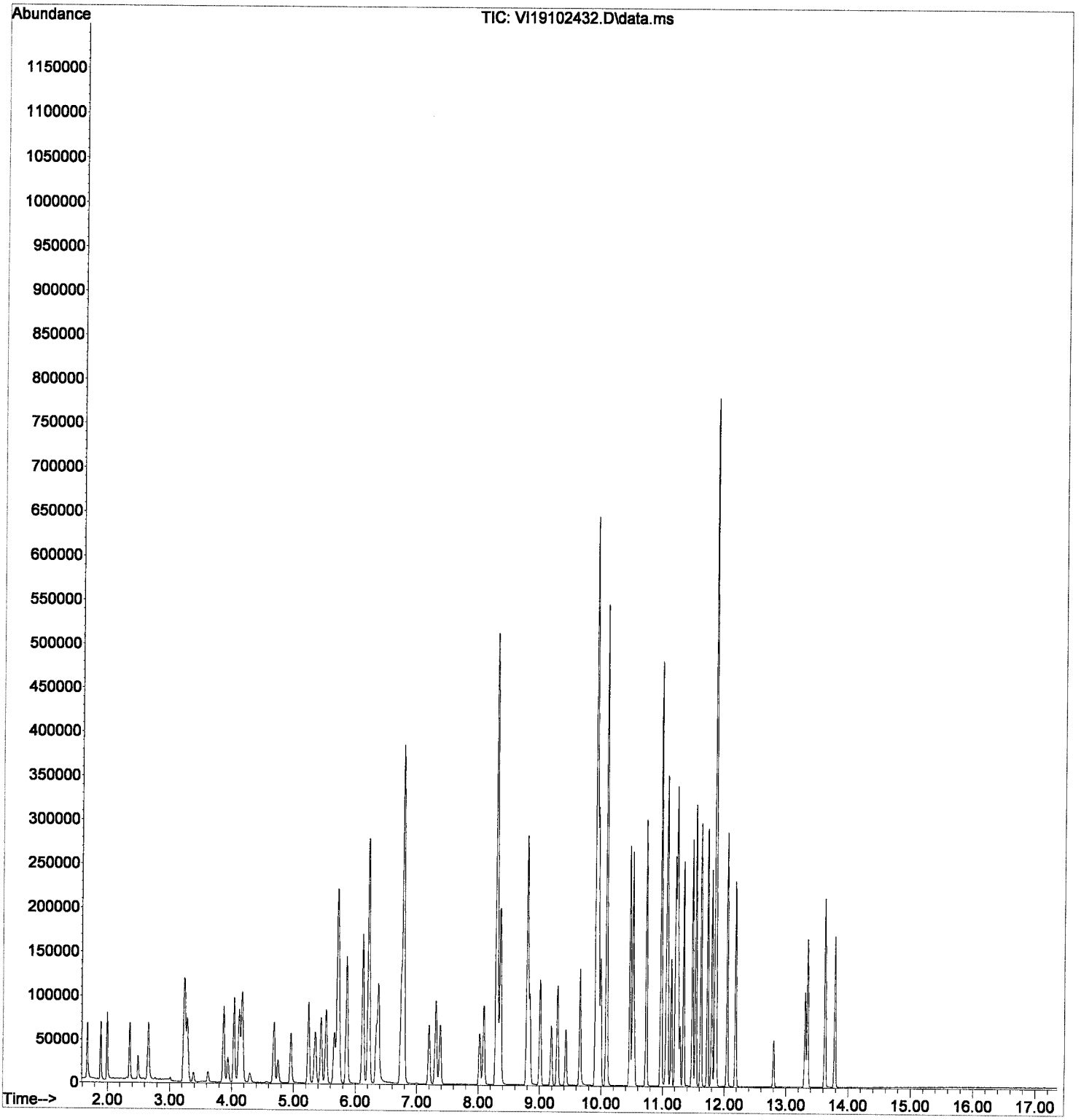
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	182339	19.39	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	45736	20.89	ug/L		91
51) 4-Methyl-2-Pentanone (...	8.796	43	117185	41.04	ug/L		94
52) t-1,3-Dichloropropene	8.839	75	58067	20.70	ug/L		99
53) 1,1,2-Trichloroethane	9.003	97	44277	21.23	ug/L		94
54) Dibromochloromethane	9.185	129	40034	23.75	ug/L		97
55) 1,3-Dichloropropane	9.289	76	73648	20.48	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.423	107	46898	20.66	ug/L		94
57) 2-Hexanone	9.654	43	84867	40.56	ug/L		91
58) Chlorobenzene	9.928	112	123672	20.60	ug/L		98
59) Ethylbenzene	9.952	91	198723	20.15	ug/L		97
60) 1,1,1,2-Tetrachloroethane	9.988	131	38126	21.77	ug/L		95
61) m,p-Xylenes (2)	10.086	91	297332	40.93	ug/L		99
62) o-Xylene	10.463	91	151148	20.99	ug/L		99
63) Styrene	10.512	104	120728	20.86	ug/L		97
64) Bromoform	10.536	173	26445	21.37	ug/L		97
65) Isopropylbenzene	10.731	105	183894	20.93	ug/L		99
68) Bromobenzene	11.059	156	51357	20.99	ug/L		88
69) n-Propylbenzene	11.071	91	210884	20.10	ug/L		100
70) 1,1,2,2-Tetrachloroethane	11.138	85	42026	20.34	ug/L		94
71) 2-Chlorotoluene	11.205	126	45073	19.94	ug/L		95
72) 1,3,5-Trimethylbenzene	11.230	105	148155	20.66	ug/L		98
73) 1,2,3-Trichloropropane	11.248	110	20758	20.66	ug/L		90
74) t-1,4-Dichloro-2-butene	11.278	53	12607	17.54	ug/L	#	74
75) 4-Chlorotoluene	11.339	91	132799	20.56	ug/L		98
76) tert-Butylbenzene	11.479	91	81539	20.37	ug/L		95
77) 1,2,4-Trimethylbenzene	11.534	105	149487	20.72	ug/L		97
78) sec-Butylbenzene	11.619	105	180737	20.46	ug/L		99
79) 4-Isopropyltoluene	11.728	119	151416	21.66	ug/L		97
80) 1,3-Dichlorobenzene	11.795	146	88840	20.84	ug/L		98
81) 1,4-Dichlorobenzene	11.862	146	91025	20.48	ug/L		97
82) n-Butylbenzene	12.045	91	132273	22.27	ug/L		99
83) 1,2-Dichlorobenzene	12.179	146	86186	20.82	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.799	157	14025	20.04	ug/L		92
85) Hexachlorobutadiene	13.304	223	12640	21.85	ug/L		95
86) 1,2,4-Trichlorobenzene	13.347	180	53108	22.26	ug/L		97
87) Naphthalene	13.626	128	166250	21.92	ug/L		98
88) 1,2,3-Trichlorobenzene	13.785	180	51210	22.61	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102432.D
Acq On : 24 Oct 2019 10:38 pm
Operator : MM
Sample : 9J24043-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:53 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102433.D
Acq On : 24 Oct 2019 11:05 pm
Operator : MM
Sample : 9J24043-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:56 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	111178	50.00 ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.910	117	298625	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	138840	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.712	111	108440	49.64 ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	354392	50.46 ug/L		0.00
48) Toluene-d8 (S)	8.297	98	396767	50.62 ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	114172	50.89 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.679	85	258	0.14 ug/L	#	49
3) Chloromethane	1.898	50	1019	0.42 ug/L		80
4) Vinyl Chloride	2.001	62	483	0.20 ug/L		73
5) Bromomethane	2.360	96	1054	0.74 ug/L		79
6) Chloroethane	2.512	64	817	0.74 ug/L	#	63
8) Ethanol	3.230	45	56590	1059.19 ug/L		85
9) 1,1-Dichloroethene	3.230	61	425	0.16 ug/L	#	74
10) Carbon Disulfide	3.254	76	2404	0.49 ug/L		78
12) Iodomethane	3.388	142	297	6.27 ug/L	#	47
14) Methylene Chloride	3.875	84	2571	0.40 ug/L		89
15) Acetone	3.948	43	992	1.02 ug/L		93
16) t-1,2-Dichloroethene	4.039	61	778	0.30 ug/L		95
18) Methyl-tert-butyl-ether	4.173	73	509	0.08 ug/L		63
19) tert-Butanol (TBA)	4.288	59	507827	1179.79 ug/L		99
20) Diisopropyl ether (DIPE)	4.562	45	28434	4.41 ug/L		96
21) 1,1-Dichloroethane	4.684	63	910	0.25 ug/L		91
23) Ethyl-tert-butyl ether...	4.939	59	27297	4.40 ug/L		98
24) Vinyl Acetate	4.933	43	2981	0.69 ug/L		63
25) c-1,2-Dichloroethene	5.244	61	653	0.24 ug/L		94
28) Chloroform	5.529	83	782	0.22 ug/L		86
31) 1,1,1-Trichloroethane	5.730	97	279	0.09 ug/L	#	25
33) 1,1-Dichloropropene	5.858	75	642	0.23 ug/L	#	43
35) Benzene	6.120	78	2264	0.27 ug/L		96
36) tert-Amyl methyl ether...	6.247	73	24122	4.18 ug/L		94
40) Trichloroethene (TCE)	6.752	130	563	0.26 ug/L		81
41) Tert-Amyl-Ethyl-Ether ...	6.996	59	17806	4.28 ug/L		82
43) 1,2-Dichloropropane	7.312	63	375	0.18 ug/L	#	35
44) Bromodichloromethane	7.379	83	264	0.11 ug/L		89
47) c-1,3-Dichloropropene	8.097	75	423	0.14 ug/L	#	31
49) Toluene	8.358	91	2481	0.28 ug/L		90
50) Tetrachloroethene (PCE)	8.796	166	682	0.33 ug/L		77
55) 1,3-Dichloropropane	9.289	76	299	0.09 ug/L	#	62
58) Chlorobenzene	9.928	112	1665	0.30 ug/L	#	53
59) Ethylbenzene	9.952	91	2525	0.27 ug/L		93
60) 1,1,1,2-Tetrachloroethane	9.989	131	250	0.15 ug/L	#	56
61) m,p-Xylenes (2)	10.086	91	3597	0.53 ug/L		99
62) o-Xylene	10.469	91	1736	0.26 ug/L		95
63) Styrene	10.518	104	1266	0.23 ug/L		98
65) Isopropylbenzene	10.731	105	1839	0.22 ug/L		96
68) Bromobenzene	11.066	156	575	0.27 ug/L	#	73
69) n-Propylbenzene	11.078	91	2840	0.31 ug/L		98
71) 2-Chlorotoluene	11.212	126	519	0.26 ug/L	#	70
72) 1,3,5-Trimethylbenzene	11.230	105	1758	0.28 ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102433.D
Acq On : 24 Oct 2019 11:05 pm
Operator : MM
Sample : 9J24043-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:56 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

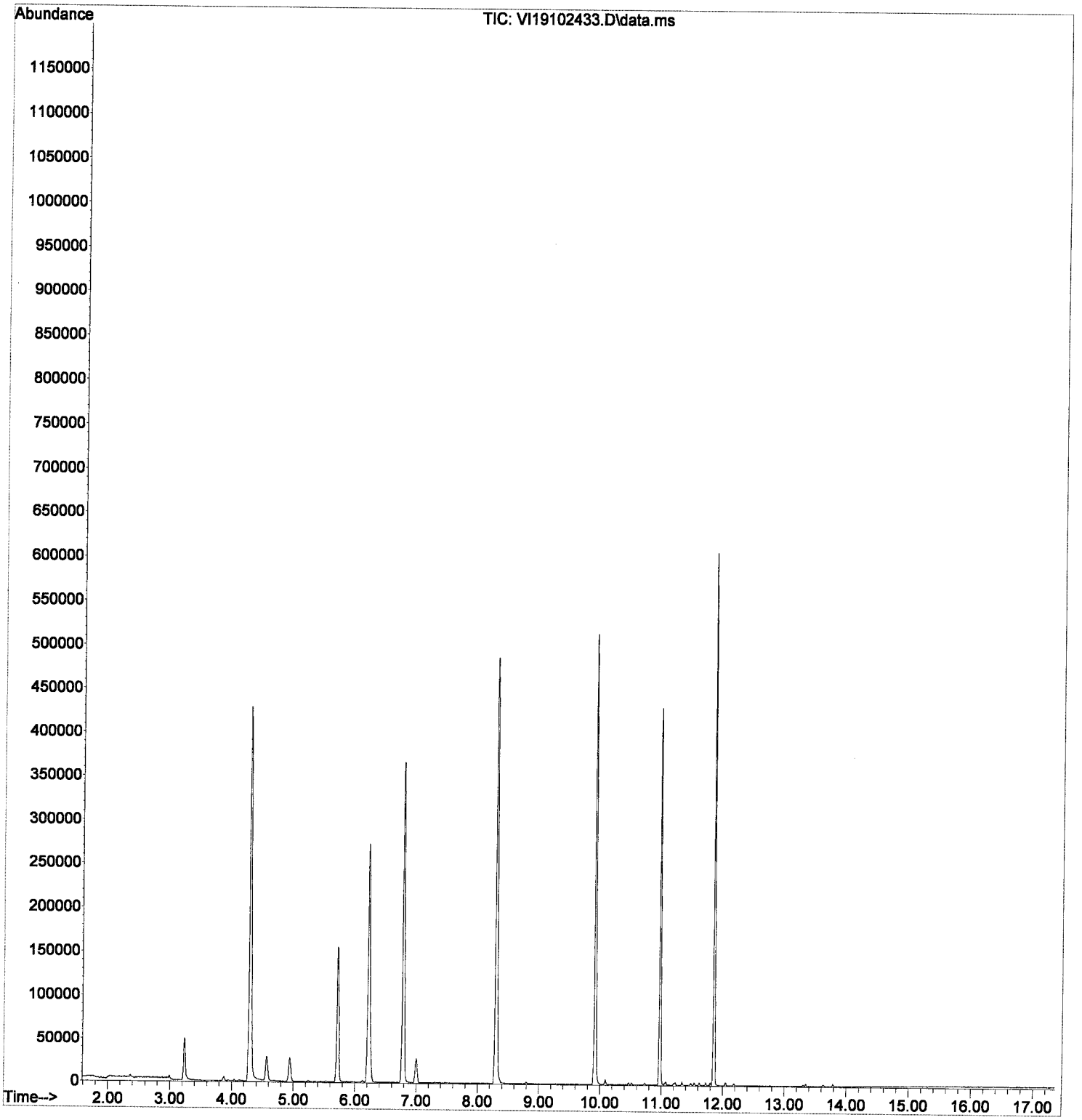
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
75) 4-Chlorotoluene	11.339	91	2029	0.36	ug/L		92
76) tert-Butylbenzene	11.479	91	857	0.24	ug/L		90
77) 1,2,4-Trimethylbenzene	11.540	105	1902	0.30	ug/L		99
78) sec-Butylbenzene	11.619	105	2140	0.28	ug/L		96
79) 4-Isopropyltoluene	11.729	119	1814	0.30	ug/L		89
80) 1,3-Dichlorobenzene	11.802	146	1391	0.37	ug/L		91
81) 1,4-Dichlorobenzene	11.862	146	1580	0.40	ug/L	#	77
82) n-Butylbenzene	12.051	91	2081	0.40	ug/L		97
83) 1,2-Dichlorobenzene	12.179	146	992	0.27	ug/L		94
85) Hexachlorobutadiene	13.304	223	253	0.50	ug/L		90
86) 1,2,4-Trichlorobenzene	13.347	180	1195	0.57	ug/L		98
87) Naphthalene	13.627	128	2373	0.36	ug/L		81
88) 1,2,3-Trichlorobenzene	13.785	180	1136	0.57	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102433.D
Acq On : 24 Oct 2019 11:05 pm
Operator : MM
Sample : 9J24043-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:56 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102434.D
Acq On : 24 Oct 2019 11:32 pm
Operator : MM
Sample : 9J24043-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:59 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

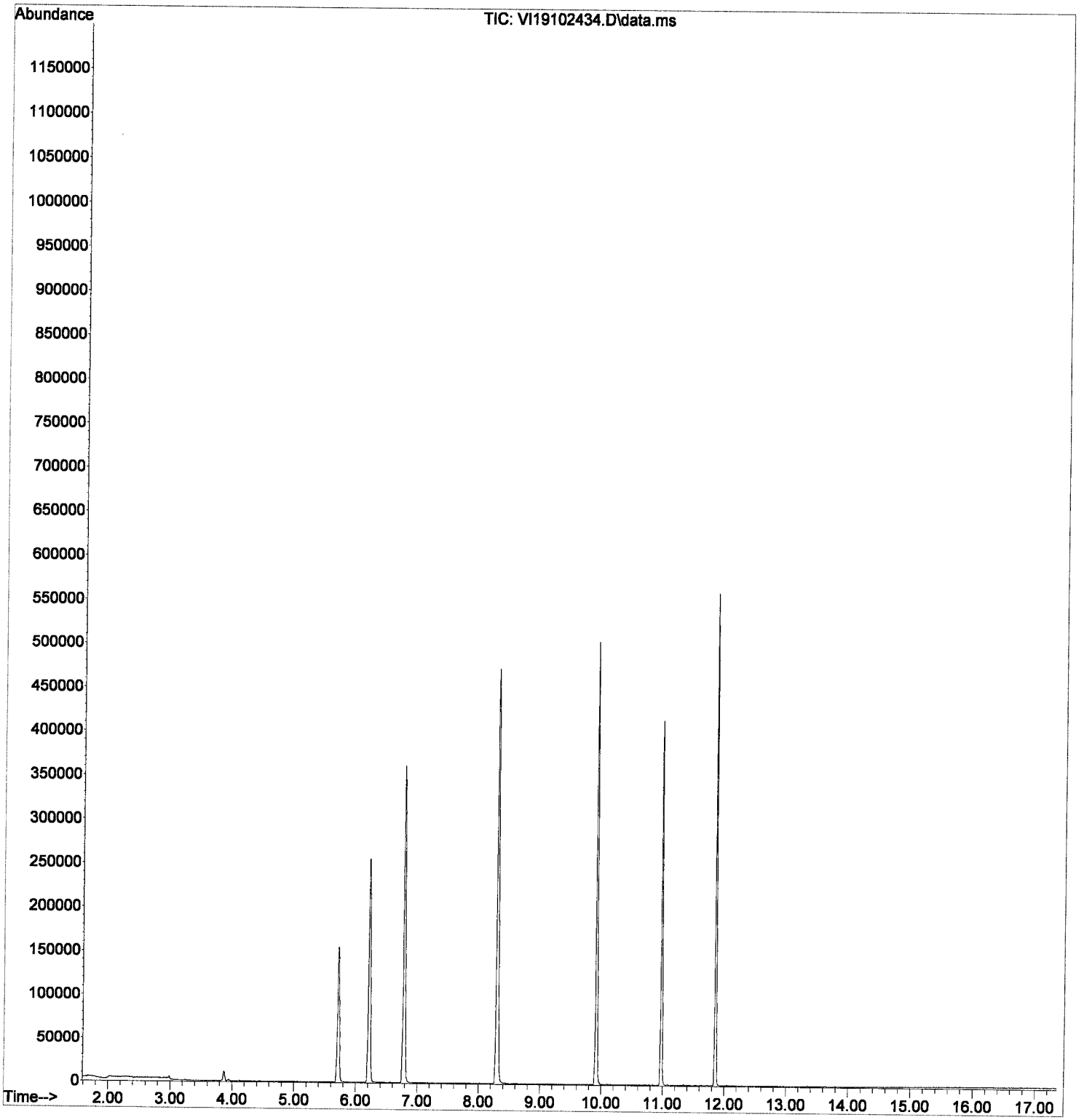
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	109647	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	290801	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	129266	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.712	111	106868	49.60	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.777	114	348077	50.25	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	390388	51.15	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	109398	52.38	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.891	50	233	0.10	ug/L	#	47
5) Bromomethane	2.360	96	288	0.21	ug/L	#	32
6) Chloroethane	2.500	64	219	0.20	ug/L	#	62
10) Carbon Disulfide	3.242	76	797	0.17	ug/L		78
14) Methylene Chloride	3.869	84	5477	1.87	ug/L		91
15) Acetone	3.942	43	1939	2.02	ug/L		95
19) tert-Butanol (TBA)	4.301	59	193	0.45	ug/L		46
61) m,p-Xylenes (2)	10.086	91	722	0.11	ug/L		86
79) 4-Isopropyltoluene	11.723	119	462	0.08	ug/L		51
81) 1,4-Dichlorobenzene	11.862	146	377	0.10	ug/L	#	1
82) n-Butylbenzene	12.045	91	599	0.12	ug/L		81
86) 1,2,4-Trichlorobenzene	13.341	180	337	0.17	ug/L		69
87) Naphthalene	13.633	128	630	0.10	ug/L		81
88) 1,2,3-Trichlorobenzene	13.785	180	159	0.09	ug/L		87

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102434.D
Acq On : 24 Oct 2019 11:32 pm
Operator : MM
Sample : 9J24043-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:52:59 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Oct 25 08:32:21 2019
Response via : Initial Calibration

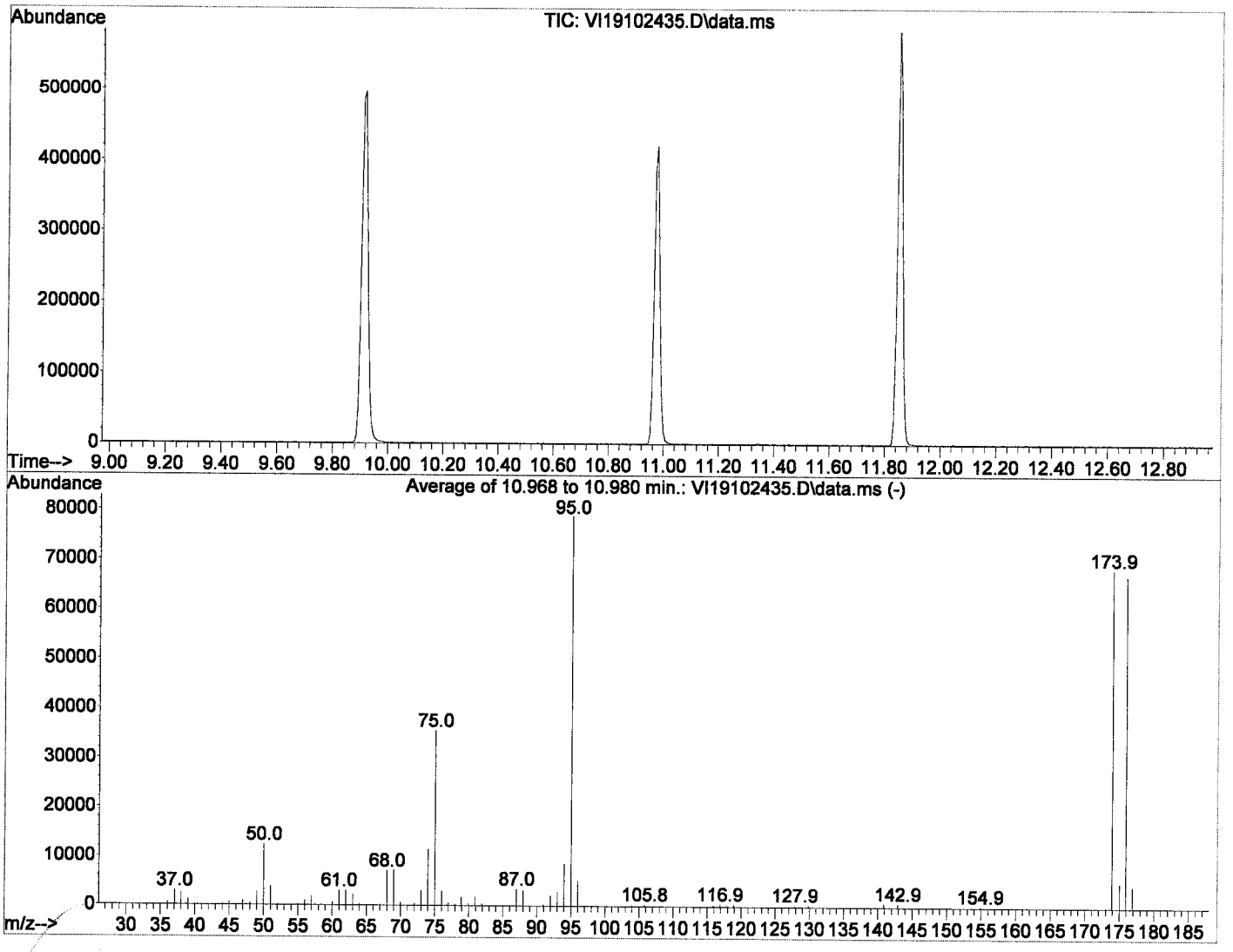


BFB

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102435.D
Acq On : 24 Oct 2019 11:59 pm
Operator : MM
Sample : 9J24043-TUN2
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1

Integration File: APEXG.P

Method : C:\msdchem\1\methods\VI191025G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Oct 25 10:31:05 2019



AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1536

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	115.5	78893	PASS
96	95	5	9	6.6	5193	PASS
173	174	0.00	2	0.2	146	PASS
174	95	50	200	86.6	68315	PASS
175	174	5	9	7.2	4950	PASS
176	174	95	105	98.1	67045	PASS
177	176	5	10	6.4	4322	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102435.D
Acq On : 24 Oct 2019 11:59 pm
Operator : MM
Sample : 9J24043-TUN2
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:34:47 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

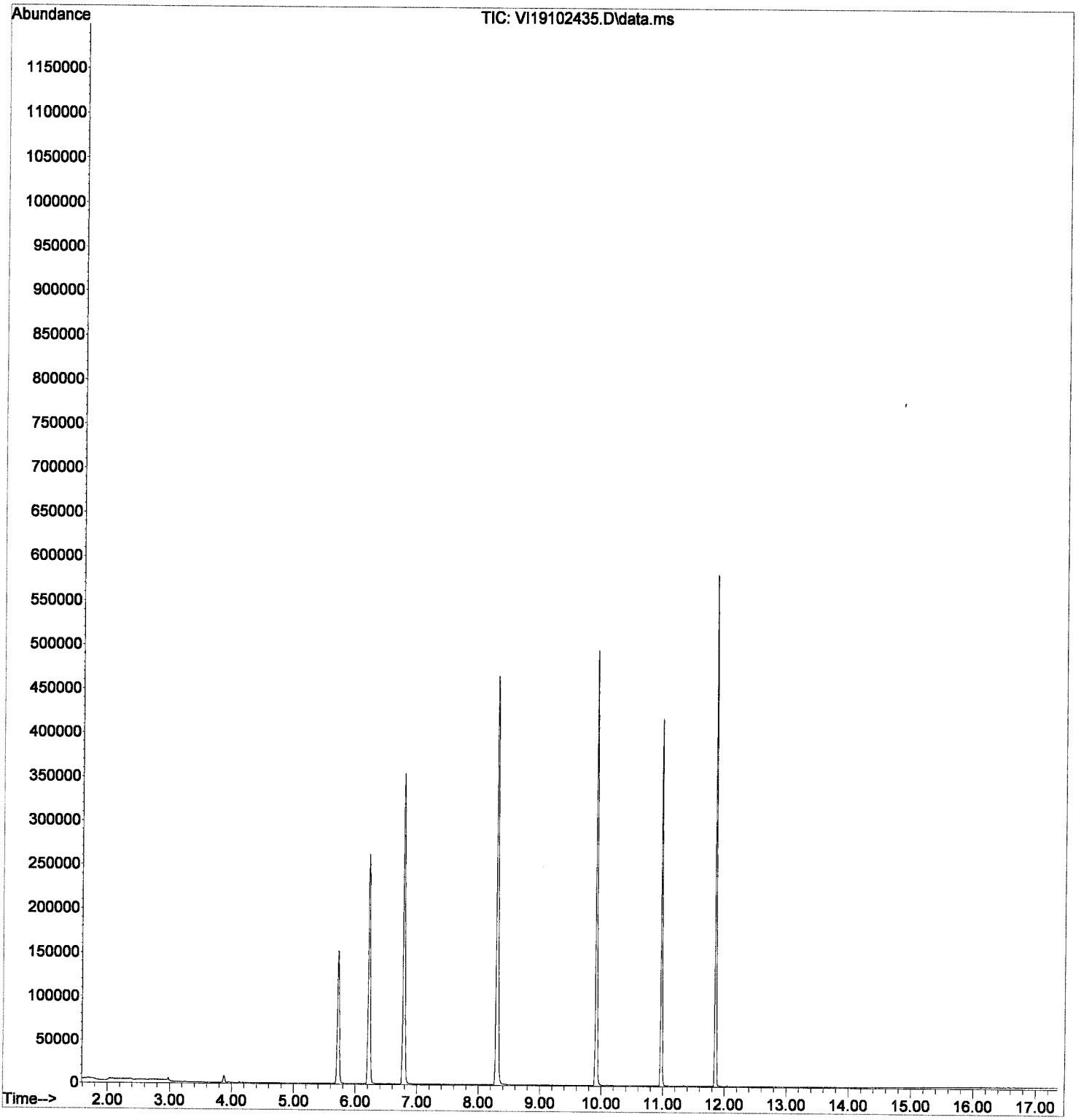
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	210406	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	342441	50.05	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	110054	48.18	ug/L	0.00
9) Toluene-d8 (NR)	8.298	98	383585	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	289628	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	210356	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	-629m	24.54	ug/L	
5) TPHg (C5-C9)	9.890	TIC	350597m	17.37	ug/L	
6) TPHg (C6-C10)	9.890	TIC	318995m	18.26	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	354669m	21.15	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102435.D
Acq On : 24 Oct 2019 11:59 pm
Operator : MM
Sample : 9J24043-TUN2
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

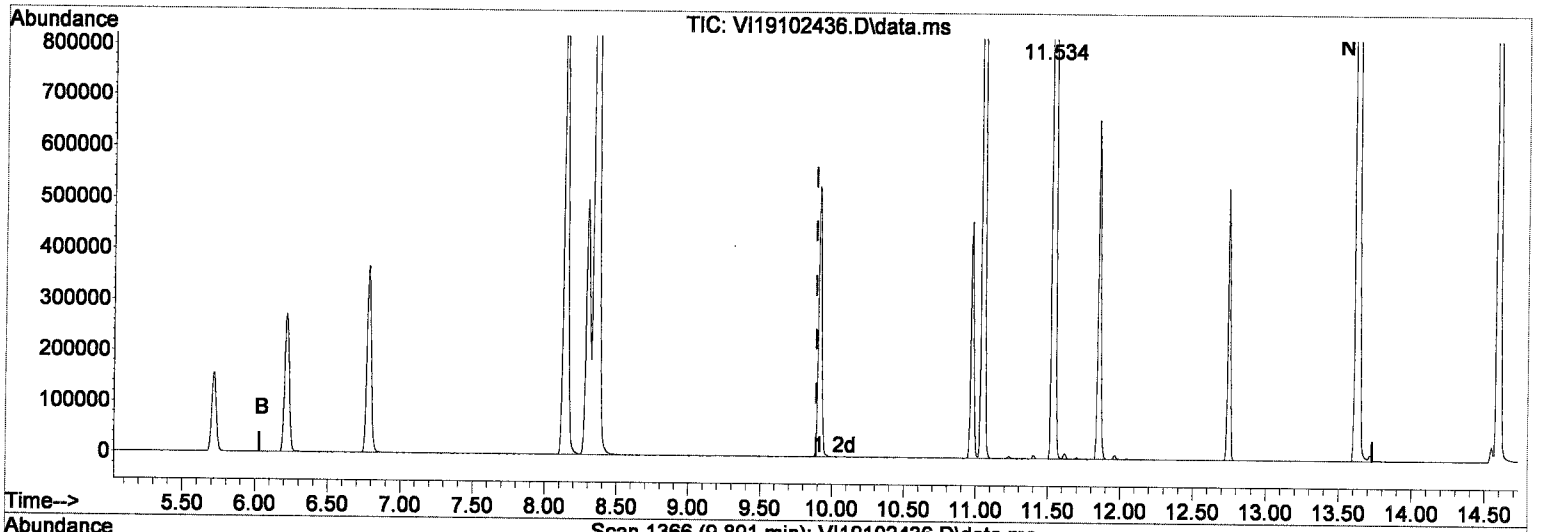
Quant Time: Oct 25 10:34:47 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

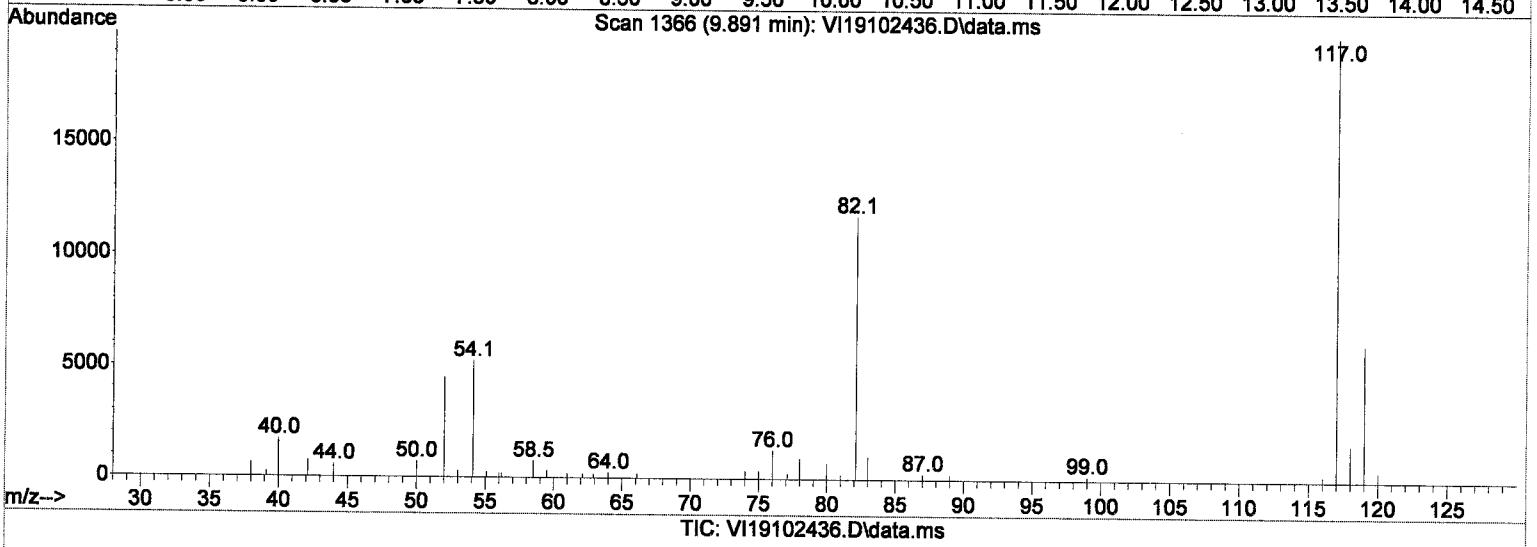


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102436.D
Acq On : 25 Oct 2019 12:26 am
Operator : MM
Sample : 9J24043-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:34:58 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





TIC: VI19102436.D\data.ms

(4) NWTPH-Gx (TPH) (H)

9.890min (0.000) 2930.43 ug/L m

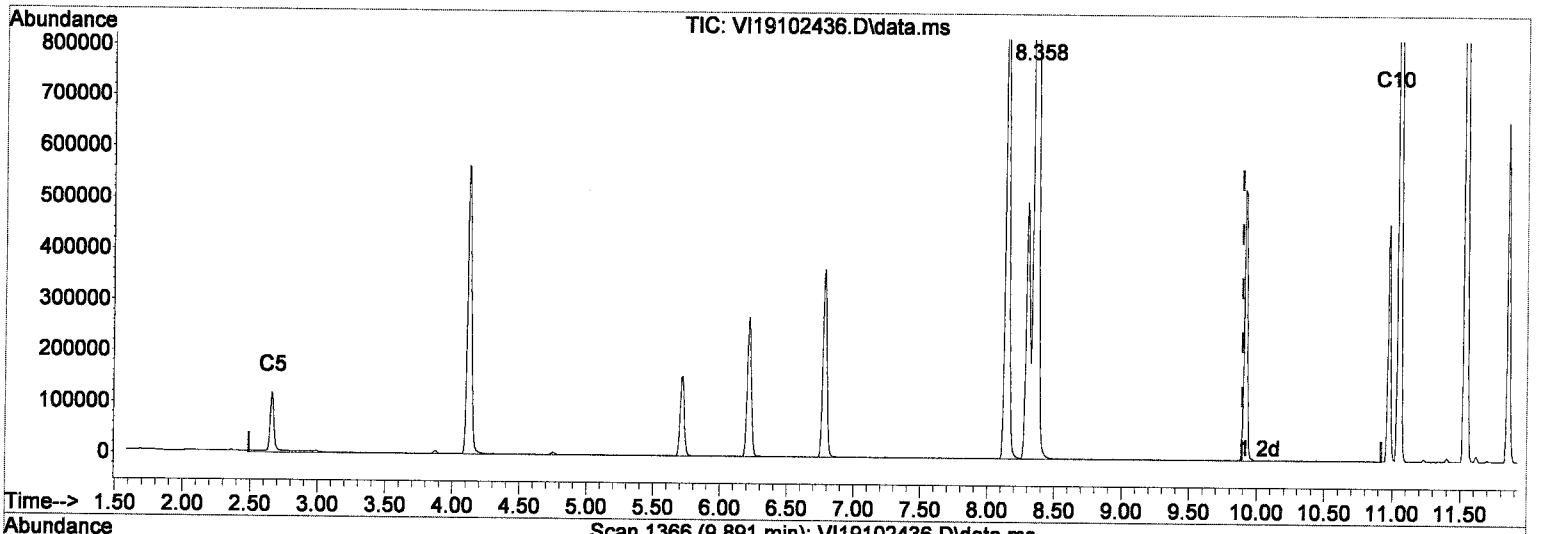
response 19501721

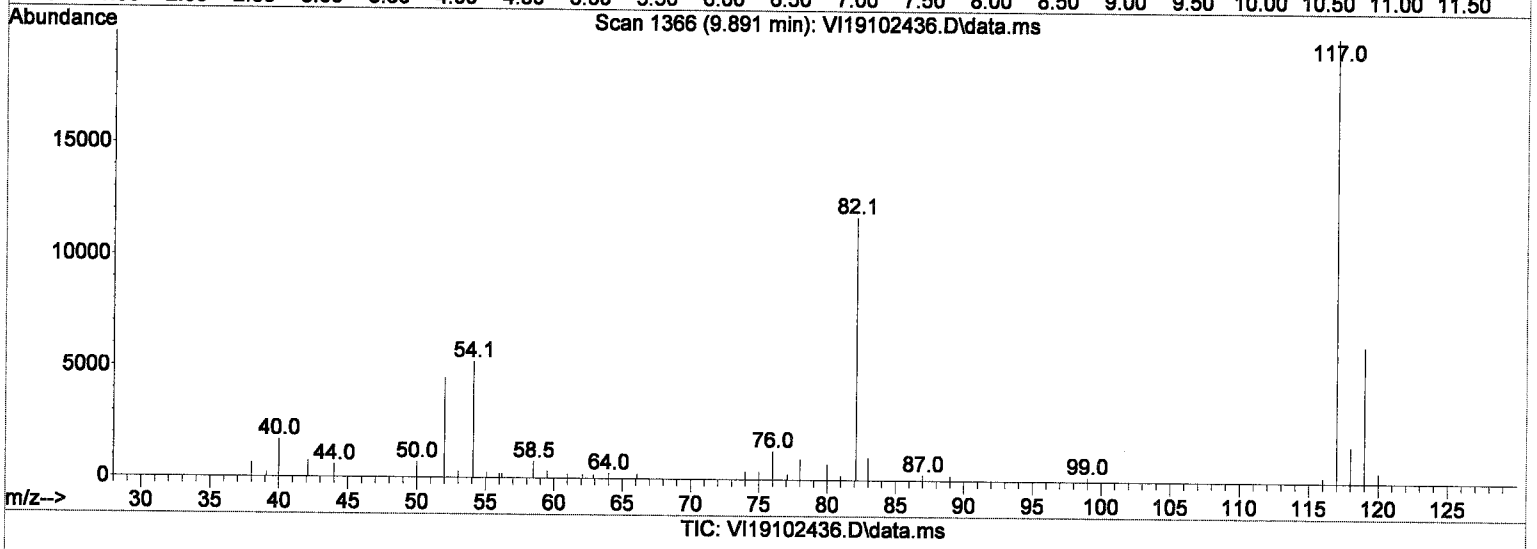
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.04#
0.00	0.00	0.76#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102436.D
Acq On : 25 Oct 2019 12:26 am
Operator : MM
Sample : 9J24043-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:34:58 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





TIC: VI19102436.D\data.ms

(5) TPHg (C5-C9) (H)

9.890min (0.000) 973.75 ug/L m

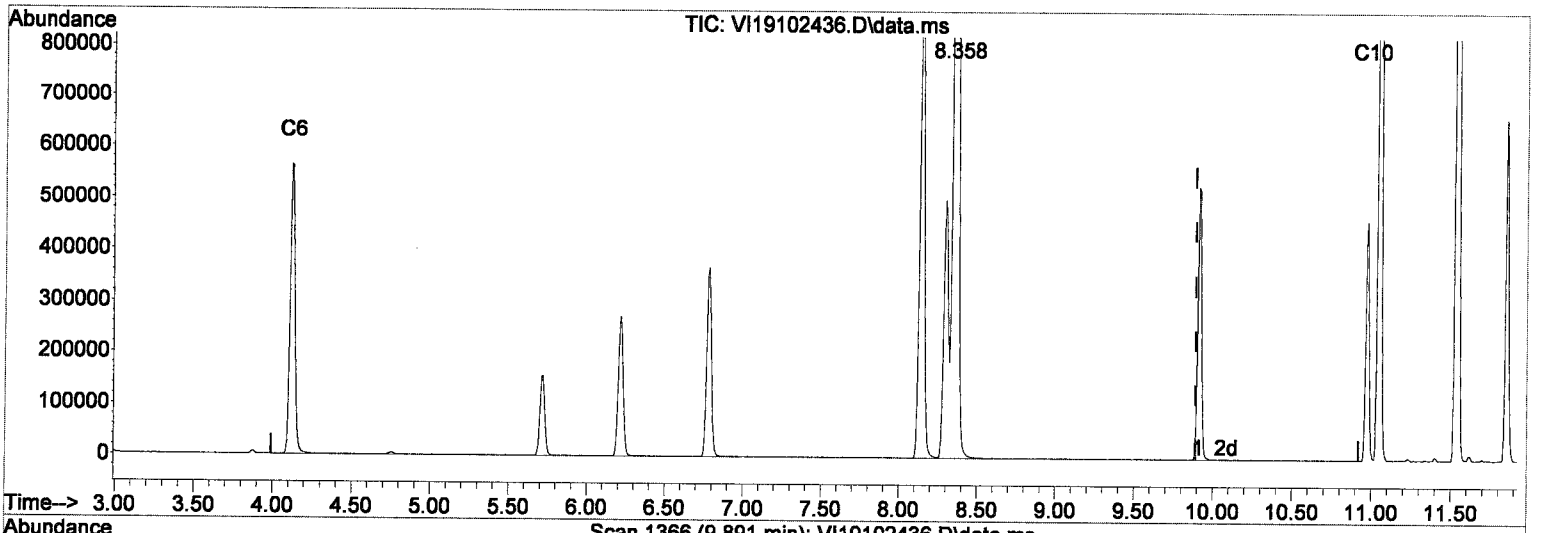
response 8083029

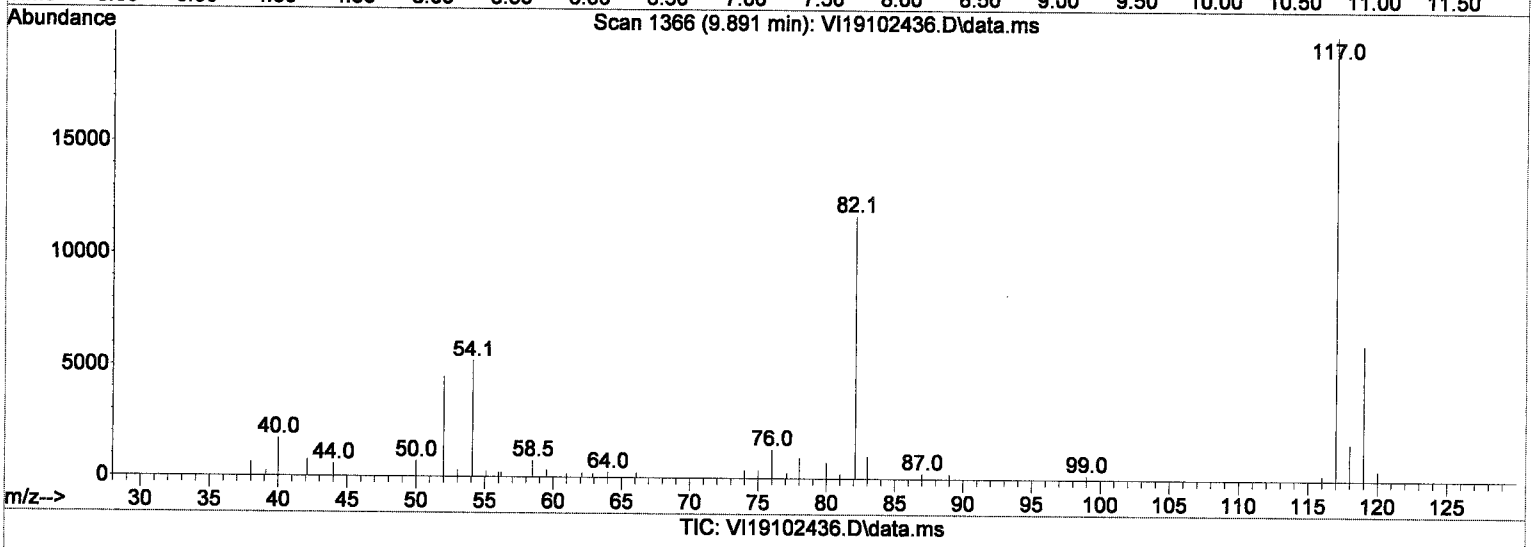
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.52#
0.00	0.00	1.83#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102436.D
Acq On : 25 Oct 2019 12:26 am
Operator : MM
Sample : 9J24043-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:34:58 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





TIC: VI19102436.D\data.ms

(6) TPHg (C6-C10) (H)

9.890min (0.000) 1119.88 ug/L m

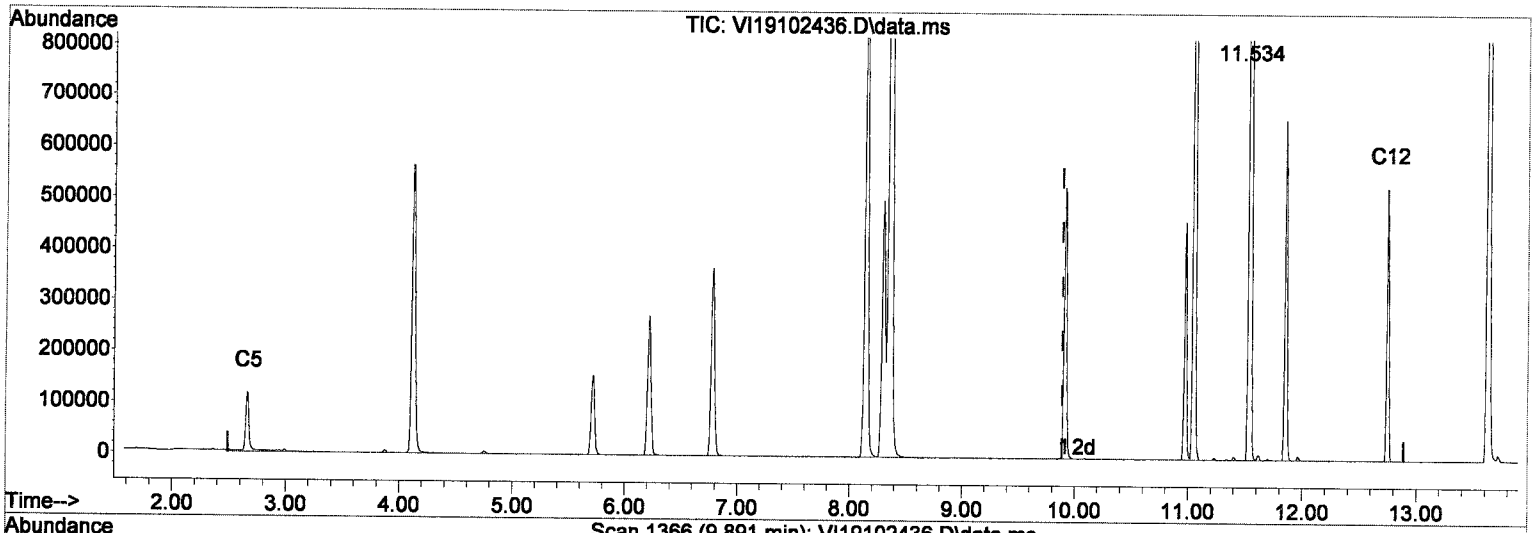
response 7845020

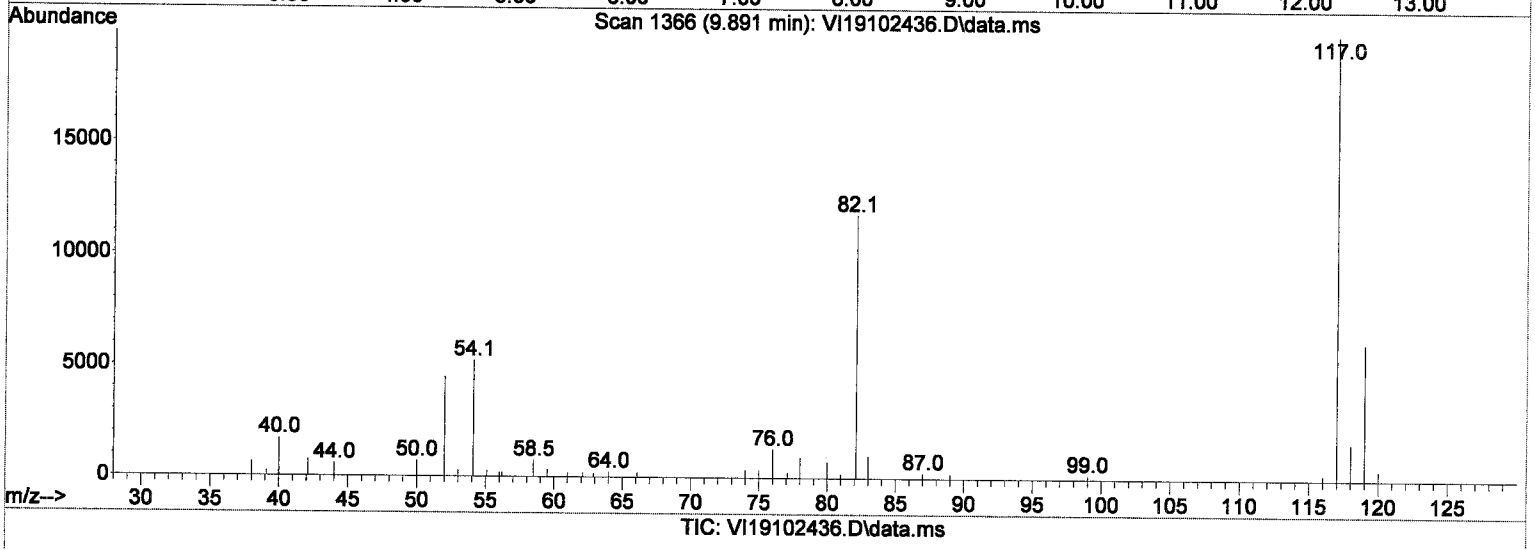
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.60#
0.00	0.00	1.88#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102436.D
Acq On : 25 Oct 2019 12:26 am
Operator : MM
Sample : 9J24043-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:34:58 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





(7) CA-LUFT (C5-C12) (H)

9.890min (0.000) 1651.42 ug/L m

response 16435844

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.24#
0.00	0.00	0.90#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102436.D
Acq On : 25 Oct 2019 12:26 am
Operator : MM
Sample : 9J24043-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:34:58 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

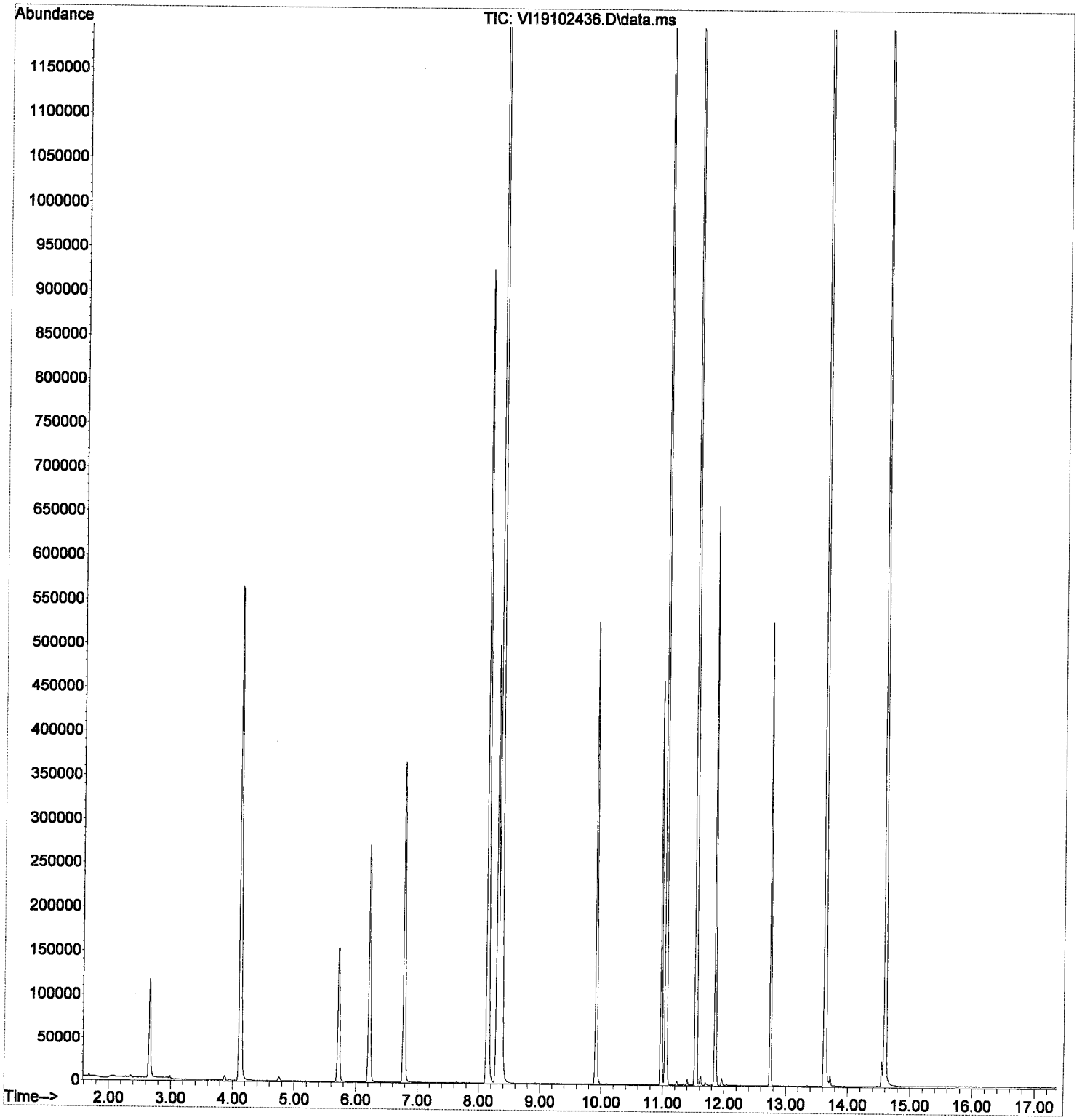
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	218196	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	354554	49.97	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	120603	50.92	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	405063	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	307990	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	238057	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	19501721m	2930.43	ug/L	
5) TPHg (C5-C9)	9.890	TIC	8083029m	973.75	ug/L	
6) TPHg (C6-C10)	9.890	TIC	7845020m	1119.88	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	16435844m	1651.42	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102436.D
Acq On : 25 Oct 2019 12:26 am
Operator : MM
Sample : 9J24043-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:34:58 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102437.D
Acq On : 25 Oct 2019 12:52 am
Operator : MM
Sample : 9J24043-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:35:59 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

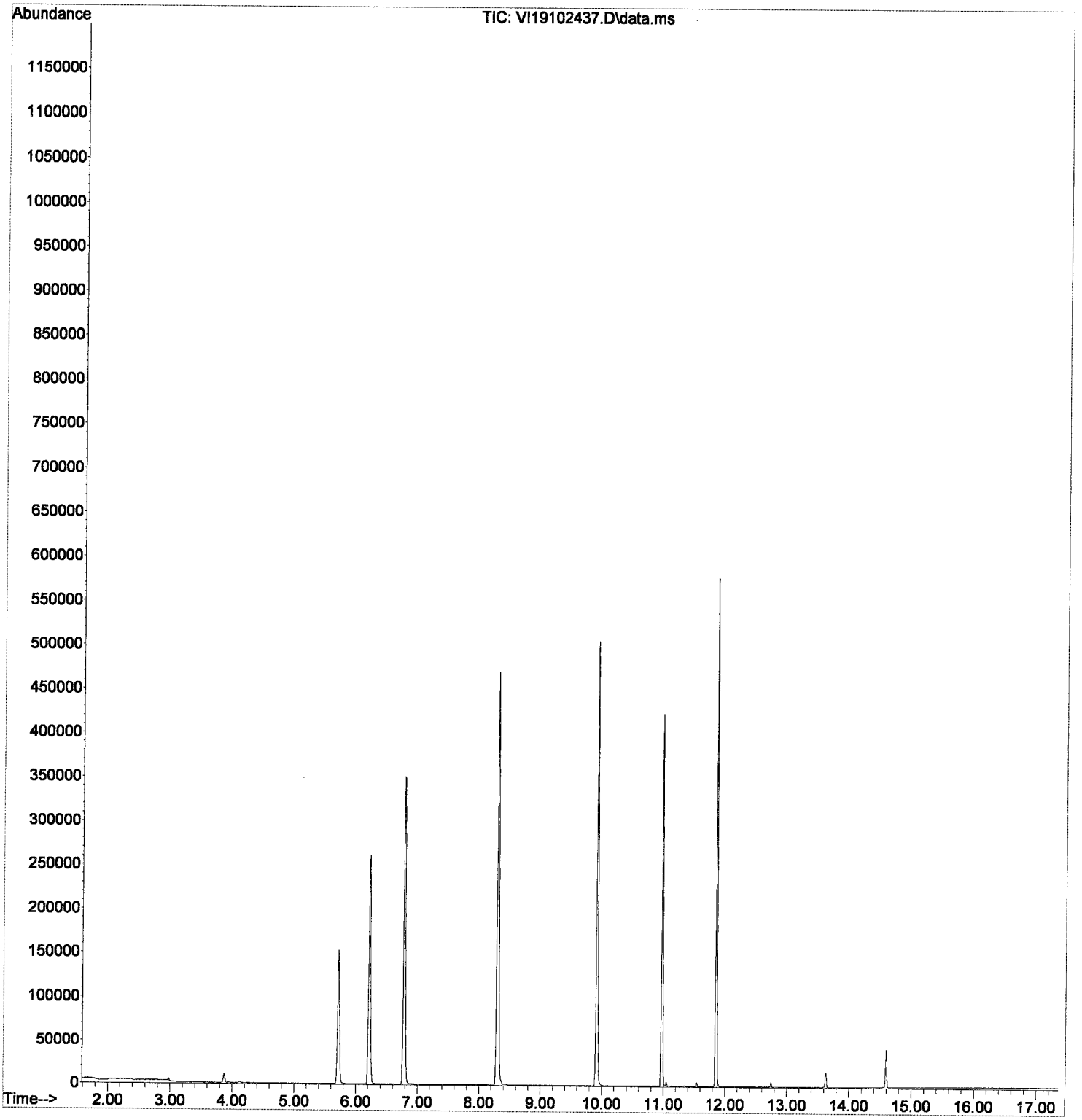
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	210247	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	345936	50.60	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	111405	48.81	ug/L	0.00
9) Toluene-d8 (NR)	8.298	98	383628	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.910	117	292283	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	209732	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	24413m	28.59	ug/L	
5) TPHg (C5-C9)	9.890	TIC	344892m	16.66	ug/L	
6) TPHg (C6-C10)	9.890	TIC	312692m	17.33	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	358119m	21.55	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102437.D
Acq On : 25 Oct 2019 12:52 am
Operator : MM
Sample : 9J24043-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:35:59 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102438.D
Acq On : 25 Oct 2019 1:19 am
Operator : MM
Sample : 9J24043-ICB2
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

M 10/25/19

Quant Time: Oct 25 10:36:04 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

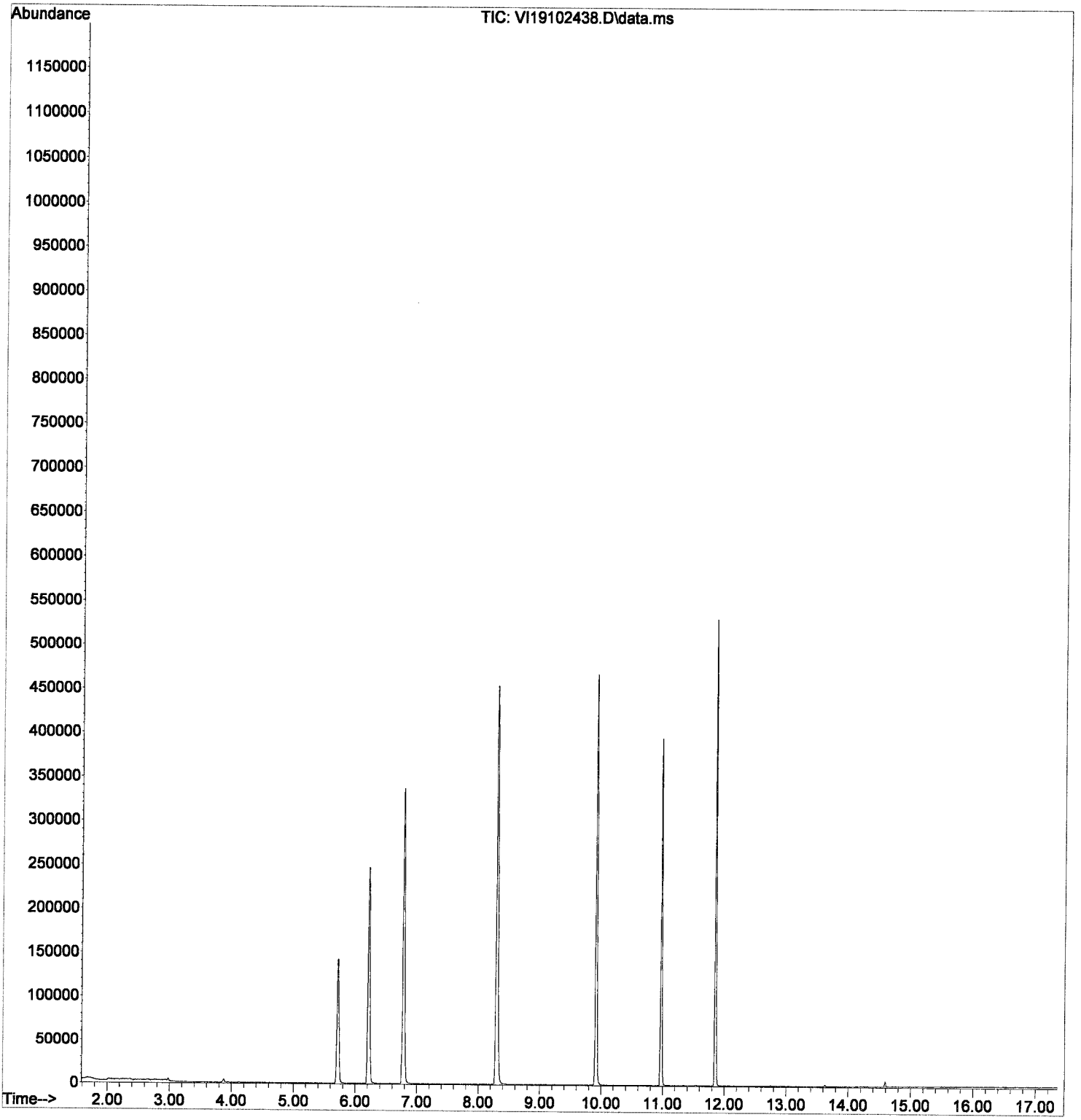
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	197519	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	324404	50.51	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	100113	46.69	ug/L	0.00
9) Toluene-d8 (NR)	8.298	98	365451	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	272946	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	191005	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3183m	25.18	ug/L	
5) TPHg (C5-C9)	9.890	TIC	344149m	19.44	ug/L	
6) TPHg (C6-C10)	9.890	TIC	310754m	20.11	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	344897m	22.51	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102438.D
Acq On : 25 Oct 2019 1:19 am
Operator : MM
Sample : 9J24043-ICB2
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:04 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102439.D
Acq On : 25 Oct 2019 1:46 am
Operator : MM
Sample : 9J24043-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

M 10/25/19

Quant Time: Oct 25 08:55:14 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration

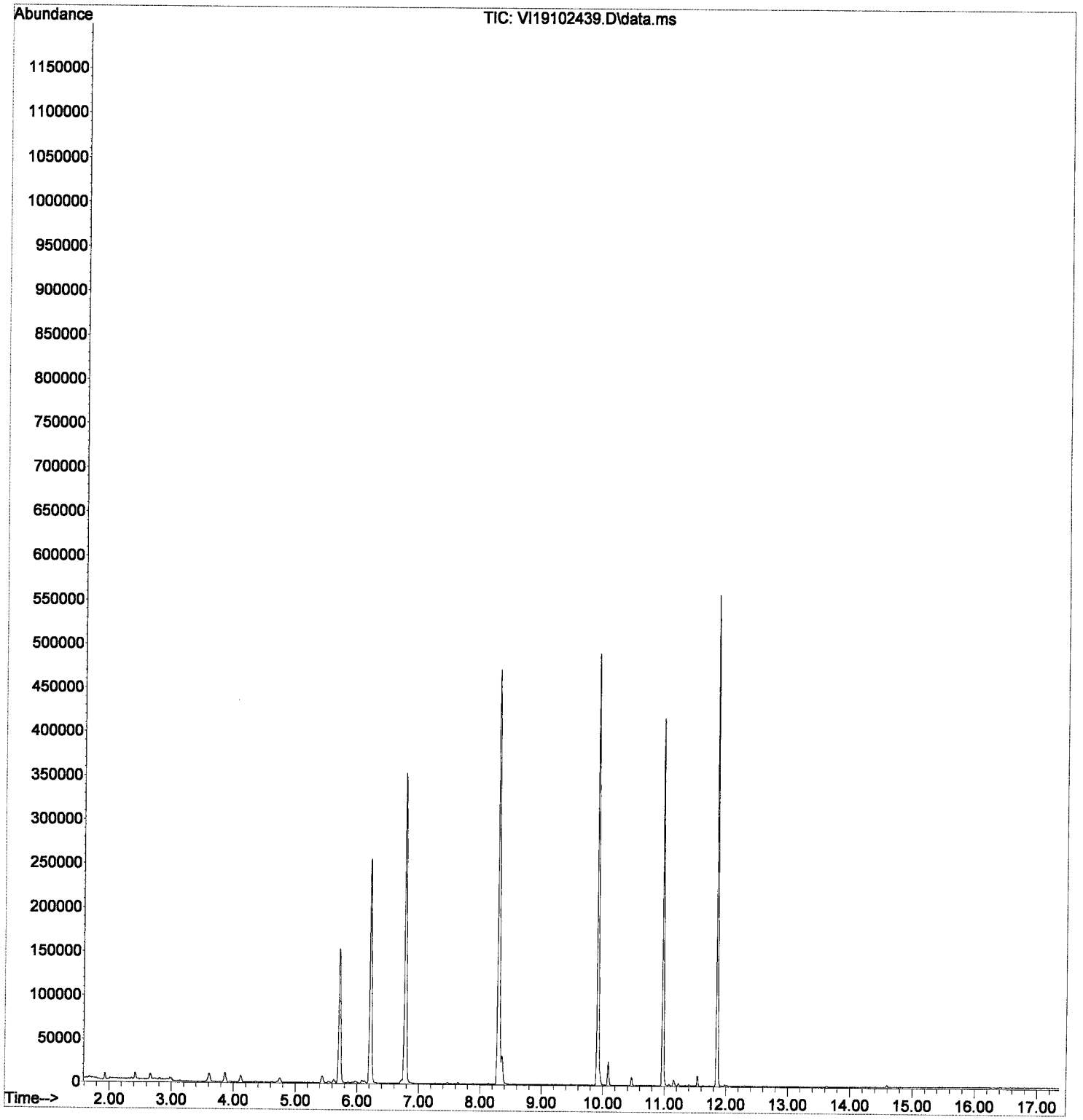
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	209290	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.777	114	341977	48.13	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.974	174	109139	43.97	ug/L	0.00
9) Toluene-d8 (NR)	8.298	98	385632	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	289080	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	203847	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	193702m	55.98	ug/L	
5) TPHg (C5-C9)	9.890	TIC	646954m	48.30	ug/L	
6) TPHg (C6-C10)	9.890	TIC	557886m	49.25	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	681991m	46.79	ug/L	
8) Benzene (NR)	6.120	78	3046	No Calib		
10) Toluene (NR)	8.358	91	26962	No Calib		
13) Naphthalene (NR)	13.633	128	1492	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102439.D
Acq On : 25 Oct 2019 1:46 am
Operator : MM
Sample : 9J24043-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:14 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102440.D
Acq On : 25 Oct 2019 2:13 am
Operator : MM
Sample : 9J24043-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:16 2019
Quant Method : C:\msdchem\1\methods\VI~~191025G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration

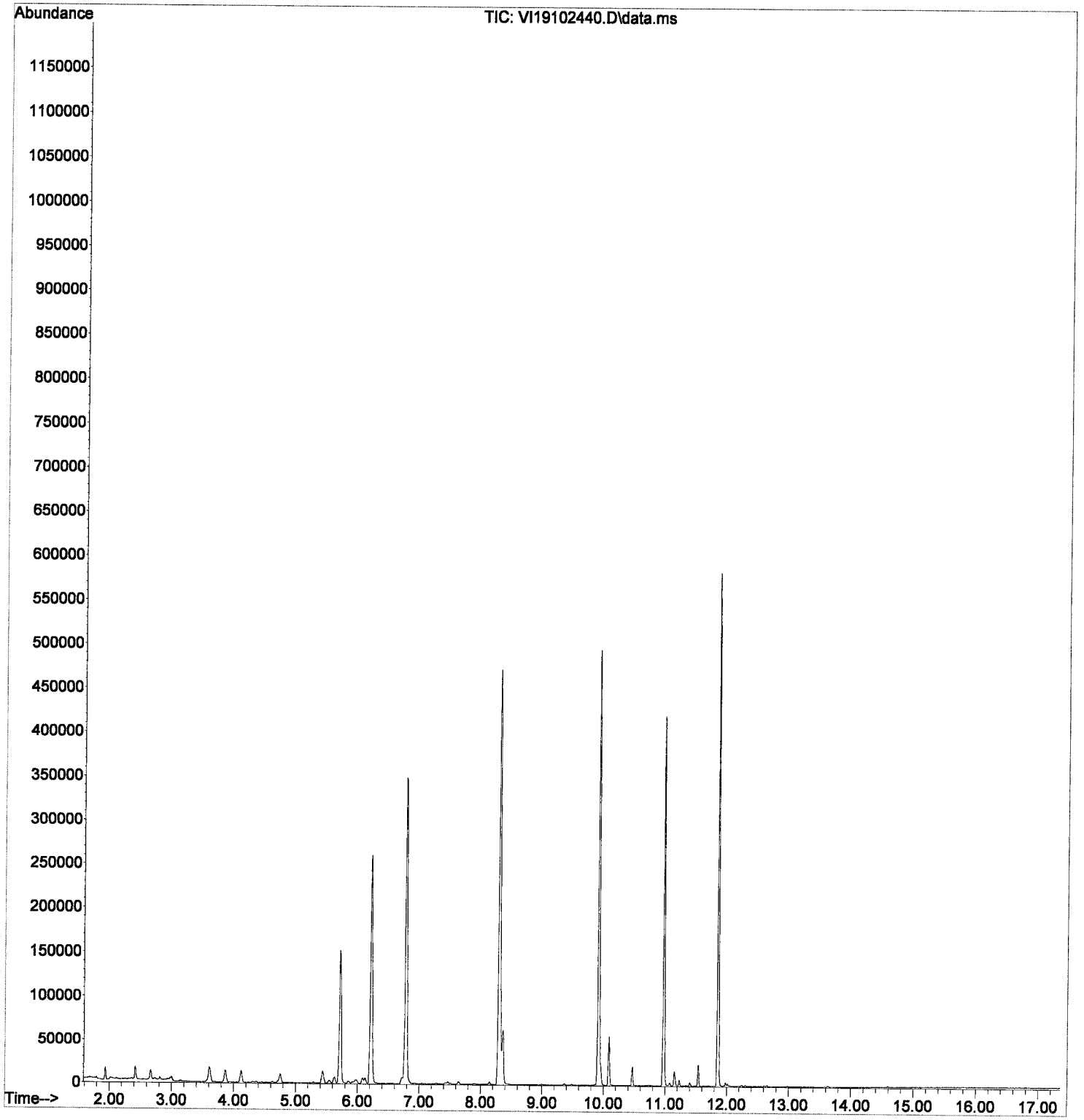
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	209478	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	342473	48.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	110020	44.29	ug/L	0.00
9) Toluene-d8 (NR)	8.298	98	383736	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	289519	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	212572	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	430822m	90.27	ug/L	
5) TPHg (C5-C9)	9.890	TIC	918071m	78.43	ug/L	
6) TPHg (C6-C10)	9.890	TIC	799328m	81.58	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	1014687m	77.57	ug/L	
8) Benzene (NR)	6.126	78	5908	No Calib		
10) Toluene (NR)	8.358	91	53262	No Calib		
13) Naphthalene (NR)	13.627	128	1678	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102440.D
Acq On : 25 Oct 2019 2:13 am
Operator : MM
Sample : 9J24043-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:16 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102441.D
Acq On : 25 Oct 2019 2:40 am
Operator : MM
Sample : 9J24043-CALE
Misc : 1X 5mL 250PPB GX
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:19 2019
Quant Method : C:\msdchem\1\methods\VI~~191025G~~.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration

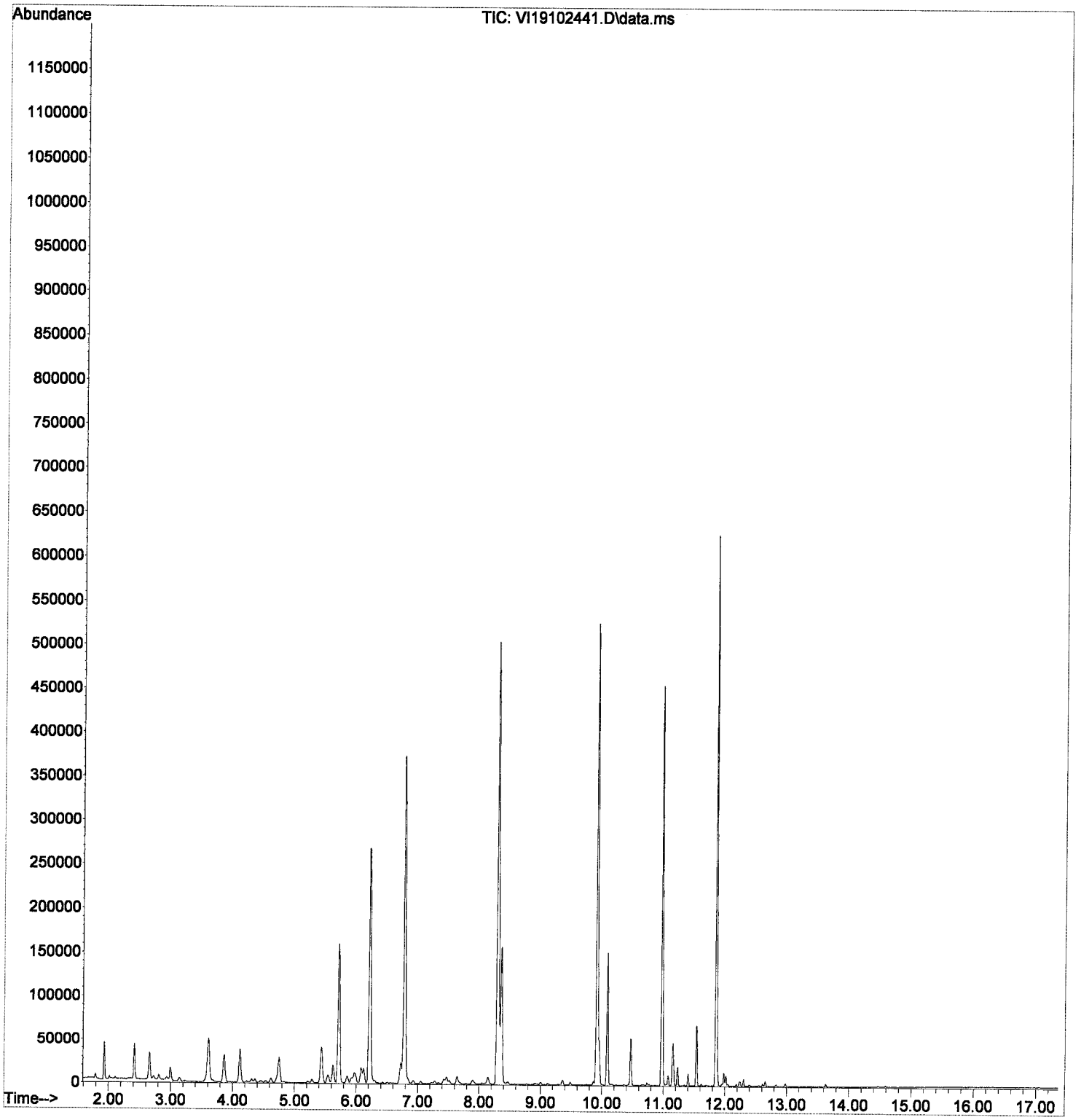
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220921	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.777	114	357958	47.73	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.974	174	116770	44.57	ug/L	0.00
9) Toluene-d8 (NR)	8.298	98	404018	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	307058	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	223658	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	1374008m	216.41	ug/L	
5) TPHg (C5-C9)	9.890	TIC	2153713m	203.72	ug/L	
6) TPHg (C6-C10)	9.890	TIC	1839524m	208.44	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	2493143m	202.69	ug/L	
8) Benzene (NR)	6.120	78	15473	No Calib		
10) Toluene (NR)	8.358	91	140638	No Calib		
13) Naphthalene (NR)	13.627	128	3143	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102441.D
Acq On : 25 Oct 2019 2:40 am
Operator : MM
Sample : 9J24043-CALE
Misc : 1X 5mL 250PPB GX
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:19 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102442.D
Acq On : 25 Oct 2019 3:07 am
Operator : MM
Sample : 9J24043-CALF
Misc : 1X 5mL 500PPB GX
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:22 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration

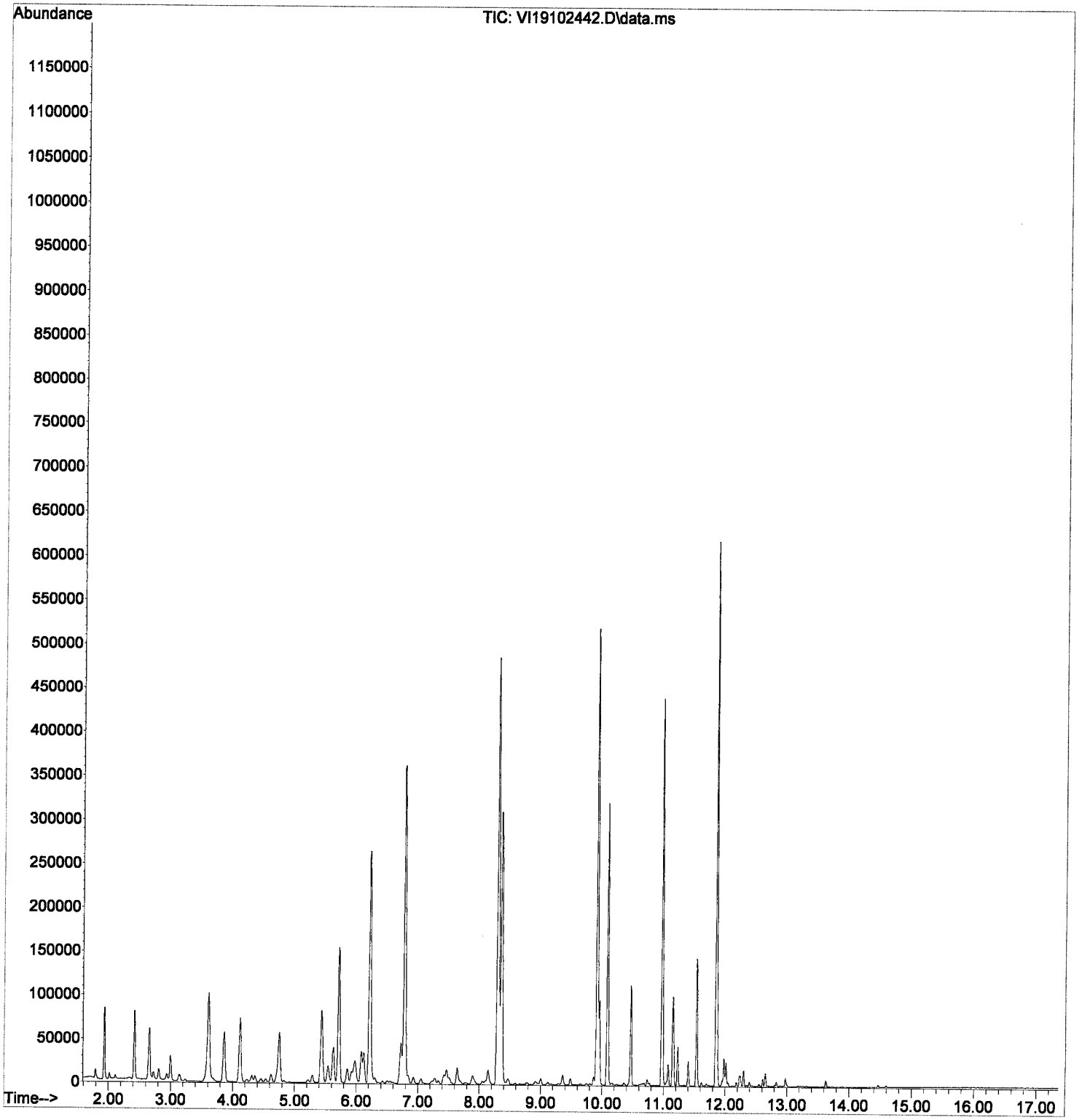
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	214780	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	347086	47.60	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	115043	45.16	ug/L	0.00
9) Toluene-d8 (NR)	8.298	98	395742	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	299444	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	223960	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	2976997m	447.66	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4135130m	425.95	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3507779m	433.73	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	4877141m	424.71	ug/L	
8) Benzene (NR)	6.120	78	31187	No Calib		
10) Toluene (NR)	8.358	91	281045	No Calib		
13) Naphthalene (NR)	13.627	128	6060	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102442.D
Acq On : 25 Oct 2019 3:07 am
Operator : MM
Sample : 9J24043-CALF
Misc : 1X 5mL 500PPB GX
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:22 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102443.D
Acq On : 25 Oct 2019 3:34 am
Operator : MM
Sample : 9J24043-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:25 2019
Quant Method : C:\msdchem\1\methods\~~VI191025G~~.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration

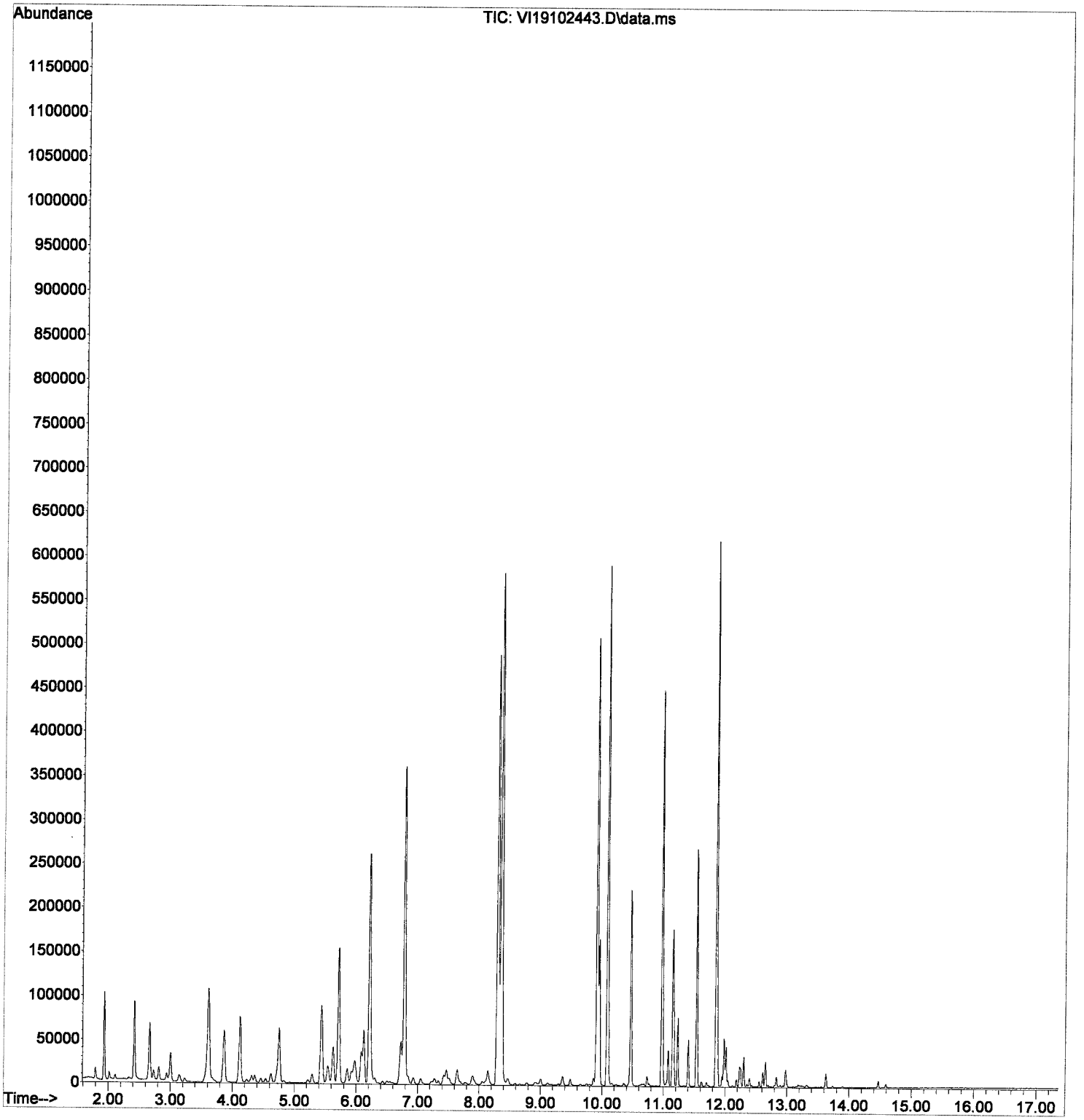
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	211453	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	348407	48.54	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	115114	45.90	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	392439	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	298529	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	222551	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	4888792m	727.40	ug/L	
5) TPHg (C5-C9)	9.890	TIC	5510904m	585.41	ug/L	
6) TPHg (C6-C10)	9.890	TIC	4867313m	622.06	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	6835714m	611.85	ug/L	
8) Benzene (NR)	6.119	78	58175	No Calib		
10) Toluene (NR)	8.358	91	520899	No Calib		
13) Naphthalene (NR)	13.627	128	12132	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102443.D
Acq On : 25 Oct 2019 3:34 am
Operator : MM
Sample : 9J24043-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:25 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102444.D
Acq On : 25 Oct 2019 4:00 am
Operator : MM
Sample : 9J24043-CALH
Misc : 1X 5mL 2500PPB GX
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:28 2019
Quant Method : C:\msdchem\1\methods\~~VI191025~~G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration

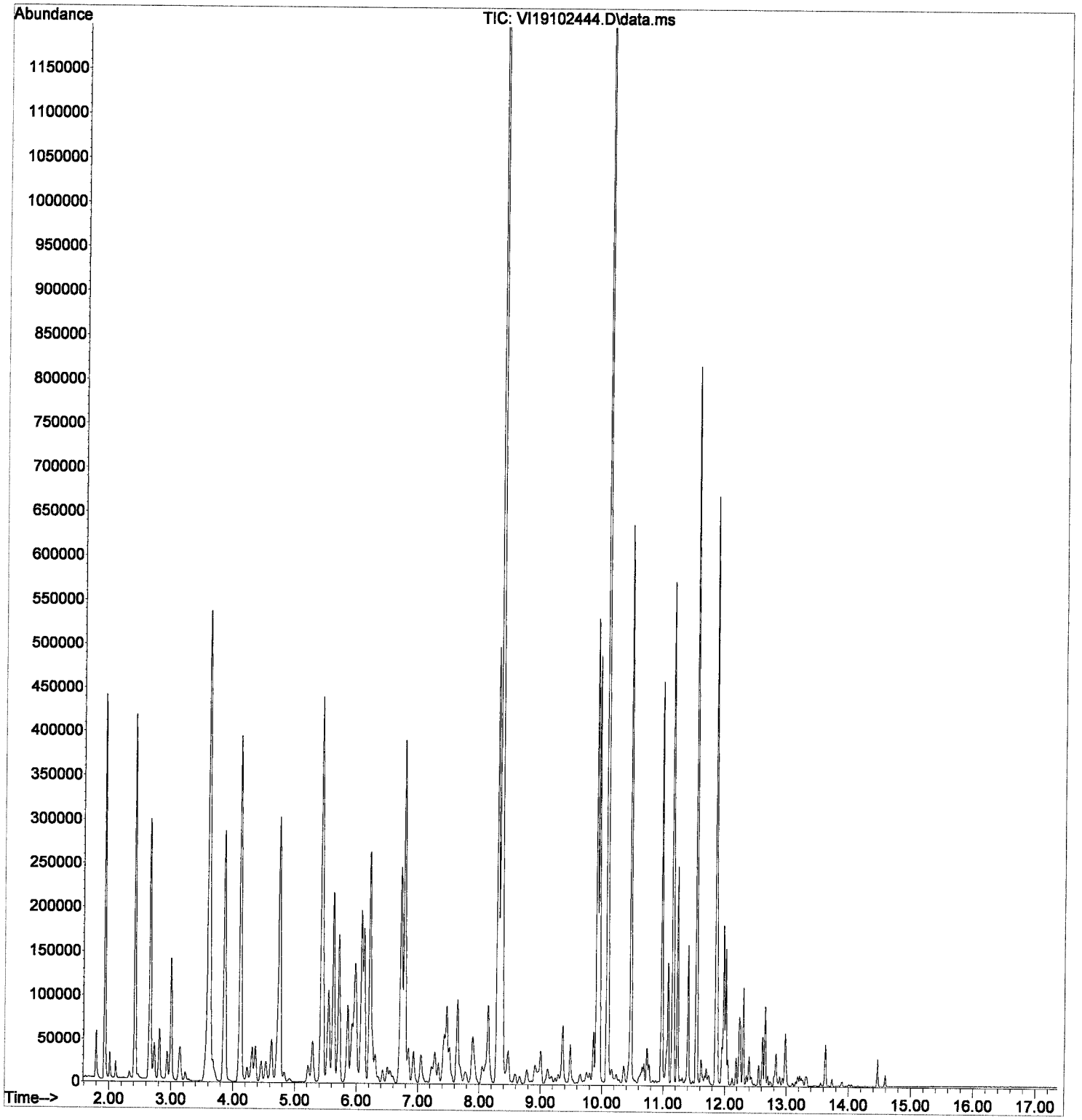
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	216435	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	352248	47.94	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	120135	46.80	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	398721	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	303642	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	237458	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	16775203m	2359.89	ug/L	
5) TPHg (C5-C9)	9.890	TIC	21028250m	2263.03	ug/L	
6) TPHg (C6-C10)	9.890	TIC	17780255m	2293.78	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	25461195m	2277.93	ug/L	
8) Benzene (NR)	6.119	78	158403	No Calib		
10) Toluene (NR)	8.358	91	1477009	No Calib		
13) Naphthalene (NR)	13.627	128	35052	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102444.D
Acq On : 25 Oct 2019 4:00 am
Operator : MM
Sample : 9J24043-CALH
Misc : 1X 5mL 2500PPB GX
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:28 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102445.D
Acq On : 25 Oct 2019 4:27 am
Operator : MM
Sample : 9J24043-CALI
Misc : 1X 5mL 5000PPB GX
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:31 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration

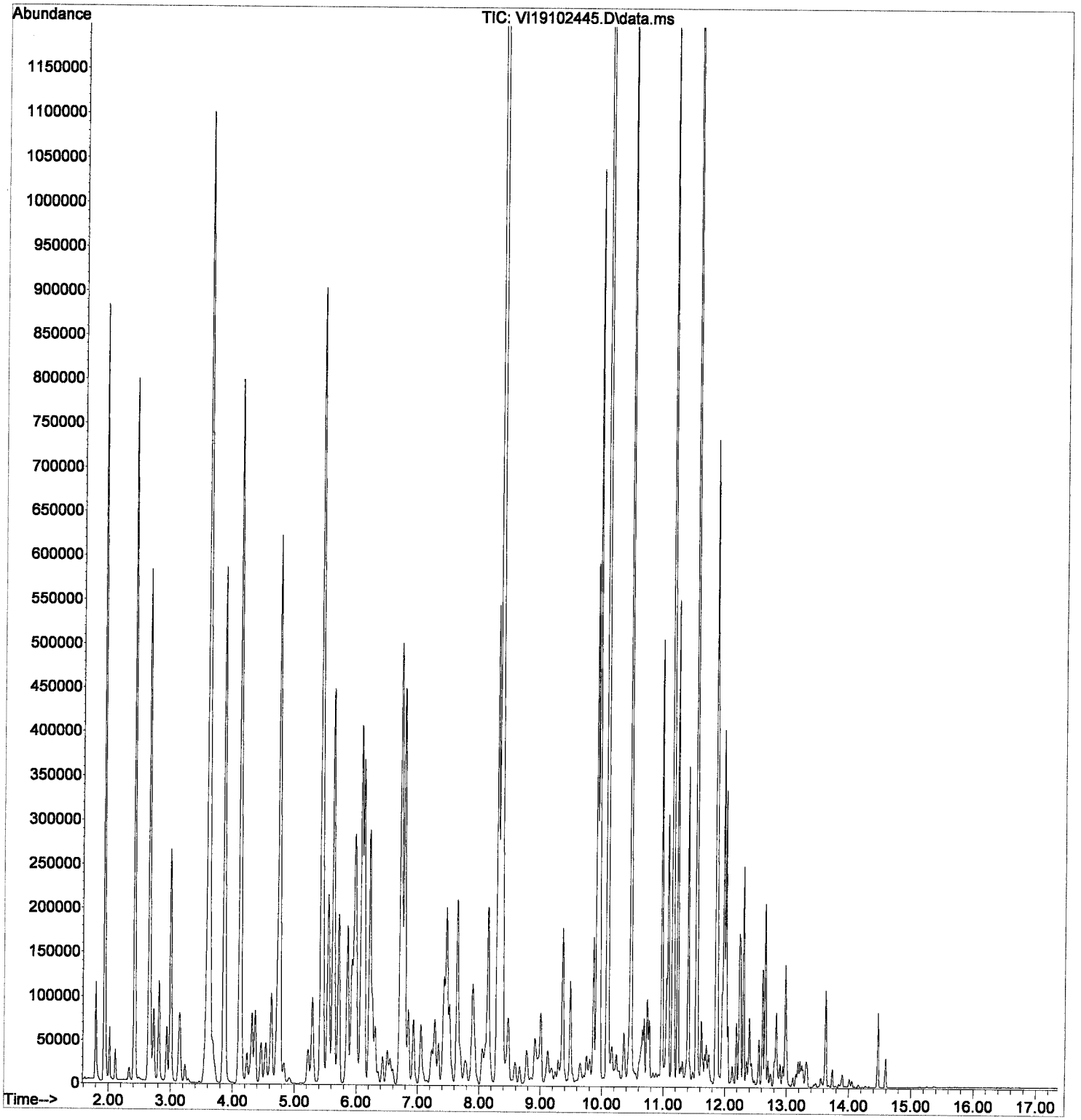
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	233849	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	379658	47.83	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	131653	47.47	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	428988	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	328511	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	265485	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	36698243m	4712.25	ug/L	
5) TPHg (C5-C9)	9.890	TIC	44004926m	4445.71	ug/L	
6) TPHg (C6-C10)	9.890	TIC	37352617m	4504.22	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	53937364m	4503.02	ug/L	
8) Benzene (NR)	6.119	78	331579	No Calib		
10) Toluene (NR)	8.358	91	3164737	No Calib		
13) Naphthalene (NR)	13.627	128	80787	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102445.D
Acq On : 25 Oct 2019 4:27 am
Operator : MM
Sample : 9J24043-CALI
Misc : 1X 5mL 5000PPB GX
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:31 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102446.D
Acq On : 25 Oct 2019 4:54 am
Operator : MM
Sample : 9J24043-CALJ
Misc : 1X 5mL 10000PPB GX
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:34 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration

W 10/28/19

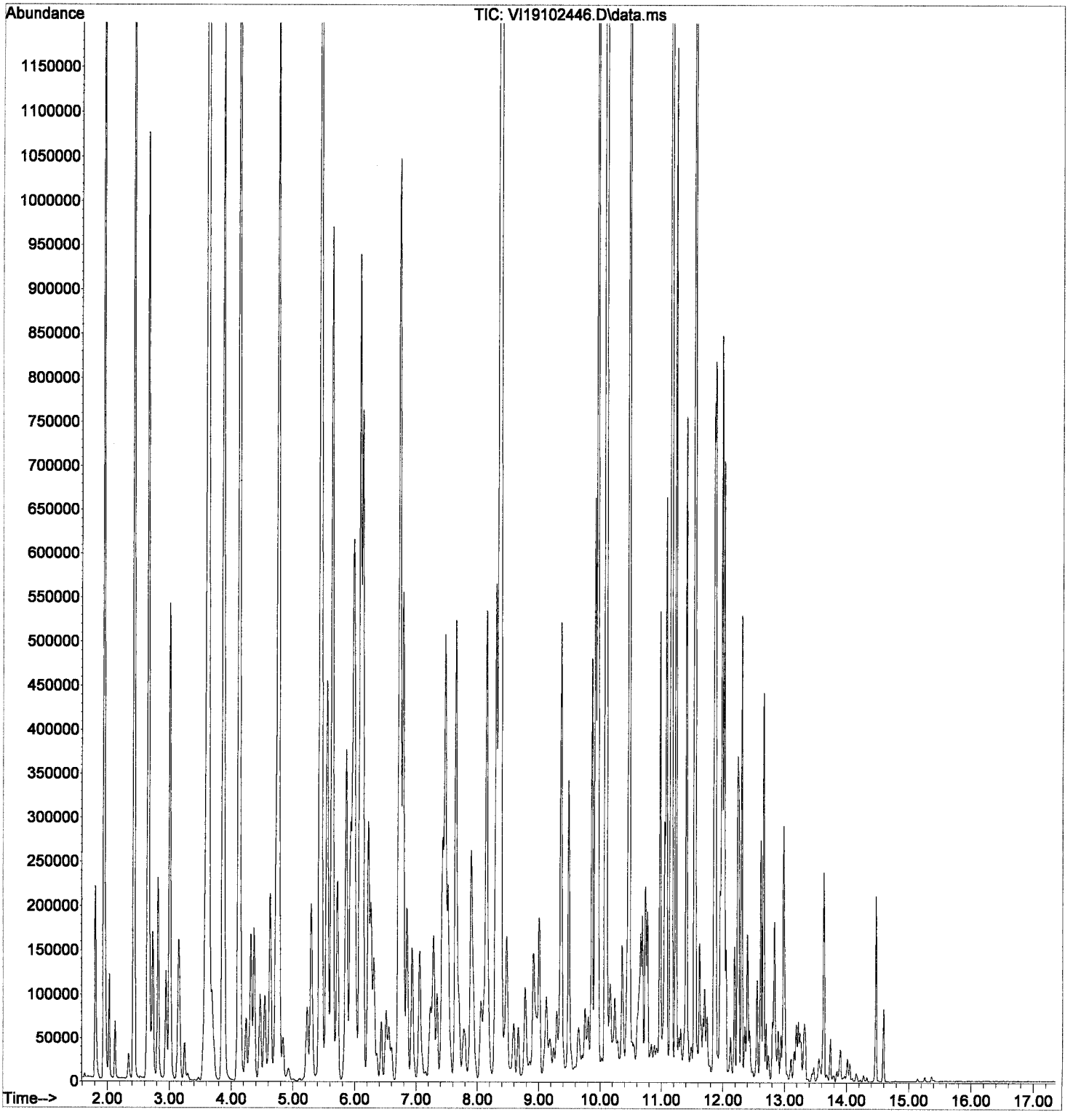
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	234183	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	384961	48.42	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	134509	48.43	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	441445	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	336849	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	271148	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	79562476m	9992.42	ug/L	
5) TPHg (C5-C9)	9.890	TIC	92937489m	9609.74	ug/L	
6) TPHg (C6-C10)	9.890	TIC	79339461m	9683.51	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	114341182m	9654.93	ug/L	
8) Benzene (NR)	6.126	78	681943	No Calib		
10) Toluene (NR)	8.358	91	6524048	No Calib		
13) Naphthalene (NR)	13.627	128	171453	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102446.D
Acq On : 25 Oct 2019 4:54 am
Operator : MM
Sample : 9J24043-CALJ
Misc : 1X 5mL 10000PPB GX
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 08:55:34 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 06 09:35:12 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102447.D
Acq On : 25 Oct 2019 5:21 am
Operator : MM
Sample : 9J24043-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:23 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

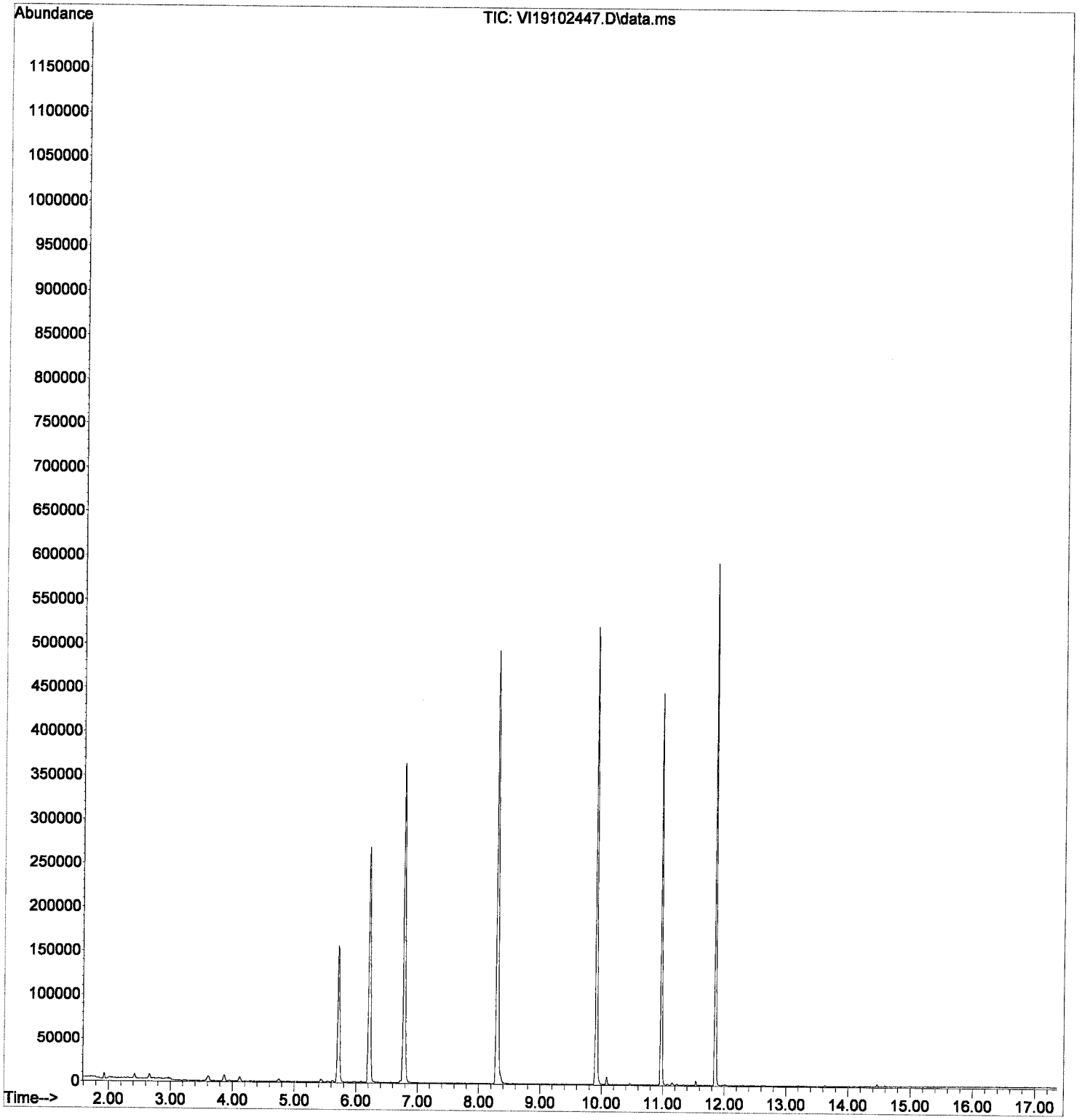
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220300	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	358131	50.00	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	115759	48.41	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	401614	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	304304	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	217857	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	67010m	34.98	ug/L	
5) TPHg (C5-C9)	9.890	TIC	462754m	29.19	ug/L	
6) TPHg (C6-C10)	9.890	TIC	415778m	30.25	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	479273m	32.16	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102447.D
Acq On : 25 Oct 2019 5:21 am
Operator : MM
Sample : 9J24043-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:23 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102448.D
Acq On : 25 Oct 2019 5:48 am
Operator : MM
Sample : 9J24043-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:26 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

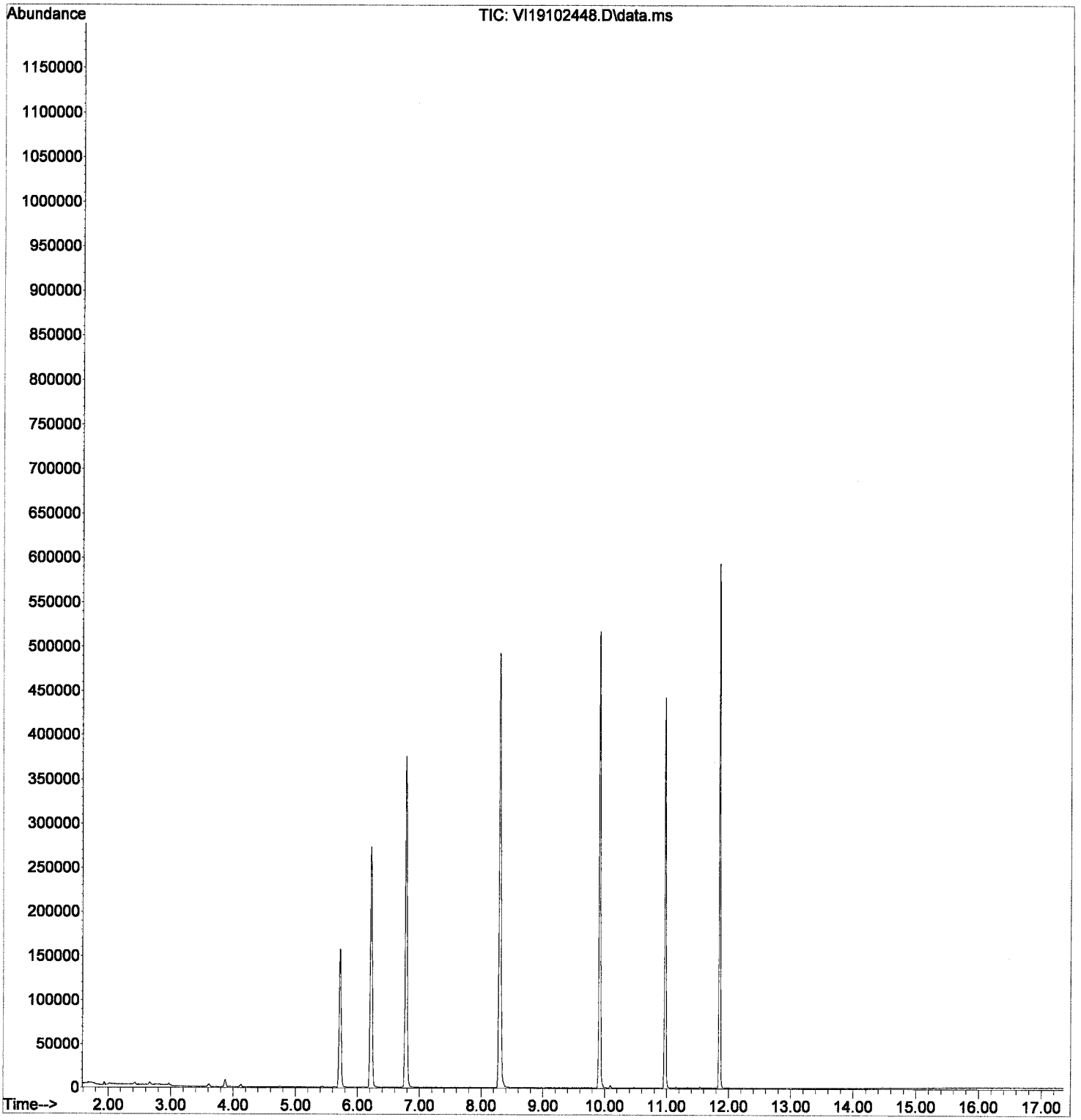
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	224165	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	364141	49.96	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	116148	47.73	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	404017	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	307716	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	221768	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	6246m	25.58	ug/L	
5) TPHg (C5-C9)	9.890	TIC	423048m	23.38	ug/L	
6) TPHg (C6-C10)	9.890	TIC	367482m	22.24	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	414999m	24.87	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102448.D
Acq On : 25 Oct 2019 5:48 am
Operator : MM
Sample : 9J24043-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:26 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102449.D
Acq On : 25 Oct 2019 6:15 am
Operator : MM
Sample : NOT USED-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:29 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

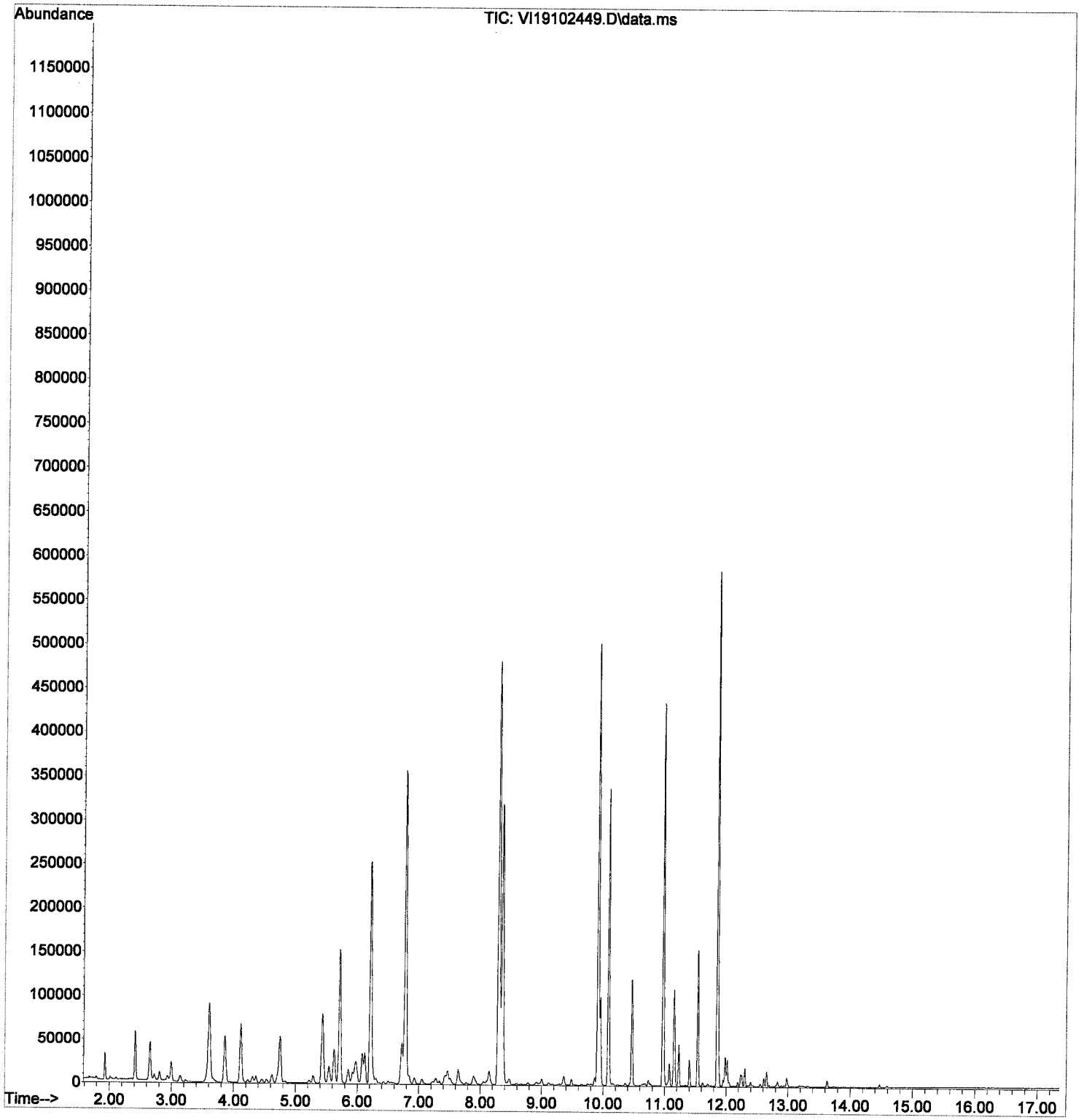
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	210169	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	342543	50.13	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	111447	48.85	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	389625	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	294881	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	215811	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3057398m	515.56	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4012577m	490.15	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3490261m	503.63	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	4796224m	494.15	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102449.D
Acq On : 25 Oct 2019 6:15 am
Operator : MM
Sample : NOT USED-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:29 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102450.D
Acq On : 25 Oct 2019 6:42 am
Operator : MM
Sample : 9J24043-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:32 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

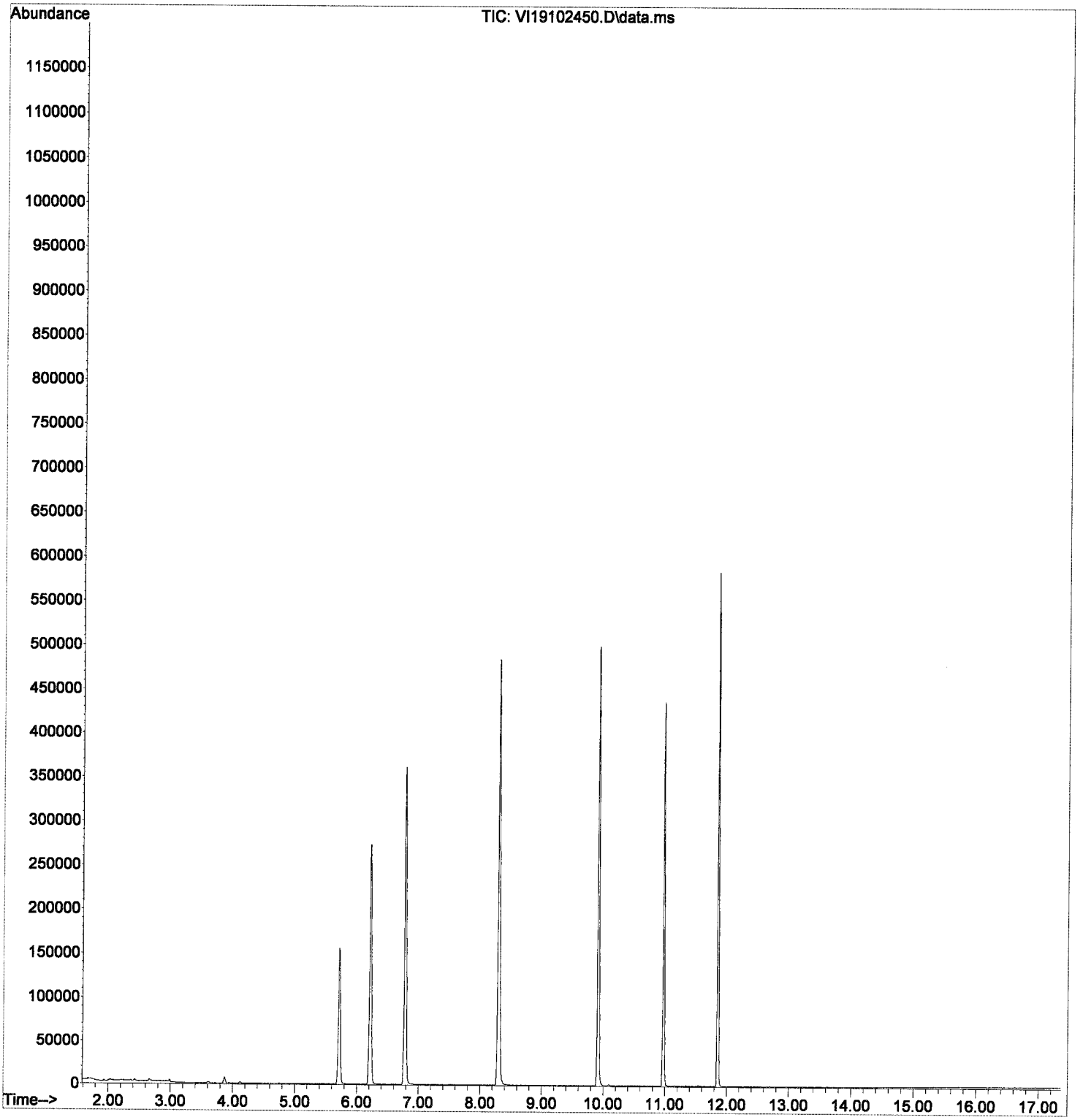
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220005	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	355641	49.72	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	113694	47.61	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	395183	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	297812	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	216661	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	1338m	24.84	ug/L	
5) TPHg (C5-C9)	9.890	TIC	395852m	20.99	ug/L	
6) TPHg (C6-C10)	9.890	TIC	356830m	21.68	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	380718m	22.16	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102450.D
Acq On : 25 Oct 2019 6:42 am
Operator : MM
Sample : 9J24043-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:32 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102451.D
Acq On : 25 Oct 2019 9:37 am
Operator : MM
Sample : 9J24043-IBLB
Misc : 1X 5mL DI
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:35 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

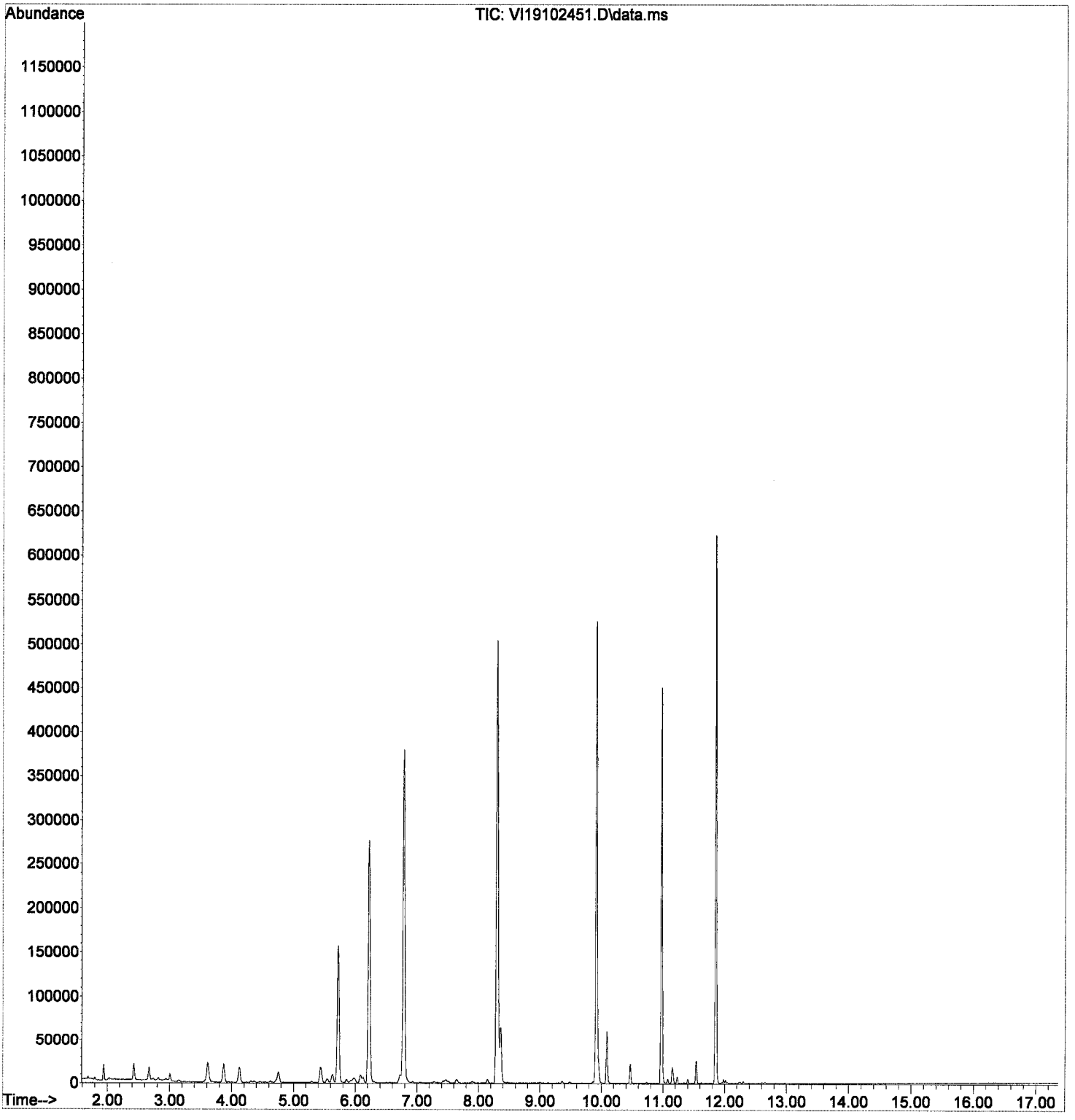
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220874	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	362775	50.51	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	117808	49.14	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	408461	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	309494	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	224643	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	516538m	104.07	ug/L	
5) TPHg (C5-C9)	9.890	TIC	1099818m	107.51	ug/L	
6) TPHg (C6-C10)	9.890	TIC	929473m	105.15	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	1204383m	105.77	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102451.D
Acq On : 25 Oct 2019 9:37 am
Operator : MM
Sample : 9J24043-IBLB
Misc : 1X 5mL DI
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:36:35 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102452.D
Acq On : 25 Oct 2019 10:13 am
Operator : MM
Sample : 9J24043-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:30:48 2019
Quant Method : C:\msdchem\1\methods\~~VI191025G~~.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 09:04:24 2019
Response via : Initial Calibration

MM 10/25/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	234293	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	376297	49.24	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	126230	49.57	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	425778	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	321320	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	240304	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	6735895m	1025.45	ug/L	
5) TPHg (C5-C9)	9.890	TIC	9031832m	1085.81	ug/L	
6) TPHg (C6-C10)	9.890	TIC	7648071m	1079.95	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	10733621m	1066.65	ug/L	
8) Benzene (NR)	6.126	78	64412	No Calib		
10) Toluene (NR)	8.358	91	587525	No Calib		
13) Naphthalene (NR)	13.627	128	13369	No Calib		

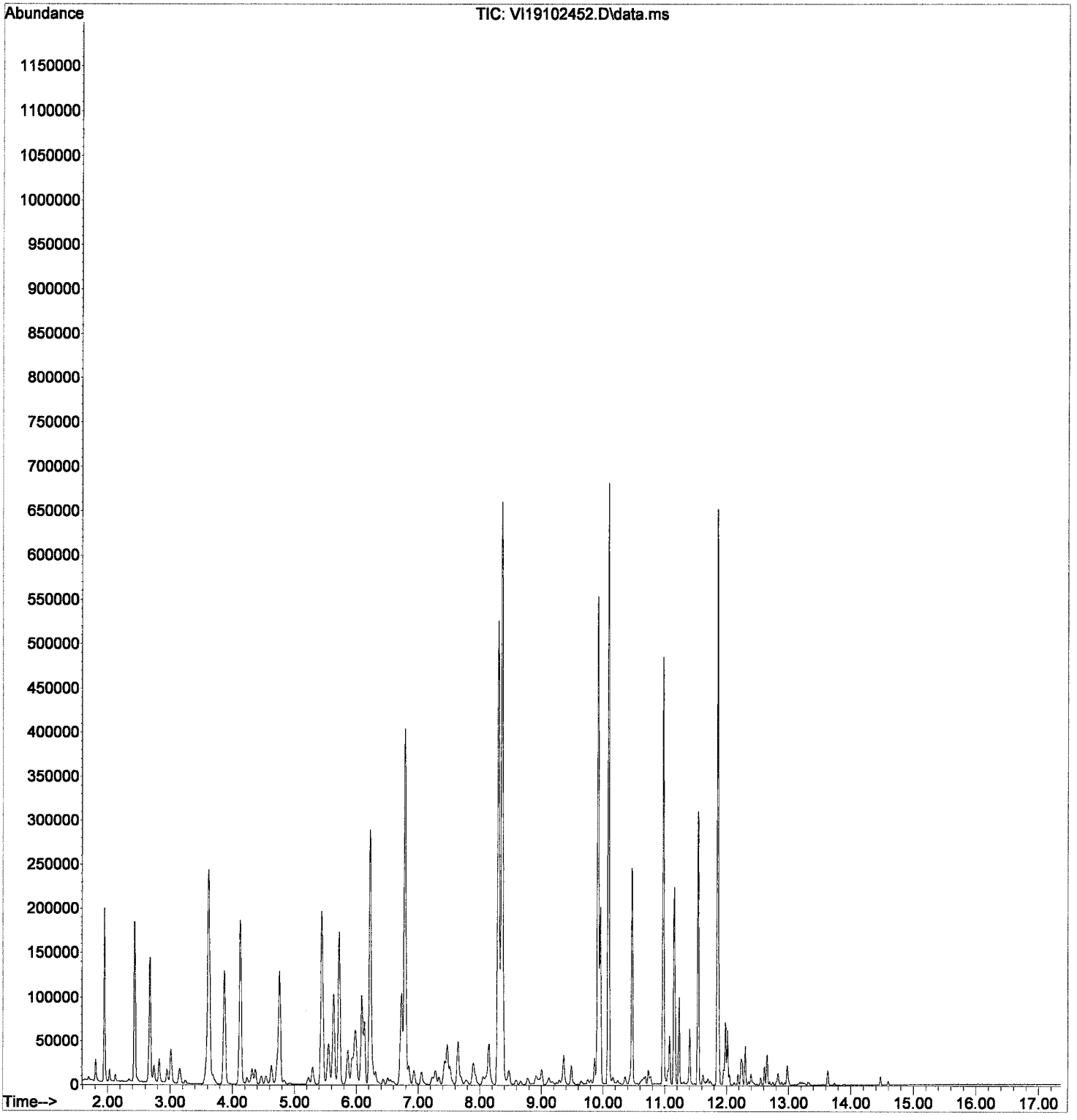
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Re-prepped @ 10/25/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102452.D
Acq On : 25 Oct 2019 10:13 am
Operator : MM
Sample : 9J24043-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:30:48 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 09:04:24 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102453.D
Acq On : 25 Oct 2019 10:40 am
Operator : MM
Sample : 9J24043-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:55:48 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

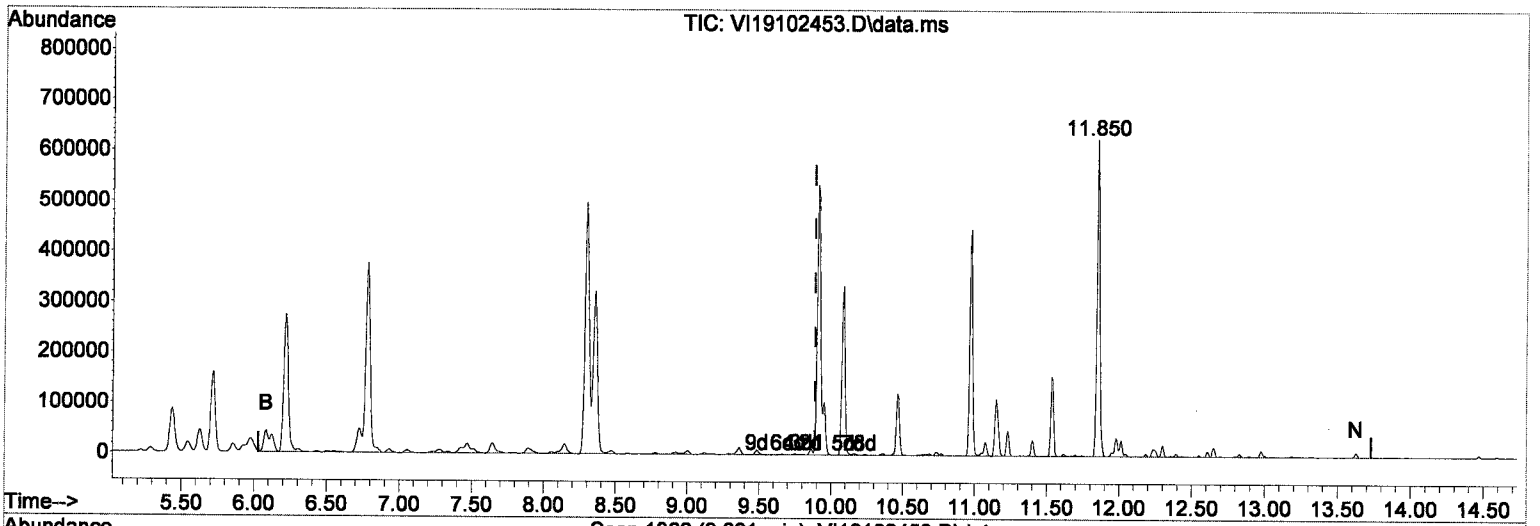
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	221958	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	358721	49.70	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	117543	48.79	ug/L	0.00
9) Toluene-d8 (NR)	8.297	98	403727	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.910	117	307598	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.850	150	224832	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3205343m	512.01	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4234043m	489.71	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3681976m	503.04	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	5059070m	493.53	ug/L	

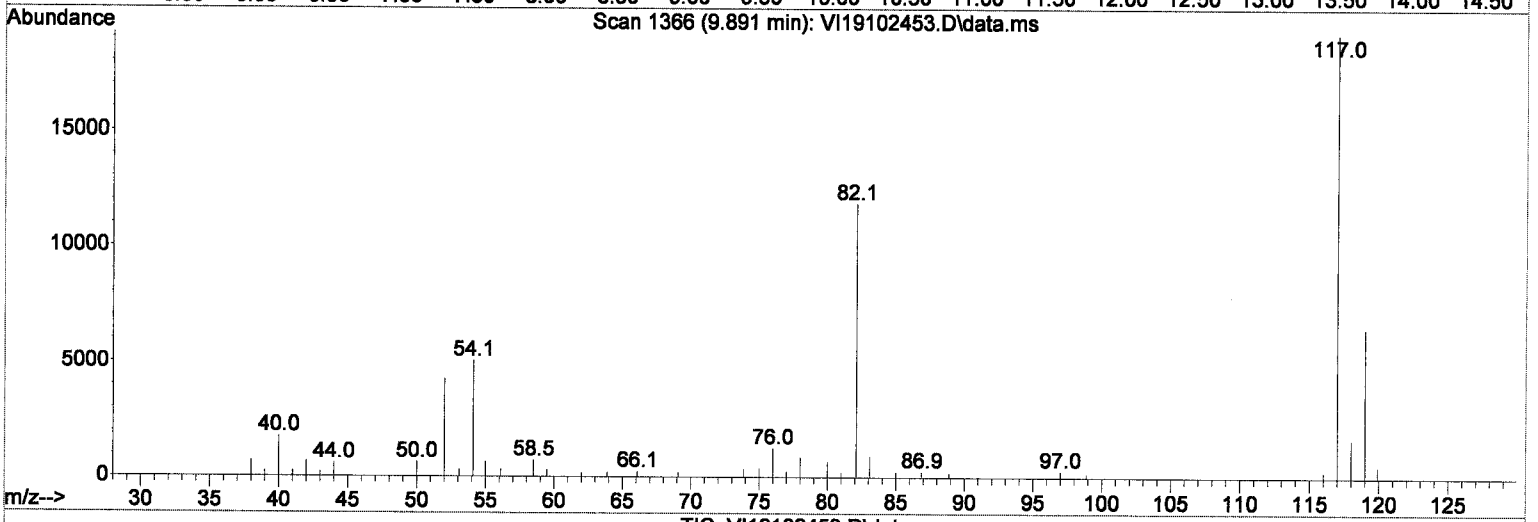
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102453.D
Acq On : 25 Oct 2019 10:40 am
Operator : MM
Sample : 9J24043-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:55:48 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration





TIC: VI19102453.D\data.ms

(4) NWTPH-Gx (TPH) (H)

9.890min (0.000) 512.01 ug/L m

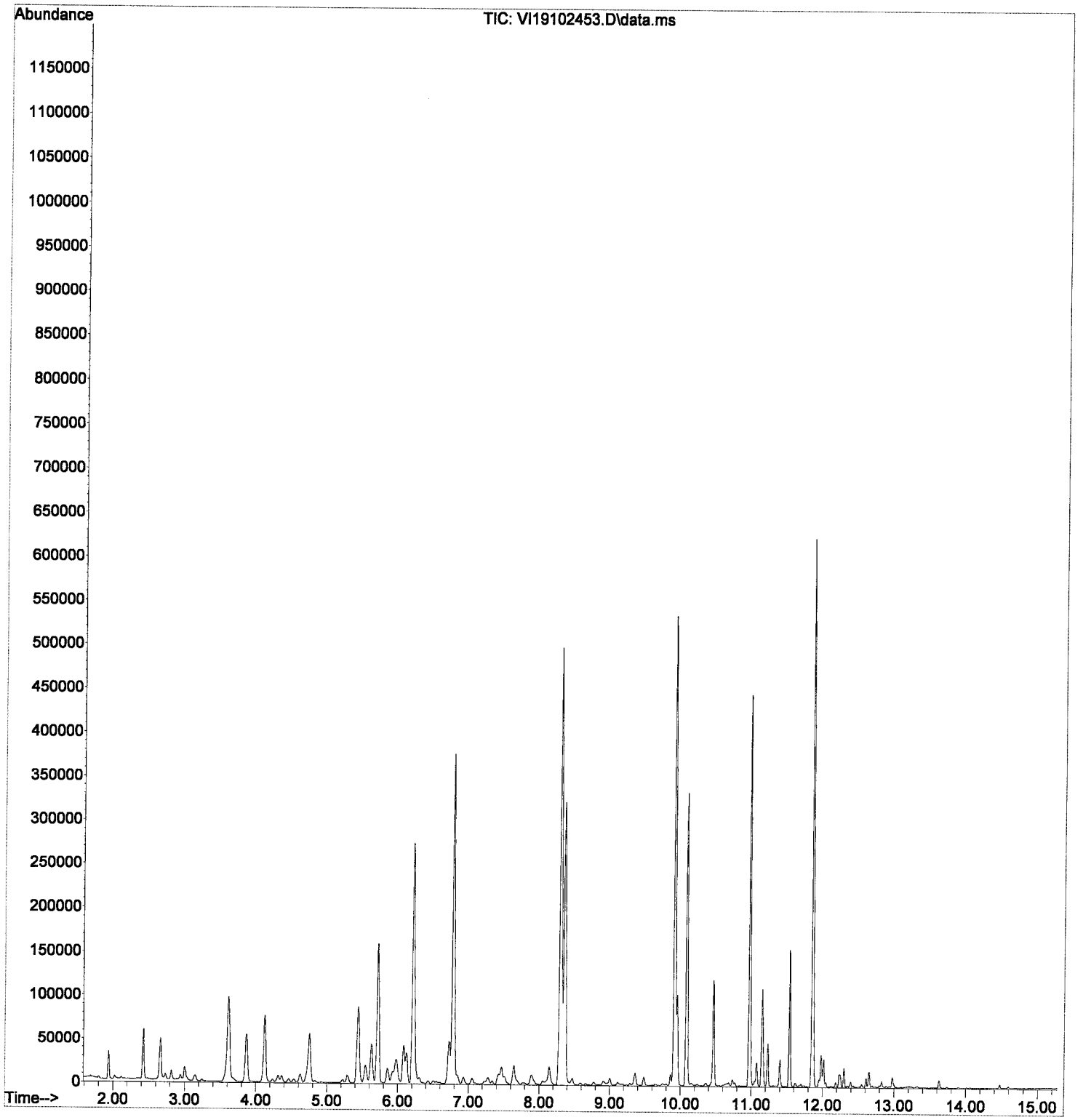
response 3205343

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.02#
0.00	0.00	0.01#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J24043\
Data File : VI19102453.D
Acq On : 25 Oct 2019 10:40 am
Operator : MM
Sample : 9J24043-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Oct 25 10:55:48 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration



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

Vinyl Chloride by EPA 8260C SIM
Benchsheet & Analysis Sequence Data

Batch 9110678
Sequence 9K11047 (A9K0165-01,02,03,04,05,06,07)

PREPARATION BENCH SHEET

BATCH #: 9110678 (Water)

Apex Laboratories

Prep Method: EPA 5030B

NOV 1 3 2019

APEX LABORATORIES

Lab Number	Cont.	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
9110678-BLK1		QC	11/11/19 13:44	5	5							
9110678-BS1		QC	11/11/19 13:44	5	5	A19K081		0.05				
A9K0136-02	B	8260C SIM - VC Only	11/11/19 13:44	5	5					SE-110619-60	SE sample only--Run only if ND at	<2
A9K0165-01	C	8260C SIM - VC Only	11/11/19 13:44	5	5					PDI-RB-1911060820	Needs 0.022ug/L RL	<2
A9K0165-02	B	8260C SIM - VC Only	11/11/19 13:44	5	5					PDI-TB-1911060000	Needs 0.022ug/L RL	<2
A9K0165-03	C	8260C SIM - VC Only	11/11/19 13:44	5	5					PDI-052PW-06-08-191104	Needs 0.022ug/L RL	<2
A9K0165-04	C	8260C SIM - VC Only	11/11/19 13:44	5	5					PDI-055PW-06-08-191104	Needs 0.022ug/L RL	<2
A9K0165-05	B	8260C SIM - VC Only	11/11/19 13:44	5	5					PDI-073PW-03-05-191104	MS/MSD, HS in all voas, Needs 0.0	<2
9110678-MS1		QC	11/11/19 13:44	5	5	A19K081	A9K0165-05	0.05			HS	<2
9110678-MSD1		QC	11/11/19 13:44	5	5	A19K081	A9K0165-05	0.05			HS	
A9K0165-06	B	8260C SIM - VC Only	11/11/19 13:44	5	5					PDI-074PW-08-10-191104	Needs 0.022ug/L RL	<2
A9K0165-07	C	8260C SIM - VC Only	11/11/19 13:44	5	5					PDI-075PW-01-03-191105	Needs 0.022ug/L RL	<2

*pH <2 verified 11/12/19 hm

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description

Analyte Spike(s)

Std ID	Exp. Date	Description
A19K081	04/17/20	8260 Cal. Std. B VOC+OXY Spike (20-40ug/ml

Surrogate(s)

Std ID	Exp. Date	Description

GCMS8 SIMW

11/12/19 hm
Prepared By: Date

WW 11/12/19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9K11047** Instrument: **VOA-GCMS8**

Date: **11/11/19 13:09** Calibration: ~~**A9G1802**~~ A9G1805 MK 11/12/19

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9K11047-IBL1	Water	QC	QC			A19G296	
2	9K11047-TUN1	Water	QC	QC			A19G296	
3	9K11047-IBL2	Water	QC	QC			A19G296	
4	9K11047-CCV1	Water	QC	QC			A19G296	
5	9110678-BS1	Water	QC	QC		9110678	A19G296	
6	9110678-BLK1	Water	QC	QC		9110678	A19G296	
7	A9K0136-02	Water	8260C SIM - VC Only		11/12/19	9110678	A19G296	
8	A9K0165-01	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/19/19	9110678	A19G296	
9	A9K0165-02	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/19/19	9110678	A19G296	
10	A9K0165-03	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/19/19	9110678	A19G296	
11	A9K0165-04	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/19/19	9110678	A19G296	
12	A9K0165-07	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/19/19	9110678	A19G296	
13	A9K0165-06	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/19/19	9110678	A19G296	
14	A9K0165-05	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/19/19	9110678	A19G296	
15	9110678-MS1	Water	QC	QC		9110678	A19G296	
16	9110678-MSD1	Water	QC	QC		9110678	A19G296	
17	9K11047-IBL3	Water	QC	QC			A19G296	
18	9K11047-IBL4	Water	QC	QC			A19G296	
19	9K11047-IBL5	Water	QC	QC			A19G296	
20	9K11047-IBL6	Water	QC	QC			A19G296	
21	9K11047-IBL7	Water	QC	QC			A19G296	
22	9K11047-IBL8	Water	QC	QC			A19G296	
23	9K11047-IBL9	Water	QC	QC			A19G296	

Data Entered By: 11/12/19 MK

Data Reviewed By: MK 11/12/19

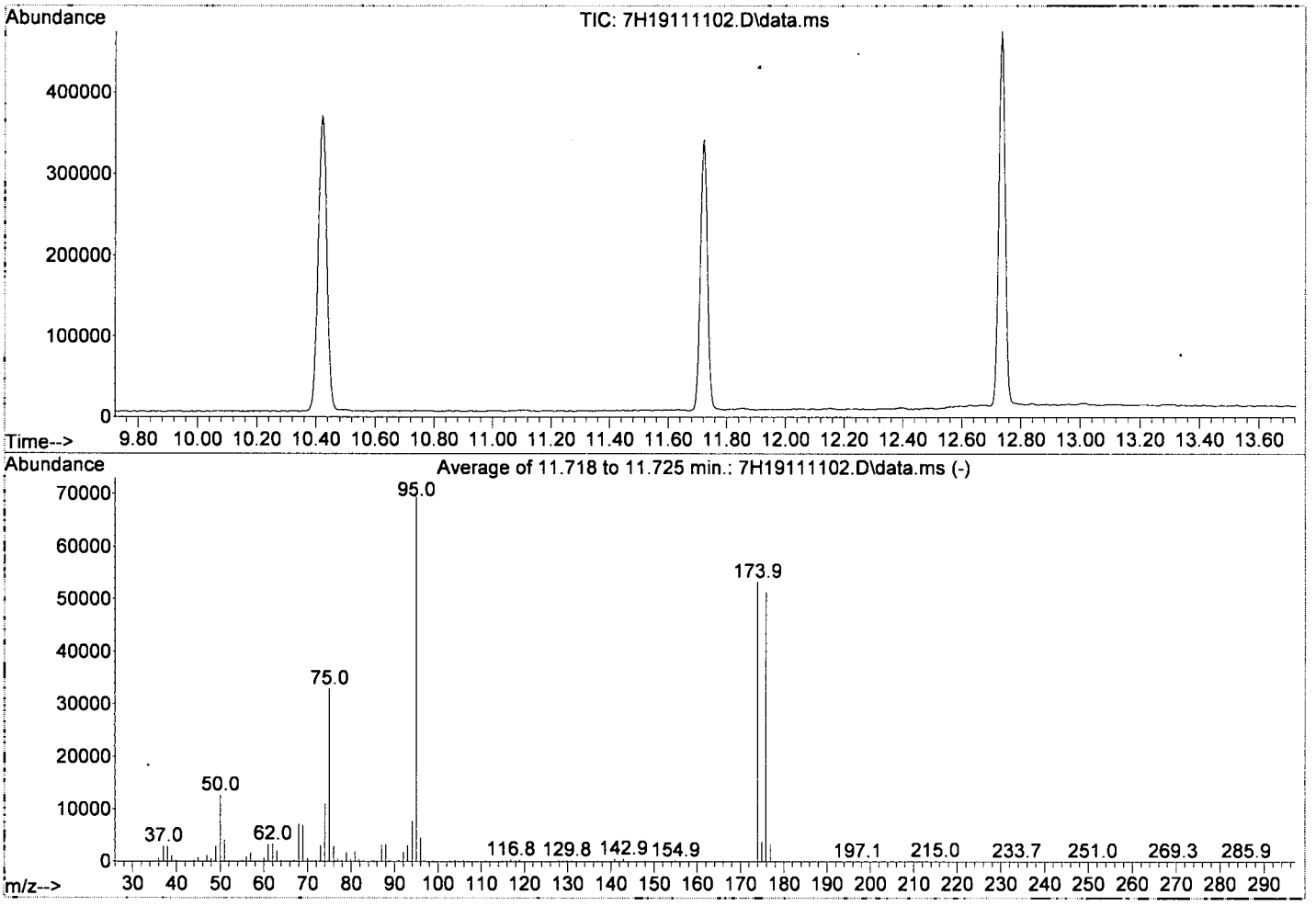
Comments:

BFB

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111102.D
Acq On : 11 Nov 2019 02:27 pm
Operator : tb
Sample : 9K11047-TUN1
Misc : 1X 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\GCMS\1\methods\VH190718W.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Wed Dec 21 11:05:59 2016



AutoFind: Scans 3150, 3151, 3152; Background Corrected with Scan 3131

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	130.3	69504	PASS
96	95	5	9	6.4	4476	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	76.8	53349	PASS
175	174	5	9	7.0	3742	PASS
176	174	95	105	96.5	51501	PASS
177	176	5	10	6.4	3307	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111102.D
Acq On : 11 Nov 2019 02:27 pm
Operator : tb
Sample : 9K11047-TUN1
Misc : 1X 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 11 15:21:30 2019
Quant Method : C:\GCMS\1\methods\VH190718W.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Wed Dec 21 11:05:59 2016
Response via : Initial Calibration
DataAcq Meth:VH1907RUN.M

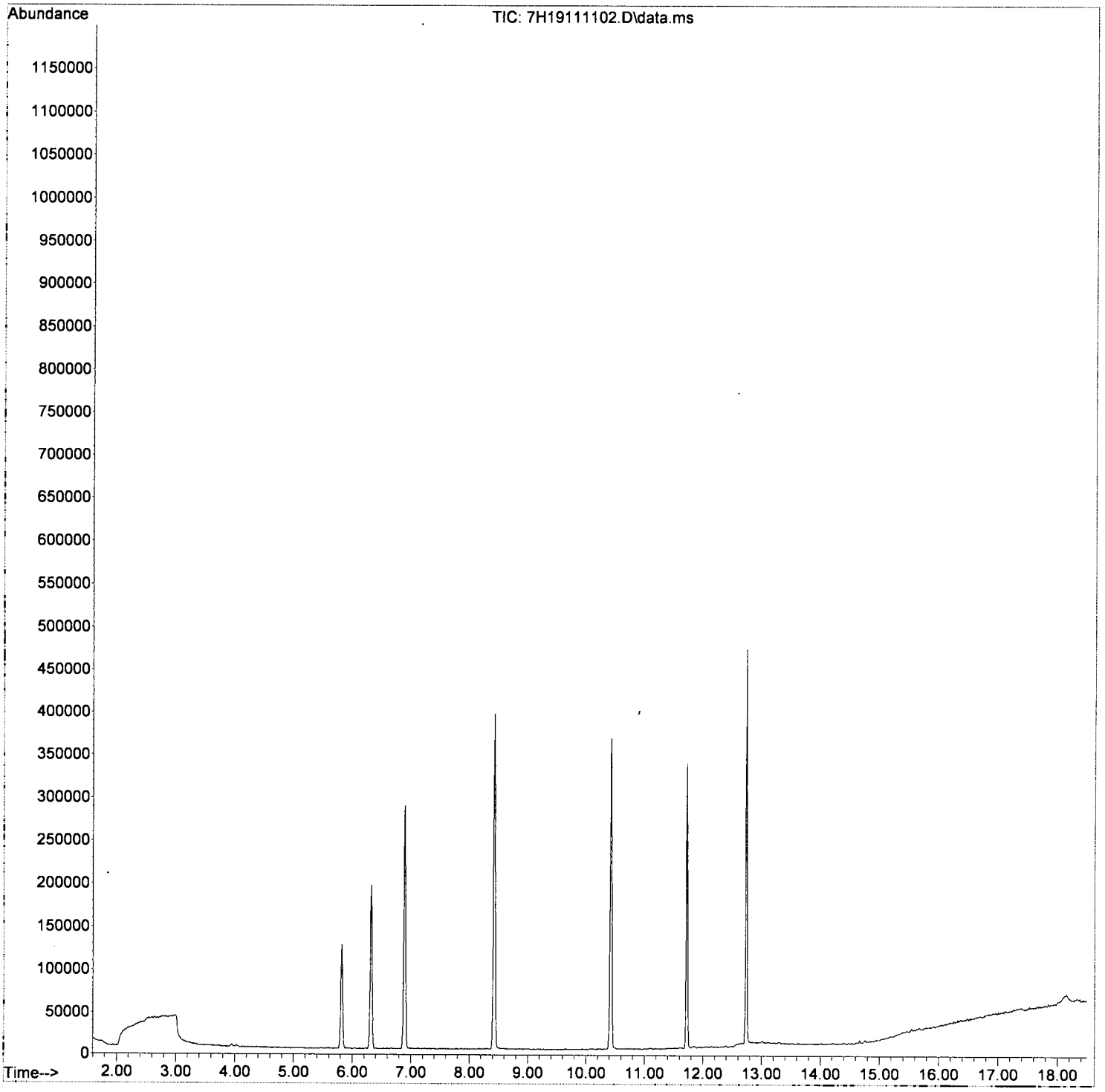
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.317	168	149266	50.00	ug/L		0.00
39) Chlorobenzene-d5 (I)	10.419	117	243277	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4...	12.734	152	111893	50.00	ug/L		0.00
System Monitoring Compounds							
28) Dibromofluoromethane (S)	5.815	111	87737	44.49	ug/L		0.00
34) 1,4-Difluorobenzene (S)	6.889	114	261515	52.45	ug/L		0.00
42) Toluene-d8 (S)	8.423	98	329706	54.46	ug/L		0.00
61) 4-Bromofluorobenzene (S)	11.722	174	90627	58.84	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.371	96	82	Below Cal		#	74
6) Chloroethane	2.551	64	159	Below Cal		#	1
11) Iodomethane	3.423	142	20	2.16	ug/L	#	1
12) Acrolein	3.696	56	101	0.42	ug/L	#	66
13) Methylene Chloride	3.953	84	1736	1.00	ug/L		99
14) Acetone	4.024	43	2113	3.44	ug/L		81
16) n-Hexane	4.220	86	25	1.89	ug/L	#	1
20) Vinyl Acetate	5.037	43	93	0.20	ug/L		74
22) 2,2-Dichloropropane	5.442	77	166	0.08	ug/L		75
26) Tetrahydrofuran	5.809	42	278	0.61	ug/L	#	64
29) 1,1-Dichloropropene	5.969	75	150	0.10	ug/L	#	65
33) iso-Butyl Alcohol	6.490	43	25	0.31	ug/L	#	1
46) t-1,3-Dichloropropene	8.989	75	69	0.46	ug/L	#	45
51) 2-Hexanone	10.091	43	97	0.41	ug/L	#	57
53) Ethylbenzene	10.487	91	150	0.09	ug/L	#	49
55) m,p-Xylenes (2)	10.487	91	150	0.18	ug/L	#	33
56) o-Xylene	10.644	91	200	0.12	ug/L	#	21
57) Styrene	11.165	104	11	0.34	ug/L	#	1
70) tert-Butylbenzene	12.329	91	150	0.09	ug/L	#	26
71) 1,2,4-Trimethylbenzene	12.390	105	388	0.28	ug/L		85
72) sec-Butylbenzene	12.490	105	139	0.18	ug/L		74
73) 4-Isopropyltoluene	12.619	119	76	0.21	ug/L	#	35
81) Naphthalene	14.660	128	2836	1.29	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111102.D
Acq On : 11 Nov 2019 02:27 pm
Operator : tb
Sample : 9K11047-TUN1
Misc : 1X 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 11 15:21:30 2019
Quant Method : C:\GCMS\1\methods\VH190718W.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Wed Dec 21 11:05:59 2016
Response via : Initial Calibration
DataAcq Meth:VH1907RUN.M



Evaluate Continuing Calibration Report

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111104.D
Acq On : 11 Nov 2019 03:21 pm
Operator : tb
Sample : 9110678-BS1
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 11 16:11:50 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

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)	2330.000	2330.000	0.0	122	-0.01
2		Chloromethane	200.000	237.775	-18.9	129	0.00
3		Vinyl Chloride	200.000	176.998	11.5	97	-0.01
4		1,1-Dichloroethene	200.000	146.454	26.8#	91	0.00
5		Carbon Disulfide	200.000	163.522	18.2	96	0.00
6		t-1,2-Dichloroethene	200.000	181.489	9.3	109	0.00
7		Methyl-tert-butyl-ether	200.000	179.005	10.5	105	-0.01
8		1,1-Dichloroethane	200.000	185.860	7.1	113	0.00
9		c-1,2-Dichloroethene	200.000	184.156	7.9	111	0.00
10		Chloroform	200.000	181.053	9.5	109	0.00
11	S	Dibromofluoromethane (S)	2330.000	2289.470	1.7	119	-0.01
12		Benzene	200.000	191.861	4.1	114	-0.01
13		1,2-Dichloroethane (EDC)	200.000	195.413	2.3	117	-0.01
14	S	1,4-Difluorobenzene (S)	2330.000	2329.786	0.0	122	-0.01
15		Trichloroethene (TCE)	200.000	181.575	9.2	108	-0.01
16		1,2-Dichloropropane	200.000	190.910	4.5	117	-0.01
17		Chlorobenzene-d5 (I)	2330.000	2330.000	0.0	129	-0.01
18		c-1,3-Dichloropropene	200.000	187.092	6.5	122	-0.01
19	S	Toluene-d8 (S)	2330.000	2232.676	4.2	125	-0.02
20		Toluene	200.000	181.334	9.3	124	-0.01
21		Tetrachloroethene (PCE)	200.000	177.091	11.5	114	0.00
22		t-1,3-Dichloropropene	200.000	191.202	4.4	123	0.00
23		1,1,2-Trichloroethane	200.000	180.216	9.9	117	-0.02
24		1,2-Dibromoethane (EDB)	200.000	176.369	11.8	115	-0.02
25		Ethylbenzene	200.000	183.647	8.2	124	-0.01
26		m,p-Xylenes (2)	400.000	378.028	5.5	126	-0.01
27		o-Xylene	200.000	175.851	12.1	122	-0.01
28	I	1,4-Dichlorobenzene-d4 (I)	2330.000	2330.000	0.0	148	-0.01
29	S	4-Bromofluorobenzene (S)	2330.000	2160.998	7.3	136	-0.01
30		1,1,2,2-Tetrachloroethane	200.000	159.372	20.3#	104	-0.01
31		1,3.5-Trimethylbenzene	200.000	173.322	13.3	130	-0.02
32		1,2,3-Trichloropropane	200.000	154.080	23.0#	104	-0.01
33		1,2,4-Trimethylbenzene	200.000	169.011	15.5	130	-0.01
34		1,2-Dibromo-3-chloropropane	200.000	149.384	25.3#	91	-0.01
35		Naphthalene	200.000	254.044	-27.0#	167	-0.01

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111104.D
Acq On : 11 Nov 2019 03:21 pm
Operator : tb
Sample : 9110678-BS1
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 11 16:11:50 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

11/11/19

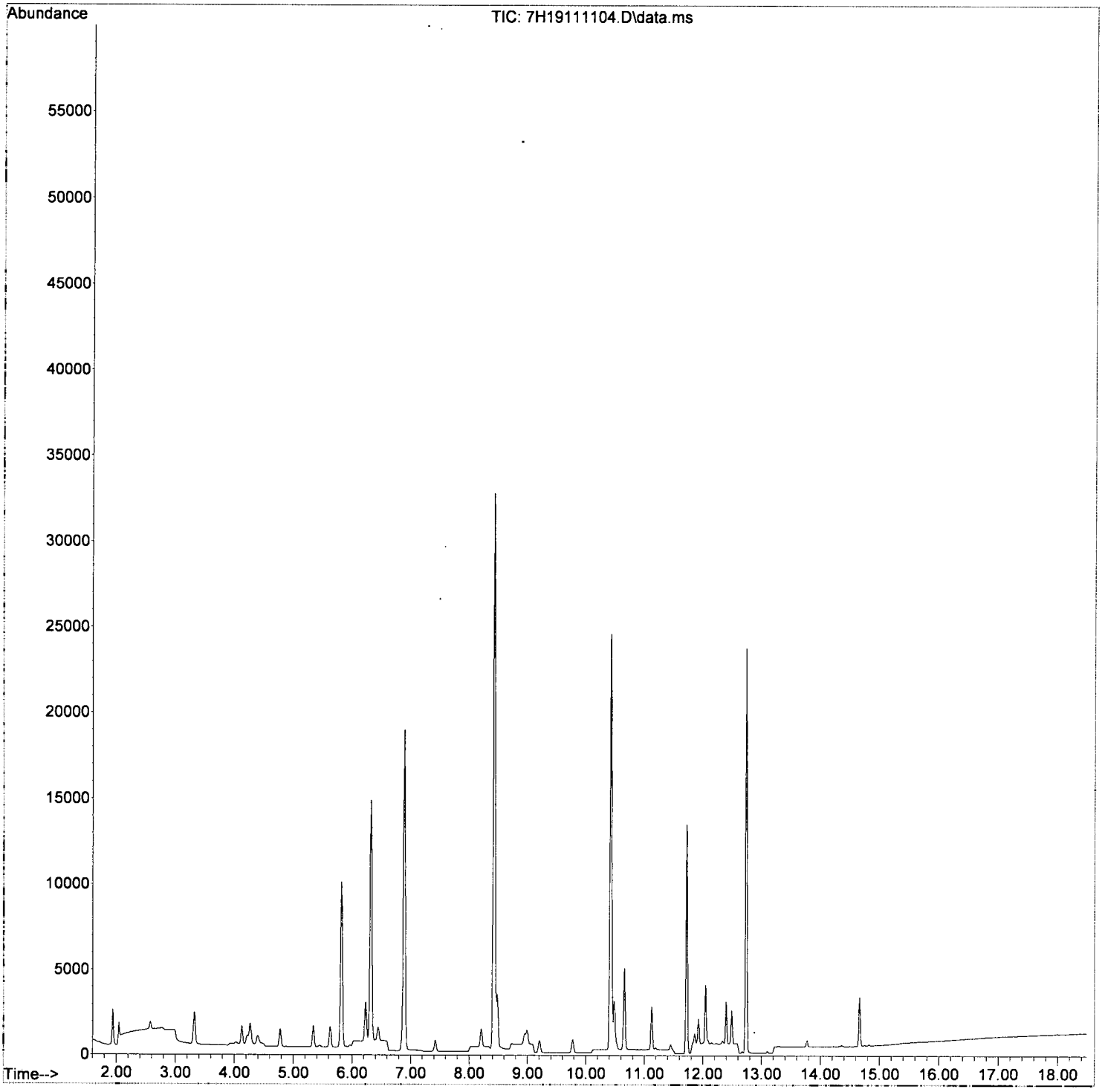
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.317	168	21603	2330.00	ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	34076	2330.00	ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	15399	2330.00	ng/L	-0.01
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.814	111	11757	2289.47	ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	37503	2329.79	ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	51691	2232.68	ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	12572	2161.00	ng/L	-0.01
Target Compounds						Qvalue
2) Chloromethane	1.937	50	2750	237.78	ng/L	100
3) Vinyl Chloride	2.039	62	1281	177.00	ng/L	100
4) 1,1-Dichloroethene	3.307	61	1275	146.45	ng/L	89
5) Carbon Disulfide	3.328	76	2509	163.52	ng/L	99
6) t-1,2-Dichloroethene	4.125	61	1412	181.49	ng/L	87
7) Methyl-tert-butyl-ether	4.266	73	2853	179.01	ng/L	100
8) 1,1-Dichloroethane	4.776	63	1854	185.86	ng/L	99
9) c-1,2-Dichloroethene	5.337	61	1476	184.16	ng/L	89
10) Chloroform	5.626	83	1813	181.05	ng/L	98
12) Benzene	6.230	78	4446	191.86	ng/L	97
13) 1,2-Dichloroethane (EDC)	6.441	62	1517	195.41	ng/L	98
15) Trichloroethene (TCE)	6.851	130	957	181.57	ng/L	100
16) 1,2-Dichloropropane	7.421	63	1192	190.91	ng/L	88
18) c-1,3-Dichloropropene	8.207	75	1804	187.09	ng/L	86
20) Toluene	8.481	91	4473	181.33	ng/L	98
21) Tetrachloroethene (PCE)	8.949	166	886	177.09	ng/L	84
22) t-1,3-Dichloropropene	8.992	75	1623	191.20	ng/L	99
23) 1,1,2-Trichloroethane	9.202	97	1028	180.22	ug/L	100
24) 1,2-Dibromoethane (EDB)	9.769	107	1092	176.37	ng/L	98
25) Ethylbenzene	10.482	91	4420	183.65	ng/L	95
26) m,p-Xylenes (2)	10.655	91	6578	378.03	ng/L	89
27) o-Xylene	11.123	91	3411	175.85	ng/L	96
30) 1,1,2,2-Tetrachloroeth...	11.923	83	1672	159.37	ug/L	96
31) 1,3.5-Trimethylbenzene	12.042	105	2870	173.32	ng/L	91
32) 1,2,3-Trichloropropane	12.048	110	432	154.08	ng/L #	80
33) 1,2,4-Trimethylbenzene	12.394	105	2876	169.01	ng/L	93
34) 1,2-Dibromo-3-chloropr...	13.775	157	355	149.38	ng/L	83
35) Naphthalene	14.664	128	4750	254.04	ng/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111104.D
Acq On : 11 Nov 2019 03:21 pm
Operator : tb
Sample : 9110678-BS1
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 11 16:11:50 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111105.D
Acq On : 11 Nov 2019 03:48 pm
Operator : tb
Sample : 9110678-BLK1
Misc : 1X 5mL DI
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 12 09:58:31 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.317	168	21518	2330.00 ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	34216	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	14984	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	11730	2293.24 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	37477	2337.37 ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	51755	2226.29 ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	12393	2189.23 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.936	50	436	Below Cal	99
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	3.297	61	29	3.34 ng/L #	37
5) Carbon Disulfide	3.328	76	131	8.57 ng/L	77
6) t-1,2-Dichloroethene	0.000		0	N.D.	
7) Methyl-tert-butyl-ether	4.261	73	25	1.57 ng/L #	38
8) 1,1-Dichloroethane	0.000		0	N.D.	
9) c-1,2-Dichloroethene	0.000		0	N.D.	
10) Chloroform	5.621	83	38	3.81 ng/L	86
12) Benzene	6.230	78	133	5.76 ng/L	96
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
15) Trichloroethene (TCE)	0.000		0	N.D.	
16) 1,2-Dichloropropane	0.000		0	N.D.	
18) c-1,3-Dichloropropene	8.186	75	39	4.03 ng/L	98
20) Toluene	8.481	91	270	10.90 ng/L	98
21) Tetrachloroethene (PCE)	8.944	166	31	6.17 ng/L	99
22) t-1,3-Dichloropropene	8.976	75	27	3.17 ng/L #	43
23) 1,1,2-Trichloroethane	0.000		0	N.D.	
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
25) Ethylbenzene	10.482	91	77	3.19 ng/L	97
26) m,p-Xylenes (2)	10.655	91	156	8.93 ng/L	88
27) o-Xylene	11.123	91	68	3.49 ng/L	81
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.	
31) 1,3.5-Trimethylbenzene	12.042	105	58	3.60 ng/L	95
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.394	105	94	5.68 ng/L	81
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.664	128	2028	111.47 ng/L	97

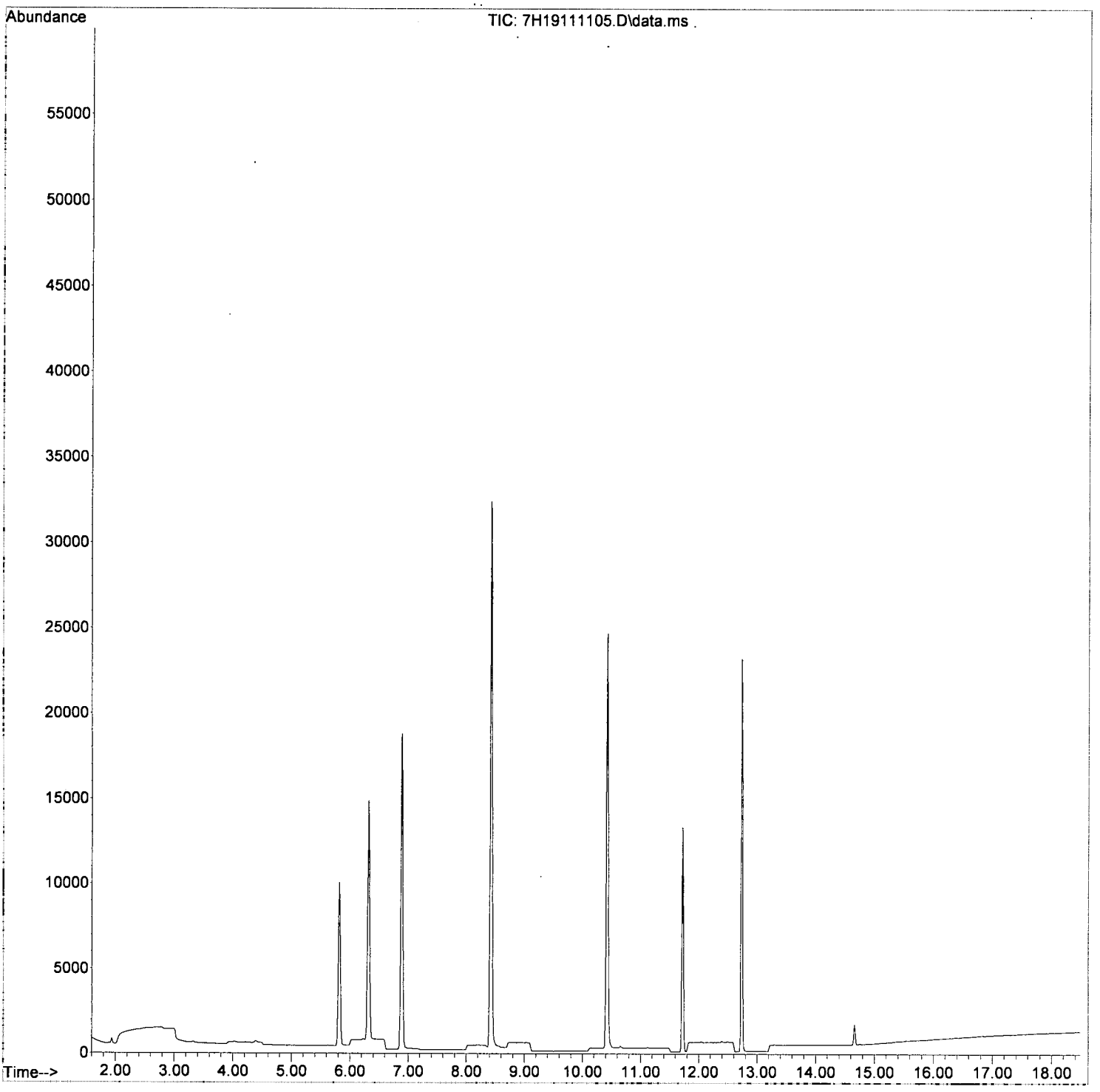
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/12 dlatm

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111105.D
Acq On : 11 Nov 2019 03:48 pm
Operator : tb
Sample : 9110678-BLK1
Misc : 1X 5mL DI
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 12 09:58:31 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111107.D
Acq On : 11 Nov 2019 04:42 pm
Operator : tb
Sample : A9K0165-01
Misc : 1X 5mL SIM VC
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 12 09:58:40 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.317	168	23611	2330.00	ng/L		-0.01
17) Chlorobenzene-d5 (I)	10.423	117	37245	2330.00	ng/L		-0.01
28) 1,4-Dichlorobenzene-d4...	12.733	152	17541	2330.00	ng/L		-0.02
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.814	111	12693	2261.53	ng/L		-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	40544	2304.50	ng/L		-0.01
19) Toluene-d8 (S)	8.422	98	55800	2205.09	ng/L		-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	13996	2111.99	ng/L		-0.01
Target Compounds							Qvalue
2) Chloromethane	1.937	50	1192	35.78	ng/L	NR	99
3) Vinyl Chloride	0.000		0	N.D.			
4) 1,1-Dichloroethene	0.000		0	N.D.			
5) Carbon Disulfide	3.328	76	205	12.22	ng/L	NR	3
6) t-1,2-Dichloroethene	0.000		0	N.D.			
7) Methyl-tert-butyl-ether	0.000		0	N.D.			
8) 1,1-Dichloroethane	0.000		0	N.D.			
9) c-1,2-Dichloroethene	5.337	61	53	6.05	ng/L		95
10) Chloroform	5.621	83	34	3.11	ng/L		77
12) Benzene	6.230	78	4057	160.18	ng/L		96
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.			
15) Trichloroethene (TCE)	0.000		0	N.D.			
16) 1,2-Dichloropropane	0.000		0	N.D.			
18) c-1,3-Dichloropropene	0.000		0	N.D.			
20) Toluene	8.481	91	731	27.11	ng/L		98
21) Tetrachloroethene (PCE)	8.949	166	28	5.12	ng/L		81
22) t-1,3-Dichloropropene	0.000		0	N.D.			
23) 1,1,2-Trichloroethane	0.000		0	N.D.			
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.			
25) Ethylbenzene	10.482	91	2165	82.30	ng/L		96
26) m,p-Xylenes (2)	10.655	91	1267	66.62	ng/L		89
27) o-Xylene	11.123	91	805	37.97	ng/L		94
30) 1,1,2,2-Tetrachloroeth...	11.929	83	40	3.35	ug/L	#	17
31) 1,3.5-Trimethylbenzene	12.042	105	235	12.46	ng/L		88
32) 1,2,3-Trichloropropane	0.000		0	N.D.			
33) 1,2,4-Trimethylbenzene	12.394	105	997	51.44	ng/L		92
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.			
35) Naphthalene	14.664	128	1133890	53238.39	ng/L		96

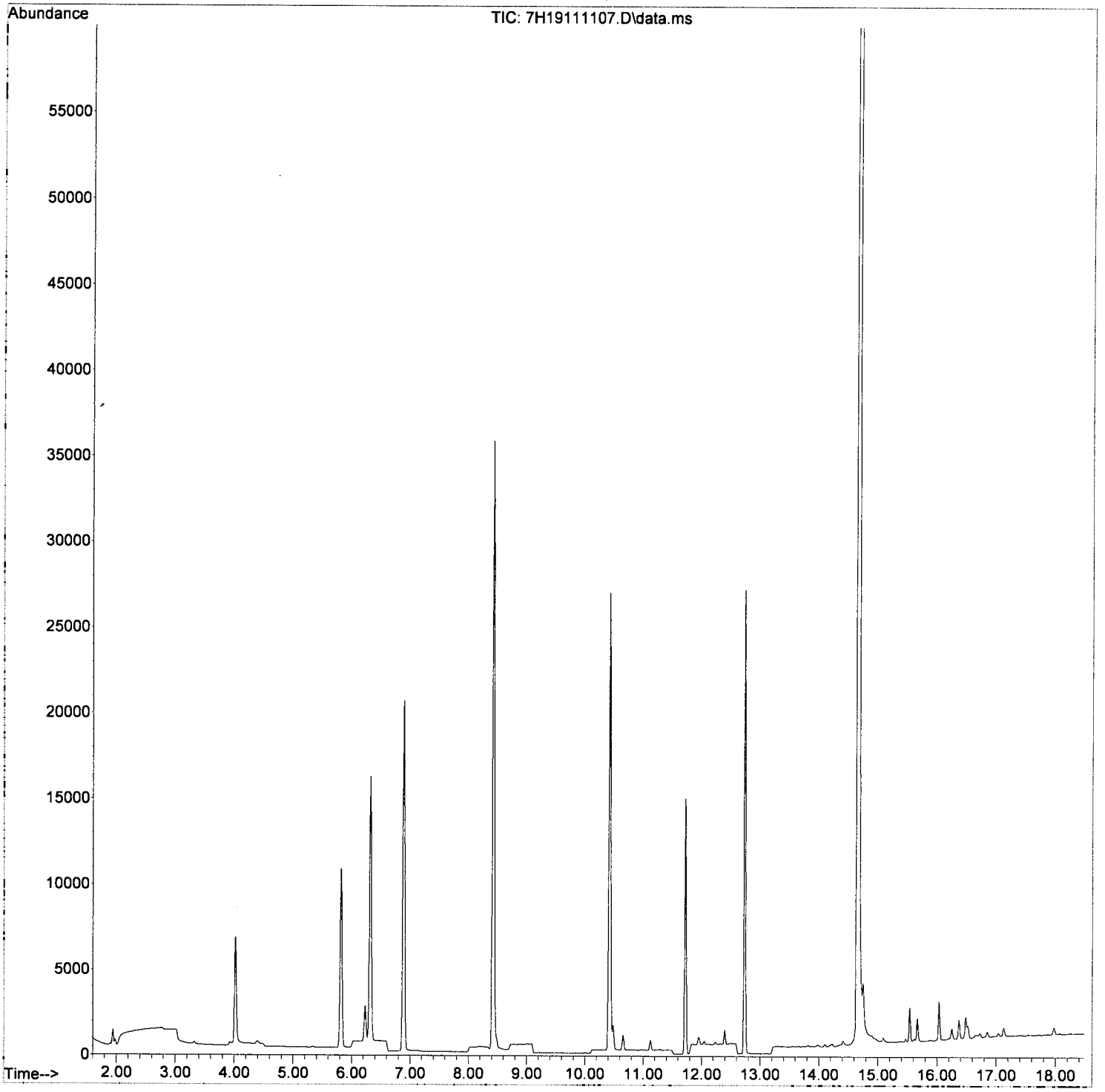
11/12/19 bz

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111107.D
Acq On : 11 Nov 2019 04:42 pm
Operator : tb
Sample : A9K0165-01
Misc : 1X 5mL SIM VC
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 12 09:58:40 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111108.D
Acq On : 11 Nov 2019 05:08 pm
Operator : tb
Sample : A9K0165-02
Misc : 1X 5mL SIM VC
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 12 09:58:44 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.316	168	21701	2330.00 ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	34345	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.733	152	15794	2330.00 ng/L	-0.02
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	11663	2260.91 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	37624	2326.75 ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	51542	2208.80 ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	12717	2131.25 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.936	50	803	Below Cal	98
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	0.000		0	N.D.	
5) Carbon Disulfide	3.327	76	170	11.03 ng/L	1
6) t-1,2-Dichloroethene	0.000		0	N.D.	
7) Methyl-tert-butyl-ether	0.000		0	N.D.	
8) 1,1-Dichloroethane	0.000		0	N.D.	
9) c-1,2-Dichloroethene	5.331	61	39	4.84 ng/L #	57
10) Chloroform	5.626	83	55	5.47 ng/L	75
12) Benzene	6.230	78	1229	52.80 ng/L	96
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
15) Trichloroethene (TCE)	6.846	130	54	10.20 ng/L	93
16) 1,2-Dichloropropane	0.000		0	N.D.	
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.481	91	247	9.93 ng/L	98
21) Tetrachloroethene (PCE)	8.944	166	32	6.35 ng/L	81
22) t-1,3-Dichloropropene	0.000		0	N.D.	
23) 1,1,2-Trichloroethane	0.000		0	N.D.	
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
25) Ethylbenzene	10.482	91	795	32.77 ng/L	94
26) m,p-Xylenes (2)	10.654	91	474	27.03 ng/L	90
27) o-Xylene	11.123	91	278	14.22 ng/L	96
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.	
31) 1,3.5-Trimethylbenzene	12.042	105	83	4.89 ng/L	93
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.394	105	335	19.19 ng/L	94
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.664	128	290332	15139.49 ng/L	96

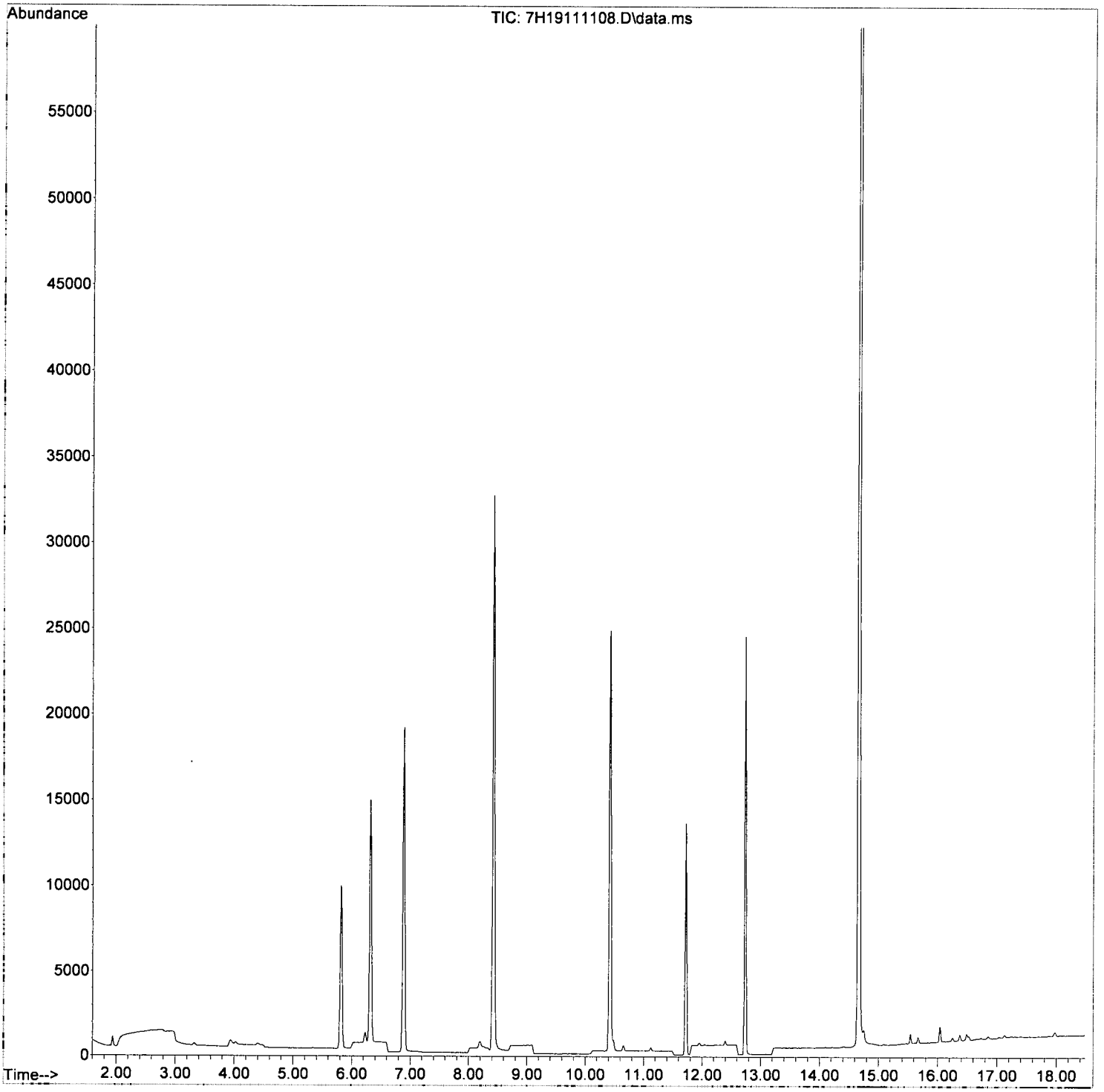
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/12/19

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111108.D
Acq On : 11 Nov 2019 05:08 pm
Operator : tb
Sample : A9K0165-02
Misc : 1X 5mL SIM VC
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 12 09:58:44 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111109.D
Acq On : 11 Nov 2019 05:35 pm
Operator : tb
Sample : A9K0165-03
Misc : 1X 5mL SIM VC
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 12 09:58:48 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.316	168	22251	2330.00	ng/L		-0.01
17) Chlorobenzene-d5 (I)	10.423	117	35734	2330.00	ng/L		-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	17201	2330.00	ng/L		-0.01
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.814	111	11978	2264.58	ng/L		-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	38504	2322.31	ng/L		-0.01
19) Toluene-d8 (S)	8.421	98	53231	2192.51	ng/L		-0.02
29) 4-Bromofluorobenzene (S)	11.718	174	13786	2121.42	ng/L		-0.01
Target Compounds							Qvalue
2) Chloromethane	1.936	50	1057	27.58	ng/L	NR	100
3) Vinyl Chloride	2.044	62	49	6.57	ng/L	#	1
4) 1,1-Dichloroethene	0.000		0	N.D.			
5) Carbon Disulfide	3.327	76	280	17.72	ng/L	NR	29
6) t-1,2-Dichloroethene	4.125	61	54	6.74	ng/L		86
7) Methyl-tert-butyl-ether	4.266	73	66	4.02	ng/L		95
8) 1,1-Dichloroethane	4.776	63	124	12.07	ng/L		96
9) c-1,2-Dichloroethene	5.336	61	248	30.04	ng/L		92
10) Chloroform	5.620	83	32	3.10	ng/L		77
12) Benzene	6.230	78	8238	345.15	ng/L		97
13) 1,2-Dichloroethane (EDC)	6.441	62	27	3.38	ng/L	#	28
15) Trichloroethene (TCE)	6.851	130	25	4.61	ng/L		88
16) 1,2-Dichloropropane	7.453	63	32	4.98	ng/L	#	46
18) c-1,3-Dichloropropene	0.000		0	N.D.			
20) Toluene	8.481	91	3637	140.60	ng/L		96
21) Tetrachloroethene (PCE)	0.000		0	N.D.			
22) t-1,3-Dichloropropene	0.000		0	N.D.			
23) 1,1,2-Trichloroethane	0.000		0	N.D.			
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.			
25) Ethylbenzene	10.482	91	4751	188.24	ng/L		95
26) m,p-Xylenes (2)	10.654	91	6533	358.02	ng/L		88
27) o-Xylene	11.122	91	10969	539.26	ng/L		95
30) 1,1,2,2-Tetrachloroeth...	11.972	83	31	2.65	ug/L	#	1
31) 1,3.5-Trimethylbenzene	12.042	105	3785	204.63	ng/L		90
32) 1,2,3-Trichloropropane	0.000		0	N.D.			
33) 1,2,4-Trimethylbenzene	12.394	105	11904	626.27	ng/L		92
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.			
35) Naphthalene	14.664	128	202736	9707.01	ng/L		96

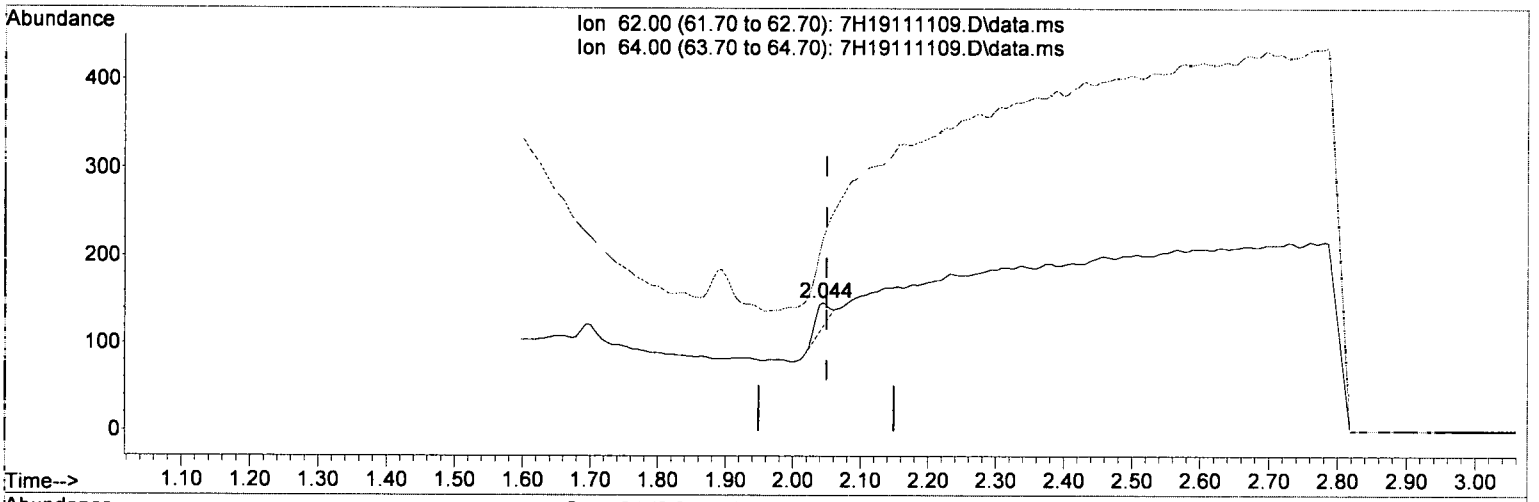
11/12/19 MM

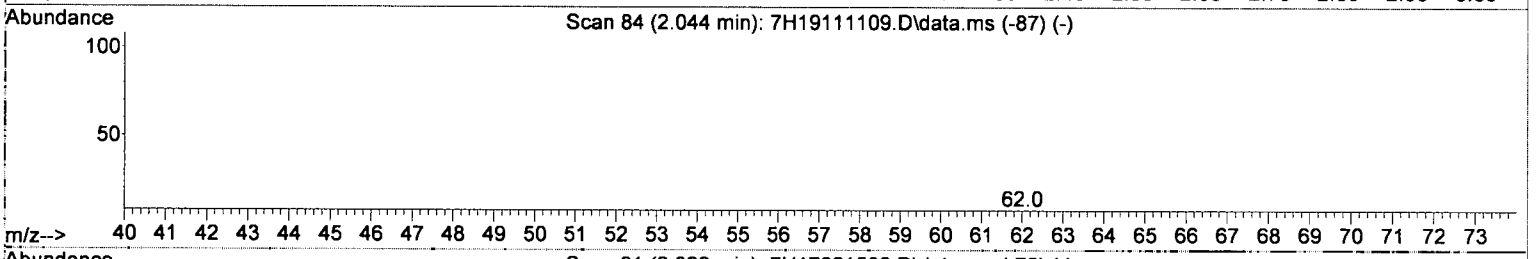
(#) = qualifier out of range (m) = manual integration (+) = signals summed

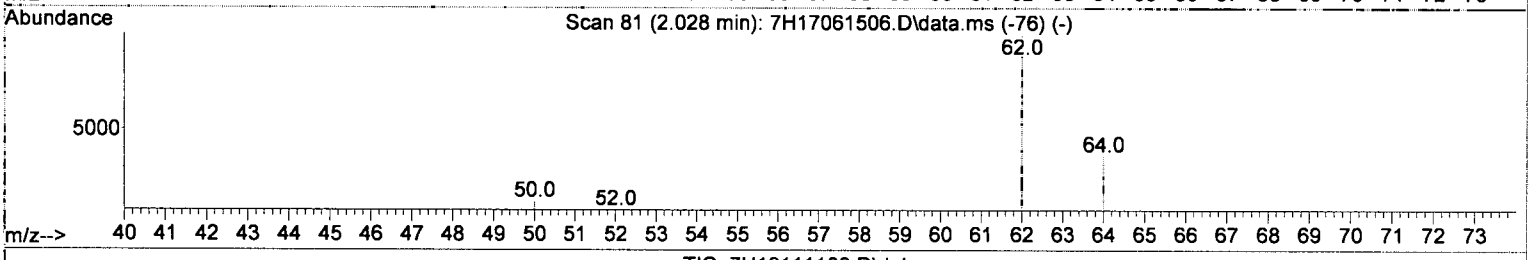
Quantitation Report (Qedit)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111109.D
Acq On : 11 Nov 2019 05:35 pm
Operator : tb
Sample : A9K0165-03
Misc : 1X 5mL SIM VC
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 12 09:58:48 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M







TIC: 7H19111109.D\data.ms

(3) Vinyl Chloride

2.044min (-0.005) 6.57 ng/L

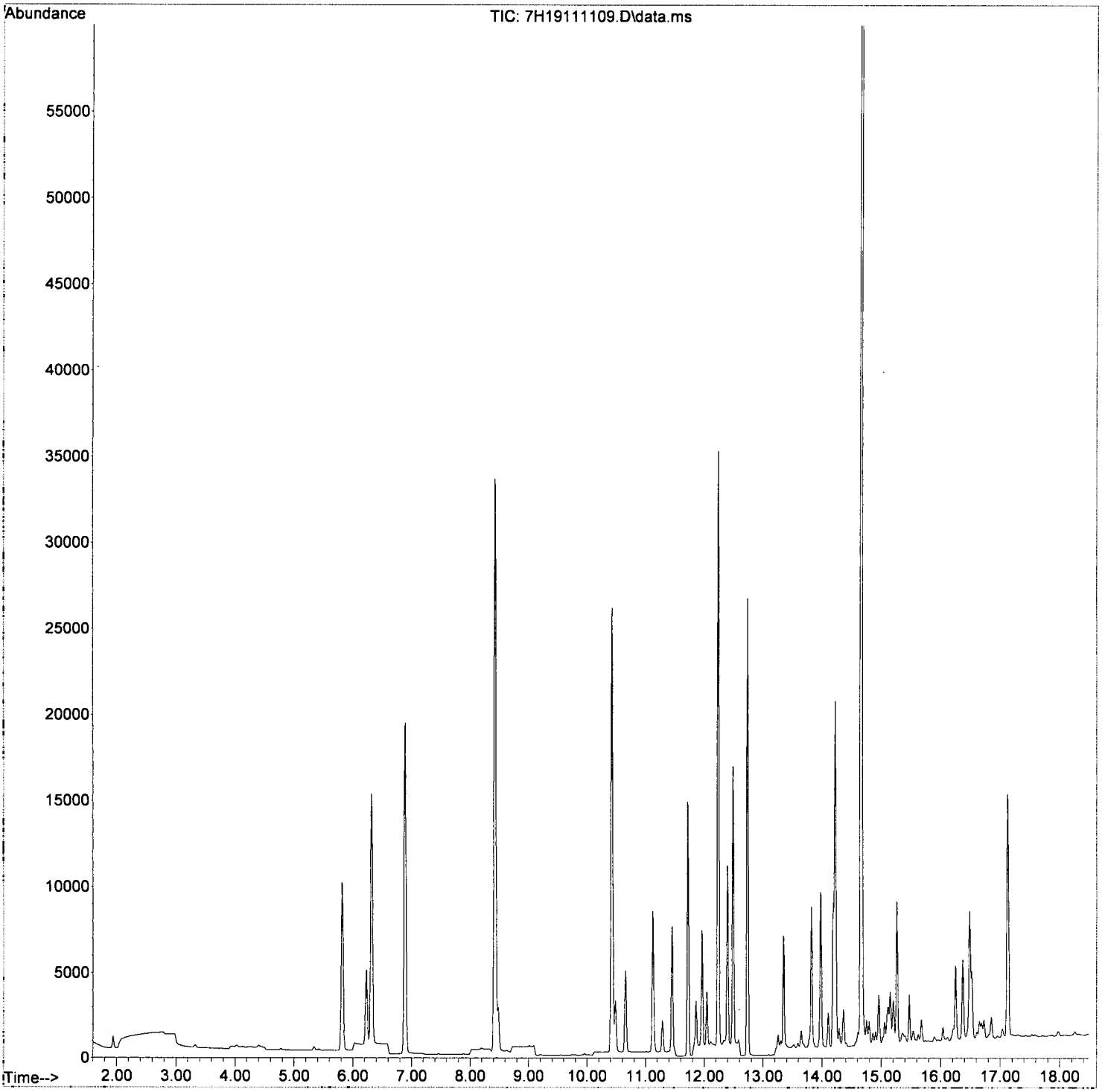
response 49

Ion	Exp%	Act%
62.00	100.00	100.00
64.00	35.30	121.67#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111109.D
Acq On : 11 Nov 2019 05:35 pm
Operator : tb
Sample : A9K0165-03
Misc : 1X 5mL SIM VC
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 12 09:58:48 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111110.D
Acq On : 11 Nov 2019 06:02 pm
Operator : tb
Sample : A9K0165-04
Misc : 1X 5mL SIM VC
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 12 09:58:52 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.317	168	24089	2330.00 ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	37641	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.739	152	17999	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	12348	2156.41 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	41434	2308.35 ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	56419	2206.09 ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	14392	2116.49 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.937	50	1404	57.10 ng/L NR	97
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	3.308	61	38	3.91 ng/L # NR	63
5) Carbon Disulfide	3.323	76	211	12.33 ng/L #	1
6) t-1,2-Dichloroethene	4.125	61	43	4.96 ng/L	91
7) Methyl-tert-butyl-ether	4.267	73	113	6.36 ng/L	98
8) 1,1-Dichloroethane	4.777	63	147	13.22 ng/L	94
9) c-1,2-Dichloroethene	5.337	61	302	33.79 ng/L	83
10) Chloroform	5.621	83	44	3.94 ng/L	67
12) Benzene	6.225	78	21567911	834680.85 ng/L	95
13) 1,2-Dichloroethane (EDC)	6.436	62	150	17.33 ng/L	95
15) Trichloroethene (TCE)	6.852	130	43	7.32 ng/L	93
16) 1,2-Dichloropropane	7.458	63	61	8.76 ng/L #	49
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.481	91	9595	352.14 ng/L	96
21) Tetrachloroethene (PCE)	8.944	166	31	5.61 ng/L	84
22) t-1,3-Dichloropropene	8.976	75	42	4.48 ng/L #	1
23) 1,1,2-Trichloroethane	9.164	97	52	8.25 ug/L #	1
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
25) Ethylbenzene	10.483	91	49269	1853.21 ng/L	95
26) m,p-Xylenes (2)	10.655	91	19558	1017.52 ng/L	88
27) o-Xylene	11.123	91	56591	2641.18 ng/L	95
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.	
31) 1,3.5-Trimethylbenzene	12.042	105	13380	691.31 ng/L	91
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.394	105	43372	2180.62 ng/L	91
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.664	128	168995	7732.75 ng/L	96

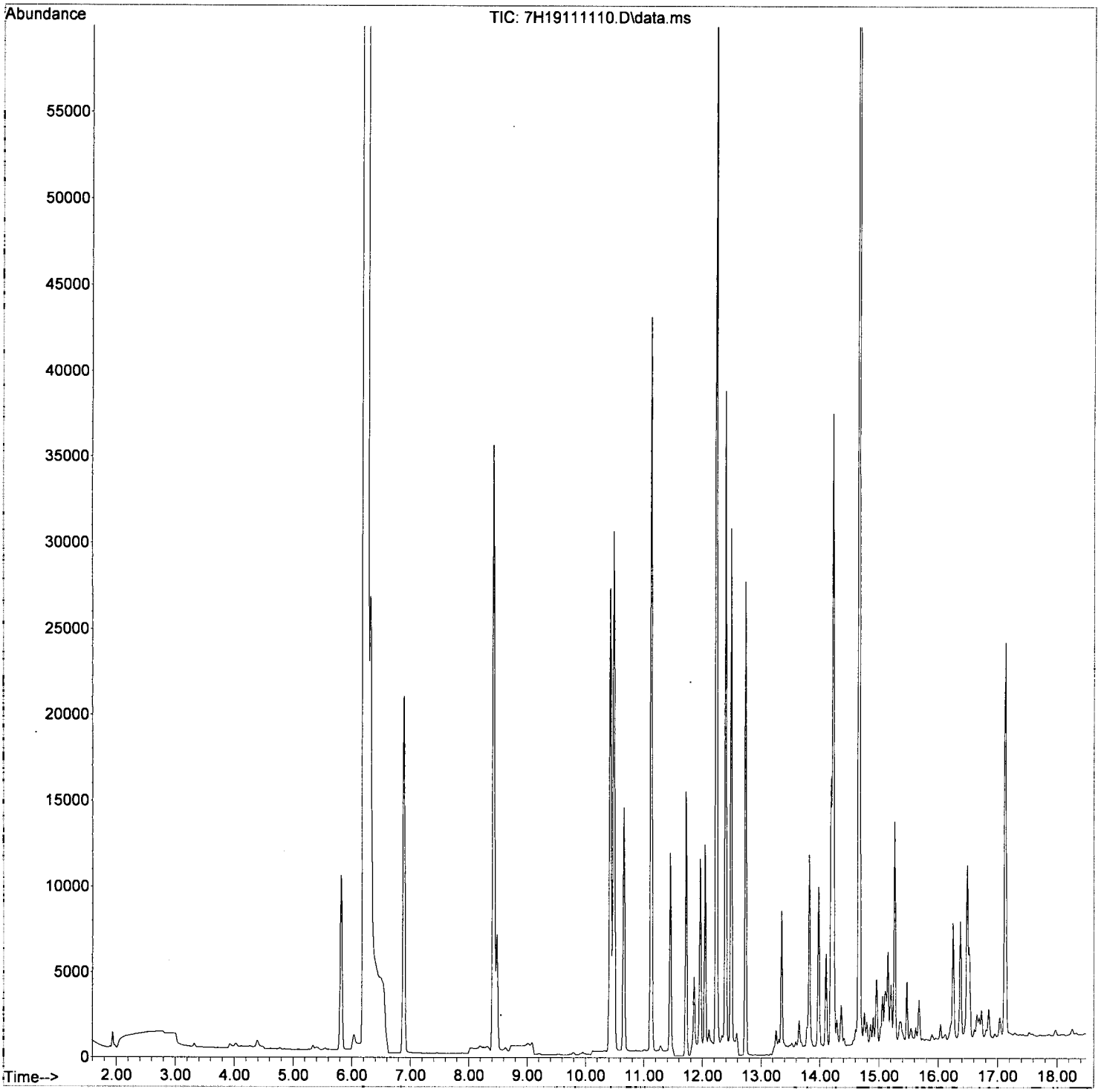
11/12/19 MJ

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111110.D
Acq On : 11 Nov 2019 06:02 pm
Operator : tb
Sample : A9K0165-04
Misc : 1X 5mL SIM VC
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 12 09:58:52 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111111.D
Acq On : 11 Nov 2019 06:29 pm
Operator : tb
Sample : A9K0165-07
Misc : 1X 5mL SIM VC
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 12 09:58:56 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.317	168	22004	2330.00	ng/L		-0.01
17) Chlorobenzene-d5 (I)	10.423	117	35884	2330.00	ng/L		-0.01
28) 1,4-Dichlorobenzene-d4...	12.739	152	17153	2330.00	ng/L		-0.01
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.814	111	12065	2306.63	ng/L		-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	38322	2337.28	ng/L		-0.01
19) Toluene-d8 (S)	8.422	98	53164	2180.60	ng/L		-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	13685	2111.77	ng/L		-0.01
Target Compounds							Qvalue
2) Chloromethane	1.937	50	993	21.02	ng/L	NR	99
3) Vinyl Chloride	0.000		0	N.D.			
4) 1,1-Dichloroethene	0.000		0	N.D.			
5) Carbon Disulfide	3.328	76	49987	3198.50	ng/L	NR	99
6) t-1,2-Dichloroethene	0.000		0	N.D.			
7) Methyl-tert-butyl-ether	4.267	73	71	4.37	ng/L		66
8) 1,1-Dichloroethane	0.000		0	N.D.			
9) c-1,2-Dichloroethene	5.337	61	237	29.03	ng/L		91
10) Chloroform	5.621	83	26	2.55	ng/L	#	54
12) Benzene	6.230	78	37871	1604.49	ng/L		97
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.			
15) Trichloroethene (TCE)	0.000		0	N.D.			
16) 1,2-Dichloropropane	0.000		0	N.D.			
18) c-1,3-Dichloropropene	8.213	75	37	3.64	ng/L	#	1
20) Toluene	8.481	91	2919	112.37	ng/L		96
21) Tetrachloroethene (PCE)	8.944	166	27	5.12	ng/L		81
22) t-1,3-Dichloropropene	0.000		0	N.D.			
23) 1,1,2-Trichloroethane	9.148	97	30	4.99	ug/L	#	1
24) 1,2-Dibromoethane (EDB)	9.726	107	27	4.14	ng/L	#	1
25) Ethylbenzene	10.482	91	8652	341.37	ng/L		96
26) m,p-Xylenes (2)	10.655	91	2446	133.49	ng/L		88
27) o-Xylene	11.123	91	5840	285.91	ng/L		96
30) 1,1,2,2-Tetrachloroeth...	11.977	83	37	3.17	ug/L	#	58
31) 1,3.5-Trimethylbenzene	12.042	105	2739	148.50	ng/L		92
32) 1,2,3-Trichloropropane	0.000		0	N.D.			
33) 1,2,4-Trimethylbenzene	12.394	105	5903	311.42	ng/L		92
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.			
35) Naphthalene	14.664	128	560068	26891.13	ng/L		96

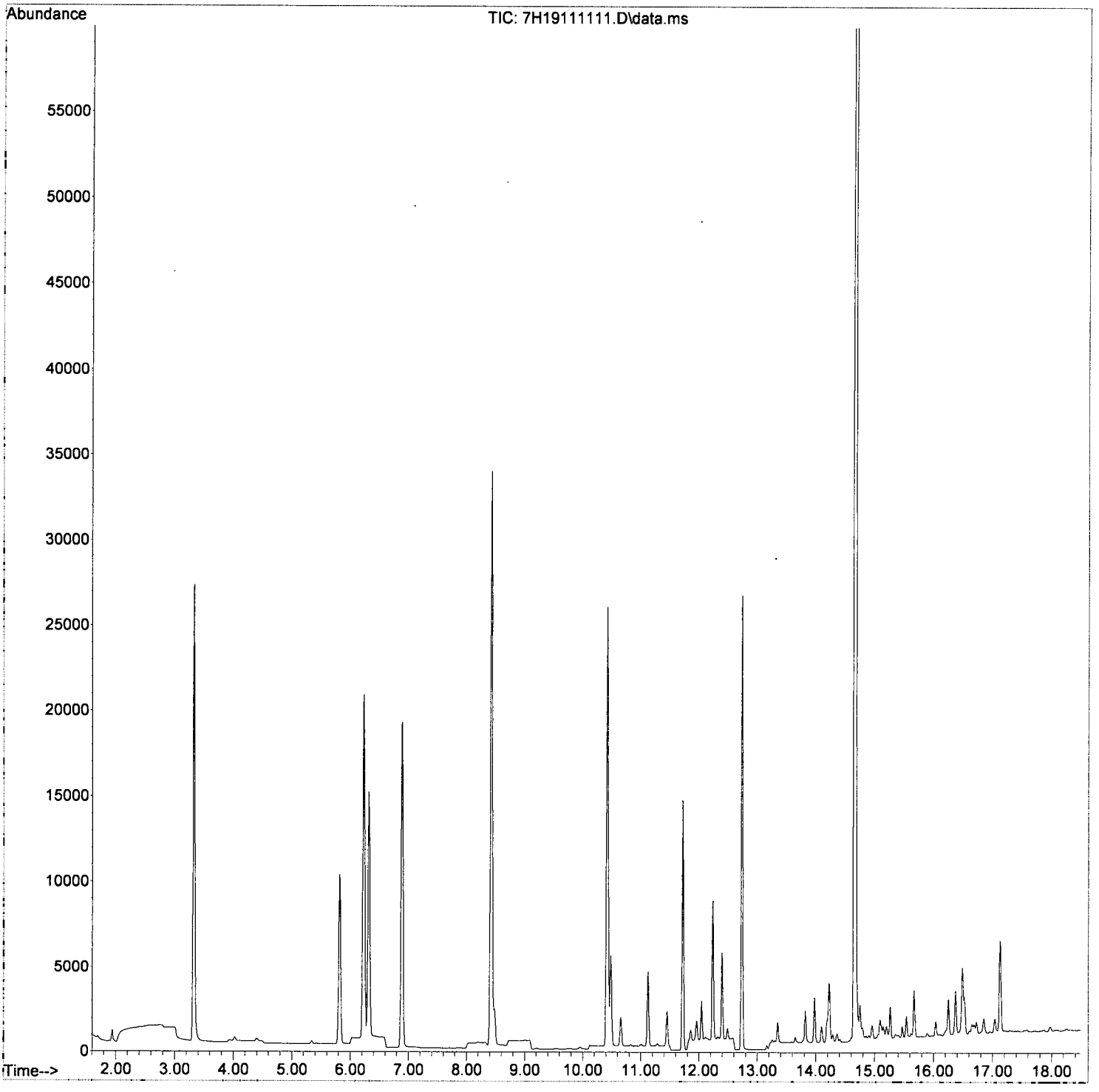
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/12/19 AM

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111111.D
Acq On : 11 Nov 2019 06:29 pm
Operator : tb
Sample : A9K0165-07
Misc : 1X 5mL SIM VC
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 12 09:58:56 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111112.D
Acq On : 11 Nov 2019 06:56 pm
Operator : tb
Sample : A9K0165-06
Misc : 1X 5mL SIM VC
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 12 09:59:00 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.317	168	23747	2330.00 ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	37118	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	17671	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	12092	2142.11 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	40394	2282.82 ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	55686	2208.11 ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	14476	2168.35 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.936	50	932	4.70 ng/L NR	100
3) Vinyl Chloride	2.044	62	70	8.80 ng/L #	1
4) 1,1-Dichloroethene	3.297	61	25	2.61 ng/L	76
5) Carbon Disulfide	3.327	76	2406	142.65 ng/L NR	94
6) t-1,2-Dichloroethene	0.000		0	N.D.	
7) Methyl-tert-butyl-ether	4.266	73	45	2.57 ng/L	86
8) 1,1-Dichloroethane	4.776	63	216	19.70 ng/L	95
9) c-1,2-Dichloroethene	5.336	61	71	8.06 ng/L	71
10) Chloroform	0.000		0	N.D.	
12) Benzene	6.225	78	21464296	842634.11 ng/L	96
13) 1,2-Dichloroethane (EDC)	6.447	62	156	18.28 ng/L	90
15) Trichloroethene (TCE)	6.851	130	65	11.22 ng/L	99
16) 1,2-Dichloropropane	7.458	63	82	11.95 ng/L #	37
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.481	91	378977	14104.47 ng/L	97
21) Tetrachloroethene (PCE)	8.949	166	60	11.01 ng/L	98
22) t-1,3-Dichloropropene	0.000		0	N.D.	
23) 1,1,2-Trichloroethane	0.000		0	N.D.	
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
25) Ethylbenzene	10.482	91	9244915	352638.24 ng/L	97
26) m,p-Xylenes (2)	10.654	91	1992000	105095.43 ng/L	90
27) o-Xylene	11.123	91	2236338	105843.80 ng/L	97
30) 1,1,2,2-Tetrachloroeth...	11.961	83	1159	96.27 ug/L #	1
31) 1,3.5-Trimethylbenzene	12.042	105	433411	22808.85 ng/L	92
32) 1,2,3-Trichloropropane	12.042	110	116	36.05 ng/L #	1
33) 1,2,4-Trimethylbenzene	12.394	105	1475925	75582.80 ng/L	93
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.648	128	35990950	1677415.04 ng/L	86

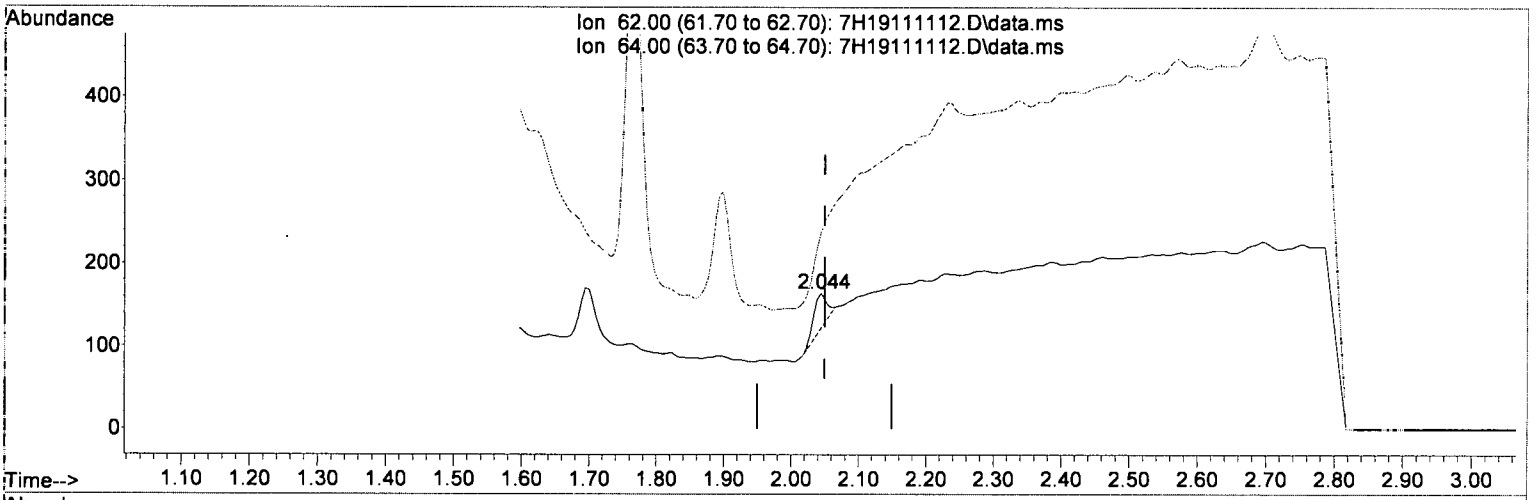
(#) = qualifier out of range (m) = manual integration (+) = signals summed

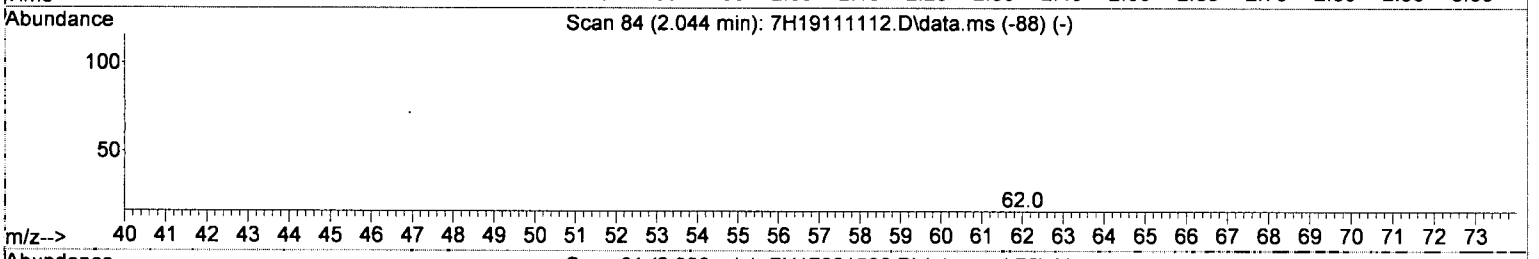
11/12/19 MM

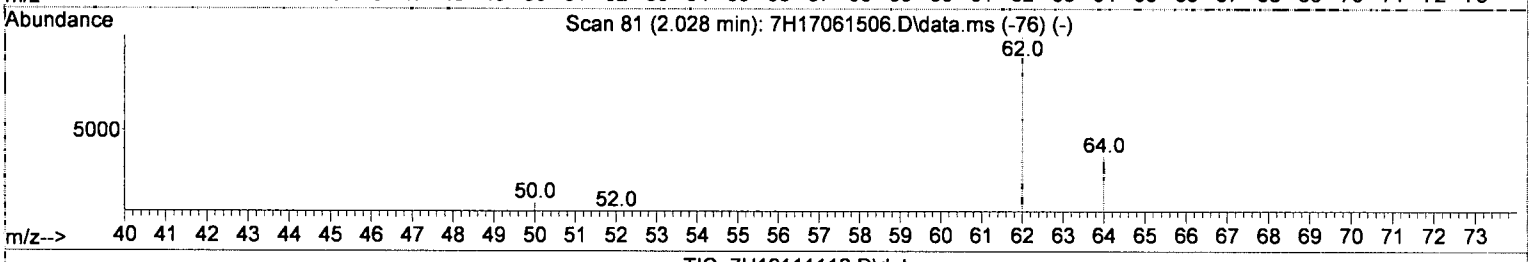
Quantitation Report (Qedit)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111112.D
Acq On : 11 Nov 2019 06:56 pm
Operator : tb
Sample : A9K0165-06
Misc : 1X 5mL SIM VC
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 12 09:59:00 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M







TIC: 7H19111112.D\data.ms

(3) Vinyl Chloride

2.044min (-0.006) 8.80 ng/L

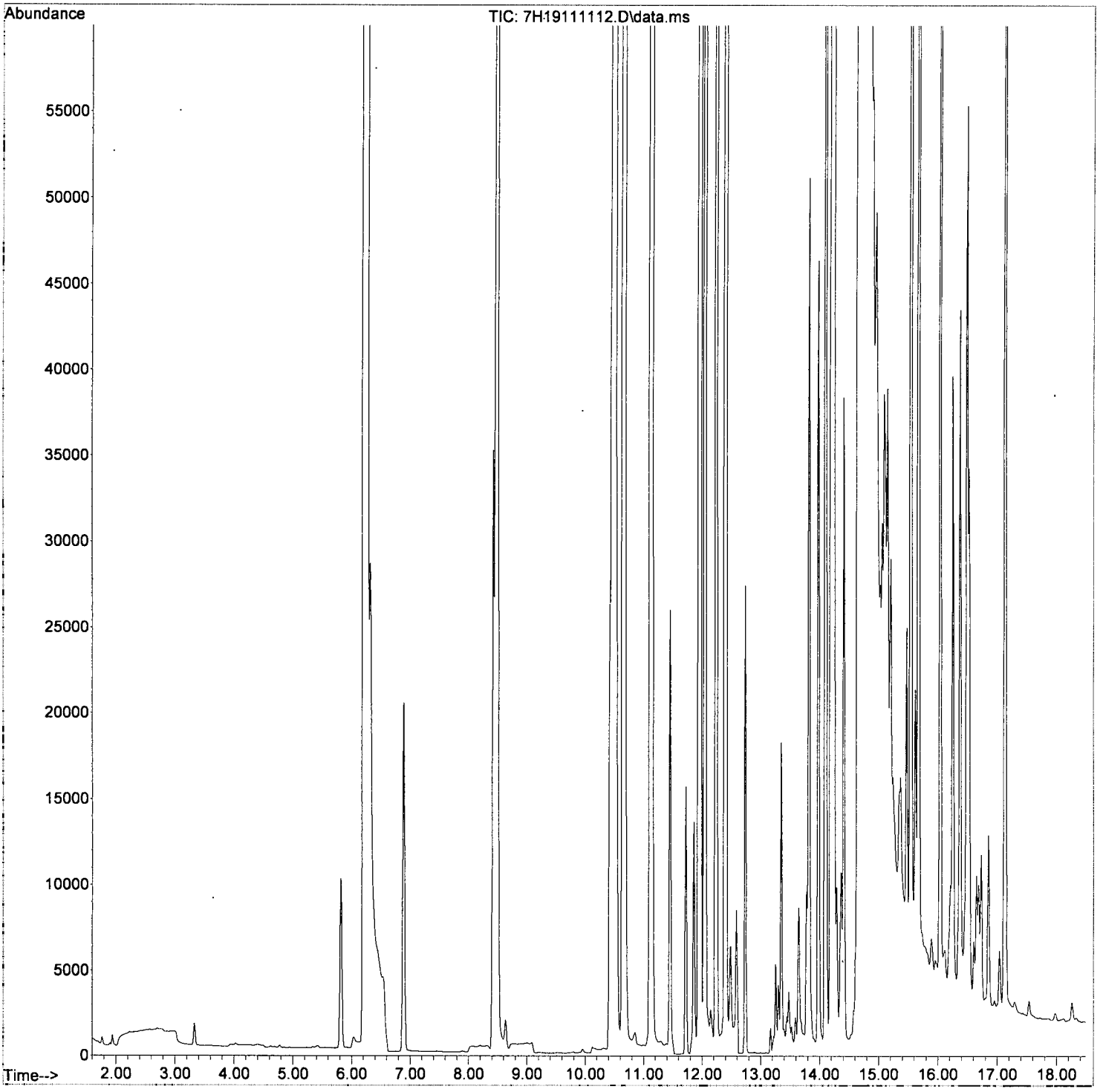
response 70

Ion	Exp%	Act%
62.00	100.00	100.00
64.00	35.30	114.67#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111112.D
Acq On : 11 Nov 2019 06:56 pm
Operator : tb
Sample : A9K0165-06
Misc : 1X 5mL SIM VC
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 12 09:59:00 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111113.D
Acq On : 11 Nov 2019 07:23 pm
Operator : tb
Sample : A9K0165-05
Misc : 1X 5mL SIM VC
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 12 09:59:04 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.322	168	21430	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.423	117	32269	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	14985	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	11911	2338.18 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	36447	2282.46 ng/L	-0.01
19) Toluene-d8 (S)	8.427	98	49559	2260.46 ng/L	-0.01
29) 4-Bromofluorobenzene (S)	11.718	174	12442	2197.74 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.936	50	778	Below Cal	100
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	0.000		0	N.D.	
5) Carbon Disulfide	3.327	76	1376	90.40 ng/L	87
6) t-1,2-Dichloroethene	0.000		0	N.D.	
7) Methyl-tert-butyl-ether	4.256	73	76	4.81 ng/L #	55
8) 1,1-Dichloroethane	0.000		0	N.D.	
9) c-1,2-Dichloroethene	0.000		0	N.D.	
10) Chloroform	0.000		0	N.D.	
12) Benzene	6.208	78	45273335	1969479.46 ng/L	61
13) 1,2-Dichloroethane (EDC)	6.468	62	2573	334.12 ng/L	90
15) Trichloroethene (TCE)	6.851	130	47	8.99 ng/L	96
16) 1,2-Dichloropropane	7.463	63	94	15.18 ng/L #	36
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.470	91	27634701	1183035.05 ng/L	87
21) Tetrachloroethene (PCE)	8.949	166	58	12.24 ng/L	85
22) t-1,3-Dichloropropene	8.976	75	63	7.84 ng/L #	1
23) 1,1,2-Trichloroethane	0.000		0	N.D.	
24) 1,2-Dibromoethane (EDB)	9.726	107	40	6.82 ng/L	78
25) Ethylbenzene	10.482	91	9911656	434882.33 ng/L	98
26) m,p-Xylenes (2)	10.654	91	7730194	469120.01 ng/L	91
27) o-Xylene	11.122	91	3723466	202709.66 ng/L	97
30) 1,1,2,2-Tetrachloroeth...	11.955	83	2477	242.63 ug/L #	23
31) 1,3.5-Trimethylbenzene	12.042	105	410573	25479.93 ng/L	91
32) 1,2,3-Trichloropropane	12.042	110	112	41.05 ng/L #	1
33) 1,2,4-Trimethylbenzene	12.394	105	1265482	76422.11 ng/L	93
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.653	128	35057900	1926803.83 ng/L	63

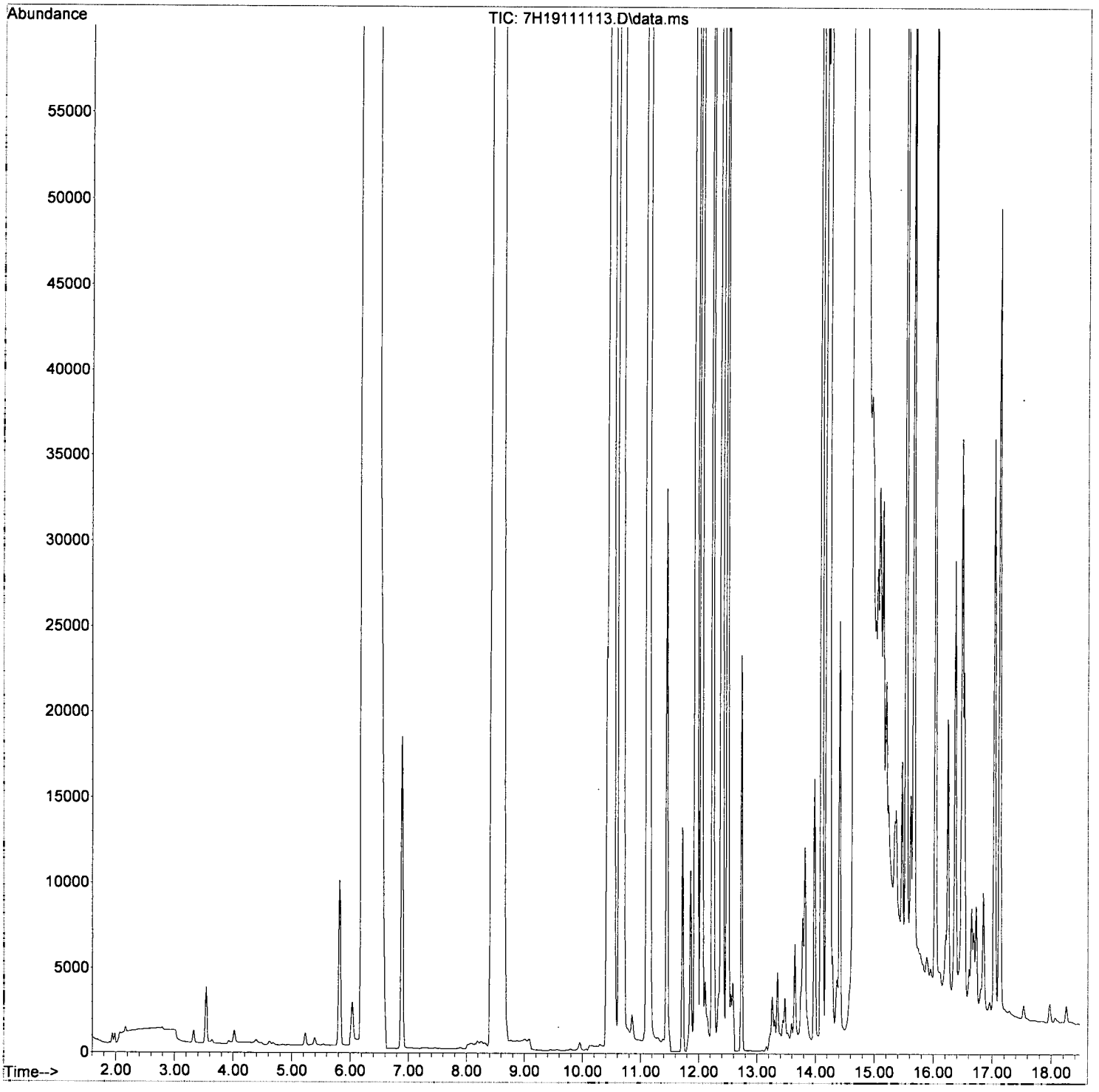
11/12/19 NR

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111113.D
Acq On : 11 Nov 2019 07:23 pm
Operator : tb
Sample : A9K0165-05
Misc : 1X 5mL SIM VC
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 12 09:59:04 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111114.D
Acq On : 11 Nov 2019 07:50 pm
Operator : tb
Sample : 9110678-MS1
Misc : 1X 5mL SIM VC
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 12 09:59:08 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.322	168	18610	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.423	117	28354	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.739	152	13127	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	10099	2282.89 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	31616	2279.95 ng/L	-0.01
19) Toluene-d8 (S)	8.427	98	43160	2240.41 ng/L	-0.01
29) 4-Bromofluorobenzene (S)	11.719	174	11000	2218.04 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.937	50	2734	286.76 ng/L	100
3) Vinyl Chloride	2.039	62	1111	178.20 ng/L	98
4) 1,1-Dichloroethene	3.307	61	1118	149.07 ng/L	91
5) Carbon Disulfide	3.328	76	3164	239.38 ng/L	94
6) t-1,2-Dichloroethene	4.125	61	1174	175.17 ng/L	91
7) Methyl-tert-butyl-ether	4.267	73	2594	188.93 ng/L	70
8) 1,1-Dichloroethane	4.776	63	1503	174.91 ng/L	96
9) c-1,2-Dichloroethene	5.337	61	1205	174.52 ng/L	91
10) Chloroform	5.626	83	1460	169.25 ng/L	99
12) Benzene	6.208	78	44076023	2207939.49 ng/L	73
13) 1,2-Dichloroethane (EDC)	6.452	62	3967	593.20 ng/L	94
15) Trichloroethene (TCE)	6.852	130	834	183.69 ng/L	100
16) 1,2-Dichloropropane	7.421	63	1005	186.85 ng/L	89
18) c-1,3-Dichloropropene	8.207	75	1381	172.13 ng/L #	59
20) Toluene	8.470	91	25975097	1265526.35 ng/L	98
21) Tetrachloroethene (PCE)	8.949	166	782	187.85 ng/L	86
22) t-1,3-Dichloropropene	8.992	75	1261	178.53 ng/L	75
23) 1,1,2-Trichloroethane	9.202	97	847	178.45 ug/L	97
24) 1,2-Dibromoethane (EDB)	9.769	107	851	165.18 ng/L	79
25) Ethylbenzene	10.483	91	8518692	425372.72 ng/L	98
26) m,p-Xylenes (2)	10.655	91	6598372	455723.61 ng/L	92
27) o-Xylene	11.123	91	3215807	199245.35 ng/L	98
30) 1,1,2,2-Tetrachloroeth...	11.950	83	4262	476.56 ug/L #	80
31) 1,3.5-Trimethylbenzene	12.042	105	345817	24498.83 ng/L	92
32) 1,2,3-Trichloropropane	12.048	110	425	177.82 ng/L #	1
33) 1,2,4-Trimethylbenzene	12.394	105	1060721	73123.25 ng/L	93
34) 1,2-Dibromo-3-chloropr...	13.775	157	288	142.17 ng/L #	1
35) Naphthalene	14.653	128	34192385	2145222.08 ng/L	68

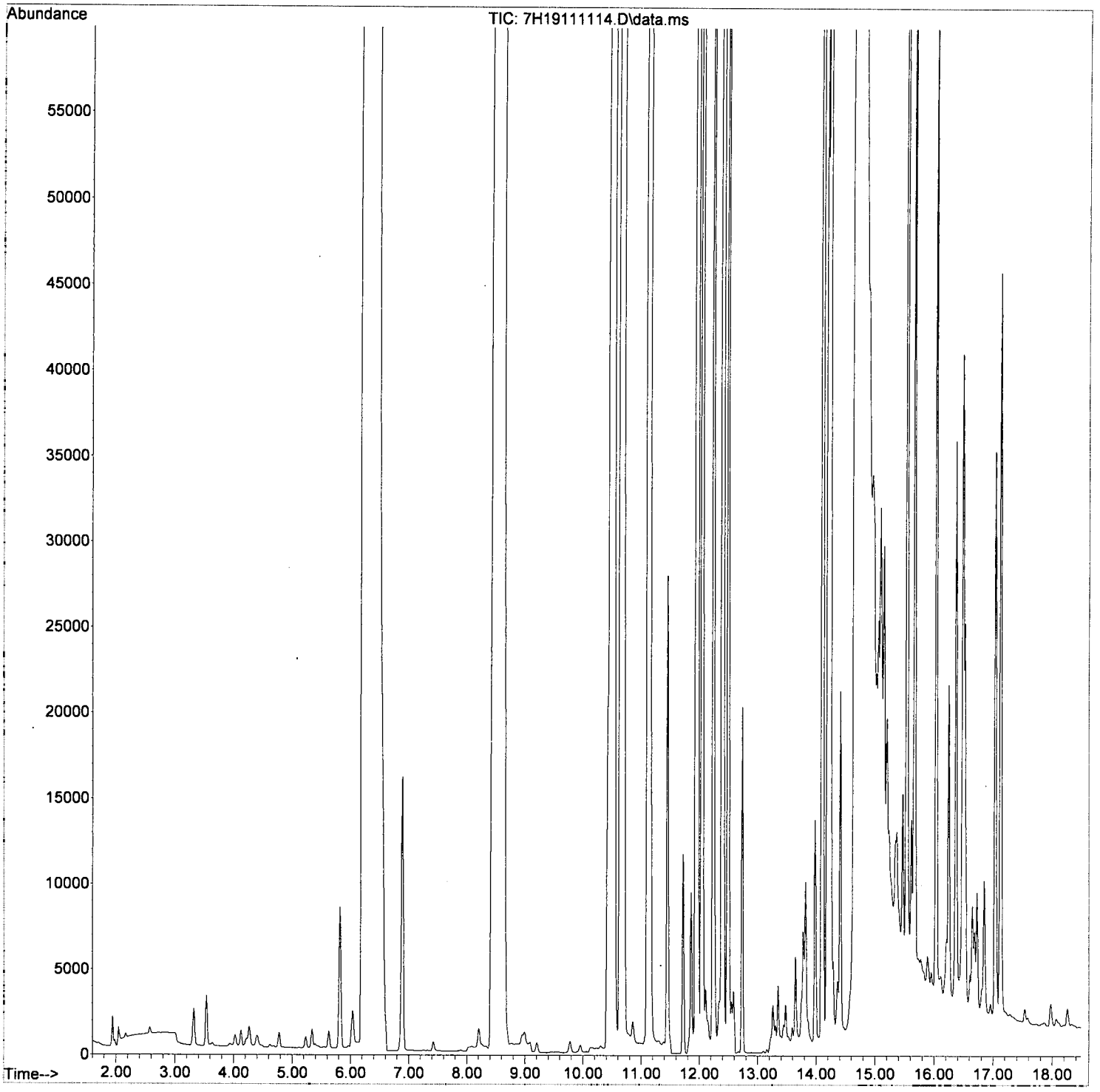
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/12/19 JM

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111114.D
Acq On : 11 Nov 2019 07:50 pm
Operator : tb
Sample : 9110678-MS1
Misc : 1X 5mL SIM VC
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 12 09:59:08 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111115.D
Acq On : 11 Nov 2019 08:17 pm
Operator : tb
Sample : 9110678-MSD1
Misc : 1X 5mL SIM VC
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 12 09:59:12 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.322	168	16781	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.423	117	25356	2330.00	ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	11726	2330.00	ng/L	-0.01
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.814	111	8909	2233.39	ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	28306	2263.73	ng/L	-0.01
19) Toluene-d8 (S)	8.427	98	38667	2244.50	ng/L	-0.01
29) 4-Bromofluorobenzene (S)	11.719	174	9869	2227.75	ng/L	-0.01
Target Compounds						Qvalue
2) Chloromethane	1.937	50	2453	284.95	ng/L	99
3) Vinyl Chloride	2.039	62	1051	186.95	ng/L	96
4) 1,1-Dichloroethene	3.307	61	1068	157.93	ng/L	92
5) Carbon Disulfide	3.327	76	2980	250.03	ng/L	96
6) t-1,2-Dichloroethene	4.125	61	1126	186.32	ng/L	91
7) Methyl-tert-butyl-ether	4.266	73	2552	206.13	ng/L	94
8) 1,1-Dichloroethane	4.776	63	1444	186.35	ng/L	98
9) c-1,2-Dichloroethene	5.336	61	1154	185.35	ng/L	91
10) Chloroform	5.626	83	1412	181.53	ng/L	99
12) Benzene	6.208	78	43563388	2420109.13	ng/L	83
13) 1,2-Dichloroethane (EDC)	6.452	62	3256	539.94	ng/L	94
15) Trichloroethene (TCE)	6.851	130	799	195.16	ng/L	97
16) 1,2-Dichloropropane	7.421	63	1014	209.07	ng/L	90
18) c-1,3-Dichloropropene	8.207	75	1346	187.60	ng/L	76
20) Toluene	8.475	91	25173077	1371462.41	ng/L	81
21) Tetrachloroethene (PCE)	8.949	166	766	205.76	ng/L	89
22) t-1,3-Dichloropropene	8.992	75	1223	193.63	ng/L	76
23) 1,1,2-Trichloroethane	9.207	97	826	194.60	ug/L	93
24) 1,2-Dibromoethane (EDB)	9.769	107	866	187.97	ng/L	76
25) Ethylbenzene	10.482	91	8005145	446991.75	ng/L	98
26) m,p-Xylenes (2)	10.654	91	6193683	478351.68	ng/L	91
27) o-Xylene	11.123	91	2986356	206906.15	ng/L	98
30) 1,1,2,2-Tetrachloroeth...	11.950	83	3960	495.69	ug/L #	77
31) 1,3.5-Trimethylbenzene	12.042	105	334131	26499.12	ng/L	92
32) 1,2,3-Trichloropropane	12.047	110	411	192.51	ng/L #	1
33) 1,2,4-Trimethylbenzene	12.394	105	1018441	78596.97	ng/L	93
34) 1,2-Dibromo-3-chloropr...	13.775	157	286	158.05	ng/L #	1
35) Naphthalene	14.653	128	34162567	2399434.81	ng/L	77

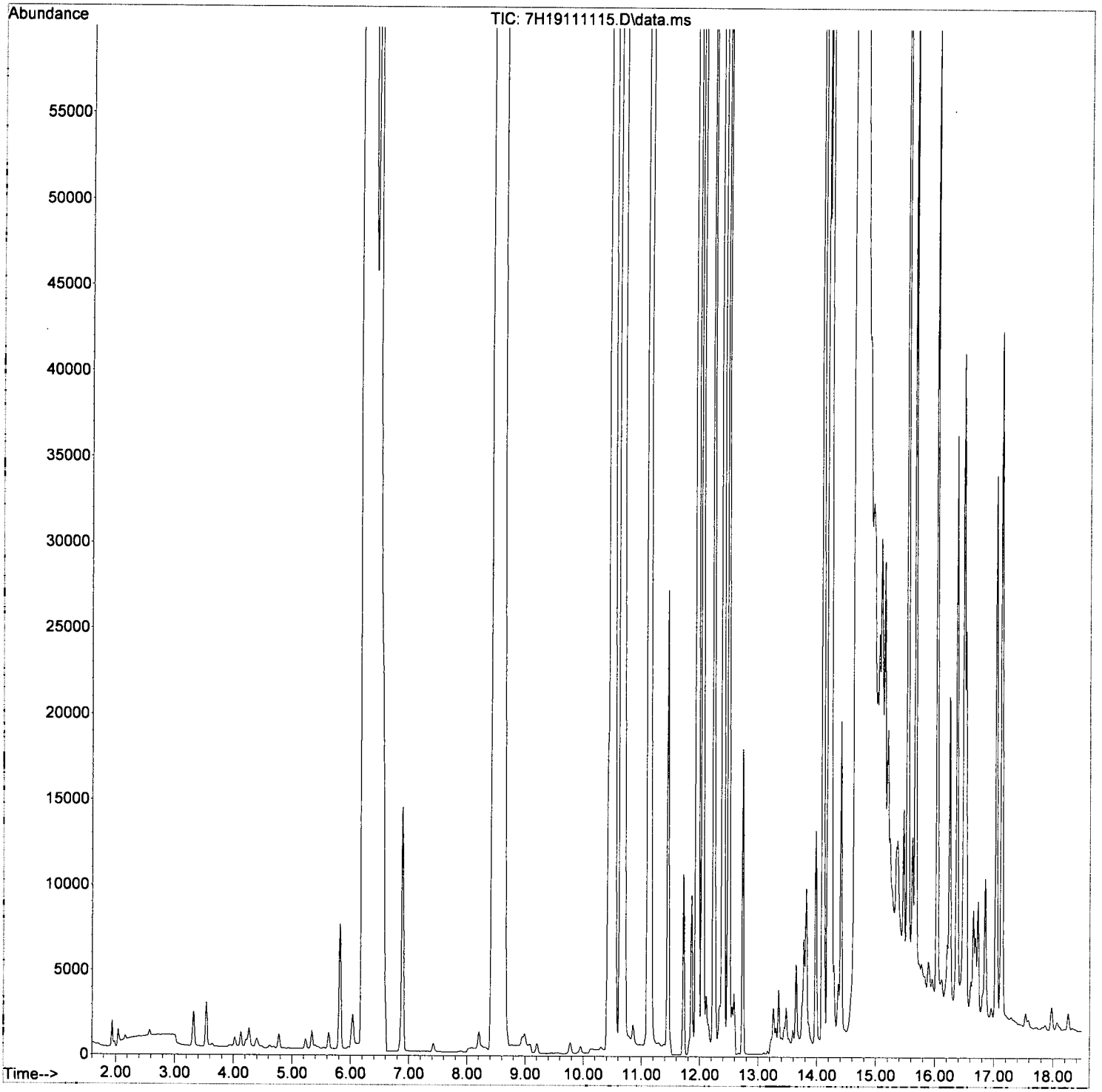
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/12/19 MH

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K11047\
Data File : 7H19111115.D
Acq On : 11 Nov 2019 08:17 pm
Operator : tb
Sample : 9110678-MSD1
Misc : 1X 5mL SIM VC
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 12 09:59:12 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



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

Vinyl Chloride by EPA 8260C SIM
Calibration Data

Sequence 9G12037 (Cal ID A9G1805) VOA-GCMS8

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9G12037**	Instrument:	**VOA-GCMS8**
Date:	**07/12/19 18:25**	Calibration:	**A9G1805**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9G12037-IBL1	Water	QC	QC			A19A332	
2	9G12037-IBL2	Water	QC	QC			A19A332	
3	9G12037-TUN1	Water	QC	QC			A19A332	
4	9G12037-ICB1	Water	QC	QC			A19A332	
5	9G12037-CAL1	Water	QC	QC			A19A332	A19G219
6	9G12037-CAL2	Water	QC	QC			A19A332	A19G220
7	9G12037-CAL3	Water	QC	QC			A19A332	A19G221
8	9G12037-CAL4	Water	QC	QC			A19A332	A19G222
9	9G12037-CAL5	Water	QC	QC			A19A332	A19G223
10	9G12037-CAL6	Water	QC	QC			A19A332	A19G224
11	9G12037-CAL7	Water	QC	QC			A19A332	A19G225
12	9G12037-IBL4	Water	QC	QC			A19A332	
13	9G12037-CAL8	Water	QC	QC			A19A332	A19G226
14	9G12037-IBL5	Water	QC	QC			A19A332	
15	9G12037-IBL6	Water	QC	QC			A19A332	
16	9G12037-ICV1	Water	QC	QC			A19A332	A19G227

Chloromethane EOS

Data Entered By: MM 7/18/19

Data Reviewed By: MM 7/19/19

Comments:

Method Path : C:\GCMS\1\methods\
Method File : VH190716SIMw.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Jul 16 11:10:39 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	10	2330	C:\GCMS\1\data\2019-07\9G12037\7H19071225.D
2	2	20	2330	C:\GCMS\1\data\2019-07\9G12037\7H19071226.D
3	3	50	2330	C:\GCMS\1\data\2019-07\9G12037\7H19071227.D
4	4	100	2330	C:\GCMS\1\data\2019-07\9G12037\7H19071228.D
5	5	200	2330	C:\GCMS\1\data\2019-07\9G12037\7H19071229.D
6	6	500	2330	C:\GCMS\1\data\2019-07\9G12037\7H19071230.D
7	7	1000	2330	C:\GCMS\1\data\2019-07\9G12037\7H19071231.D
8	8	2000	2330	C:\GCMS\1\data\2019-07\9G12037\7H19071233.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Jul 16 11:10 2019	Jul 16 11:06 2019	12 Jul 2019 10:41 pm
2	2	Jul 16 11:10 2019	Jul 16 11:07 2019	12 Jul 2019 11:08 pm
3	3	Jul 16 11:10 2019	Jul 16 11:01 2019	12 Jul 2019 11:35 pm
4	4	Jul 16 11:10 2019	Jul 16 11:01 2019	13 Jul 2019 12:02 am
5	5	Jul 16 11:10 2019	Jul 16 11:01 2019	13 Jul 2019 12:29 am
6	6	Jul 16 11:10 2019	Jul 16 11:01 2019	13 Jul 2019 12:55 am
7	7	Jul 16 11:10 2019	Jul 16 11:01 2019	13 Jul 2019 01:22 am
8	8	Jul 16 11:10 2019	Jul 16 11:01 2019	13 Jul 2019 02:16 am

VH190716SIMw.M Tue Jul 16 11:26:07 2019

Response Factor Report VOA-GCMS8

Method Path : C:\GCMS\1\methods\
Method File : VH190716SIMw.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Jul 16 11:10:39 2019
Response Via : Initial Calibration

Calibration Files
1 =7H19071225.D 2 =7H19071226.D 3 =7H19071227.D 4 =7H19071228.D 5 =7H19071229.D 6 =7H19071230.D 7 =7H19071231.D
8 =7H19071233.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)	I	Pentafluorobenzene...	----------	ISTD	----------							
2)		Chloromethane	4.901	4.332	1.769	2.117	1.407	1.393	0.992	1.262	2.271	65.74
3)		Vinyl Chloride	0.640	0.757	0.767	0.791	0.874	0.889	0.705	0.822	0.781	10.68
4)		1,1-Dichloroet...	1.239	0.965	0.943	0.883	0.920	0.899	0.799	0.863	0.939	14.00
5)		Carbon Disulfide			1.847	1.739	1.729	1.699	1.366	1.550	1.655	10.31
6)		t-1,2-Dichloro...	0.953	0.854	0.849	0.825	0.858	0.836	0.747	0.790	0.839	7.08
7)		Methyl-tert-bu...			1.610	1.814	1.667	1.788	1.757	1.666	1.731	1.719	4.29
8)		1,1-Dichloroet...	1.266	1.090	1.063	1.034	1.087	1.054	0.987	1.026	1.076	7.80
9)		c-1,2-Dichloro...	1.021	0.826	0.856	0.850	0.881	0.860	0.790	0.831	0.864	7.97
10)		Chloroform			1.201	1.152	1.050	1.101	1.061	0.963	1.032	1.080	7.31
11)	S	Dibromofluorom...	0.562	0.556	0.568	0.548	0.559	0.549	0.535	0.555	0.554	1.78
12)		Benzene			2.736	2.626	2.568	2.459	2.273	2.334	2.499	7.09
13)		1,2-Dichloroet...	0.980	0.805	0.833	0.822	0.854	0.836	0.752	0.817	0.837	7.78
14)	S	1,4-Difluorobe...	1.745	1.745	1.728	1.732	1.742	1.753	1.670	1.773	1.736	1.73
15)		Trichloroethen...	0.558	0.639	0.570	0.558	0.583	0.572	0.515	0.553	0.568	6.13
16)		1,2-Dichloropr...	0.776	0.694	0.664	0.649	0.670	0.675	0.616	0.643	0.673	7.06
17)		Chlorobenzene-d5 (I)	----------	ISTD	----------							
18)		c-1,3-Dichloro...	0.632	0.792	0.701	0.625	0.653	0.642	0.617	0.611	0.659	9.21
19)	S	Toluene-d8 (S)	1.612	1.592	1.598	1.589	1.563	1.584	1.547	1.580	1.583	1.29
20)		Toluene	2.120	1.833	1.730	1.608	1.588	1.575	1.545	1.493	1.687	12.22
21)		Tetrachloroeth...			0.392	0.378	0.331	0.342	0.323	0.329	0.300	0.342	9.40
22)		t-1,3-Dichloro...			0.539	0.634	0.586	0.582	0.585	0.573	0.564	0.580	4.99
23)		1,1,2-Trichlor...	0.428	0.424	0.395	0.373	0.387	0.386	0.360	0.368	0.390	6.34
24)		1,2-Dibromoeth...	0.549	0.401	0.419	0.406	0.417	0.415	0.381	0.399	0.423	12.31
25)		Ethylbenzene	1.943	1.732	1.615	1.562	1.569	1.596	1.653	1.496	1.646	8.44
26)		m,p-Xylenes (2)	1.292	1.221	1.187	1.141	1.150	1.176	1.234	1.117	1.190	4.81
27)		o-Xylene	1.757	1.446	1.246	1.210	1.229	1.250	1.278	1.194	1.326	14.40
28)	I	1,4-Dichlorobenzen...	----------	ISTD	----------							
29)	S	4-Bromofluorob...	0.894	0.899	0.891	0.901	0.885	0.873	0.830	0.868	0.880	2.65
30)		1,1,2,2-Tetrac...	1.821	1.691	1.541	1.631	1.802	1.574	1.301	1.339	1.587	12.12
31)		1,3.5-Trimethy...	2.743	2.687	2.597	2.428	2.468	2.390	2.560	2.171	2.505	7.29
32)		1,2,3-Trichlor...			0.492	0.436	0.463	0.428	0.350	0.376	0.424	12.54
33)		1,2,4-Trimethy...	3.074	2.896	2.601	2.430	2.474	2.411	2.562	2.151	2.575	11.28
34)		1,2-Dibromo-3-...			0.383	0.356	0.434	0.380	0.284	0.320	0.360	14.59

Method Path : C:\GCMS\1\methods\
Method File : VH190716SIMw.M
Title : EPA 8260: Volatile Organic Compounds

35)	Naphthalene		3.487	2.879	2.564	3.178	2.735	2.651	2.309	2.829	13.98

(#) = Out of Range

Compound List Report VOA-GCMS8

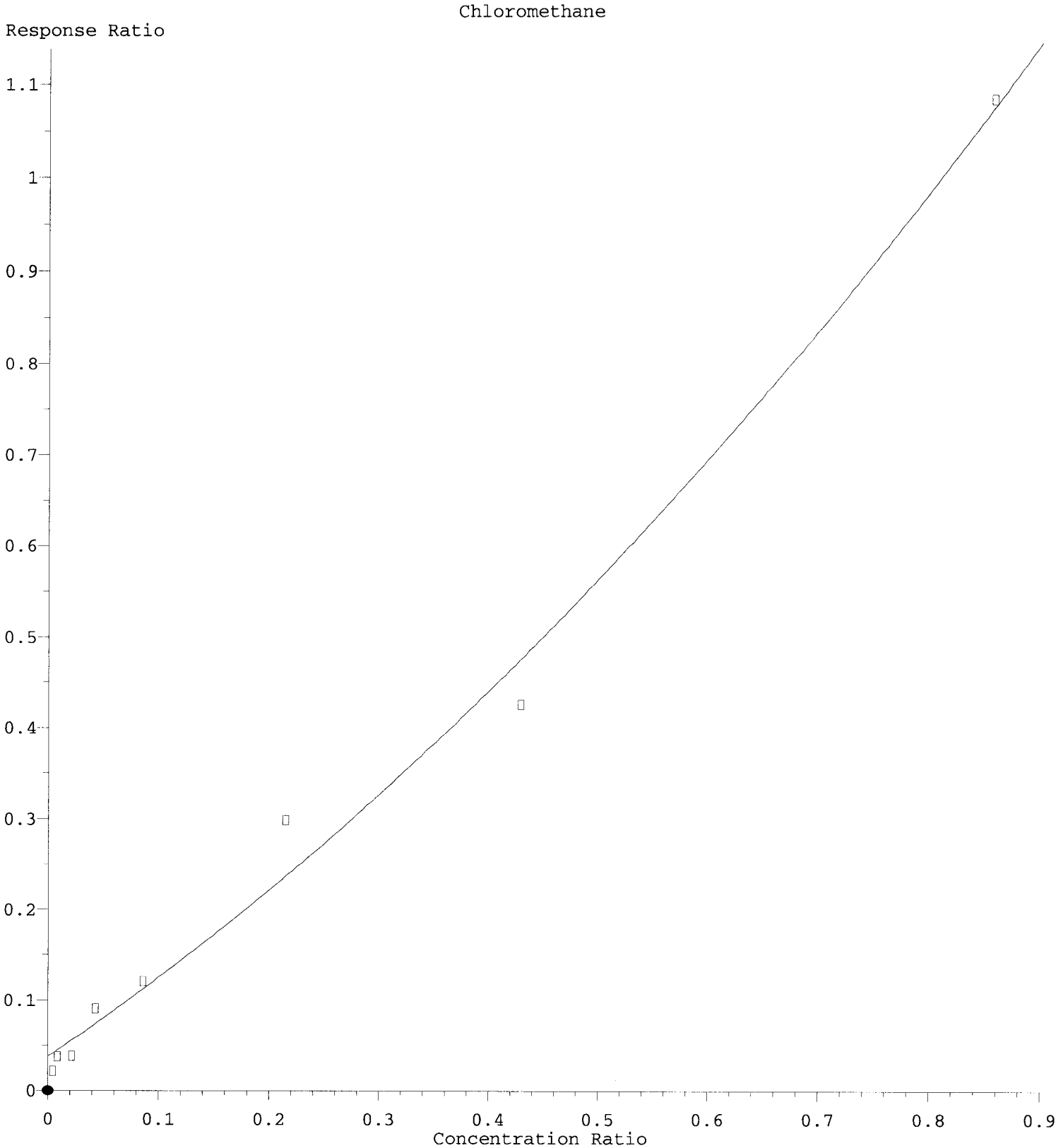
Method Path : C:\GCMS\1\methods\
Method File : VH190716SIMw.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Jul 16 11:10:39 2019
Response Via : Initial Calibration

Total Cpnds : 35

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (I)	168	6.327	1.000	A	1	A	L
2		Chloromethane	50	1.941	0.307	Q	1	A	R
3		Vinyl Chloride	62	2.049	0.324	A	1	A	R
4		1,1-Dichloroethene	61	3.312	0.523	A	1	A	R
5		Carbon Disulfide	76	3.332	0.527	A	1	A	R
6		t-1,2-Dichloroethene	61	4.130	0.653	A	1	A	R
7		Methyl-tert-butyl-ether	73	4.281	0.677	A	1	A	R
8		1,1-Dichloroethane	63	4.786	0.756	A	1	A	R
9		c-1,2-Dichloroethene	61	5.346	0.845	A	1	A	R
10		Chloroform	83	5.631	0.890	A	1	A	R
11	S	Dibromofluoromethane (S)	111	5.825	0.921	A	1	A	R
12		Benzene	78	6.241	0.986	A	1	A	R
13		1,2-Dichloroethane (EDC)	62	6.452	1.020	A	1	A	R
14	S	1,4-Difluorobenzene (S)	114	6.900	1.090	A	1	A	R
15		Trichloroethene (TCE)	130	6.862	1.085	A	1	A	R
16		1,2-Dichloropropane	63	7.431	1.174	A	1	A	R
17	I	Chlorobenzene-d5 (I)	117	10.434	1.000	A	1	A	L
18		c-1,3-Dichloropropene	75	8.218	0.788	A	1	A	R
19	S	Toluene-d8 (S)	98	8.438	0.809	A	1	A	R
20		Toluene	91	8.491	0.814	A	1	A	R
21		Tetrachloroethene (PCE)	166	8.959	0.859	A	1	A	R
22		t-1,3-Dichloropropene	75	9.002	0.863	A	1	A	R
23		1,1,2-Trichloroethane	97	9.218	0.883	A	1	A	B
24		1,2-Dibromoethane (EDB)	107	9.785	0.938	A	1	A	R
25		Ethylbenzene	91	10.493	1.006	A	1	A	R
26		m,p-Xylenes (2)	91	10.665	1.022	A	1	A	R
27		o-Xylene	91	11.133	1.067	A	1	A	R
28	I	1,4-Dichlorobenzene-d4 (I)	152	12.749	1.000	A	1	A	L
29	S	4-Bromofluorobenzene (S)	174	11.729	0.920	A	1	A	R
30		1,1,2,2-Tetrachloroethane	83	11.934	0.936	A	1	A	B
31		1,3.5-Trimethylbenzene	105	12.058	0.946	A	1	A	R
32		1,2,3-Trichloropropane	110	12.058	0.946	A	1	A	R
33		1,2,4-Trimethylbenzene	105	12.404	0.973	A	1	A	R
34		1,2-Dibromo-3-chloropropane	157	13.785	1.081	A	1	A	R
35		Naphthalene	128	14.674	1.151	A	1	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

VH190716SIMw.M Tue Jul 16 11:26:01 2019

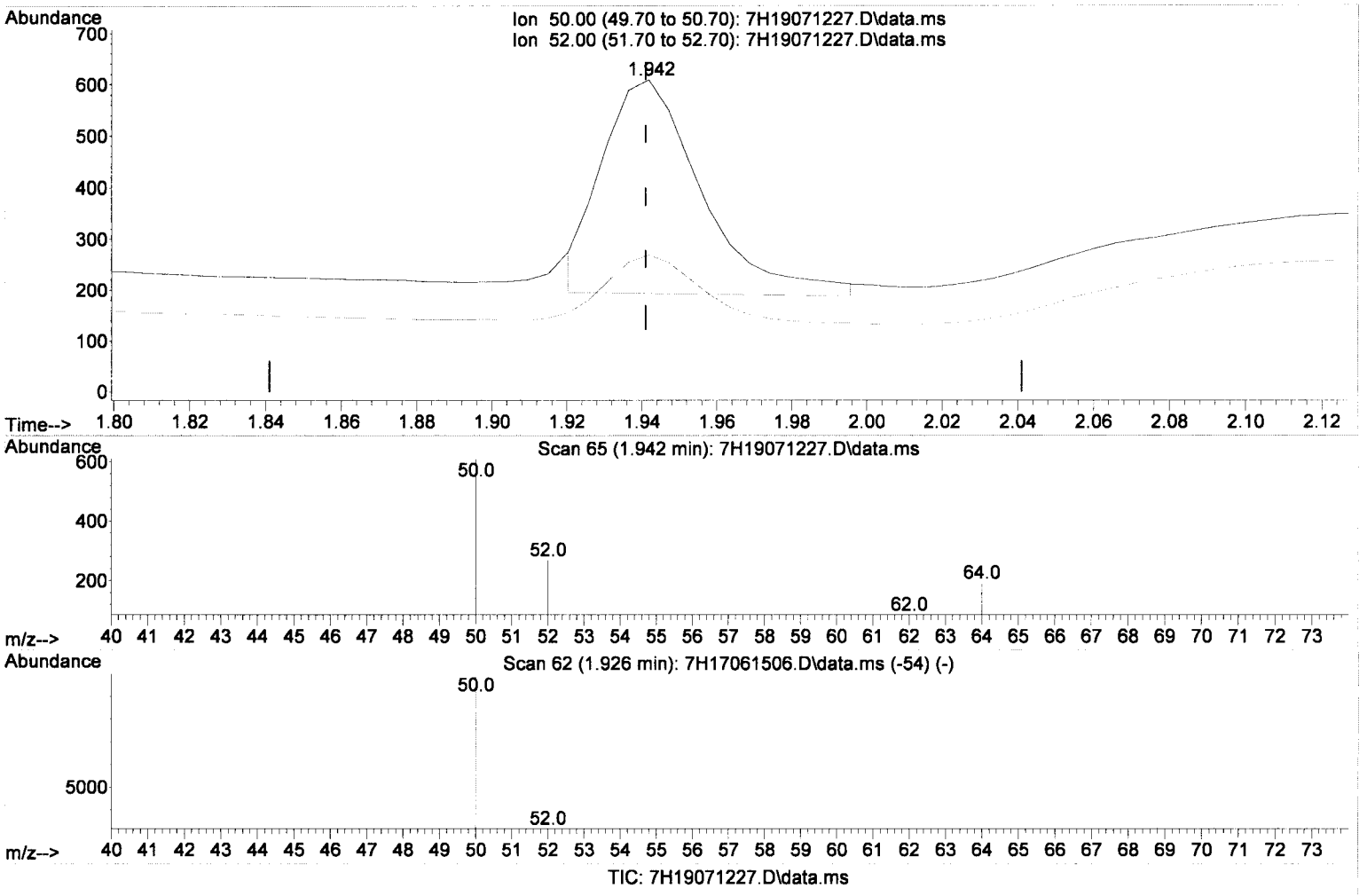


R = 4.34e-001 A*A + 8.35e-001 A + 3.76e-002
Coef of Det (r^2) = 0.991649 Curve Fit: Quadratic
Method Name: C:\GCMS\1\methods\VH190716S1MW.M
Calibration Table Last Updated: Tue Jul 16 11:10:39 2019

Quantitation Report (Qedit)

Data Path : C:\GCMS\1\data\2019-07\9G12037\REQUANT\
Data File : 7H19071227.D
Acq On : 12 Jul 2019 11:35 pm
Operator : MM
Sample : 9G12037-CAL3
Misc : 1X 5mL 50PPT VOC
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 16 11:16:32 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



TIC: 7H19071227.D\data.ms

(2) Chloromethane

1.942min (+ 0.001) 3.24 ng/L m

response 769

Ion	Exp%	Act%
50.00	100.00	100.00
52.00	32.80	44.17
0.00	0.00	0.00
0.00	0.00	0.00

CH2Cl2

7/16/19

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9G12037

Analysis Included
8260C SIM LL Vols

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9G12037-TUN1	MS Tune	Water		A19A332	7/12/2019 9:48:00PM
9G12037-ICB1	Initial Cal Blank	Water		A19A332	7/12/2019 10:14:00PM
9G12037-CAL1	Cal Standard	Water	A19G219	"	7/12/2019 10:41:00PM
9G12037-CAL2	Cal Standard	Water	A19G220	"	7/12/2019 11:08:00PM
9G12037-CAL3	Cal Standard	Water	A19G221	"	7/12/2019 11:35:00PM
9G12037-CAL4	Cal Standard	Water	A19G222	"	7/13/2019 12:02:00AM
9G12037-CAL5	Cal Standard	Water	A19G223	"	7/13/2019 12:29:00AM
9G12037-CAL6	Cal Standard	Water	A19G224	"	7/13/2019 12:55:00AM
9G12037-CAL7	Cal Standard	Water	A19G225	"	7/13/2019 1:22:00AM
9G12037-CAL8	Cal Standard	Water	A19G226	"	7/13/2019 2:16:00AM
9G12037-ICV1	Initial Cal Check	Water	A19G227	"	7/13/2019 3:37:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9G1805** Instrument: **VOA-GCMS8**

8260C SIM LL Vols Sequence: **9G12037** Matrix: **Water**

9G12037-CAL1	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9G12037-CAL2	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9G12037-CAL3	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9G12037-CAL4	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9G12037-CAL5	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9G12037-CAL6	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9G12037-CAL7	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9G12037-CAL8	**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: 9G12037

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: **A9G1805** Instrument: **VOA-GCMS8**

8260C SIM LL Vols Sequence: **9G12037** Matrix: **Water**

9G12037-ICV1	Inst. MRL	ICV Level	Result	%Rec.	Qual
Chloromethane	1000	200	**302.89**	151	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.

Evaluate Continuing Calibration Report

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071236.D
Acq On : 13 Jul 2019 03:37 am
Operator : MM
Sample : 9G12037-ICV1
Misc : 1X 5mL 200PPT
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 16 11:19:51 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

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)	2330.000	2330.000	0.0	90	0.00
2		Chloromethane	200.000	302.890	-51.4#	115	0.00
3		Vinyl Chloride	200.000	237.077	-18.5	96	0.00
4		1,1-Dichloroethene	200.000	204.723	-2.4	94	0.00
5		Carbon Disulfide	200.000	246.639	-23.3#	107	0.00
6		t-1,2-Dichloroethene	200.000	216.356	-8.2	95	0.00
7		Methyl-tert-butyl-ether	200.000	209.778	-4.9	91	0.00
8		1,1-Dichloroethane	200.000	211.848	-5.9	95	0.00
9		c-1,2-Dichloroethene	200.000	204.769	-2.4	91	0.00
10		Chloroform	200.000	209.817	-4.9	93	0.00
11	S	Dibromofluoromethane (S)	2330.000	2320.386	0.4	89	0.00
12		Benzene	200.000	217.331	-8.7	95	0.00
13		1,2-Dichloroethane (EDC)	200.000	214.210	-7.1	95	0.00
14	S	1,4-Difluorobenzene (S)	2330.000	2365.478	-1.5	91	0.00
15		Trichloroethene (TCE)	200.000	209.740	-4.9	92	0.00
16		1,2-Dichloropropane	200.000	211.371	-5.7	96	0.00
17		Chlorobenzene-d5 (I)	2330.000	2330.000	0.0	95	0.00
18		c-1,3-Dichloropropene	200.000	197.873	1.1	95	0.00
19	S	Toluene-d8 (S)	2330.000	2278.803	2.2	94	0.00
20		Toluene	200.000	192.154	3.9	97	0.00
21		Tetrachloroethene (PCE)	200.000	198.577	0.7	94	0.00
22		t-1,3-Dichloropropene	200.000	206.789	-3.4	98	0.00
23		1,1,2-Trichloroethane	200.000	207.616	-3.8	99	0.00
24		1,2-Dibromoethane (EDB)	200.000	199.199	0.4	96	0.00
25		Ethylbenzene	200.000	202.488	-1.2	100	0.00
26		m,p-Xylenes (2)	400.000	403.972	-1.0	99	0.00
27		o-Xylene	200.000	193.002	3.5	99	0.00
28	I	1,4-Dichlorobenzene-d4 (I)	2330.000	2330.000	0.0	95	0.00
29	S	4-Bromofluorobenzene (S)	2330.000	2357.892	-1.2	95	0.00
30		1,1,2,2-Tetrachloroethane	200.000	245.773	-22.9#	103	0.00
31		1,3.5-Trimethylbenzene	200.000	206.490	-3.2	99	0.00
32		1,2,3-Trichloropropane	200.000	242.013	-21.0#	105	0.00
33		1,2,4-Trimethylbenzene	200.000	201.760	-0.9	100	0.00
34		1,2-Dibromo-3-chloropropane	200.000	252.712	-26.4#	99	0.00
35		Naphthalene	200.000	243.688	-21.8#	103	0.00

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

EOS/NR

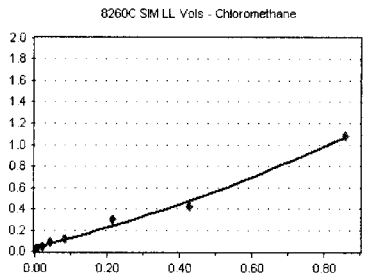
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

Chloromethane

Curve Fit: **QUADRATIC: Weighting: None, Origin: Ignore**

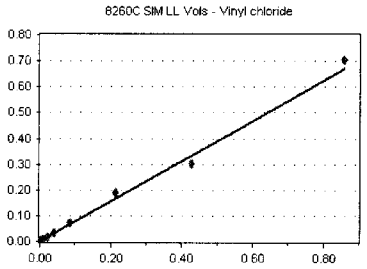


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	360	4.901	0.00
9G12037-CAL2	20	624	4.332	0.00
9G12037-CAL3	50	754	1.769	0.00
9G12037-CAL4	100	1558	2.117	1.94
9G12037-CAL5	200	2132	1.407	1.94
9G12037-CAL6	500	4906	1.393	1.94
9G12037-CAL7	1000	9213	0.992	1.94
9G12037-CAL8	2000	18748	1.262	1.94

AVE RF **2.271** RF RSD **65.74** AVE RT **1.21**

Vinyl chloride

Curve Fit: **AVERAGE RF**

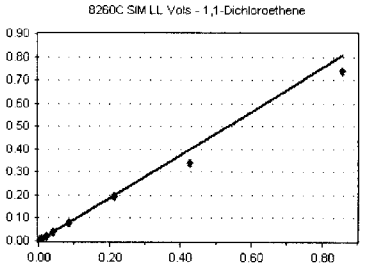


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	47	0.640	2.05
9G12037-CAL2	20	109	0.757	2.05
9G12037-CAL3	50	327	0.767	2.05
9G12037-CAL4	100	582	0.791	2.05
9G12037-CAL5	200	1324	0.874	2.05
9G12037-CAL6	500	3132	0.889	2.05
9G12037-CAL7	1000	6549	0.705	2.04
9G12037-CAL8	2000	12216	0.822	2.05

AVE RF **0.781** RF RSD **10.68** AVE RT **2.05**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

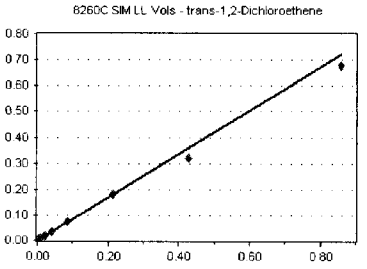


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	91	1.239	3.31
9G12037-CAL2	20	139	0.965	3.31
9G12037-CAL3	50	402	0.943	3.31
9G12037-CAL4	100	650	0.883	3.31
9G12037-CAL5	200	1394	0.920	3.31
9G12037-CAL6	500	3167	0.899	3.31
9G12037-CAL7	1000	7422	0.799	3.31
9G12037-CAL8	2000	12830	0.863	3.31

AVE RF **0.939** RF RSD **14.00** AVE RT **3.31**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	70	0.953	4.13
9G12037-CAL2	20	123	0.854	4.13
9G12037-CAL3	50	362	0.849	4.13
9G12037-CAL4	100	607	0.825	4.13
9G12037-CAL5	200	1300	0.858	4.13
9G12037-CAL6	500	2946	0.836	4.13
9G12037-CAL7	1000	6942	0.747	4.13
9G12037-CAL8	2000	11744	0.790	4.13

AVE RF **0.839** RF RSD **7.08** AVE RT **4.13**

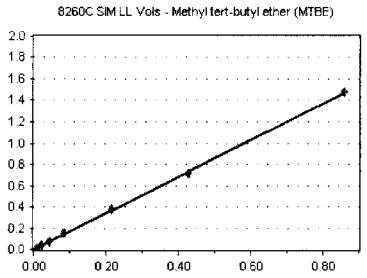
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

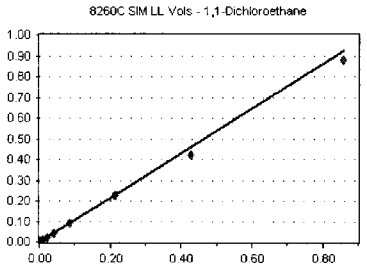


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
9G12037-CAL2	20	232	1.610	4.28
9G12037-CAL3	50	773	1.814	4.28
9G12037-CAL4	100	1227	1.667	4.28
9G12037-CAL5	200	2708	1.788	4.28
9G12037-CAL6	500	6188	1.757	4.28
9G12037-CAL7	1000	15477	1.666	4.28
9G12037-CAL8	2000	25727	1.731	4.28

AVE RF **1.719** RF RSD **4.29** AVE RT **4.28**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

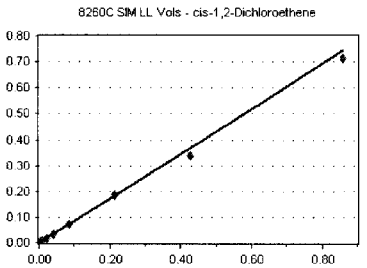


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	93	1.266	4.78
9G12037-CAL2	20	157	1.090	4.79
9G12037-CAL3	50	453	1.063	4.78
9G12037-CAL4	100	761	1.034	4.78
9G12037-CAL5	200	1647	1.087	4.79
9G12037-CAL6	500	3712	1.054	4.79
9G12037-CAL7	1000	9171	0.987	4.78
9G12037-CAL8	2000	15247	1.026	4.78

AVE RF **1.076** RF RSD **7.80** AVE RT **4.78**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

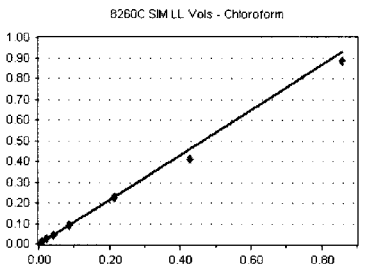


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	75	1.021	5.35
9G12037-CAL2	20	119	0.826	5.35
9G12037-CAL3	50	365	0.856	5.35
9G12037-CAL4	100	626	0.850	5.35
9G12037-CAL5	200	1335	0.881	5.35
9G12037-CAL6	500	3028	0.860	5.35
9G12037-CAL7	1000	7341	0.790	5.35
9G12037-CAL8	2000	12341	0.831	5.35

AVE RF **0.864** RF RSD **7.97** AVE RT **5.35**

Chloroform

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~134~~	~~1.824~~	~~5.63~~
9G12037-CAL2	20	173	1.201	5.63
9G12037-CAL3	50	491	1.152	5.63
9G12037-CAL4	100	773	1.050	5.63
9G12037-CAL5	200	1668	1.101	5.63
9G12037-CAL6	500	3736	1.061	5.63
9G12037-CAL7	1000	8951	0.963	5.63
9G12037-CAL8	2000	15330	1.032	5.63

AVE RF **1.080** RF RSD **7.31** AVE RT **5.63**

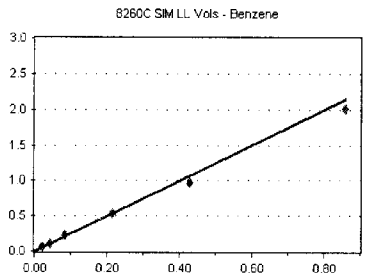
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

Benzene

Curve Fit: **AVERAGE RF**

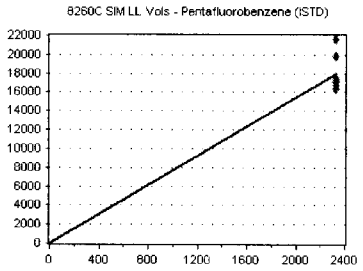


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
~~9G12037-CAL2~~	~~20~~	~~0~~	~~0.000~~	~~0.00~~
9G12037-CAL3	50	1166	2.736	6.24
9G12037-CAL4	100	1933	2.626	6.24
9G12037-CAL5	200	3890	2.568	6.24
9G12037-CAL6	500	8661	2.459	6.24
9G12037-CAL7	1000	21117	2.273	6.24
9G12037-CAL8	2000	34681	2.334	6.24

AVE RF **2.499** RF RSD **7.09** AVE RT **6.24**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

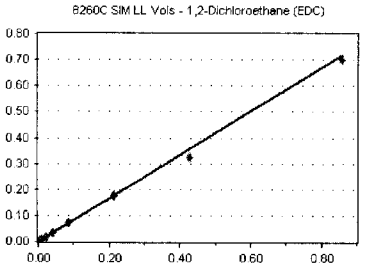


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	17116	7.346	6.33
9G12037-CAL2	2330	16783	7.203	6.33
9G12037-CAL3	2330	19860	8.524	6.33
9G12037-CAL4	2330	17151	7.361	6.33
9G12037-CAL5	2330	17647	7.574	6.33
9G12037-CAL6	2330	16412	7.044	6.33
9G12037-CAL7	2330	21648	9.291	6.33
9G12037-CAL8	2330	17311	7.430	6.33

AVE RF **7.721** RF RSD **10.05** AVE RT **6.33**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**

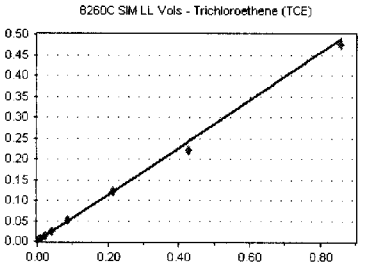


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	72	0.980	6.45
9G12037-CAL2	20	116	0.805	6.45
9G12037-CAL3	50	355	0.833	6.45
9G12037-CAL4	100	605	0.822	6.45
9G12037-CAL5	200	1293	0.854	6.45
9G12037-CAL6	500	2943	0.836	6.45
9G12037-CAL7	1000	6985	0.752	6.45
9G12037-CAL8	2000	12140	0.817	6.45

AVE RF **0.837** RF RSD **7.78** AVE RT **6.45**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	41	0.558	6.86
9G12037-CAL2	20	92	0.639	6.86
9G12037-CAL3	50	243	0.570	6.86
9G12037-CAL4	100	411	0.558	6.86
9G12037-CAL5	200	883	0.583	6.86
9G12037-CAL6	500	2015	0.572	6.86
9G12037-CAL7	1000	4781	0.515	6.86
9G12037-CAL8	2000	8213	0.553	6.86

AVE RF **0.568** RF RSD **6.13** AVE RT **6.86**

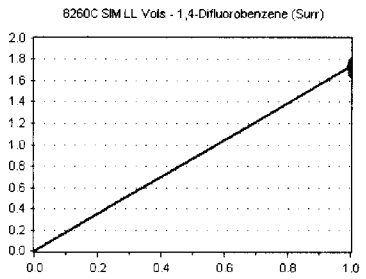
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

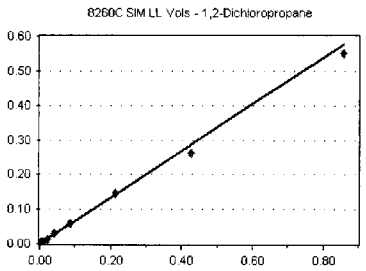


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	29875	1.745	6.90
9G12037-CAL2	2330	29288	1.745	6.90
9G12037-CAL3	2330	34319	1.728	6.89
9G12037-CAL4	2330	29698	1.732	6.90
9G12037-CAL5	2330	30742	1.742	6.90
9G12037-CAL6	2330	28778	1.753	6.90
9G12037-CAL7	2330	36161	1.670	6.90
9G12037-CAL8	2330	30697	1.773	6.90

AVE RF **1.736** RF RSD **1.73** AVE RT **6.90**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

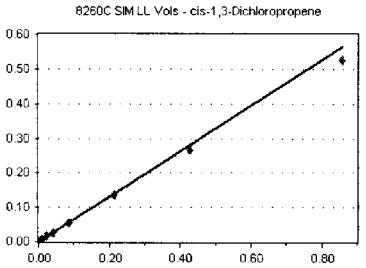


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	57	0.776	7.43
9G12037-CAL2	20	100	0.694	7.43
9G12037-CAL3	50	283	0.664	7.43
9G12037-CAL4	100	478	0.649	7.43
9G12037-CAL5	200	1015	0.670	7.43
9G12037-CAL6	500	2376	0.675	7.43
9G12037-CAL7	1000	5721	0.616	7.43
9G12037-CAL8	2000	9561	0.643	7.43

AVE RF **0.673** RF RSD **7.06** AVE RT **7.43**

cis-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

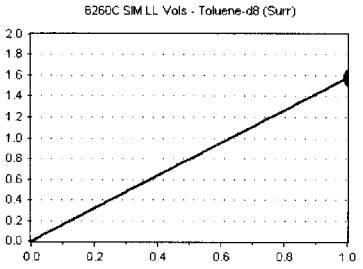


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	68	0.632	8.22
9G12037-CAL2	20	172	0.792	8.22
9G12037-CAL3	50	430	0.701	8.22
9G12037-CAL4	100	684	0.625	8.22
9G12037-CAL5	200	1481	0.653	8.22
9G12037-CAL6	500	3435	0.642	8.22
9G12037-CAL7	1000	8477	0.617	8.22
9G12037-CAL8	2000	13895	0.611	8.22

AVE RF **0.659** RF RSD **9.21** AVE RT **8.22**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	40402	1.612	8.44
9G12037-CAL2	2330	40271	1.592	8.44
9G12037-CAL3	2330	45650	1.598	8.43
9G12037-CAL4	2330	40494	1.589	8.43
9G12037-CAL5	2330	41301	1.563	8.44
9G12037-CAL6	2330	39473	1.584	8.44
9G12037-CAL7	2330	49504	1.547	8.43
9G12037-CAL8	2330	41860	1.580	8.43

AVE RF **1.583** RF RSD **1.29** AVE RT **8.44**

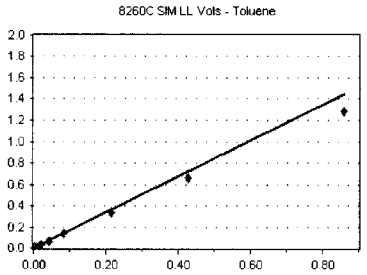
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

Toluene

Curve Fit: **AVERAGE RF**

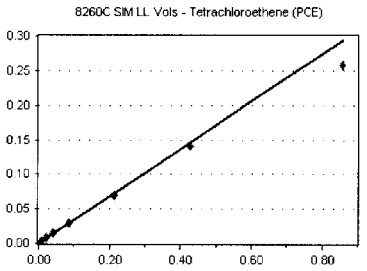


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	228	2.120	8.49
9G12037-CAL2	20	398	1.833	8.49
9G12037-CAL3	50	1061	1.730	8.49
9G12037-CAL4	100	1759	1.608	8.49
9G12037-CAL5	200	3602	1.588	8.49
9G12037-CAL6	500	8426	1.575	8.49
9G12037-CAL7	1000	21218	1.545	8.49
9G12037-CAL8	2000	33962	1.493	8.49

AVE RF **1.687** RF RSD **12.22** AVE RT **8.49**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

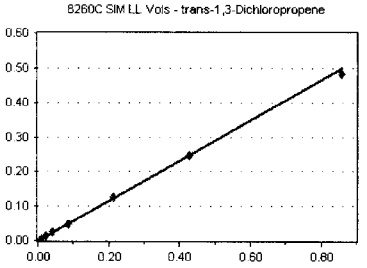


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~65~~	~~0.604~~	~~8.96~~
9G12037-CAL2	20	85	0.392	8.96
9G12037-CAL3	50	232	0.378	8.96
9G12037-CAL4	100	362	0.331	8.96
9G12037-CAL5	200	775	0.342	8.96
9G12037-CAL6	500	1730	0.323	8.96
9G12037-CAL7	1000	4518	0.329	8.96
9G12037-CAL8	2000	6817	0.300	8.96

AVE RF **0.342** RF RSD **9.40** AVE RT **8.96**

trans-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

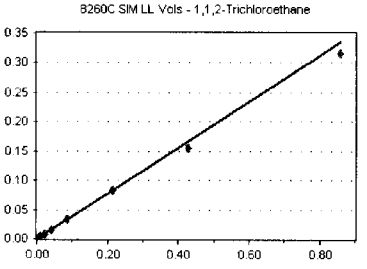


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~92~~	~~0.855~~	~~9.00~~
9G12037-CAL2	20	117	0.539	9.00
9G12037-CAL3	50	389	0.634	9.00
9G12037-CAL4	100	641	0.586	9.00
9G12037-CAL5	200	1320	0.582	9.00
9G12037-CAL6	500	3131	0.585	9.00
9G12037-CAL7	1000	7862	0.573	9.00
9G12037-CAL8	2000	12822	0.564	9.00

AVE RF **0.580** RF RSD **4.99** AVE RT **9.00**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	46	0.428	9.22
9G12037-CAL2	20	92	0.424	9.22
9G12037-CAL3	50	242	0.395	9.22
9G12037-CAL4	100	408	0.373	9.22
9G12037-CAL5	200	878	0.387	9.22
9G12037-CAL6	500	2065	0.386	9.22
9G12037-CAL7	1000	4945	0.360	9.22
9G12037-CAL8	2000	8368	0.368	9.22

AVE RF **0.390** RF RSD **6.34** AVE RT **9.22**

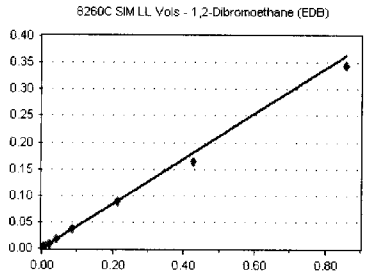
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

1,2-Dibromoethane (EDB)

Curve Fit: **AVERAGE RF**

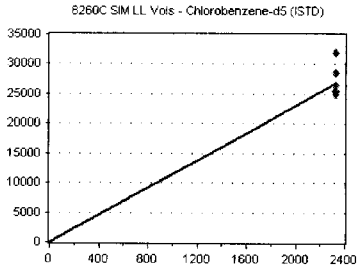


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	59	0.549	9.79
9G12037-CAL2	20	87	0.401	9.79
9G12037-CAL3	50	257	0.419	9.78
9G12037-CAL4	100	444	0.406	9.79
9G12037-CAL5	200	946	0.417	9.79
9G12037-CAL6	500	2222	0.415	9.79
9G12037-CAL7	1000	5227	0.381	9.78
9G12037-CAL8	2000	9084	0.399	9.79

AVE RF **0.423** RF RSD **12.31** AVE RT **9.78**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

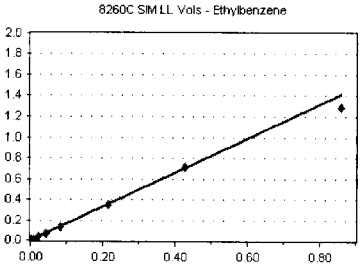


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	25058	10.755	10.43
9G12037-CAL2	2330	25290	10.854	10.43
9G12037-CAL3	2330	28572	12.263	10.43
9G12037-CAL4	2330	25484	10.937	10.43
9G12037-CAL5	2330	26428	11.342	10.43
9G12037-CAL6	2330	24926	10.698	10.43
9G12037-CAL7	2330	31997	13.733	10.43
9G12037-CAL8	2330	26502	11.374	10.43

AVE RF **11.494** RF RSD **9.03** AVE RT **10.43**

Ethylbenzene

Curve Fit: **AVERAGE RF**

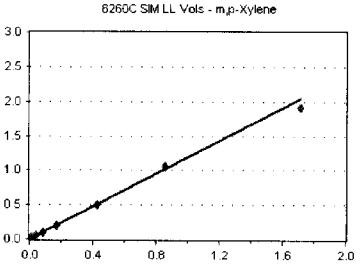


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	209	1.943	10.49
9G12037-CAL2	20	376	1.732	10.50
9G12037-CAL3	50	990	1.615	10.49
9G12037-CAL4	100	1708	1.562	10.49
9G12037-CAL5	200	3559	1.569	10.49
9G12037-CAL6	500	8538	1.596	10.49
9G12037-CAL7	1000	22694	1.653	10.49
9G12037-CAL8	2000	34033	1.496	10.49

AVE RF **1.646** RF RSD **8.44** AVE RT **10.49**

m,p-Xylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	20	278	1.292	10.67
9G12037-CAL2	40	530	1.221	10.67
9G12037-CAL3	100	1455	1.187	10.67
9G12037-CAL4	200	2495	1.141	10.67
9G12037-CAL5	400	5219	1.150	10.67
9G12037-CAL6	1000	12586	1.176	10.67
9G12037-CAL7	2000	33897	1.234	10.67
9G12037-CAL8	4000	50826	1.117	10.67

AVE RF **1.190** RF RSD **4.81** AVE RT **10.67**

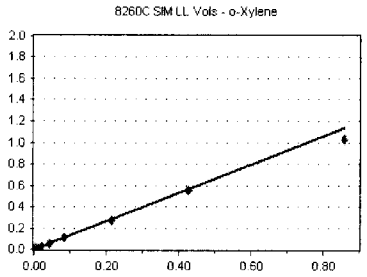
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

o-Xylene

Curve Fit: **AVERAGE RF**

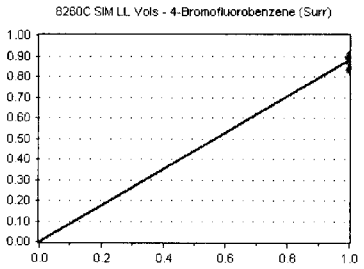


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	189	1.757	11.13
9G12037-CAL2	20	314	1.446	11.13
9G12037-CAL3	50	764	1.246	11.13
9G12037-CAL4	100	1323	1.210	11.13
9G12037-CAL5	200	2788	1.229	11.13
9G12037-CAL6	500	6686	1.250	11.13
9G12037-CAL7	1000	17546	1.278	11.13
9G12037-CAL8	2000	27167	1.194	11.13

AVE RF **1.326** RF RSD **14.40** AVE RT **11.13**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

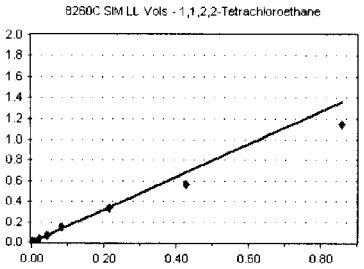


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	8813	0.894	11.73
9G12037-CAL2	2330	9046	0.899	11.73
9G12037-CAL3	2330	9861	0.891	11.73
9G12037-CAL4	2330	8907	0.901	11.73
9G12037-CAL5	2330	9218	0.885	11.73
9G12037-CAL6	2330	9000	0.873	11.73
9G12037-CAL7	2330	12009	0.830	11.73
9G12037-CAL8	2330	9673	0.868	11.73

AVE RF **0.880** RF RSD **2.65** AVE RT **11.73**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

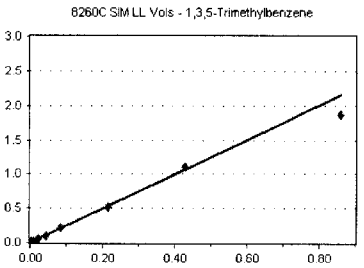


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	77	1.821	11.93
9G12037-CAL2	20	146	1.691	11.93
9G12037-CAL3	50	366	1.541	11.93
9G12037-CAL4	100	692	1.631	11.93
9G12037-CAL5	200	1611	1.802	11.93
9G12037-CAL6	500	3481	1.574	11.93
9G12037-CAL7	1000	8074	1.301	11.93
9G12037-CAL8	2000	12811	1.339	11.93

AVE RF **1.587** RF RSD **12.12** AVE RT **11.93**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	116	2.743	12.06
9G12037-CAL2	20	232	2.687	12.06
9G12037-CAL3	50	617	2.597	12.06
9G12037-CAL4	100	1030	2.428	12.06
9G12037-CAL5	200	2207	2.468	12.06
9G12037-CAL6	500	5286	2.390	12.06
9G12037-CAL7	1000	15889	2.560	12.05
9G12037-CAL8	2000	20762	2.171	12.05

AVE RF **2.505** RF RSD **7.29** AVE RT **12.06**

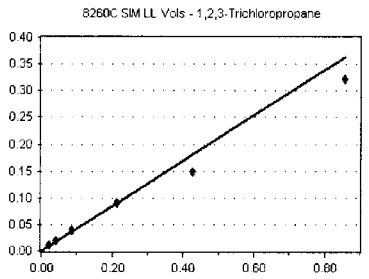
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**

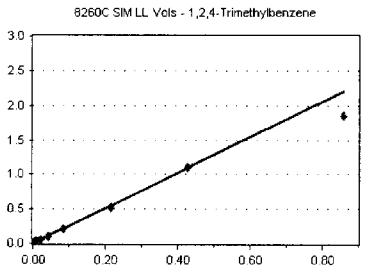


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
~~9G12037-CAL2~~	~~20~~	~~48~~	~~0.556~~	~~12.06~~
9G12037-CAL3	50	117	0.492	12.06
9G12037-CAL4	100	185	0.436	12.06
9G12037-CAL5	200	414	0.463	12.06
9G12037-CAL6	500	946	0.428	12.06
9G12037-CAL7	1000	2171	0.350	12.05
9G12037-CAL8	2000	3600	0.376	12.06

AVE RF **0.424** RF RSD **12.54** AVE RT **12.06**

1,2,4-Trimethylbenzene

Curve Fit: **AVERAGE RF**

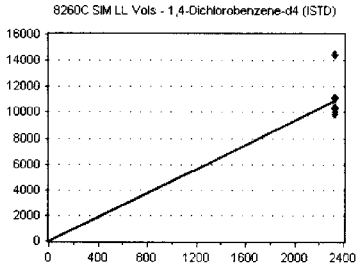


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	130	3.074	12.40
9G12037-CAL2	20	250	2.896	12.40
9G12037-CAL3	50	618	2.601	12.40
9G12037-CAL4	100	1031	2.430	12.41
9G12037-CAL5	200	2212	2.474	12.40
9G12037-CAL6	500	5332	2.411	12.40
9G12037-CAL7	1000	15898	2.562	12.41
9G12037-CAL8	2000	20573	2.151	12.41

AVE RF **2.575** RF RSD **11.28** AVE RT **12.40**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**

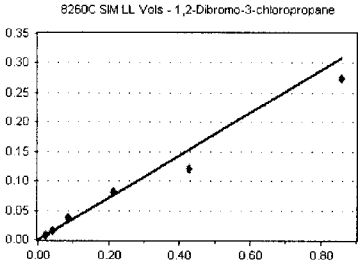


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	9854	4.229	12.75
9G12037-CAL2	2330	10057	4.316	12.75
9G12037-CAL3	2330	11071	4.752	12.75
9G12037-CAL4	2330	9886	4.243	12.75
9G12037-CAL5	2330	10417	4.471	12.75
9G12037-CAL6	2330	10307	4.424	12.75
9G12037-CAL7	2330	14461	6.206	12.74
9G12037-CAL8	2330	11143	4.782	12.75

AVE RF **4.678** RF RSD **13.95** AVE RT **12.75**

1,2-Dibromo-3-chloropropane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
~~9G12037-CAL2~~	~~20~~	~~0~~	~~0.000~~	~~0.00~~
9G12037-CAL3	50	91	0.383	13.79
9G12037-CAL4	100	151	0.356	13.79
9G12037-CAL5	200	388	0.434	13.79
9G12037-CAL6	500	841	0.380	13.79
9G12037-CAL7	1000	1764	0.284	13.79
9G12037-CAL8	2000	3062	0.320	13.79

AVE RF **0.360** RF RSD **14.59** AVE RT **13.79**

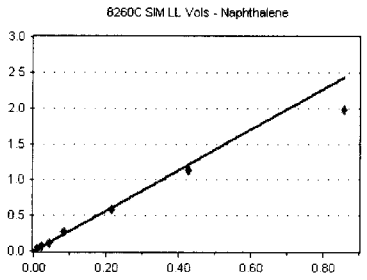
Element Calibration Review Sheet

Calibration ID: **A9G1805** Instrument: **VOA-GCMS8** Calibration Date: **07/18/2019**

Analysis: **8260C SIM LL Vols** Instrument Cal ID: **VH190716SIMw.M**

Naphthalene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~225~~	~~5.320~~	~~14.67~~
9G12037-CAL2	20	301	3.487	14.67
9G12037-CAL3	50	684	2.879	14.67
9G12037-CAL4	100	1088	2.564	14.68
9G12037-CAL5	200	2842	3.178	14.67
9G12037-CAL6	500	6049	2.735	14.67
9G12037-CAL7	1000	16455	2.651	14.68
9G12037-CAL8	2000	22085	2.309	14.68

AVE RF **2.829** RF RSD **13.98** AVE RT **14.67**

Injection Log

Directory: y:\data\2019-07\9G12037

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	7h19071217.d	1.	BLK	1X 5mL DI	12 Jul 2019 19:06
2	99	7h19071218.d	1.	BLK	1X 5mL DI	12 Jul 2019 19:33
3	99	7h19071219.d	1.	BLK	1X 5mL DI	12 Jul 2019 20:00
4	99	7h19071220.d	1.	BLK	1X 5mL DI	12 Jul 2019 20:27
5	99	7h19071221.d	1.	9G12037-IBL1	1X 5mL DI	12 Jul 2019 20:54
6	1	7h19071222.d	1.	9G12037-IBL2	1X 5mL DI	12 Jul 2019 21:21
7	2	7h19071223.d	1.	9G12037-TUN1	1X 5mL DI	12 Jul 2019 21:48
8	3	7h19071224.d	1.	9G12037-ICB1	1X 5mL DI	12 Jul 2019 22:14
9	4	7h19071225.d	1.	9G12037-CAL1	1X 5mL 10PPT VOC	12 Jul 2019 22:41
10	5	7h19071226.d	1.	9G12037-CAL2	1X 5mL 20PPT VOC	12 Jul 2019 23:08
11	6	7h19071227.d	1.	9G12037-CAL3	1X 5mL 50PPT VOC	12 Jul 2019 23:35
12	7	7h19071228.d	1.	9G12037-CAL4	1X 5mL 100PPT VOC	13 Jul 2019 00:02
13	8	7h19071229.d	1.	9G12037-CAL5	1X 5mL 200PPT VOC	13 Jul 2019 00:29
14	9	7h19071230.d	1.	9G12037-CAL6	1X 5mL 500PPT VOC	13 Jul 2019 00:55
15	10	7h19071231.d	1.	9G12037-CAL7	1X 5mL 1000PPT VOC	13 Jul 2019 01:22
16	11	7h19071232.d	1.	9G12037-IBL4	1X 5mL DI	13 Jul 2019 01:49
17	12	7h19071233.d	1.	9G12037-CAL8	1X 5mL 2000PPT VOC	13 Jul 2019 02:16
18	13	7h19071234.d	1.	9G12037-IBL5	1X 5mL DI	13 Jul 2019 02:43
19	14	7h19071235.d	1.	9G12037-IBL6	1X 5mL DI	13 Jul 2019 03:10
20	15	7h19071236.d	1.	9G12037-ICV1	1X 5mL 200PPT	13 Jul 2019 03:37
21	16	7h19071237.d	1.	~~9G12037-ICV1~~ BLK	1X 5mL 200PPT VOC	13 Jul 2019 04:03
22		7h19071238.d	1.	No MS or GC data present		

7/16/19

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071221.D
Acq On : 12 Jul 2019 08:54 pm
Operator : MM
Sample : 9G12037-IBL1
Misc : 1X 5mL DI
ALS Vial : 99 Sample Multiplier: 1

Quant Time: Jul 16 11:19:19 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

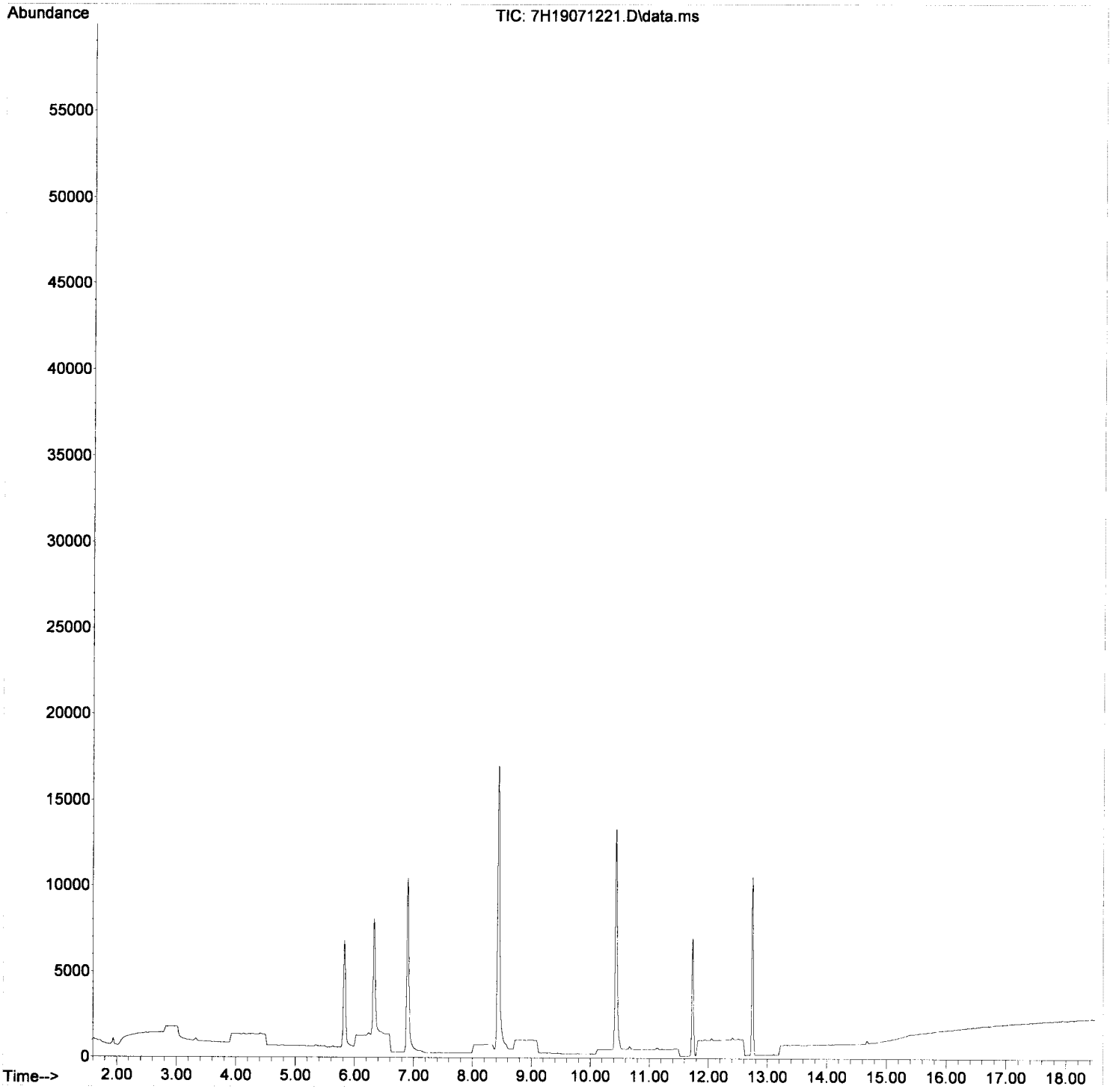
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.327	168	11897	2330.00	ng/L		0.00
17) Chlorobenzene-d5 (I)	10.434	117	19468	2330.00	ng/L		0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	6922	2330.00	ng/L		0.00
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.825	111	8298	2934.19	ng/L		0.00
14) 1,4-Difluorobenzene (S)	6.900	114	23224	2619.77	ng/L		0.00
19) Toluene-d8 (S)	8.438	98	31775	2402.28	ng/L		0.00
29) 4-Bromofluorobenzene (S)	11.729	174	6706	2564.33	ng/L		0.00
Target Compounds							Qvalue
2) Chloromethane	1.936	50	483	8.46	ng/L		98
3) Vinyl Chloride	2.049	62	35	8.78	ng/L		64
4) 1,1-Dichloroethene	3.312	61	51	10.64	ng/L		88
5) Carbon Disulfide	3.327	76	286	33.85	ng/L		75
6) t-1,2-Dichloroethene	4.130	61	58	13.54	ng/L		82
7) Methyl-tert-butyl-ether	4.286	73	144	16.41	ng/L	#	55
8) 1,1-Dichloroethane	4.781	63	73	13.29	ng/L		89
9) c-1,2-Dichloroethene	5.346	61	56	12.69	ng/L		98
10) Chloroform	5.637	83	87	15.78	ng/L		94
12) Benzene	6.241	78	396	31.03	ng/L		88
13) 1,2-Dichloroethane (EDC)	6.452	62	69	16.14	ng/L		91
15) Trichloroethene (TCE)	6.862	130	39	13.44	ng/L		86
16) 1,2-Dichloropropane	7.431	63	41	11.92	ng/L		94
18) c-1,3-Dichloropropene	8.218	75	90	16.34	ng/L		97
20) Toluene	8.491	91	237	16.82	ng/L		97
21) Tetrachloroethene (PCE)	8.954	166	54	18.89	ng/L		97
22) t-1,3-Dichloropropene	9.003	75	65	13.40	ng/L	#	57
23) 1,1,2-Trichloroethane	9.218	97	44	13.50	ug/L		83
24) 1,2-Dibromoethane (EDB)	9.779	107	41	11.59	ng/L		90
25) Ethylbenzene	10.493	91	159	11.56	ng/L		99
26) m,p-Xylenes (2)	10.665	91	248	24.95	ng/L		88
27) o-Xylene	11.133	91	132	11.91	ng/L		92
30) 1,1,2,2-Tetrachloroeth...	11.934	83	83	17.60	ug/L		84
31) 1,3.5-Trimethylbenzene	12.053	105	108	14.51	ng/L		78
32) 1,2,3-Trichloropropane	0.000		0	N.D.			
33) 1,2,4-Trimethylbenzene	12.404	105	157	20.53	ng/L		97
34) 1,2-Dibromo-3-chloropr...	13.780	157	44	41.19	ng/L		91
35) Naphthalene	14.674	128	276	32.84	ng/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071221.D
Acq On : 12 Jul 2019 08:54 pm
Operator : MM
Sample : 9G12037-IBL1
Misc : 1X 5mL DI
ALS Vial : 99 Sample Multiplier: 1

Quant Time: Jul 16 11:19:19 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071222.D
Acq On : 12 Jul 2019 09:21 pm
Operator : MM
Sample : 9G12037-IBL2
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 16 11:19:31 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

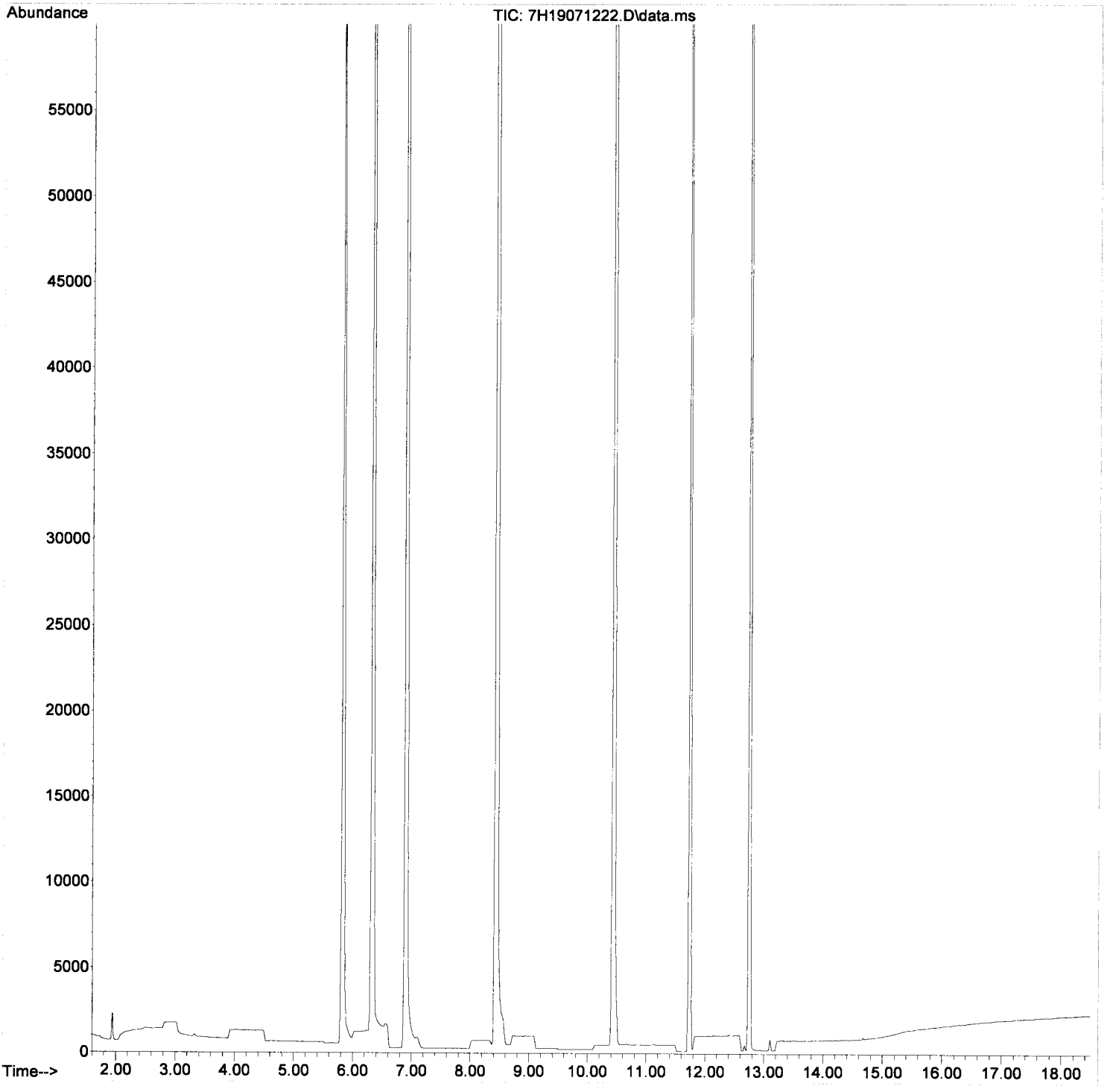
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	153379	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	224568	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	89507	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.825	111	83195	2281.83	ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.894	114	258591	2262.62	ng/L	0.00
19) Toluene-d8 (S)	8.432	98	340117	2229.15	ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.729	174	80481	2380.01	ng/L	0.00
Target Compounds						Qvalue
2) Chloromethane	1.937	50	1970	Below Cal		98
3) Vinyl Chloride	0.000		0	N.D.		
4) 1,1-Dichloroethene	0.000		0	N.D.		
5) Carbon Disulfide	3.327	76	253	2.32	ng/L	47
6) t-1,2-Dichloroethene	0.000		0	N.D.		
7) Methyl-tert-butyl-ether	4.282	73	32	0.28	ng/L	84
8) 1,1-Dichloroethane	0.000		0	N.D.		
9) c-1,2-Dichloroethene	0.000		0	N.D.		
10) Chloroform	5.637	83	36	0.51	ng/L	82
12) Benzene	6.235	78	213	1.29	ng/L	95
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.		
15) Trichloroethene (TCE)	0.000		0	N.D.		
16) 1,2-Dichloropropane	0.000		0	N.D.		
18) c-1,3-Dichloropropene	0.000		0	N.D.		
20) Toluene	8.492	91	103	0.63	ng/L	94
21) Tetrachloroethene (PCE)	8.955	166	38	1.15	ng/L	76
22) t-1,3-Dichloropropene	0.000		0	N.D.		
23) 1,1,2-Trichloroethane	0.000		0	N.D.		
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
25) Ethylbenzene	0.000		0	N.D.		
26) m,p-Xylenes (2)	10.665	91	67	0.58	ng/L	92
27) o-Xylene	11.133	91	50	0.39	ng/L	99
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.		
31) 1,3.5-Trimethylbenzene	12.058	105	31	0.32	ng/L	83
32) 1,2,3-Trichloropropane	0.000		0	N.D.		
33) 1,2,4-Trimethylbenzene	12.405	105	56	0.57	ng/L	92
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.		
35) Naphthalene	14.675	128	169	1.56	ng/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071222.D
Acq On : 12 Jul 2019 09:21 pm
Operator : MM
Sample : 9G12037-IBL2
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1

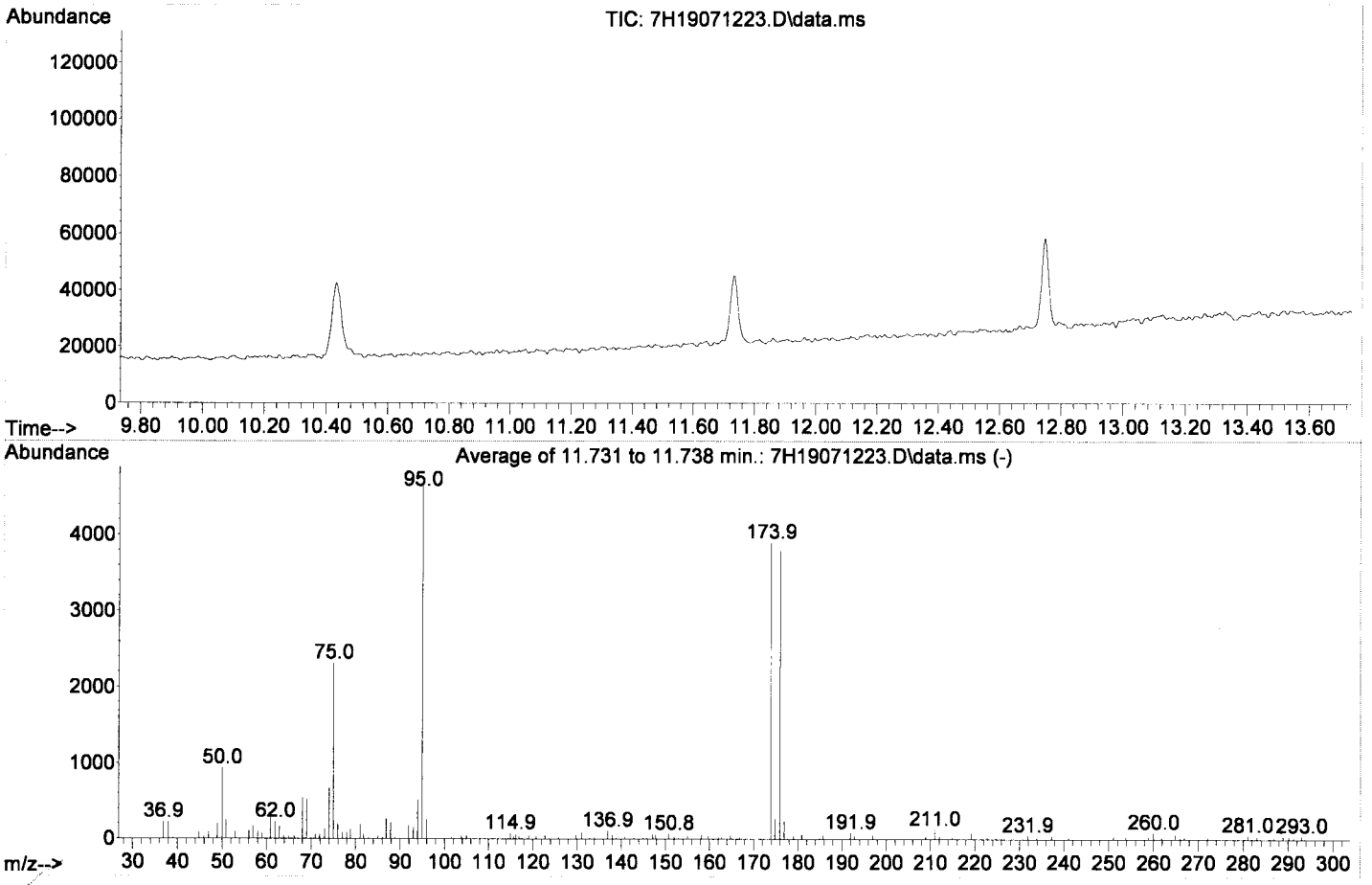
Quant Time: Jul 16 11:19:31 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071223.D
Acq On : 12 Jul 2019 09:48 pm
Operator : MM
Sample : 9G12037-TUN1
Misc : 1X 5mL DI
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\GCMS\1\methods\VH161228W.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Wed Dec 21 11:05:59 2016



AutoFind: Scans 3154, 3155, 3156; Background Corrected with Scan 3136

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	20.1	935	PASS
75	95	30	60	49.6	2310	PASS
95	95	100	100	100.0	4657	PASS
96	95	5	9	5.4	253	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	83.7	3899	PASS
175	174	5	9	6.7	262	PASS
176	174	95	101	97.2	3790	PASS
177	176	5	9	6.5	246	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071223.D
Acq On : 12 Jul 2019 09:48 pm
Operator : MM
Sample : 9G12037-TUN1
Misc : 1X 5mL DI
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 16 10:57:37 2019
Quant Method : C:\GCMS\1\methods\VH161228W.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Wed Dec 21 11:05:59 2016
Response via : Initial Calibration
DataAcq Meth:VH1907RUN.M

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.326	168	11403	50.00	ug/L		-0.02
39) Chlorobenzene-d5 (I)	10.432	117	18697	50.00	ug/L		-0.02
60) 1,4-Dichlorobenzene-d4...	12.748	152	8099	50.00	ug/L		-0.02
System Monitoring Compounds							
28) Dibromofluoromethane (S)	5.825	111	6895	45.76	ug/L		-0.01
34) 1,4-Difluorobenzene (S)	6.902	114	20645	54.20	ug/L		-0.02
42) Toluene-d8 (S)	8.436	98	26364	56.66	ug/L		-0.02
61) 4-Bromofluorobenzene (S)	11.735	174	6921	62.08	ug/L		-0.02
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.683	85	108	0.52	ug/L		59
3) Chloromethane	1.941	50	380	2.21	ug/L		88
4) Vinyl Chloride	2.044	62	19	0.15	ug/L	#	19
5) Bromomethane	2.420	96	176	1.82	ug/L		75
6) Chloroethane	2.552	64	31	Below Cal		#	64
7) Trichlorofluoromethane	2.709	101	92	0.32	ug/L		75
8) 1,1-Dichloroethene	3.291	61	49	0.30	ug/L	#	70
9) Carbon Disulfide	3.323	76	173	0.61	ug/L		44
10) Freon 113	3.330	101	47	0.35	ug/L	#	16
11) Iodomethane	3.388	142	10	2.38	ug/L	#	47
12) Acrolein	3.709	56	91	4.91	ug/L		72
13) Methylene Chloride	3.960	84	7426	56.16	ug/L		97
14) Acetone	4.037	43	1199	25.57	ug/L		85
16) n-Hexane	4.182	86	20	3.00	ug/L	#	1
17) Methyl-tert-butyl-ether	4.272	73	91	0.39	ug/L		57
18) 1,1-Dichloroethane	4.777	63	55	0.27	ug/L	#	1
19) Acrylonitrile	4.854	53	31	0.69	ug/L	#	3
20) Vinyl Acetate	5.060	43	175	1.50	ug/L		74
21) c-1,2-Dichloroethene	5.346	61	38	0.29	ug/L	#	27
22) 2,2-Dichloropropane	5.471	77	20	0.13	ug/L	#	7
25) Carbon Tetrachloride	5.764	117	21	0.10	ug/L	#	61
26) Tetrahydrofuran	5.831	42	75	2.16	ug/L		91
27) 1,1,1-Trichloroethane	5.854	97	78	0.34	ug/L	#	39
29) 1,1-Dichloropropene	5.976	75	35	0.30	ug/L	#	1
30) 2-Butanone (MEK)	5.979	43	38	0.59	ug/L		90
31) Benzene	6.230	78	166	0.42	ug/L	#	17
33) iso-Butyl Alcohol	6.490	43	106	17.35	ug/L	#	63
35) Trichloroethene (TCE)	6.773	130	14	0.11	ug/L	#	14
36) Dibromomethane	7.317	93	39	0.41	ug/L	#	38
37) 1,2-Dichloropropane	7.439	63	35	0.34	ug/L	#	21
38) Bromodichloromethane	7.494	83	37	0.20	ug/L	#	1
41) c-1,3-Dichloropropene	8.214	75	32	0.24	ug/L	#	1
43) Toluene	8.487	91	110	0.20	ug/L	#	15
45) 4-Methyl-2-Pentanone (...	8.992	43	263	2.47	ug/L	#	48
46) t-1,3-Dichloropropene	8.986	75	82	0.87	ug/L	#	60
47) 1,1,2-Trichloroethane	9.204	97	168	1.24	ug/L	#	37
48) Dibromochloromethane	9.449	129	52	0.33	ug/L	#	8

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071223.D
Acq On : 12 Jul 2019 09:48 pm
Operator : MM
Sample : 9G12037-TUN1
Misc : 1X 5mL DI
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 16 10:57:37 2019
Quant Method : C:\GCMS\1\methods\VH161228W.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Wed Dec 21 11:05:59 2016
Response via : Initial Calibration
DataAcq Meth:VH1907RUN.M

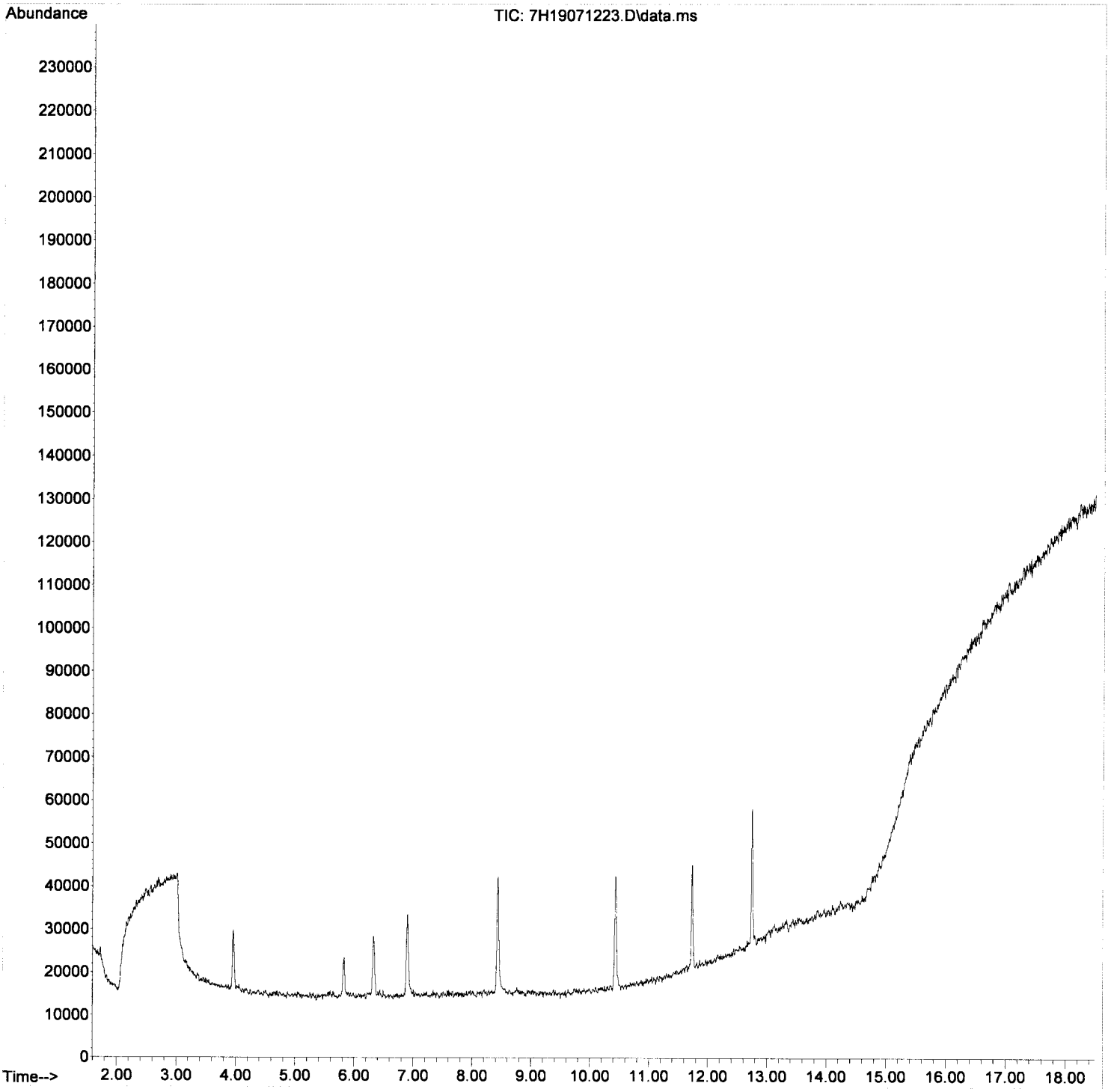
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 1,3-Dichloropropane	9.609	76	80	0.41 ug/L #	1
50) 1,2-Dibromoethane (EDB)	9.783	107	31	0.24 ug/L #	60
51) 2-Hexanone	10.117	43	157	2.24 ug/L	89
53) Ethylbenzene	10.487	91	91	0.23 ug/L #	32
54) 1,1,1,2-Tetrachloroethane	10.545	131	20	0.13 ug/L #	37
55) m,p-Xylenes (2)	10.487	91	91	0.47 ug/L #	21
56) o-Xylene	10.654	91	81	0.20 ug/L #	22
57) Styrene	11.188	104	81	0.58 ug/L #	1
59) Isopropylbenzene	11.468	105	83	0.35 ug/L	53
63) n-Propylbenzene	11.886	91	147	0.37 ug/L	69
64) 1,1,2,2-Tetrachloroethane	11.934	83	31	0.17 ug/L #	49
65) 2-Chlorotoluene	12.027	126	77	1.04 ug/L #	1
66) 1,3,5-Trimethylbenzene	12.063	105	71	0.35 ug/L #	43
67) 1,2,3-Trichloropropane	12.050	110	57	1.01 ug/L #	27
69) 4-Chlorotoluene	12.156	91	114	0.51 ug/L	59
70) tert-Butylbenzene	12.339	91	70	0.56 ug/L #	1
71) 1,2,4-Trimethylbenzene	12.413	105	113	0.52 ug/L #	16
72) sec-Butylbenzene	12.516	105	115	0.44 ug/L	58
73) 4-Isopropyltoluene	12.629	119	87	0.47 ug/L	51
74) 1,3-Dichlorobenzene	12.683	146	44	0.21 ug/L #	25
75) 1,4-Dichlorobenzene	12.757	146	62	0.23 ug/L #	39
76) n-Butylbenzene	12.979	91	67	0.35 ug/L #	32
78) 1,2-Dibromo-3-Chloropr...	13.780	157	62	2.42 ug/L #	18
79) Hexachlorobutadiene	14.346	223	39	0.92 ug/L #	31
80) 1,2,4-Trichlorobenzene	14.837	180	26	0.25 ug/L #	11
81) Naphthalene	14.667	128	200	1.25 ug/L	46
82) 1,2,3-Trichlorobenzene	14.397	180	45	0.44 ug/L #	15

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071223.D
Acq On : 12 Jul 2019 09:48 pm
Operator : MM
Sample : 9G12037-TUN1
Misc : 1X 5mL DI
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 16 10:57:37 2019
Quant Method : C:\GCMS\1\methods\VH161228W.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Wed Dec 21 11:05:59 2016
Response via : Initial Calibration
DataAcq Meth:VH1907RUN.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071224.D
Acq On : 12 Jul 2019 10:14 pm
Operator : MM
Sample : 9G12037-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 16 11:19:35 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

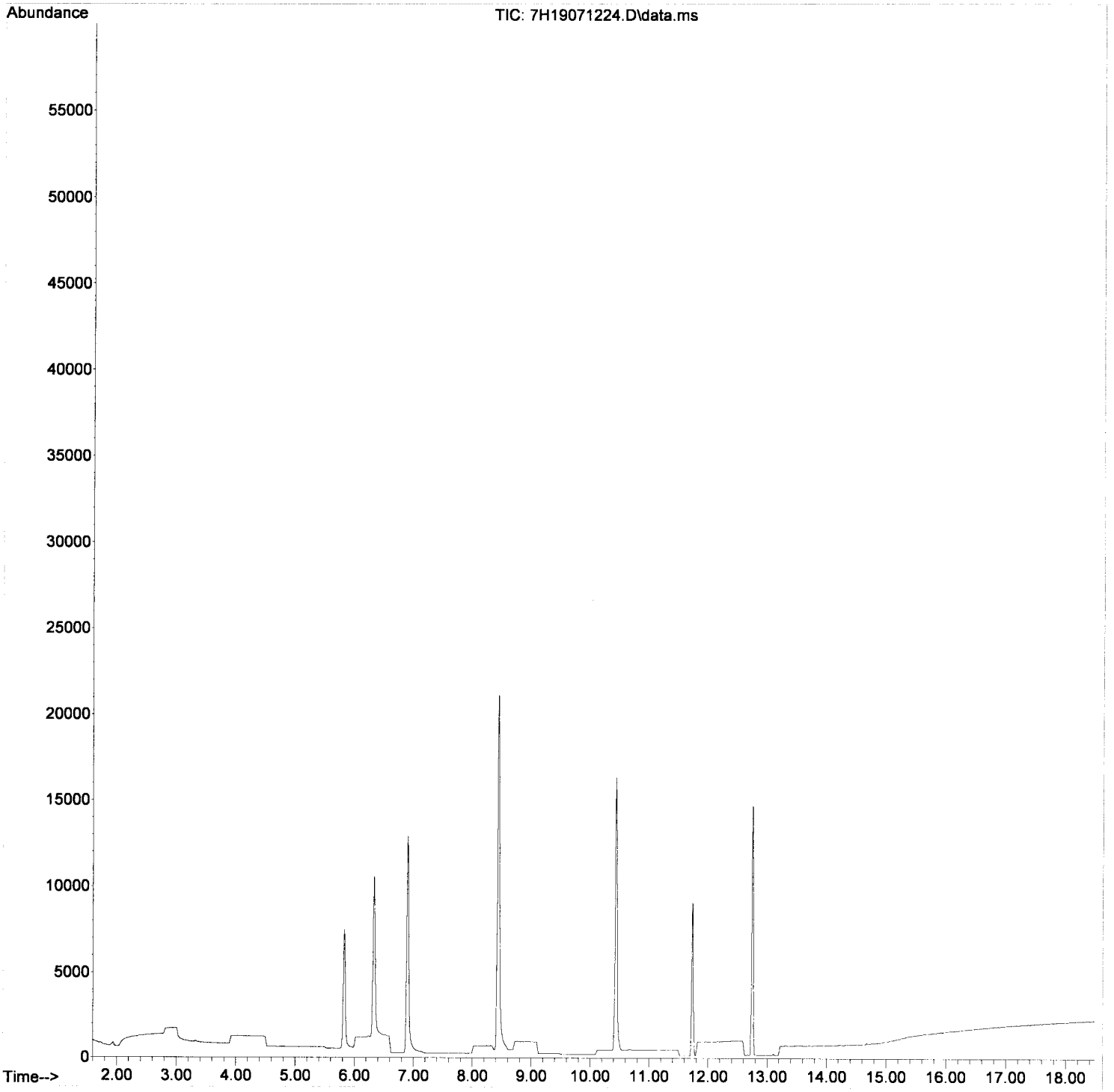
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.327	168	16371	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	24143	2330.00 ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9784	2330.00 ng/L	0.00
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.825	111	8975	2306.28 ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.900	114	28520	2337.97 ng/L	0.00
19) Toluene-d8 (S)	8.438	98	38746	2362.08 ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.734	174	8606	2328.24 ng/L	0.00
Target Compounds					Qvalue
2) Chloromethane	1.942	50	294	Below Cal	98
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	0.000		0	N.D.	
5) Carbon Disulfide	3.327	76	171	14.71 ng/L #	42
6) t-1,2-Dichloroethene	0.000		0	N.D.	
7) Methyl-tert-butyl-ether	4.241	73	65	5.38 ng/L	91
8) 1,1-Dichloroethane	0.000		0	N.D.	
9) c-1,2-Dichloroethene	0.000		0	N.D.	
10) Chloroform	5.626	83	40	5.27 ng/L	69
12) Benzene	6.241	78	178	10.14 ng/L	81
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
15) Trichloroethene (TCE)	0.000		0	N.D.	
16) 1,2-Dichloropropane	0.000		0	N.D.	
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.491	91	71	4.06 ng/L	85
21) Tetrachloroethene (PCE)	8.965	166	26	7.33 ng/L	81
22) t-1,3-Dichloropropene	0.000		0	N.D.	
23) 1,1,2-Trichloroethane	0.000		0	N.D.	
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
25) Ethylbenzene	10.498	91	30	1.76 ng/L	72
26) m,p-Xylenes (2)	10.665	91	45	3.65 ng/L	84
27) o-Xylene	0.000		0	N.D.	
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.	
31) 1,3.5-Trimethylbenzene	12.053	105	25	2.38 ng/L #	26
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.410	105	46	4.25 ng/L	95
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.674	128	141	11.87 ng/L	83

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071224.D
Acq On : 12 Jul 2019 10:14 pm
Operator : MM
Sample : 9G12037-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 16 11:19:35 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071225.D
Acq On : 12 Jul 2019 10:41 pm
Operator : MM
Sample : 9G12037-CAL1
Misc : 1X 5mL 10PPT VOC
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 16 11:01:08 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

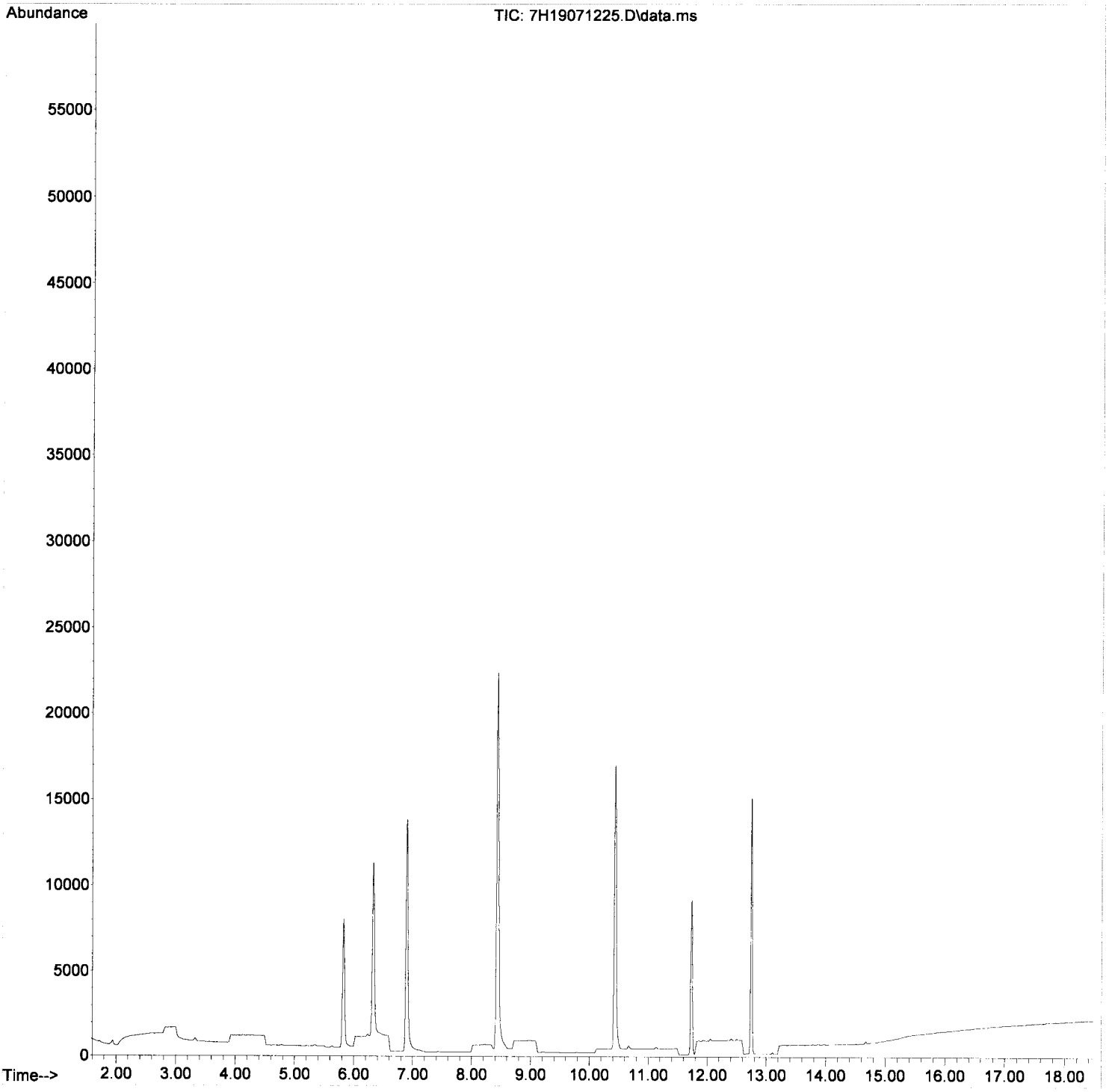
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	17116	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	25058	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9854	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.825	111	9614	2235.91	ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.900	114	29875	2309.27	ng/L	0.00
19) Toluene-d8 (S)	8.438	98	40402	2663.80	ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.729	174	8813	2369.23	ng/L	0.00
Target Compounds						Qvalue
2) Chloromethane	1.942	50	360	Below Cal		96
3) Vinyl Chloride	2.049	62	47	8.44	ng/L	71
4) 1,1-Dichloroethene	3.312	61	91	15.94	ng/L	76
5) Carbon Disulfide	3.332	76	279	23.56	ng/L	75
6) t-1,2-Dichloroethene	4.130	61	70	12.47	ng/L	88
7) Methyl-tert-butyl-ether	4.276	73	142	11.53	ng/L #	55
8) 1,1-Dichloroethane	4.781	63	93	12.05	ng/L	92
9) c-1,2-Dichloroethene	5.346	61	75	11.93	ng/L	90
10) Chloroform	5.631	83	134	16.56	ng/L	100
12) Benzene	6.241	78	414	22.38	ng/L	93
13) 1,2-Dichloroethane (EDC)	6.452	62	72	11.40	ng/L	95
15) Trichloroethene (TCE)	6.862	130	41	9.81	ng/L	99
16) 1,2-Dichloropropane	7.431	63	57	11.94	ng/L	92
18) c-1,3-Dichloropropene	8.218	75	68	9.84	ng/L	98
20) Toluene	8.491	91	228	12.89	ng/L	97
21) Tetrachloroethene (PCE)	8.960	166	65	17.23	ng/L	100
22) t-1,3-Dichloropropene	9.003	75	92	14.75	ng/L	86
23) 1,1,2-Trichloroethane	9.218	97	46	10.79	ug/L	90
24) 1,2-Dibromoethane (EDB)	9.785	107	59	14.49	ng/L	94
25) Ethylbenzene	10.493	91	209	12.86	ng/L	91
26) m,p-Xylenes (2)	10.665	91	278	22.01	ng/L	90
27) o-Xylene	11.133	91	189	14.01	ng/L	98
30) 1,1,2,2-Tetrachloroeth...	11.934	83	77	11.93	ug/L	86
31) 1,3.5-Trimethylbenzene	12.058	105	116	10.97	ng/L	99
32) 1,2,3-Trichloropropane	0.000		0	N.D.		
33) 1,2,4-Trimethylbenzene	12.404	105	130	12.26	ng/L	96
34) 1,2-Dibromo-3-chloropr...	13.785	157	28	21.31	ng/L #	1
35) Naphthalene	14.674	128	225	26.52	ng/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071225.D
Acq On : 12 Jul 2019 10:41 pm
Operator : MM
Sample : 9G12037-CAL1
Misc : 1X 5mL 10PPT VOC
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 16 11:01:08 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071226.D
Acq On : 12 Jul 2019 11:08 pm
Operator : MM
Sample : 9G12037-CAL2
Misc : 1X 5mL 20PPT VOC
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 16 11:01:12 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

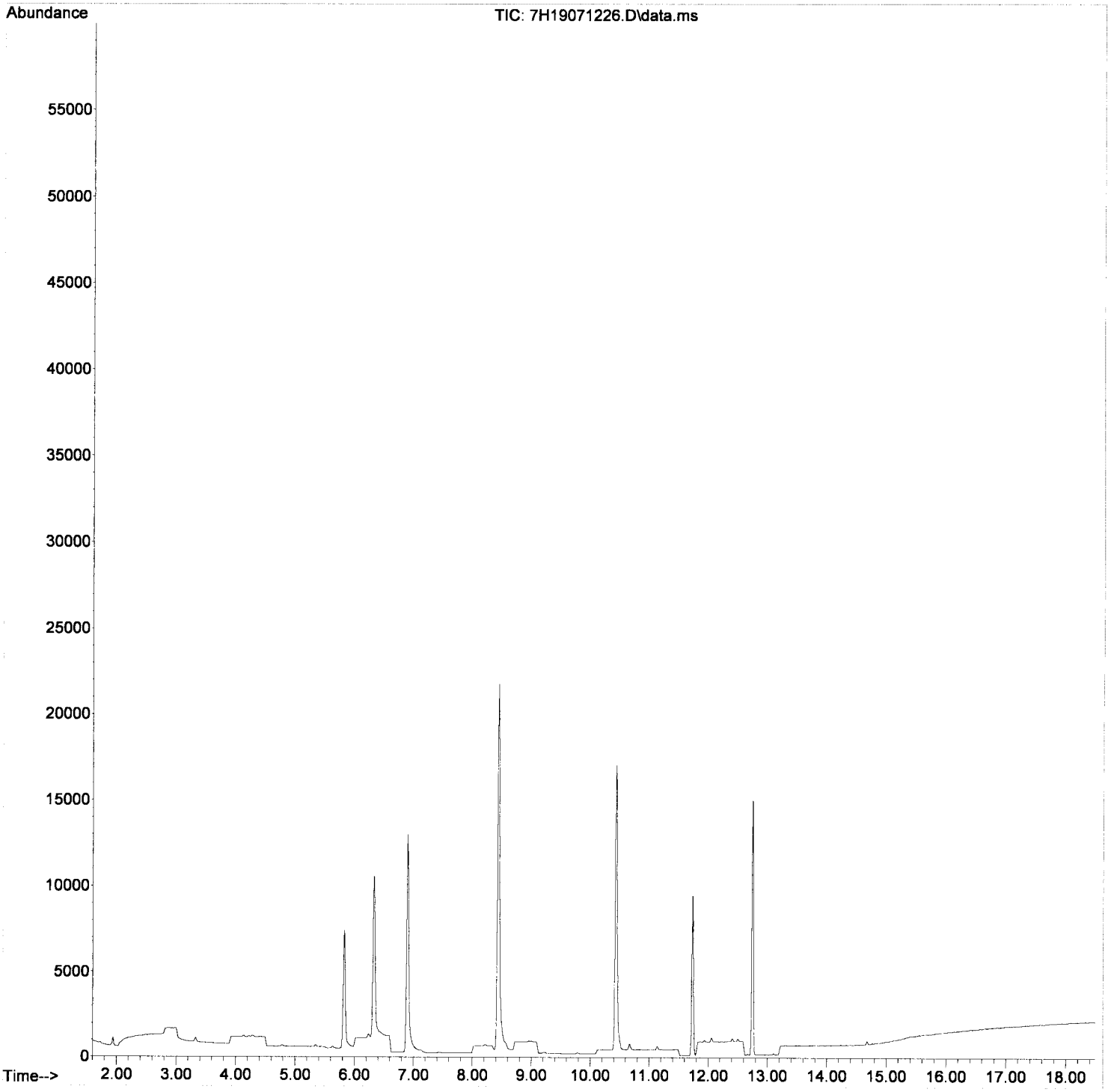
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.327	168	16783	2330.00	ng/L		0.00
17) Chlorobenzene-d5 (I)	10.434	117	25290	2330.00	ng/L		0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	10057	2330.00	ng/L		0.00
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.825	111	9327	2212.20	ng/L		0.00
14) 1,4-Difluorobenzene (S)	6.900	114	29288	2308.82	ng/L		0.00
19) Toluene-d8 (S)	8.438	98	40271	2630.81	ng/L		0.00
29) 4-Bromofluorobenzene (S)	11.729	174	9046	2382.78	ng/L		0.00
Target Compounds							Qvalue
2) Chloromethane	1.942	50	624	Below Cal			96
3) Vinyl Chloride	2.049	62	109	19.95	ng/L		92
4) 1,1-Dichloroethene	3.312	61	139	24.84	ng/L		75
5) Carbon Disulfide	3.332	76	389	33.50	ng/L		80
6) t-1,2-Dichloroethene	4.130	61	123	22.34	ng/L	#	76
7) Methyl-tert-butyl-ether	4.281	73	232	19.21	ng/L		87
8) 1,1-Dichloroethane	4.786	63	157	20.75	ng/L		89
9) c-1,2-Dichloroethene	5.346	61	119	19.30	ng/L		93
10) Chloroform	5.631	83	173	21.80	ng/L		94
12) Benzene	6.241	78	577	51.82	ng/L		88
13) 1,2-Dichloroethane (EDC)	6.452	62	116	18.73	ng/L		92
15) Trichloroethene (TCE)	6.862	130	92	22.44	ng/L		88
16) 1,2-Dichloropropane	7.431	63	100	21.36	ng/L		78
18) c-1,3-Dichloropropene	8.218	75	172	24.66	ng/L		87
20) Toluene	8.491	91	398	22.30	ng/L		94
21) Tetrachloroethene (PCE)	8.960	166	85	22.32	ng/L		85
22) t-1,3-Dichloropropene	9.003	75	117	18.59	ng/L		89
23) 1,1,2-Trichloroethane	9.218	97	92	21.39	ug/L		96
24) 1,2-Dibromoethane (EDB)	9.785	107	87	21.18	ng/L		89
25) Ethylbenzene	10.498	91	376	22.92	ng/L		92
26) m,p-Xylenes (2)	10.665	91	530	41.58	ng/L		89
27) o-Xylene	11.133	91	314	23.06	ng/L		95
30) 1,1,2,2-Tetrachloroeth...	11.934	83	146	22.17	ug/L	#	69
31) 1,3.5-Trimethylbenzene	12.058	105	232	21.90	ng/L		96
32) 1,2,3-Trichloropropane	12.058	110	48	26.80	ng/L	#	73
33) 1,2,4-Trimethylbenzene	12.404	105	250	23.10	ng/L		82
34) 1,2-Dibromo-3-chloropr...	13.786	157	35	26.10	ng/L		89
35) Naphthalene	14.674	128	301	34.77	ng/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071226.D
Acq On : 12 Jul 2019 11:08 pm
Operator : MM
Sample : 9G12037-CAL2
Misc : 1X 5mL 20PPT VOC
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 16 11:01:12 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071227.D
Acq On : 12 Jul 2019 11:35 pm
Operator : MM
Sample : 9G12037-CAL3
Misc : 1X 5mL 50PPT VOC
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 16 11:01:16 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

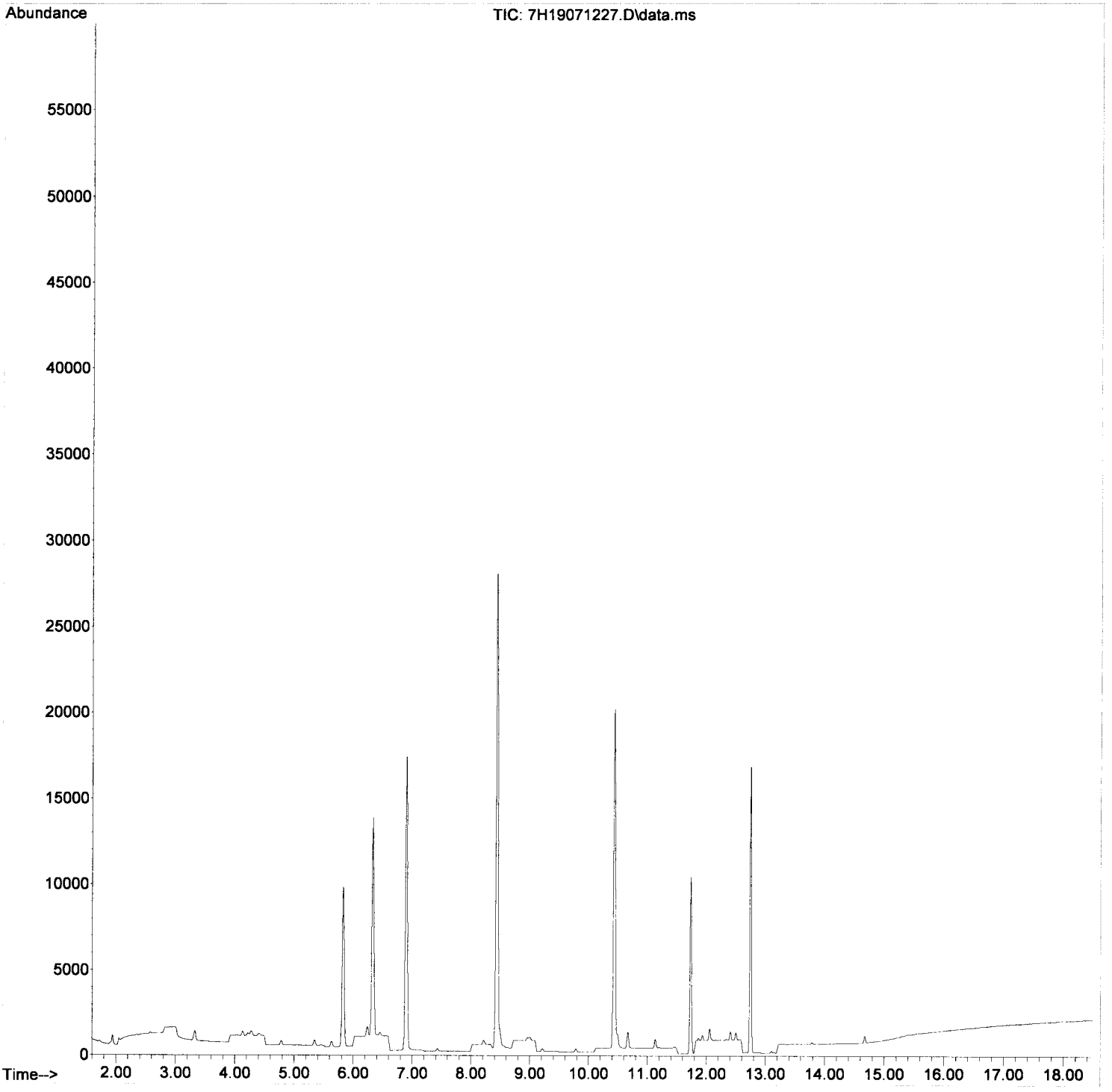
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.327	168	19860	2330.00	ng/L		0.00
17) Chlorobenzene-d5 (I)	10.434	117	28572	2330.00	ng/L		0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	11071	2330.00	ng/L		0.00
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.825	111	11274	2259.70	ng/L		0.00
14) 1,4-Difluorobenzene (S)	6.894	114	34319	2286.26	ng/L		0.00
19) Toluene-d8 (S)	8.432	98	45650	2639.65	ng/L		0.00
29) 4-Bromofluorobenzene (S)	11.729	174	9861	2359.56	ng/L		0.00
Target Compounds							Qvalue
2) Chloromethane	1.942	50	754	Below Cal			98
3) Vinyl Chloride	2.049	62	327	50.58	ng/L		91
4) 1,1-Dichloroethene	3.312	61	402	60.70	ng/L		89
5) Carbon Disulfide	3.327	76	787	57.27	ng/L		97
6) t-1,2-Dichloroethene	4.130	61	362	55.57	ng/L		85
7) Methyl-tert-butyl-ether	4.276	73	773	54.10	ng/L	#	55
8) 1,1-Dichloroethane	4.781	63	453	50.59	ng/L		99
9) c-1,2-Dichloroethene	5.346	61	365	50.02	ng/L		92
10) Chloroform	5.631	83	491	52.28	ng/L		97
12) Benzene	6.235	78	1166	54.33	ng/L		99
13) 1,2-Dichloroethane (EDC)	6.452	62	355	48.44	ng/L		97
15) Trichloroethene (TCE)	6.862	130	243	50.09	ng/L		97
16) 1,2-Dichloropropane	7.431	63	283	51.07	ng/L		92
18) c-1,3-Dichloropropene	8.218	75	430	54.57	ng/L		91
20) Toluene	8.491	91	1061	52.61	ng/L		96
21) Tetrachloroethene (PCE)	8.960	166	232	53.93	ng/L		79
22) t-1,3-Dichloropropene	9.003	75	389	54.70	ng/L		98
23) 1,1,2-Trichloroethane	9.218	97	242	49.79	ug/L		96
24) 1,2-Dibromoethane (EDB)	9.779	107	257	55.37	ng/L		99
25) Ethylbenzene	10.493	91	990	53.42	ng/L		97
26) m,p-Xylenes (2)	10.665	91	1455	101.03	ng/L		88
27) o-Xylene	11.133	91	764	49.65	ng/L		95
30) 1,1,2,2-Tetrachloroeth...	11.934	83	366	50.49	ug/L		98
31) 1,3.5-Trimethylbenzene	12.058	105	617	51.94	ng/L		98
32) 1,2,3-Trichloropropane	12.058	110	117	59.35	ng/L		84
33) 1,2,4-Trimethylbenzene	12.404	105	618	51.88	ng/L		91
34) 1,2-Dibromo-3-chloropr...	13.785	157	91	61.64	ng/L		79
35) Naphthalene	14.674	128	684	71.77	ng/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071227.D
Acq On : 12 Jul 2019 11:35 pm
Operator : MM
Sample : 9G12037-CAL3
Misc : 1X 5mL 50PPT VOC
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 16 11:01:16 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071228.D
Acq On : 13 Jul 2019 12:02 am
Operator : MM
Sample : 9G12037-CAL4
Misc : 1X 5mL 100PPT VOC
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 16 11:01:20 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

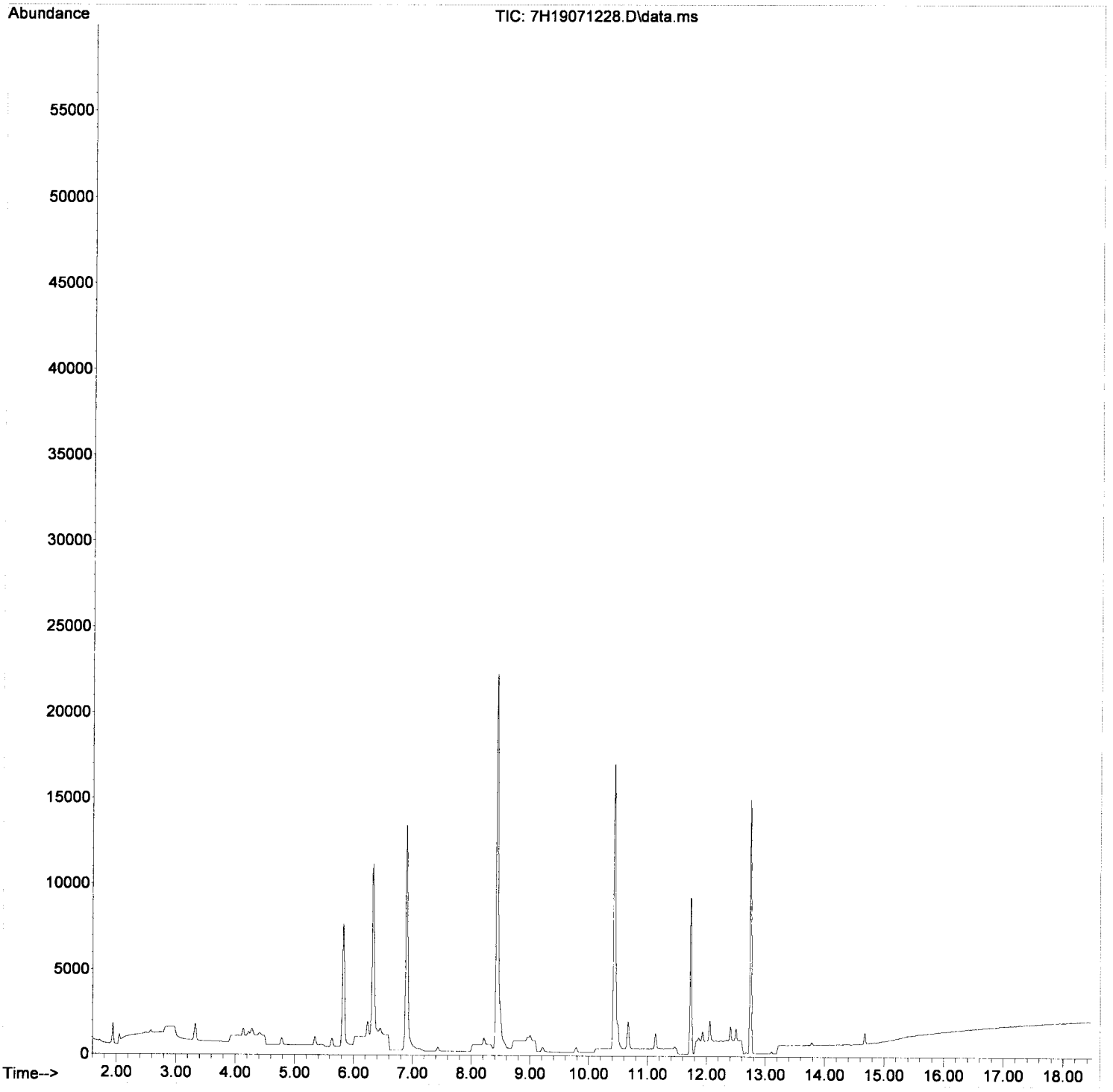
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.328	168	17151	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	25484	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9886	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.825	111	9396	2180.75	ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.900	114	29698	2290.91	ng/L	0.00
19) Toluene-d8 (S)	8.433	98	40494	2625.24	ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.729	174	8907	2386.75	ng/L	0.00
Target Compounds						Qvalue
2) Chloromethane	1.942	50	1558	87.38	ng/L	99
3) Vinyl Chloride	2.049	62	582	104.24	ng/L	99
4) 1,1-Dichloroethene	3.312	61	650	113.65	ng/L	89
5) Carbon Disulfide	3.332	76	1280	107.85	ng/L	97
6) t-1,2-Dichloroethene	4.130	61	607	107.90	ng/L	86
7) Methyl-tert-butyl-ether	4.281	73	1227	99.48	ng/L	77
8) 1,1-Dichloroethane	4.781	63	761	98.42	ng/L	97
9) c-1,2-Dichloroethene	5.346	61	626	99.35	ng/L	93
10) Chloroform	5.632	83	773	95.31	ng/L	99
12) Benzene	6.241	78	1933	104.30	ng/L	98
13) 1,2-Dichloroethane (EDC)	6.452	62	605	95.58	ng/L	98
15) Trichloroethene (TCE)	6.862	130	411	98.09	ng/L	99
16) 1,2-Dichloropropane	7.431	63	478	99.89	ng/L	88
18) c-1,3-Dichloropropene	8.218	75	684	97.32	ng/L	91
20) Toluene	8.492	91	1759	97.79	ng/L	99
21) Tetrachloroethene (PCE)	8.960	166	362	94.35	ng/L	86
22) t-1,3-Dichloropropene	9.003	75	641	101.06	ng/L	99
23) 1,1,2-Trichloroethane	9.218	97	408	94.12	ug/L	98
24) 1,2-Dibromoethane (EDB)	9.785	107	444	107.25	ng/L	97
25) Ethylbenzene	10.493	91	1708	103.33	ng/L	94
26) m,p-Xylenes (2)	10.665	91	2495	194.24	ng/L	89
27) o-Xylene	11.134	91	1323	96.40	ng/L	94
30) 1,1,2,2-Tetrachloroeth...	11.934	83	692	106.90	ug/L	92
31) 1,3.5-Trimethylbenzene	12.059	105	1030	97.11	ng/L	96
32) 1,2,3-Trichloropropane	12.059	110	185	105.10	ng/L	87
33) 1,2,4-Trimethylbenzene	12.405	105	1031	96.92	ng/L	90
34) 1,2-Dibromo-3-chloropr...	13.786	157	151	114.54	ng/L #	67
35) Naphthalene	14.675	128	1088	127.84	ng/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071228.D
Acq On : 13 Jul 2019 12:02 am
Operator : MM
Sample : 9G12037-CAL4
Misc : 1X 5mL 100PPT VOC
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 16 11:01:20 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071229.D
Acq On : 13 Jul 2019 12:29 am
Operator : MM
Sample : 9G12037-CAL5
Misc : 1X 5mL 200PPT VOC
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 16 11:01:24 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

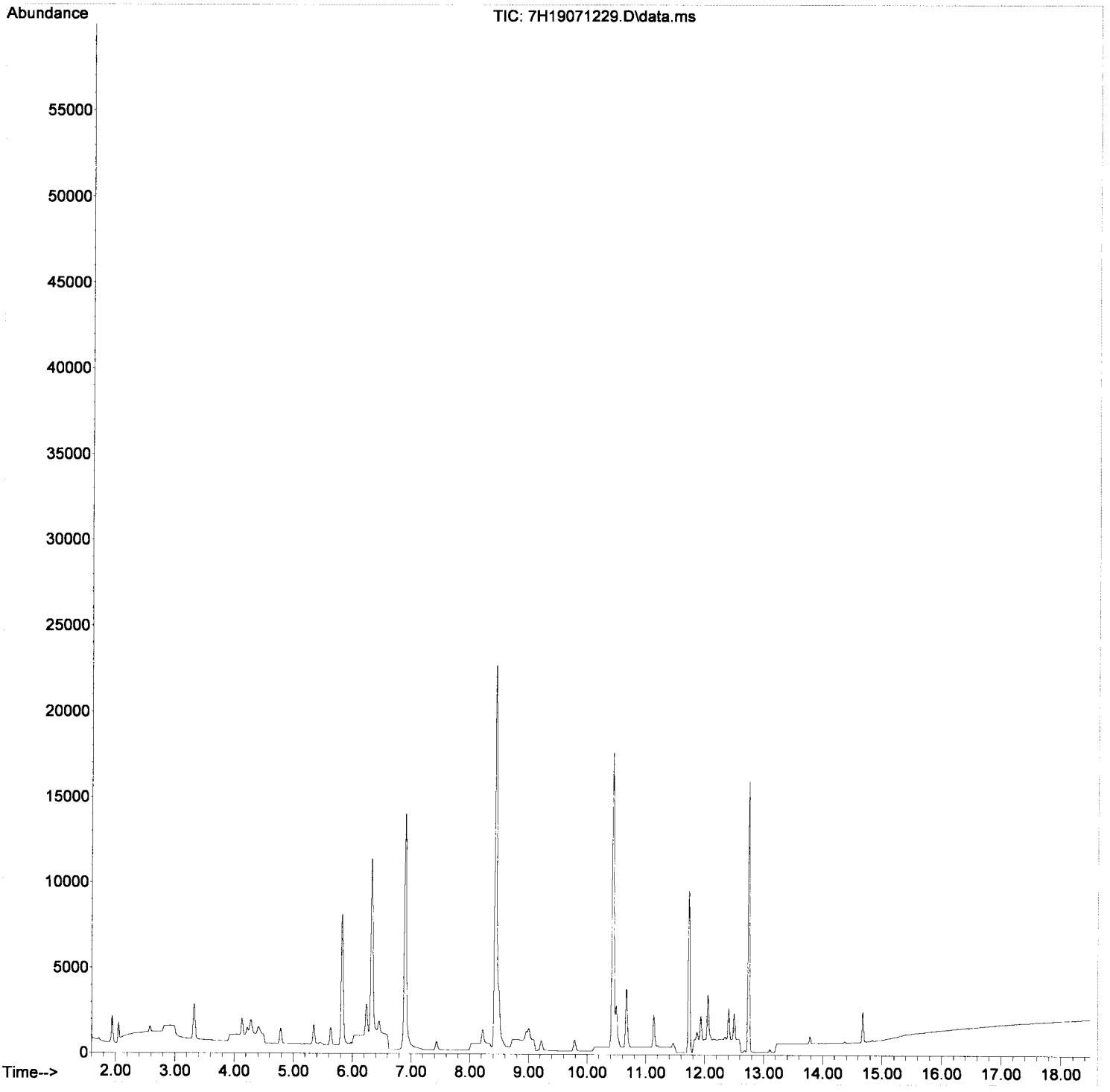
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	17647	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	26428	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	10417	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.825	111	9863	2224.80	ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.900	114	30742	2304.79	ng/L	0.00
19) Toluene-d8 (S)	8.438	98	41301	2581.92	ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.729	174	9218	2344.18	ng/L	0.00
Target Compounds						Qvalue
2) Chloromethane	1.942	50	2132	142.91	ng/L	100
3) Vinyl Chloride	2.049	62	1324	230.47	ng/L	96
4) 1,1-Dichloroethene	3.312	61	1394	236.88	ng/L	88
5) Carbon Disulfide	3.332	76	2619	214.48	ng/L	98
6) t-1,2-Dichloroethene	4.130	61	1300	224.60	ng/L	87
7) Methyl-tert-butyl-ether	4.281	73	2708	213.29	ng/L	90
8) 1,1-Dichloroethane	4.786	63	1647	207.02	ng/L	100
9) c-1,2-Dichloroethene	5.346	61	1335	205.91	ng/L	92
10) Chloroform	5.631	83	1668	199.88	ng/L	99
12) Benzene	6.241	78	3890	204.00	ng/L	96
13) 1,2-Dichloroethane (EDC)	6.452	62	1293	198.54	ng/L	97
15) Trichloroethene (TCE)	6.862	130	883	204.82	ng/L	99
16) 1,2-Dichloropropane	7.431	63	1015	206.15	ng/L	88
18) c-1,3-Dichloropropene	8.218	75	1481	203.19	ng/L	88
20) Toluene	8.491	91	3602	193.10	ng/L	97
21) Tetrachloroethene (PCE)	8.960	166	775	194.78	ng/L	84
22) t-1,3-Dichloropropene	9.003	75	1320	200.67	ng/L	98
23) 1,1,2-Trichloroethane	9.218	97	878	195.31	ug/L	98
24) 1,2-Dibromoethane (EDB)	9.785	107	946	220.34	ng/L	96
25) Ethylbenzene	10.493	91	3559	207.62	ng/L	96
26) m,p-Xylenes (2)	10.665	91	5219	391.80	ng/L	88
27) o-Xylene	11.133	91	2788	195.89	ng/L	95
30) 1,1,2,2-Tetrachloroeth...	11.934	83	1611	236.19	ug/L	97
31) 1,3.5-Trimethylbenzene	12.058	105	2207	197.47	ng/L	97
32) 1,2,3-Trichloropropane	12.058	110	414	223.20	ng/L	89
33) 1,2,4-Trimethylbenzene	12.404	105	2212	197.34	ng/L	91
34) 1,2-Dibromo-3-chloropr...	13.785	157	388	279.32	ng/L #	75
35) Naphthalene	14.674	128	2842	316.92	ng/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071229.D
Acq On : 13 Jul 2019 12:29 am
Operator : MM
Sample : 9G12037-CAL5
Misc : 1X 5mL 200PPT VOC
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 16 11:01:24 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071230.D
Acq On : 13 Jul 2019 12:55 am
Operator : MM
Sample : 9G12037-CAL6
Misc : 1X 5mL 500PPT VOC
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 16 11:01:28 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

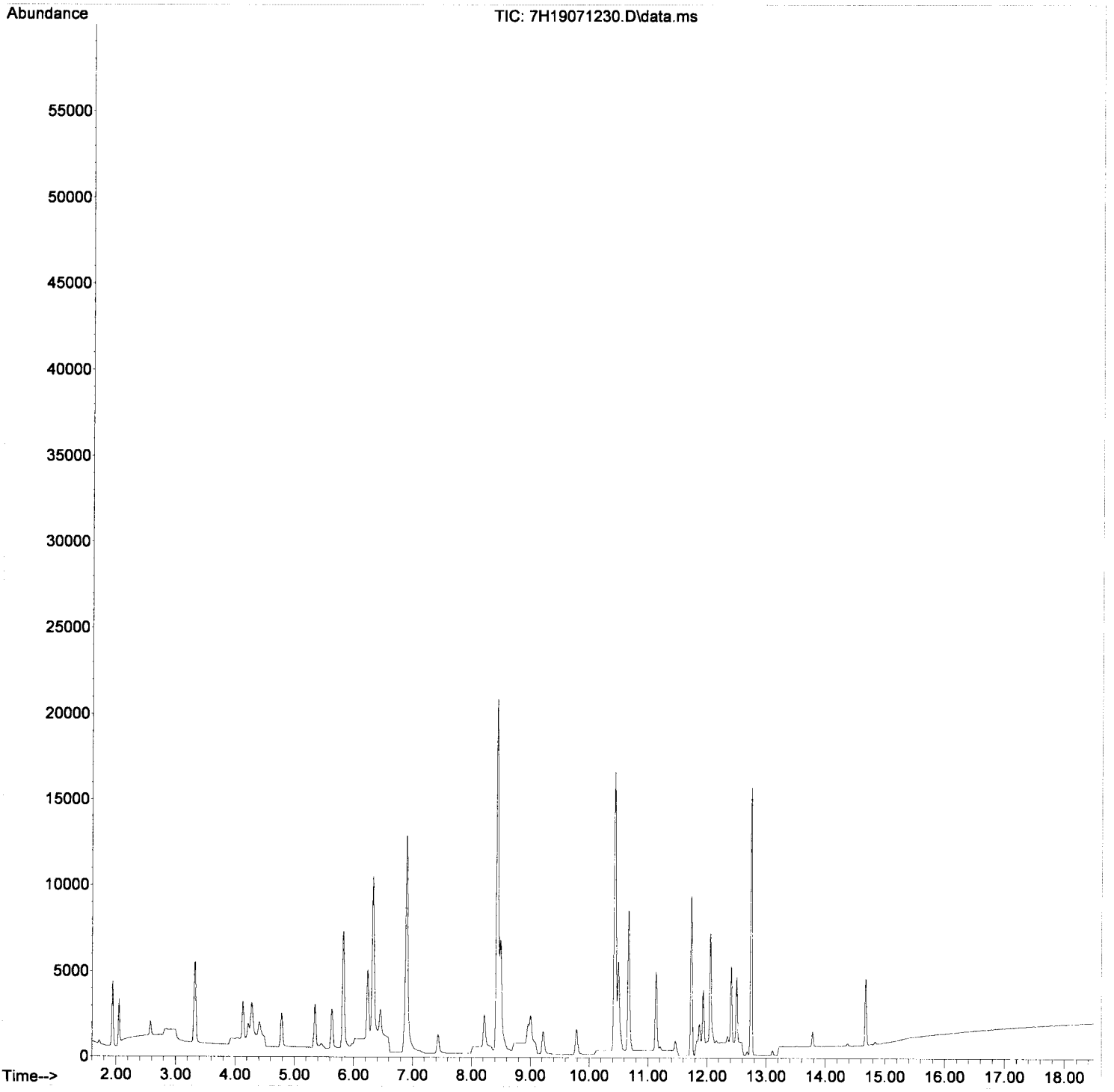
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	16412	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	24926	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	10307	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.825	111	9013	2186.05	ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.900	114	28778	2319.90	ng/L	0.00
19) Toluene-d8 (S)	8.438	98	39473	2616.34	ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.729	174	9000	2313.16	ng/L	0.00
Target Compounds						Qvalue
2) Chloromethane	1.942	50	4906	462.60	ng/L	100
3) Vinyl Chloride	2.049	62	3132	586.21	ng/L	94
4) 1,1-Dichloroethene	3.312	61	3167	578.67	ng/L	87
5) Carbon Disulfide	3.332	76	5982	526.74	ng/L	99
6) t-1,2-Dichloroethene	4.130	61	2946	547.28	ng/L	87
7) Methyl-tert-butyl-ether	4.281	73	6188	524.05	ng/L	73
8) 1,1-Dichloroethane	4.786	63	3712	501.69	ng/L	100
9) c-1,2-Dichloroethene	5.347	61	3028	502.18	ng/L	91
10) Chloroform	5.631	83	3736	481.39	ng/L	99
12) Benzene	6.241	78	8661	488.38	ng/L	97
13) 1,2-Dichloroethane (EDC)	6.452	62	2943	485.90	ng/L	99
15) Trichloroethene (TCE)	6.862	130	2015	502.58	ng/L	98
16) 1,2-Dichloropropane	7.431	63	2376	518.89	ng/L	88
18) c-1,3-Dichloropropene	8.218	75	3435	499.67	ng/L	88
20) Toluene	8.491	91	8426	478.94	ng/L	97
21) Tetrachloroethene (PCE)	8.960	166	1730	461.00	ng/L	86
22) t-1,3-Dichloropropene	9.003	75	3131	504.66	ng/L	99
23) 1,1,2-Trichloroethane	9.218	97	2065	487.03	ug/L	98
24) 1,2-Dibromoethane (EDB)	9.785	107	2222	548.73	ng/L	96
25) Ethylbenzene	10.493	91	8538	528.09	ng/L	96
26) m,p-Xylenes (2)	10.665	91	12586	1001.79	ng/L	88
27) o-Xylene	11.133	91	6686	498.08	ng/L	94
30) 1,1,2,2-Tetrachloroeth...	11.934	83	3481	515.79	ug/L	95
31) 1,3.5-Trimethylbenzene	12.058	105	5286	478.00	ng/L	95
32) 1,2,3-Trichloropropane	12.058	110	946	515.47	ng/L	88
33) 1,2,4-Trimethylbenzene	12.404	105	5332	480.77	ng/L	90
34) 1,2-Dibromo-3-chloropr...	13.785	157	841	611.89	ng/L	77
35) Naphthalene	14.674	128	6049	681.75	ng/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071230.D
Acq On : 13 Jul 2019 12:55 am
Operator : MM
Sample : 9G12037-CAL6
Misc : 1X 5mL 500PPT VOC
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 16 11:01:28 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071231.D
Acq On : 13 Jul 2019 01:22 am
Operator : MM
Sample : 9G12037-CAL7
Misc : 1X 5mL 1000PPT VOC
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 16 11:01:32 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

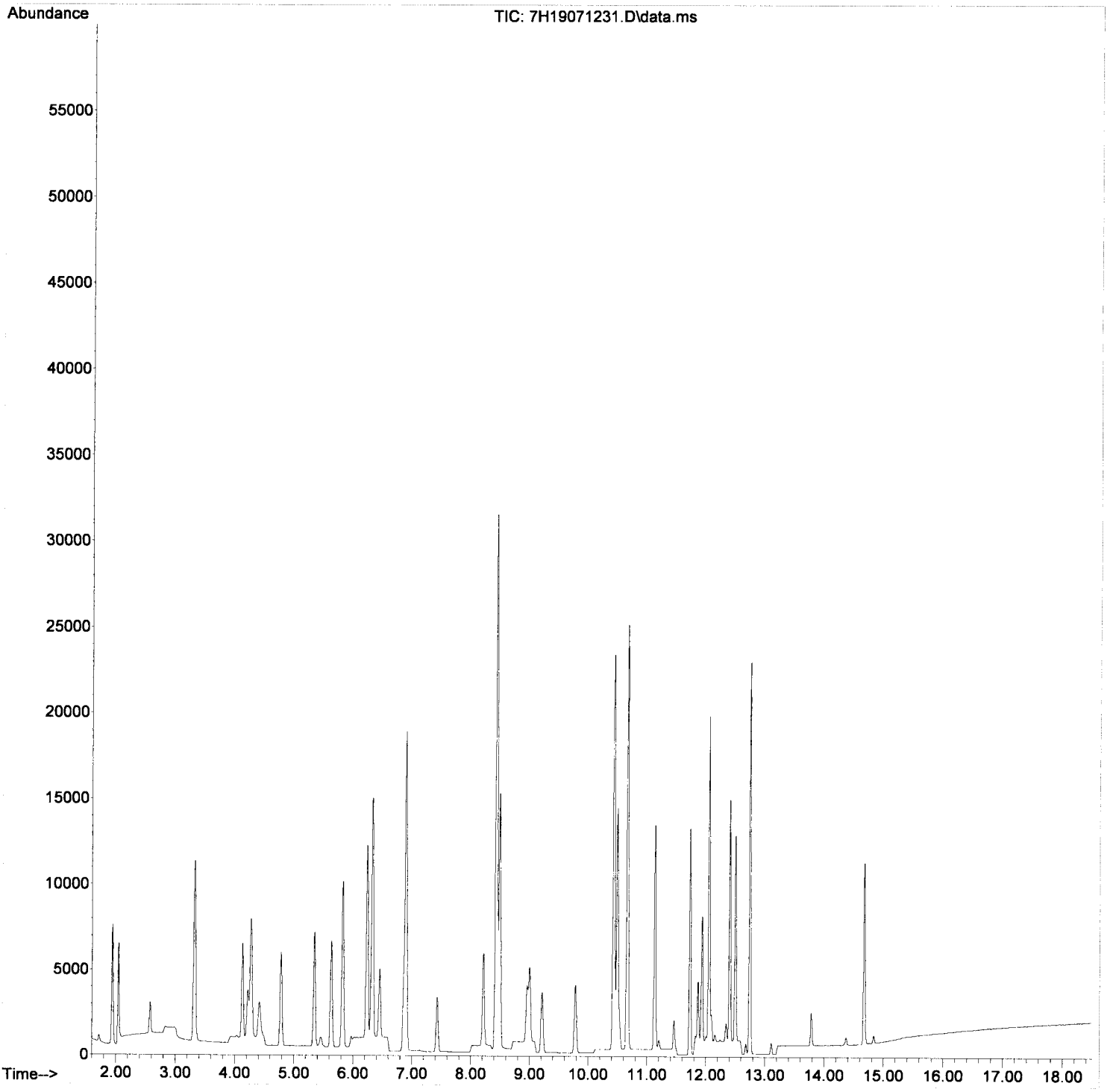
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.328	168	21648	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	31997	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.744	152	14461	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.825	111	11590	2131.17	ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.895	114	36161	2210.00	ng/L	0.00
19) Toluene-d8 (S)	8.433	98	49504	2556.09	ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.730	174	12009	2199.91	ng/L	0.00
Target Compounds						Qvalue
2) Chloromethane	1.942	50	9213	680.18	ng/L	100
3) Vinyl Chloride	2.044	62	6549	929.29	ng/L	96
4) 1,1-Dichloroethene	3.313	61	7422	1028.12	ng/L	90
5) Carbon Disulfide	3.328	76	12692	847.28	ng/L	99
6) t-1,2-Dichloroethene	4.130	61	6942	977.70	ng/L	88
7) Methyl-tert-butyl-ether	4.277	73	15477	993.69	ng/L	79
8) 1,1-Dichloroethane	4.782	63	9171	939.69	ng/L	100
9) c-1,2-Dichloroethene	5.347	61	7341	923.00	ng/L	93
10) Chloroform	5.632	83	8951	874.39	ng/L	99
12) Benzene	6.236	78	21117	902.75	ng/L	97
13) 1,2-Dichloroethane (EDC)	6.452	62	6985	874.31	ng/L	98
15) Trichloroethene (TCE)	6.862	130	4781	904.05	ng/L	97
16) 1,2-Dichloropropane	7.432	63	5721	947.20	ng/L	89
18) c-1,3-Dichloropropene	8.218	75	8477	960.61	ng/L	86
20) Toluene	8.492	91	21218	939.52	ng/L	98
21) Tetrachloroethene (PCE)	8.960	166	4518	937.87	ng/L	85
22) t-1,3-Dichloropropene	9.003	75	7862	987.17	ng/L	100
23) 1,1,2-Trichloroethane	9.218	97	4945	908.54	ug/L	98
24) 1,2-Dibromoethane (EDB)	9.780	107	5227	1005.56	ng/L	99
25) Ethylbenzene	10.493	91	22694	1093.46	ng/L	96
26) m,p-Xylenes (2)	10.666	91	33897	2101.80	ng/L	89
27) o-Xylene	11.134	91	17546	1018.25	ng/L	97
30) 1,1,2,2-Tetrachloroeth...	11.934	83	8074	852.69	ug/L	96
31) 1,3.5-Trimethylbenzene	12.053	105	15889	1024.97	ng/L	93
32) 1,2,3-Trichloropropane	12.053	110	2171	843.15	ng/L #	64
33) 1,2,4-Trimethylbenzene	12.405	105	15898	1021.69	ng/L	94
34) 1,2-Dibromo-3-chloropr...	13.786	157	1764	914.77	ng/L	79
35) Naphthalene	14.675	128	16455	1321.82	ng/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071231.D
Acq On : 13 Jul 2019 01:22 am
Operator : MM
Sample : 9G12037-CAL7
Misc : 1X 5mL 1000PPT VOC
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 16 11:01:32 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071232.D
Acq On : 13 Jul 2019 01:49 am
Operator : MM
Sample : 9G12037-IBL4
Misc : 1X 5mL DI
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 16 11:19:39 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

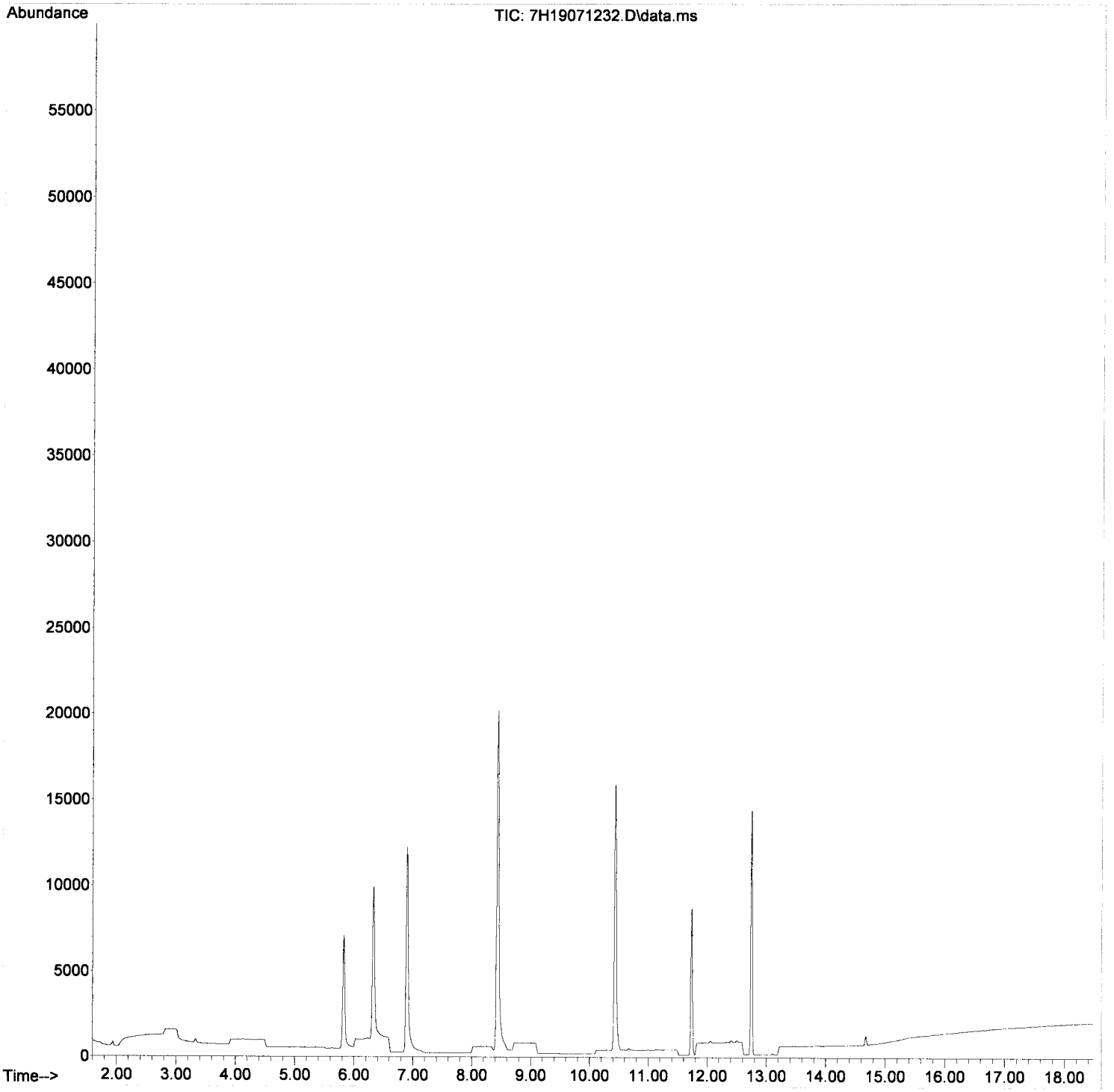
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.327	168	15943	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	23909	2330.00 ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9323	2330.00 ng/L	0.00
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.825	111	8856	2336.79 ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.900	114	27982	2355.44 ng/L	0.00
19) Toluene-d8 (S)	8.438	98	38314	2358.61 ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.729	174	8435	2394.81 ng/L	0.00
Target Compounds					Qvalue
2) Chloromethane	1.942	50	327	Below Cal	99
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	0.000		0	N.D.	
5) Carbon Disulfide	3.327	76	399	35.24 ng/L	75
6) t-1,2-Dichloroethene	4.125	61	43	7.49 ng/L #	72
7) Methyl-tert-butyl-ether	4.256	73	33	2.81 ng/L	69
8) 1,1-Dichloroethane	0.000		0	N.D.	
9) c-1,2-Dichloroethene	5.346	61	26	4.40 ng/L	85
10) Chloroform	5.636	83	37	5.01 ng/L	74
12) Benzene	6.235	78	200	11.69 ng/L	90
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
15) Trichloroethene (TCE)	0.000		0	N.D.	
16) 1,2-Dichloropropane	0.000		0	N.D.	
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.491	91	115	6.64 ng/L	99
21) Tetrachloroethene (PCE)	8.960	166	37	10.54 ng/L	85
22) t-1,3-Dichloropropene	0.000		0	N.D.	
23) 1,1,2-Trichloroethane	0.000		0	N.D.	
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
25) Ethylbenzene	10.493	91	91	5.39 ng/L	89
26) m,p-Xylenes (2)	10.670	91	148	12.12 ng/L	91
27) o-Xylene	11.133	91	85	6.25 ng/L	82
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.	
31) 1,3.5-Trimethylbenzene	12.058	105	99	9.88 ng/L	100
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.404	105	146	14.17 ng/L	80
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.674	128	864	76.32 ng/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071232.D
Acq On : 13 Jul 2019 01:49 am
Operator : MM
Sample : 9G12037-IBL4
Misc : 1X 5mL DI
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 16 11:19:39 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071233.D
Acq On : 13 Jul 2019 02:16 am
Operator : MM
Sample : 9G12037-CAL8
Misc : 1X 5mL 2000PPT VOC
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 16 11:01:36 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

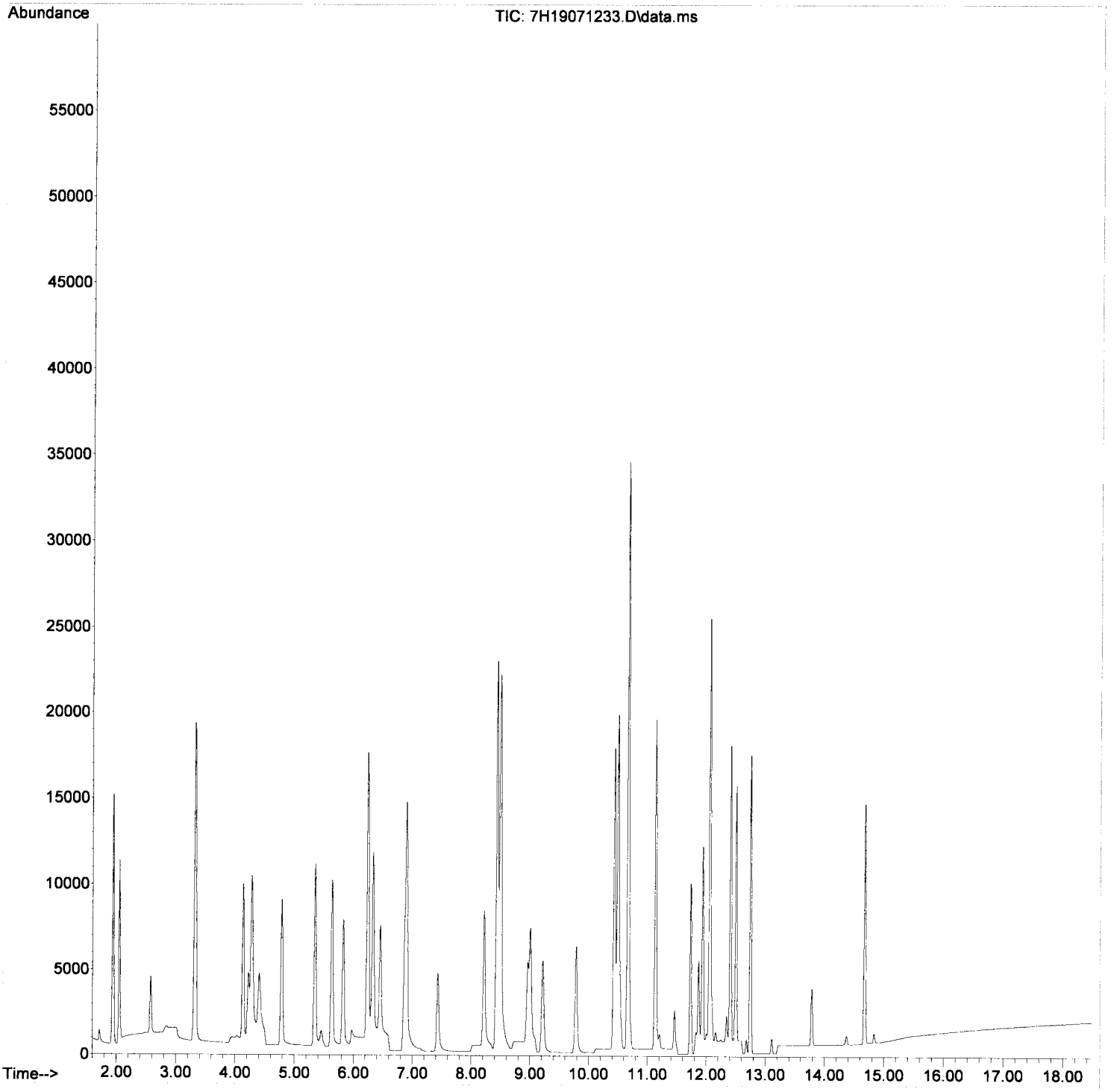
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.328	168	17311	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	26502	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	11143	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.825	111	9599	2207.27	ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.895	114	30697	2346.08	ng/L	0.00
19) Toluene-d8 (S)	8.433	98	41860	2609.56	ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.730	174	9673	2299.62	ng/L	0.00
Target Compounds						Qvalue
2) Chloromethane	1.942	50	18748	1707.50	ng/L	100
3) Vinyl Chloride	2.049	62	12216	2167.71	ng/L	94
4) 1,1-Dichloroethene	3.312	61	12830	2222.52	ng/L	88
5) Carbon Disulfide	3.327	76	23034	1922.93	ng/L	100
6) t-1,2-Dichloroethene	4.130	61	11744	2068.39	ng/L	87
7) Methyl-tert-butyl-ether	4.276	73	25727	2065.62	ng/L	83
8) 1,1-Dichloroethane	4.781	63	15247	1953.66	ng/L	99
9) c-1,2-Dichloroethene	5.347	61	12341	1940.41	ng/L	93
10) Chloroform	5.632	83	15330	1872.72	ng/L	99
12) Benzene	6.236	78	34681	1854.06	ng/L	98
13) 1,2-Dichloroethane (EDC)	6.452	62	12140	1900.27	ng/L	98
15) Trichloroethene (TCE)	6.862	130	8213	1942.10	ng/L	97
16) 1,2-Dichloropropane	7.432	63	9561	1979.57	ng/L	89
18) c-1,3-Dichloropropene	8.218	75	13895	1901.05	ng/L	88
20) Toluene	8.492	91	33962	1815.62	ng/L	97
21) Tetrachloroethene (PCE)	8.960	166	6817	1708.52	ng/L	85
22) t-1,3-Dichloropropene	9.003	75	12822	1943.78	ng/L	99
23) 1,1,2-Trichloroethane	9.218	97	8368	1856.23	ug/L	98
24) 1,2-Dibromoethane (EDB)	9.785	107	9084	2109.91	ng/L	96
25) Ethylbenzene	10.493	91	34033	1979.81	ng/L	95
26) m,p-Xylenes (2)	10.666	91	50826	3804.94	ng/L	89
27) o-Xylene	11.134	91	27167	1903.48	ng/L	96
30) 1,1,2,2-Tetrachloroeth...	11.934	83	12811	1755.83	ug/L	96
31) 1,3.5-Trimethylbenzene	12.053	105	20762	1736.60	ng/L	91
32) 1,2,3-Trichloropropane	12.059	110	3600	1814.44	ng/L #	82
33) 1,2,4-Trimethylbenzene	12.405	105	20573	1715.82	ng/L	92
34) 1,2-Dibromo-3-chloropr...	13.786	157	3062	2060.69	ng/L	79
35) Naphthalene	14.675	128	22085	2302.34	ng/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071233.D
Acq On : 13 Jul 2019 02:16 am
Operator : MM
Sample : 9G12037-CAL8
Misc : 1X 5mL 2000PPT VOC
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 16 11:01:36 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jul 12 17:59:49 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071234.D
Acq On : 13 Jul 2019 02:43 am
Operator : MM
Sample : 9G12037-IBL5
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 16 11:19:43 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

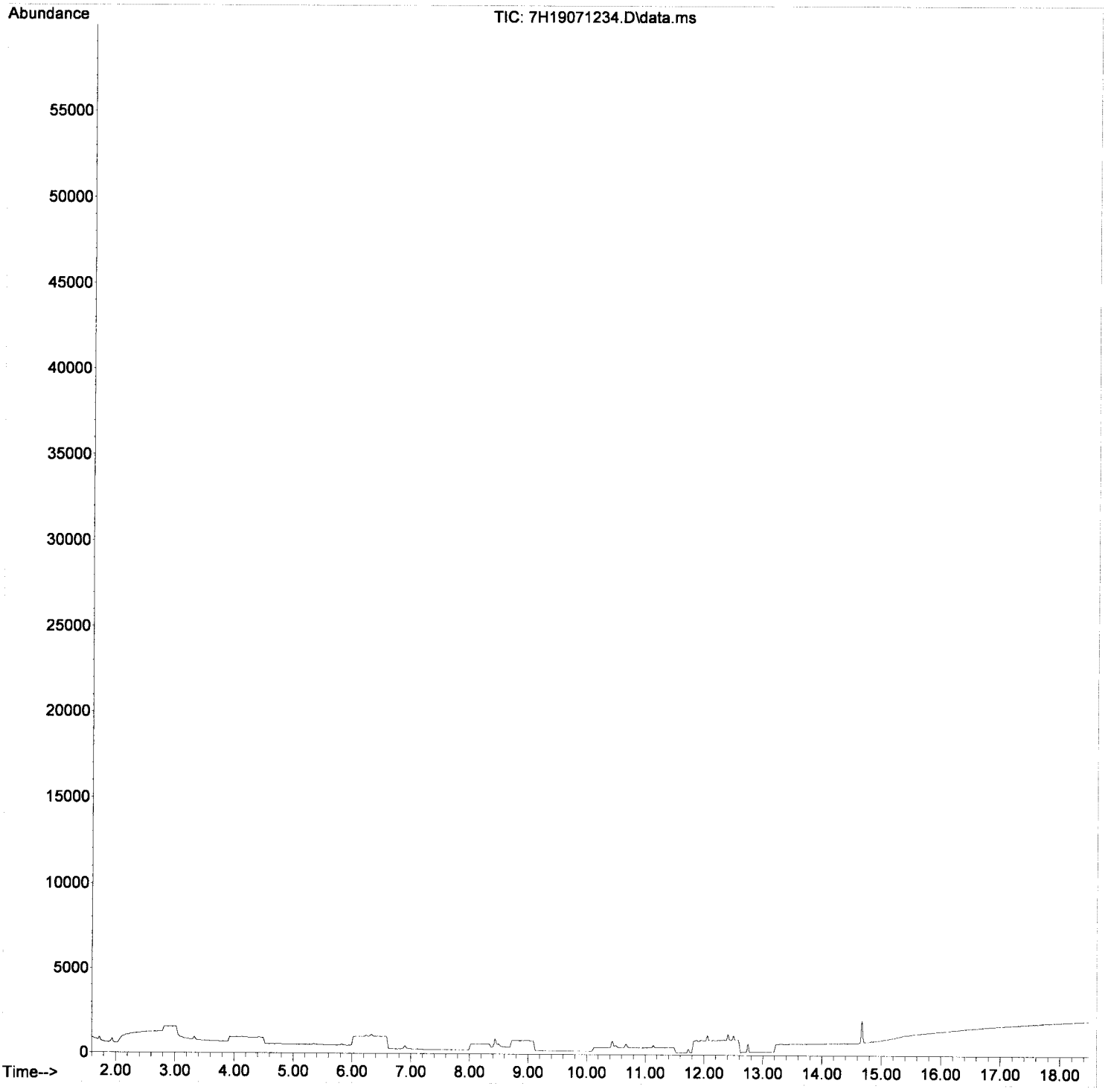
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.327	168	259	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.439	117	650	2330.00 ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	343	2330.00 ng/L	0.00
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.825	111	120	1949.10 ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.900	114	500	2590.80 ng/L	0.00
19) Toluene-d8 (S)	8.438	98	882	1997.17 ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.734	174	197	1520.25 ng/L	0.00
Target Compounds					Qvalue
2) Chloromethane	1.942	50	336	2316.68 ng/L	97
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	3.312	61	78	747.31 ng/L	83
5) Carbon Disulfide	3.327	76	301	1636.28 ng/L	81
6) t-1,2-Dichloroethene	4.130	61	76	814.79 ng/L	91
7) Methyl-tert-butyl-ether	0.000		0	N.D.	
8) 1,1-Dichloroethane	0.000		0	N.D.	
9) c-1,2-Dichloroethene	5.341	61	54	561.96 ng/L	99
10) Chloroform	5.631	83	36	299.86 ng/L	94
12) Benzene	6.241	78	285	1025.83 ng/L	97
13) 1,2-Dichloroethane (EDC)	6.452	62	33	354.57 ng/L #	28
15) Trichloroethene (TCE)	6.862	130	47	743.80 ng/L	93
16) 1,2-Dichloropropane	0.000		0	N.D.	
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.497	91	235	499.44 ng/L	95
21) Tetrachloroethene (PCE)	8.960	166	56	586.80 ng/L	91
22) t-1,3-Dichloropropene	0.000		0	N.D.	
23) 1,1,2-Trichloroethane	0.000		0	N.D.	
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
25) Ethylbenzene	10.498	91	220	479.20 ng/L	94
26) m,p-Xylenes (2)	10.671	91	394	1187.03 ng/L	87
27) o-Xylene	11.139	91	206	556.76 ng/L	96
30) 1,1,2,2-Tetrachloroeth...	11.934	83	34	145.50 ug/L #	17
31) 1,3.5-Trimethylbenzene	12.058	105	368	997.74 ng/L	89
32) 1,2,3-Trichloropropane	12.058	110	25	400.31 ng/L #	78
33) 1,2,4-Trimethylbenzene	12.404	105	442	1166.13 ng/L	92
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.674	128	2116	5080.77 ng/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071234.D
Acq On : 13 Jul 2019 02:43 am
Operator : MM
Sample : 9G12037-IBL5
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 16 11:19:43 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071235.D
Acq On : 13 Jul 2019 03:10 am
Operator : MM
Sample : 9G12037-IBL6
Misc : 1X 5mL DI
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 16 11:19:47 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

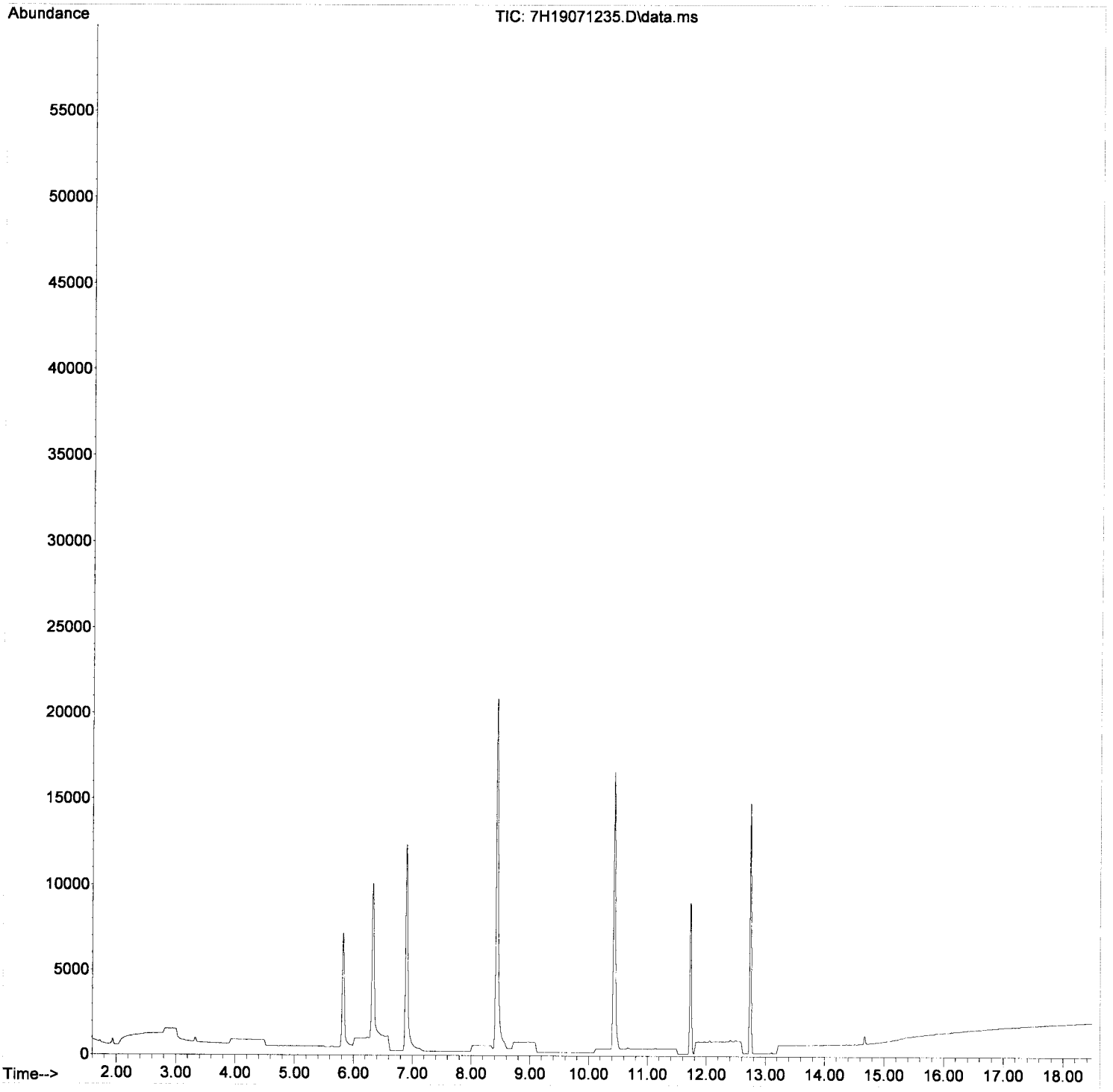
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.328	168	16247	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	24766	2330.00 ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9576	2330.00 ng/L	0.00
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.825	111	9061	2346.15 ng/L	0.00
14) 1,4-Difluorobenzene (S)	6.900	114	28573	2360.19 ng/L	0.00
19) Toluene-d8 (S)	8.438	98	39294	2335.23 ng/L	0.00
29) 4-Bromofluorobenzene (S)	11.730	174	8723	2411.15 ng/L	0.00
Target Compounds					Qvalue
2) Chloromethane	1.937	50	431	Below Cal	100
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	3.307	61	25	3.82 ng/L #	55
5) Carbon Disulfide	3.328	76	473	40.99 ng/L	90
6) t-1,2-Dichloroethene	0.000		0	N.D.	
7) Methyl-tert-butyl-ether	4.261	73	78	6.51 ng/L	88
8) 1,1-Dichloroethane	0.000		0	N.D.	
9) c-1,2-Dichloroethene	0.000		0	N.D.	
10) Chloroform	5.637	83	34	4.51 ng/L	94
12) Benzene	6.241	78	249	14.29 ng/L	86
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
15) Trichloroethene (TCE)	0.000		0	N.D.	
16) 1,2-Dichloropropane	0.000		0	N.D.	
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.492	91	132	7.36 ng/L	91
21) Tetrachloroethene (PCE)	8.955	166	36	9.90 ng/L #	56
22) t-1,3-Dichloropropene	9.009	75	47	7.62 ng/L	75
23) 1,1,2-Trichloroethane	0.000		0	N.D.	
24) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
25) Ethylbenzene	10.493	91	82	4.69 ng/L	92
26) m,p-Xylenes (2)	10.666	91	136	10.75 ng/L	86
27) o-Xylene	11.134	91	62	4.40 ng/L	97
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.	
31) 1,3.5-Trimethylbenzene	12.053	105	108	10.49 ng/L	83
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.405	105	130	12.29 ng/L	85
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.675	128	828	71.21 ng/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071235.D
Acq On : 13 Jul 2019 03:10 am
Operator : MM
Sample : 9G12037-IBL6
Misc : 1X 5mL DI
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 16 11:19:47 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071236.D
Acq On : 13 Jul 2019 03:37 am
Operator : MM
Sample : 9G12037-ICV1
Misc : 1X 5mL 200PPT
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 16 11:19:51 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M

MM 7/16/19

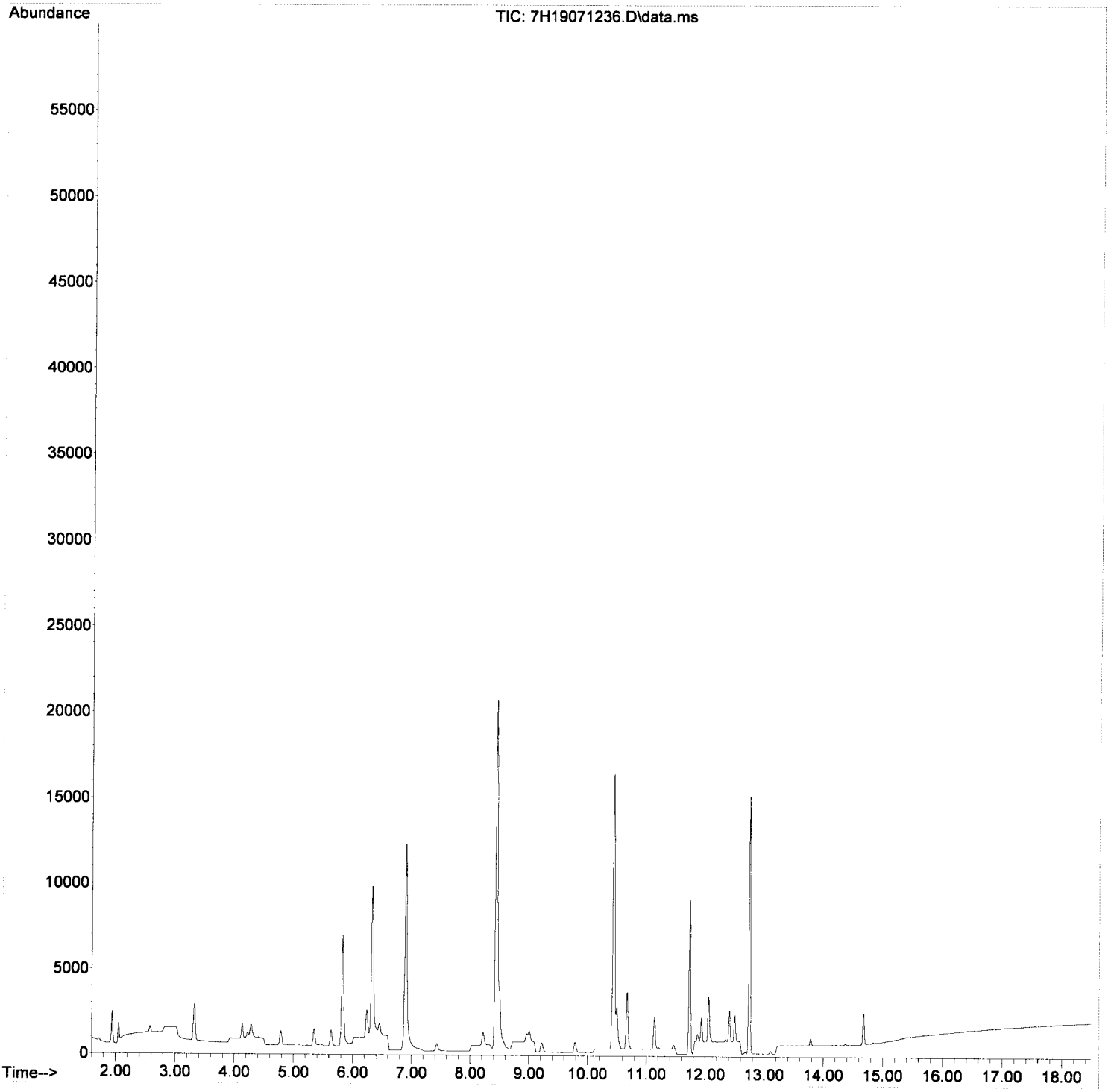
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.327	168	15927	2330.00	ng/L		0.00
17) Chlorobenzene-d5 (I)	10.434	117	25004	2330.00	ng/L		0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9872	2330.00	ng/L		0.00
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.825	111	8785	2320.39	ng/L		0.00
14) 1,4-Difluorobenzene (S)	6.900	114	28073	2365.48	ng/L		0.00
19) Toluene-d8 (S)	8.438	98	38713	2278.80	ng/L		0.00
29) 4-Bromofluorobenzene (S)	11.729	174	8794	2357.89	ng/L		0.00
Target Compounds							Qvalue
2) Chloromethane	1.942	50	2444	302.89	ng/L		100
3) Vinyl Chloride	2.049	62	1265	237.08	ng/L		96
4) 1,1-Dichloroethene	3.312	61	1314	204.72	ng/L		88
5) Carbon Disulfide	3.327	76	2790	246.64	ng/L		98
6) t-1,2-Dichloroethene	4.130	61	1241	216.36	ng/L		86
7) Methyl-tert-butyl-ether	4.281	73	2465	209.78	ng/L		100
8) 1,1-Dichloroethane	4.786	63	1558	211.85	ng/L		98
9) c-1,2-Dichloroethene	5.346	61	1210	204.77	ng/L		91
10) Chloroform	5.636	83	1549	209.82	ng/L		99
12) Benzene	6.241	78	3713	217.33	ng/L		95
13) 1,2-Dichloroethane (EDC)	6.452	62	1226	214.21	ng/L		99
15) Trichloroethene (TCE)	6.862	130	815	209.74	ng/L		98
16) 1,2-Dichloropropane	7.431	63	973	211.37	ng/L		88
18) c-1,3-Dichloropropene	8.218	75	1400	197.87	ng/L		87
20) Toluene	8.491	91	3478	192.15	ng/L		96
21) Tetrachloroethene (PCE)	8.960	166	729	198.58	ng/L		84
22) t-1,3-Dichloropropene	9.003	75	1288	206.79	ng/L		99
23) 1,1,2-Trichloroethane	9.218	97	869	207.62	ug/L		97
24) 1,2-Dibromoethane (EDB)	9.785	107	905	199.20	ng/L		97
25) Ethylbenzene	10.493	91	3576	202.49	ng/L		94
26) m,p-Xylenes (2)	10.665	91	5158	403.97	ng/L		88
27) o-Xylene	11.133	91	2747	193.00	ng/L		96
30) 1,1,2,2-Tetrachloroeth...	11.934	83	1653	245.77	ug/L		96
31) 1,3.5-Trimethylbenzene	12.058	105	2192	206.49	ng/L		95
32) 1,2,3-Trichloropropane	12.058	110	435	242.01	ng/L		87
33) 1,2,4-Trimethylbenzene	12.404	105	2201	201.76	ng/L		91
34) 1,2-Dibromo-3-chloropr...	13.785	157	385	252.71	ng/L	#	76
35) Naphthalene	14.674	128	2921	243.69	ng/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-07\9G12037\
Data File : 7H19071236.D
Acq On : 13 Jul 2019 03:37 am
Operator : MM
Sample : 9G12037-ICV1
Misc : 1X 5mL 200PPT
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 16 11:19:51 2019
Quant Method : C:\GCMS\1\methods\VH190716SIMw.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Jul 16 11:10:39 2019
Response via : Initial Calibration
DataAcq Meth:VH1907_SIM_RUN_.M



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

Semivolatile Organic Compounds (PAHs) by EPA 8270D (LVI)
Benchsheet & Analysis Sequence Data

Batch 9110577
Sequence 9K07023 (A9K0165-01,05,05RE1,05RE2,07RE1)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9110577 (Water)

Prep Method: EPA 3511 (Bottle Extraction)

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH other	pH >11
	9110577-BLK1		QC	11/07/19 10:39	126	5				50					
	9110577-BS1		QC	11/07/19 10:39	125	5	A19H078		100	50					
	A9K0165-01	D	8270D PAH (125ml) LL	11/07/19 10:39	110.5	5				50	PDI-RB-1911060820				
	A9K0165-05	J	8270D PAH (125ml) LL	11/07/19 10:39	100.91	5				50	PDI-073PW-03-05-191104	MS/MSD			
	9110577-MS1		QC	11/07/19 10:39	99.3	5	A19H078	A9K0165-05	100	50					
	9110577-MSD1		QC	11/07/19 10:39	99.24	5	A19H078	A9K0165-05	100	50					
	A9K0165-05RE1	J	8270D PAH (125ml) LL	11/07/19 10:39	100.91	5				50	PDI-073PW-03-05-191104	Added 11/8/2019 by DTH			
	A9K0165-05RE2	J	8270D PAH (125ml) LL	11/07/19 10:39	100.91	5				50	PDI-073PW-03-05-191104	Added 11/8/2019 by DTH			
	A9K0165-07	D	8270D PAH (125ml) LL	11/07/19 10:39	90.79	5				50	PDI-075PW-01-03-191105				
	A9K0165-07RE1	D	8270D PAH (125ml) LL	11/07/19 10:39	90.79	5				50	PDI-075PW-01-03-191105	Added 11/8/2019 by DTH			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13F187	09/21/20	Sodium Sulfate Lot #121760
A13L216	11/30/23	Dry Wt Balance 3
A19H336	03/31/22	NaCl for LVI Extraction
A19I263	03/18/20	DCM CHEM PROD. 194934
A19I339	03/23/20	1:3 HCl

Analyte Spike(s)

Std ID	Exp. Date	Description
A19H078	02/02/20	LVI PAH Spike @2000ng/ml

Surrogate(s)

Std ID	Exp. Date	Description
A19H081	01/14/20	PAH Surrogate + EISTD for LVI @ 10ug/ml in

3x Rinsed 5ml Vials

Witness:_____

Bottle check:_____

Prepared By: _____ Date

Reviewed By: DTH 11/8/19 Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9110577 (Water)

Prep Method: EPA 3511 (Bottle Extraction)

Initial Final

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments (Initial)	Extraction Comments (Final)	pH <2	pH Other	pH >11
1	9110577-BLK1		QC	11/07/19 10:39	125	5 ✓				50						
2	9110577-BS1		QC	11/07/19 10:39	125	5 ✓	A19H078		100 DTH 11/8/19	50						
3	A9K0165-01	D	8270D PAH (125ml) LL	11/07/19 10:39	125	5 ✓				50	PDI-RB-1911060820	224.711	114.209			
4	A9K0165-05	J	8270D PAH (125ml) LL	11/07/19 10:39	125	5				50	PDI-073PW-03-05-191104	MS/MSD D 225.023	124.118			
5	9110577-MS1	K	QC	11/07/19 10:39	125	5 ✓	A19H078	A9K0165-05	100	50		D ~~227~~ 221.00	121.765			
6	9110577-MSD1	L	QC	11/07/19 10:39	125	5 ✓	A19H078	A9K0165-05	100	50		D 223.984	124.749			
7	A9K0165-07	D	8270D PAH (125ml) LL	11/07/19 10:39	125	5 ✓				50	PDI-075PW-01-03-191105	D 211.124	120.338			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13F187	09/21/20	Sodium Sulfate Lot #121760
~~A13L219~~	~~11/30/23~~	~~Extractions Balance~~
A13L216 (11/7)		Dry weight balance #3
A19H336	03/31/22	NaCl for LVI Extraction
A19I263	03/18/20	DCM CHEM PROD. 194934
A19I339	03/23/20	1:3 HCl

Analyte Spike(s)

Std ID	Exp. Date	Description
A19H078	02/02/20	LVI PAH Spike @2000ng/ml

AOJ

Surrogate(s)

Std ID	Exp. Date	Description
A19H081	01/14/20	PAH Surrogate + EISTD for LVI @ 10ug/ml in

AOJ

D=Decanted

3x Rinsed 5ml Vials ✓

Witness: JAG 11/7/19

Bottle check: JAG 11/7/19

Prepared By: AOJ Date 11-7-19

Reviewed By: AMS Date 11/7/19

Printed: 11/7/2019 10:41:30AM

3511 Micro-extraction Prep Worksheet

Sample ID	Container	Container Weight (g)	Tare Weight (g)	Net Sample Weight (g)
9110577-BLK1				126
9110577-BS1				125
A9K0165-01	D	224.71	114.209	110.502
A9K0165-05	J	225.02	124.12	100.91
9110577-MS1	K	221.06	121.77	99.30
9110577-MSD1	L	223.99	124.75	99.24
A9K0165-07	D	211.12	120.34	90.79
				0.00
				0.00
				0.00
				0.00
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				0.00

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9K07023**	Instrument:	**SV-GCMS8**
Date:	**11/07/19 11:10**	Calibration:	**A9G0205**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9K07023-IBL1	Water	QC	QC			A19K046	
2	9K07023-TUN1	Water	QC	QC			A19K046	A19K083
3	9K07023-CCV1	Water	QC	QC			A19K046	A19F400
4	9K07023-CCB1	Water	QC	QC			A19K046	
5	9110577-BLK1	Water	QC	QC		9110577	A19K046	
6	9110577-BS1	Water	QC	QC		9110577	A19K046	
7	A9K0165-01	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/19/19	9110577	A19K046	
8	A9K0165-05	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/19/19	9110577	A19K046	
9	9110577-MS1	Water	QC	QC		9110577	A19K046	
10	9110577-MSD1	Water	QC	QC		9110577	A19K046	
11	A9K0165-07	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/19/19	9110577	A19K046	
12	A9K0165-05RE1	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/19/19	9110577	A19K046	
13	A9K0165-07RE1	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/19/19	9110577	A19K046	
14	A9K0165-05RE2	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/19/19	9110577	A19K046	
15	9K07023-IBL2	Water	QC	QC			A19K046	

Data Entered By: DH 11/8/19

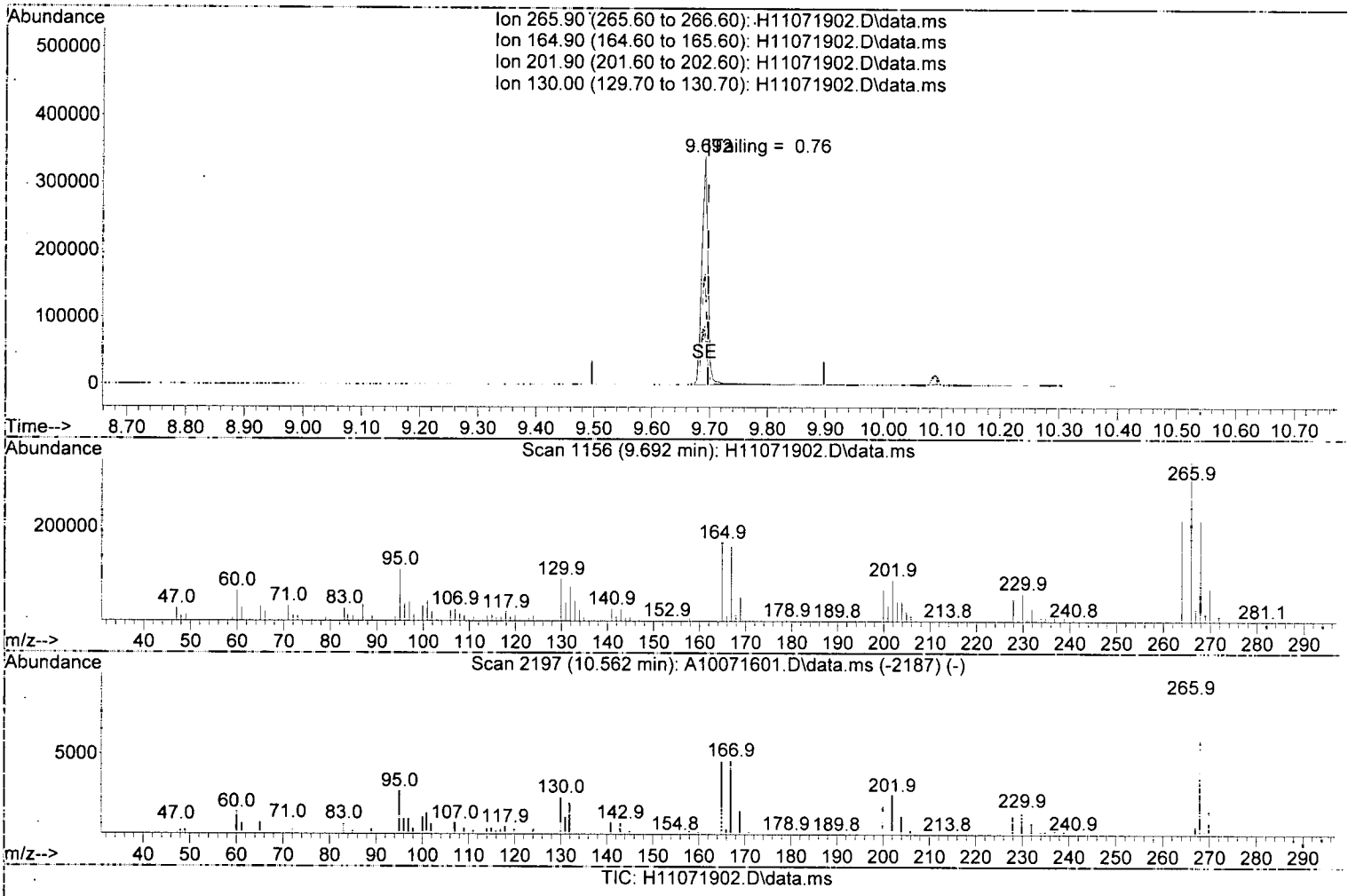
Data Reviewed By: GD 11/11/19

Comments:

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071902.D
Acq On : 7 Nov 2019 11:51 am
Operator : JK /AMS /DTH
Sample : 9K07023-TUN1
Misc : 1x, A19K083 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 07 13:35:14 2019
Quant Method : V:\METHODS\DFTPP-LVI.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Thu Oct 10 08:41:39 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(3) Pentachlorophenol

9.692min (-0.005) 19.72 ug/mL

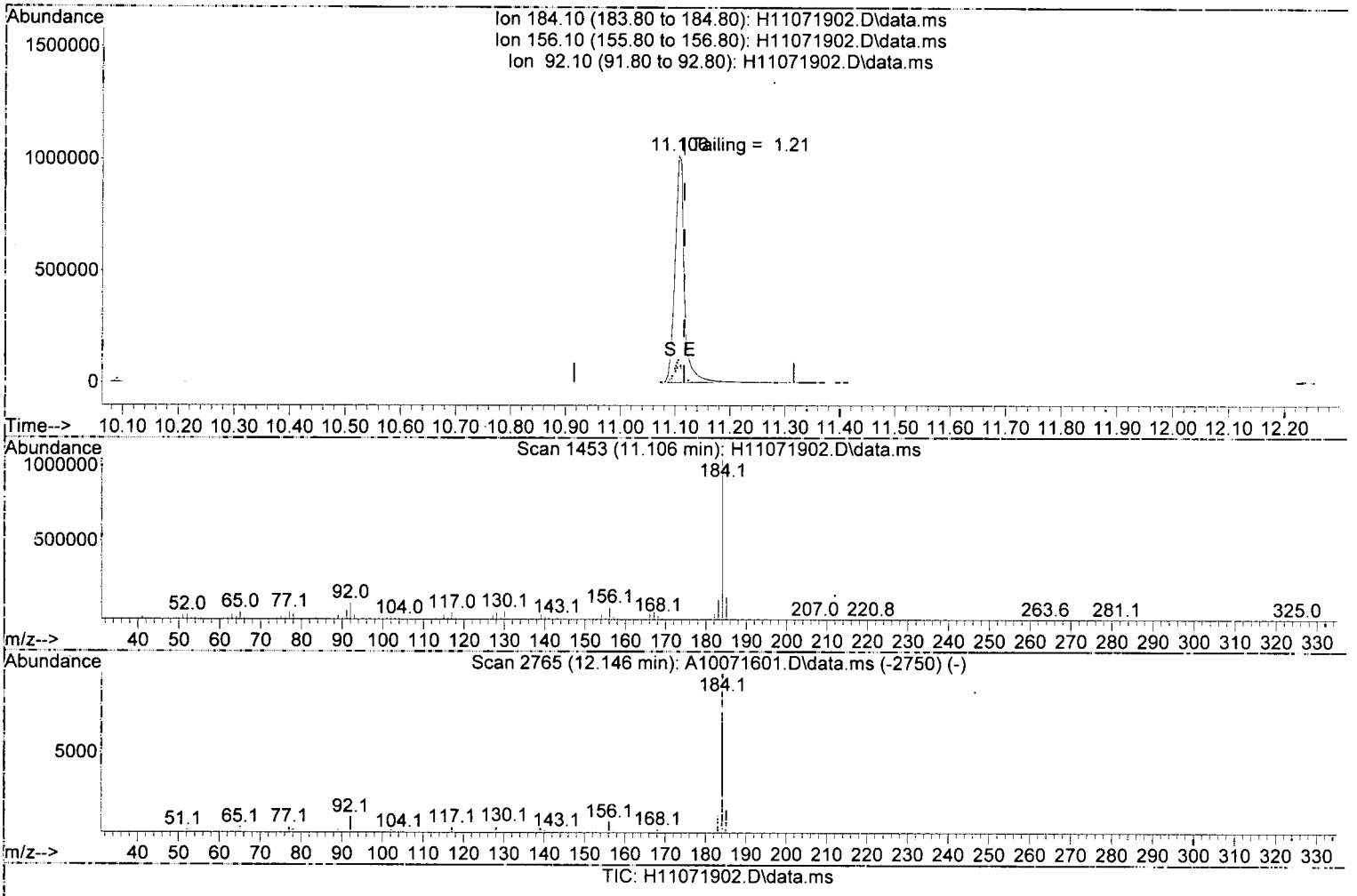
response 253410

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	40.50	52.24
201.90	23.90	26.51
130.00	19.70	28.61#

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071902.D
Acq On : 7 Nov 2019 11:51 am
Operator : JK /AMS /DTH
Sample : 9K07023-TUN1
Misc : 1x, A19K083 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 07 13:35:14 2019
Quant Method : V:\METHODS\DFTPP-LVI.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Thu Oct 10 08:41:39 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(6) Benzidine

11.106min (-0.010) 23.71 ug/mL

response 1229267

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	10.40	7.71
92.10	17.30	9.84
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

From:
9K07023-TUN1
SV-GCMS8

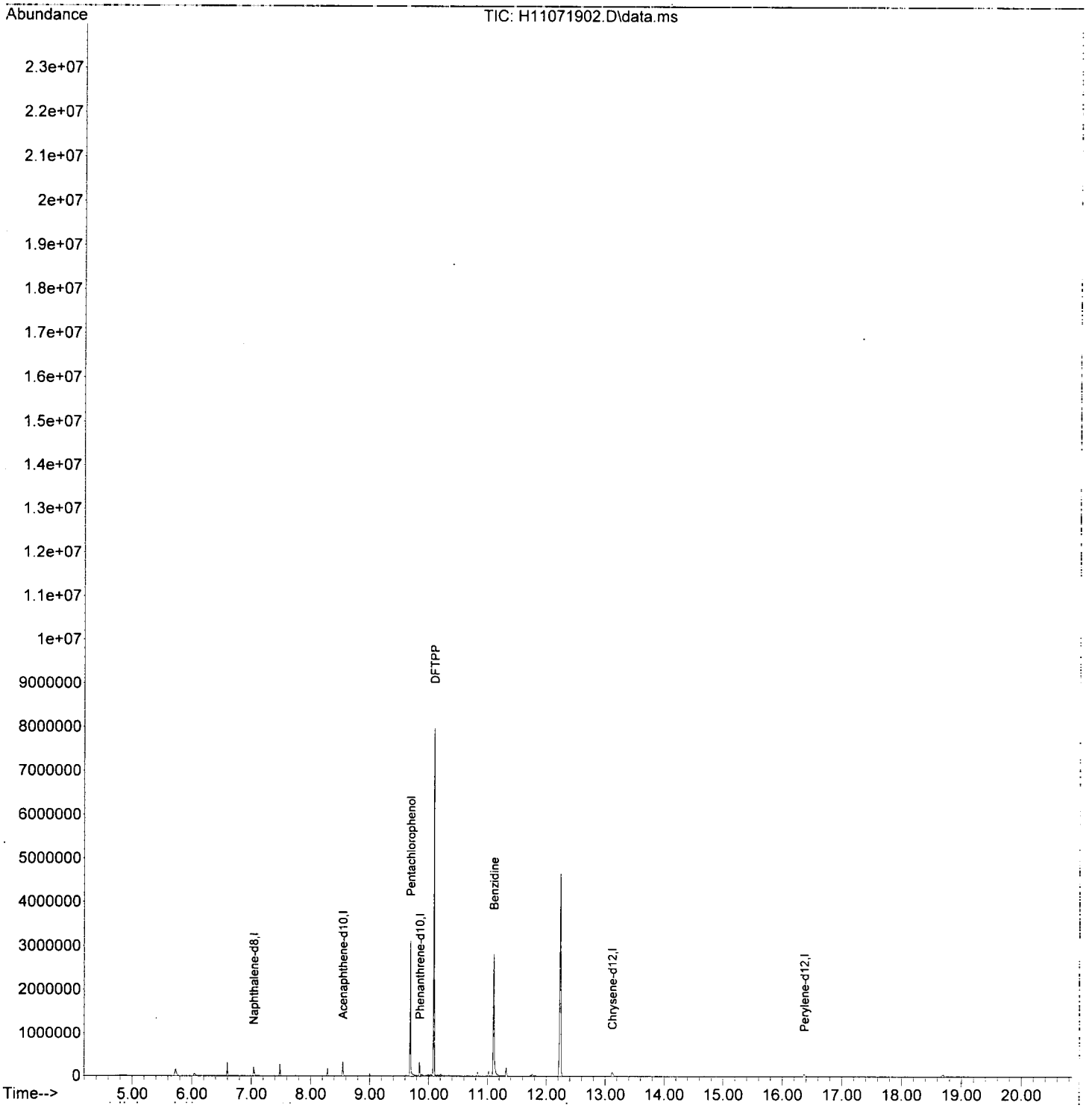
First Column Area Counts		Percent Breakdown	
DDE	213159		
DDD	62769		
DDT	6137374	4.3	PASS

Breakdown must be less than 20% to accept sample data.

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071902.D
Acq On : 7 Nov 2019 11:51 am
Operator : JK /AMS /DTH
Sample : 9K07023-TUN1
Misc : 1x, A19K083 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 07 13:35:14 2019
Quant Method : V:\METHODS\DFTPP-LVI.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Thu Oct 10 08:41:39 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Evaluate Continuing Calibration Report

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071903.D
Acq On : 7 Nov 2019 12:21 pm
Operator : JK /AMS /DTH
Sample : 9K07023-CCV1
Misc : 1x, A19F400@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 13:40:20 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	56	0.00
2	T	Naphthalene	50.000	46.910	6.2	55	0.00
3	T	2-Methylnaphthalene	50.000	50.728	-1.5	58	0.00
4	T	1-Methylnaphthalene	50.000	53.300	-6.6	60	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	62	0.00
6	T	Biphenyl	50.000	45.820	8.4	61	0.00
7	T	2,6-Dimethylnaphthalene	50.000	49.580	0.8	62	0.00
8	S	Acenaphthylene-d8 (Surr)	50.000	48.892	2.2	61	0.00
9	T	Acenaphthylene	50.000	51.621	-3.2	62	0.00
10	T	Acenaphthene	50.000	47.854	4.3	63	0.00
11	T	Dibenzofuran	50.000	46.448	7.1	60	0.00
12	T	1,6,7-Trimethylnaphthalene	50.000	45.878	8.2	56	0.00
13	T	Fluorene	50.000	44.791	10.4	56	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	55	0.00
15	T	Dibenzothiophene	50.000	47.846	4.3	53	0.00
16	T	Phenanthrene	50.000	46.489	7.0	53	0.00
17	T	Anthracene	50.000	50.430	-0.9	53	0.00
18	T	Carbazole	50.000	46.376	7.2	49	0.00
19	T	Fluoranthene	50.000	48.161	3.7	52	0.00
20	T	Pyrene	50.000	46.880	6.2	52	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	53	-0.01
22	T	Benz(a)anthracene	50.000	51.999	-4.0	52	0.00
23	T	Chrysene	50.000	49.090	1.8	53	-0.01
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	56	-0.01
25	T	Benzo(b)fluoranthene	50.000	52.540	-5.1	54	0.00
26	T	Benzo(k)fluoranthene	50.000	54.104	-8.2	56	-0.01
27	T	Benzo(b+k)fluoranthene	100.000	106.736	-6.7	55	-0.01
28	T	Benzo(e)pyrene	50.000	52.509	-5.0	55	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	50.000	54.797	-9.6	56	0.00
30	T	Benzo(a)pyrene	50.000	54.796	-9.6	55	-0.01
31	T	Perylene	50.000	51.464	-2.9	55	-0.01
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	56	0.00
33	T	Indeno(1,2,3-cd)pyrene	50.000	46.662	6.7	53	0.00
34	T	Dibenz(a,h)anthracene	50.000	49.753	0.5	54	0.00
35	T	Benzo(g,h,i)perylene	50.000	52.403	-4.8	53	0.00
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	62	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	53	0.00

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

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071903.D
Acq On : 7 Nov 2019 12:21 pm
Operator : JK /AMS /DTH
Sample : 9K07023-CCV1
Misc : 1x, A19F400@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 13:40:20 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19

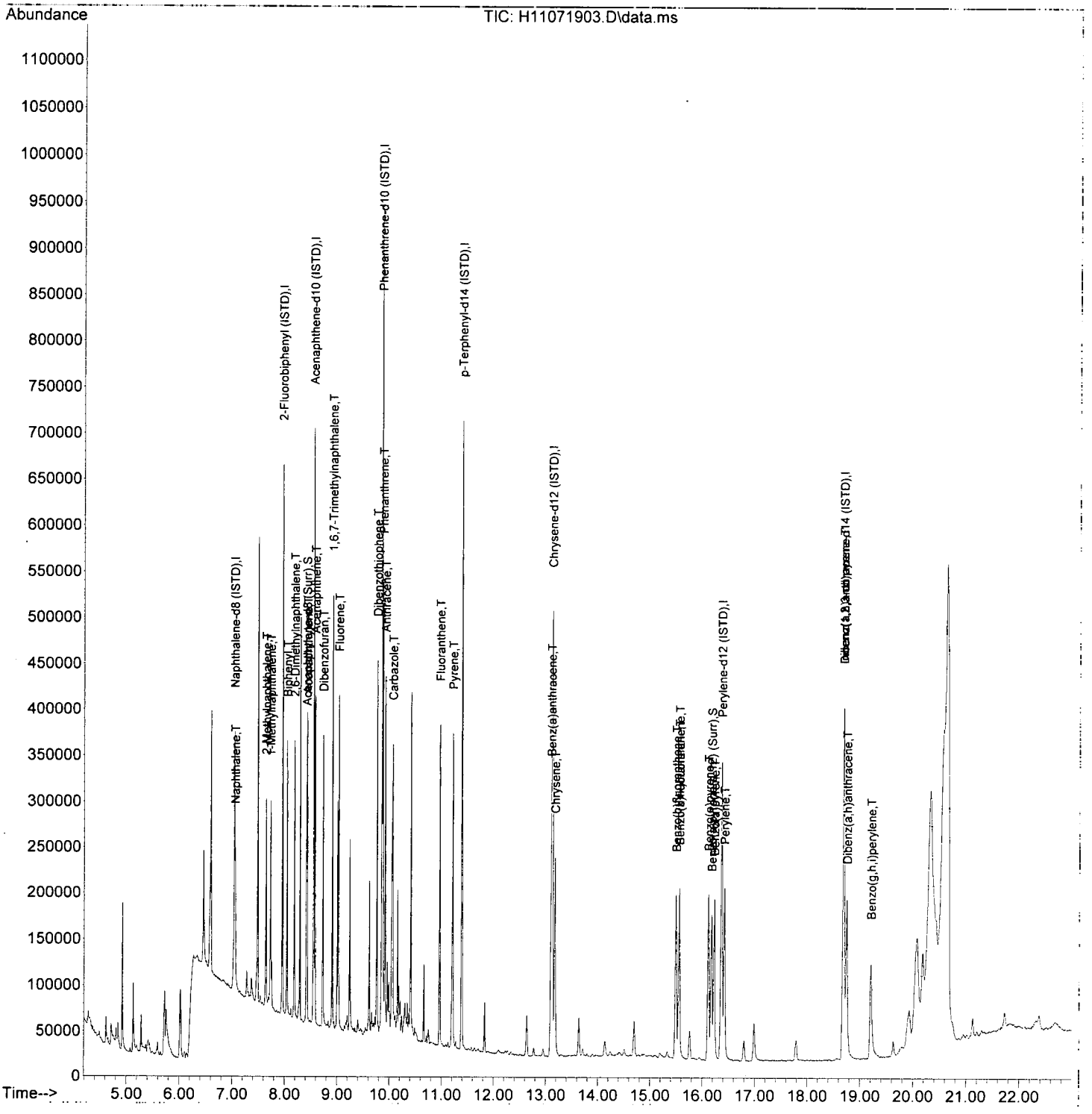
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.039	136	124207	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.544	164	110414	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	248073	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	233249	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.368	264	219128	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.682	292	192645	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.953	172	145940	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	228651	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	96594	48.89	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.177	264	93479	54.80	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.053	128	67610	46.91	ng/ml	95
3) 2-Methylnaphthalene	7.639	142	56461	50.73	ng/ml	94
4) 1-Methylnaphthalene	7.725	142	56154	53.30	ng/ml	90
6) Biphenyl	8.039	154	84603	45.82	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.177	156	64170	49.58	ng/ml	91
9) Acenaphthylene	8.425	152	113289	51.62	ng/ml	98
10) Acenaphthene	8.573	153	78335	47.85	ng/ml	97
11) Dibenzofuran	8.725	168	108635	46.45	ng/ml	84
12) 1,6,7-Trimethylnaphtha...	8.906	170	71603	45.88	ng/ml	84
13) Fluorene	9.025	166	90751	44.79	ng/ml	100
15) Dibenzothiophene	9.758	184	122347	47.85	ng/ml	97
16) Phenanthrene	9.868	178	138325	46.49	ng/ml	100
17) Anthracene	9.915	178	133257	50.43	ng/ml	98
18) Carbazole	10.058	167	118845	46.38	ng/ml	96
19) Fluoranthene	10.963	202	142606	48.16	ng/ml	95
20) Pyrene	11.211	202	150526	46.88	ng/ml	99
22) Benz(a)anthracene	13.101	228	127335	52.00	ng/ml	99
23) Chrysene	13.173	228	126835	49.09	ng/ml	99
25) Benzo(b)fluoranthene	15.496	252	126094	52.54	ng/ml	92
26) Benzo(k)fluoranthene	15.558	252	130860	54.10	ng/ml	90
27) Benzo(b+k)fluoranthene	15.558	252	258657	106.74	ng/ml	93
28) Benzo(e)pyrene	16.115	252	122327	52.51	ng/ml	97
30) Benzo(a)pyrene	16.230	252	116272	54.80	ng/ml	97
31) Perylene	16.420	252	120396	51.46	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.682	276	106370	46.66	ng/ml	80
34) Dibenz(a,h)anthracene	18.749	278	113061	49.75	ng/ml	86
35) Benzo(g,h,i)perylene	19.206	276	105861	52.40	ng/ml	85

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

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071903.D
Acq On : 7 Nov 2019 12:21 pm
Operator : JK /AMS /DTH
Sample : 9K07023-CCV1
Misc : 1x, A19F400@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 13:40:20 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071904.D
Acq On : 7 Nov 2019 12:53 pm
Operator : JK /AMS /DTH
Sample : 9K07023-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Contaminated do not report.
Use batch Blank to evaluate system cleanliness

Quant Time: Nov 07 13:47:38 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19

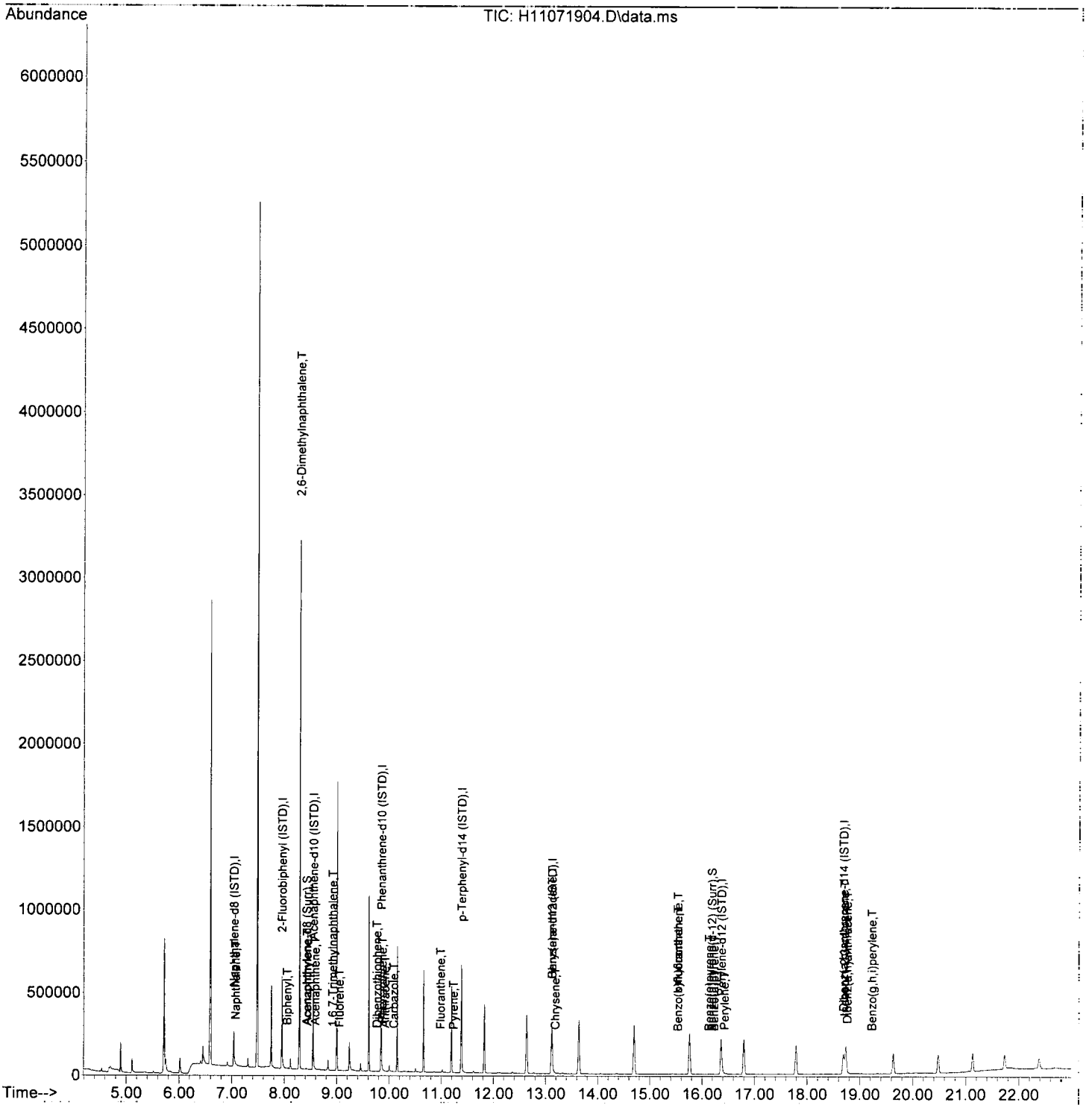
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.039	136	110250	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	99975	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	219939	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	181653	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.368	264	151729	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	116609	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	148365	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	225511	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.420	160	2898	0.71	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.182	264	41	0.17	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.068	128	77	0.06	ng/ml	70
3) 2-Methylnaphthalene	0.000		0	N.D.		
4) 1-Methylnaphthalene	0.000		0	N.D.		
6) Biphenyl	8.049	154	257	0.15	ng/ml	84
7) 2,6-Dimethylnaphthalene	8.292	156	457	0.39	ng/ml#	33
9) Acenaphthylene	8.430	152	151	0.08	ng/ml	62
10) Acenaphthene	8.582	153	110	0.07	ng/ml#	68
11) Dibenzofuran	0.000		0	N.D.		
12) 1,6,7-Trimethylnaphtha...	8.915	170	103	0.07	ng/ml	83
13) Fluorene	9.044	166	146	0.08	ng/ml	89
15) Dibenzothiophene	9.763	184	122	0.05	ng/ml	68
16) Phenanthrene	9.868	178	412	0.16	ng/ml	77
17) Anthracene	9.920	178	298	0.13	ng/ml	93
18) Carbazole	10.087	167	224	0.10	ng/ml	89
19) Fluoranthene	10.982	202	324	0.12	ng/ml	77
20) Pyrene	11.230	202	393	0.14	ng/ml	70
22) Benz(a)anthracene	13.120	228	807	0.21	ng/ml	57
23) Chrysene	13.182	228	472	0.23	ng/ml	97
25) Benzo(b)fluoranthene	15.535	252	429	0.28	ng/ml	75
26) Benzo(k)fluoranthene	15.535	252	429	0.30	ng/ml	77
27) Benzo(b+k)fluoranthene	15.535	252	769	0.53	ng/ml	75
28) Benzo(e)pyrene	16.130	252	374	0.23	ng/ml	53
30) Benzo(a)pyrene	16.225	252	214	0.22	ng/ml	61
31) Perylene	16.425	252	433	0.27	ng/ml	59
33) Indeno(1,2,3-cd)pyrene	18.706	276	299	0.22	ng/ml#	1
34) Dibenz(a,h)anthracene	18.758	278	413	0.30	ng/ml	62
35) Benzo(g,h,i)perylene	19.225	276	85	0.07	ng/ml#	42

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

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071904.D
Acq On : 7 Nov 2019 12:53 pm
Operator : JK /AMS /DTH
Sample : 9K07023-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 13:47:38 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071905.D
Acq On : 7 Nov 2019 1:25 pm
Operator : JK /AMS /DTH
Sample : 9110577-BLK1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Evaluated as CCB
TMT 11/7/19

Quant Time: Nov 07 14:06:09 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

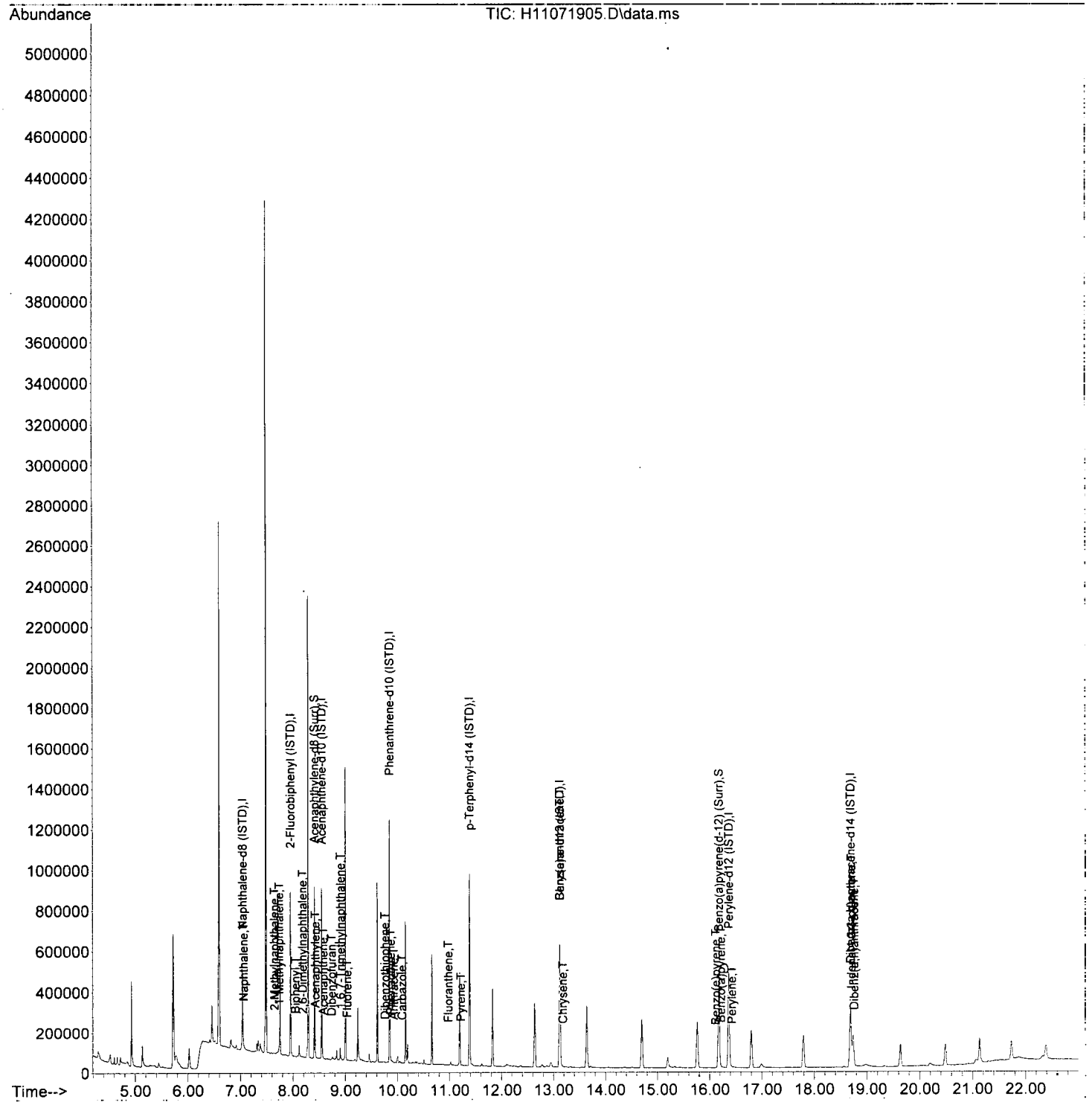
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.039	136	183358	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	151815	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	347579	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	329575	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.368	264	304829	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	254273	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	200024	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	316200	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	285188	103.45	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.177	264	279568	106.67	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.058	128	571	0.27	ng/ml	75
3) 2-Methylnaphthalene	7.644	142	172	0.10	ng/ml#	46
4) 1-Methylnaphthalene	7.734	142	160	0.10	ng/ml	68
6) Biphenyl	8.044	154	363	0.14	ng/ml	74
7) 2,6-Dimethylnaphthalene	8.182	156	52	0.03	ng/ml#	29
9) Acenaphthylene	8.425	152	179	0.06	ng/ml	78
10) Acenaphthene	8.577	153	117	0.05	ng/ml#	71
11) Dibenzofuran	8.734	168	177	0.06	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	8.906	170	60	0.03	ng/ml#	1
13) Fluorene	9.034	166	129	0.05	ng/ml	73
15) Dibenzothiophene	9.758	184	108	0.03	ng/ml	76
16) Phenanthrene	9.868	178	411	0.10	ng/ml	79
17) Anthracene	9.925	178	211	0.06	ng/ml	63
18) Carbazole	10.087	167	194	0.05	ng/ml	62
19) Fluoranthene	10.973	202	146	0.04	ng/ml	58
20) Pyrene	11.215	202	255	0.06	ng/ml	78
22) Benz(a)anthracene	13.120	228	1026	0.07	ng/ml	64
23) Chrysene	13.177	228	194	0.05	ng/ml	51
25) Benzo(b)fluoranthene	0.000		0	N.D.		
26) Benzo(k)fluoranthene	0.000		0	N.D.		
27) Benzo(b+k)fluoranthene	0.000		0	N.D.		
28) Benzo(e)pyrene	16.116	252	87	0.03	ng/ml	51
30) Benzo(a)pyrene	16.216	252	142	0.11	ng/ml	61
31) Perylene	16.425	252	89	0.03	ng/ml	49
33) Indeno(1,2,3-cd)pyrene	18.701	276	190	0.06	ng/ml#	1
34) Dibenz(a,h)anthracene	18.754	278	110	0.04	ng/ml	52
35) 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 : V:\DATA\2019-11\9K07023\
Data File : H11071905.D
Acq On : 7 Nov 2019 1:25 pm
Operator : JK /AMS /DTH
Sample : 9110577-BLK1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:06:09 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071906.D
Acq On : 7 Nov 2019 1:57 pm
Operator : JK /AMS /DTH
Sample : 9110577-BS1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:55 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DMT 11/7/19

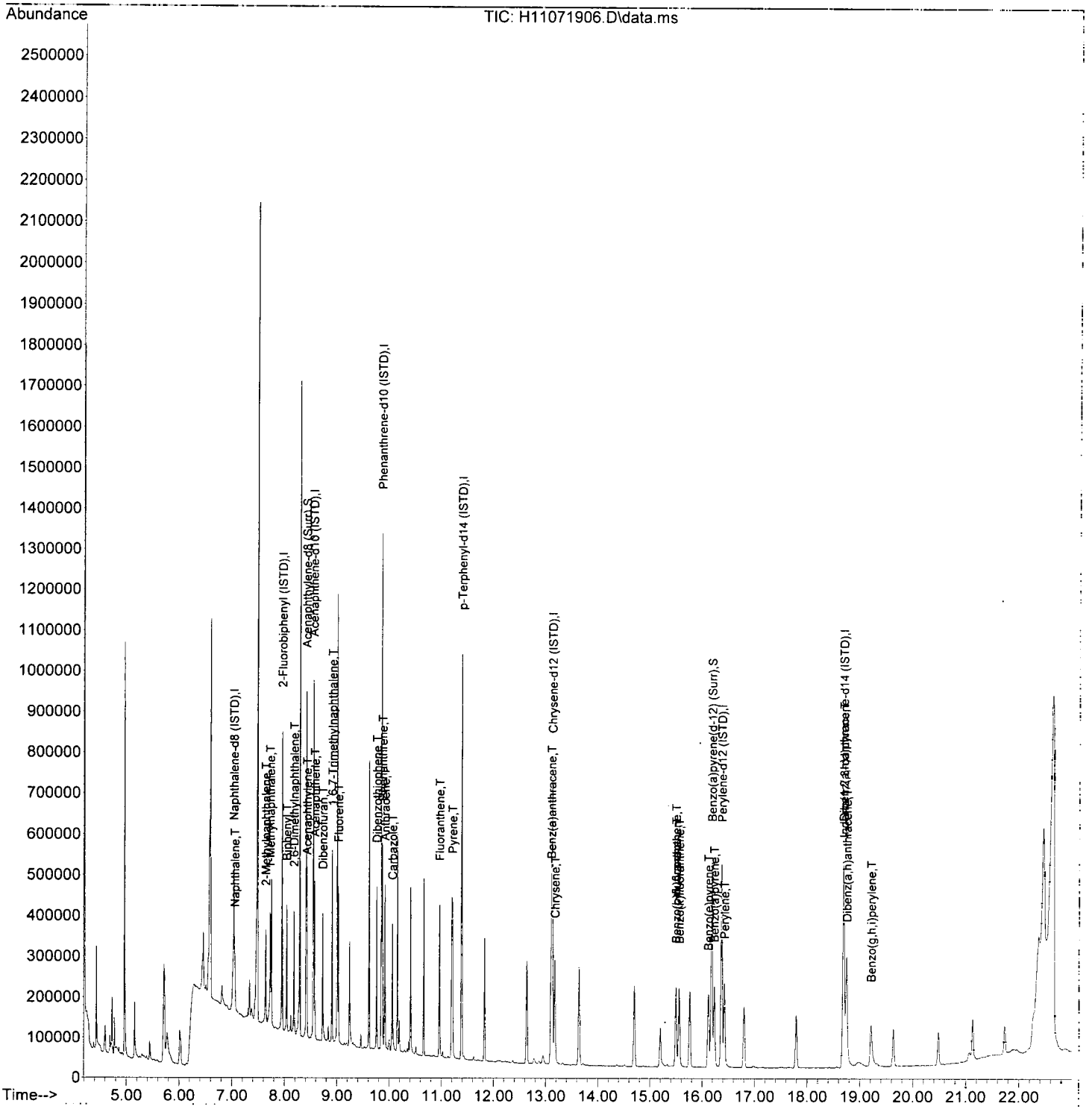
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.035	136	190316	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.544	164	154424	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	347624	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.125	240	351112	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.373	264	327401	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.687	292	287071	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	204743	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	333711	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	288786	103.01	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.182	264	301774	107.11	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.054	128	81002	36.68	ng/ml	95
3) 2-Methylnaphthalene	7.639	142	64314	37.71	ng/ml	97
4) 1-Methylnaphthalene	7.725	142	61649	38.19	ng/ml	91
6) Biphenyl	8.039	154	91609	35.47	ng/ml	92
7) 2,6-Dimethylnaphthalene	8.178	156	62972	34.79	ng/ml	90
9) Acenaphthylene	8.425	152	120210	39.16	ng/ml	98
10) Acenaphthene	8.573	153	82570	36.07	ng/ml	98
11) Dibenzofuran	8.725	168	109297	33.41	ng/ml	81
12) 1,6,7-Trimethylnaphtha...	8.906	170	71851	32.92	ng/ml	86
13) Fluorene	9.025	166	94189	33.24	ng/ml	97
15) Dibenzothiophene	9.758	184	124974	34.88	ng/ml	97
16) Phenanthrene	9.868	178	147433	35.36	ng/ml	100
17) Anthracene	9.916	178	141863	38.31	ng/ml	98
18) Carbazole	10.058	167	126428	35.21	ng/ml	95
19) Fluoranthene	10.963	202	156515	37.72	ng/ml	95
20) Pyrene	11.211	202	166011	36.90	ng/ml	100
22) Benz(a)anthracene	13.106	228	145122	39.85	ng/ml	98
23) Chrysene	13.178	228	144449	37.14	ng/ml	99
25) Benzo(b)fluoranthene	15.497	252	137791	39.15	ng/ml	91
26) Benzo(k)fluoranthene	15.559	252	141165	39.99	ng/ml	90
27) Benzo(b+k)fluoranthene	15.497	252	280745	79.14	ng/ml	91
28) Benzo(e)pyrene	16.116	252	134470	38.63	ng/ml	99
30) Benzo(a)pyrene	16.230	252	127874	41.51	ng/ml	97
31) Perylene	16.425	252	128705	36.82	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.692	276	117934	34.72	ng/ml	78
34) Dibenz(a,h)anthracene	18.749	278	126642	37.40	ng/ml	90
35) Benzo(g,h,i)perylene	19.211	276	113647	37.75	ng/ml	83

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

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071906.D
Acq On : 7 Nov 2019 1:57 pm
Operator : JK /AMS /DTH
Sample : 9110577-BS1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:55 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DAH 11/7/19 DAH 11/7/19 R02

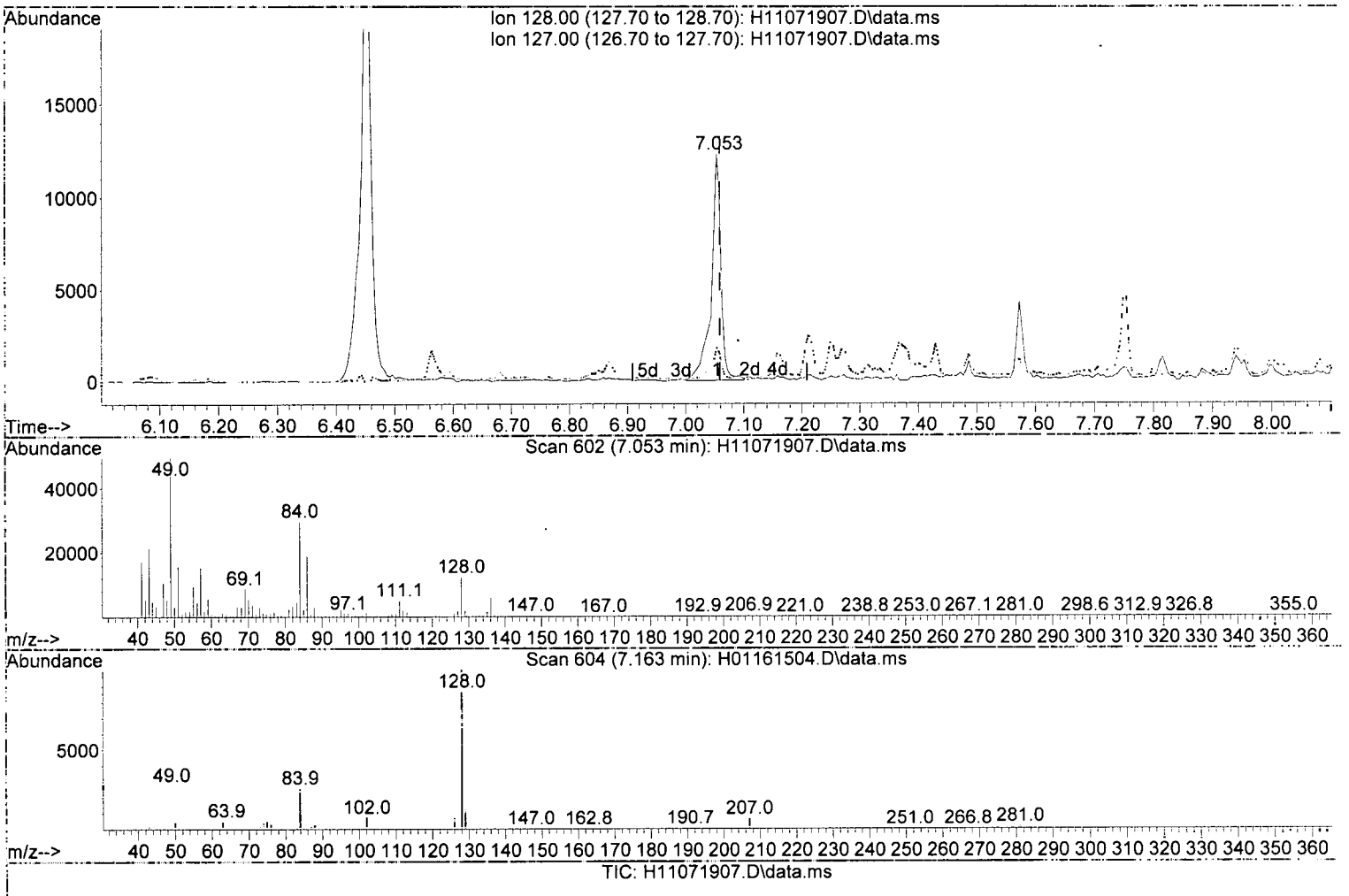
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.034	136	208381	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	189330	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	393538	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.149	240	392692	100.00	ng/ml	0.01
24) Perylene-d12 (ISTD)	16.396	264	364577	100.00	ng/ml	0.01
32) Dibenz(a,h)anthracene-...	18.696	292	325230	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.953	172	216792	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.392	244	333610	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	397265	115.06	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.206	264	338051	107.65	ng/ml	0.02
Target Compounds						Qvalue
2) Naphthalene	7.053	128	14273	5.90	ng/ml	92
3) 2-Methylnaphthalene	7.639	142	2668	1.43	ng/ml	78
4) 1-Methylnaphthalene	7.725	142	2780	1.57	ng/ml#	83
6) Biphenyl	8.044	154	2165	0.68	ng/ml	92
7) 2,6-Dimethylnaphthalene	8.177	156	2523	1.14	ng/ml	69
9) Acenaphthylene	8.377	152	15191	↑ 4.04	ng/ml# R02	1
10) Acenaphthene	~~8.539~~	~~153~~	~~29269~~	~~10.43~~	~~ng/ml#~~	~~41~~ MI R02
11) Dibenzofuran	8.725	168	1836	↑ 0.46	ng/ml# mol:mol	
12) 1,6,7-Trimethylnaphtha...	8.906	170	624	0.23	ng/ml#	1
13) Fluorene	~~9.025~~	~~166~~	~~7939~~	~~2.29~~	~~ng/ml~~	~~93~~ MI H.I
15) Dibenzothiophene	9.758	184	6988	1.72	ng/ml	72
16) Phenanthrene	9.868	178	51030	10.81	ng/ml	99
17) Anthracene	9.915	178	10072	2.40	ng/ml	84
18) Carbazole	~~10.063~~	~~167~~	~~7998~~	~~1.97~~	~~ng/ml~~	~~43~~ MI H.I
19) Fluoranthene	10.968	202	8271	1.76	ng/ml	75
20) Pyrene	11.215	202	9836	1.93	ng/ml	77
22) Benz(a)anthracene	13.134	228	3077	↑ 0.55	ng/ml# R02	27
23) Chrysene	13.201	228	1639	↑ 0.38	ng/ml# mol:mol	
25) Benzo(b)fluoranthene	~~15.539~~	~~252~~	~~1598~~	~~0.44~~	~~ng/ml#~~	~~10~~ MI ↑ mol:mol
26) Benzo(k)fluoranthene	~~15.539~~	~~252~~	~~2380~~	~~0.67~~	~~ng/ml#~~	~~15~~ MI ↑ mol:mol
27) Benzo(b+k)fluoranthene	15.539	252	2976	0.83	ng/ml#	10
28) Benzo(e)pyrene	16.144	252	1079	0.28	ng/ml#	43
30) Benzo(a)pyrene	16.258	252	1430	0.52	ng/ml#	1
31) Perylene	16.444	252	505	0.13	ng/ml#	28
33) Indeno(1,2,3-cd)pyrene	~~18.687~~	~~276~~	~~1845~~	~~0.48~~	~~ng/ml#~~	~~1~~ MI H.I
34) Dibenz(a,h)anthracene	18.758	278	565	0.15	ng/ml#	1
35) Benzo(g,h,i)perylene	19.225	276	1691	0.50	ng/ml	74

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

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071907.D\data.ms

(2) Naphthalene (T)

7.053min (-0.005) 5.90 ng/ml

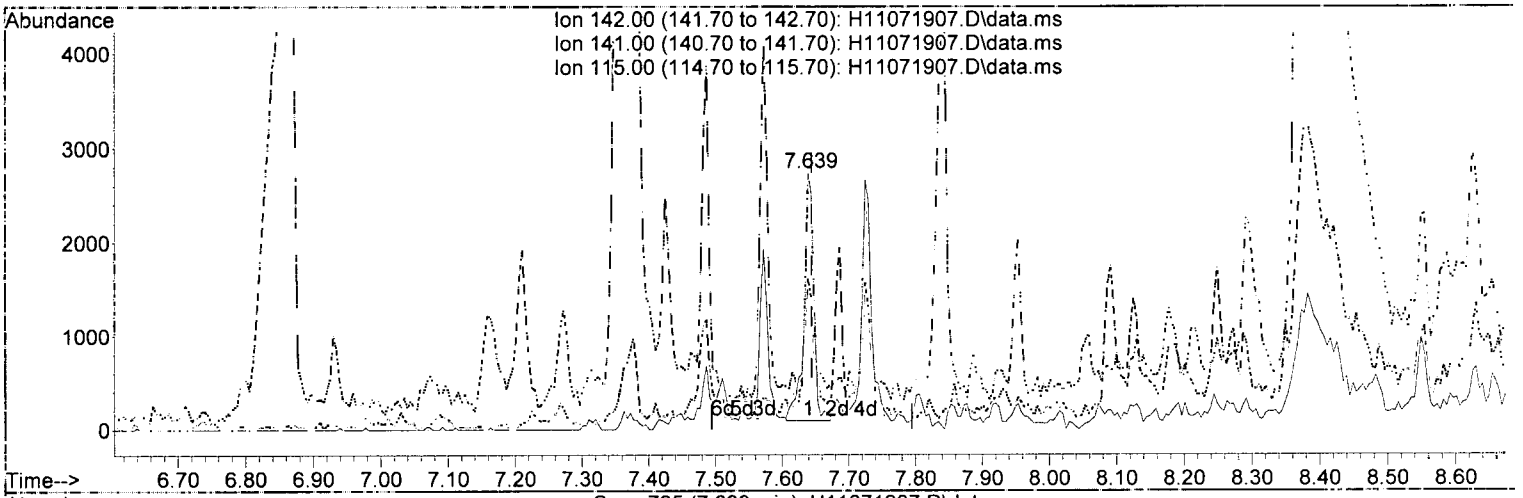
response 14273

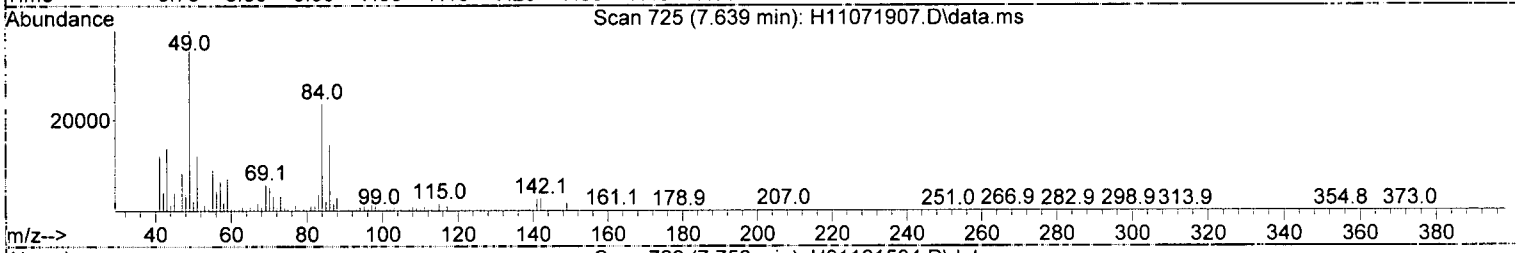
Ion	Exp%	Act%
128.00	100.00	100.00
127.00	11.50	14.73
0.00	0.00	0.00
0.00	0.00	0.00

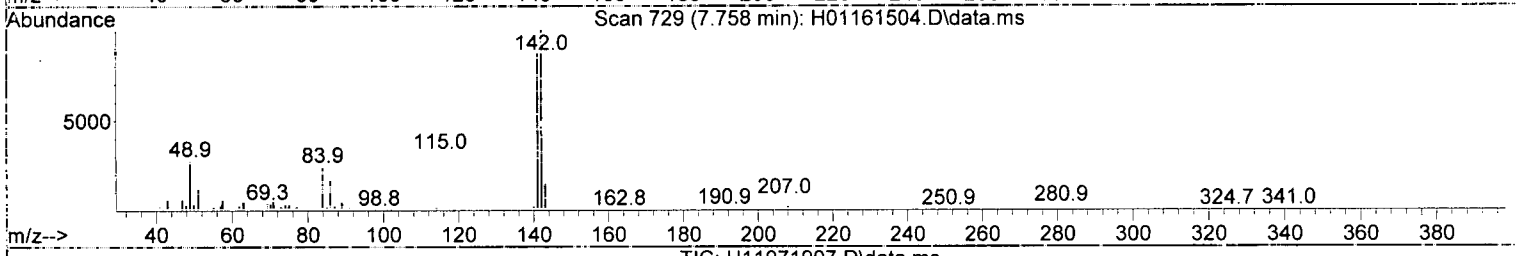
Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8







TIC: H11071907.D\data.ms

(3) 2-Methylnaphthalene (T)

7.639min (-0.005) 1.43 ng/ml J

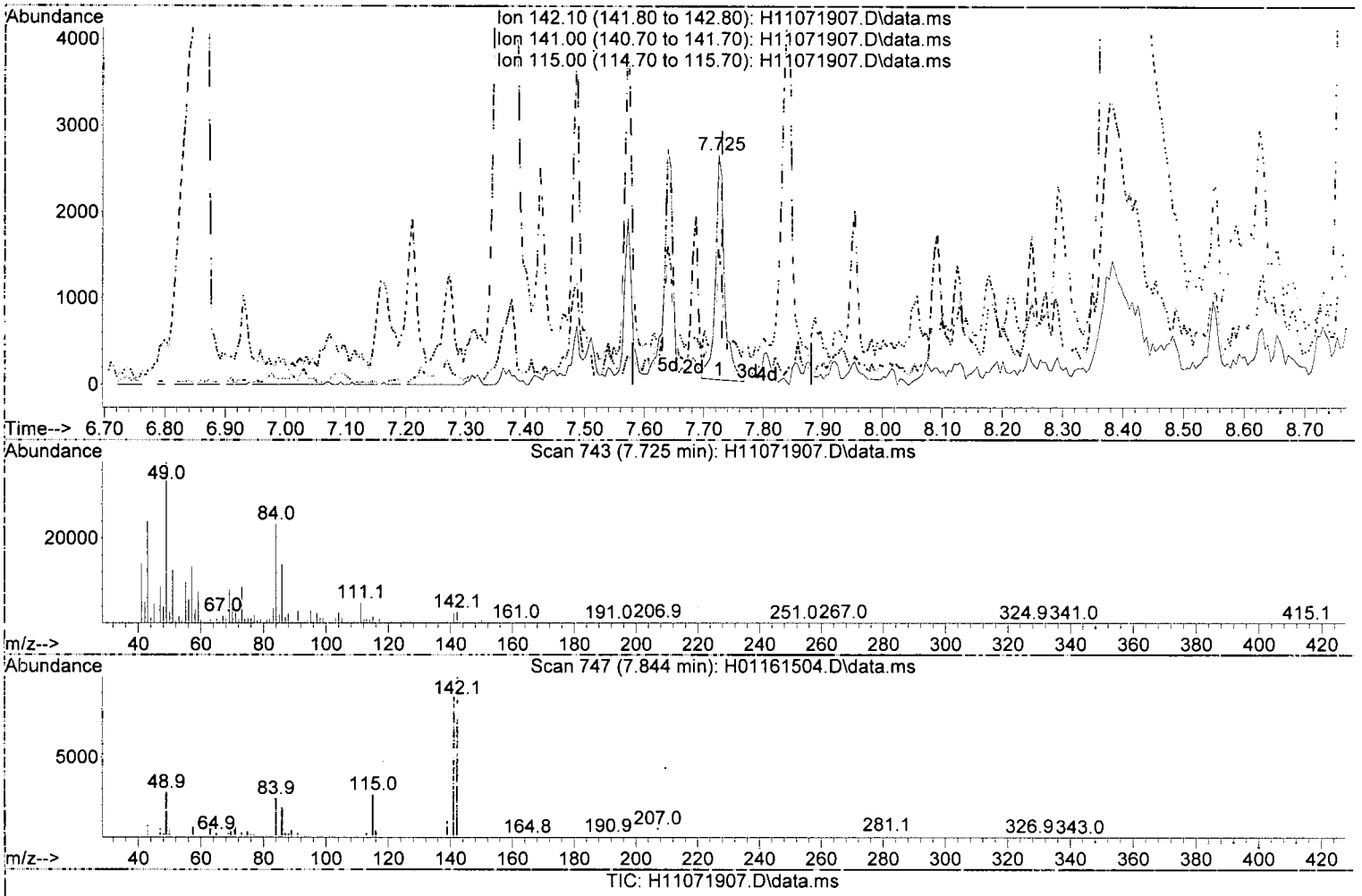
response 2668

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	87.50	98.68
115.00	32.00	59.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(4) 1-Methylnaphthalene (T)

7.725min (-0.005) 1.57 ng/ml J

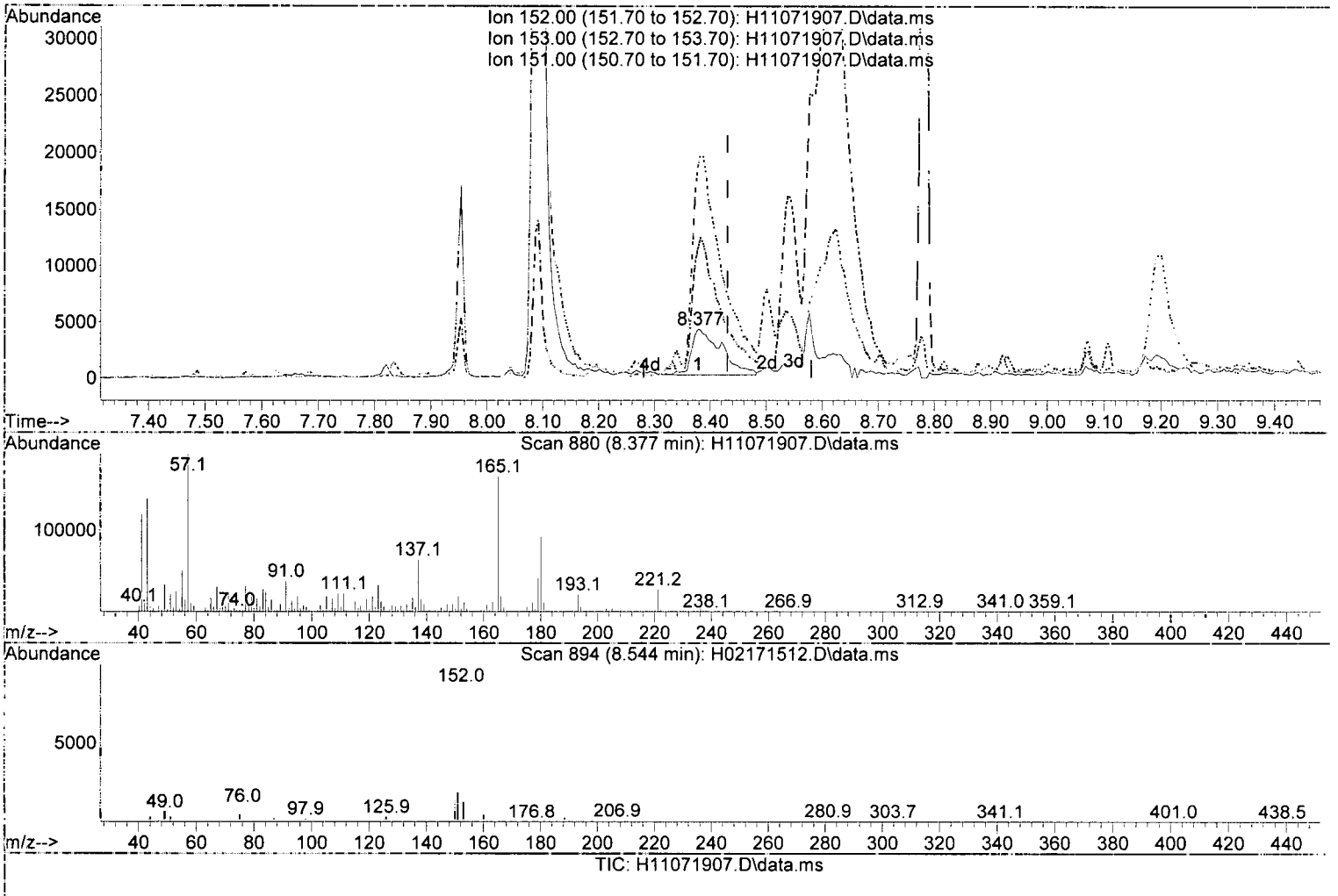
response 2780

Ion	Exp%	Act%
142.10	100.00	100.00
141.00	88.10	90.70
115.00	26.90	58.87#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(9) Acenaphthylene (T)

8.377min (-0.053) 4.04 ng/ml R07

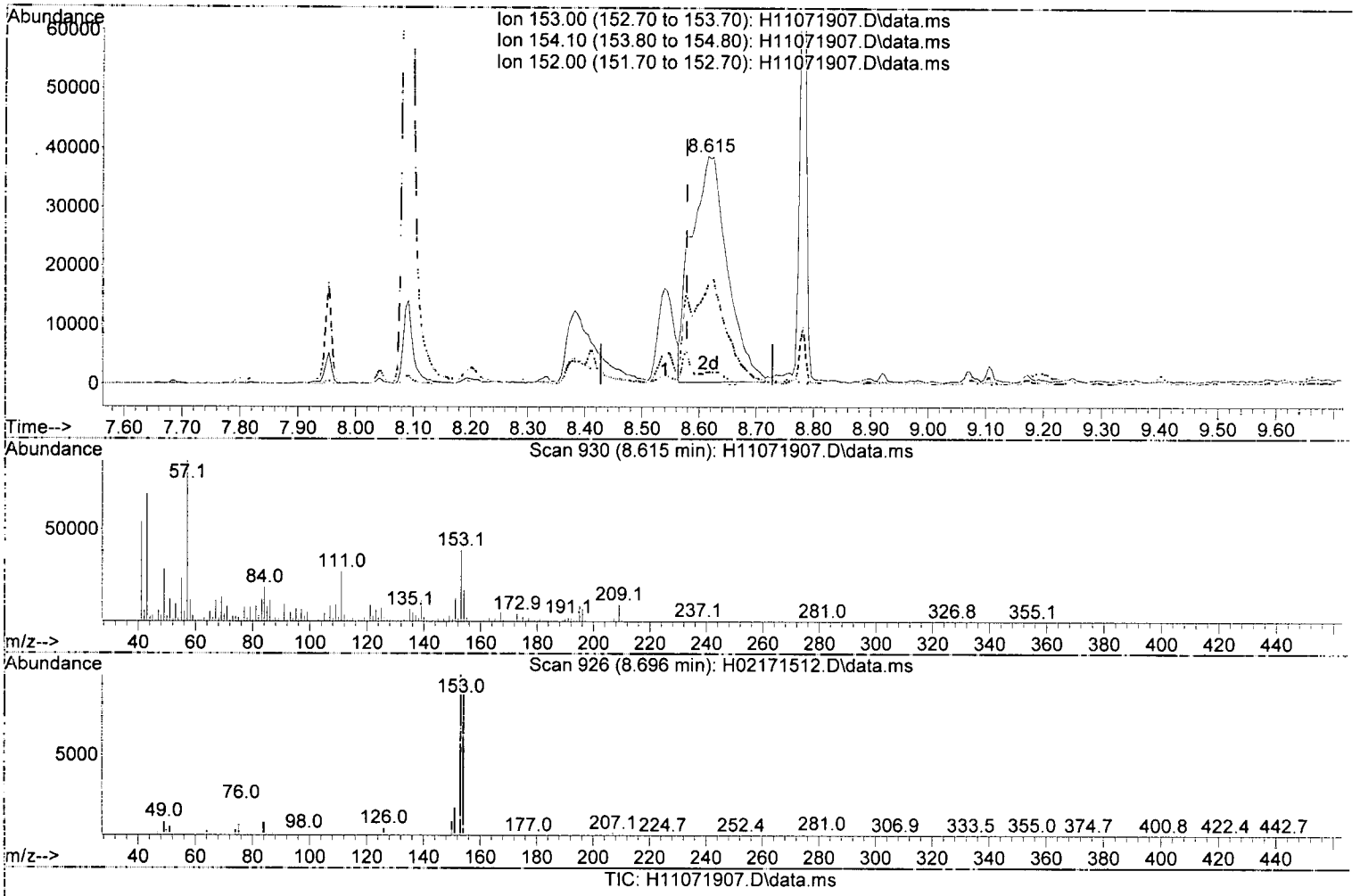
response 15191

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	13.00	265.11#
151.00	18.40	431.39#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(10) Acenaphthene (T)

8.615min (+ 0.038) 60.03 ng/ml (m) RDZ

DTH 11/7/19

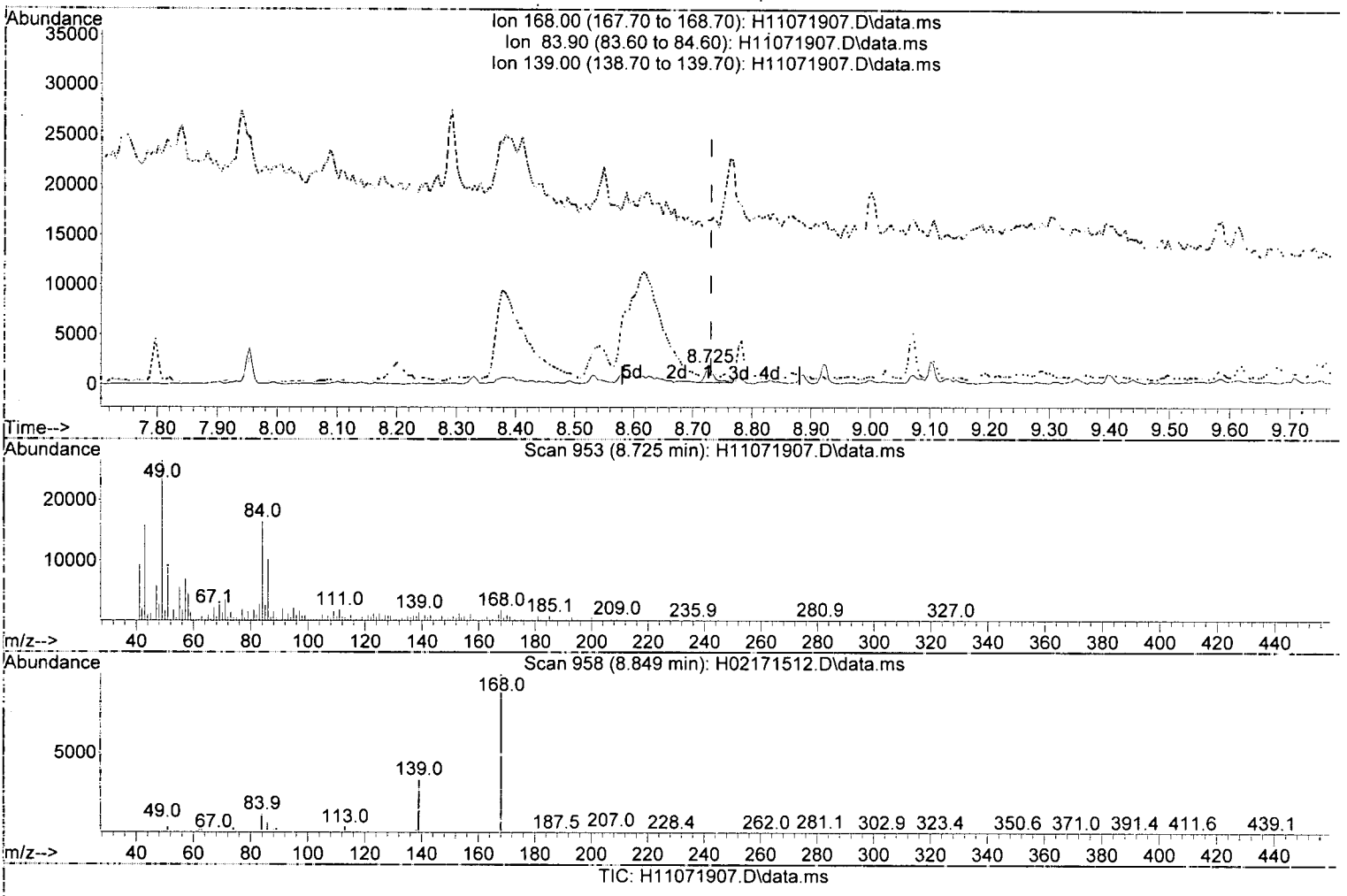
response 168503

Ion	Exp%	Act%
153.00	100.00	100.00
154.10	88.60	43.72#
152.00	46.00	5.39#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071907.D\data.ms

(11) Dibenzofuran (T)

8.725min (-0.005) 0.46 ng/ml Marginal

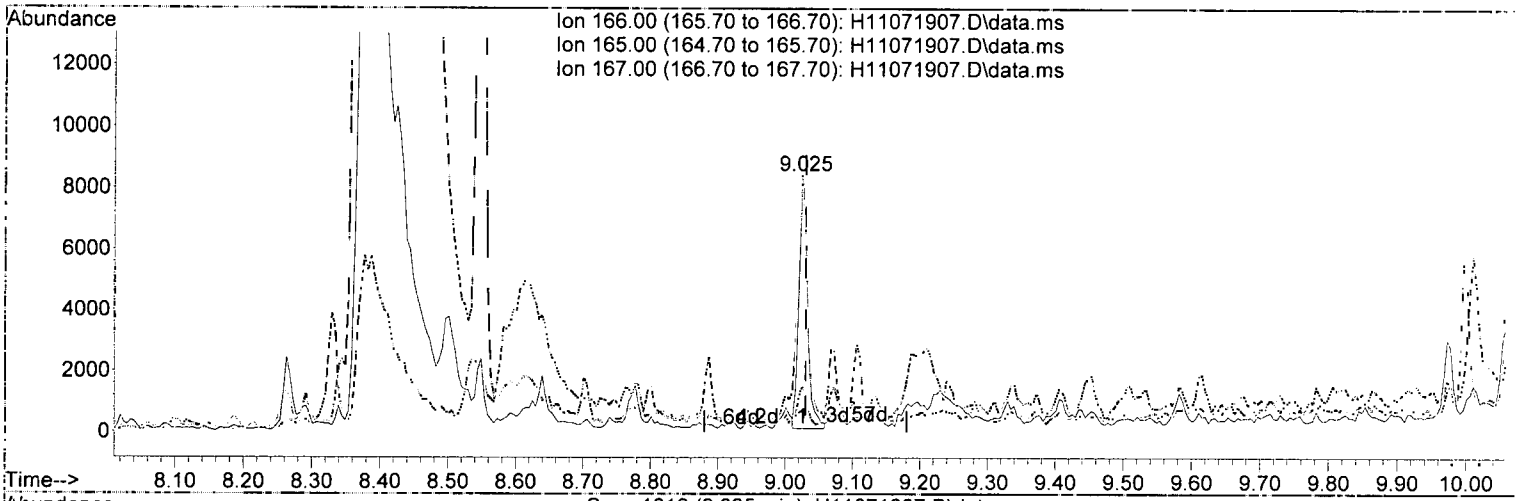
response 1836

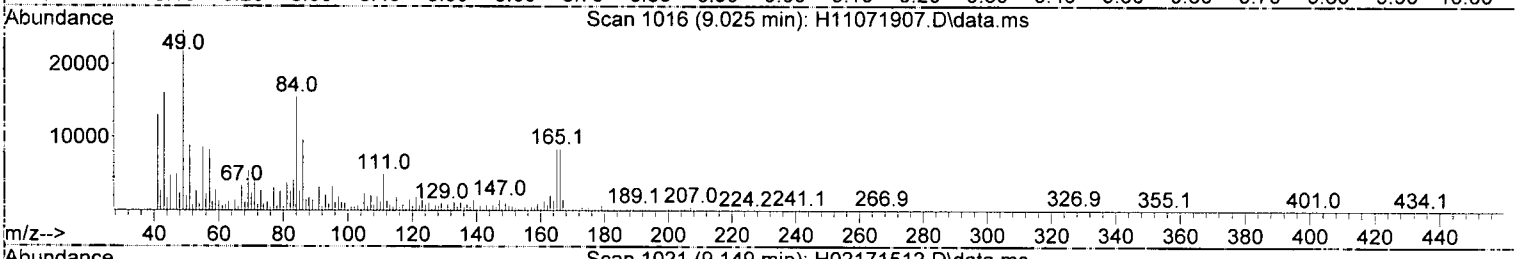
Ion	Exp%	Act%
168.00	100.00	100.00
83.90	15.50	918.93#
139.00	32.00	77.67#
0.00	0.00	0.00

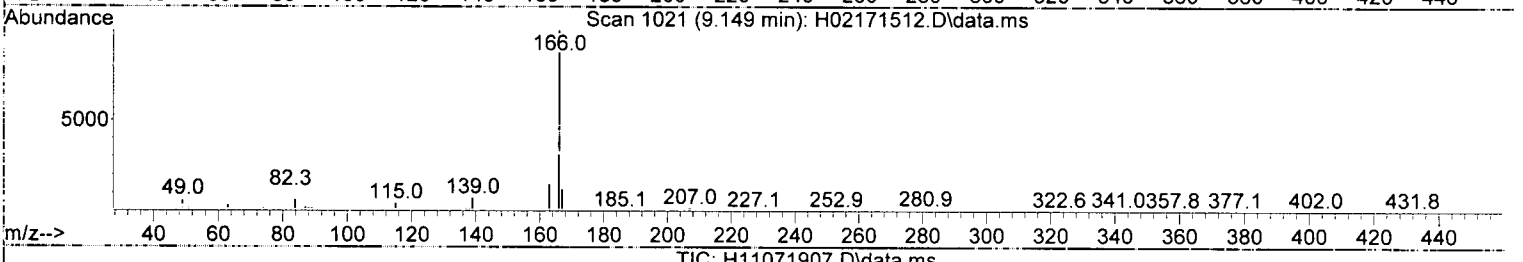
Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8







TIC: H11071907.D\data.ms

(13) Fluorene (T)

9.025min (-0.005) 2.10 ng/ml (m)

response 7282

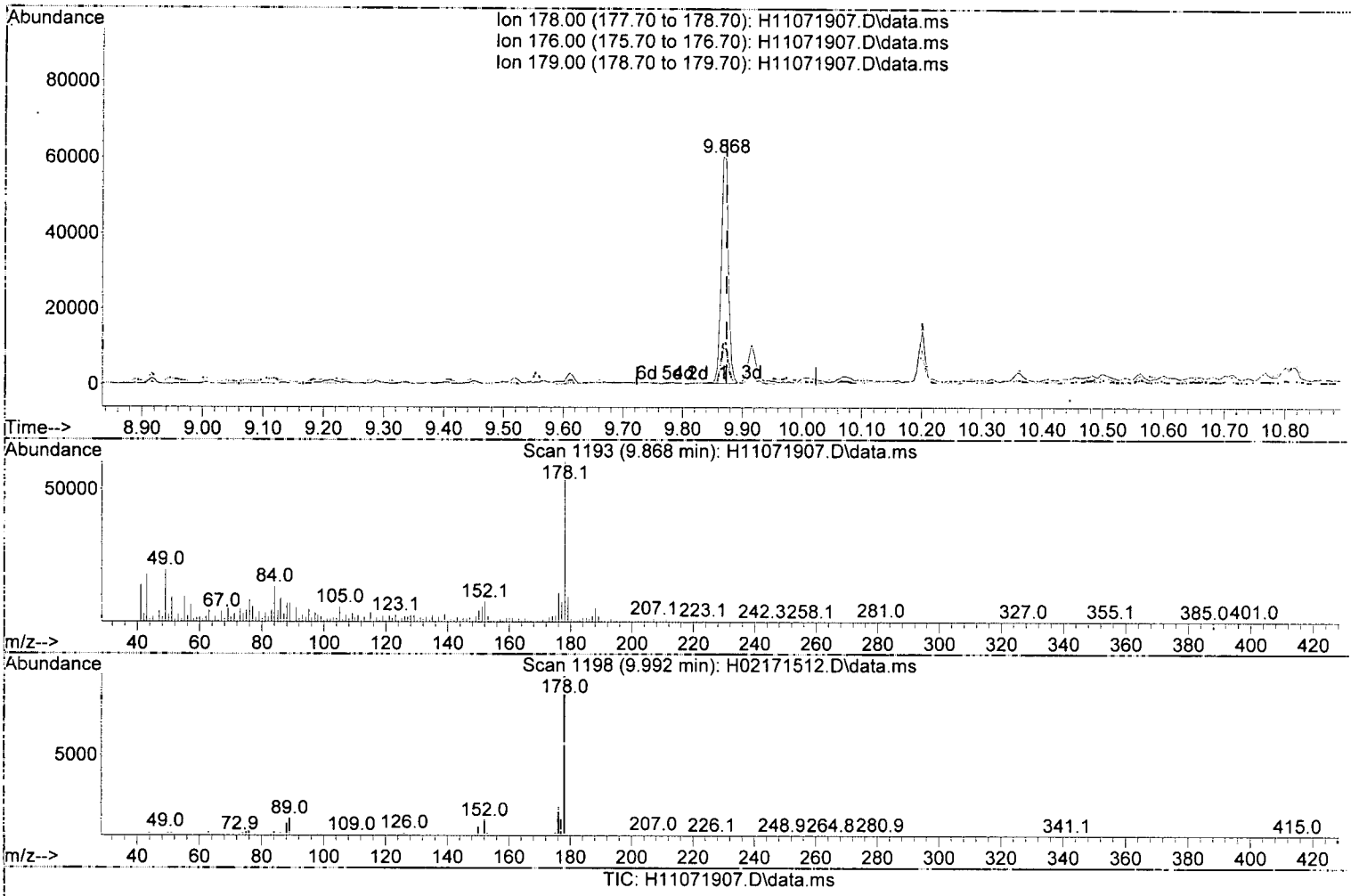
Ion	Exp%	Act%
166.00	100.00	100.00
165.00	94.50	100.30
167.00	13.50	18.08
0.00	0.00	0.00

MK 11/7/19

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(16) Phenanthrene (T)

9.868min (-0.005) 10.81 ng/ml

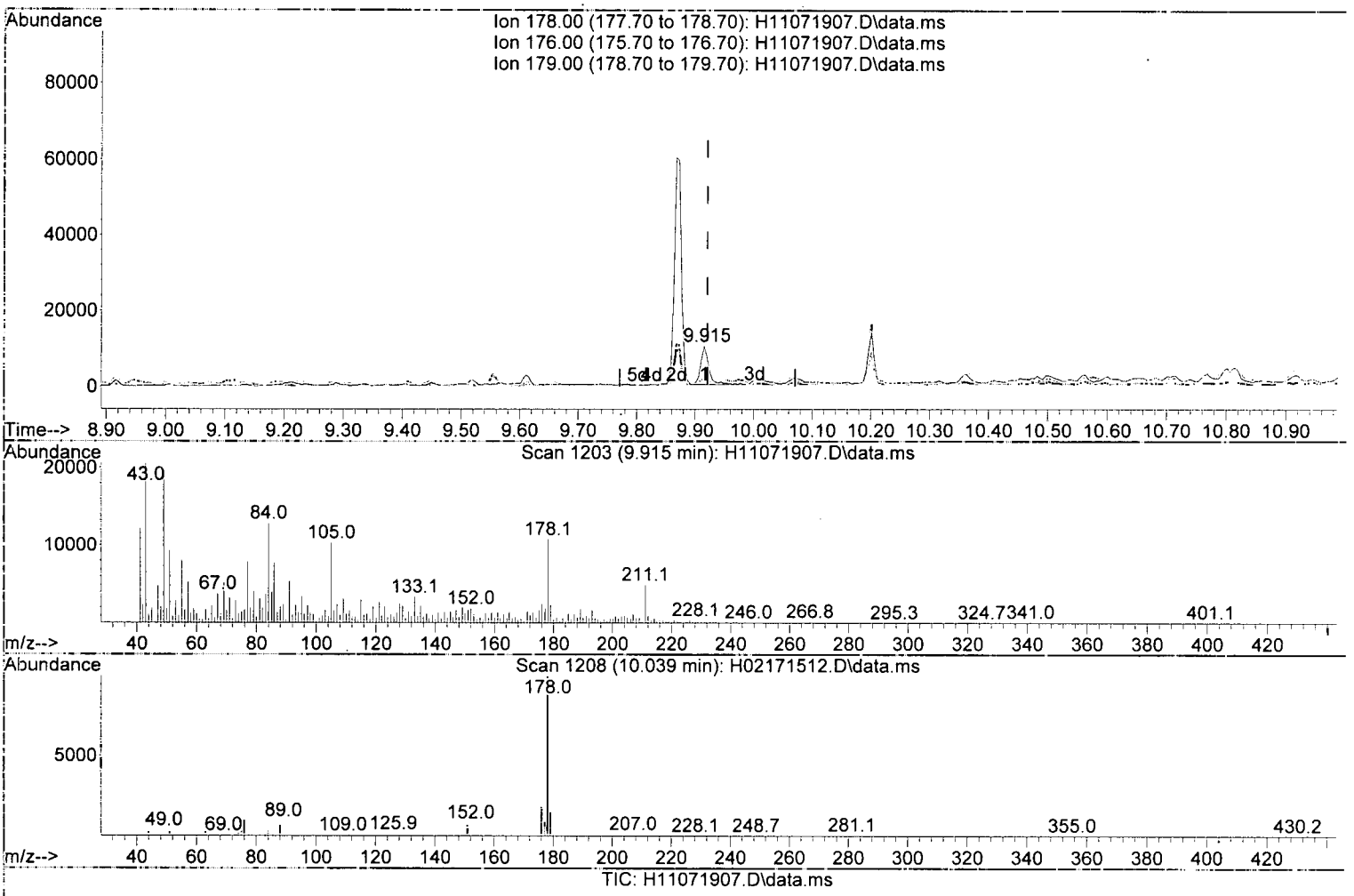
response 51030

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.63
179.00	15.00	15.97
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(17) Anthracene (T)

9.915min (-0.005) 2.40 ng/ml

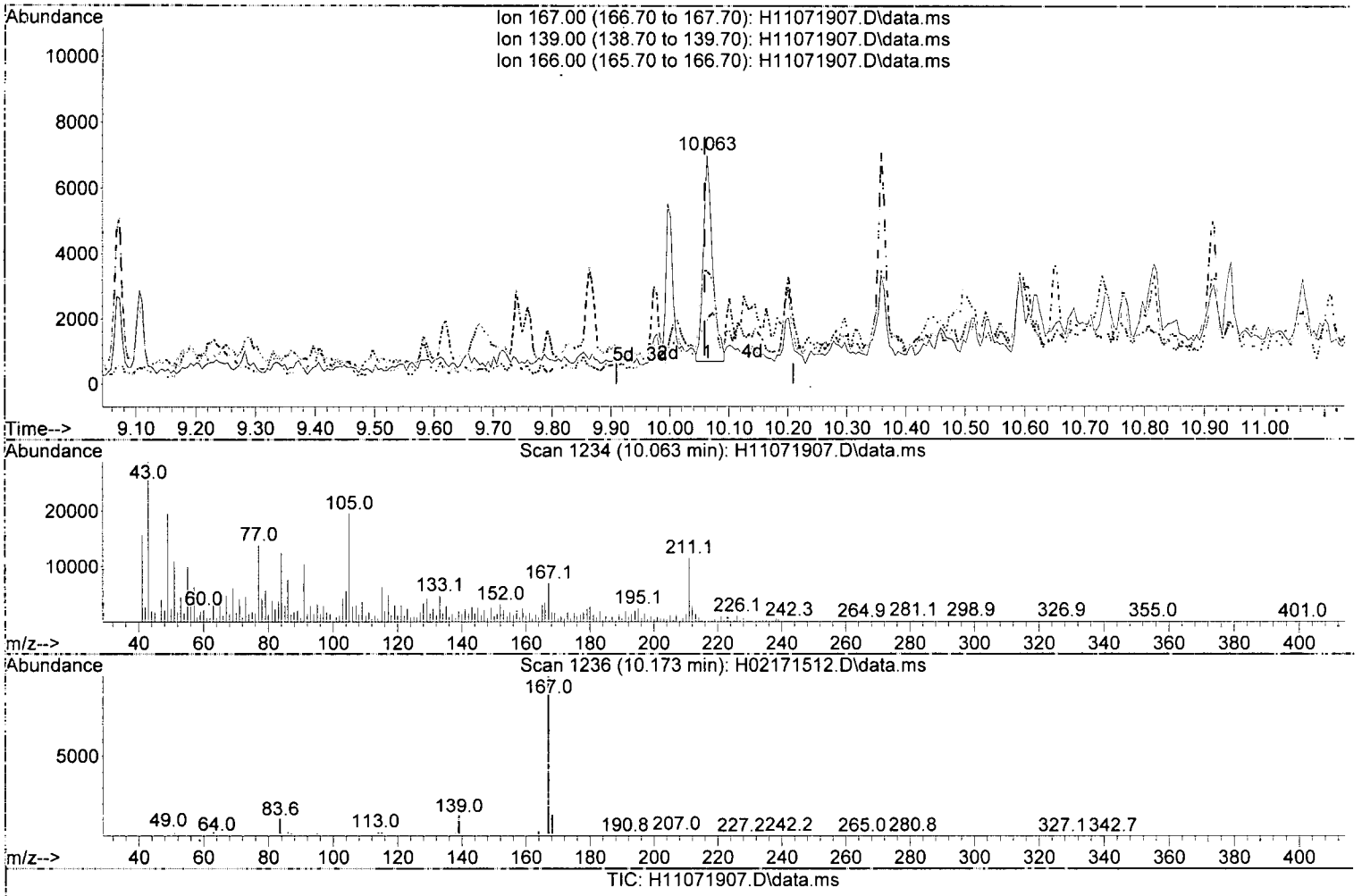
response 10072

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	17.30	22.94
179.00	14.00	21.76
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071907.D\data.ms

(18) Carbazole (T)

10.063min (+ 0.005) 1.71 ng/ml (m) DTH 11/7/19

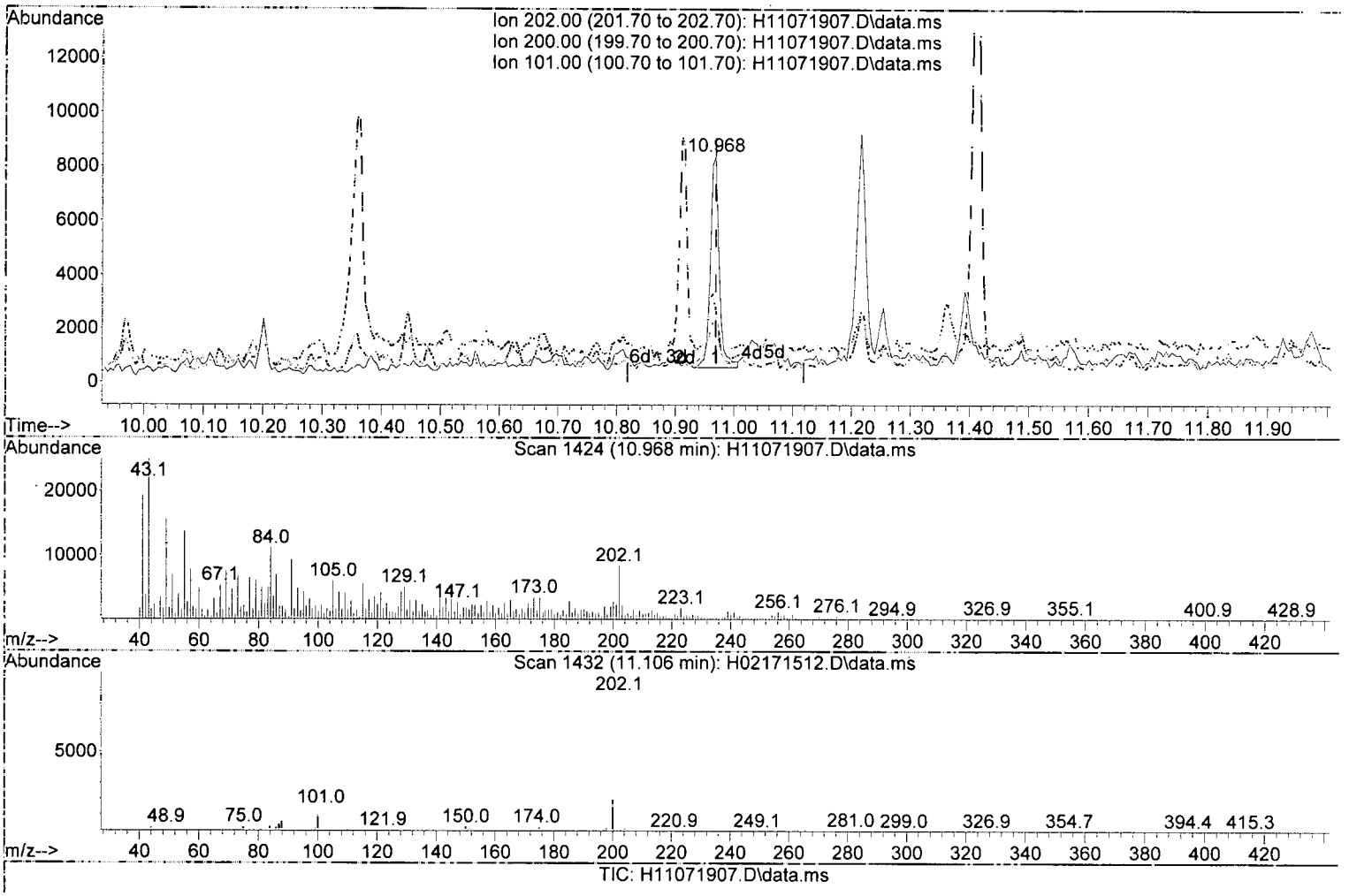
response 6971

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	11.20	28.32
166.00	19.90	49.46
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(19) Fluoranthene (T)

10.968min (-0.000) 1.76 ng/ml

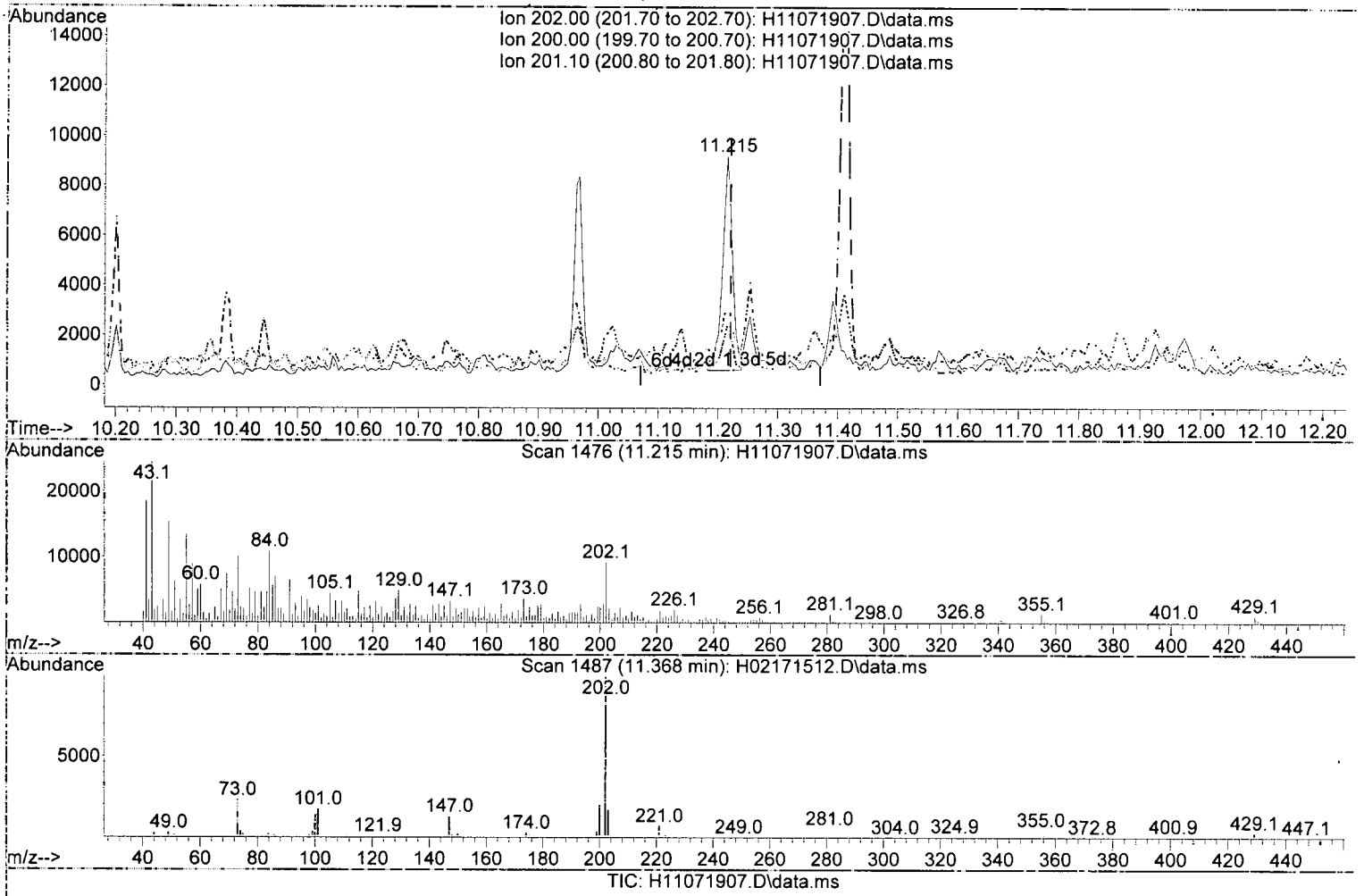
response 8271

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.40	33.03
101.00	17.70	25.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071907.D\data.ms

(20) Pyrene (T)

11.215min (-0.005) 1.93 ng/ml

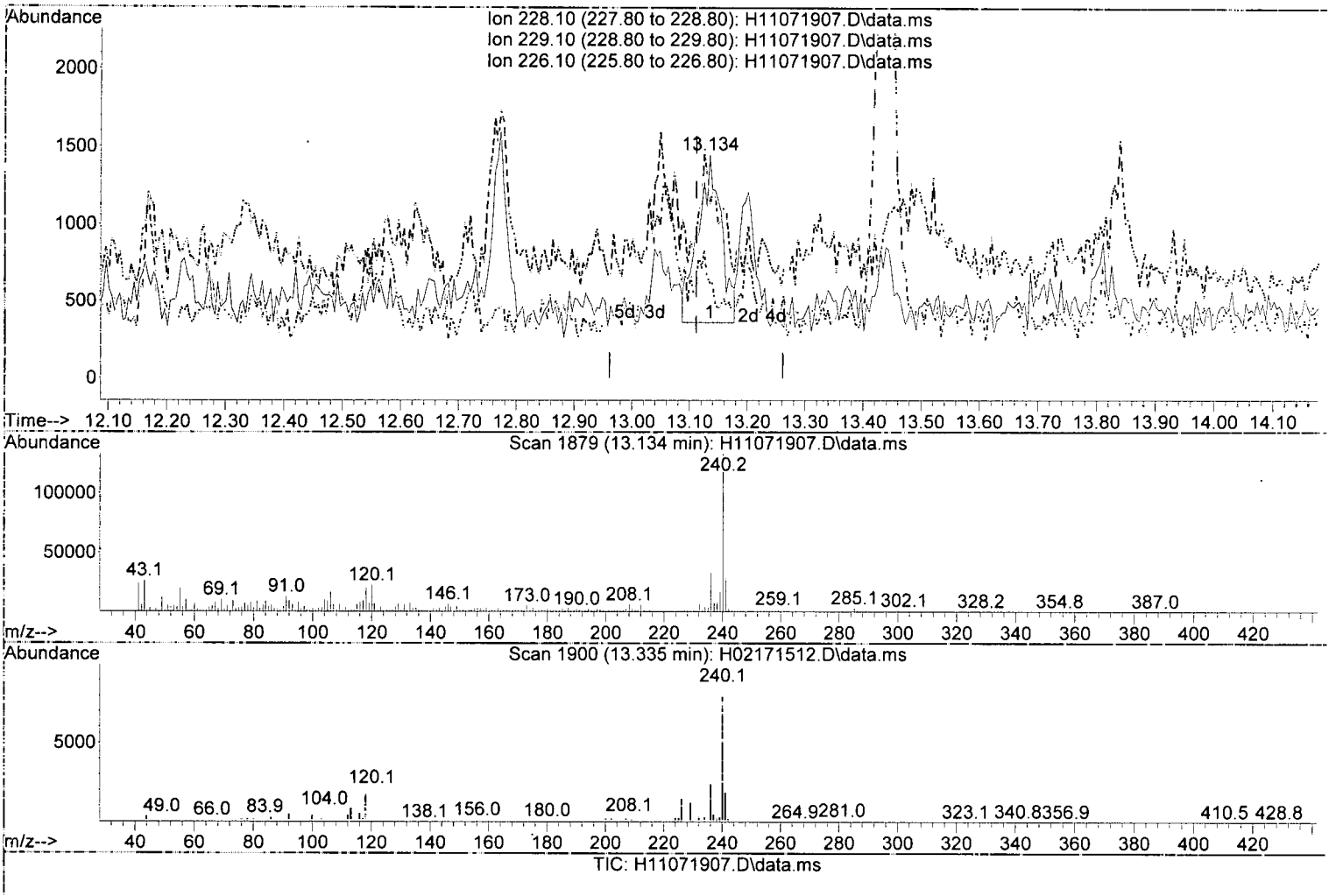
response 9836

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.10	26.28
201.10	16.50	31.69
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(22) Benz(a)anthracene (T)

13.134min (+ 0.024) 0.55 ng/ml R02

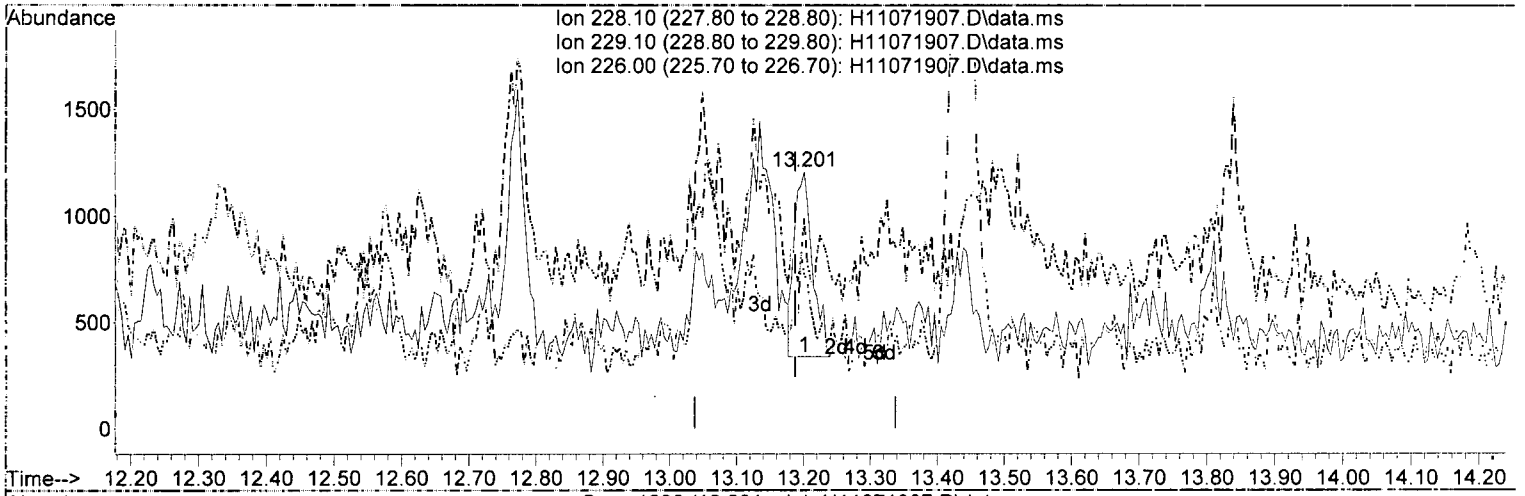
response 3077

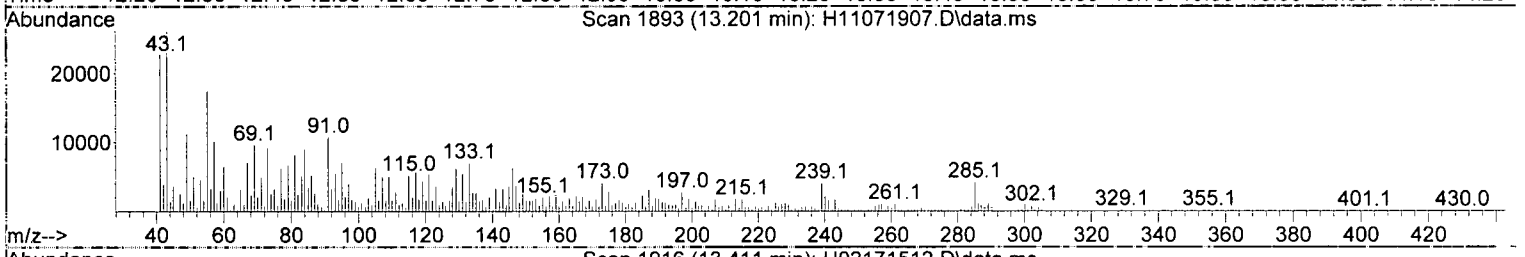
Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.10	77.46#
226.10	26.10	42.45
0.00	0.00	0.00

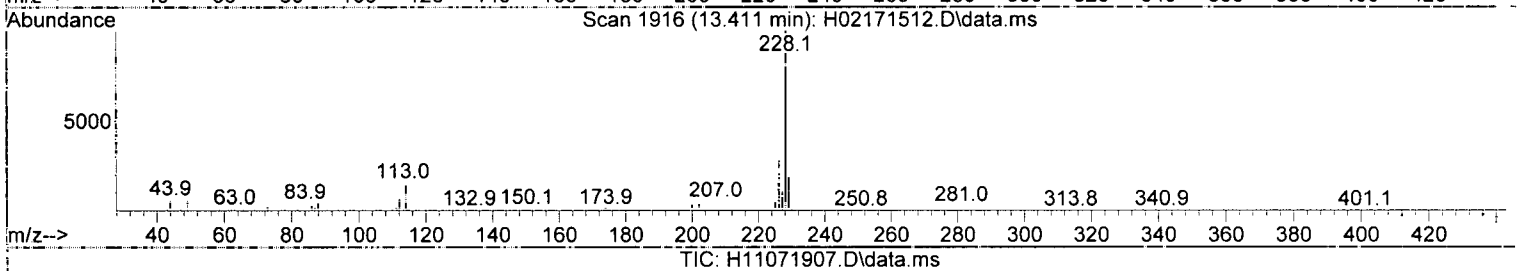
Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8







TIC: H11071907.D\data.ms

(23) Chrysene (T)

13.201min (+ 0.014) 0.38 ng/ml ↑mol/mL

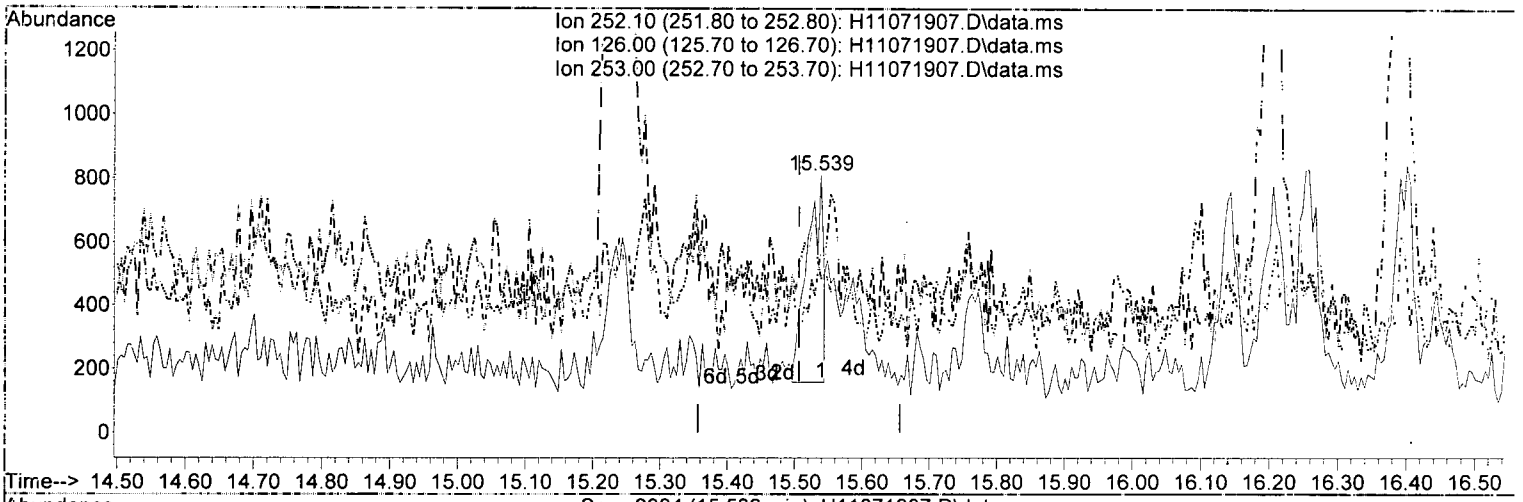
response 1639

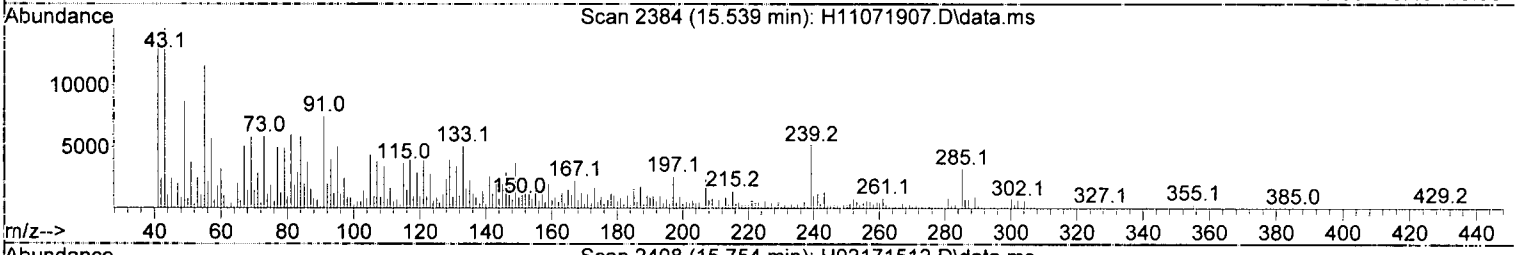
Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.00	81.59#
226.00	28.20	59.62#
0.00	0.00	0.00

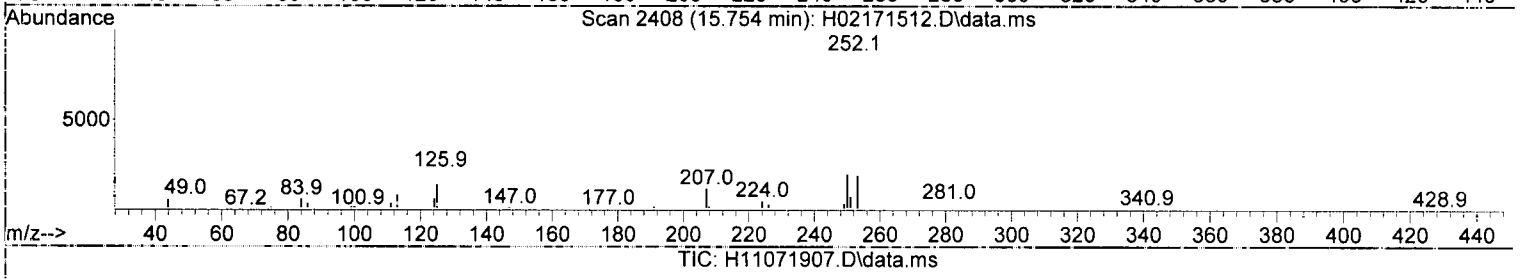
Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8







TIC: H11071907.D\data.ms

(25) Benzo(b)fluoranthene (T)

15.539min (+ 0.033) 0.30 ng/ml m MOL-mrc

response 1104

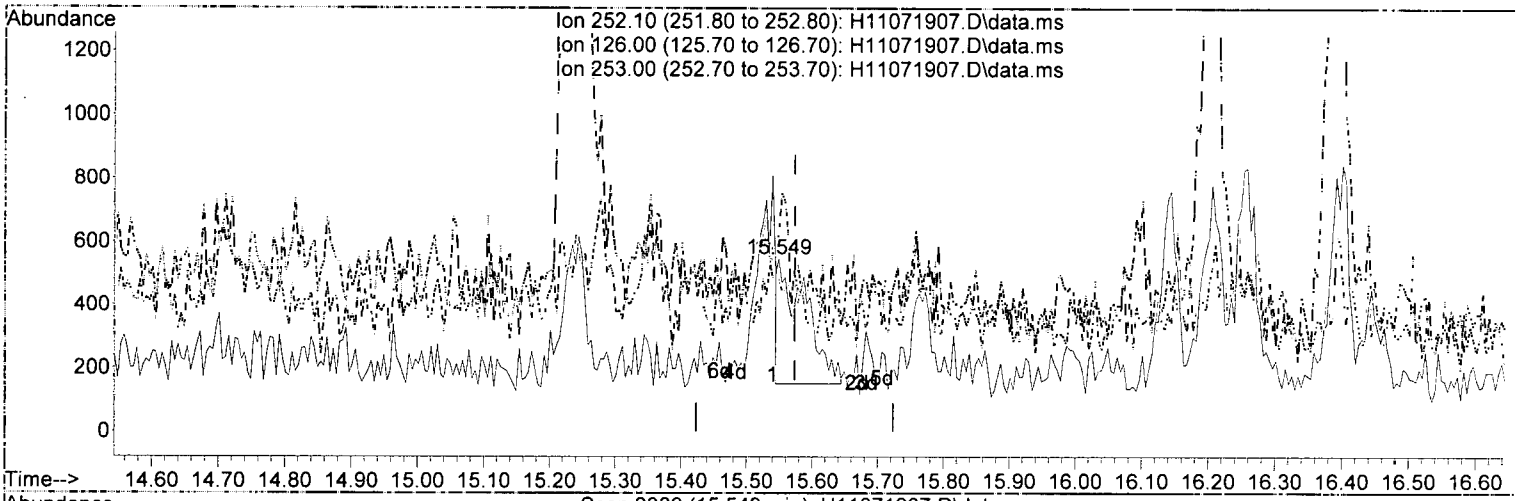
DTH 11/7/19 ✓

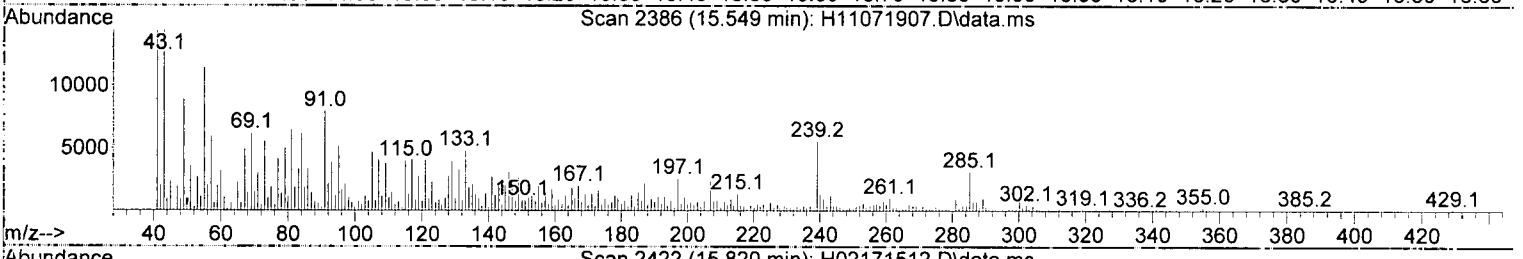
Ion	Exp%	Act%
252.10	100.00	100.00
126.00	22.30	59.85#
253.00	22.60	71.80#
0.00	0.00	0.00

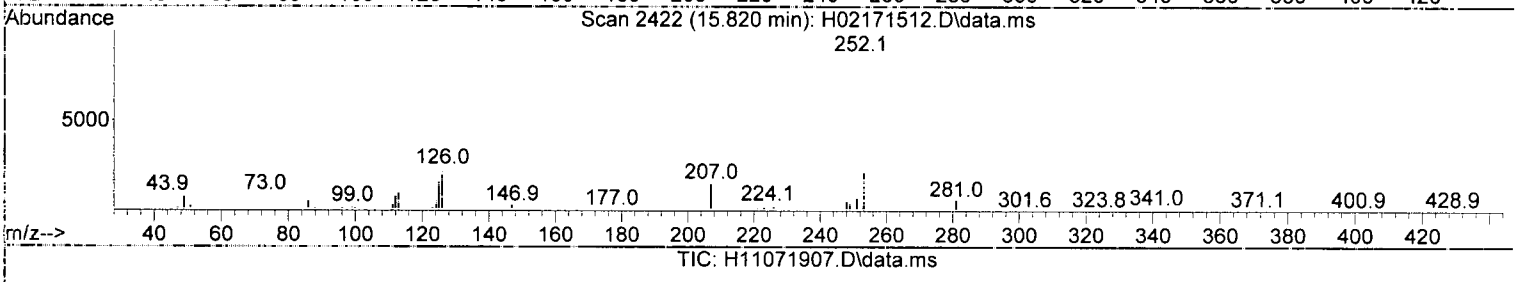
Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8







TIC: H11071907.D\data.ms

(26) Benzo(k)fluoranthene (T)

15.549min (-0.024) 0.34 ng/ml (m) MDL=MRL

response 1161

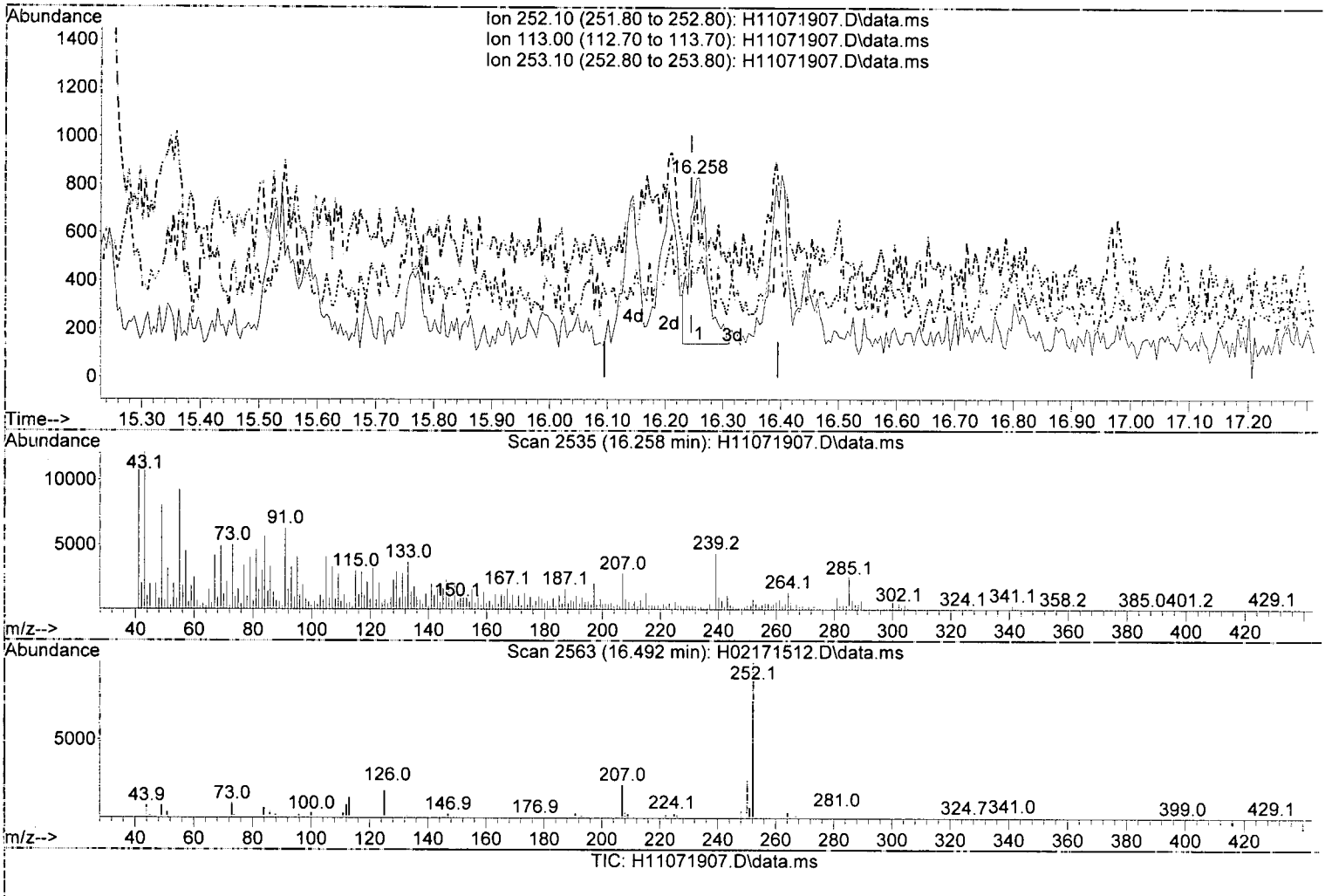
DTH 11/7/19

Ion	Exp%	Act%
252.10	100.00	100.00
126.00	25.80	89.93#
253.00	21.50	114.84#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071907.D\data.ms

(30) Benzo(a)pyrene (T)

16.258min (+ 0.014) 0.52 ng/ml

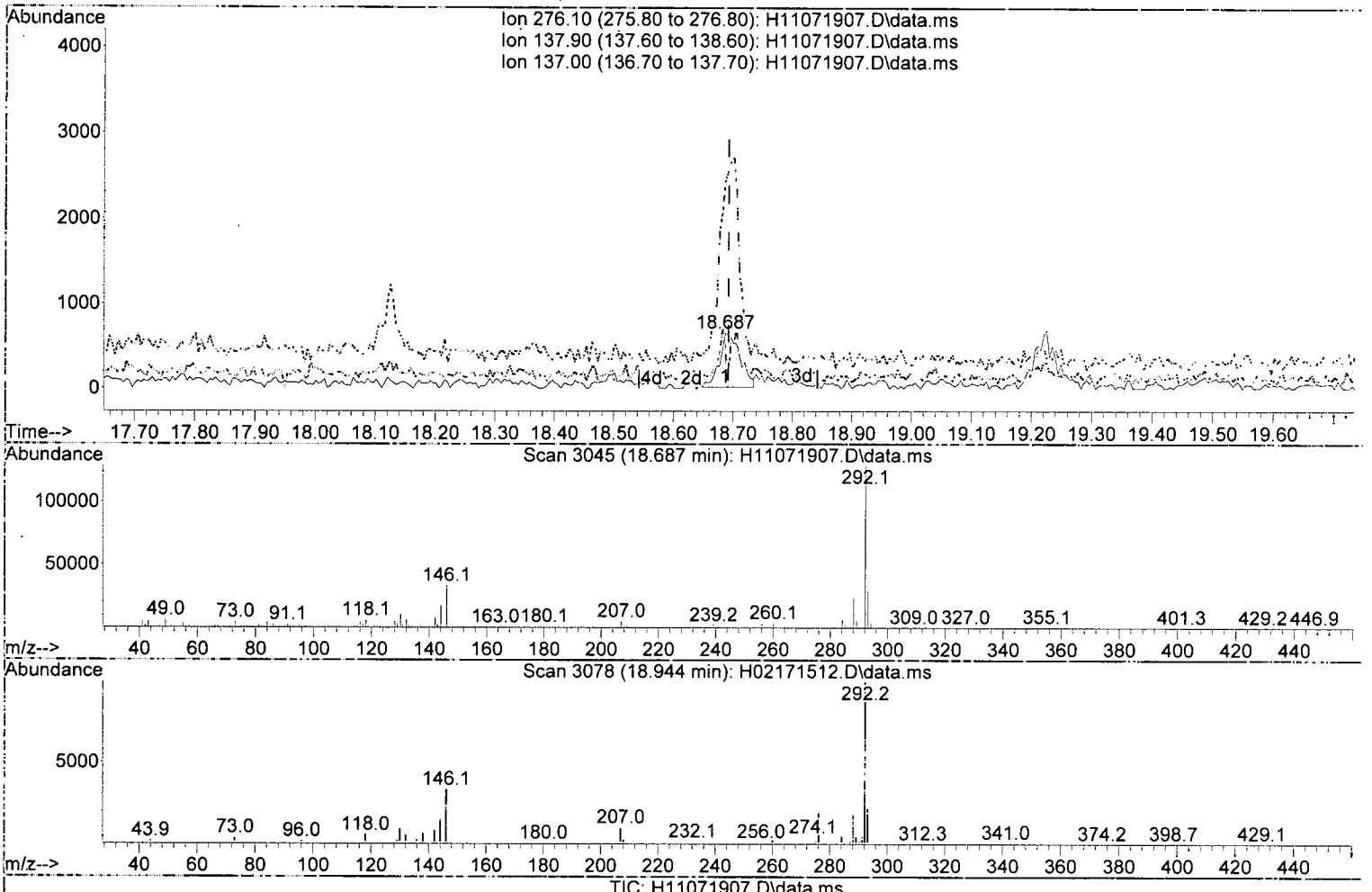
response 1430

Ion	Exp%	Act%
252.10	100.00	100.00
113.00	12.00	65.67#
253.10	20.40	56.06#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071907.D\data.ms

(33) Indeno(1,2,3-cd)pyrene (T)

18.687min (-0.005) 0.40 ng/ml m

DTH 11/7/19

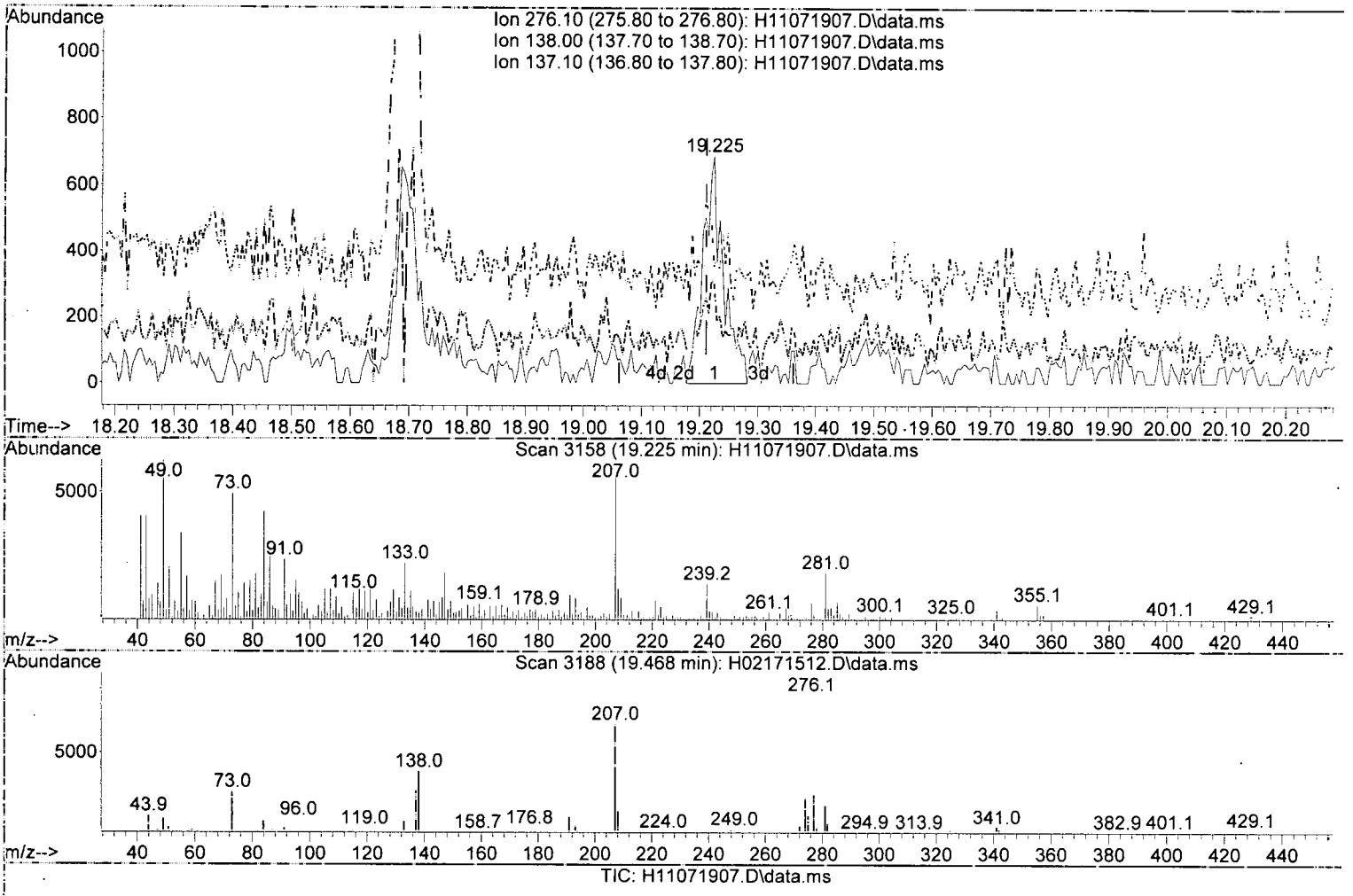
response 1537

Ion	Exp%	Act%
276.10	100.00	100.00
137.90	37.00	79.57#
137.00	33.70	373.17#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(35) Benzo(g,h,i)perylene (T)

19.225min (+ 0.014) 0.50 ng/ml J

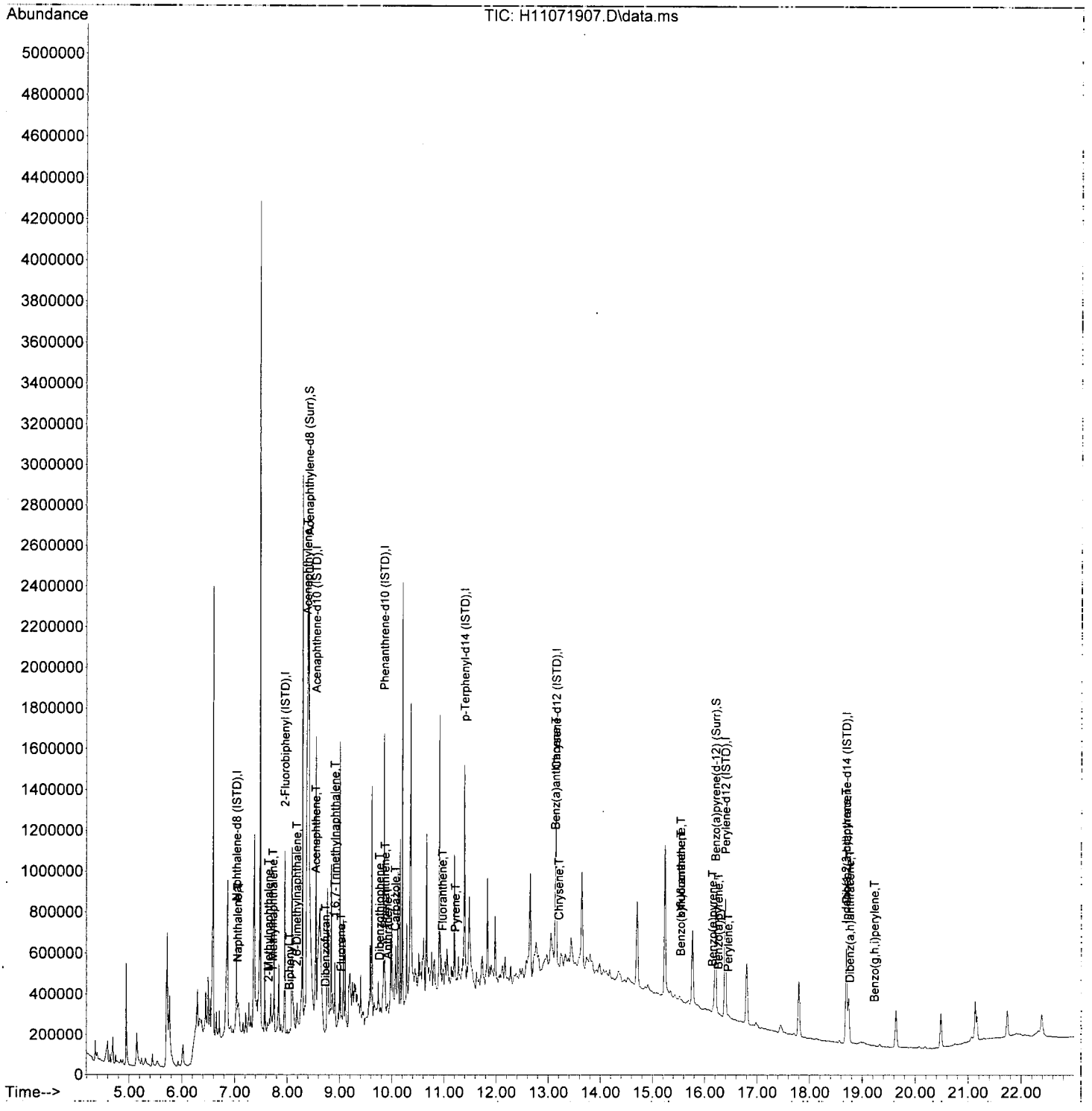
response 1691

Ion	Exp%	Act%
276.10	100.00	100.00
138.00	34.50	43.77
137.10	31.20	51.16
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071907.D
Acq On : 7 Nov 2019 2:29 pm
Operator : JK /AMS /DTH
Sample : A9K0165-01
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 14:56:59 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19 RR2 RO2

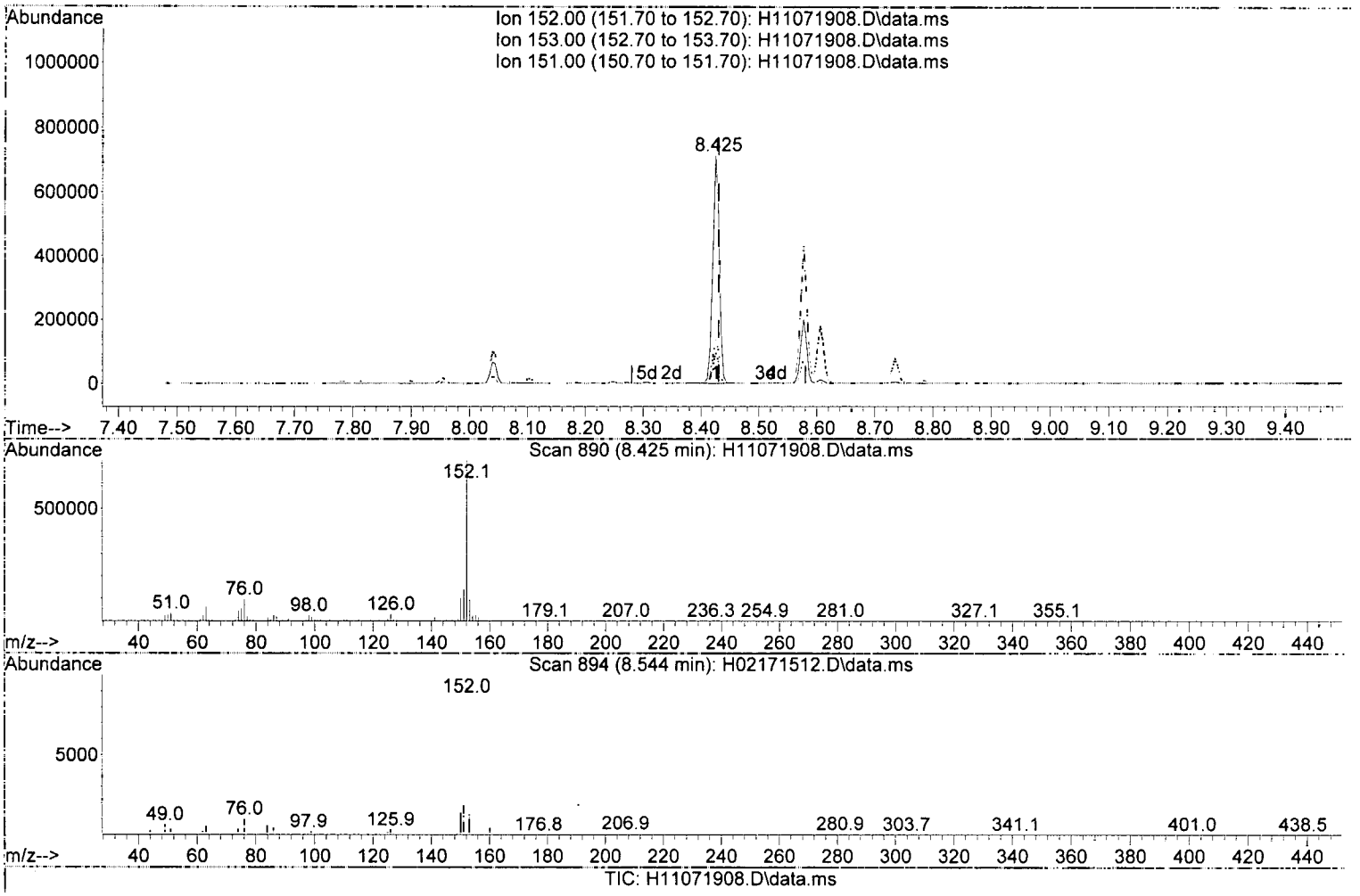
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.049	136	217379	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	155057	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.854	188	363671	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.134	240	320477	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.373	264	282491	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.687	292	241659	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.953	172	227727	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.396	244	380125	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	19341	6.27	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.182	264	15602	7.94	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.068	128	19614669	7776.11	ng/ml	RR2 83
3) 2-Methylnaphthalene	7.644	142	731938	375.75	ng/ml	RR2 98
4) 1-Methylnaphthalene	7.730	142	438243	237.68	ng/ml	RR2 93
6) Biphenyl	8.039	154	199553	76.96	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.187	156	29471	16.21	ng/ml	93
9) Acenaphthylene	8.425	152	558812	181.32	ng/ml	97
10) Acenaphthene	8.577	153	329469	143.32	ng/ml	98
11) Dibenzofuran	8.725	168	36663	11.16	ng/ml	68
12) 1,6,7-Trimethylnaphtha...	8.906	170	6343	2.89	ng/ml#	33
13) Fluorene	9.030	166	174399	61.29	ng/ml	100
15) Dibenzothiophene	9.763	184	44017	11.74	ng/ml	92
16) Phenanthrene	9.877	178	353483	81.04	ng/ml	100
17) Anthracene	9.920	178	63372	16.36	ng/ml	90
18) Carbazole	10.073	167	783437	208.54	ng/ml	RR2 96
19) Fluoranthene	10.968	202	56462	13.01	ng/ml	97
20) Pyrene	11.220	202	60637	12.88	ng/ml	93
22) Benz(a)anthracene	13.115	228	3658	0.92	ng/ml#	39
23) Chrysene	~~13.182~~	~~228~~	~~3512~~	~~0.99~~	~~ng/ml~~	~~76~~ MI Hit
25) Benzo(b)fluoranthene	15.515	252	1270	↑0.45	ng/ml#	RO2 1
26) Benzo(k)fluoranthene	15.568	252	977	↑0.36	ng/ml#	max RR2
27) Benzo(b+k)fluoranthene	15.515	252	2745	0.98	ng/ml#	1
28) Benzo(e)pyrene	16.125	252	811	0.27	ng/ml	89
30) Benzo(a)pyrene	16.235	252	1497	0.68	ng/ml#	34
31) Perylene	16.425	252	237	0.08	ng/ml	64
33) Indeno(1,2,3-cd)pyrene	18.682	276	880	0.31	ng/ml#	1
34) Dibenz(a,h)anthracene	18.754	278	227	0.08	ng/ml#	1
35) Benzo(g,h,i)perylene	19.211	276	917	0.36	ng/ml#	29

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

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071908.D\data.ms

(9) Acenaphthylene (T)

8.425min (-0.005) 181.32 ng/ml

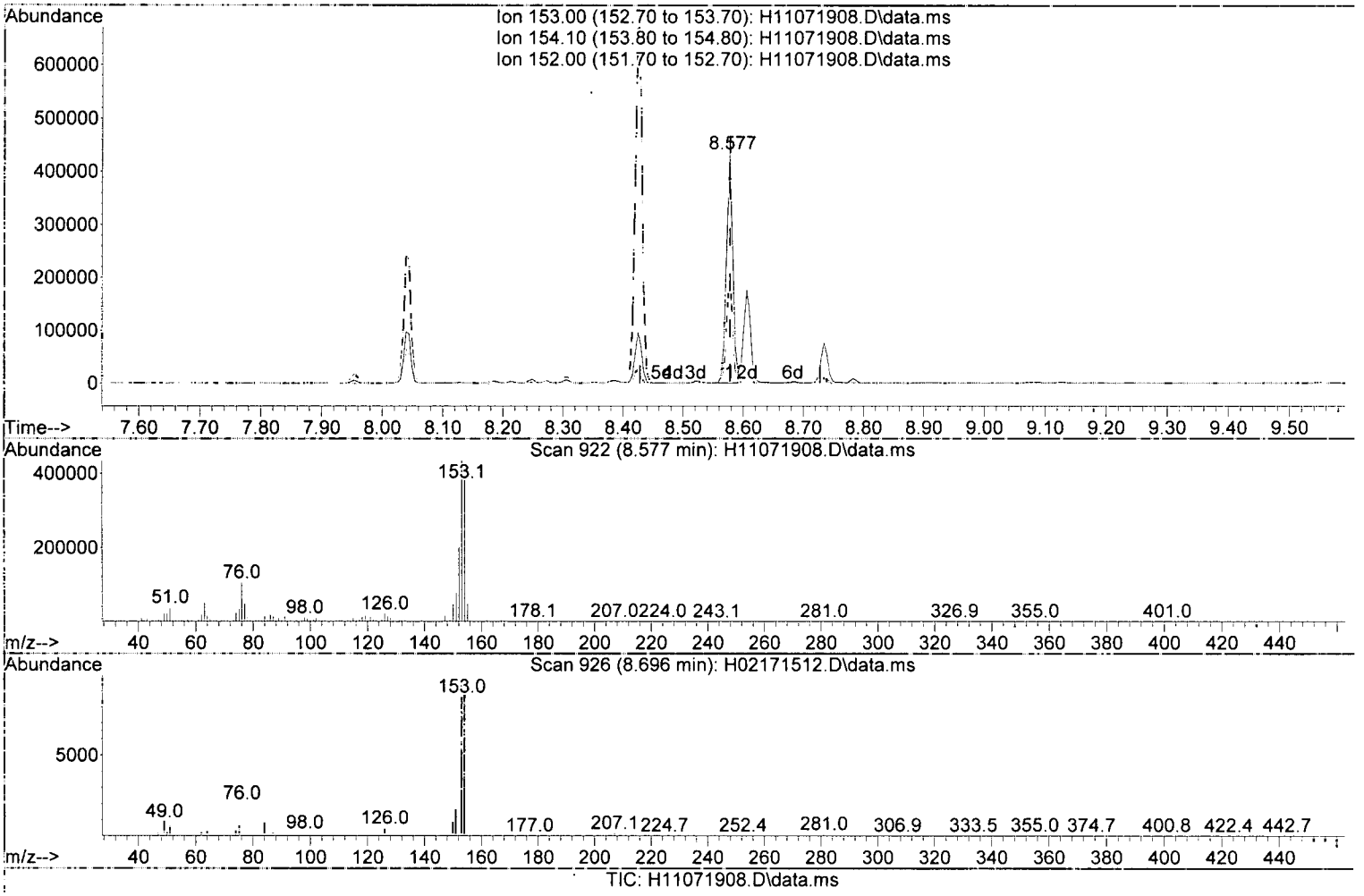
response 558812

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	13.00	13.59
151.00	18.40	19.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(10) Acenaphthene (T)

8.577min (-0.000) 143.32 ng/ml

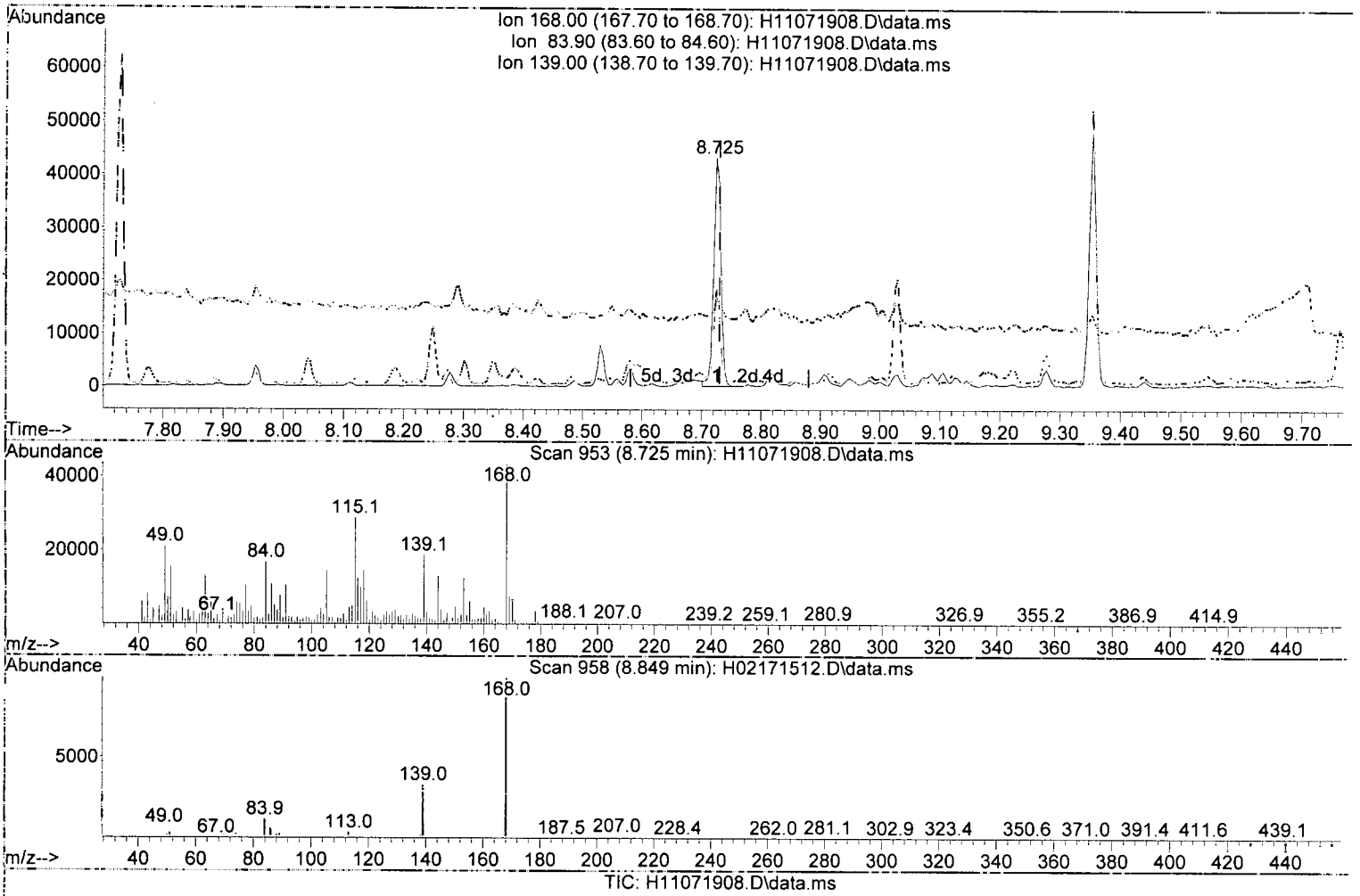
response 329469

Ion	Exp%	Act%
153.00	100.00	100.00
154.10	88.60	90.98
152.00	46.00	46.55
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(11) Dibenzofuran (T)

8.725min (-0.005) 11.16 ng/ml

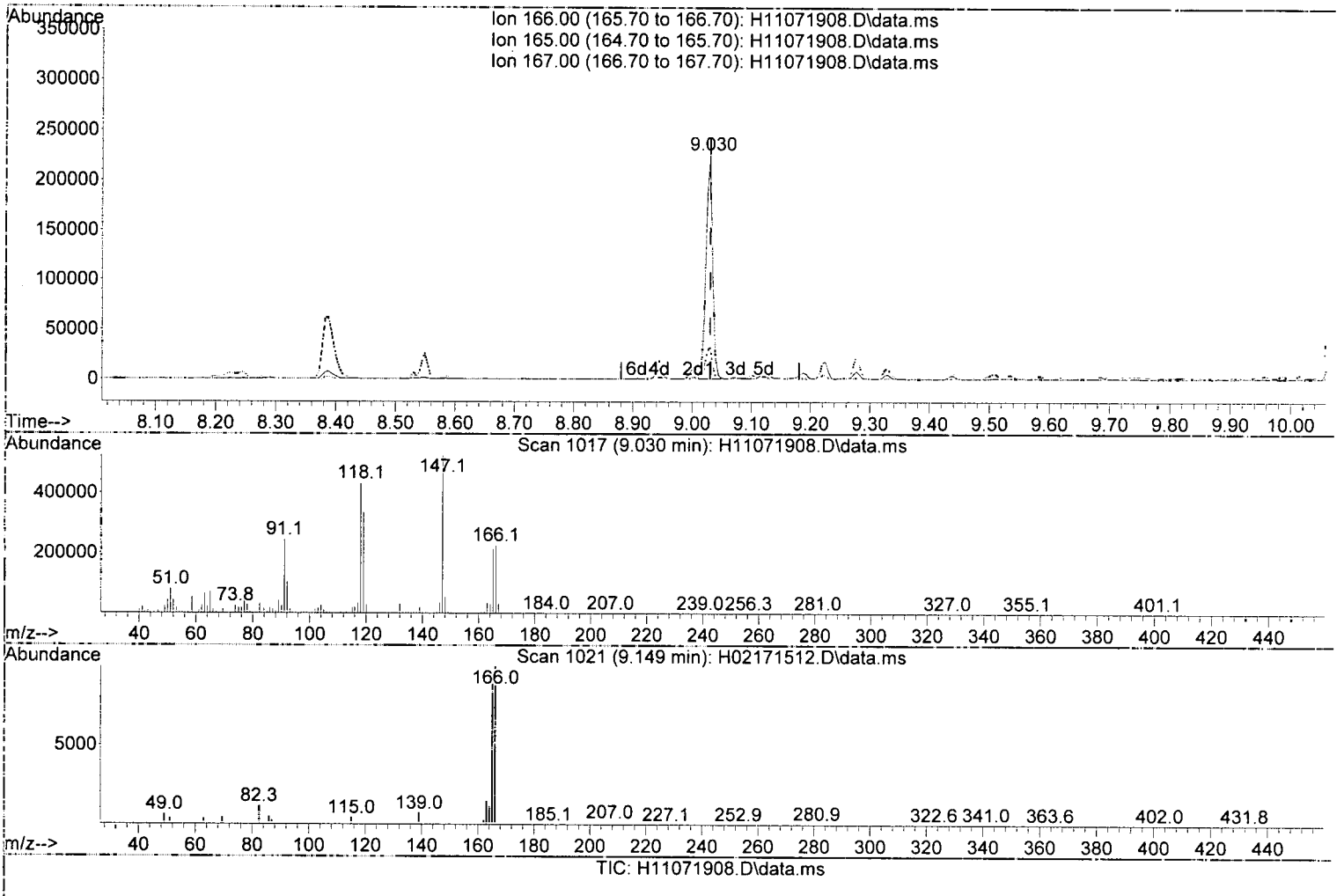
response 36663

Ion	Exp%	Act%
168.00	100.00	100.00
83.90	15.50	38.93
139.00	32.00	43.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(13) Fluorene (T)

9.030min (-0.000) 61.29 ng/ml

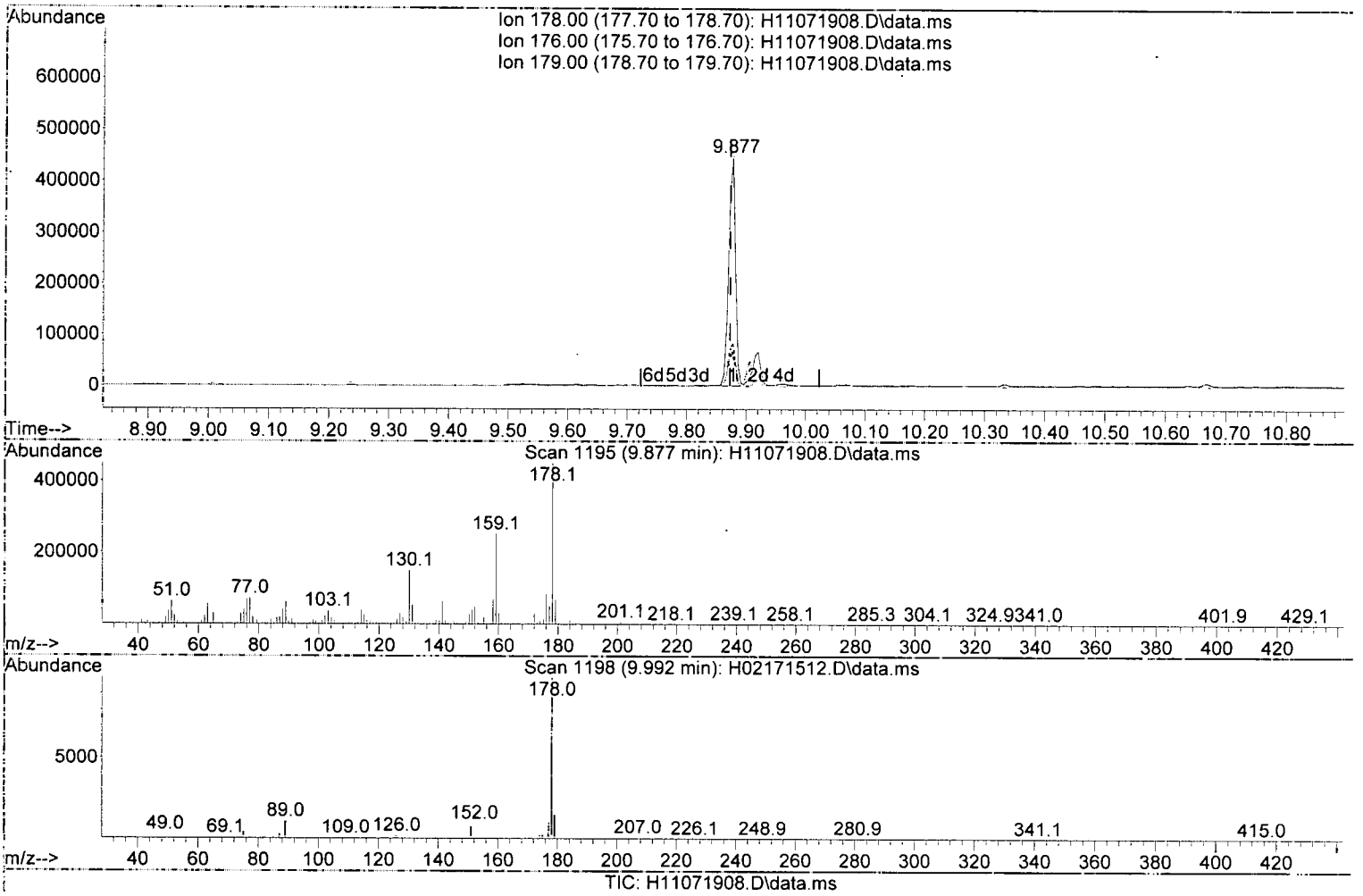
response 174399

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	94.50	94.65
167.00	13.50	14.44
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(16) Phenanthrene (T)

9.877min (+ 0.005) 81.04 ng/ml

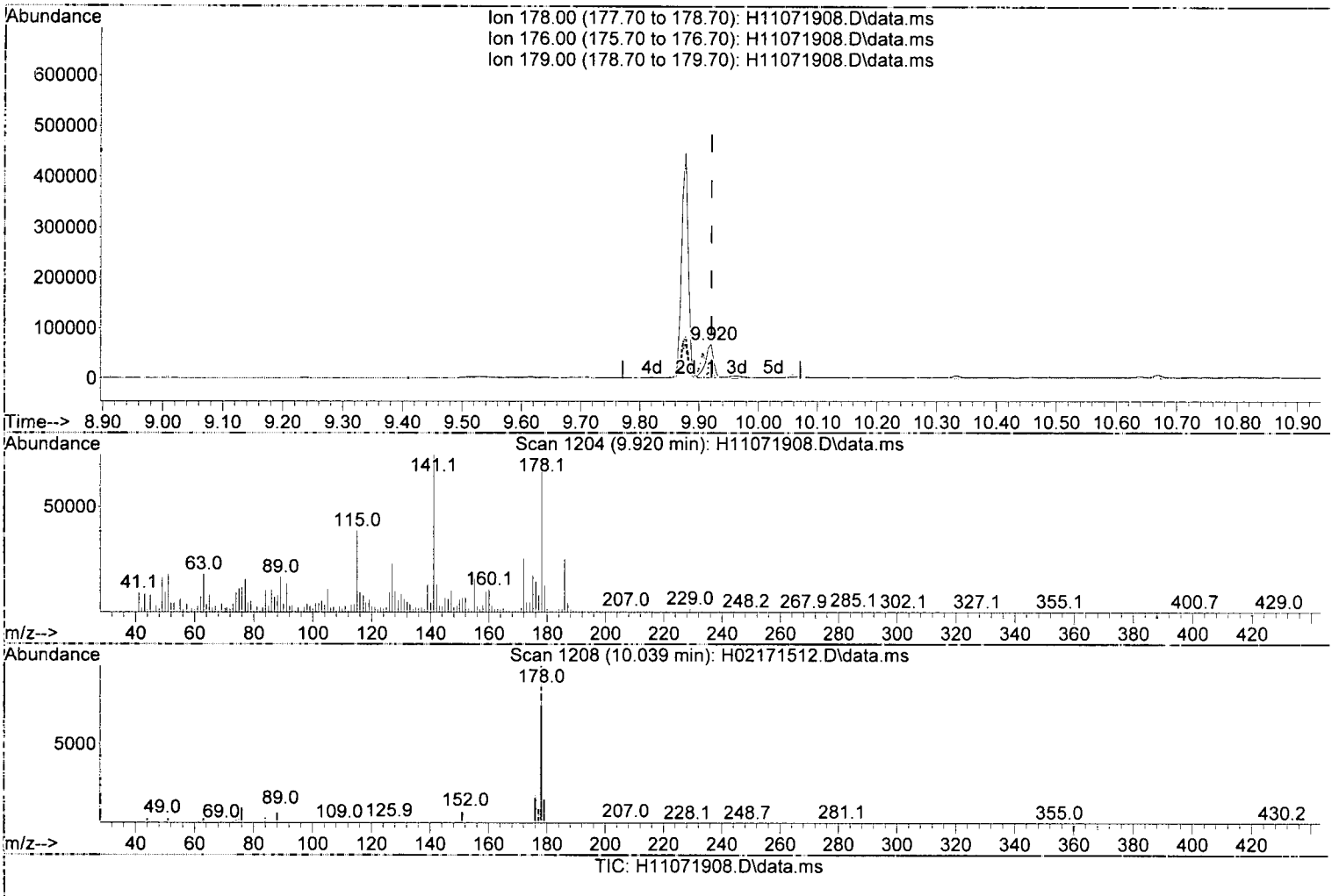
response 353483

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	19.06
179.00	15.00	15.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(17) Anthracene (T)

9.920min (-0.000) 16.36 ng/ml

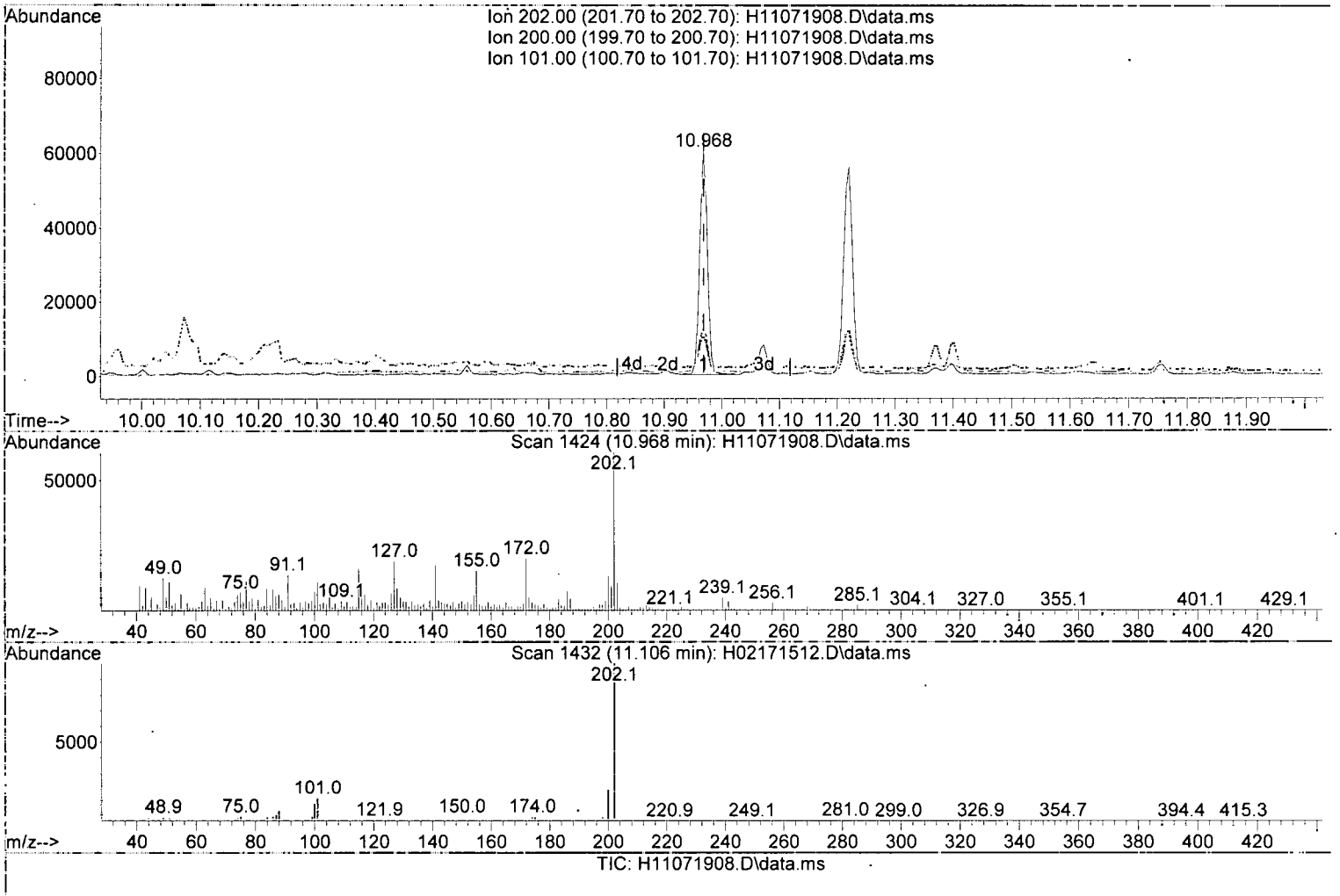
response 63372

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	17.30	21.49
179.00	14.00	18.52
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071908.D\data.ms

(19) Fluoranthene (T)

10.968min (-0.000) 13.01 ng/ml

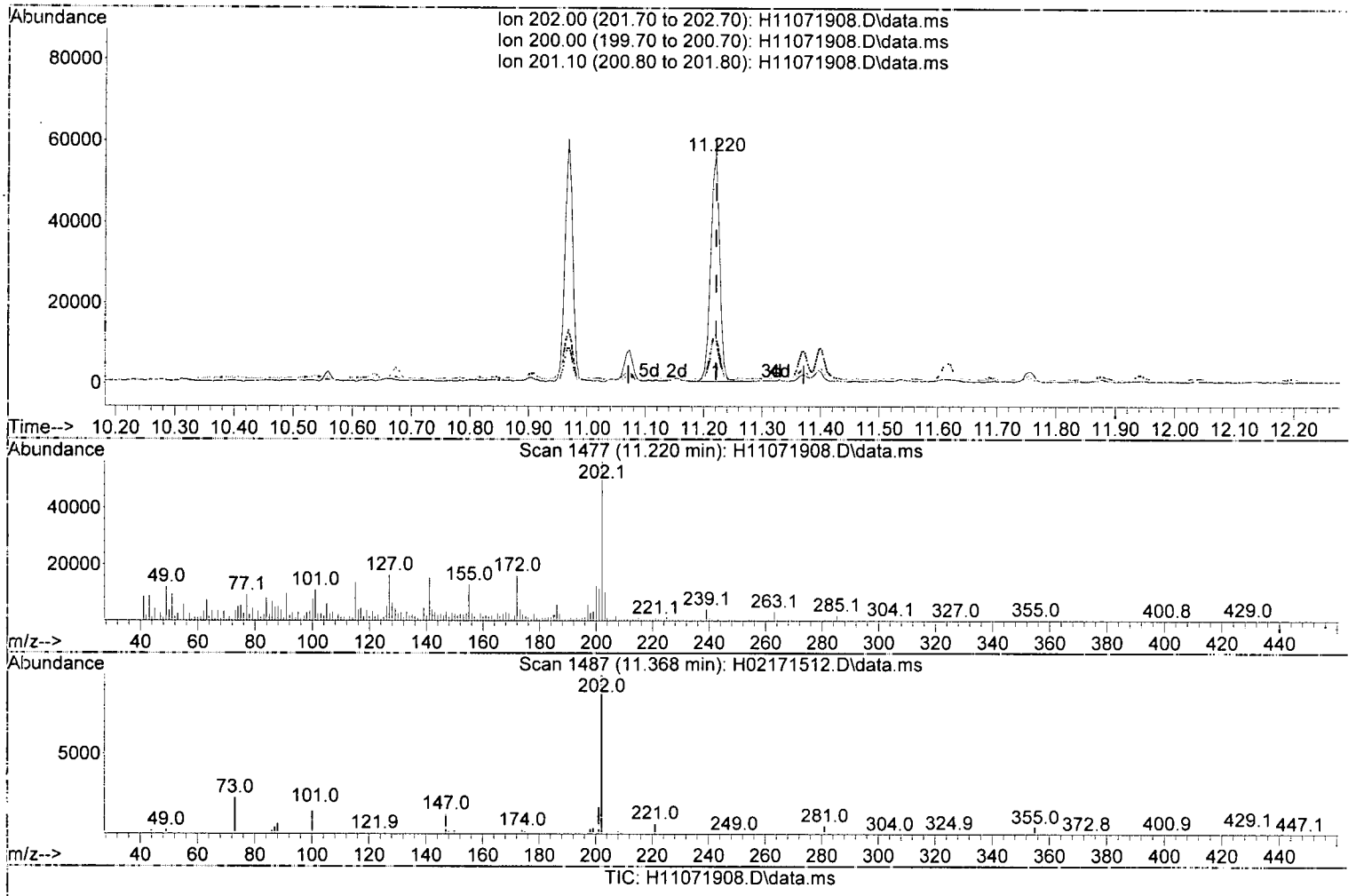
response 56462

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.40	21.96
101.00	17.70	18.18
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(20) Pyrene (T)

11.220min (-0.000) 12.88 ng/ml

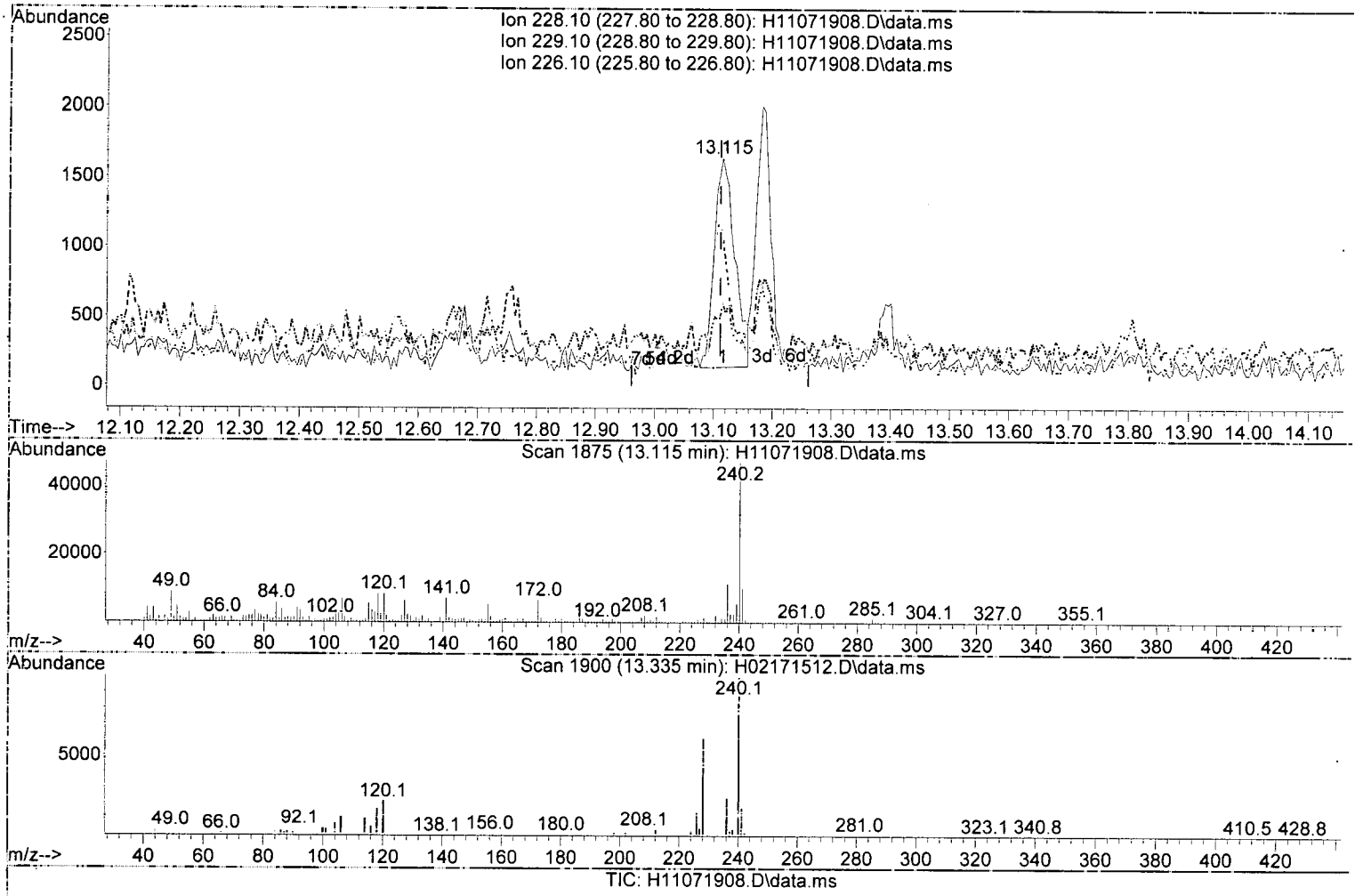
response 60637

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.10	22.32
201.10	16.50	20.34
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071908.D\data.ms

(22) Benz(a)anthracene (T)

13.115min (+ 0.005) 0.92 ng/ml

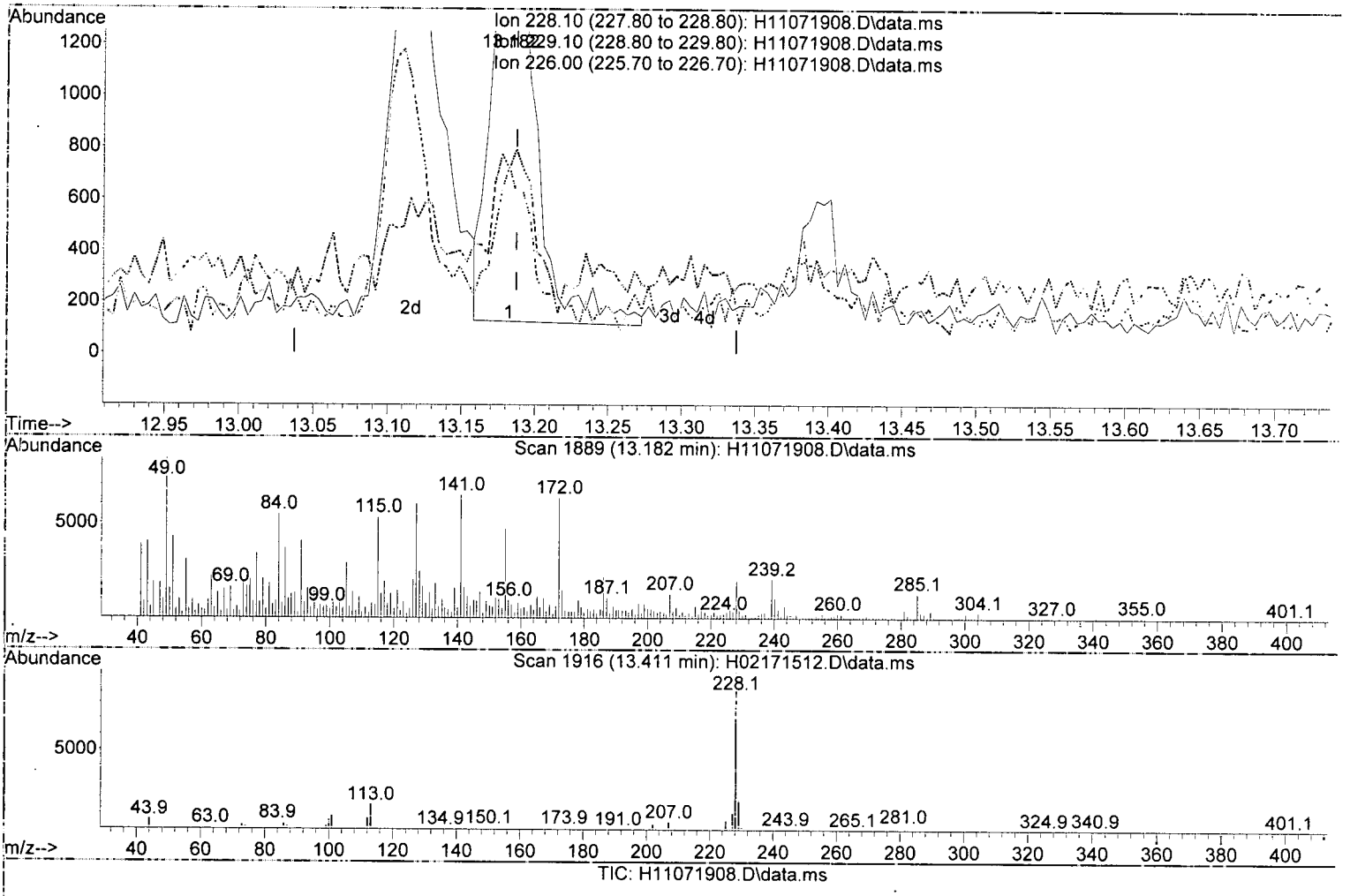
response 3658

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.10	36.70
226.10	26.10	65.25#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(23) Chrysene (T)

13.182min (-0.005) 0.99 ng/ml

response 3512

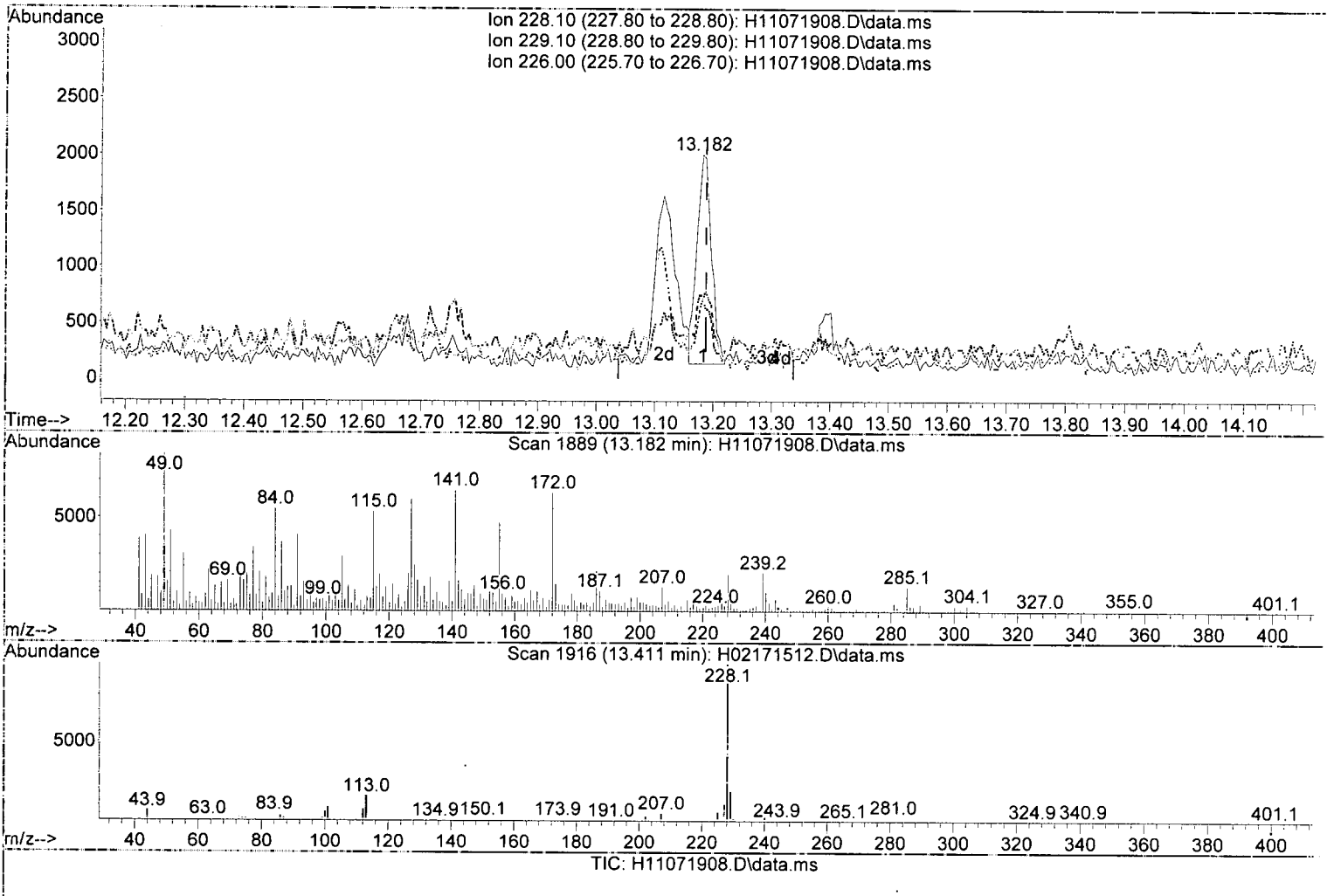
Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.00	35.71
226.00	28.20	36.25
0.00	0.00	0.00

MI

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(23) Chrysene (T)

13.182min (-0.005) 0.91 ng/ml m

DTH 11/7/19

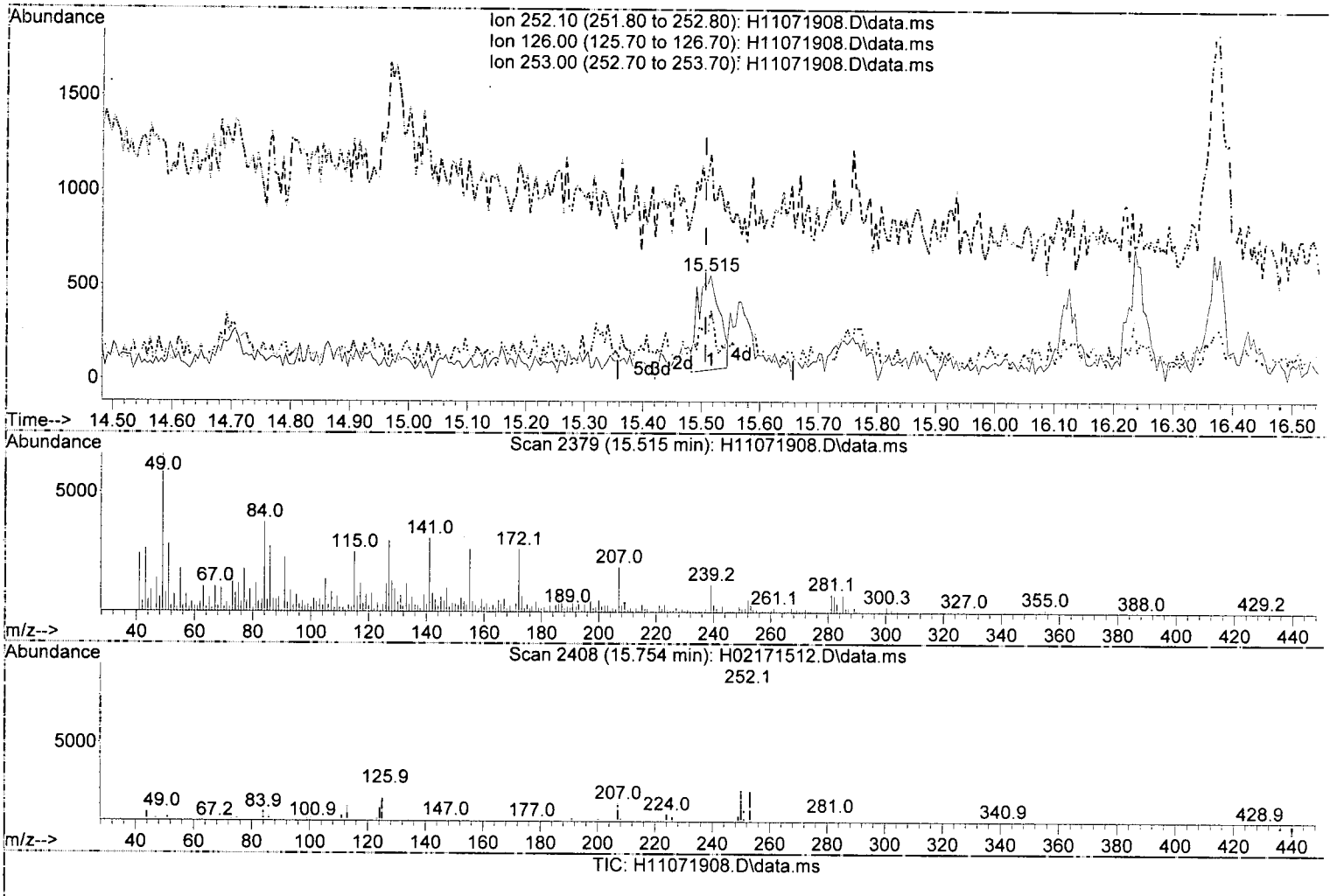
response 3240

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.00	35.71
226.00	28.20	36.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071908.D\data.ms

(25) Benzo(b)fluoranthene (T)

15.515min (+ 0.009) 0.45 ng/ml R02

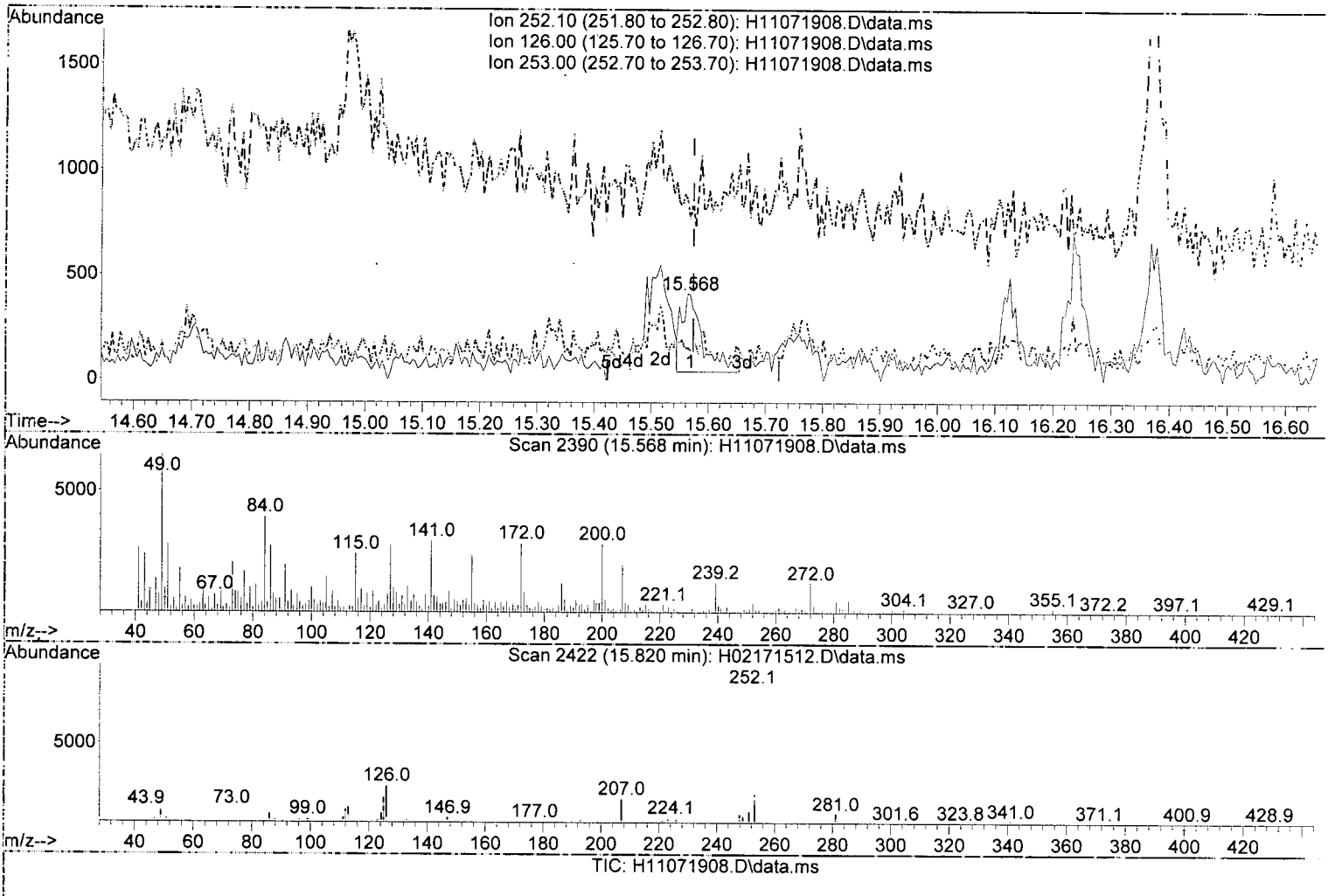
response 1270

Ion	Exp%	Act%
252.10	100.00	100.00
126.00	22.30	214.95#
253.00	22.60	66.13#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(26) Benzo(k)fluoranthene (T)

15.568min (-0.005) 0.36 ng/ml ↑ mdl/mrl

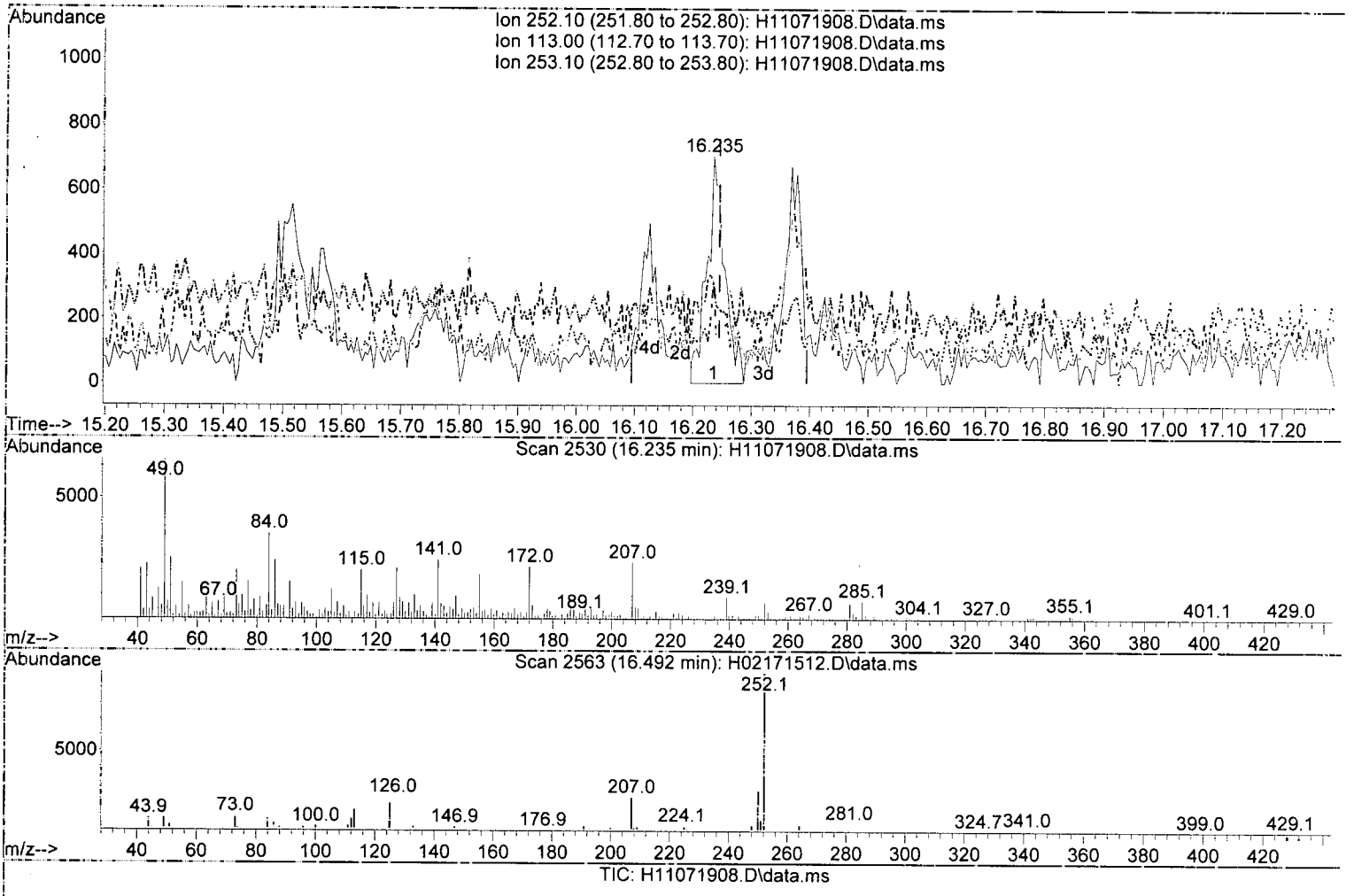
response 977

Ion	Exp%	Act%
252.10	100.00	100.00
126.00	25.80	185.75#
253.00	21.50	35.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(30) Benzo(a)pyrene (T)

16.235min (-0.010) 0.68 ng/ml

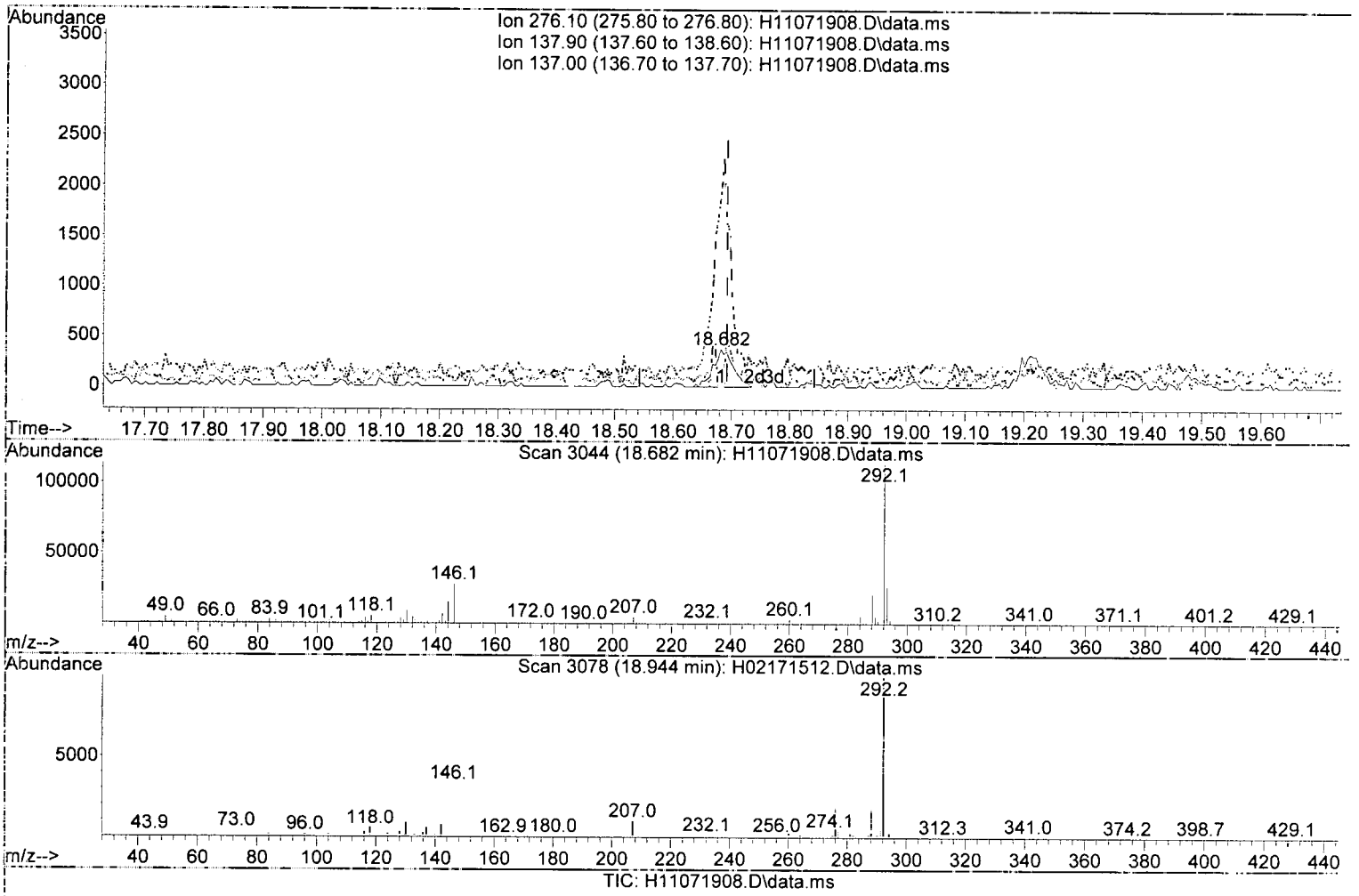
response 1497

Ion	Exp%	Act%
252.10	100.00	100.00
113.00	12.00	44.60#
253.10	20.40	45.74
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071908.D\data.ms

(33) Indeno(1,2,3-cd)pyrene (T)

18.682min (-0.010) 0.31 ng/ml J

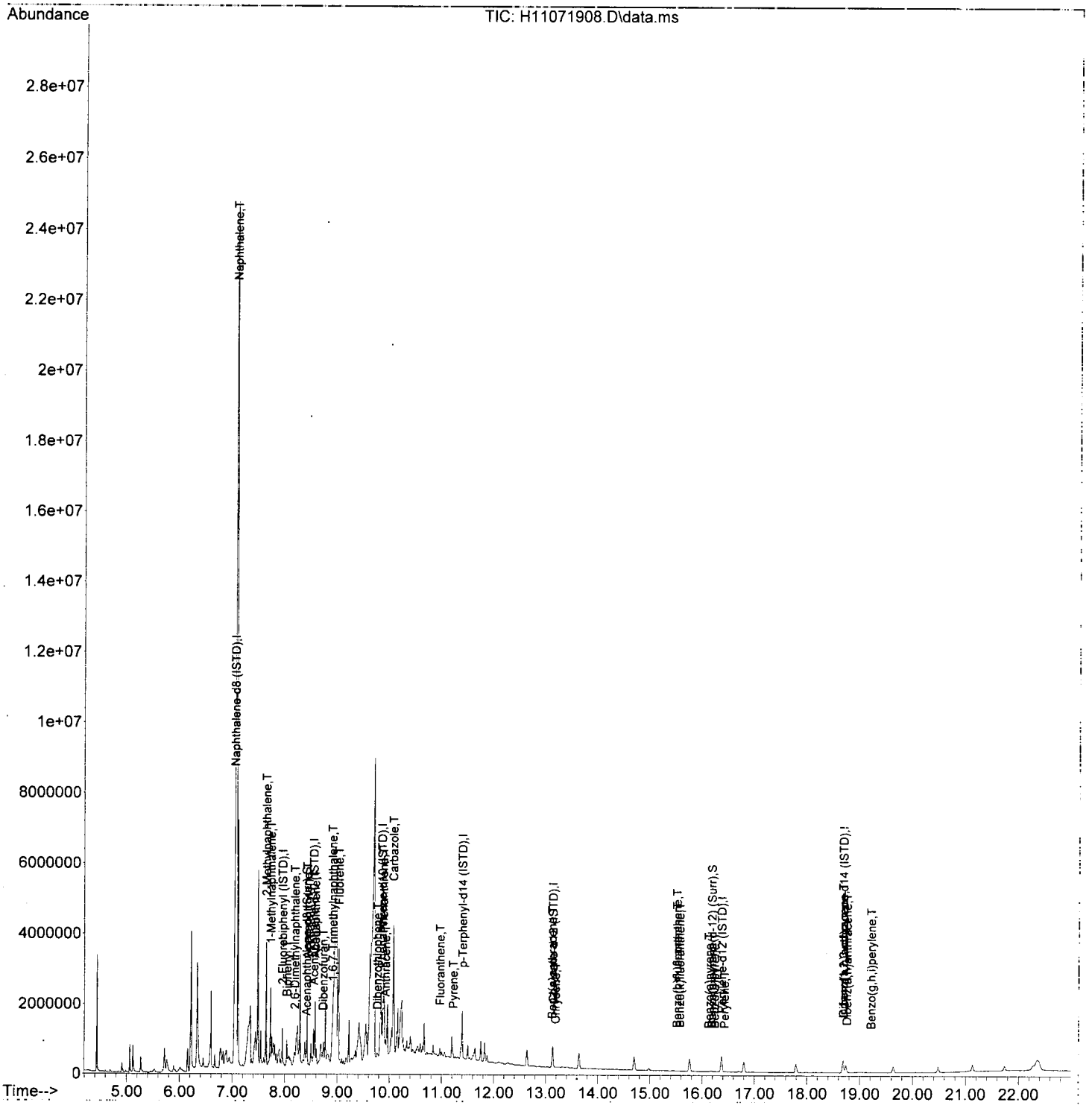
response 880

Ion	Exp%	Act%
276.10	100.00	100.00
137.90	37.00	0.00#
137.00	33.70	517.65#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071908.D
Acq On : 7 Nov 2019 3:01 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 15:47:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071909.D
Acq On : 7 Nov 2019 3:33 pm
Operator : JK /AMS /DTH
Sample : 9110577-MS1@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 17:26:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19

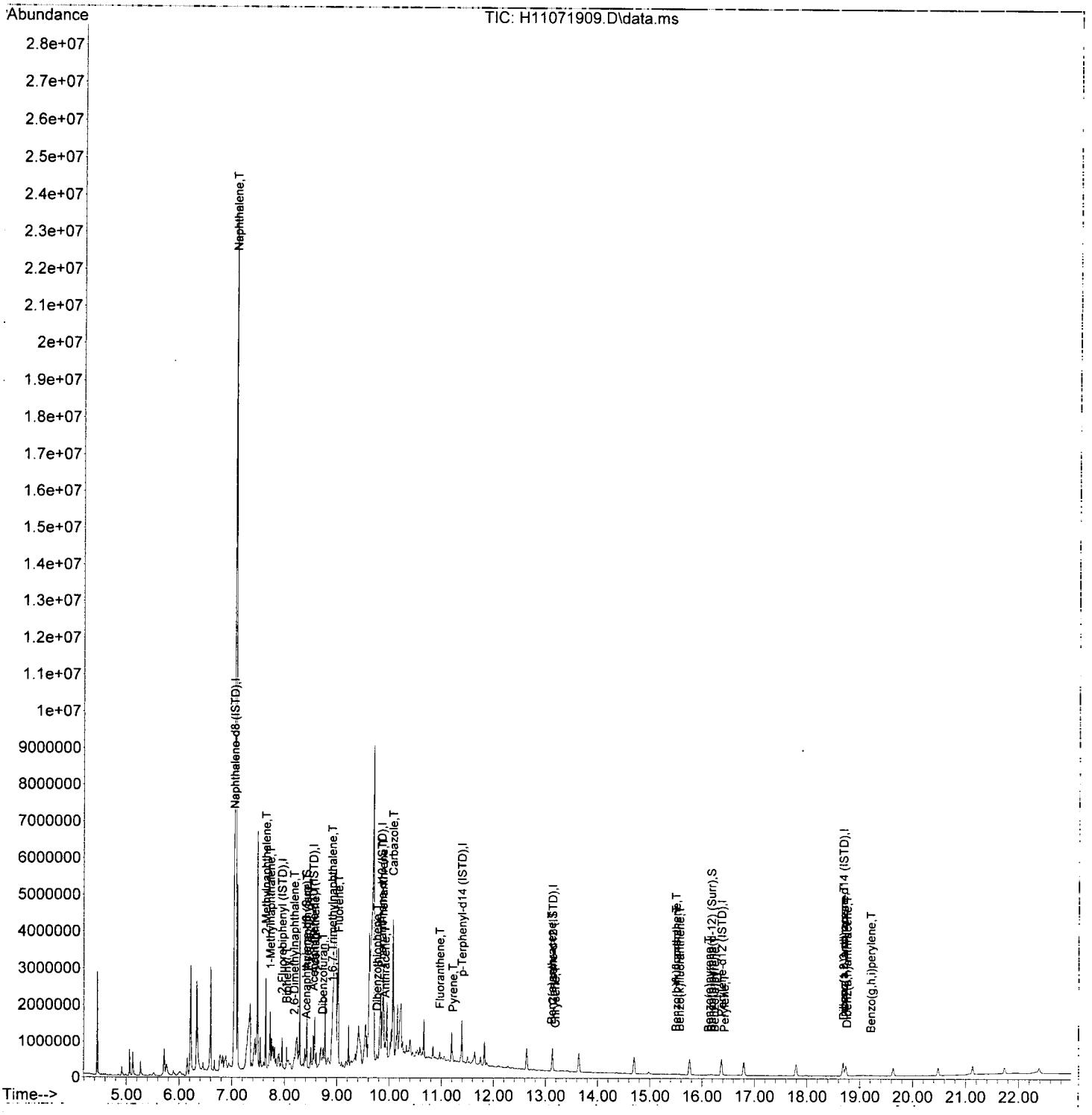
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Naphthalene-d8 (ISTD)	7.044	136	182799	100.00	ng/ml		0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	141338	100.00	ng/ml		0.00
14) Phenanthrene-d10 (ISTD)	9.853	188	367455	100.00	ng/ml		0.00
21) Chrysene-d12 (ISTD)	13.134	240	328177	100.00	ng/ml		0.00
24) Perylene-d12 (ISTD)	16.373	264	295857	100.00	ng/ml		0.00
32) Dibenz(a,h)anthracene-...	18.687	292	256984	100.00	ng/ml		0.00
36) 2-Fluorobiphenyl (ISTD)	7.953	172	191876	100.00	ng/ml		0.00
37) p-Terphenyl-d14 (ISTD)	11.392	244	374366	100.00	ng/ml		0.00
System Monitoring Compounds							
8) Acenaphthylene-d8 (Surr)	8.411	160	16979	6.01	ng/ml		0.00
29) Benzo(a)pyrene(d-12) (...	16.177	264	15266	7.43	ng/ml		0.00
Target Compounds							Qvalue
2) Naphthalene	7.068	128	17289620	8151.00	ng/ml	G	83
3) 2-Methylnaphthalene	7.644	142	546608	333.69	ng/ml	G	98
4) 1-Methylnaphthalene	7.730	142	332928	214.72	ng/ml	G	93
6) Biphenyl	8.039	154	161401	68.29	ng/ml		93
7) 2,6-Dimethylnaphthalene	8.182	156	21350	12.89	ng/ml		88
9) Acenaphthylene	8.425	152	465317	165.64	ng/ml		97
10) Acenaphthene	8.577	153	265347	126.63	ng/ml		98
11) Dibenzofuran	8.725	168	37346	12.47	ng/ml		68
12) 1,6,7-Trimethylnaphtha...	8.906	170	9916	4.96	ng/ml#		61
13) Fluorene	9.030	166	147496	56.87	ng/ml		99
15) Dibenzothiophene	9.763	184	42996	11.35	ng/ml		88
16) Phenanthrene	9.877	178	323794	73.47	ng/ml		99
17) Anthracene	9.920	178	67180	17.16	ng/ml		92
18) Carbazole	10.073	167	759469	200.08	ng/ml	E	96
19) Fluoranthene	10.968	202	59850	13.65	ng/ml		97
20) Pyrene	11.220	202	64714	13.61	ng/ml		95
22) Benz(a)anthracene	13.111	228	11475	3.30	ng/ml		83
23) Chrysene	13.182	228	10453	2.88	ng/ml		91
25) Benzo(b)fluoranthene	15.501	252	8375	2.78	ng/ml		74
26) Benzo(k)fluoranthene	15.568	252	8256	2.78	ng/ml		84
27) Benzo(b+k)fluoranthene	15.501	252	17309	5.74	ng/ml		74
28) Benzo(e)pyrene	16.120	252	7322	2.33	ng/ml		98
30) Benzo(a)pyrene	16.235	252	7395	2.96	ng/ml		91
31) Perylene	16.425	252	6058	1.92	ng/ml		93
33) Indeno(1,2,3-cd)pyrene	18.687	276	7463	2.45	ng/ml#		49
34) Dibenz(a,h)anthracene	18.754	278	7164	2.36	ng/ml		79
35) Benzo(g,h,i)perylene	19.206	276	7034	2.61	ng/ml		91

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

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071909.D
Acq On : 7 Nov 2019 3:33 pm
Operator : JK /AMS /DTH
Sample : 9110577-MS1@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 17:26:53 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071910.D
Acq On : 7 Nov 2019 4:05 pm
Operator : JK /AMS /DTH
Sample : 9110577-MSD1@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 17:26:58 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19

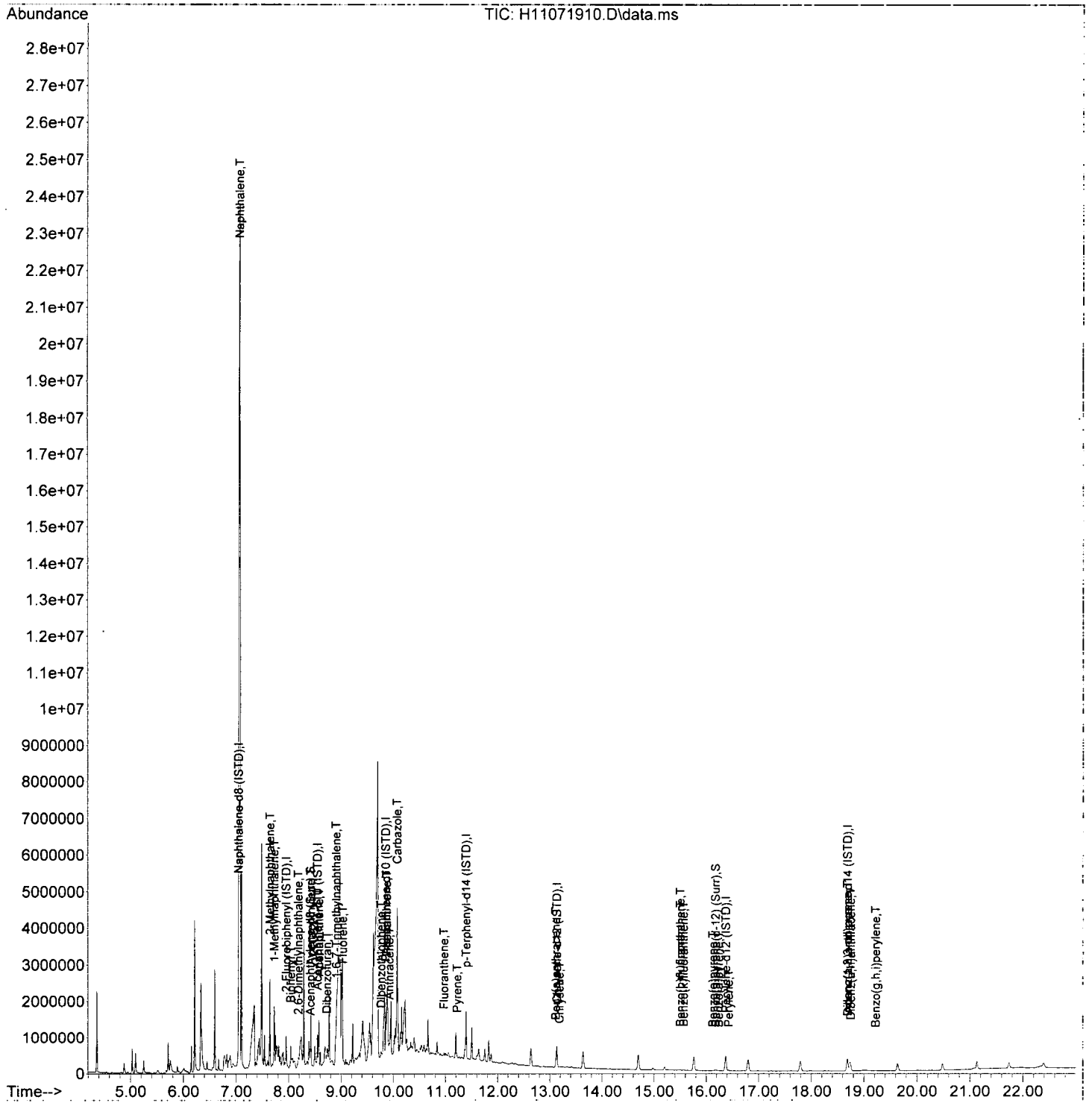
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Naphthalene-d8 (ISTD)	7.049	136	146151	100.00	ng/ml		0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	136927	100.00	ng/ml		0.00
14) Phenanthrene-d10 (ISTD)	9.854	188	358722	100.00	ng/ml		0.00
21) Chrysene-d12 (ISTD)	13.135	240	313698	100.00	ng/ml		0.00
24) Perylene-d12 (ISTD)	16.373	264	273176	100.00	ng/ml		0.00
32) Dibenz(a,h)anthracene-...	18.687	292	232654	100.00	ng/ml		0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	183181	100.00	ng/ml		0.00
37) p-Terphenyl-d14 (ISTD)	11.392	244	378332	100.00	ng/ml		0.00
System Monitoring Compounds							
8) Acenaphthylene-d8 (Surr)	8.411	160	17406	6.41	ng/ml		0.00
29) Benzo(a)pyrene(d-12) (...	16.178	264	14152	7.46	ng/ml		0.00
Target Compounds							Qvalue
2) Naphthalene	7.068	128	15748900	9286.40	ng/ml	E	81
3) 2-Methylnaphthalene	7.644	142	534055	407.78	ng/ml	E	98
4) 1-Methylnaphthalene	7.725	142	327442	264.13	ng/ml	E	92
6) Biphenyl	8.039	154	149708	65.38	ng/ml		94
7) 2,6-Dimethylnaphthalene	8.182	156	22507	14.02	ng/ml		89
9) Acenaphthylene	8.425	152	483269	177.57	ng/ml		98
10) Acenaphthene	8.577	153	242108	119.26	ng/ml		97
11) Dibenzofuran	8.725	168	34373	11.85	ng/ml		82
12) 1,6,7-Trimethylnaphtha...	8.906	170	5183	2.68	ng/ml	#	53
13) Fluorene	9.030	166	127859	50.89	ng/ml		99
15) Dibenzothiophene	9.763	184	38238	10.34	ng/ml		88
16) Phenanthrene	9.873	178	100312	23.31	ng/ml		98
17) Anthracene	9.920	178	36019	9.43	ng/ml		78
18) Carbazole	10.073	167	774540	209.02	ng/ml	E	95
19) Fluoranthene	10.968	202	14359	3.35	ng/ml		73
20) Pyrene	11.220	202	17411	3.75	ng/ml		78
22) Benz(a)anthracene	13.111	228	10114	3.02	ng/ml		93
23) Chrysene	13.182	228	9015	2.59	ng/ml		88
25) Benzo(b)fluoranthene	15.501	252	7763	2.79	ng/ml		82
26) Benzo(k)fluoranthene	15.563	252	7676	2.80	ng/ml		79
27) Benzo(b+k)fluoranthene	15.501	252	15850	5.69	ng/ml		82
28) Benzo(e)pyrene	16.120	252	7131	2.46	ng/ml		96
30) Benzo(a)pyrene	16.235	252	7421	3.21	ng/ml		88
31) Perylene	16.425	252	5884	2.02	ng/ml		95
33) Indeno(1,2,3-cd)pyrene	18.682	276	6876	2.50	ng/ml	#	54
34) Dibenz(a,h)anthracene	18.744	278	7060	2.57	ng/ml		87
35) Benzo(g,h,i)perylene	19.216	276	6507	2.67	ng/ml		86

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

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071910.D
Acq On : 7 Nov 2019 4:05 pm
Operator : JK /AMS /DTH
Sample : 9110577-MSD1@20
Misc : 20x, 8270D PAH (125mL) LL
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 17:26:58 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071911.D
Acq On : 7 Nov 2019 4:37 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07@50
Misc : 50x, 8270D PAH (125mL) LL
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 17:27:01 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

RC1
DTH 11/7/19

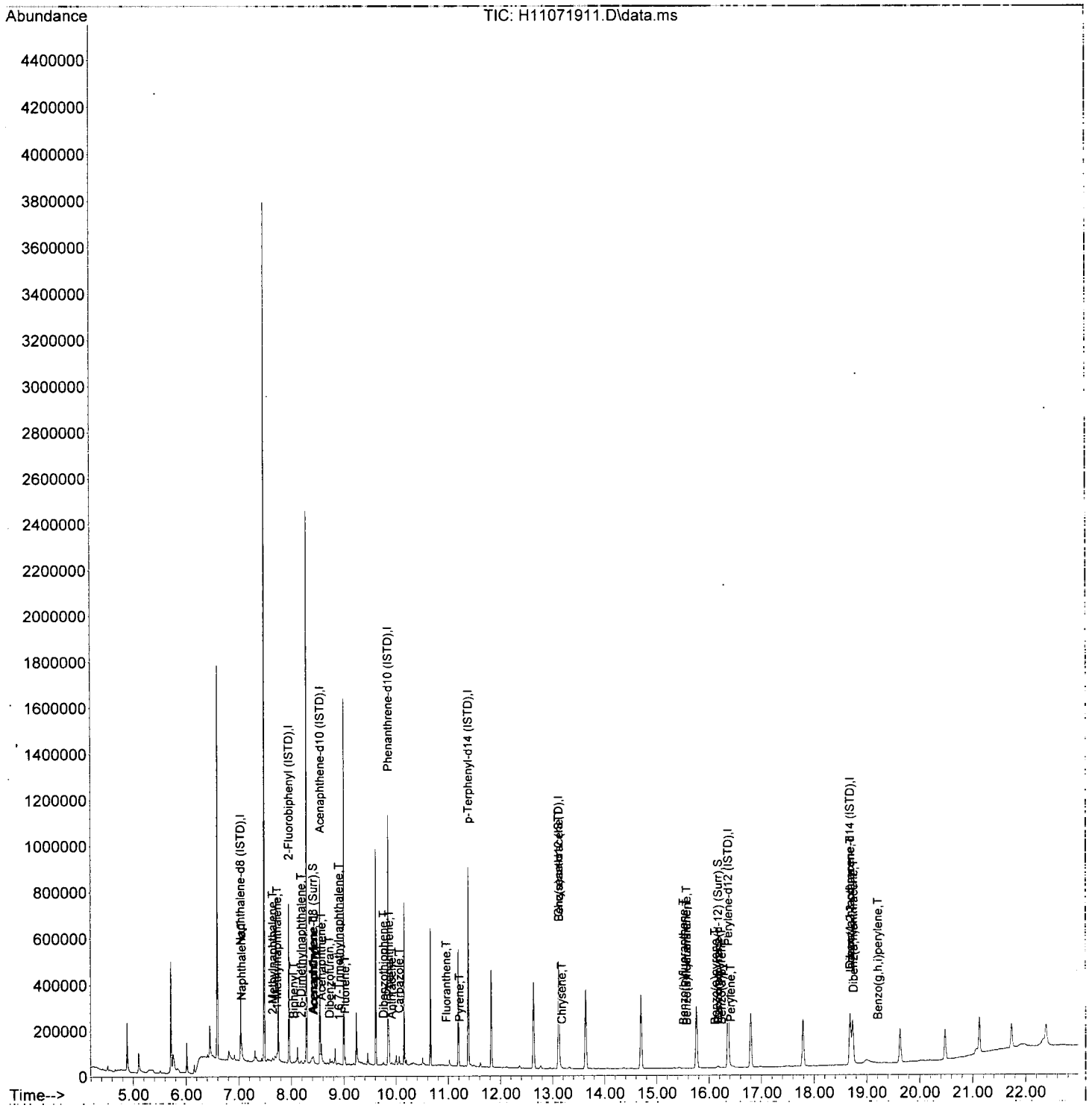
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.034	136	142132	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	141492	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	321188	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	266790	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.368	264	235298	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	205273	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.953	172	180119	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	300271	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.415	160	7323	2.03	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.173	264	4283	2.74	ng/ml	-0.01
Target Compounds						Qvalue
2) Naphthalene	7.053	128	19099	11.58	ng/ml	91
3) 2-Methylnaphthalene	7.644	142	3858	3.03	ng/ml	93
4) 1-Methylnaphthalene	7.730	142	6772	5.62	ng/ml	87
6) Biphenyl	8.044	154	1922	0.81	ng/ml	96
7) 2,6-Dimethylnaphthalene	8.187	156	2007	1.21	ng/ml	92
9) Acenaphthylene	8.425	152	4304	1.53	ng/ml	95
10) Acenaphthene	8.573	153	18876	9.00	ng/ml	98
11) Dibenzofuran	8.730	168	1545	0.52	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	8.906	170	461	0.23	ng/ml#	1
13) Fluorene	9.025	166	9434	3.63	ng/ml	97
15) Dibenzothiophene	9.758	184	4747	1.43	ng/ml	93
16) Phenanthrene	9.868	178	29642	7.69	ng/ml	99
17) Anthracene	9.915	178	4037	1.18	ng/ml	86
18) Carbazole	10.058	167	14997	4.52	ng/ml	90
19) Fluoranthene	10.963	202	379	0.10	ng/ml#	11
20) Pyrene	11.215	202	744	0.18	ng/ml	77
22) Benz(a)anthracene	13.125	228	836	0.08	ng/ml	64
23) Chrysene	13.177	228	143	0.05	ng/ml	75
25) Benzo(b)fluoranthene	15.511	252	103	0.05	ng/ml#	1
26) Benzo(k)fluoranthene	15.573	252	108	0.07	ng/ml#	1
27) Benzo(b+k)fluoranthene	15.573	252	108	0.07	ng/ml#	1
28) Benzo(e)pyrene	16.115	252	50	0.02	ng/ml	42
30) Benzo(a)pyrene	16.239	252	55	0.09	ng/ml	45
31) Perylene	16.415	252	57	0.02	ng/ml	70
33) Indeno(1,2,3-cd)pyrene	18.692	276	146	0.06	ng/ml#	1
34) Dibenz(a,h)anthracene	18.749	278	45	0.02	ng/ml#	1
35) Benzo(g,h,i)perylene	19.211	276	39	0.02	ng/ml#	1

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

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071911.D
Acq On : 7 Nov 2019 4:37 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07@50
Misc : 50x, 8270D PAH (125mL) LL
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 17:27:01 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071912.D
Acq On : 7 Nov 2019 5:45 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05RE1@1000
Misc : 1000x, #2,3,4,18
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 18:35:22 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19 RR2

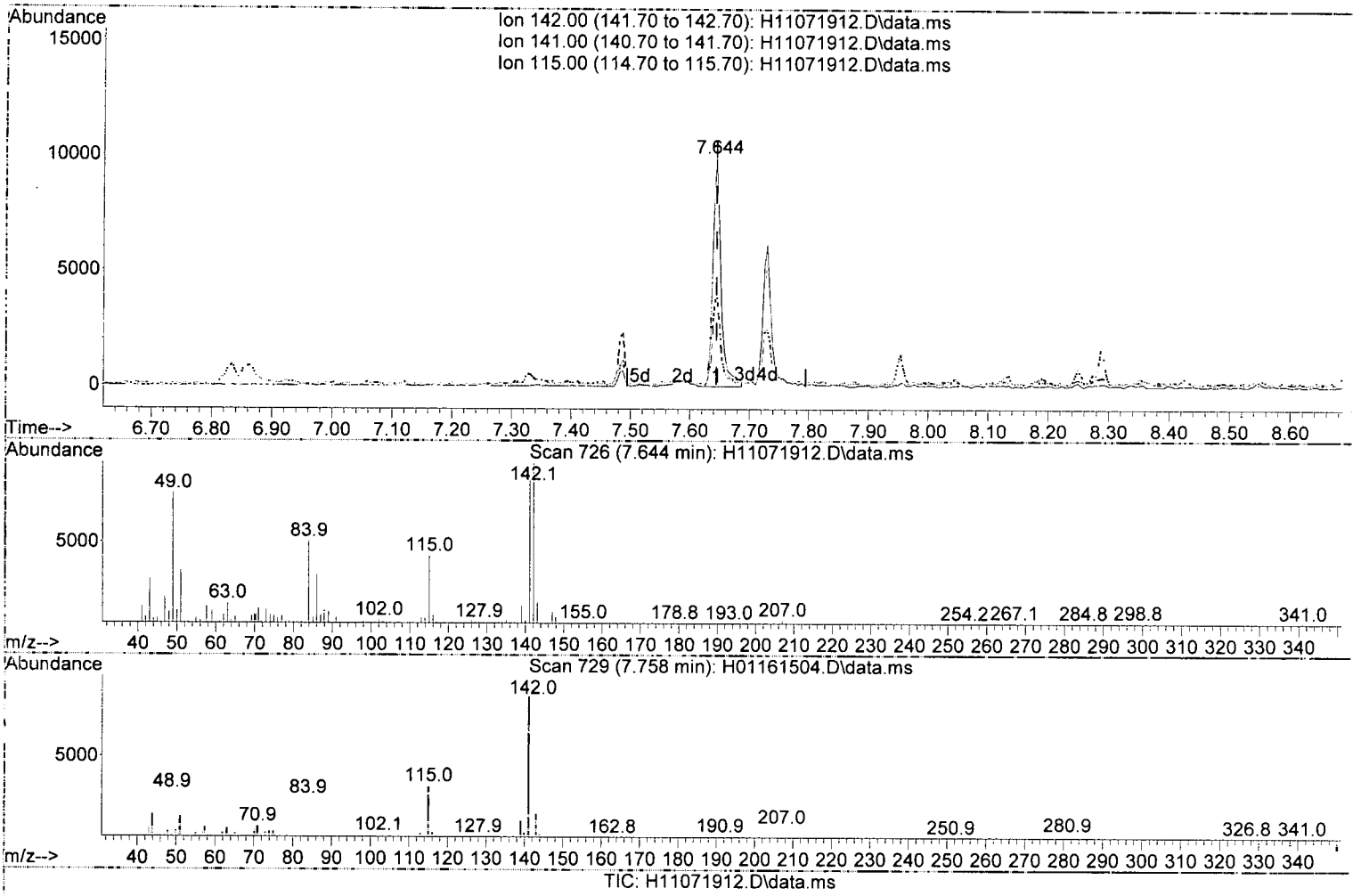
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Naphthalene-d8 (ISTD)	7.035	136	111286	100.00	ng/ml		0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	119046	100.00	ng/ml		0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	294859	100.00	ng/ml		0.00
21) Chrysene-d12 (ISTD)	13.125	240	253243	100.00	ng/ml		0.00
24) Perylene-d12 (ISTD)	16.373	264	217661	100.00	ng/ml		0.00
32) Dibenz(a,h)anthracene-...	18.692	292	186392	100.00	ng/ml		0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	161764	100.00	ng/ml		0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	309663	100.00	ng/ml		0.00
System Monitoring Compounds							
8) Acenaphthylene-d8 (Surr)	8.411	160	2938	0.46	ng/ml		0.00
29) Benzo(a)pyrene(d-12) (...	16.197	264	196	0.26	ng/ml		0.00
Target Compounds							Qvalue
2) Naphthalene	7.054	128	315559	244.37	ng/ml	RR2	96
3) 2-Methylnaphthalene	7.644	142	9585	9.61	ng/ml		94
4) 1-Methylnaphthalene	7.730	142	6176	6.54	ng/ml	NR	93
6) Biphenyl	8.044	154	3322	1.67	ng/ml		95
7) 2,6-Dimethylnaphthalene	8.197	156	619	0.44	ng/ml		87
9) Acenaphthylene	8.425	152	8748	3.70	ng/ml		91
10) Acenaphthene	8.573	153	4683	2.65	ng/ml		96
11) Dibenzofuran	8.730	168	634	0.25	ng/ml#		1
12) 1,6,7-Trimethylnaphtha...	8.901	170	84	0.05	ng/ml#		1
13) Fluorene	9.025	166	2580	1.18	ng/ml		90
15) Dibenzothiophene	9.758	184	1025	0.34	ng/ml		84
16) Phenanthrene	9.868	178	7776	2.20	ng/ml		96
17) Anthracene	9.916	178	1158	0.37	ng/ml		89
18) Carbazole	10.058	167	10344	3.40	ng/ml	NR	94
19) Fluoranthene	10.968	202	1698	0.48	ng/ml		91
20) Pyrene	11.216	202	1750	0.46	ng/ml		95
22) Benz(a)anthracene	13.125	228	831	0.09	ng/ml		62
23) Chrysene	13.168	228	277	0.10	ng/ml		51
25) Benzo(b)fluoranthene	15.544	252	51	0.03	ng/ml#		1
26) Benzo(k)fluoranthene	15.544	252	51	0.04	ng/ml#		1
27) Benzo(b+k)fluoranthene	15.544	252	51	0.05	ng/ml#		1
28) Benzo(e)pyrene	16.140	252	81	0.04	ng/ml#		12
30) Benzo(a)pyrene	16.140	252	81	0.10	ng/ml#		8
31) Perylene	0.000		0	N.D.			
33) Indeno(1,2,3-cd)pyrene	18.682	276	102	0.05	ng/ml#		1
34) Dibenz(a,h)anthracene	18.759	278	49	0.02	ng/ml#		1
35) Benzo(g,h,i)perylene	0.000		0	N.D.			

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

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071912.D
Acq On : 7 Nov 2019 5:45 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05RE1@1000
Misc : 1000x, #2,3,4,18
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:07 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(3) 2-Methylnaphthalene (T)

7.644min (+ 0.000) 9.61 ng/ml

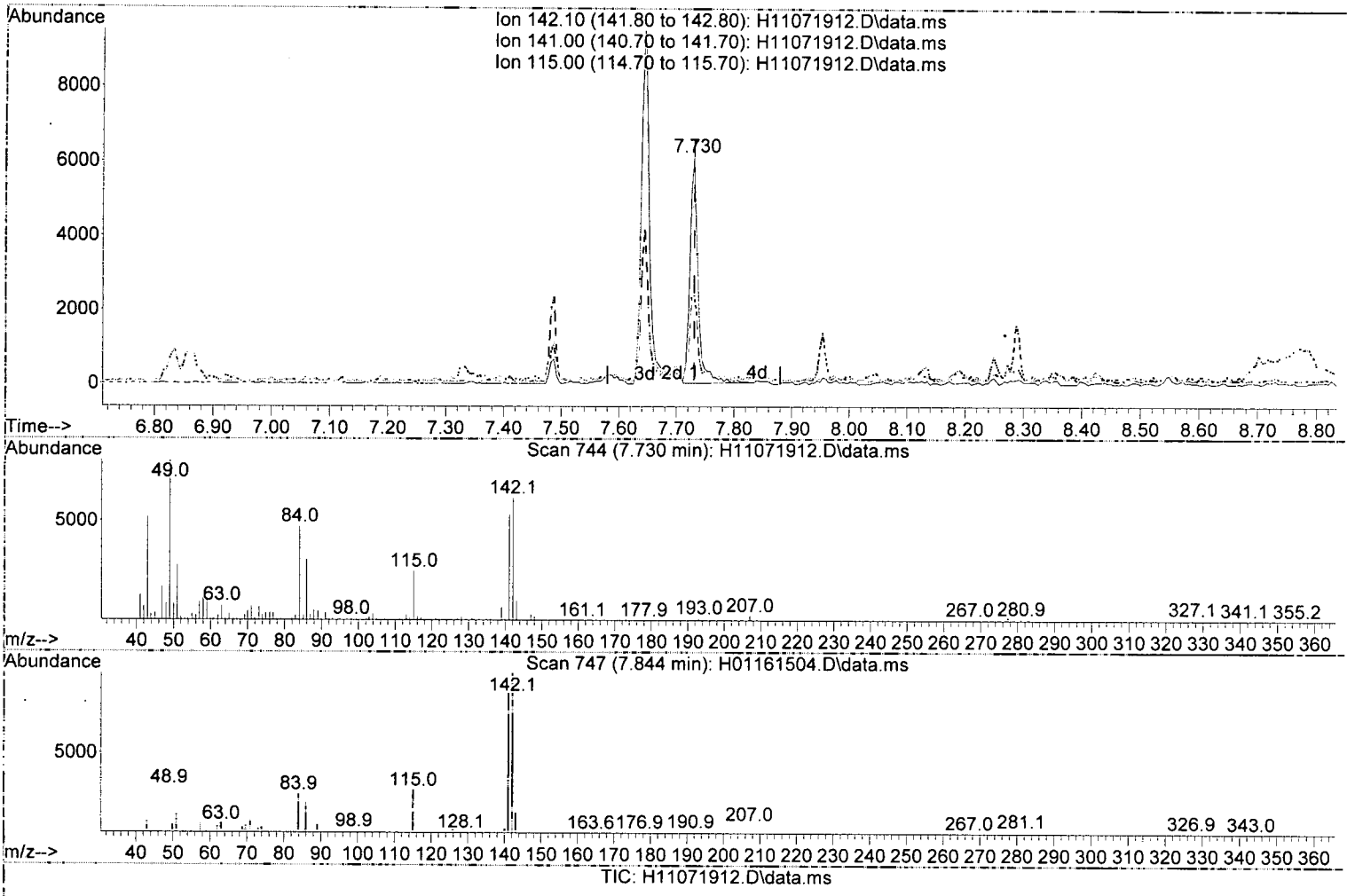
response 9585

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	87.50	89.39
115.00	32.00	42.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071912.D
Acq On : 7 Nov 2019 5:45 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05RE1@1000
Misc : 1000x, #2,3,4,18
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:07 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071912.D\data.ms

(4) 1-Methylnaphthalene (T)

7.730min (+ 0.000) 6.54 ng/ml

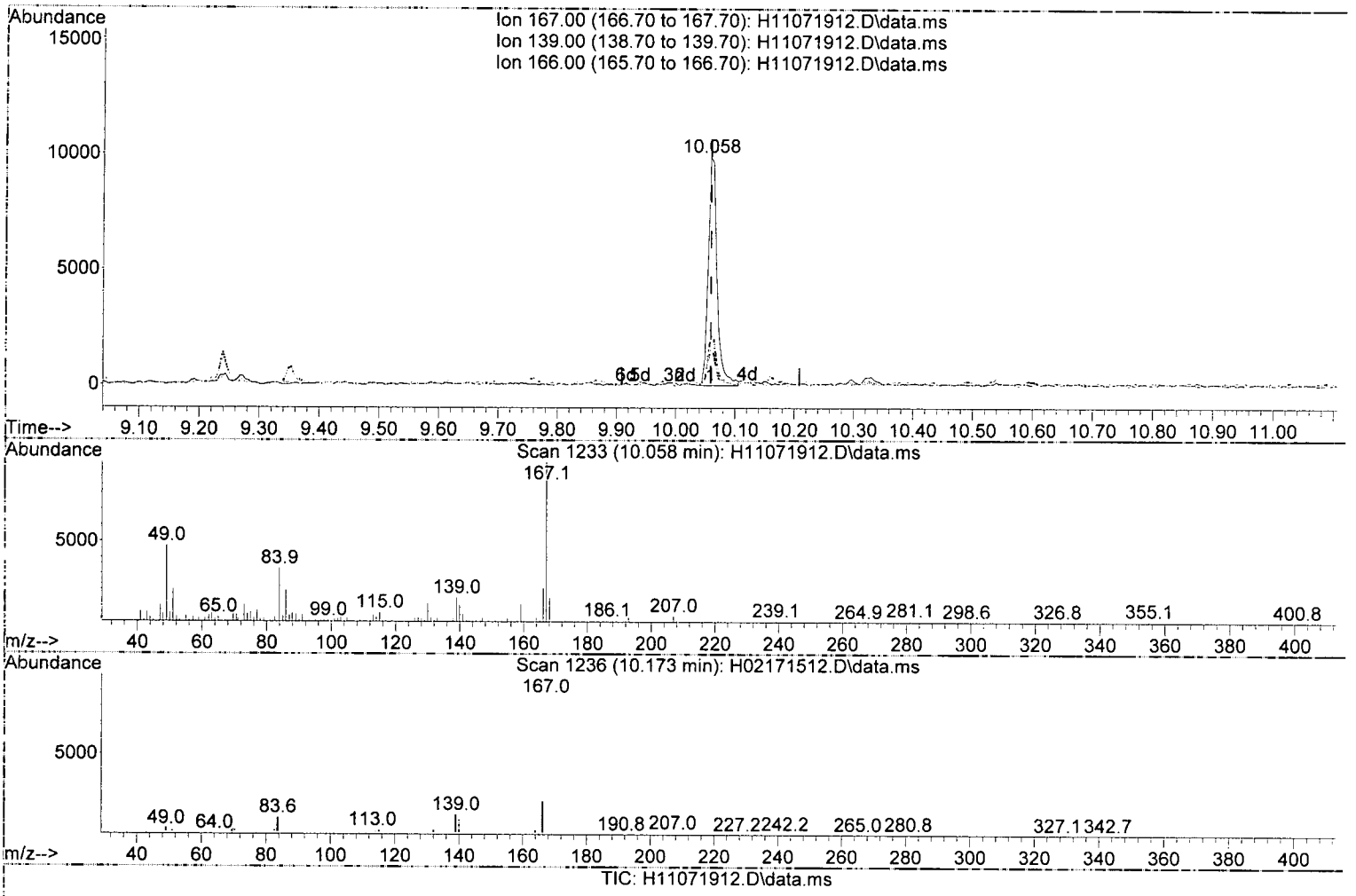
response 6176

Ion	Exp%	Act%
142.10	100.00	100.00
141.00	88.10	86.39
115.00	26.90	40.15
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071912.D
Acq On : 7 Nov 2019 5:45 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05RE1@1000
Misc : 1000x, #2,3,4,18
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:07 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071912.D\data.ms

(18) Carbazole (T)

10.058min (+ 0.000) 3.40 ng/ml

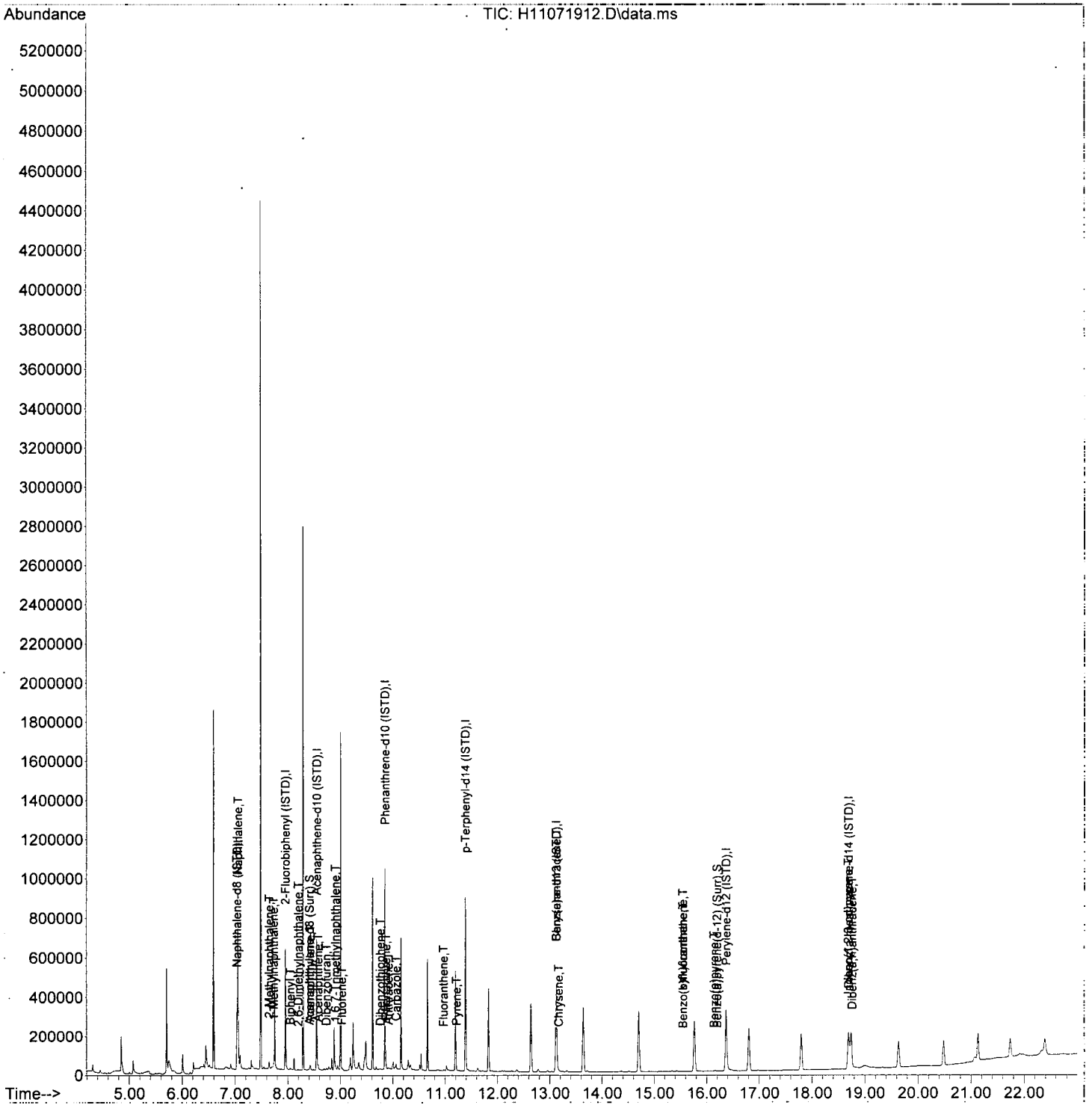
response 10344

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	11.20	15.38
166.00	19.90	21.26
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071912.D
Acq On : 7 Nov 2019 5:45 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05RE1@1000
Misc : 1000x, #2,3,4,18
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 18:35:22 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071913.D
Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07RE1@4
Misc : 4x, 8270D PAH (125mL) LL
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.034	136	143134	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	143815	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	323590	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.125	240	291180	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.373	264	262334	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.682	292	223970	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.953	172	206558	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	344763	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	86258	33.46	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.173	264	68131	34.79	ng/ml	-0.01
Target Compounds						Qvalue
2) Naphthalene	7.053	128	240560	144.84	ng/ml	97
3) 2-Methylnaphthalene	7.639	142	47863	37.32	ng/ml	95
4) 1-Methylnaphthalene	7.725	142	92129	75.88	ng/ml	91
6) Biphenyl	8.039	154	18409	7.65	ng/ml	92
7) 2,6-Dimethylnaphthalene	8.182	156	25457	15.10	ng/ml	88
9) Acenaphthylene	8.425	152	25730	9.00	ng/ml	82
10) Acenaphthene	8.577	153	265040	124.31	ng/ml	99
11) Dibenzofuran	8.725	168	18316	6.01	ng/ml	62
12) 1,6,7-Trimethylnaphtha...	8.906	170	4735	2.33	ng/ml#	43
13) Fluorene	~~9.025~~	~~166~~	~~124154~~	~~47.05~~	~~ng/ml~~	~~99~~ MI 11/7
15) Dibenzothiophene	9.758	184	60699	18.20	ng/ml	96
16) Phenanthrene	9.873	178	426567	109.91	ng/ml	100
17) Anthracene	9.915	178	46792	13.58	ng/ml	96
18) Carbazole	10.058	167	204779	61.26	ng/ml	94
19) Fluoranthene	10.963	202	1372	0.36	ng/ml#	1
20) Pyrene	11.211	202	1701	0.41	ng/ml#	36
22) Benz(a)anthracene	~~13.125~~	~~228~~	~~1459~~	~~0.27~~	~~ng/ml#~~	~~71~~ MI ND
23) Chrysene	13.173	228	575	0.18	ng/ml#	55
25) Benzo(b)fluoranthene	15.487	252	397	0.15	ng/ml#	1
26) Benzo(k)fluoranthene	15.558	252	218	0.10	ng/ml#	1
27) Benzo(b+k)fluoranthene	15.487	252	615	0.26	ng/ml#	1
28) Benzo(e)pyrene	16.115	252	309	0.11	ng/ml#	26
30) Benzo(a)pyrene	~~16.182~~	~~252~~	~~802~~	~~0.42~~	~~ng/ml#~~	~~1~~ MI ND
31) Perylene	16.430	252	64	0.02	ng/ml#	61
33) Indeno(1,2,3-cd)pyrene	18.682	276	349	0.13	ng/ml#	1
34) Dibenz(a,h)anthracene	18.749	278	65	0.02	ng/ml#	1
35) Benzo(g,h,i)perylene	19.201	276	78	0.03	ng/ml#	1

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

Quantitation Report (Qedit)

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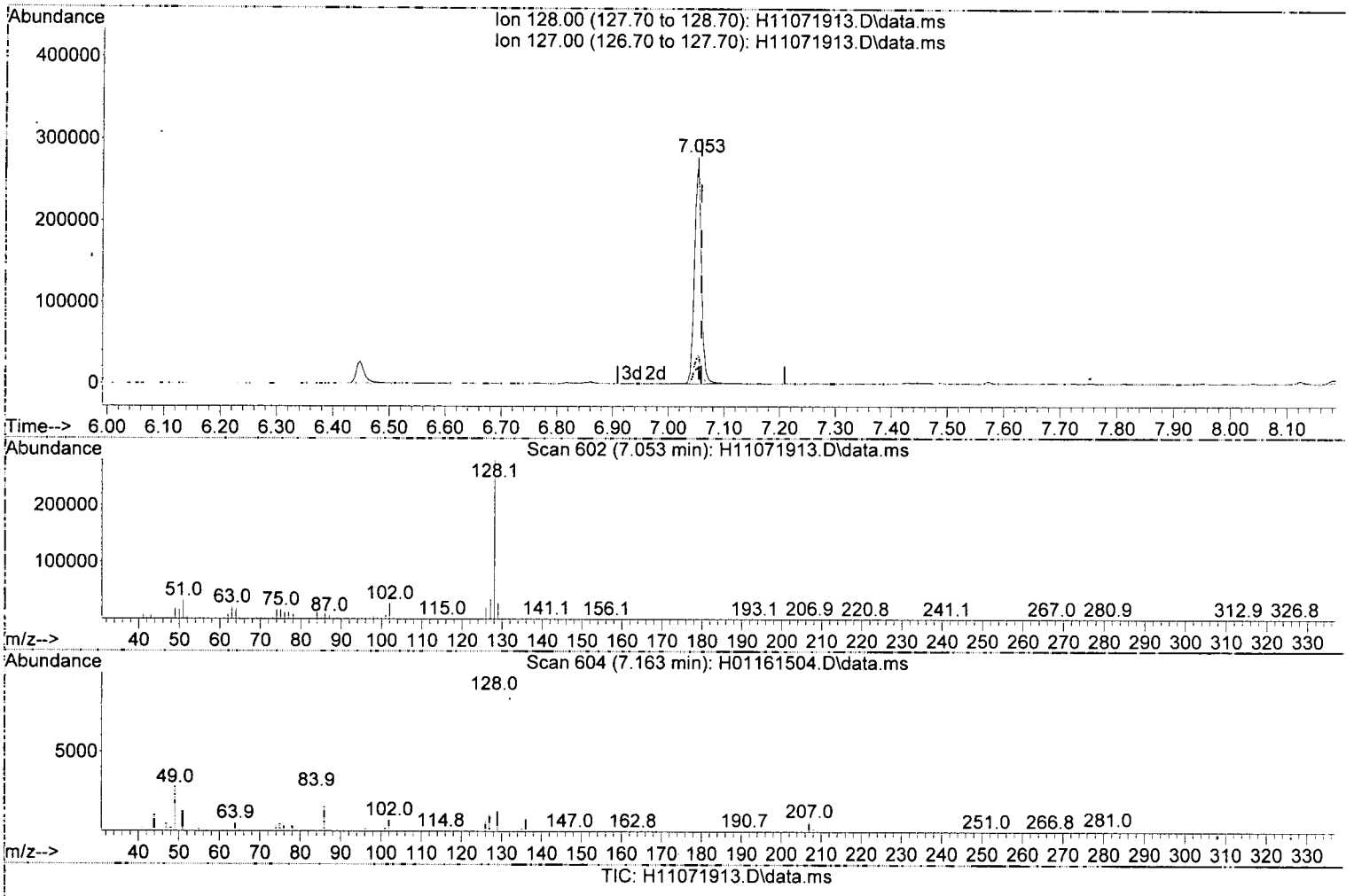
Operator : JK /AMS /DTH
Sample : A9K0165-07RE1@4
Misc : 4x, 8270D PAH (125mL) LL
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(2) Naphthalene (T)

7.053min (-0.005) 144.84 ng/ml

response 240560

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	11.50	12.80
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
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Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
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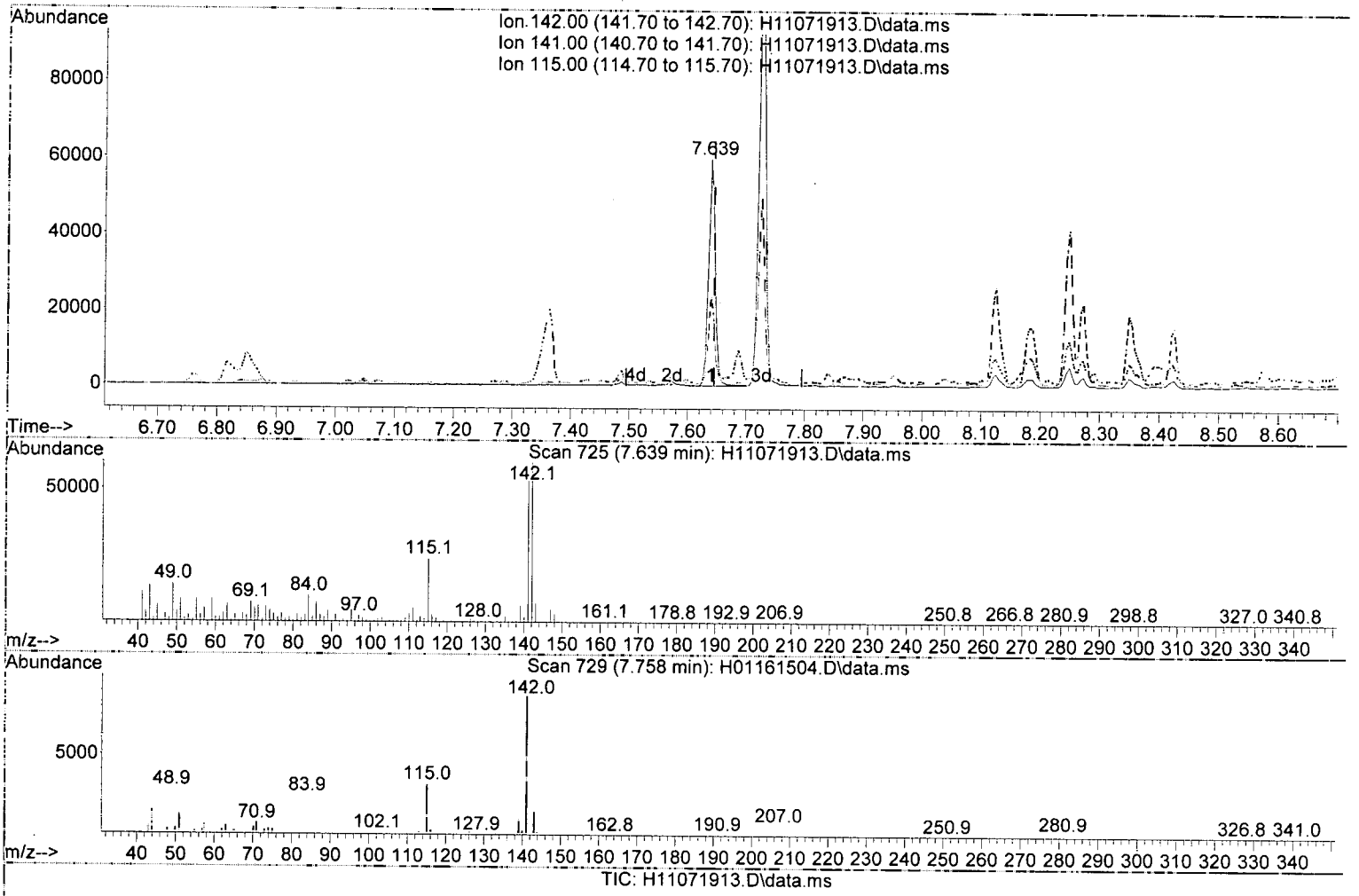
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(3) 2-Methylnaphthalene (T)

7.639min (-0.005) 37.32 ng/ml

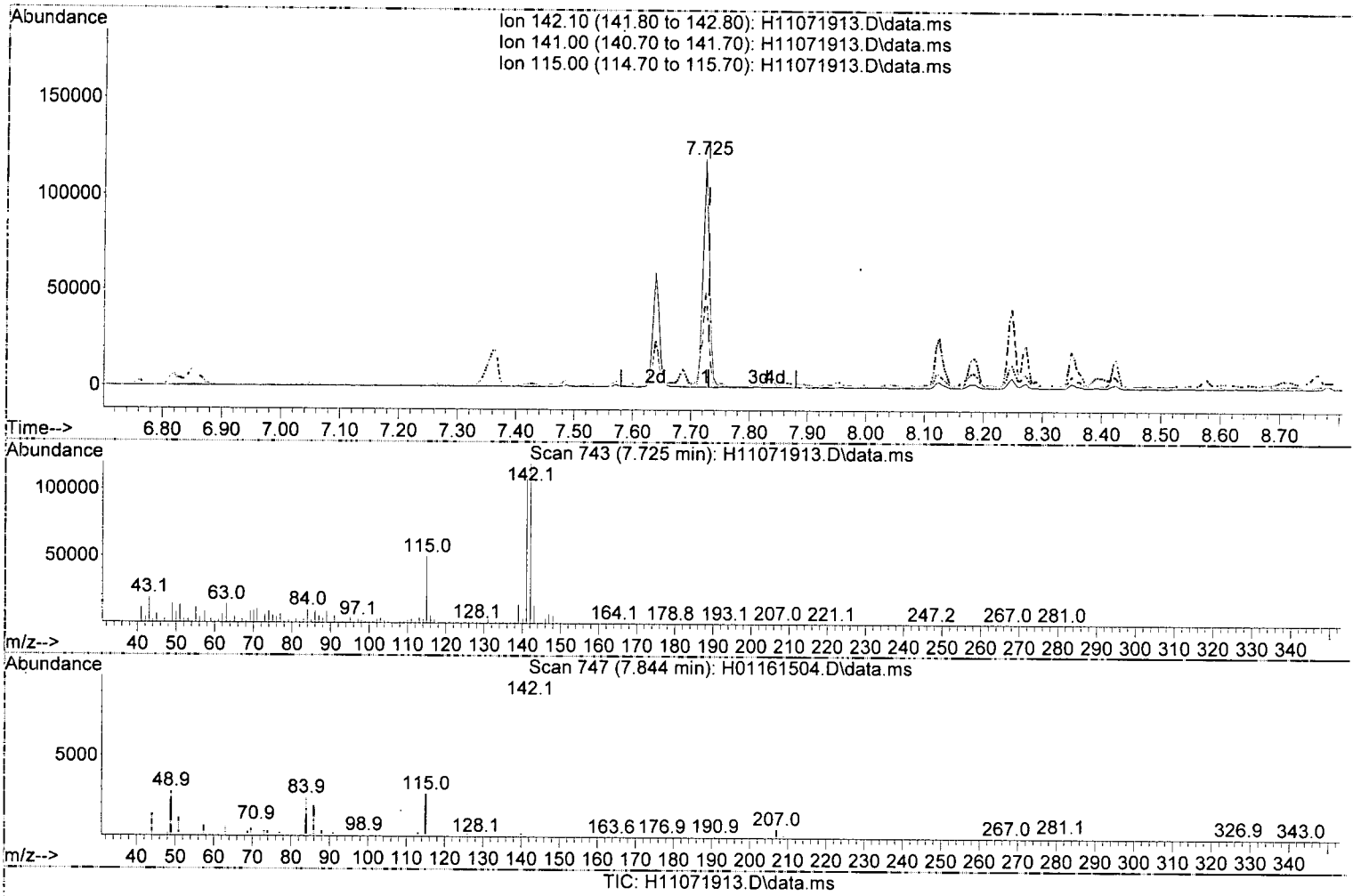
response 47863

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	87.50	88.54
115.00	32.00	39.97
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071913.D
Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07RE1@4
Misc : 4x, 8270D PAH (125mL) LL
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(4) 1-Methylnaphthalene (T)

7.725min (-0.005) 75.88 ng/ml

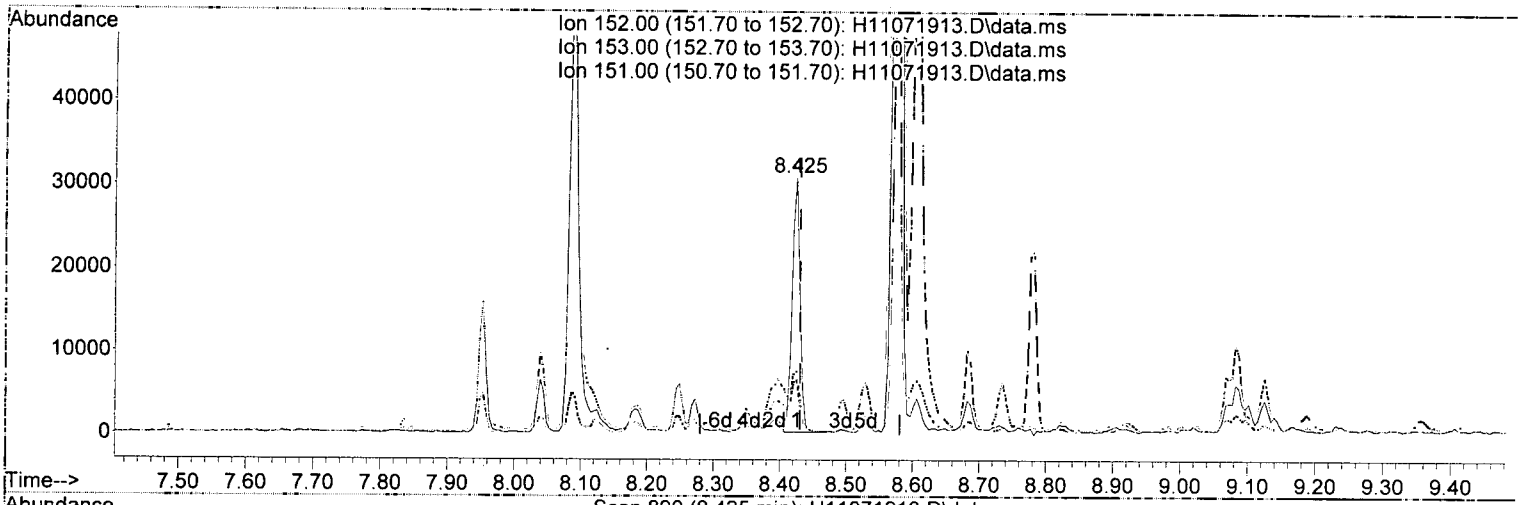
response 92129

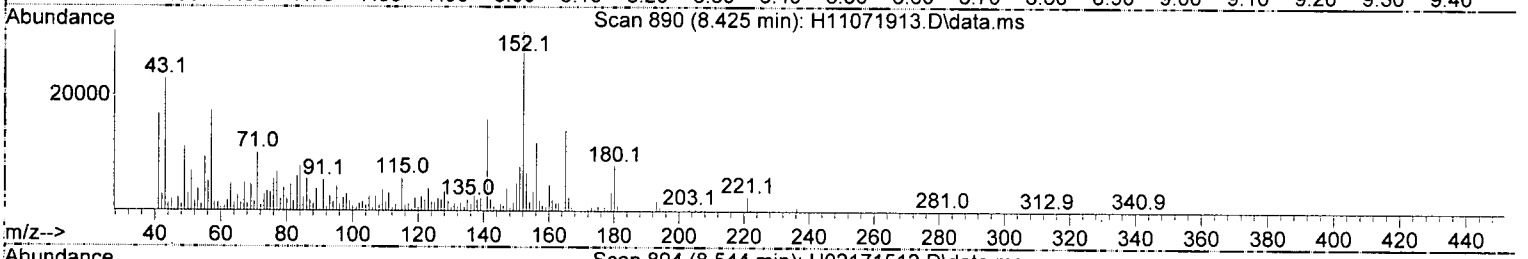
Ion	Exp%	Act%
142.10	100.00	100.00
141.00	88.10	90.58
115.00	26.90	41.84
0.00	0.00	0.00

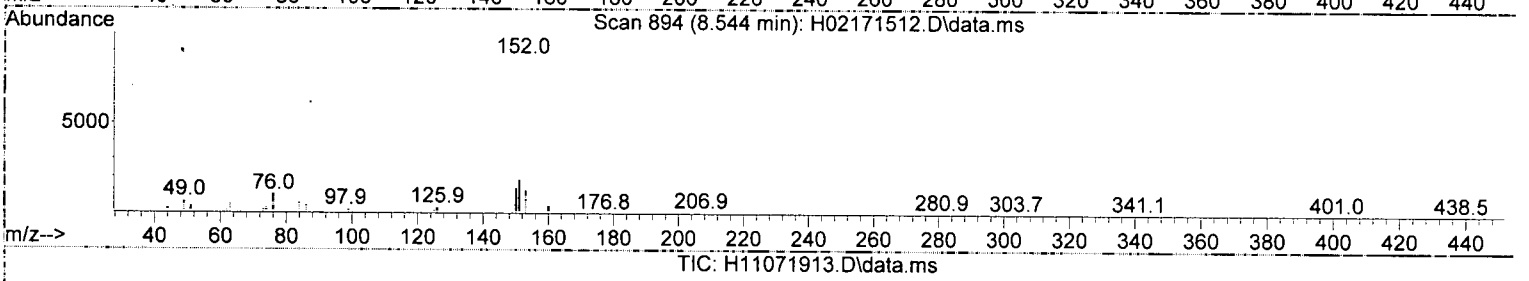
Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071913.D
Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07RE1@4
Misc : 4x, 8270D PAH (125mL) LL
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8







TIC: H11071913.D\data.ms

(9) Acenaphthylene (T)

8.425min (-0.005) 9.00 ng/ml

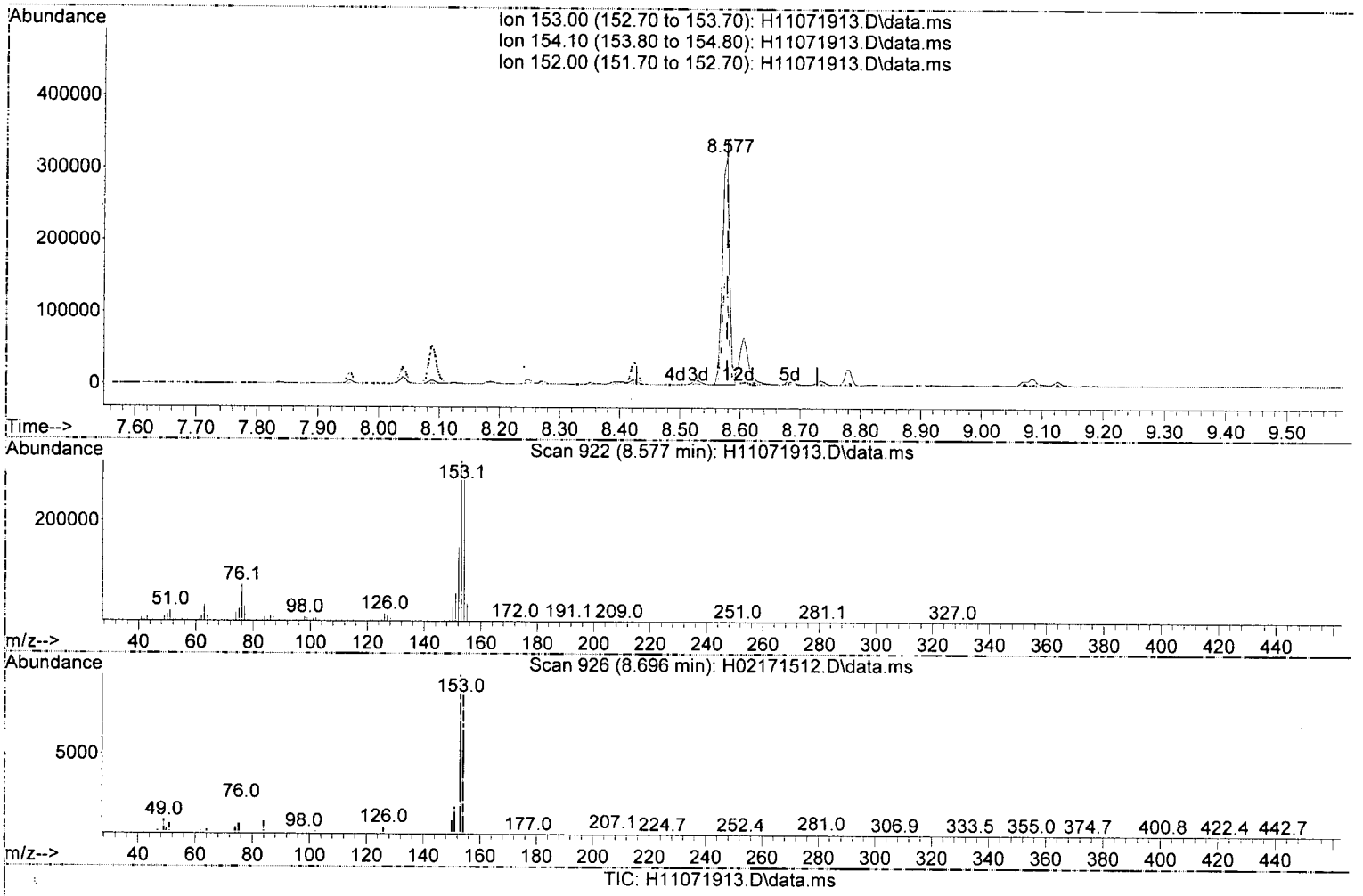
response 25730

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	13.00	21.31
151.00	18.40	25.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071913.D
Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07RE1@4
Misc : 4x, 8270D PAH (125mL) LL
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(10) Acenaphthene (T)

8.577min (-0.000) 124.31 ng/ml

response 265040

Ion	Exp%	Act%
153.00	100.00	100.00
154.10	88.60	90.36
152.00	46.00	46.46
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071913.D
Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07RE1@4
Misc : 4x, 8270D PAH (125mL) LL
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DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
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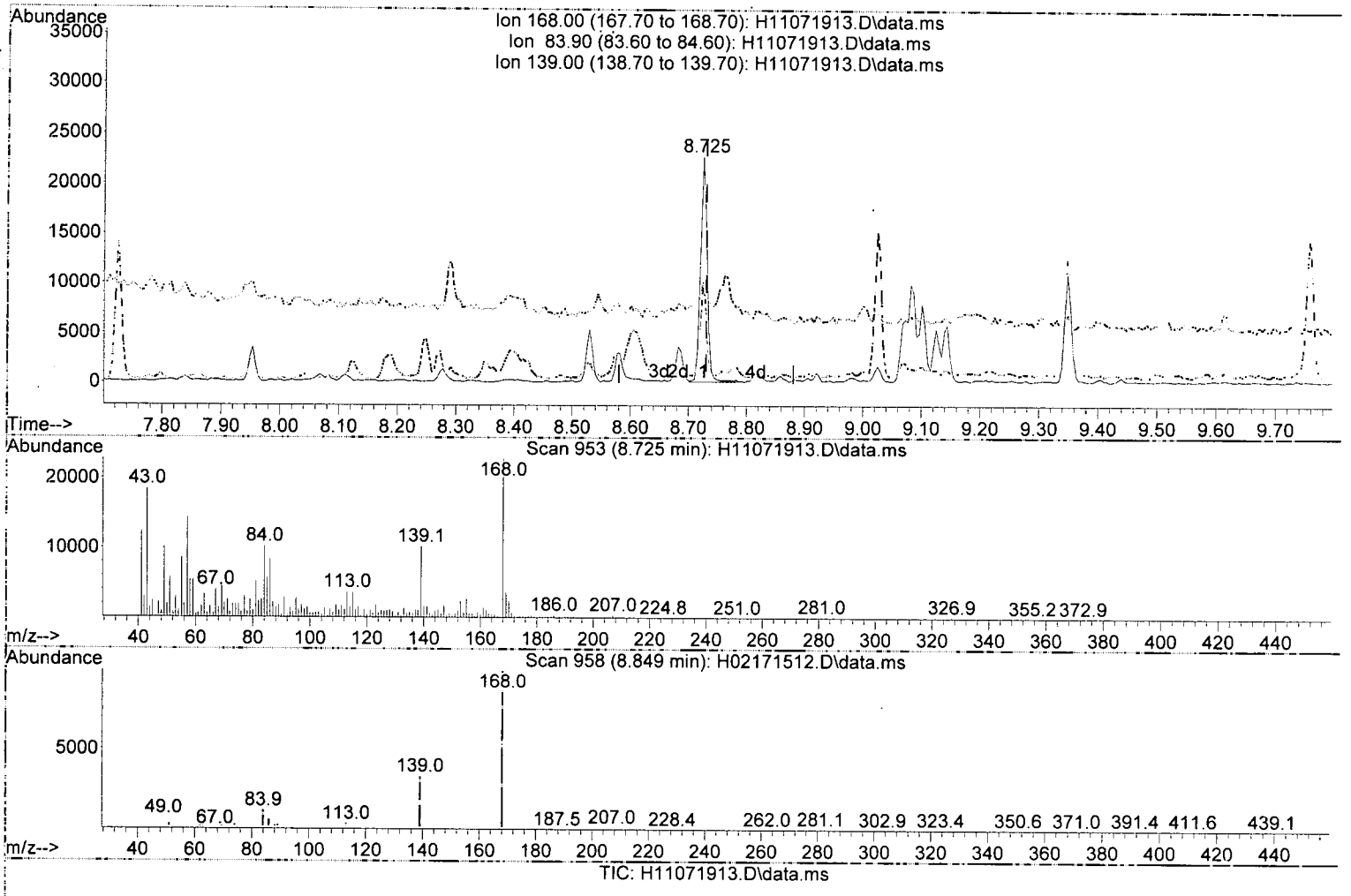

(11) Dibenzofuran (T)

8.725min (-0.005) 6.01 ng/ml

response 18316

Ion	Exp%	Act%
168.00	100.00	100.00
83.90	15.50	45.01
139.00	32.00	44.88
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071913.D
Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07RE1@4
Misc : 4x, 8270D PAH (125mL) LL
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
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Quant Title : LVI PAH/PCP Acquisition and Analysis
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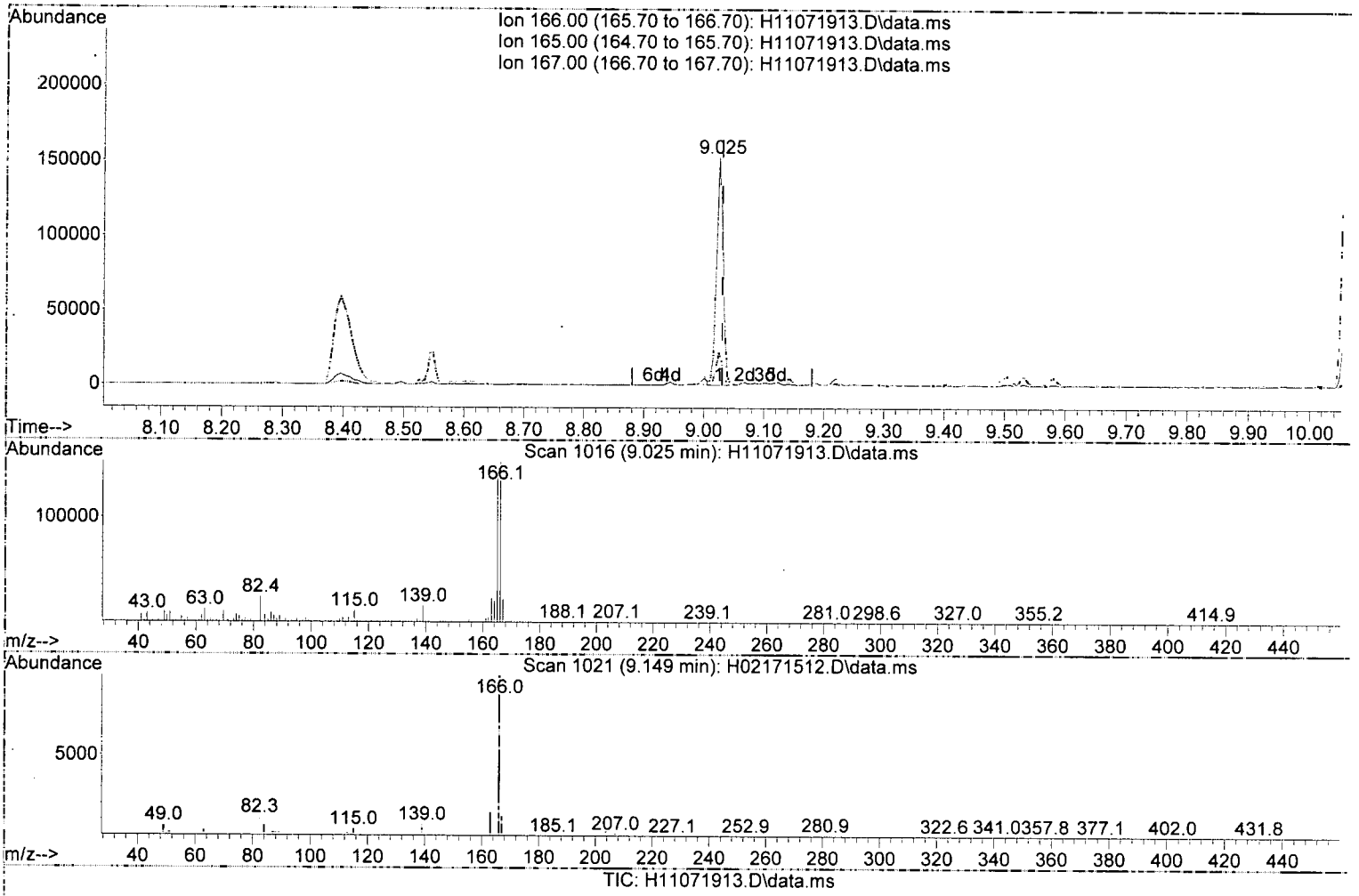

(13) Fluorene (T)

9.025min (-0.005) 45.43 ng/ml (m)

DTH 11/7/19

response 119895

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	94.50	93.73
167.00	13.50	14.55
0.00	0.00	0.00

✓

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
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Acq On : 7 Nov 2019 6:17 pm
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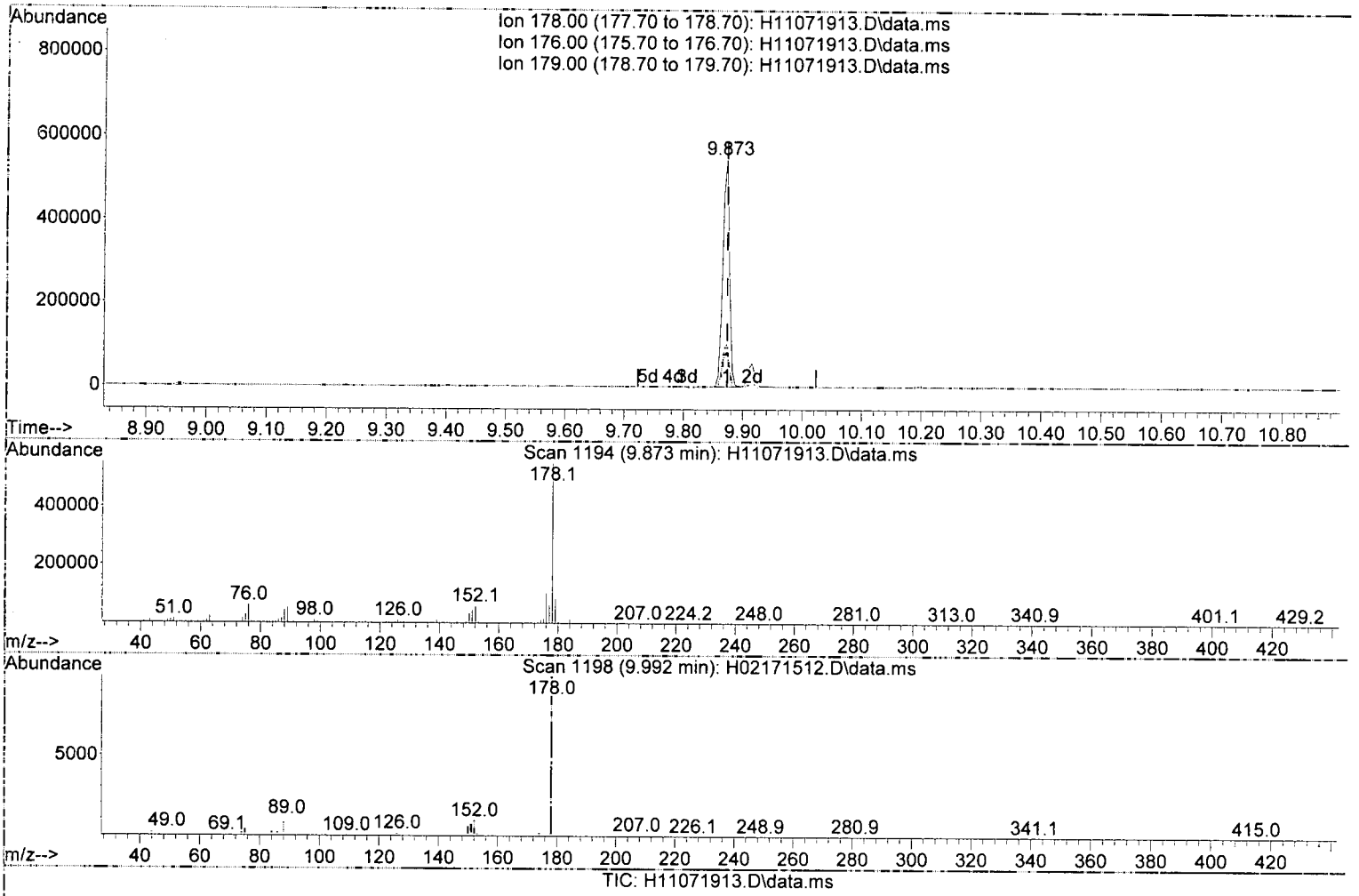

(16) Phenanthrene (T)

9.873min (-0.000) 109.91 ng/ml

response 426567

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.83
179.00	15.00	15.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
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Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
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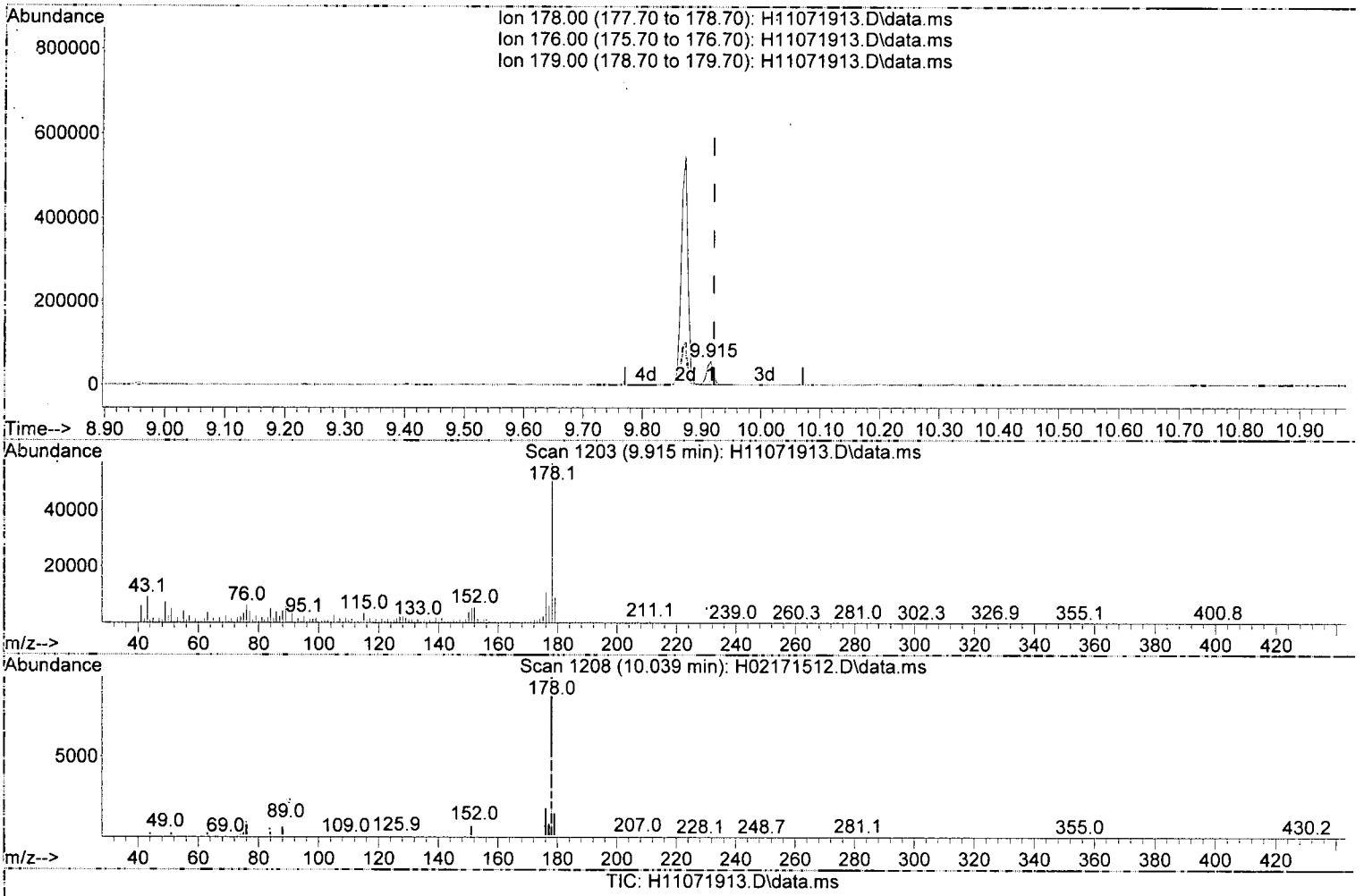
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071913.D\data.ms

(17) Anthracene (T)

9.915min (-0.005) 13.58 ng/ml

response 46792

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	17.30	18.96
179.00	14.00	16.13
0.00	0.00	0.00

Quantitation Report (Qedit)

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Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
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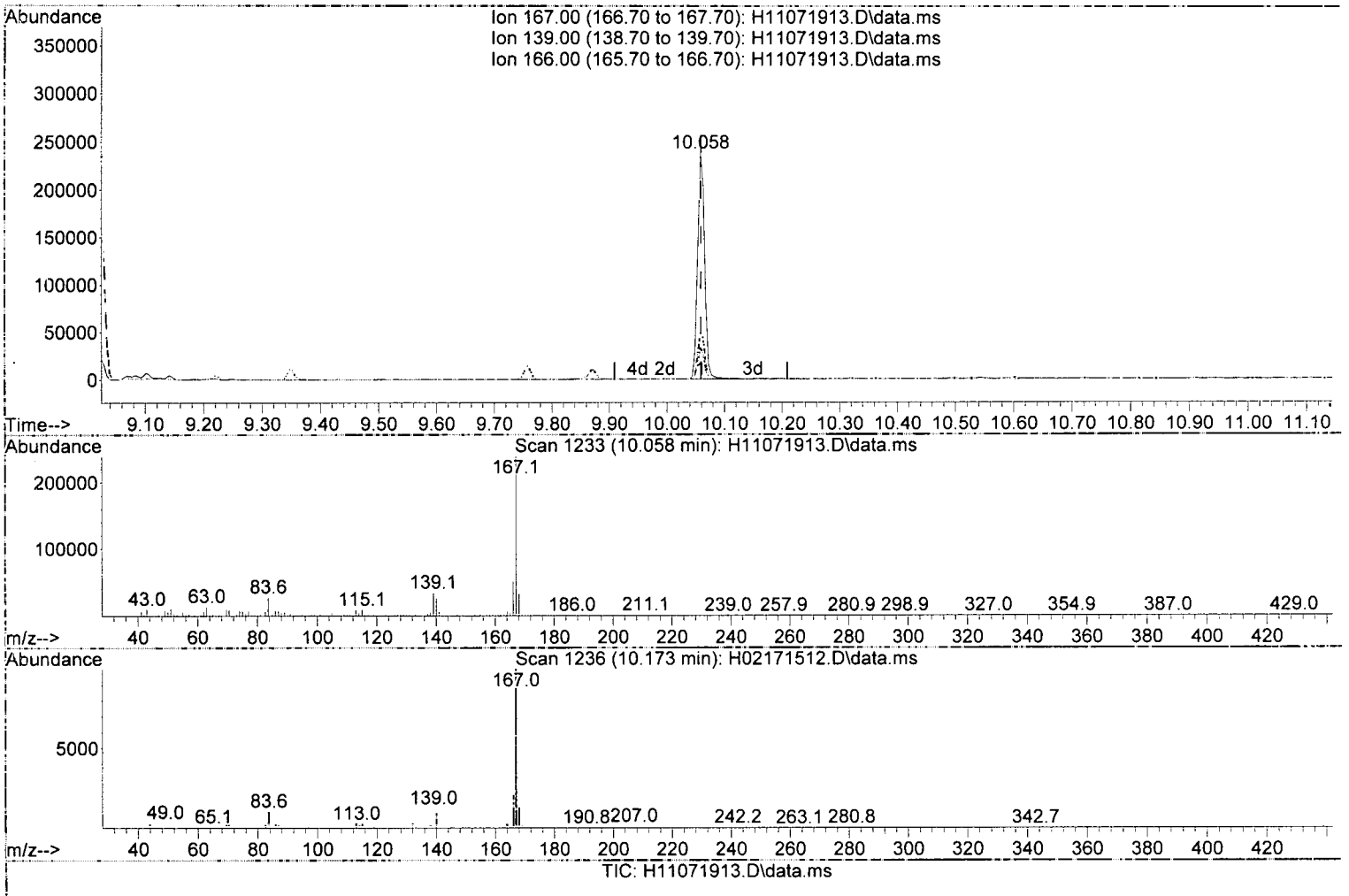

TIC: H11071913.D\data.ms

(18) Carbazole (T)

10.058min (-0.000) 61.26 ng/ml

response 204779

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	11.20	14.36
166.00	19.90	21.74
0.00	0.00	0.00

Quantitation Report (Qedit)

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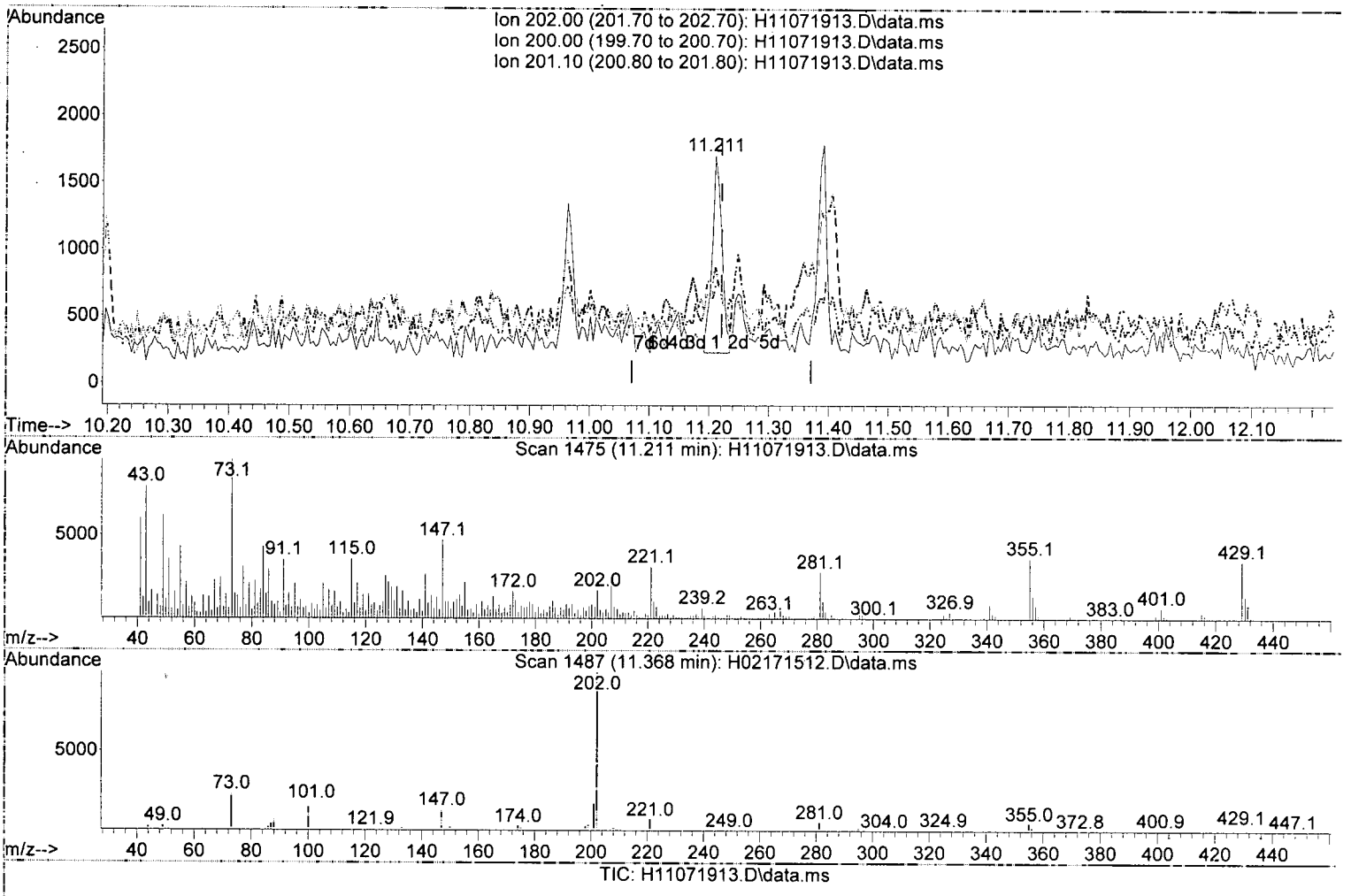

(20) Pyrene (T)

11.211min (-0.010) 0.41 ng/ml J

response 1701

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.10	50.97#
201.10	16.50	42.72
0.00	0.00	0.00

Quantitation Report (Qedit)

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Quant Title : LVI PAH/PCP Acquisition and Analysis
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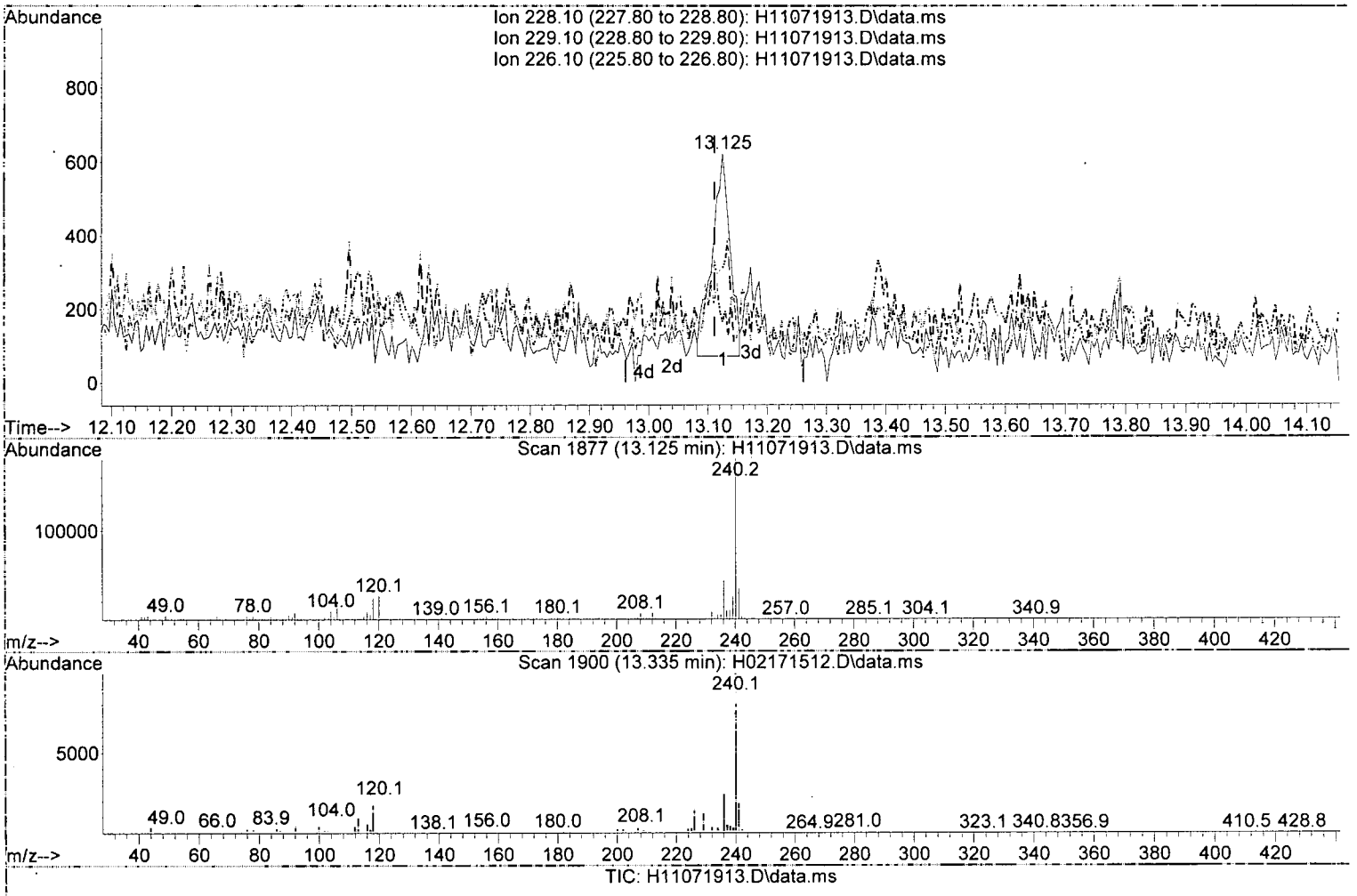

(22) Benz(a)anthracene (T)

13.125min (+ 0.014) 0.17 ng/ml (m) ND

DTH 11/7/19

response 1170

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.10	49.60#
226.10	26.10	26.65
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071913.D
Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
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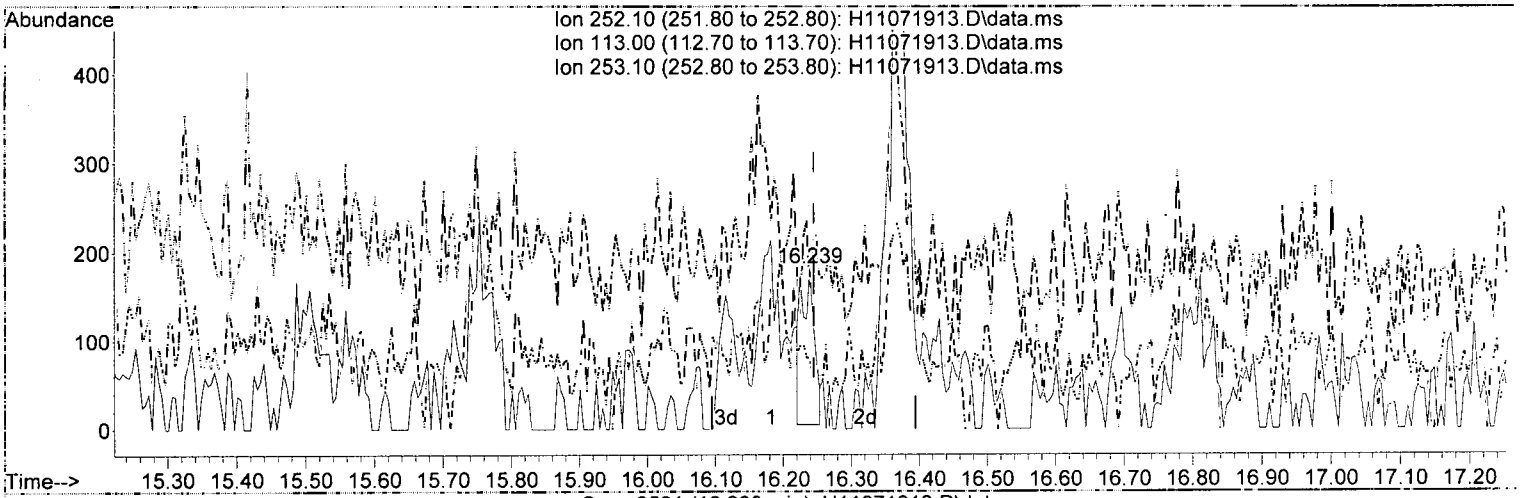
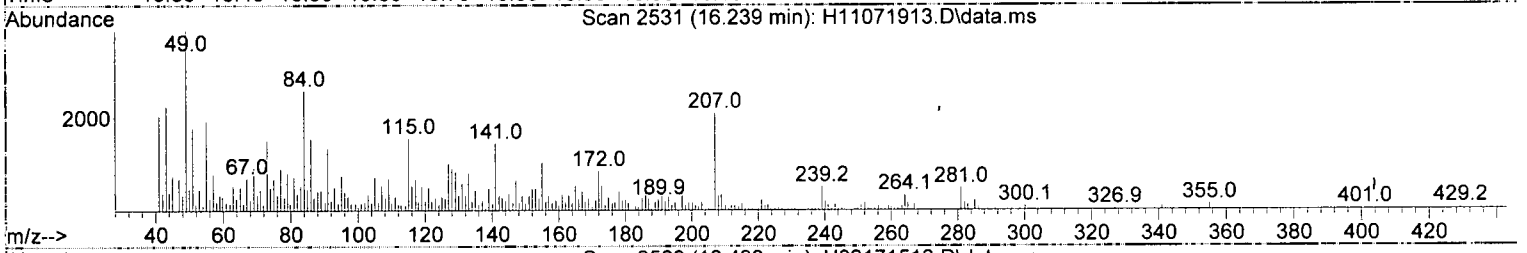
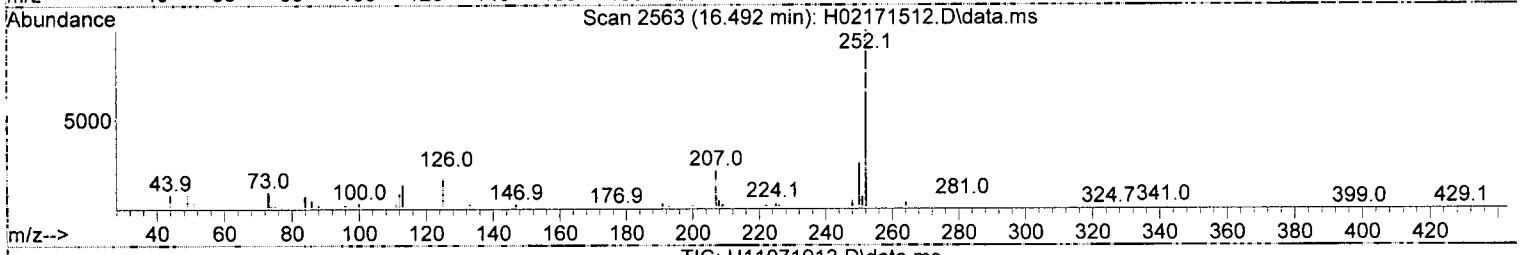






TIC: H11071913.D\data.ms

(30) Benzo(a)pyrene (T)

16.239min (-0.005) 0.16 ng/ml (m) ND

DTH 11/7/19

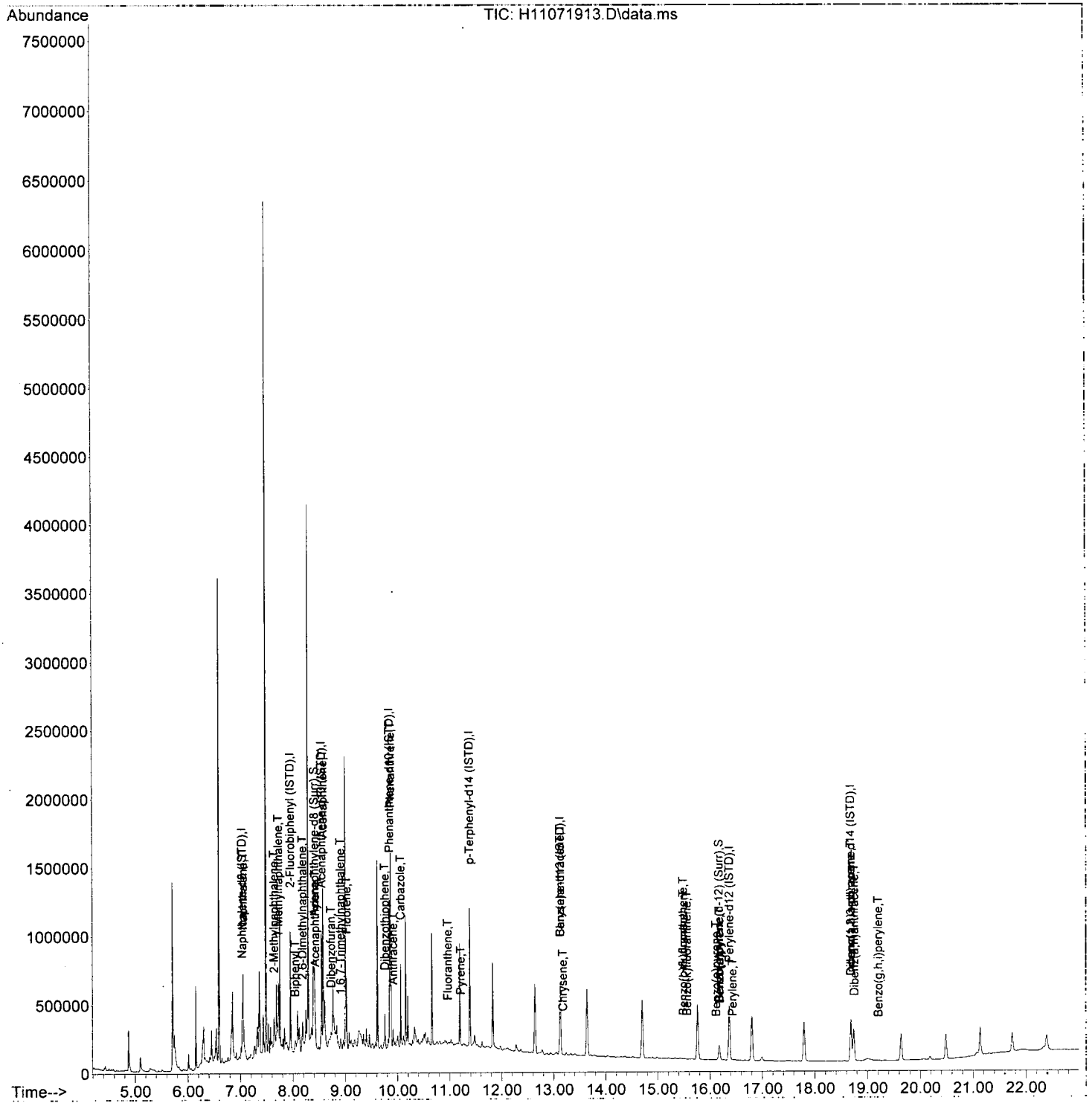
response 233

Ion	Exp%	Act%
252.10	100.00	100.00
113.00	12.00	85.16#
253.10	20.40	43.41
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071913.D
Acq On : 7 Nov 2019 6:17 pm
Operator : JK /AMS /DTH
Sample : A9K0165-07RE1@4
Misc : 4x, 8270D PAH (125mL) LL
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:06:11 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071914.D
Acq On : 7 Nov 2019 6:49 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05RE2@5000
Misc : 5000x, #2
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:34:12 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

DTH 11/7/19

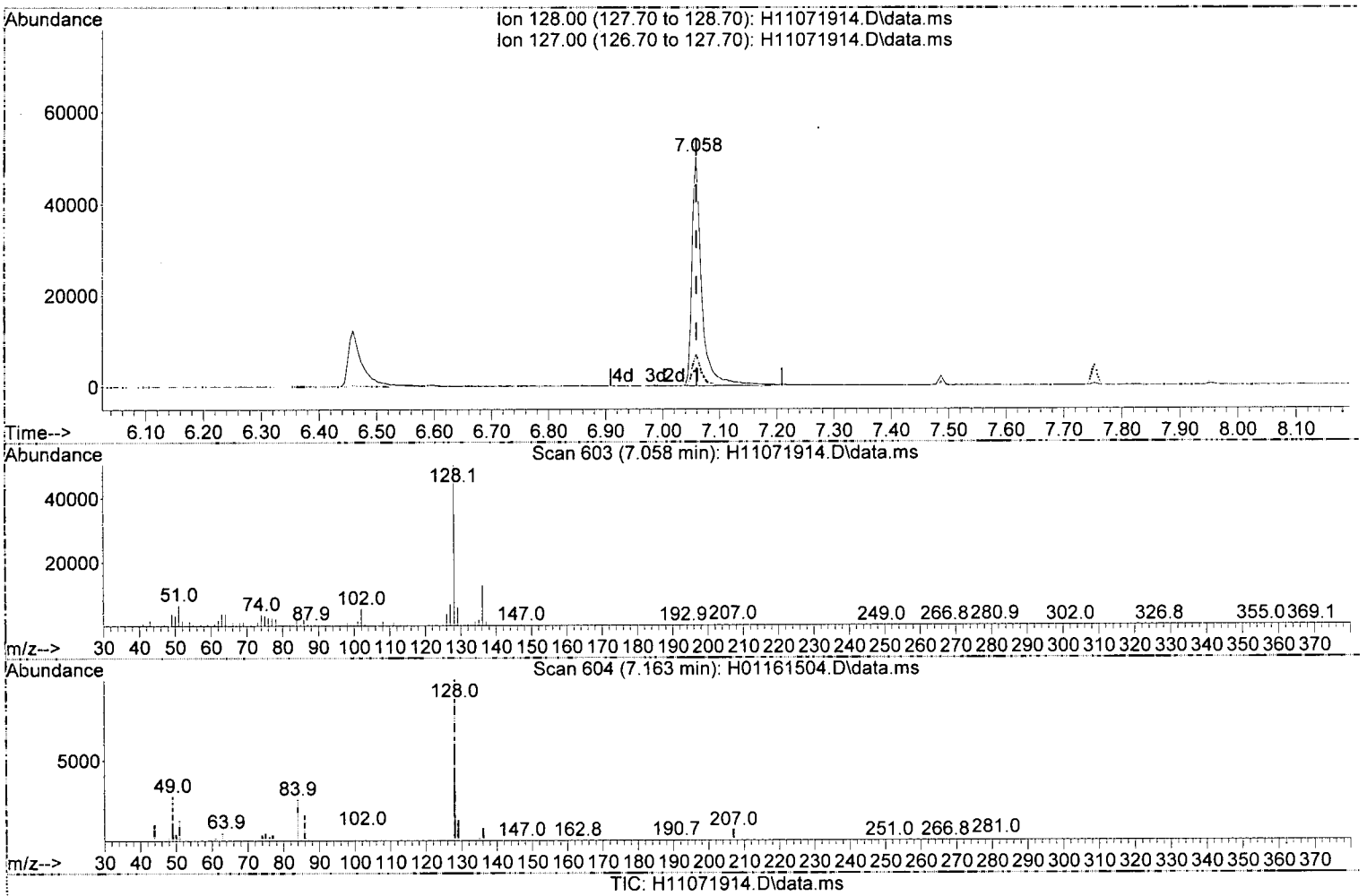
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.039	136	113300	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	114653	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	253444	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	202194	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.363	264	172955	100.00	ng/ml	-0.02
32) Dibenz(a,h)anthracene-...	18.687	292	140025	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	151182	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	252365	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.416	160	3111	0.60	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.182	264	57	0.18	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.058	128	59820	45.50	ng/ml	95
3) 2-Methylnaphthalene	7.649	142	1938	1.91	ng/ml	95
4) 1-Methylnaphthalene	7.735	142	1322	1.38	ng/ml	91
6) Biphenyl	8.044	154	841	0.44	ng/ml	85
7) 2,6-Dimethylnaphthalene	8.187	156	136	0.10	ng/ml#	46
9) Acenaphthylene	8.425	152	1892	0.83	ng/ml	92
10) Acenaphthene	8.578	153	1051	0.62	ng/ml	96
11) Dibenzofuran	8.735	168	153	0.06	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	9.001	170	69	0.04	ng/ml#	1
13) Fluorene	9.030	166	565	0.27	ng/ml	94
15) Dibenzothiophene	9.758	184	193	0.07	ng/ml	65
16) Phenanthrene	9.868	178	1727	0.57	ng/ml	84
17) Anthracene	9.911	178	376	0.14	ng/ml#	41
18) Carbazole	10.073	167	1805	0.69	ng/ml	82
19) Fluoranthene	10.968	202	405	0.13	ng/ml	74
20) Pyrene	11.225	202	353	0.11	ng/ml	95
22) Benz(a)anthracene	13.120	228	630	0.07	ng/ml	77
23) Chrysene	13.120	228	630	0.28	ng/ml	74
25) Benzo(b)fluoranthene	0.000		0	N.D.		
26) Benzo(k)fluoranthene	0.000		0	N.D.		
27) Benzo(b+k)fluoranthene	0.000		0	N.D.		
28) Benzo(e)pyrene	0.000		0	N.D.		
30) Benzo(a)pyrene	0.000		0	N.D.		
31) Perylene	0.000		0	N.D.		
33) Indeno(1,2,3-cd)pyrene	0.000		0	N.D.		
34) Dibenz(a,h)anthracene	0.000		0	N.D.		
35) Benzo(g,h,i)perylene	0.000		0	N.D.		

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

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071914.D
Acq On : 7 Nov 2019 6:49 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05RE2@5000
Misc : 5000x, #2
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:34:12 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



TIC: H11071914.D\data.ms

(2) Naphthalene (T)

7.058min (+ 0.000) 45.50 ng/ml

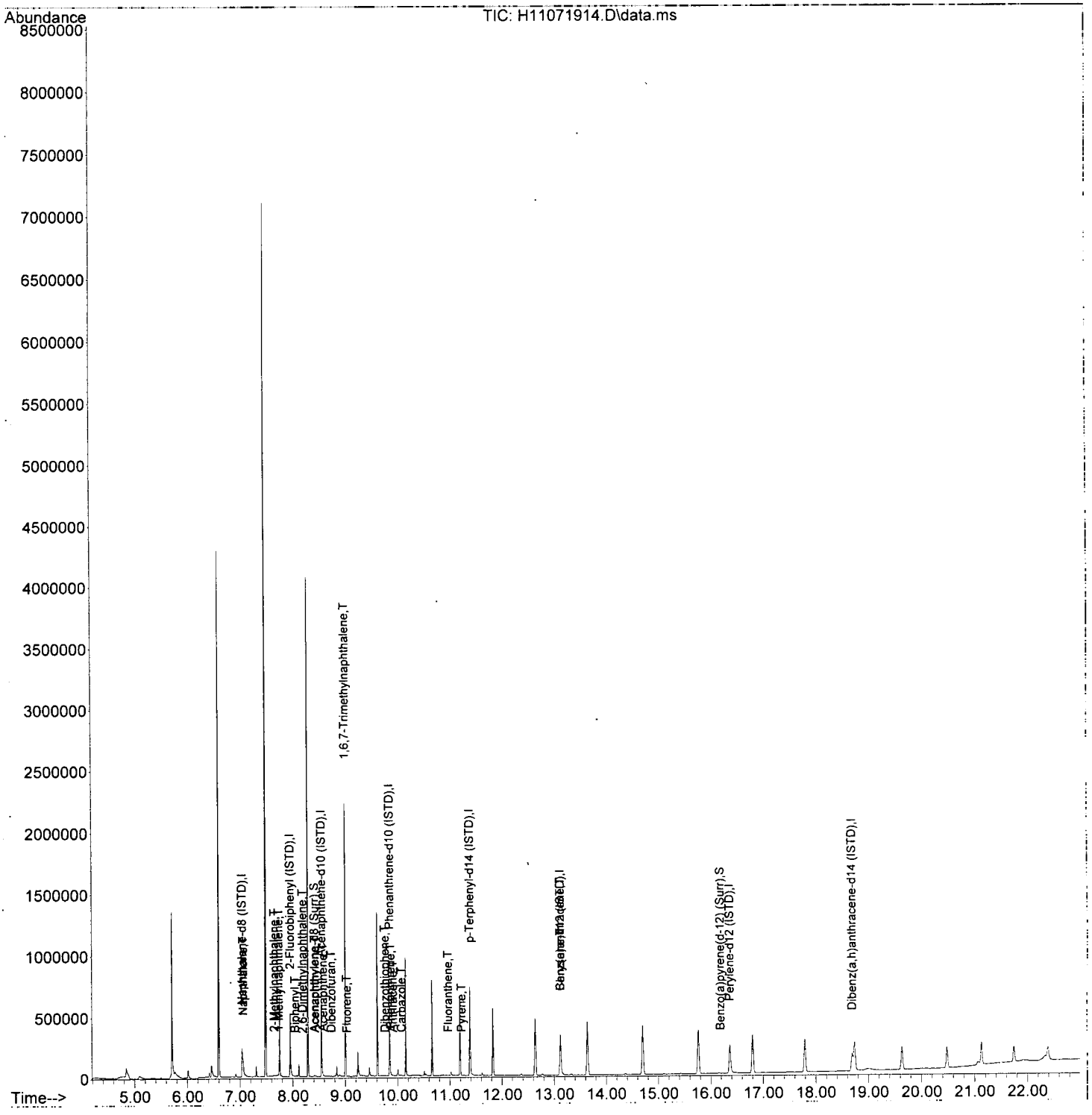
response 59820

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	11.50	13.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K07023\
Data File : H11071914.D
Acq On : 7 Nov 2019 6:49 pm
Operator : JK /AMS /DTH
Sample : A9K0165-05RE2@5000
Misc : 5000x, #2
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 07 19:34:12 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8



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

Semivolatile Organic Compounds (PAHs) by EPA 8270D (LVI)
Calibration Data

Sequence 9G01051 (Cal ID A9G0205) SV-GCMS8

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9G01051**	Instrument:	**SV-GCMS8**
Date:	**07/01/19 13:06**	Calibration:	**A9G0205**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9G01051-TUN1	Water	QC	QC			A19B045	A19F170
2	9G01051-ICB1	Water	QC	QC			A19B045	
3	9G01051-CAL1	Water	QC	QC			A19B045	A19F394
4	9G01051-CAL2	Water	QC	QC			A19B045	A19F395
5	9G01051-CAL3	Water	QC	QC			A19B045	A19F396
6	9G01051-CAL4	Water	QC	QC			A19B045	A19F397
7	9G01051-CAL5	Water	QC	QC			A19B045	A19F398
8	9G01051-CAL6	Water	QC	QC			A19B045	A19F399
9	9G01051-CAL7	Water	QC	QC			A19B045	A19F400
10	9G01051-CAL8	Water	QC	QC			A19B045	A19F401
11	9G01051-CAL9	Water	QC	QC			A19B045	A19F402
12	9G01051-CALA	Water	QC	QC			A19B045	A19F403
13	9G01051-IBL1	Water	QC	QC			A19B045	
14	9G01051-ICV1	Water	QC	QC			A19B045	A19B042
15	9G01051-IBL2	Water	QC	QC			A19B045	

GA 7/2/19

Data Entered By: AMS 7/2/19

Data Reviewed By: MK 7/2/19

Comments: Benzo(a)pyrene is quadratic w/ r^2=0.98
All reguants evaluated to +/- 20%

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9G01051

Analysis Included

8270D PAH (125ml) 16
8270D PAH (125ml) LL
8270D PAH (125ml) LL (Diss)
8270D PAH (125ml) Naphthalene

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed	
9G01051-TUN1	MS Tune	Water	A19F170	A19B045	7/1/2019	1:14:00PM
9G01051-ICB1	Initial Cal Blank	Water		A19B045	7/1/2019	1:45:00PM
9G01051-CAL1	Cal Standard	Water	A19F394	"	7/1/2019	2:19:00PM
9G01051-CAL2	Cal Standard	Water	A19F395	"	7/1/2019	2:52:00PM
9G01051-CAL3	Cal Standard	Water	A19F396	"	7/1/2019	3:26:00PM
9G01051-CAL4	Cal Standard	Water	A19F397	"	7/1/2019	4:00:00PM
9G01051-CAL5	Cal Standard	Water	A19F398	"	7/1/2019	4:34:00PM
9G01051-CAL6	Cal Standard	Water	A19F399	"	7/1/2019	5:07:00PM
9G01051-CAL7	Cal Standard	Water	A19F400	"	7/1/2019	5:41:00PM
9G01051-CAL8	Cal Standard	Water	A19F401	"	7/1/2019	6:15:00PM
9G01051-CAL9	Cal Standard	Water	A19F402	"	7/1/2019	6:48:00PM
9G01051-CALA	Cal Standard	Water	A19F403	"	7/1/2019	7:22:00PM
9G01051-ICV1	Initial Cal Check	Water	A19B042	"	7/1/2019	8:29:00PM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9G0205** Instrument: **SV-GCMS8**

8270D PAH (125ml) 16 Sequence: **9G01051** Matrix: **Water**

9G01051-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9G01051-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9G01051

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: **A9G0205** Instrument: **SV-GCMS8**

8270D PAH (125ml) 16 Sequence: **9G01051** Matrix: **Water**

9G01051-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.

Calibration Status Report SV-GCMS8

Method Path : C:\msdchem\1\METHODS\
Method File : LVI8_070119.M
Title : LVI PAH/PCP Acquisition and Analysis
Last Update : Tue Jul 02 08:51:04 2019
Response Via : Initial Calibration

GK 7/2/19

#	ID	Conc	ISTD Conc	Path\File
1	0.20	-1	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011911.D
2	0.40	0	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011912.D
3	1.0	1	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011913.D
4	5.0	5	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011914.D
5	10	10	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011915.D
6	20	20	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011916.D
7	50	50	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011917.D
8	100	100	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011918.D
9	150	150	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011919.D
10	200	200	100	C:\msdchem\1\DATA\2019-07\9G01051\H06011920.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.20	Jul 02 08:50 2019	Jul 01 15:06 2019	1 Jul 2019 2:19 pm
2	0.40	Jul 02 08:50 2019	Jul 02 08:43 2019	1 Jul 2019 2:52 pm
3	1.0	Jul 02 08:50 2019	Jul 02 08:44 2019	1 Jul 2019 3:26 pm
4	5.0	Jul 02 08:50 2019	Jul 02 08:45 2019	1 Jul 2019 4:00 pm
5	10	Jul 02 08:50 2019	Jul 02 08:40 2019	1 Jul 2019 4:34 pm
6	20	Jul 02 08:50 2019	Jul 02 08:40 2019	1 Jul 2019 5:07 pm
7	50	Jul 02 08:50 2019	Jul 02 08:40 2019	1 Jul 2019 5:41 pm
8	100	Jul 02 08:50 2019	Jul 02 08:40 2019	1 Jul 2019 6:15 pm
9	150	Jul 02 08:50 2019	Jul 02 08:40 2019	1 Jul 2019 6:48 pm
10	200	Jul 02 08:51 2019	Jul 02 08:40 2019	1 Jul 2019 7:22 pm

LVI8_070119.M Tue Jul 02 09:34:35 2019

Compound List Report SV-GCMS8

Method Path : C:\msdchem\1\METHODS\
Method File : LVI8_070119.M
Title : LVI PAH/PCP Acquisition and Analysis
Last Update : Tue Jul 02 08:51:04 2019
Response Via : Initial Calibration

Total Cpnds : 37

GJ 7/2/19

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Naphthalene-d8 (ISTD)	136	7.101	1.000	A	1	A	R
2	T	Naphthalene	128	7.115	1.002	A	1	A	R
3	T	2-Methylnaphthalene	142	7.706	1.085	A	2	A	R
4	T	1-Methylnaphthalene	142	7.792	1.097	A	2	A	R
5	I	Acenaphthene-d10 (ISTD)	164	8.616	1.000	A	2	A	R
6	T	Biphenyl	154	8.106	0.941	A	2	A	R
7	T	2,6-Dimethylnaphthalene	156	8.244	0.957	A	2	A	R
8	S	Acenaphthylene-d8 (Surr)	160	8.477	0.984	Q	1	A	R
9	T	Acenaphthylene	152	8.492	0.986	A	2	A	R
10	T	Acenaphthene	153	8.644	1.003	A	2	A	R
11	T	Dibenzofuran	168	8.792	1.020	A	2	A	R
12	T	1,6,7-Trimethylnaphthalene	170	8.973	1.041	A	3	A	R
13	T	Fluorene	166	9.092	1.055	A	2	A	R
14	I	Phenanthrene-d10 (ISTD)	188	9.916	1.000	A	2	A	R
15	T	Dibenzothiophene	184	9.825	0.991	A	3	A	R
16	T	Phenanthrene	178	9.934	1.002	A	2	A	R
17	T	Anthracene	178	9.982	1.007	A	2	A	R
18	T	Carbazole	167	10.120	1.021	A	2	A	R
19	T	Fluoranthene	202	11.044	1.114	A	2	A	R
20	T	Pyrene	202	11.301	1.140	A	2	A	R
21	I	Chrysene-d12 (ISTD)	240	13.263	1.000	A	2	A	R
22	T	Benz(a)anthracene	228	13.239	0.998	Q	2	A	R
23	T	Chrysene	228	13.316	1.004	A	2	A	R
24	I	Perylene-d12 (ISTD)	264	16.525	1.000	A	2	A	R
25	T	Benzo(b)fluoranthene	252	15.649	0.947	Q	2	A	R
26	T	Benzo(k)fluoranthene	252	15.711	0.951	Q	2	A	R
27	T	Benzo(b+k)fluoranthene	252	15.710	0.951	Q	2	A	R
28	T	Benzo(e)pyrene	252	16.273	0.985	A	2	A	R
29	S	Benzo(a)pyrene(d-12) (Surr)	264	16.329	0.988	Q	1	A	R
30	T	Benzo(a)pyrene	252	16.387	0.992	Q	2	A	R
31	T	Perylene	252	16.582	1.003	A	2	A	R
32	I	Dibenz(a,h)anthracene-d14 (...	292	18.844	1.000	A	2	A	R
33	T	Indeno(1,2,3-cd)pyrene	276	18.839	1.000	A	2	A	R
34	T	Dibenz(a,h)anthracene	278	18.906	1.003	A	2	A	R
35	T	Benzo(g,h,i)perylene	276	19.363	1.028	A	2	A	R
36	I	2-Fluorobiphenyl (ISTD)	172	8.020	1.000	A	2	A	R
37	I	p-Terphenyl-d14 (ISTD)	244	11.478	1.000	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

LVI8_070119.M Tue Jul 02 09:27:36 2019

Response Factor Report SV-GCMS8

Method Path : C:\msdchem\1\METHODS\
Method File : LVI8_070119.M
Title : LVI PAH/PCP Acquisition and Analysis
Last Update : Tue Jul 02 08:51:04 2019
Response Via : Initial Calibration

7/2/19

Calibration Files
0.20=H06011911.D 0.40=H06011912.D 1.0 =H06011913.D 5.0 =H06011914.D 10 =H06011915.D 20 =H06011916.D 50 =H06011917.D
100 =H06011918.D 150 =H06011919.D 200 =H06011920.D

		Compound	0.20	0.40	1.0	5.0	10	20	50	100	150	200	Avg	%RSD
1)	I	Naphthalene-d8 (ISTD)	ISTD											5.57 Ams 7/2/19
2)	T	Naphthalene		1.325	1.264	1.159	1.125	1.130	1.098	1.108	1.130	1.107	1.160	6.85
3)	T	2-Methylnaphth...	0.948	0.950	0.938	0.875	0.839	0.840	0.870	0.888	0.885	0.928	0.896	4.73
4)	T	1-Methylnaphth...	0.875	0.834	0.845	0.879	0.832	0.794	0.837	0.851	0.843	0.892	0.848	3.32
5)	I	Acenaphthene-d10 (...	ISTD											6.23 Ams 7/2/19
6)	T	Biphenyl		2.078	1.677	1.623	1.568	1.630	1.569	1.621	1.657	1.628	1.672	9.33
7)	T	2,6-Dimethylna...	1.213	1.195	1.071	1.142	1.135	1.168	1.163	1.184	1.234	1.216	1.172	4.08
8)	S	Acenaphthylene...			3.403	2.053	1.852	1.848	1.787	1.824	1.868	1.867	2.063	26.52
9)	T	Acenaphthylene	1.886	1.794	1.726	1.902	1.938	2.043	2.063	2.125	2.199	2.199	1.988	8.27
10)	T	Acenaphthene	1.798	1.536	1.507	1.432	1.387	1.401	1.407	1.424	1.466	1.467	1.483	8.13
11)	T	Dibenzofuran	2.579	1.931	2.003	2.023	2.072	2.165	2.051	2.108	2.163	2.088	2.118	8.35
12)	T	1,6,7-Trimethy...	1.389	1.331	1.363	1.326	1.348	1.476	1.431	1.460	1.528	1.482	1.414	5.06
13)	T	Fluorene	1.991	1.791	1.680	1.736	1.755	1.903	1.825	1.869	1.938	1.862	1.835	5.26
14)	I	Phenanthrene-d10 (...	ISTD											3.73
15)	T	Dibenzothiophene	1.106	1.046	0.970	0.993	1.001	1.031	1.021	1.029	1.058	1.052	1.031	3.70
16)	T	Phenanthrene		1.342	1.198	1.155	1.154	1.195	1.157	1.177	1.210	1.208	1.199	4.82
17)	T	Anthracene	1.047	0.973	0.917	0.997	1.028	1.091	1.116	1.135	1.173	1.174	1.065	8.17
18)	T	Carbazole	1.045	0.936	0.972	0.950	0.998	1.041	1.076	1.085	1.126	1.101	1.033	6.39
19)	T	Fluoranthene	1.277	1.105	1.080	1.111	1.148	1.207	1.220	1.247	1.276	1.266	1.194	6.40
20)	T	Pyrene	1.495	1.253	1.263	1.214	1.221	1.265	1.284	1.315	1.326	1.306	1.294	6.16
21)	I	Chrysene-d12 (ISTD)	ISTD											5.75
22)	T	Benz(a)anthracene	2.222	1.526	1.138	1.007	1.002	1.099	1.115	1.138	1.179	1.165	1.259	29.24
23)	T	Chrysene	1.206	1.107	1.033	1.111	1.079	1.114	1.080	1.112	1.121	1.115	1.108	3.93
24)	I	Perylene-d12 (ISTD)	ISTD											7.03
25)	T	Benzo(b)fluora...	1.064	0.897	0.923	0.952	1.042	1.149	1.180	1.202	1.261	1.257	1.093	12.51
26)	T	Benzo(k)fluora...	1.005	0.810	0.832	0.951	1.061	1.168	1.194	1.241	1.292	1.291	1.085	16.65
27)	T	Benzo(b+k)fluo...	1.035	0.854	0.877	0.970	1.060	1.165	1.191	1.225	1.279	1.276	1.093	14.42
28)	T	Benzo(e)pyrene	1.040	0.897	0.892	1.012	1.033	1.094	1.120	1.160	1.192	1.192	1.063	10.29
29)	S	Benzo(a)pyrene...		0.510	0.487	0.627	0.669	0.790	0.846	0.908	0.944	0.941	0.747	24.05
30)	T	Benzo(a)pyrene	0.690	0.603	0.673	0.777	0.878	1.015	1.076	1.140	1.184	1.174	0.921	24.35
31)	T	Perylene	1.092	0.886	0.986	1.029	0.932	1.054	1.118	1.145	1.214	1.221	1.068	10.54
32)	I	Dibenz(a,h)anthrac...	ISTD											10.11
33)	T	Indeno(1,2,3-c...	1.492	1.264	1.098	1.073	1.096	1.128	1.150	1.165	1.191	1.175	1.183	10.30
34)	T	Dibenz(a,h)ant...	1.214	1.146	1.039	1.144	1.118	1.174	1.210	1.250	1.260	1.242	1.180	5.88
35)	T	Benzo(g,h,i)pe...	0.924	0.833	0.871	0.987	1.024	1.093	1.161	1.191	1.207	1.194	1.049	13.47

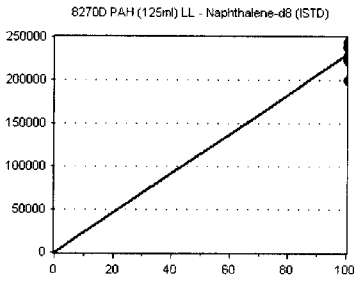
Element Calibration Review Sheet

Calibration ID: **A9G0205** Instrument: **SV-GCMS8** Calibration Date: **07/02/2019**

Analysis: **8270D PAH (125ml) LL** Instrument Cal ID: **A9G0205**

Naphthalene-d8 (ISTD)

Curve Fit: **AVERAGE RF**

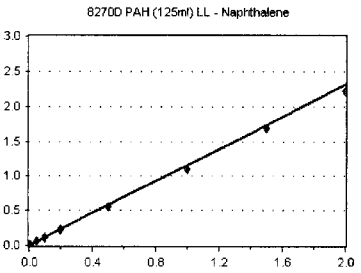


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	226171	2261.710	7.10
9G01051-CAL2	100	237437	2374.370	7.10
9G01051-CAL3	100	200447	2004.470	7.10
9G01051-CAL4	100	245257	2452.570	7.10
9G01051-CAL5	100	237364	2373.640	7.10
9G01051-CAL6	100	237164	2371.640	7.10
9G01051-CAL7	100	222732	2227.320	7.10
9G01051-CAL8	100	224200	2242.000	7.10
9G01051-CAL9	100	228839	2288.390	7.10
9G01051-CALA	100	238727	2387.270	7.10

AVE RF **2298.338** RF RSD **5.51** AVE RT **7.10**

Naphthalene

Curve Fit: **AVERAGE RF**

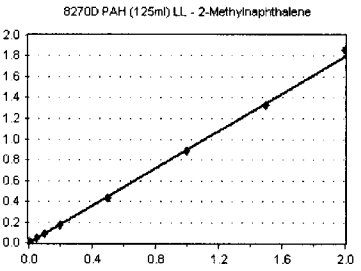


Standard	Concentration	Response	Response Factor	RT
~~9G01051-CAL1~~	~~0.2~~	~~783~~	~~1.731~~	~~7.12~~
9G01051-CAL2	0.4	1258	1.325	7.12
9G01051-CAL3	1	2534	1.264	7.12
9G01051-CAL4	5	14208	1.159	7.12
9G01051-CAL5	10	26697	1.125	7.12
9G01051-CAL6	20	53579	1.130	7.12
9G01051-CAL7	50	122253	1.098	7.12
9G01051-CAL8	100	248338	1.108	7.12
9G01051-CAL9	150	387711	1.130	7.12
9G01051-CALA	200	528470	1.107	7.12

AVE RF **1.160** RF RSD **6.85** AVE RT **7.12**

2-Methylnaphthalene

Curve Fit: **AVERAGE RF**

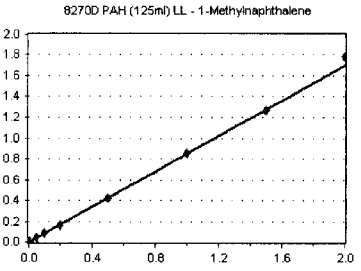


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	429	0.948	7.71
9G01051-CAL2	0.4	902	0.950	7.71
9G01051-CAL3	1	1881	0.938	7.71
9G01051-CAL4	5	10730	0.875	7.71
9G01051-CAL5	10	19906	0.839	7.71
9G01051-CAL6	20	39853	0.840	7.71
9G01051-CAL7	50	96882	0.870	7.71
9G01051-CAL8	100	198999	0.888	7.71
9G01051-CAL9	150	303853	0.885	7.71
9G01051-CALA	200	443011	0.928	7.71

AVE RF **0.896** RF RSD **4.73** AVE RT **7.71**

1-Methylnaphthalene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	396	0.875	7.79
9G01051-CAL2	0.4	792	0.834	7.79
9G01051-CAL3	1	1693	0.845	7.79
9G01051-CAL4	5	10780	0.879	7.79
9G01051-CAL5	10	19757	0.832	7.79
9G01051-CAL6	20	37675	0.794	7.79
9G01051-CAL7	50	93180	0.837	7.79
9G01051-CAL8	100	190884	0.851	7.79
9G01051-CAL9	150	289327	0.843	7.79
9G01051-CALA	200	425660	0.892	7.79

AVE RF **0.848** RF RSD **3.32** AVE RT **7.79**

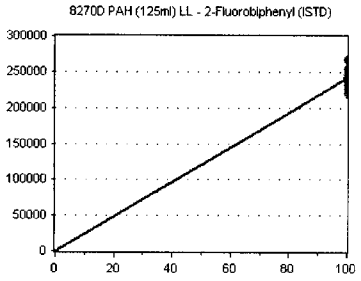
Element Calibration Review Sheet

Calibration ID: **A9G0205** Instrument: **SV-GCMS8** Calibration Date: **07/02/2019**

Analysis: **8270D PAH (125ml) LL** Instrument Cal ID: **A9G0205**

2-Fluorobiphenyl (ISTD)

Curve Fit: **AVERAGE RF**

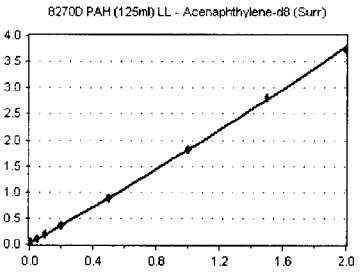


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	227562	2275.620	8.02
9G01051-CAL2	100	246901	2469.010	8.02
9G01051-CAL3	100	220227	2202.270	8.02
9G01051-CAL4	100	254896	2548.960	8.02
9G01051-CAL5	100	241032	2410.320	8.02
9G01051-CAL6	100	231104	2311.040	8.02
9G01051-CAL7	100	237200	2372.000	8.02
9G01051-CAL8	100	243913	2439.130	8.02
9G01051-CAL9	100	239674	2396.740	8.02
9G01051-CALA	100	267153	2671.530	8.02

AVE RF **2409.662** RF RSD **5.61** AVE RT **8.02**

Acenaphthylene-d8 (Surr)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

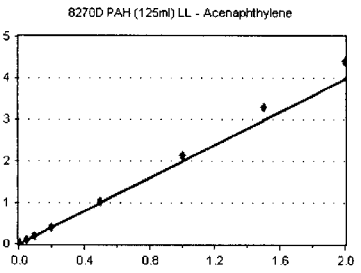


Standard	Concentration	Response	Response Factor	RT
~~9G01051-CAL1~~	~~0.2~~	~~6147~~	~~18.056~~	~~8.48~~
~~9G01051-CAL2~~	~~0.4~~	~~6161~~	~~8.055~~	~~8.48~~
9G01051-CAL3	1	5745	3.403	8.48
9G01051-CAL4	5	19755	2.053	8.48
9G01051-CAL5	10	34491	1.852	8.48
9G01051-CAL6	20	63570	1.848	8.48
9G01051-CAL7	50	158862	1.787	8.48
9G01051-CAL8	100	332809	1.824	8.48
9G01051-CAL9	150	498389	1.868	8.48
9G01051-CALA	200	763403	1.867	8.48

AVE RF **2.063** RF RSD **26.52** AVE RT **8.48**

Acenaphthylene

Curve Fit: **AVERAGE RF**

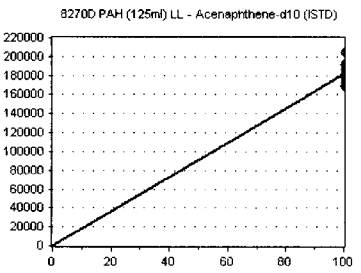


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	642	1.886	8.49
9G01051-CAL2	0.4	1372	1.794	8.49
9G01051-CAL3	1	2915	1.726	8.49
9G01051-CAL4	5	18304	1.902	8.49
9G01051-CAL5	10	36078	1.938	8.49
9G01051-CAL6	20	70272	2.043	8.49
9G01051-CAL7	50	183466	2.063	8.49
9G01051-CAL8	100	387885	2.125	8.49
9G01051-CAL9	150	586723	2.199	8.49
9G01051-CALA	200	899358	2.199	8.49

AVE RF **1.988** RF RSD **8.27** AVE RT **8.49**

Acenaphthene-d10 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	170224	1702.240	8.61
9G01051-CAL2	100	191205	1912.050	8.61
9G01051-CAL3	100	168841	1688.410	8.61
9G01051-CAL4	100	192433	1924.330	8.61
9G01051-CAL5	100	186187	1861.870	8.61
9G01051-CAL6	100	172012	1720.120	8.61
9G01051-CAL7	100	177842	1778.420	8.62
9G01051-CAL8	100	182494	1824.940	8.61
9G01051-CAL9	100	177847	1778.470	8.61
9G01051-CALA	100	204462	2044.620	8.61

AVE RF **1823.547** RF RSD **6.23** AVE RT **8.61**

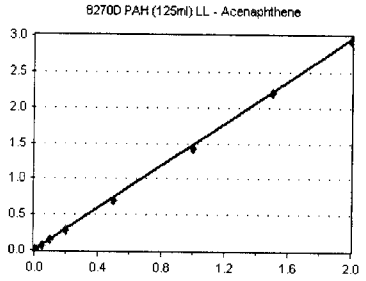
Element Calibration Review Sheet

Calibration ID: **A9G0205** Instrument: **SV-GCMS8** Calibration Date: **07/02/2019**

Analysis: **8270D PAH (125ml) LL** Instrument Cal ID: **A9G0205**

Acenaphthene

Curve Fit: **AVERAGE RF**

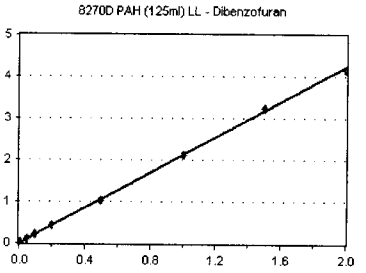


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	612	1.798	8.64
9G01051-CAL2	0.4	1175	1.536	8.64
9G01051-CAL3	1	2544	1.507	8.64
9G01051-CAL4	5	13774	1.432	8.64
9G01051-CAL5	10	25823	1.387	8.64
9G01051-CAL6	20	48203	1.401	8.64
9G01051-CAL7	50	125153	1.407	8.64
9G01051-CAL8	100	259899	1.424	8.64
9G01051-CAL9	150	391103	1.466	8.64
9G01051-CALA	200	600092	1.467	8.64

AVE RF **1.483** RF RSD **8.13** AVE RT **8.64**

Dibenzofuran

Curve Fit: **AVERAGE RF**

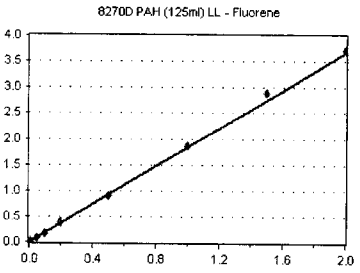


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	878	2.579	8.79
9G01051-CAL2	0.4	1477	1.931	8.79
9G01051-CAL3	1	3382	2.003	8.79
9G01051-CAL4	5	19460	2.023	8.79
9G01051-CAL5	10	38578	2.072	8.79
9G01051-CAL6	20	74487	2.165	8.79
9G01051-CAL7	50	182405	2.051	8.79
9G01051-CAL8	100	384696	2.108	8.79
9G01051-CAL9	150	576993	2.163	8.79
9G01051-CALA	200	853703	2.088	8.79

AVE RF **2.118** RF RSD **8.35** AVE RT **8.79**

Fluorene

Curve Fit: **AVERAGE RF**

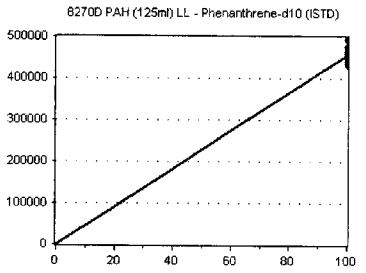


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	678	1.991	9.09
9G01051-CAL2	0.4	1370	1.791	9.09
9G01051-CAL3	1	2836	1.680	9.09
9G01051-CAL4	5	16703	1.736	9.09
9G01051-CAL5	10	32684	1.755	9.09
9G01051-CAL6	20	65459	1.903	9.09
9G01051-CAL7	50	162311	1.825	9.09
9G01051-CAL8	100	341047	1.869	9.09
9G01051-CAL9	150	516977	1.938	9.09
9G01051-CALA	200	761219	1.862	9.09

AVE RF **1.835** RF RSD **5.26** AVE RT **9.09**

Phenanthrene-d10 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	441148	4411.480	9.92
9G01051-CAL2	100	449057	4490.570	9.92
9G01051-CAL3	100	434435	4344.350	9.92
9G01051-CAL4	100	458424	4584.240	9.92
9G01051-CAL5	100	454809	4548.090	9.92
9G01051-CAL6	100	453703	4537.030	9.92
9G01051-CAL7	100	449650	4496.500	9.92
9G01051-CAL8	100	464459	4644.590	9.92
9G01051-CAL9	100	474967	4749.670	9.92
9G01051-CALA	100	493691	4936.910	9.92

AVE RF **4574.343** RF RSD **3.73** AVE RT **9.92**

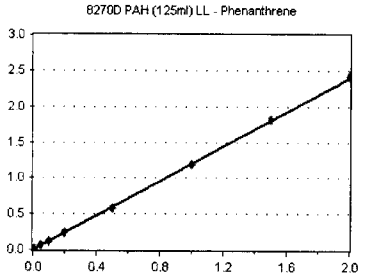
Element Calibration Review Sheet

Calibration ID: **A9G0205** Instrument: **SV-GCMS8** Calibration Date: **07/02/2019**

Analysis: **8270D PAH (125ml) LL** Instrument Cal ID: **A9G0205**

Phenanthrene

Curve Fit: **AVERAGE RF**

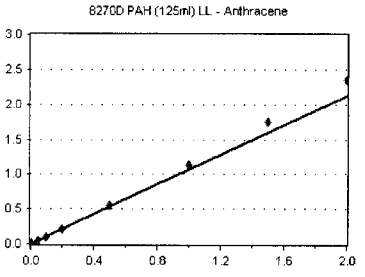


Standard	Concentration	Response	Response Factor	RT
~~9G01051-CAL1~~	~~0.2~~	~~1477~~	~~1.674~~	~~9.94~~
9G01051-CAL2	0.4	2410	1.342	9.94
9G01051-CAL3	1	5203	1.198	9.93
9G01051-CAL4	5	26479	1.155	9.93
9G01051-CAL5	10	52493	1.154	9.93
9G01051-CAL6	20	108414	1.195	9.93
9G01051-CAL7	50	260092	1.157	9.93
9G01051-CAL8	100	546686	1.177	9.94
9G01051-CAL9	150	861794	1.210	9.94
9G01051-CALA	200	1192385	1.208	9.94

AVE RF **1.199** RF RSD **4.82** AVE RT **9.94**

Anthracene

Curve Fit: **AVERAGE RF**

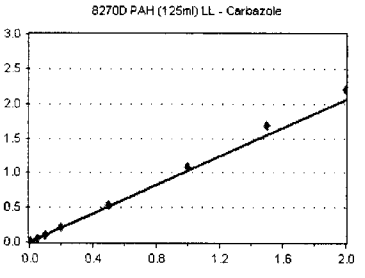


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	924	1.047	9.98
9G01051-CAL2	0.4	1748	0.973	9.98
9G01051-CAL3	1	3985	0.917	9.98
9G01051-CAL4	5	22858	0.997	9.98
9G01051-CAL5	10	46769	1.028	9.98
9G01051-CAL6	20	99029	1.091	9.98
9G01051-CAL7	50	250861	1.116	9.98
9G01051-CAL8	100	526935	1.135	9.98
9G01051-CAL9	150	835574	1.173	9.98
9G01051-CALA	200	1159111	1.174	9.98

AVE RF **1.065** RF RSD **8.17** AVE RT **9.98**

Carbazole

Curve Fit: **AVERAGE RF**

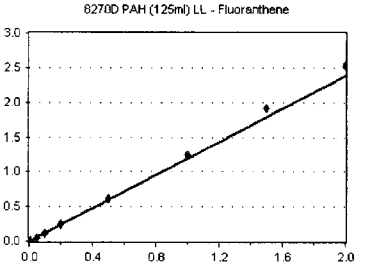


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	922	1.045	10.12
9G01051-CAL2	0.4	1682	0.936	10.12
9G01051-CAL3	1	4222	0.972	10.12
9G01051-CAL4	5	21769	0.950	10.12
9G01051-CAL5	10	45411	0.998	10.12
9G01051-CAL6	20	94428	1.041	10.12
9G01051-CAL7	50	241951	1.076	10.12
9G01051-CAL8	100	504021	1.085	10.12
9G01051-CAL9	150	802342	1.126	10.12
9G01051-CALA	200	1086682	1.101	10.12

AVE RF **1.033** RF RSD **6.39** AVE RT **10.12**

Fluoranthene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	1127	1.277	11.04
9G01051-CAL2	0.4	1984	1.105	11.04
9G01051-CAL3	1	4690	1.080	11.04
9G01051-CAL4	5	25465	1.111	11.04
9G01051-CAL5	10	52232	1.148	11.04
9G01051-CAL6	20	109483	1.207	11.04
9G01051-CAL7	50	274291	1.220	11.04
9G01051-CAL8	100	579086	1.247	11.04
9G01051-CAL9	150	908792	1.276	11.04
9G01051-CALA	200	1250210	1.266	11.04

AVE RF **1.194** RF RSD **6.40** AVE RT **11.04**

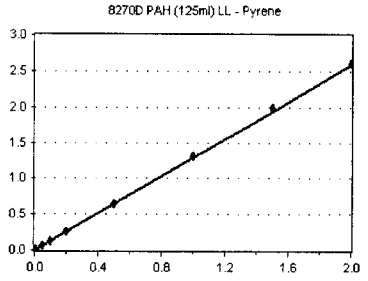
Element Calibration Review Sheet

Calibration ID: **A9G0205** Instrument: **SV-GCMS8** Calibration Date: **07/02/2019**

Analysis: **8270D PAH (125ml) LL** Instrument Cal ID: **A9G0205**

Pyrene

Curve Fit: **AVERAGE RF**

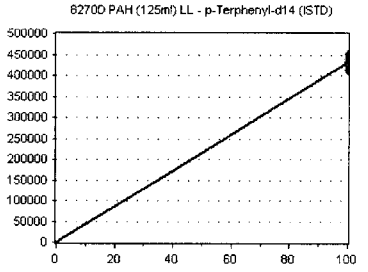


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	1319	1.495	11.30
9G01051-CAL2	0.4	2251	1.253	11.30
9G01051-CAL3	1	5488	1.263	11.30
9G01051-CAL4	5	27834	1.214	11.30
9G01051-CAL5	10	55553	1.221	11.30
9G01051-CAL6	20	114772	1.265	11.30
9G01051-CAL7	50	288704	1.284	11.30
9G01051-CAL8	100	610600	1.315	11.30
9G01051-CAL9	150	944807	1.326	11.30
9G01051-CALA	200	1289789	1.306	11.31

AVE RF **1.294** RF RSD **6.16** AVE RT **11.30**

p-Terphenyl-d14 (ISTD)

Curve Fit: **AVERAGE RF**

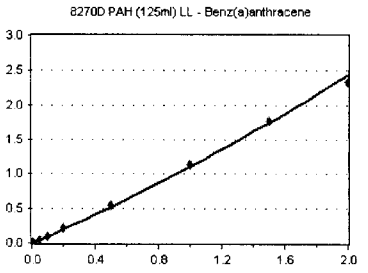


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	413880	4138.800	11.48
9G01051-CAL2	100	412625	4126.250	11.48
9G01051-CAL3	100	424512	4245.120	11.48
9G01051-CAL4	100	430869	4308.690	11.48
9G01051-CAL5	100	432080	4320.800	11.48
9G01051-CAL6	100	433689	4336.890	11.48
9G01051-CAL7	100	434321	4343.210	11.48
9G01051-CAL8	100	441046	4410.460	11.48
9G01051-CAL9	100	451005	4510.050	11.48
9G01051-CALA	100	450750	4507.500	11.48

AVE RF **4324.777** RF RSD **3.05** AVE RT **11.48**

Benz(a)anthracene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

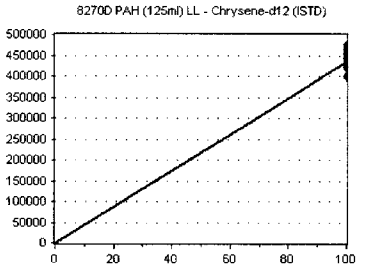


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	1777	2.222	13.25
9G01051-CAL2	0.4	2448	1.526	13.24
9G01051-CAL3	1	4814	1.138	13.24
9G01051-CAL4	5	21489	1.007	13.24
9G01051-CAL5	10	42737	1.002	13.24
9G01051-CAL6	20	97344	1.099	13.24
9G01051-CAL7	50	247094	1.115	13.24
9G01051-CAL8	100	516954	1.138	13.24
9G01051-CAL9	150	821572	1.179	13.24
9G01051-CALA	200	1105899	1.165	13.25

AVE RF **1.259** RF RSD **29.24** AVE RT **13.24**

Chrysene-d12 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	399823	3998.230	13.26
9G01051-CAL2	100	400979	4009.790	13.26
9G01051-CAL3	100	422954	4229.540	13.26
9G01051-CAL4	100	426655	4266.550	13.26
9G01051-CAL5	100	426442	4264.420	13.26
9G01051-CAL6	100	442821	4428.210	13.26
9G01051-CAL7	100	443314	4433.140	13.26
9G01051-CAL8	100	454246	4542.460	13.26
9G01051-CAL9	100	464736	4647.360	13.27
9G01051-CALA	100	474804	4748.040	13.27

AVE RF **4356.774** RF RSD **5.75** AVE RT **13.26**

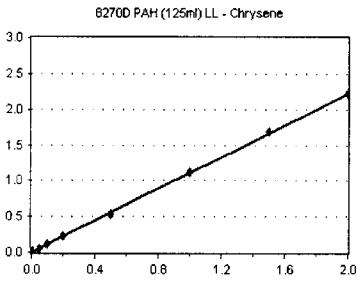
Element Calibration Review Sheet

Calibration ID: **A9G0205** Instrument: **SV-GCMS8** Calibration Date: **07/02/2019**

Analysis: **8270D PAH (125ml) LL** Instrument Cal ID: **A9G0205**

Chrysene

Curve Fit: **AVERAGE RF**

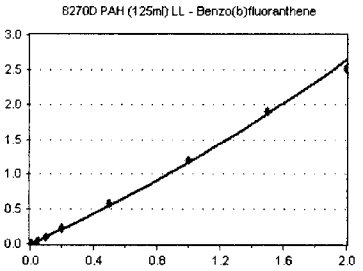


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	964	1.206	13.31
9G01051-CAL2	0.4	1776	1.107	13.31
9G01051-CAL3	1	4368	1.033	13.31
9G01051-CAL4	5	23698	1.111	13.31
9G01051-CAL5	10	46002	1.079	13.31
9G01051-CAL6	20	98622	1.114	13.31
9G01051-CAL7	50	239451	1.080	13.32
9G01051-CAL8	100	505327	1.112	13.32
9G01051-CAL9	150	781486	1.121	13.32
9G01051-CALA	200	1058383	1.115	13.33

AVE RF **1.108** RF RSD **3.93** AVE RT **13.31**

Benzo(b)fluoranthene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

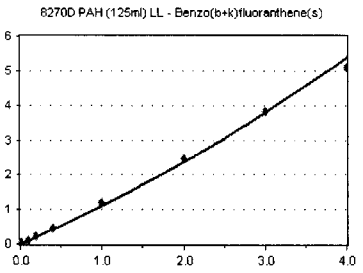


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	739	1.064	15.64
9G01051-CAL2	0.4	1236	0.897	15.65
9G01051-CAL3	1	3521	0.923	15.65
9G01051-CAL4	5	18004	0.952	15.64
9G01051-CAL5	10	38876	1.042	15.64
9G01051-CAL6	20	92479	1.149	15.64
9G01051-CAL7	50	232462	1.180	15.65
9G01051-CAL8	100	501350	1.202	15.65
9G01051-CAL9	150	785531	1.261	15.66
9G01051-CALA	200	1051021	1.257	15.66

AVE RF **1.093** RF RSD **12.51** AVE RT **15.65**

Benzo(b+k)fluoranthene(s)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

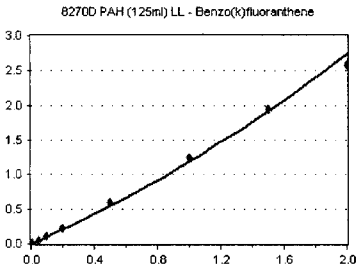


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.4	1437	1.035	15.64
9G01051-CAL2	0.8	2352	0.854	15.65
9G01051-CAL3	2	6695	0.877	15.65
9G01051-CAL4	10	36706	0.970	15.64
9G01051-CAL5	20	79081	1.060	15.71
9G01051-CAL6	40	187520	1.165	15.64
9G01051-CAL7	100	469282	1.191	15.71
9G01051-CAL8	200	1022018	1.225	15.72
9G01051-CAL9	300	1593161	1.279	15.73
9G01051-CALA	400	2134617	1.276	15.73

AVE RF **1.093** RF RSD **14.42** AVE RT **15.68**

Benzo(k)fluoranthene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	698	1.005	15.71
9G01051-CAL2	0.4	1115	0.810	15.71
9G01051-CAL3	1	3174	0.832	15.71
9G01051-CAL4	5	17999	0.951	15.71
9G01051-CAL5	10	39586	1.061	15.71
9G01051-CAL6	20	94005	1.168	15.71
9G01051-CAL7	50	235280	1.194	15.71
9G01051-CAL8	100	517957	1.241	15.72
9G01051-CAL9	150	804711	1.292	15.73
9G01051-CALA	200	1079720	1.291	15.73

AVE RF **1.085** RF RSD **16.65** AVE RT **15.71**

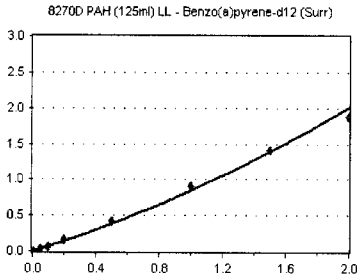
Element Calibration Review Sheet

Calibration ID: **A9G0205** Instrument: **SV-GCMS8** Calibration Date: **07/02/2019**

Analysis: **8270D PAH (125ml) LL** Instrument Cal ID: **A9G0205**

Benzo(a)pyrene-d12 (Surr)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

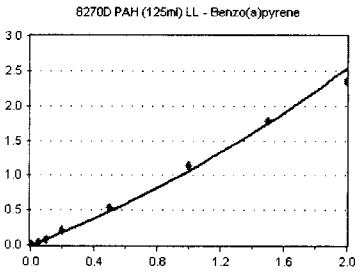


Standard	Concentration	Response	Response Factor	RT
~~9G01051-CAL1~~	~~0.2~~	~~411~~	~~0.592~~	~~16.32~~
9G01051-CAL2	0.4	703	0.510	16.33
9G01051-CAL3	1	1857	0.487	16.32
9G01051-CAL4	5	11870	0.627	16.33
9G01051-CAL5	10	24957	0.669	16.33
9G01051-CAL6	20	63553	0.790	16.33
9G01051-CAL7	50	166645	0.846	16.33
9G01051-CAL8	100	378999	0.908	16.34
9G01051-CAL9	150	587870	0.944	16.34
9G01051-CALA	200	787130	0.941	16.35

AVE RF **0.747** RF RSD **24.05** AVE RT **16.33**

Benzo(a)pyrene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

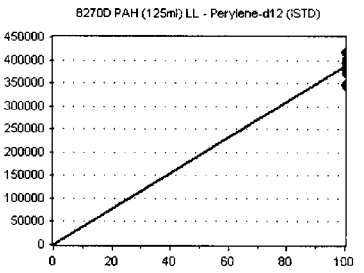


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	479	0.690	16.38
9G01051-CAL2	0.4	830	0.603	16.37
9G01051-CAL3	1	2569	0.673	16.38
9G01051-CAL4	5	14702	0.777	16.38
9G01051-CAL5	10	32764	0.878	16.38
9G01051-CAL6	20	81687	1.015	16.38
9G01051-CAL7	50	211927	1.076	16.39
9G01051-CAL8	100	475524	1.140	16.39
9G01051-CAL9	150	737782	1.184	16.40
9G01051-CALA	200	981717	1.174	16.41

AVE RF **0.921** RF RSD **24.35** AVE RT **16.39**

Perylene-d12 (ISTD)

Curve Fit: **AVERAGE RF**

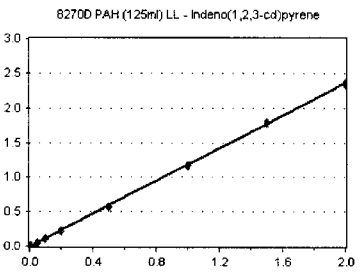


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	347189	3471.890	16.52
9G01051-CAL2	100	344338	3443.380	16.52
9G01051-CAL3	100	381661	3816.610	16.52
9G01051-CAL4	100	378340	3783.400	16.52
9G01051-CAL5	100	373007	3730.070	16.52
9G01051-CAL6	100	402383	4023.830	16.52
9G01051-CAL7	100	394032	3940.320	16.53
9G01051-CAL8	100	417215	4172.150	16.53
9G01051-CAL9	100	415251	4152.510	16.53
9G01051-CALA	100	418167	4181.670	16.53

AVE RF **3871.583** RF RSD **7.03** AVE RT **16.52**

Indeno(1,2,3-cd)pyrene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	885	1.492	18.83
9G01051-CAL2	0.4	1492	1.264	18.84
9G01051-CAL3	1	3749	1.098	18.84
9G01051-CAL4	5	17697	1.073	18.84
9G01051-CAL5	10	34953	1.096	18.83
9G01051-CAL6	20	76588	1.128	18.84
9G01051-CAL7	50	198968	1.150	18.84
9G01051-CAL8	100	454748	1.165	18.85
9G01051-CAL9	150	677855	1.191	18.85
9G01051-CALA	200	911198	1.175	18.86

AVE RF **1.183** RF RSD **10.30** AVE RT **18.84**

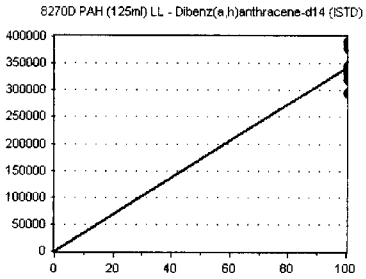
Element Calibration Review Sheet

Calibration ID: **A9G0205** Instrument: **SV-GCMS8** Calibration Date: **07/02/2019**

Analysis: **8270D PAH (125ml) LL** Instrument Cal ID: **A9G0205**

Dibenz(a,h)anthracene-d14 (ISTD)

Curve Fit: **AVERAGE RF**

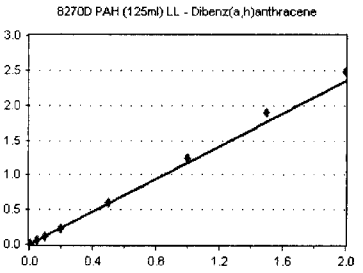


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	296516	2965.160	18.84
9G01051-CAL2	100	295116	2951.160	18.84
9G01051-CAL3	100	341309	3413.090	18.84
9G01051-CAL4	100	329943	3299.430	18.84
9G01051-CAL5	100	318957	3189.570	18.84
9G01051-CAL6	100	339347	3393.470	18.84
9G01051-CAL7	100	345981	3459.810	18.84
9G01051-CAL8	100	390282	3902.820	18.84
9G01051-CAL9	100	379328	3793.280	18.85
9G01051-CALA	100	387820	3878.200	18.85

AVE RF **3424.599** RF RSD **10.11** AVE RT **18.84**

Dibenz(a,h)anthracene

Curve Fit: **AVERAGE RF**

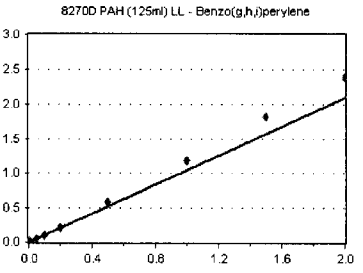


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	720	1.214	18.89
9G01051-CAL2	0.4	1353	1.146	18.90
9G01051-CAL3	1	3547	1.039	18.90
9G01051-CAL4	5	18877	1.144	18.90
9G01051-CAL5	10	35647	1.118	18.90
9G01051-CAL6	20	79659	1.174	18.90
9G01051-CAL7	50	209258	1.210	18.91
9G01051-CAL8	100	487911	1.250	18.91
9G01051-CAL9	150	716680	1.260	18.92
9G01051-CALA	200	963080	1.242	18.93

AVE RF **1.180** RF RSD **5.88** AVE RT **18.91**

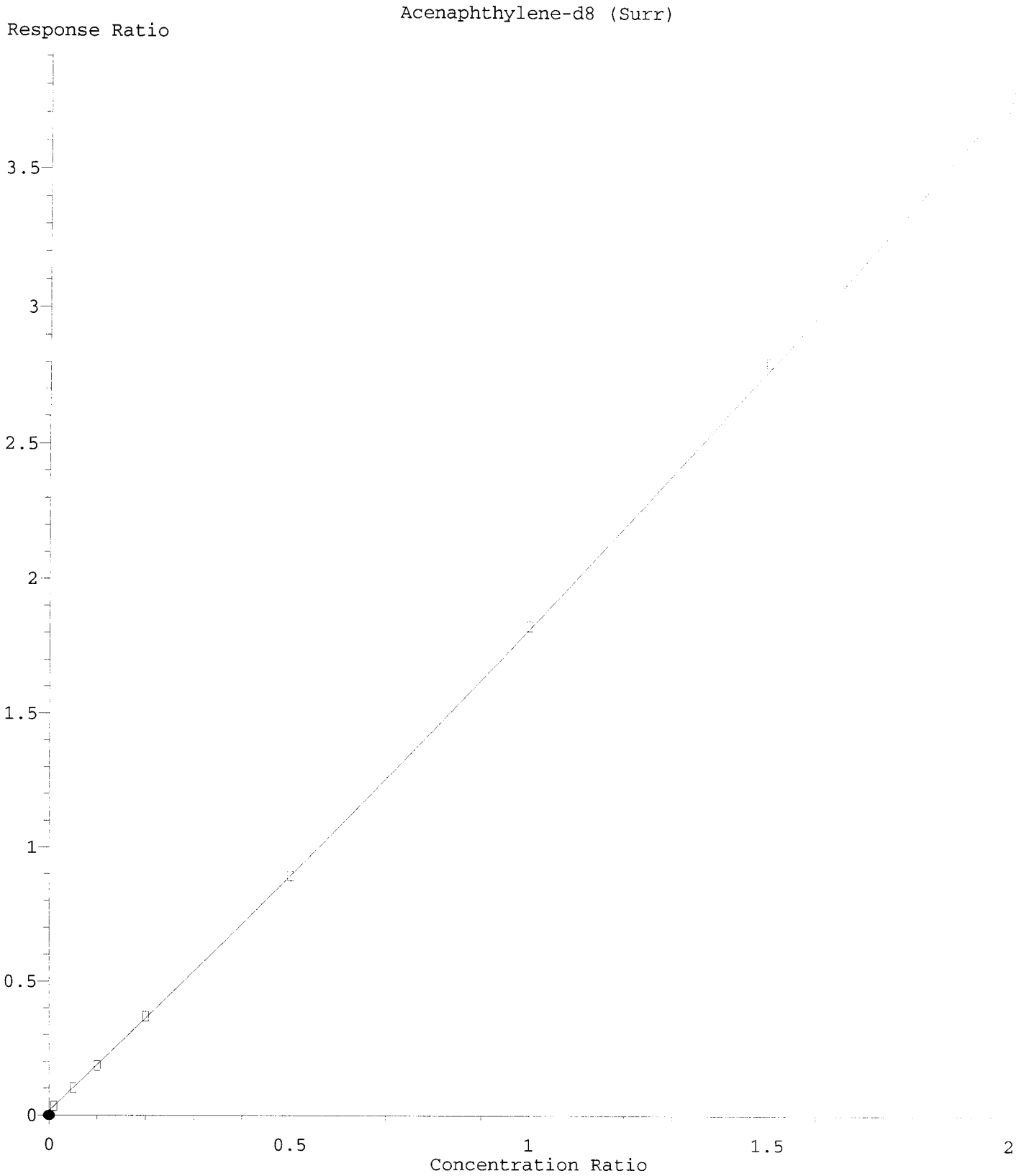
Benzo(g,h,i)perylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	548	0.924	19.34
9G01051-CAL2	0.4	983	0.833	19.36
9G01051-CAL3	1	2972	0.871	19.35
9G01051-CAL4	5	16282	0.987	19.35
9G01051-CAL5	10	32675	1.024	19.35
9G01051-CAL6	20	74206	1.093	19.35
9G01051-CAL7	50	200896	1.161	19.36
9G01051-CAL8	100	464914	1.191	19.37
9G01051-CAL9	150	686846	1.207	19.38
9G01051-CALA	200	926323	1.194	19.39

AVE RF **1.049** RF RSD **13.47** AVE RT **19.36**

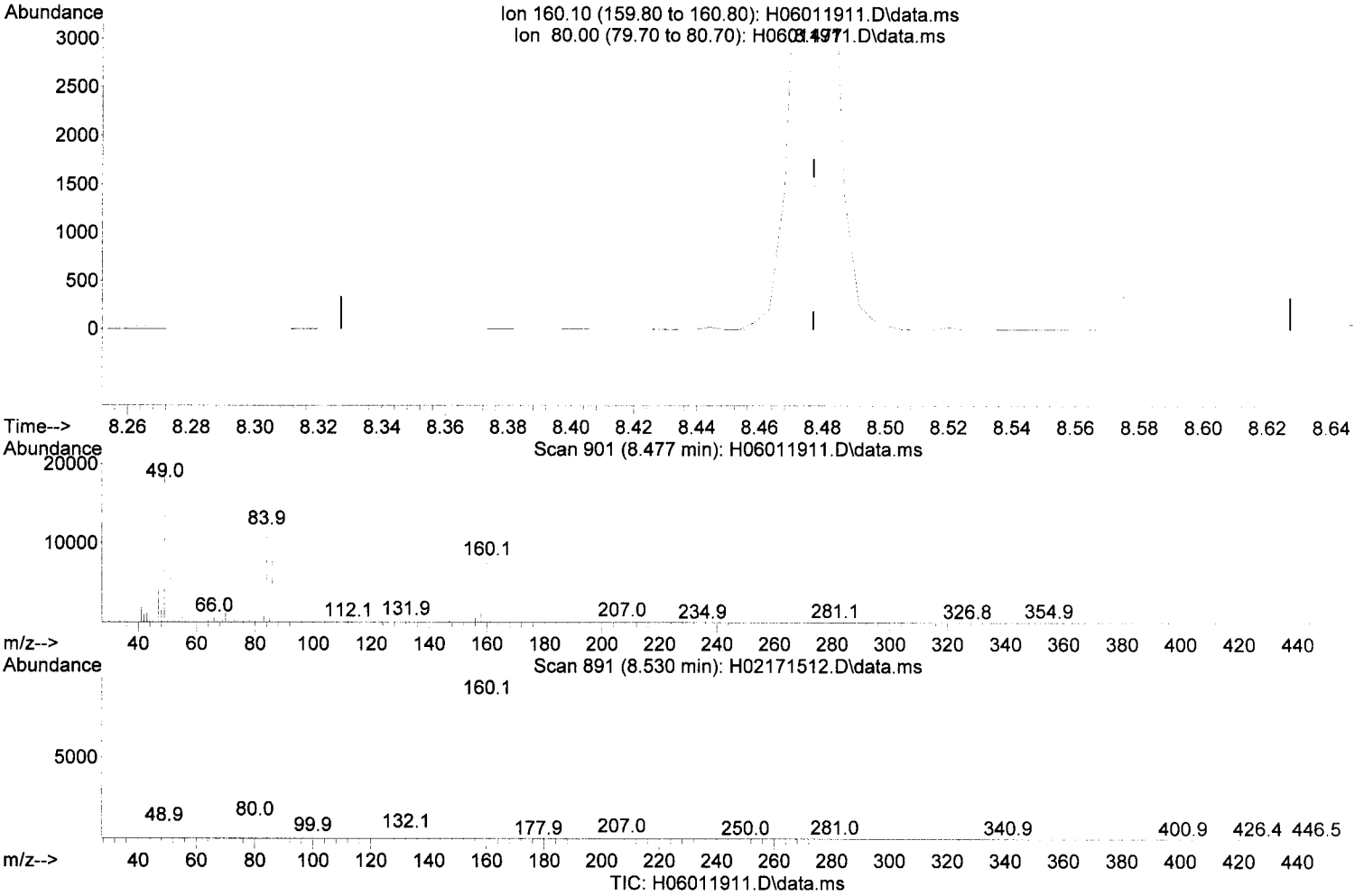


R = 8.18e-002 A*A + 1.71e+000 A + 1.68e-002
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:30:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

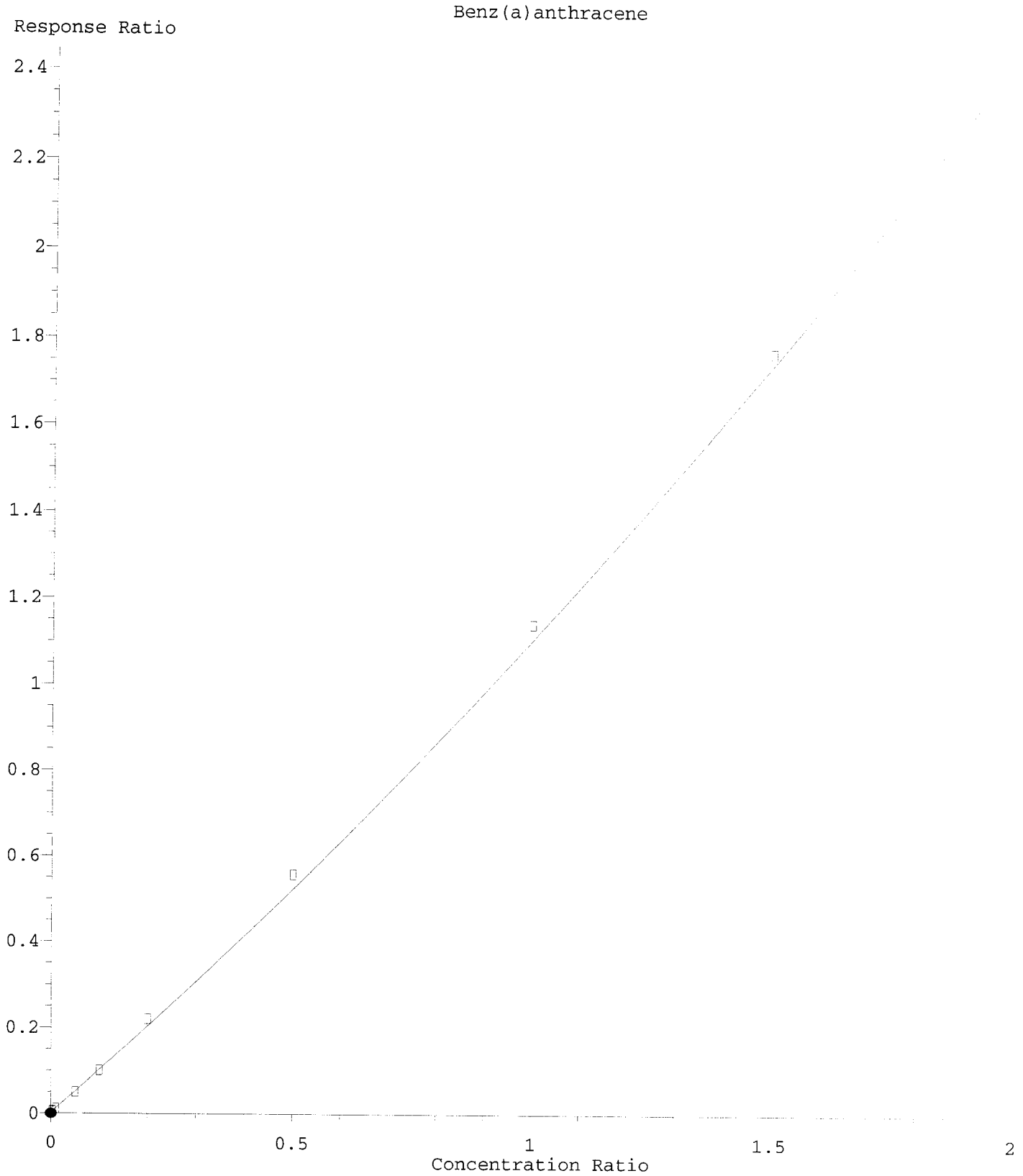


(8) Acenaphthylene-d8 (Surr) (S)

8.477min (+ 0.000) 0.47 ng/ml m

response 4234

Ion	Exp%	Act%
160.10	100.00	100.00
80.00	12.30	18.95
0.00	0.00	0.00
0.00	0.00	0.00

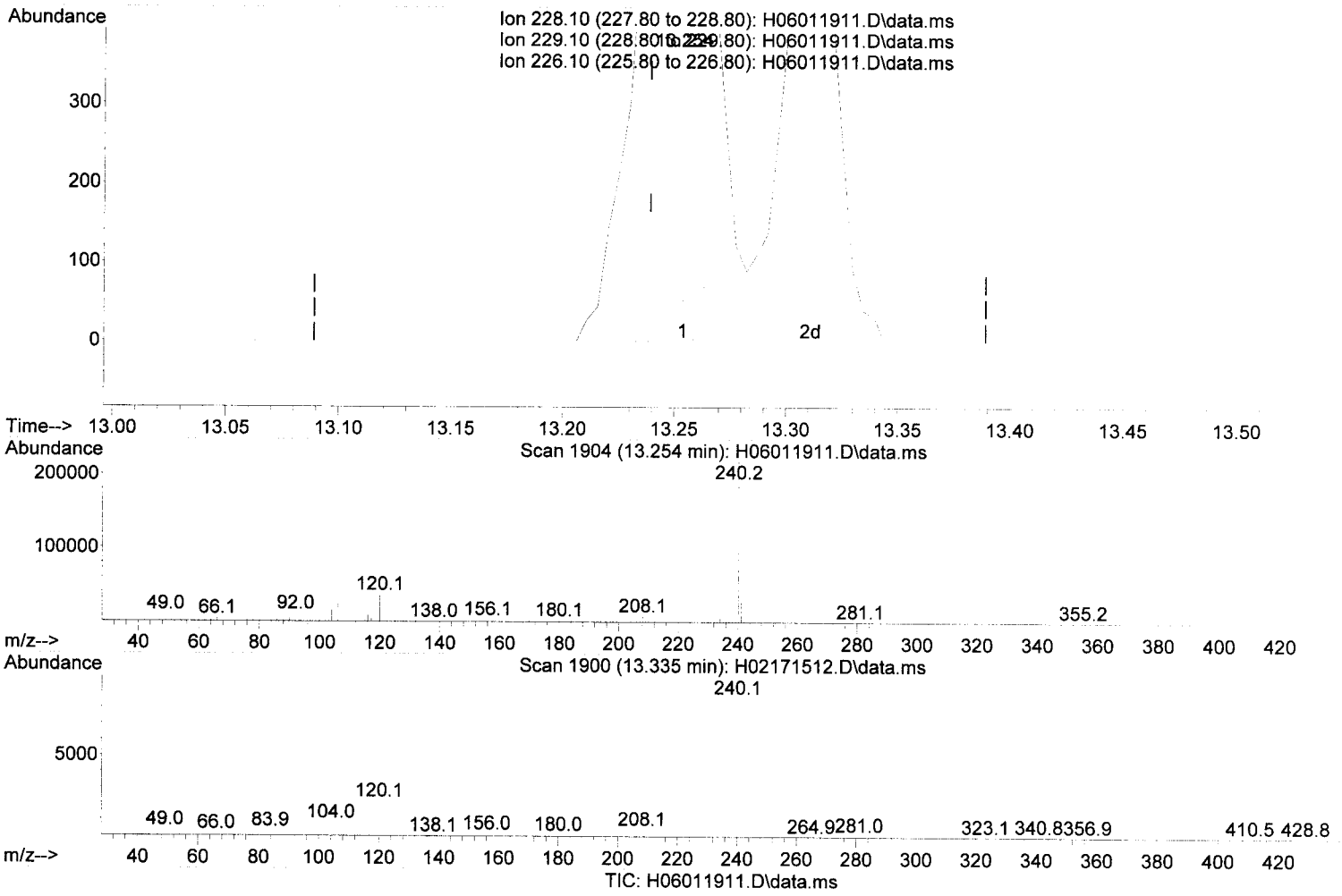


R = 1.16e-001 A*A + 9.85e-001 A + 2.38e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:30:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

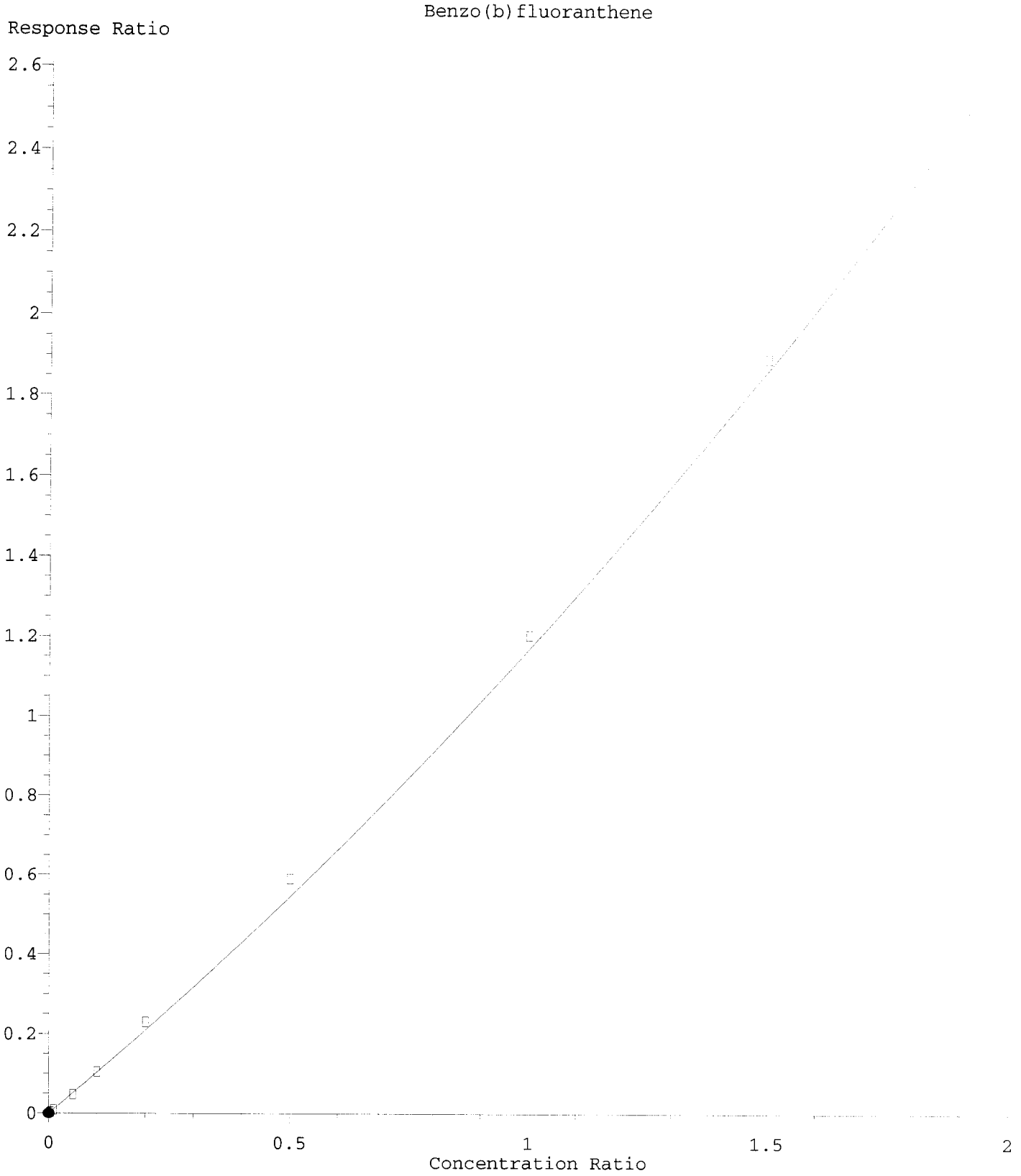


(22) Benz(a)anthracene (T)

13.254min (+ 0.015) 0.05 ng/ml m ✓

response 1136

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	19.10	22.01
226.10	26.10	6.17
0.00	0.00	0.00

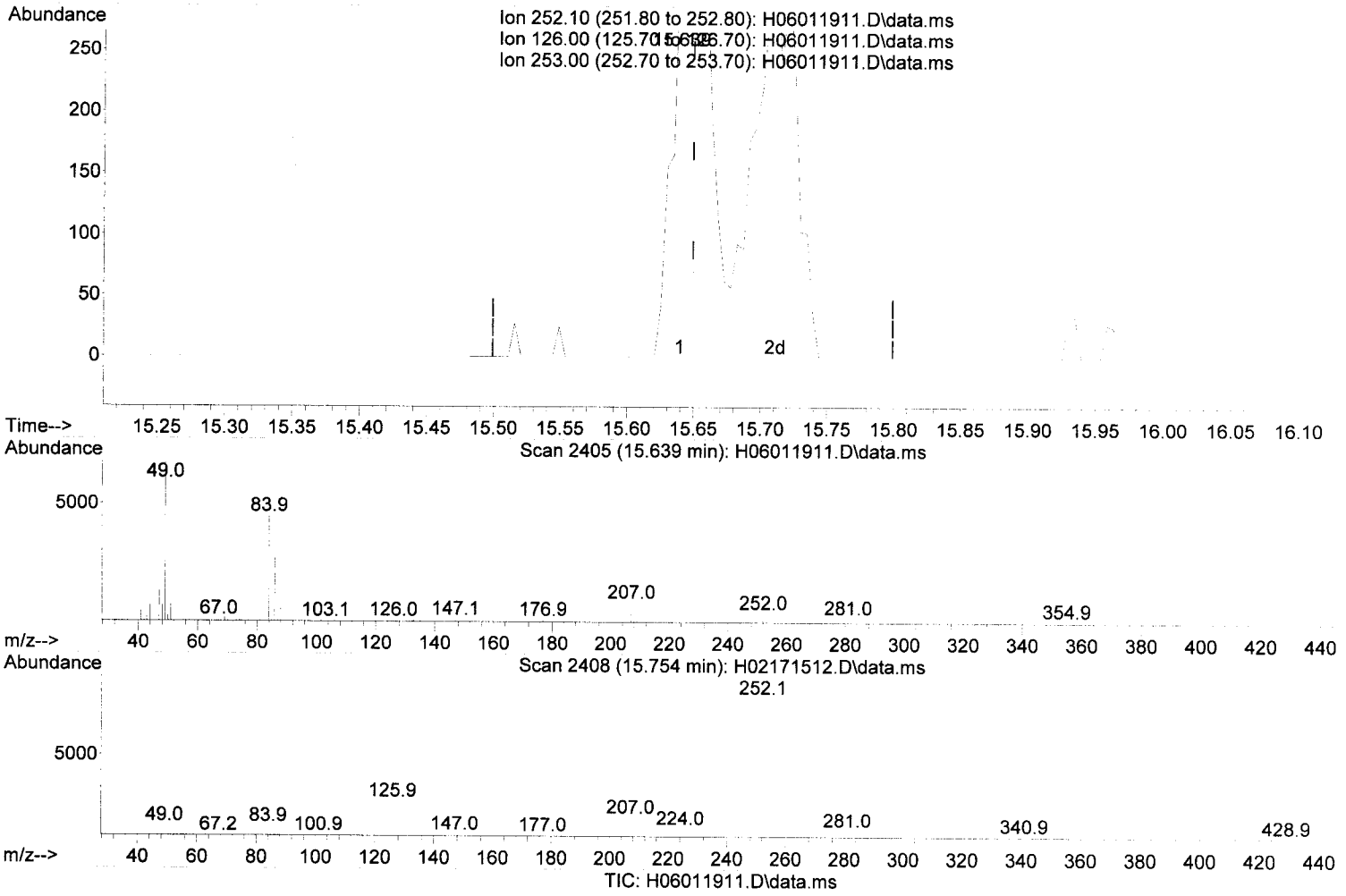


R = 1.51e-001 A*A + 1.02e+000 A - 4.88e-005
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:30:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

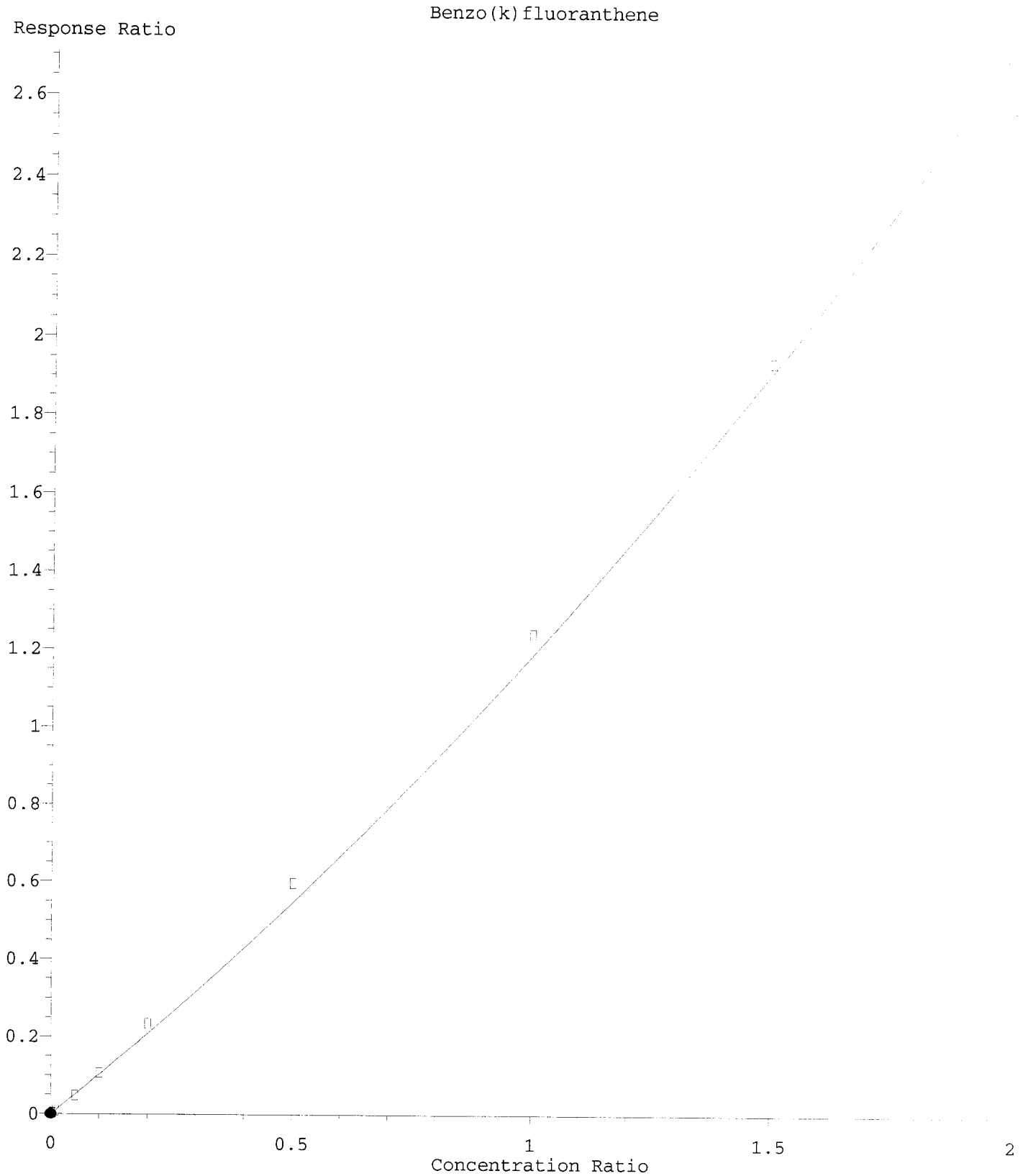


(25) Benzo(b)fluoranthene (T)

15.639min (-0.010) 0.07 ng/ml m ✓

response 220

Ion	Exp%	Act%
252.10	100.00	100.00
126.00	22.30	18.23
253.00	22.60	24.63
0.00	0.00	0.00

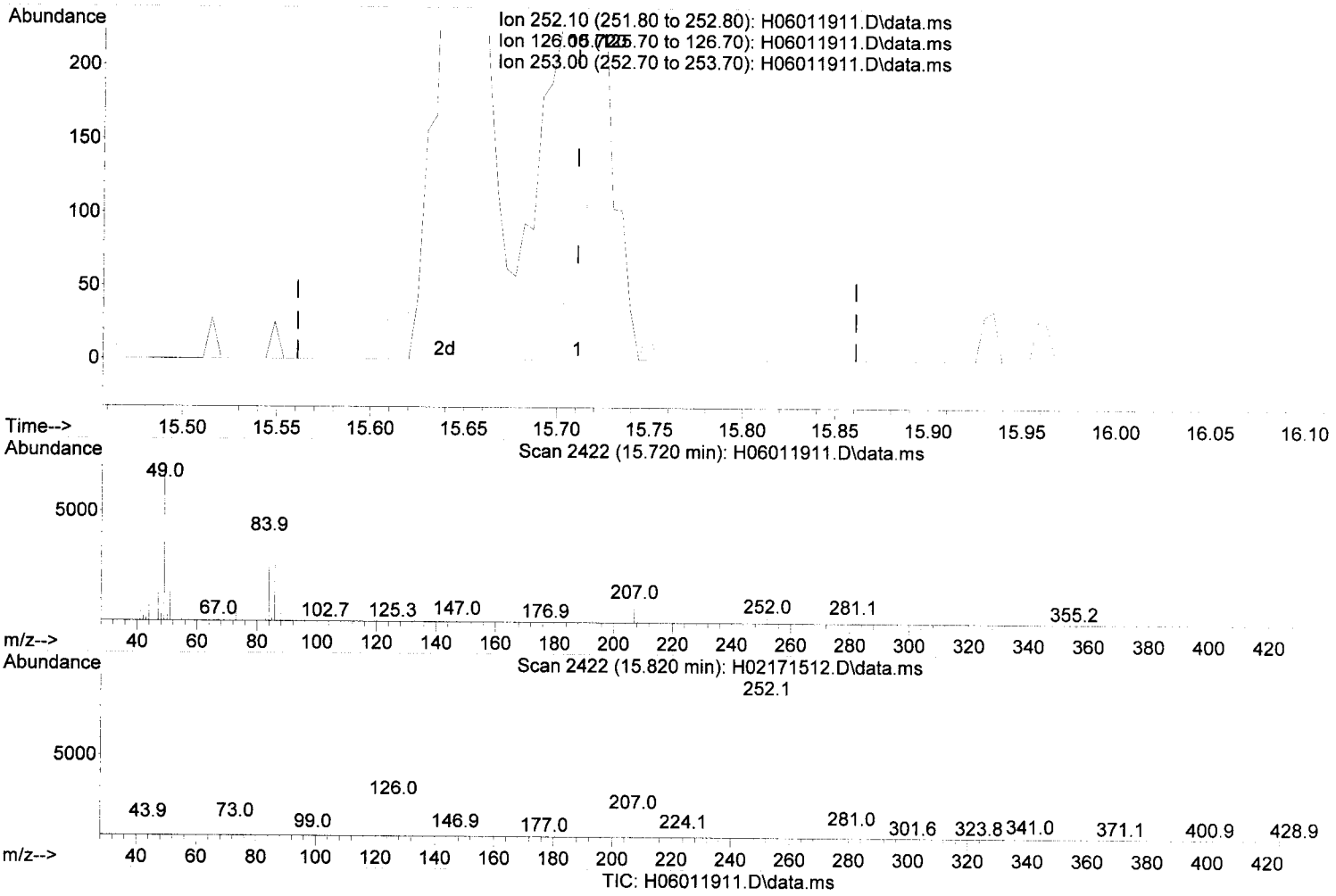


R = 1.80e-001 A*A + 1.01e+000 A - 2.11e-004
Coef of Det (r^2) = 0.990 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:30:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

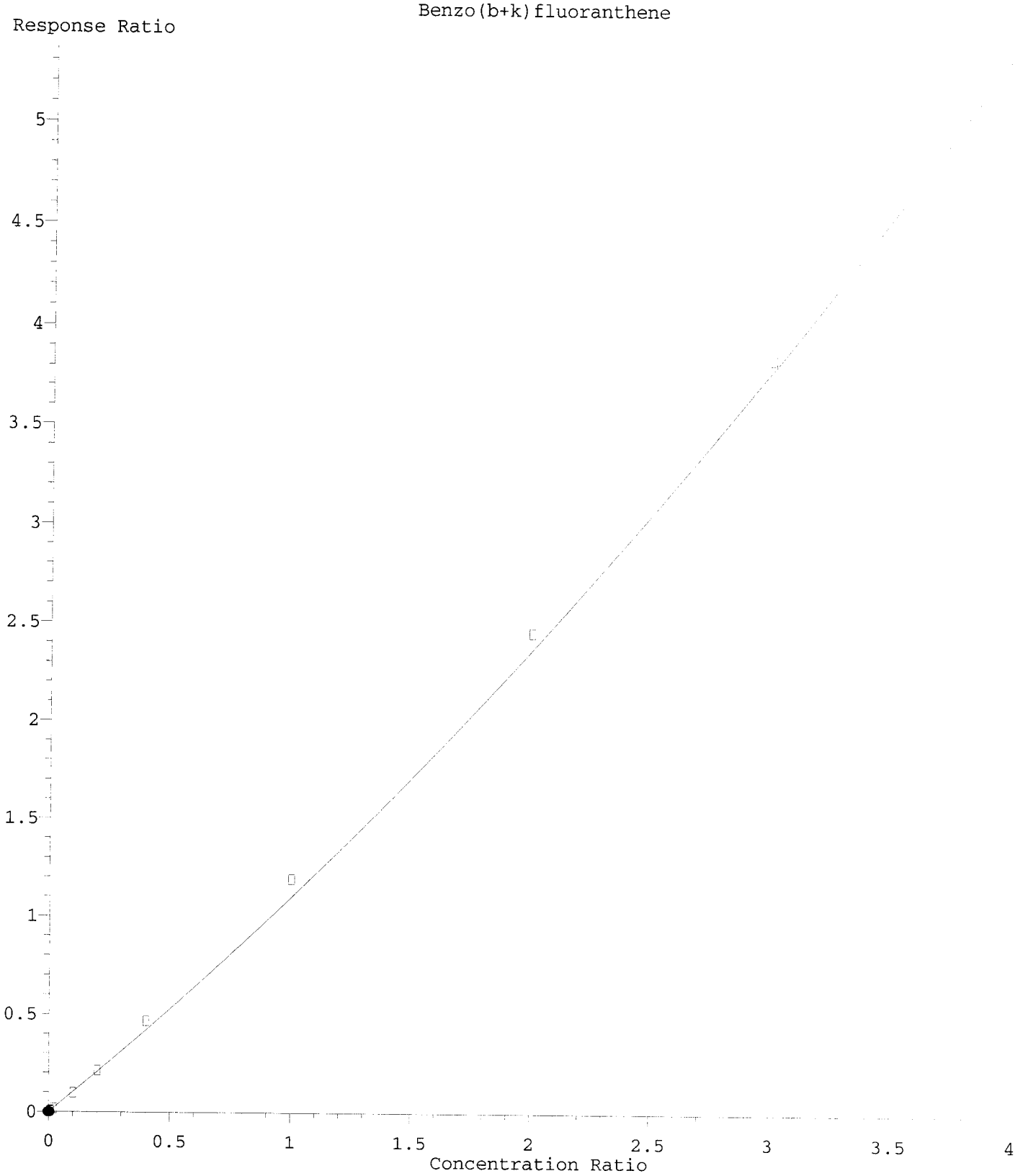


(26) Benzo(k)fluoranthene (T)

15.720min (+ 0.009) 0.09 ng/ml m

response 233

Ion	Exp%	Act%
252.10	100.00	100.00
126.00	25.80	0.00
253.00	21.50	13.96
0.00	0.00	0.00

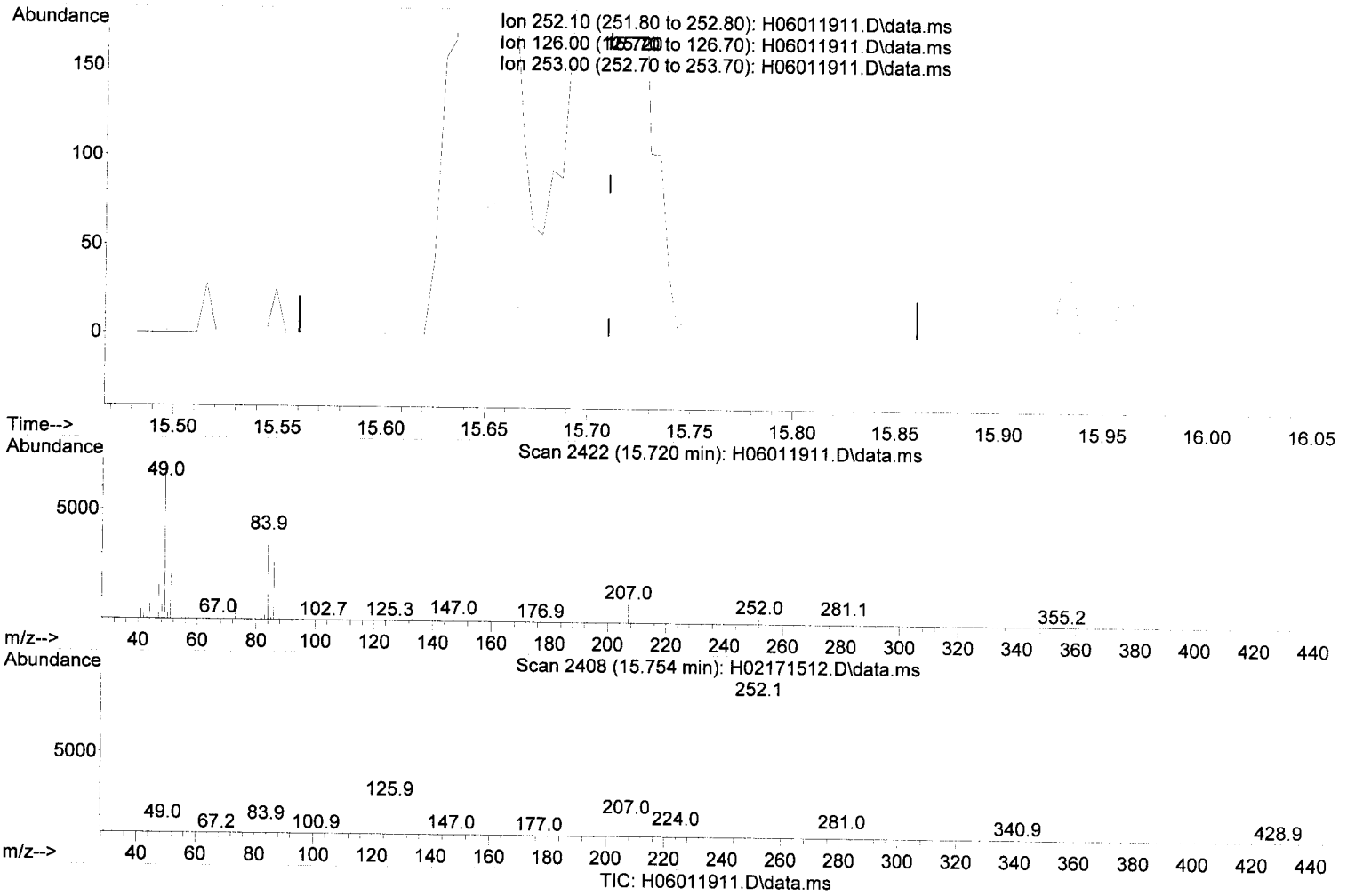


R = 8.09e-002 A*A + 1.02e+000 A - 3.03e-004
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:30:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

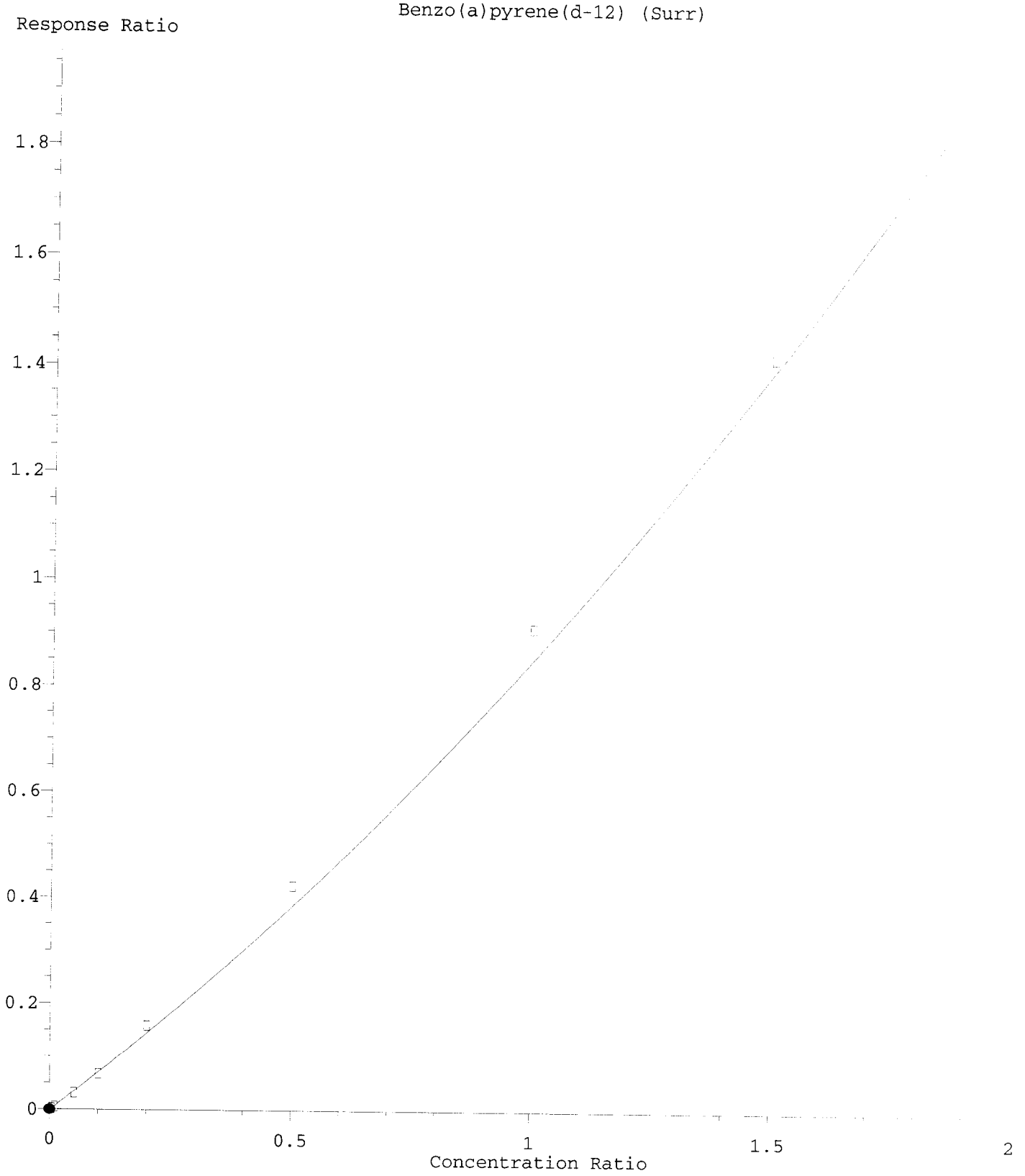


(27) Benzo(b+k)fluoranthene (T)

15.720min (+ 0.010) 0.07 ng/ml m

response 145

Ion	Exp%	Act%
252.10	100.00	100.00
126.00	22.30	0.00
253.00	22.60	13.96
0.00	0.00	0.00

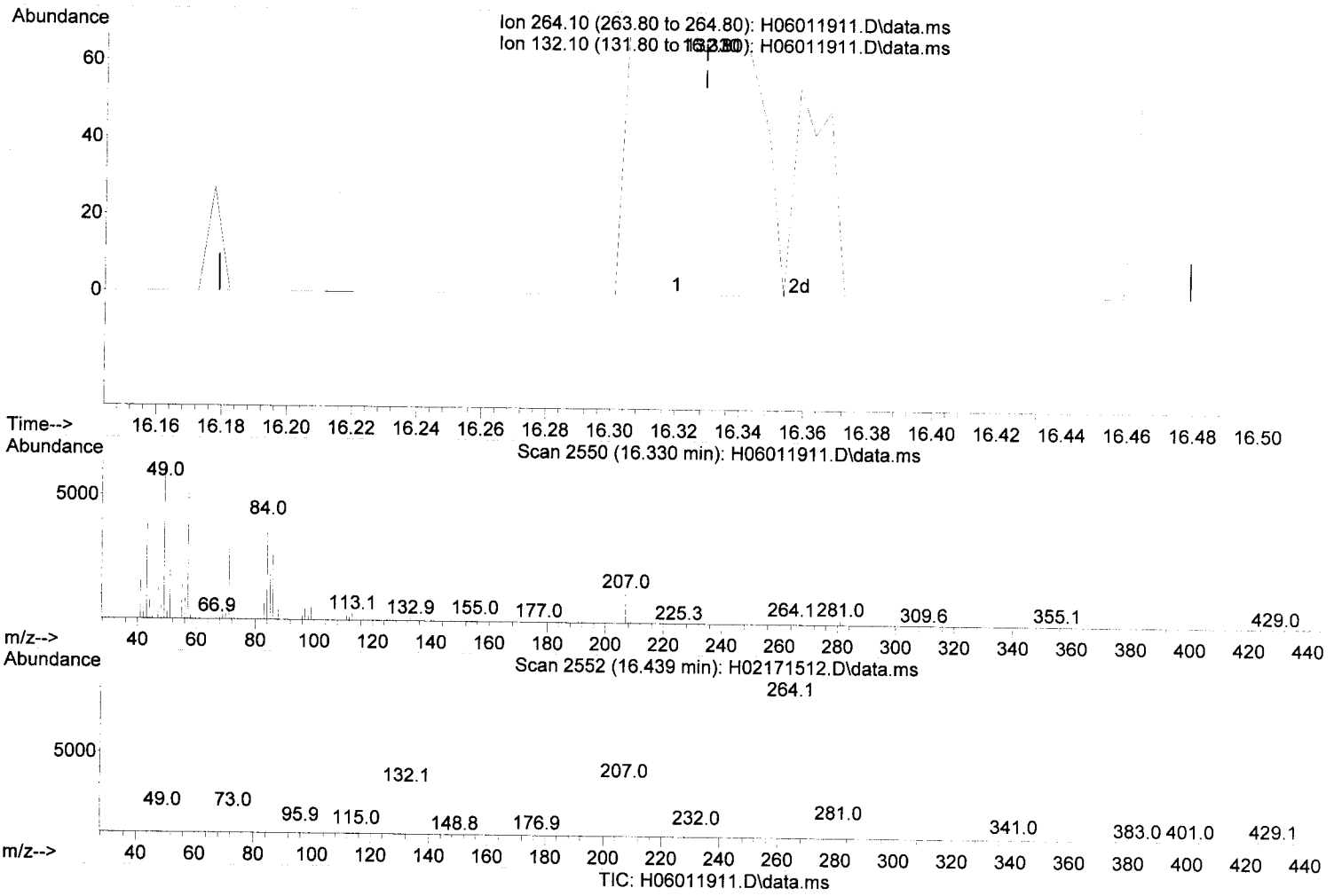


R = 1.55e-001 A*A + 6.95e-001 A - 9.42e-004
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:30:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

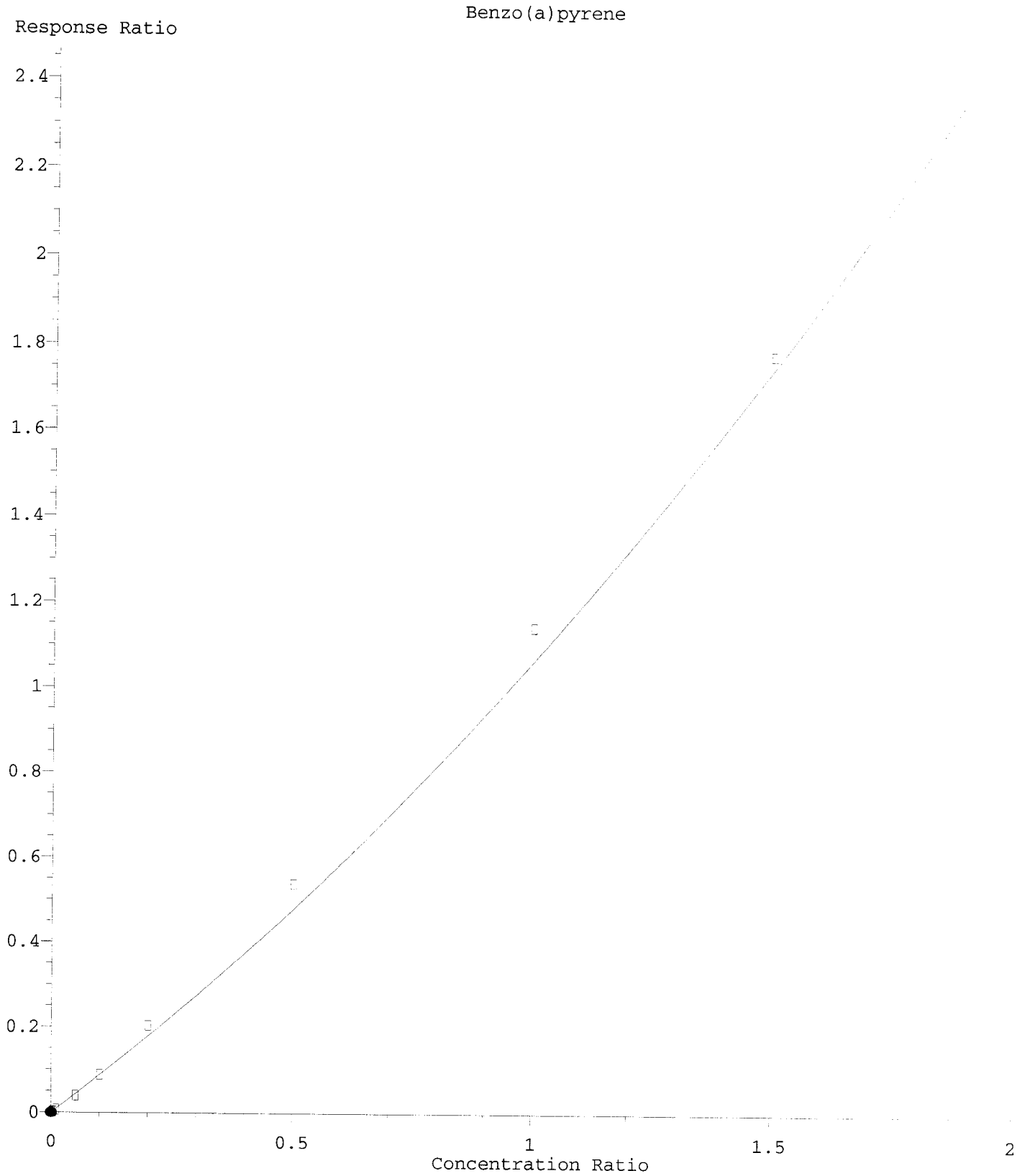


(29) Benzo(a)pyrene(d-12) (Surr) (S)

16.330min (+ 0.001) 0.19 ng/ml m

response 140

Ion	Exp%	Act%
264.10	100.00	100.00
132.10	33.60	14.98
0.00	0.00	0.00
0.00	0.00	0.00

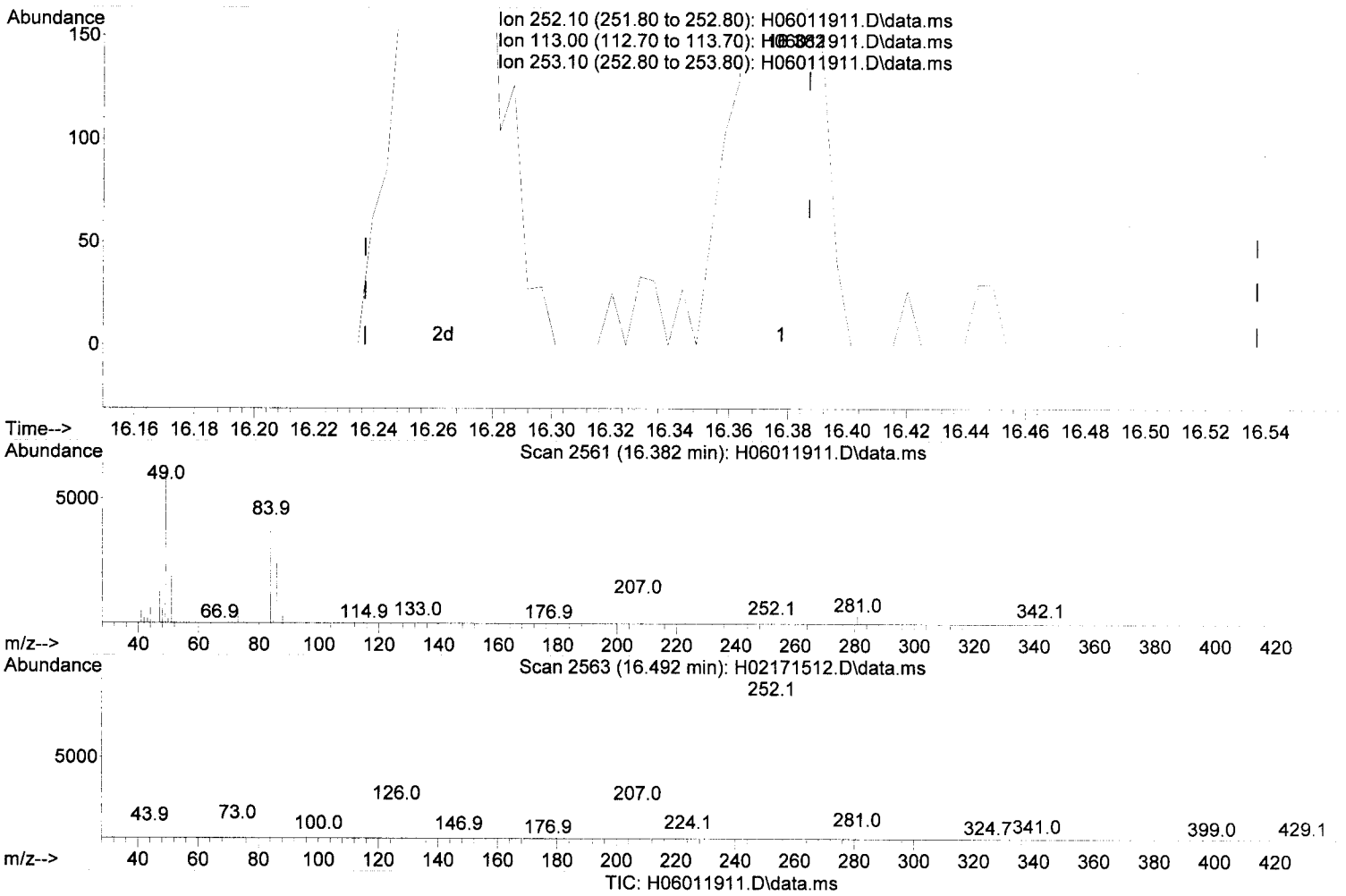


R = 2.05e-001 A*A + 8.57e-001 A - 5.17e-004
Coef of Det (r^2) = 0.988 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:30:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(30) Benzo(a)pyrene (T)

16.382min (-0.005) 0.10 ng/ml m ✓

response 107

Ion	Exp%	Act%
252.10	100.00	100.00
113.00	12.00	0.00
253.10	20.40	16.67
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:32:08 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

GK 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	-1.000	0.298	0.0	0	0.00
3	T	2-Methylnaphthalene	0.200	0.212	-6.0	100	0.00
4	T	1-Methylnaphthalene	0.200	0.206	-3.0	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	-1.000	0.345	0.0	0	0.00
7	T	2,6-Dimethylnaphthalene	0.200	0.207	-3.5	100	0.00
8	S	Acenaphthylene-d8 (Surr)	-1.000	1.123	0.0	0	0.00
9	T	Acenaphthylene	0.200	0.190	5.0	100	0.00
10	T	Acenaphthene	0.200	0.243	-21.5	100	0.00
11	T	Dibenzofuran	0.200	0.243	-21.5	100	0.00
12	T	1,6,7-Trimethylnaphthalene	0.200	0.197	1.5	100	0.00
13	T	Fluorene	0.200	0.217	-8.5	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	0.200	0.215	-7.5	100	0.00
16	T	Phenanthrene	-1.000	0.279	0.0	0	0.00
17	T	Anthracene	0.200	0.197	1.5	100	0.00
18	T	Carbazole	0.200	0.202	-1.0	100	0.00
19	T	Fluoranthene	0.200	0.214	-7.0	100	0.00
20	T	Pyrene	0.200	0.231	-15.5	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	0.200	0.209	-4.5	100	0.01
23	T	Chrysene	0.200	0.218	-9.0	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	0.200	0.214	-7.0	100	0.00
26	T	Benzo(k)fluoranthene	0.200	0.221	-10.5	100	0.00
27	T	Benzo(b+k)fluoranthene	0.400	0.435	-8.7	100	-0.07
28	T	Benzo(e)pyrene	0.200	0.196	2.0	100	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	-1.000	0.306	0.0	0	0.00
30	T	Benzo(a)pyrene	0.200	0.221	-10.5	100	0.00
31	T	Perylene	0.200	0.204	-2.0	100	-0.02
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	0.200	0.252	-26.0	100	0.00
34	T	Dibenz(a,h)anthracene	0.200	0.206	-3.0	100	-0.01
35	T	Benzo(g,h,i)perylene	0.200	0.176	12.0	100	-0.02
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

< 20%

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011912.D
Acq On : 1 Jul 2019 2:52 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL2
Misc : 1x, A19F395@0.4
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:32:24 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	0.400	0.457	-14.2	100	0.00
3	T	2-Methylnaphthalene	0.400	0.424	-6.0	100	0.00
4	T	1-Methylnaphthalene	0.400	0.393	1.8	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	0.400	0.497	-24.2	100	0.00
7	T	2,6-Dimethylnaphthalene	0.400	0.408	-2.0	100	0.00
8	S	Acenaphthylene-d8 (Surr)	-1.000	0.896	0.0	0	0.00
9	T	Acenaphthylene	0.400	0.361	9.8	100	0.00
10	T	Acenaphthene	0.400	0.415	-3.7	100	0.00
11	T	Dibenzofuran	0.400	0.365	8.8	100	0.00
12	T	1,6,7-Trimethylnaphthalene	0.400	0.377	5.8	100	0.00
13	T	Fluorene	0.400	0.390	2.5	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	0.400	0.406	-1.5	100	0.00
16	T	Phenanthrene	0.400	0.447	-11.7	100	0.00
17	T	Anthracene	0.400	0.365	8.8	100	0.00
18	T	Carbazole	0.400	0.363	9.3	100	0.00
19	T	Fluoranthene	0.400	0.370	7.5	100	0.00
20	T	Pyrene	0.400	0.387	3.3	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	0.400	0.378	5.5	100	0.00
23	T	Chrysene	0.400	0.400	0.0	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	0.400	0.358	10.5	100	0.00
26	T	Benzo(k)fluoranthene	0.400	0.342	14.5	100	0.00
27	T	Benzo(b+k)fluoranthene	0.800	0.699	12.6	100	-0.06
28	T	Benzo(e)pyrene	0.400	0.337	15.8	100	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	0.400	0.429	-7.2	100	0.00
30	T	Benzo(a)pyrene	0.400	0.341	14.8	100	-0.01
31	T	Perylene	0.400	0.332	17.0	100	-0.02
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	0.400	0.427	-6.7	100	0.00
34	T	Dibenz(a,h)anthracene	0.400	0.389	2.8	100	0.00
35	T	Benzo(g,h,i)perylene	0.400	0.318	20.5	100	0.00
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011913.D
Acq On : 1 Jul 2019 3:26 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL3
Misc : 1x, A19F394@1.0
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:32:37 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	1.000	1.089	-8.9	100	0.00
3	T	2-Methylnaphthalene	1.000	1.047	-4.7	100	0.00
4	T	1-Methylnaphthalene	1.000	0.996	0.4	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	1.000	1.003	-0.3	100	0.00
7	T	2,6-Dimethylnaphthalene	1.000	0.914	8.6	100	0.00
8	S	Acenaphthylene-d8 (Surr)	1.000	1.002	-0.2	100	0.00
9	T	Acenaphthylene	1.000	0.869	13.1	100	0.00
10	T	Acenaphthene	1.000	1.016	-1.6	100	0.00
11	T	Dibenzofuran	1.000	0.946	5.4	100	0.00
12	T	1,6,7-Trimethylnaphthalene	1.000	0.965	3.5	100	0.00
13	T	Fluorene	1.000	0.915	8.5	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	1.000	0.941	5.9	100	0.00
16	T	Phenanthrene	1.000	0.999	0.1	100	0.00
17	T	Anthracene	1.000	0.861	13.9	100	0.00
18	T	Carbazole	1.000	0.941	5.9	100	0.00
19	T	Fluoranthene	1.000	0.904	9.6	100	0.00
20	T	Pyrene	1.000	0.976	2.4	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	1.000	0.913	8.7	100	0.00
23	T	Chrysene	1.000	0.932	6.8	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	1.000	0.912	8.8	100	0.00
26	T	Benzo(k)fluoranthene	1.000	0.846	15.4	100	0.00
27	T	Benzo(b+k)fluoranthene	2.000	1.747	12.6	100	-0.06
28	T	Benzo(e)pyrene	1.000	0.839	16.1	100	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	1.000	0.834	16.6	100	0.00
30	T	Benzo(a)pyrene	1.000	0.844	15.6	100	0.00
31	T	Perylene	1.000	0.924	7.6	100	0.00
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	1.000	0.928	7.2	100	0.00
34	T	Dibenz(a,h)anthracene	1.000	0.881	11.9	100	0.00
35	T	Benzo(g,h,i)perylene	1.000	0.830	17.0	100	0.00
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

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

<20%

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011914.D
Acq On : 1 Jul 2019 4:00 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL4
Misc : 1x, A19F394@5.0
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:32:50 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

GM 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	5.000	4.992	0.2	100	0.00
3	T	2-Methylnaphthalene	5.000	4.882	2.4	100	0.00
4	T	1-Methylnaphthalene	5.000	5.182	-3.6	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	5.000	4.852	3.0	100	0.00
7	T	2,6-Dimethylnaphthalene	5.000	4.872	2.6	100	0.00
8	S	Acenaphthylene-d8 (Surr)	5.000	4.992	0.2	100	0.00
9	T	Acenaphthylene	5.000	4.786	4.3	100	0.00
10	T	Acenaphthene	5.000	4.828	3.4	100	0.00
11	T	Dibenzofuran	5.000	4.774	4.5	100	0.00
12	T	1,6,7-Trimethylnaphthalene	5.000	4.692	6.2	100	0.00
13	T	Fluorene	5.000	4.730	5.4	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	5.000	4.819	3.6	100	0.00
16	T	Phenanthrene	5.000	4.816	3.7	100	0.00
17	T	Anthracene	5.000	4.681	6.4	100	0.00
18	T	Carbazole	5.000	4.597	8.1	100	0.00
19	T	Fluoranthene	5.000	4.654	6.9	100	0.00
20	T	Pyrene	5.000	4.691	6.2	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	5.000	4.844	3.1	100	0.00
23	T	Chrysene	5.000	5.014	-0.3	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	5.000	4.657	6.9	100	0.00
26	T	Benzo(k)fluoranthene	5.000	4.706	5.9	100	0.00
27	T	Benzo(b+k)fluoranthene	10.000	9.452	5.5	100	-0.07
28	T	Benzo(e)pyrene	5.000	4.757	4.9	100	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	5.000	4.601	8.0	100	0.00
30	T	Benzo(a)pyrene	5.000	4.546	9.1	100	0.00
31	T	Perylene	5.000	4.817	3.7	100	0.00
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	5.000	4.533	9.3	100	0.00
34	T	Dibenz(a,h)anthracene	5.000	4.850	3.0	100	0.00
35	T	Benzo(g,h,i)perylene	5.000	4.706	5.9	100	-0.01
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

<20%

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011915.D
Acq On : 1 Jul 2019 4:34 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL5
Misc : 1x, A19F394@10
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:33:02 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)	
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00	
2	T	Naphthalene	10.000	9.693	3.1	100	0.00	
3	T	2-Methylnaphthalene	10.000	9.359	6.4	100	0.00	
4	T	1-Methylnaphthalene	10.000	9.813	1.9	100	0.00	
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00	
6	T	Biphenyl	10.000	9.377	6.2	100	0.00	
7	T	2,6-Dimethylnaphthalene	10.000	9.685	3.1	100	0.00	
8	S	Acenaphthylene-d8 (Surr)	10.000	9.775	2.2	100	0.00	
9	T	Acenaphthylene	10.000	9.749	2.5	100	0.00	
10	T	Acenaphthene	10.000	9.355	6.4	100	0.00	
11	T	Dibenzofuran	10.000	9.782	2.2	100	0.00	
12	T	1,6,7-Trimethylnaphthalene	10.000	9.535	4.6	100	0.00	
13	T	Fluorene	10.000	9.566	4.3	100	0.00	
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00	
15	T	Dibenzothiophene	10.000	9.711	2.9	100	0.00	
16	T	Phenanthrene	10.000	9.623	3.8	100	0.00	
17	T	Anthracene	10.000	9.654	3.5	100	0.00	
18	T	Carbazole	10.000	9.666	3.3	100	0.00	
19	T	Fluoranthene	10.000	9.622	3.8	100	0.00	
20	T	Pyrene	10.000	9.437	5.6	100	0.00	
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00	
22	T	Benz(a)anthracene	10.000	9.819	1.8	100	0.00	
23	T	Chrysene	10.000	9.739	2.6	100	0.00	
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00	
25	T	Benzo(b)fluoranthene	10.000	10.113	-1.1	100	0.00	
26	T	Benzo(k)fluoranthene	10.000	10.369	-3.7	100	0.00	
27	T	Benzo(b+k)fluoranthene	20.000	20.485	-2.4	100	0.00	
28	T	Benzo(e)pyrene	10.000	9.718	2.8	100	0.00	
29	S	Benzo(a)pyrene(d-12) (Surr)	10.000	9.556	~~4.4~~	100	0.00	
30	T	Benzo(a)pyrene	10.000	10.068	-0.7	100	0.00	<20%
31	T	Perylene	10.000	8.730	12.7	100	0.00	
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00	
33	T	Indeno(1,2,3-cd)pyrene	10.000	9.261	7.4	100	0.00	
34	T	Dibenz(a,h)anthracene	10.000	9.474	5.3	100	0.00	
35	T	Benzo(g,h,i)perylene	10.000	9.769	2.3	100	0.00	
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00	
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00	

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011916.D
Acq On : 1 Jul 2019 5:07 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL6
Misc : 1x, A19F394@20
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:33:13 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	20.000	19.469	2.7	100	0.00
3	T	2-Methylnaphthalene	20.000	18.752	6.2	100	0.00
4	T	1-Methylnaphthalene	20.000	18.728	6.4	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	20.000	19.495	2.5	100	0.00
7	T	2,6-Dimethylnaphthalene	20.000	19.933	0.3	100	0.00
8	S	Acenaphthylene-d8 (Surr)	20.000	20.371	-1.9	100	0.00
9	T	Acenaphthylene	20.000	20.554	-2.8	100	0.00
10	T	Acenaphthene	20.000	18.902	5.5	100	0.00
11	T	Dibenzofuran	20.000	20.443	-2.2	100	0.00
12	T	1,6,7-Trimethylnaphthalene	20.000	20.882	-4.4	100	0.00
13	T	Fluorene	20.000	20.738	-3.7	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	20.000	20.002	-0.0	100	0.00
16	T	Phenanthrene	20.000	19.923	0.4	100	0.00
17	T	Anthracene	20.000	20.491	-2.5	100	0.00
18	T	Carbazole	20.000	20.148	-0.7	100	0.00
19	T	Fluoranthene	20.000	20.217	-1.1	100	0.00
20	T	Pyrene	20.000	19.544	2.3	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	20.000	21.530	-7.7	100	0.00
23	T	Chrysene	20.000	20.106	-0.5	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	20.000	21.915	-9.6	100	0.00
26	T	Benzo(k)fluoranthene	20.000	22.333	-11.7	100	0.00
27	T	Benzo(b+k)fluoranthene	40.000	44.166	-10.4	100	-0.07
28	T	Benzo(e)pyrene	20.000	20.575	-2.9	100	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	20.000	21.772	-8.9	100	0.00
30	T	Benzo(a)pyrene	20.000	22.536	-12.7	100	0.00
31	T	Perylene	20.000	20.006	-0.0	101	0.00
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	20.000	19.073	4.6	100	0.00
34	T	Dibenz(a,h)anthracene	20.000	19.900	0.5	100	0.00
35	T	Benzo(g,h,i)perylene	20.000	20.853	-4.3	100	0.00
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011917.D
Acq On : 1 Jul 2019 5:41 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL7
Misc : 1x, A19F394@50
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:33:24 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JJ 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	50.000	47.302	5.4	100	0.00
3	T	2-Methylnaphthalene	50.000	48.541	2.9	100	0.00
4	T	1-Methylnaphthalene	50.000	49.321	1.4	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	50.000	46.919	6.2	100	0.00
7	T	2,6-Dimethylnaphthalene	50.000	49.625	0.8	100	0.00
8	S	Acenaphthylene-d8 (Surr)	50.000	49.919	0.2	100	0.00
9	T	Acenaphthylene	50.000	51.902	-3.8	100	0.00
10	T	Acenaphthene	50.000	47.468	5.1	100	0.00
11	T	Dibenzofuran	50.000	48.419	3.2	100	0.00
12	T	1,6,7-Trimethylnaphthalene	50.000	50.603	-1.2	100	0.00
13	T	Fluorene	50.000	49.736	0.5	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	50.000	49.534	0.9	100	0.00
16	T	Phenanthrene	50.000	48.227	3.5	100	0.00
17	T	Anthracene	50.000	52.377	-4.8	100	0.00
18	T	Carbazole	50.000	52.089	-4.2	100	0.00
19	T	Fluoranthene	50.000	51.107	-2.2	100	0.00
20	T	Pyrene	50.000	49.606	0.8	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	50.000	53.035	-6.1	100	0.00
23	T	Chrysene	50.000	48.762	2.5	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	50.000	53.775	-7.5	100	0.00
26	T	Benzo(k)fluoranthene	50.000	54.097	-8.2	100	0.00
27	T	Benzo(b+k)fluoranthene	100.000	107.590	-7.6	100	0.00
28	T	Benzo(e)pyrene	50.000	52.673	-5.3	100	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	50.000	54.327	-8.7	100	0.00
30	T	Benzo(a)pyrene	50.000	55.463	-10.9	100	0.00
31	T	Perylene	50.000	52.380	-4.8	100	0.00
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	50.000	48.599	2.8	100	0.00
34	T	Dibenz(a,h)anthracene	50.000	51.273	-2.5	100	0.00
35	T	Benzo(g,h,i)perylene	50.000	55.373	-10.7	100	0.00
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

<20%

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011918.D
Acq On : 1 Jul 2019 6:15 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL8
Misc : 1x, A19F394@100
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:33:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	100.000	95.457	4.5	100	0.00
3	T	2-Methylnaphthalene	100.000	99.051	0.9	100	0.00
4	T	1-Methylnaphthalene	100.000	100.375	-0.4	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	100.000	96.961	3.0	100	0.00
7	T	2,6-Dimethylnaphthalene	100.000	100.981	-1.0	100	0.00
8	S	Acenaphthylene-d8 (Surr)	100.000	100.539	-0.5	100	0.00
9	T	Acenaphthylene	100.000	106.935	-6.9	100	0.00
10	T	Acenaphthene	100.000	96.061	3.9	100	0.00
11	T	Dibenzofuran	100.000	99.515	0.5	100	0.00
12	T	1,6,7-Trimethylnaphthalene	100.000	103.302	-3.3	100	0.00
13	T	Fluorene	100.000	101.842	-1.8	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	100.000	99.805	0.2	100	0.00
16	T	Phenanthrene	100.000	98.135	1.9	100	0.00
17	T	Anthracene	100.000	106.510	-6.5	100	0.00
18	T	Carbazole	100.000	105.049	-5.0	100	0.00
19	T	Fluoranthene	100.000	104.457	-4.5	100	0.00
20	T	Pyrene	100.000	101.570	-1.6	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	100.000	102.848	-2.8	100	0.00
23	T	Chrysene	100.000	100.428	-0.4	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	100.000	102.614	-2.6	100	0.00
26	T	Benzo(k)fluoranthene	100.000	103.998	-4.0	100	0.00
27	T	Benzo(b+k)fluoranthene	200.000	206.428	-3.2	100	0.01
28	T	Benzo(e)pyrene	100.000	109.108	-9.1	100	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	100.000	105.779	-5.8	100	0.01
30	T	Benzo(a)pyrene	100.000	106.115	-6.1	100	0.00
31	T	Perylene	100.000	110.425	-10.4	103	0.00
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	100.000	98.467	1.5	100	0.00
34	T	Dibenz(a,h)anthracene	100.000	105.980	-6.0	100	0.00
35	T	Benzo(g,h,i)perylene	100.000	113.599	-13.6	100	0.00
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

20%

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011919.D
Acq On : 1 Jul 2019 6:48 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL9
Misc : 1x, A19F394@150
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:33:49 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

GJ 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	150.000	146.008	2.7	100	0.00
3	T	2-Methylnaphthalene	150.000	148.176	1.2	100	0.00
4	T	1-Methylnaphthalene	150.000	149.057	0.6	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	150.000	148.592	0.9	100	0.00
7	T	2,6-Dimethylnaphthalene	150.000	157.862	-5.2	100	0.00
8	S	Acenaphthylene-d8 (Surr)	150.000	151.482	-1.0	100	0.00
9	T	Acenaphthylene	150.000	165.978	-10.7	100	0.00
10	T	Acenaphthene	150.000	148.332	1.1	100	0.00
11	T	Dibenzofuran	150.000	153.159	-2.1	100	0.00
12	T	1,6,7-Trimethylnaphthalene	150.000	162.140	-8.1	100	0.00
13	T	Fluorene	150.000	158.411	-5.6	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	150.000	153.961	-2.6	100	0.00
16	T	Phenanthrene	150.000	151.277	-0.9	100	0.00
17	T	Anthracene	150.000	165.160	-10.1	100	0.00
18	T	Carbazole	150.000	163.527	-9.0	100	0.00
19	T	Fluoranthene	150.000	160.303	-6.9	100	0.00
20	T	Pyrene	150.000	153.687	-2.5	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	150.000	152.033	-1.4	100	0.00
23	T	Chrysene	150.000	151.806	-1.2	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	150.000	151.870	-1.2	100	0.00
26	T	Benzo(k)fluoranthene	150.000	151.487	-1.0	100	0.01
27	T	Benzo(b+k)fluoranthene	300.000	303.279	-1.1	100	0.02
28	T	Benzo(e)pyrene	150.000	168.164	-12.1	100	0.01
29	S	Benzo(a)pyrene(d-12) (Surr)	150.000	152.081	-1.4	100	0.02
30	T	Benzo(a)pyrene	150.000	152.055	-1.4	100	0.01
31	T	Perylene	150.000	172.085	-14.7	101	0.01
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	150.000	151.016	-0.7	100	0.01
34	T	Dibenz(a,h)anthracene	150.000	160.167	-6.8	100	0.01
35	T	Benzo(g,h,i)perylene	150.000	172.635	-15.1	100	0.01
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\REQUANT\
Data File : H06011920.D
Acq On : 1 Jul 2019 7:22 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CALA
Misc : 1x, A19F394@200
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:34:02 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

GK 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	100	0.00
2	T	Naphthalene	200.000	190.773	4.6	100	0.00
3	T	2-Methylnaphthalene	200.000	207.090	-3.5	100	0.00
4	T	1-Methylnaphthalene	200.000	210.210	-5.1	100	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
6	T	Biphenyl	200.000	194.698	2.7	100	0.00
7	T	2,6-Dimethylnaphthalene	200.000	207.470	-3.7	100	0.00
8	S	Acenaphthylene-d8 (Surr)	200.000	198.030	1.0	100	0.00
9	T	Acenaphthylene	200.000	221.302	-10.7	100	0.00
10	T	Acenaphthene	200.000	197.968	1.0	100	0.00
11	T	Dibenzofuran	200.000	197.111	1.4	100	0.00
12	T	1,6,7-Trimethylnaphthalene	200.000	209.756	-4.9	100	0.00
13	T	Fluorene	200.000	202.888	-1.4	100	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	100	0.00
15	T	Dibenzothiophene	200.000	204.173	-2.1	100	0.00
16	T	Phenanthrene	200.000	201.370	-0.7	100	0.00
17	T	Anthracene	200.000	220.421	-10.2	100	0.00
18	T	Carbazole	200.000	213.079	-6.5	100	0.00
19	T	Fluoranthene	200.000	212.163	-6.1	100	0.00
20	T	Pyrene	200.000	201.847	-0.9	100	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
22	T	Benz(a)anthracene	200.000	192.581	3.7	100	0.01
23	T	Chrysene	200.000	201.235	-0.6	100	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	100	0.00
25	T	Benzo(b)fluoranthene	200.000	192.327	3.8	100	0.01
26	T	Benzo(k)fluoranthene	200.000	191.168	4.4	100	0.02
27	T	Benzo(b+k)fluoranthene	400.000	383.765	4.1	100	0.02
28	T	Benzo(e)pyrene	200.000	224.307	-12.2	100	0.01
29	S	Benzo(a)pyrene(d-12) (Surr)	200.000	190.145	4.9	100	0.02
30	T	Benzo(a)pyrene	200.000	188.749	5.6	100	0.02
31	T	Perylene	200.000	227.569	-13.8	99	0.02
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	100	0.00
33	T	Indeno(1,2,3-cd)pyrene	200.000	198.556	0.7	100	0.02
34	T	Dibenz(a,h)anthracene	200.000	210.520	-5.3	100	0.02
35	T	Benzo(g,h,i)perylene	200.000	227.711	-13.9	100	0.02
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	100	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	100	0.00

< 20%

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011922.D
Acq On : 1 Jul 2019 8:29 pm
Operator : JK /AMS /DTH
Sample : 9G01051-ICV1
Misc : 1x, A19B042@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:34:20 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)	
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	99	0.00	
2	T	Naphthalene	50.000	46.514	7.0	98	0.00	
3	T	2-Methylnaphthalene	50.000	49.012	2.0	100	0.00	
4	T	1-Methylnaphthalene	50.000	50.577	-1.2	102	0.00	
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	103	0.00	
6	T	Biphenyl	50.000	47.064	5.9	103	0.00	
7	T	2,6-Dimethylnaphthalene	50.000	47.922	4.2	99	0.00	
8	S	Acenaphthylene-d8 (Surr)	50.000	50.277	-0.6	104	0.00	
9	T	Acenaphthylene	50.000	52.072	-4.1	103	0.00	
10	T	Acenaphthene	50.000	46.137	7.7	100	0.00	
11	T	Dibenzofuran	50.000	47.382	5.2	101	0.00	
12	T	1,6,7-Trimethylnaphthalene	50.000	50.179	-0.4	102	0.00	
13	T	Fluorene	50.000	48.818	2.4	101	0.00	
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	106	0.00	
15	T	Dibenzothiophene	50.000	47.845	4.3	102	0.00	
16	T	Phenanthrene	50.000	47.610	4.8	104	0.00	
17	T	Anthracene	50.000	51.577	-3.2	104	0.00	
18	T	Carbazole	50.000	50.097	-0.2	102	0.00	
19	T	Fluoranthene	50.000	50.890	-1.8	105	0.00	
20	T	Pyrene	50.000	49.055	1.9	105	0.00	
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	103	0.00	
22	T	Benz(a)anthracene	50.000	53.709	-7.4	104	0.00	
23	T	Chrysene	50.000	51.788	-3.6	109	0.00	
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	101	0.00	
25	T	Benzo(b)fluoranthene	50.000	56.285	-12.6	107	0.00	
26	T	Benzo(k)fluoranthene	50.000	57.657	-15.3	109	0.00	
27	T	Benzo(b+k)fluoranthene	100.000	113.709	-13.7	108	0.00	
28	T	Benzo(e)pyrene	50.000	56.383	-12.8	109	0.00	
29	S	Benzo(a)pyrene(d-12) (Surr)	50.000	55.190	-10.4	103	0.00	
30	T	Benzo(a)pyrene	50.000	58.593	-17.2	108	0.00	< 20%
31	T	Perylene	50.000	54.673	-9.3	106	0.00	
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	122	0.00	
33	T	Indeno(1,2,3-cd)pyrene	50.000	43.902	12.2	110	0.00	
34	T	Dibenz(a,h)anthracene	50.000	46.817	6.4	111	0.00	
35	T	Benzo(g,h,i)perylene	50.000	50.138	-0.3	110	0.00	
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	99	0.00	
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	104	0.00	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011909.D
Acq On : 1 Jul 2019 1:14 pm
Operator : JK /AMS /DTH
Sample : 9G01051-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270-LVI.M

Quant Time: Jul 01 14:22:57 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270-LVI.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Mon Jul 01 14:22:45 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/1/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8	7.101	136	254902	2.00	ug/mL	0.00
2) Acenaphthene-d10	8.611	162	131171	2.00	ug/mL	0.00
4) Phenanthrene-d10	9.915	188	253264	2.00	ug/mL	0.00
10) Chrysene-d12	13.254	240	192935	2.00	ug/mL	0.00
11) Perylene-d12	16.516	264	142313	2.00	ug/mL	0.00
Target Compounds						Qvalue
3) Pentachlorophenol	9.758	266	858896	29.59	ug/mL	95
5) DFTPP	10.163	442	1097665	16.50	ug/mL#	62
6) Benzidine	11.196	184	3326111	24.74	ug/mL	89
7) 4,4-DDE	11.411	TIC	151675	No Calib	#	
8) 4,4-DDD	11.863	TIC	125351	No Calib	#	
9) 4,4-DDT	12.368	TIC	11518263	No Calib	#	

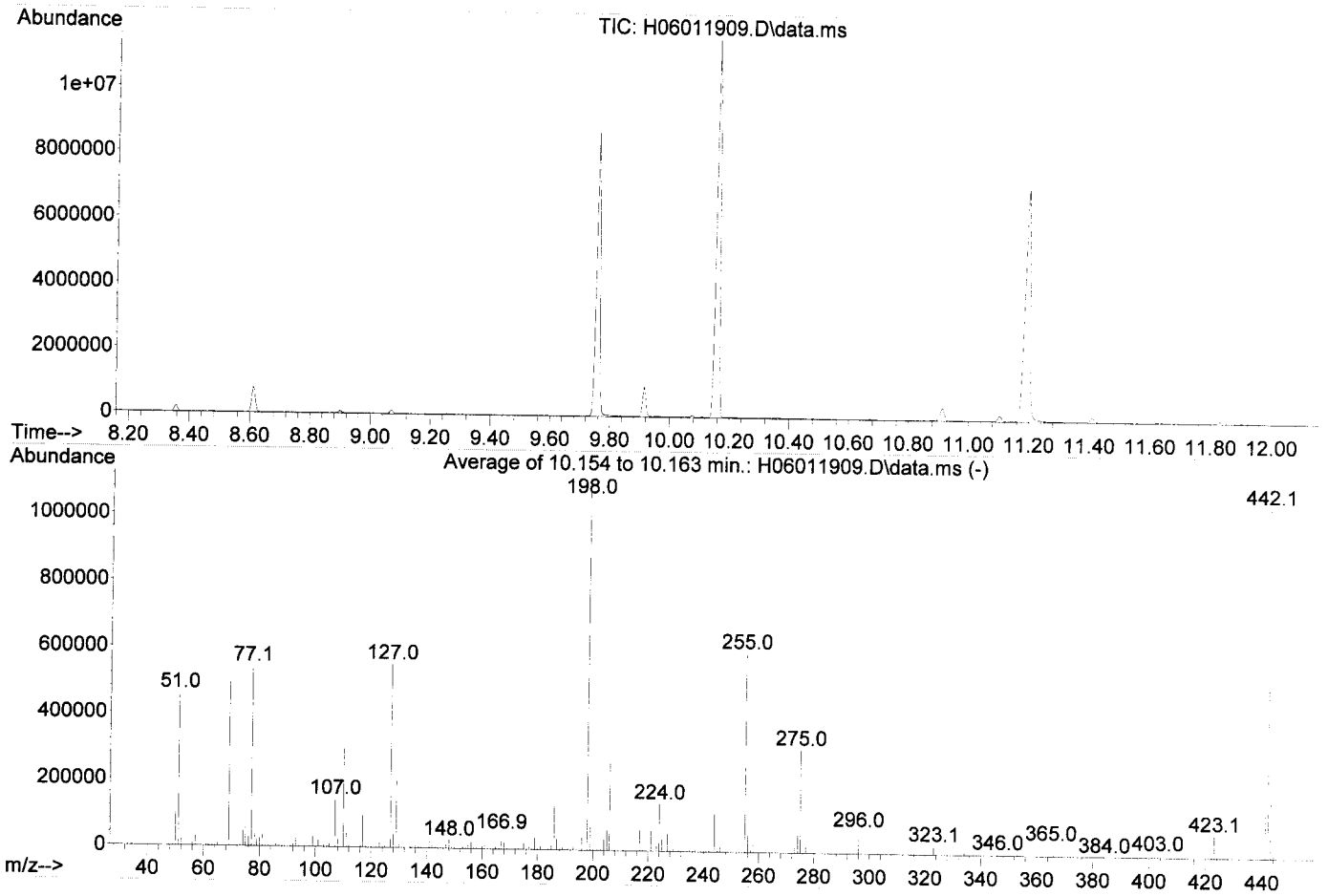
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011909.D
Acq On : 1 Jul 2019 1:14 pm
Operator : JK /AMS /DTH
Sample : 9G01051-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP-8270-LVI.M
Title : DFTPP Tune Methodug/mL
Last Update : Mon Jul 01 14:22:45 2019

7/1/19



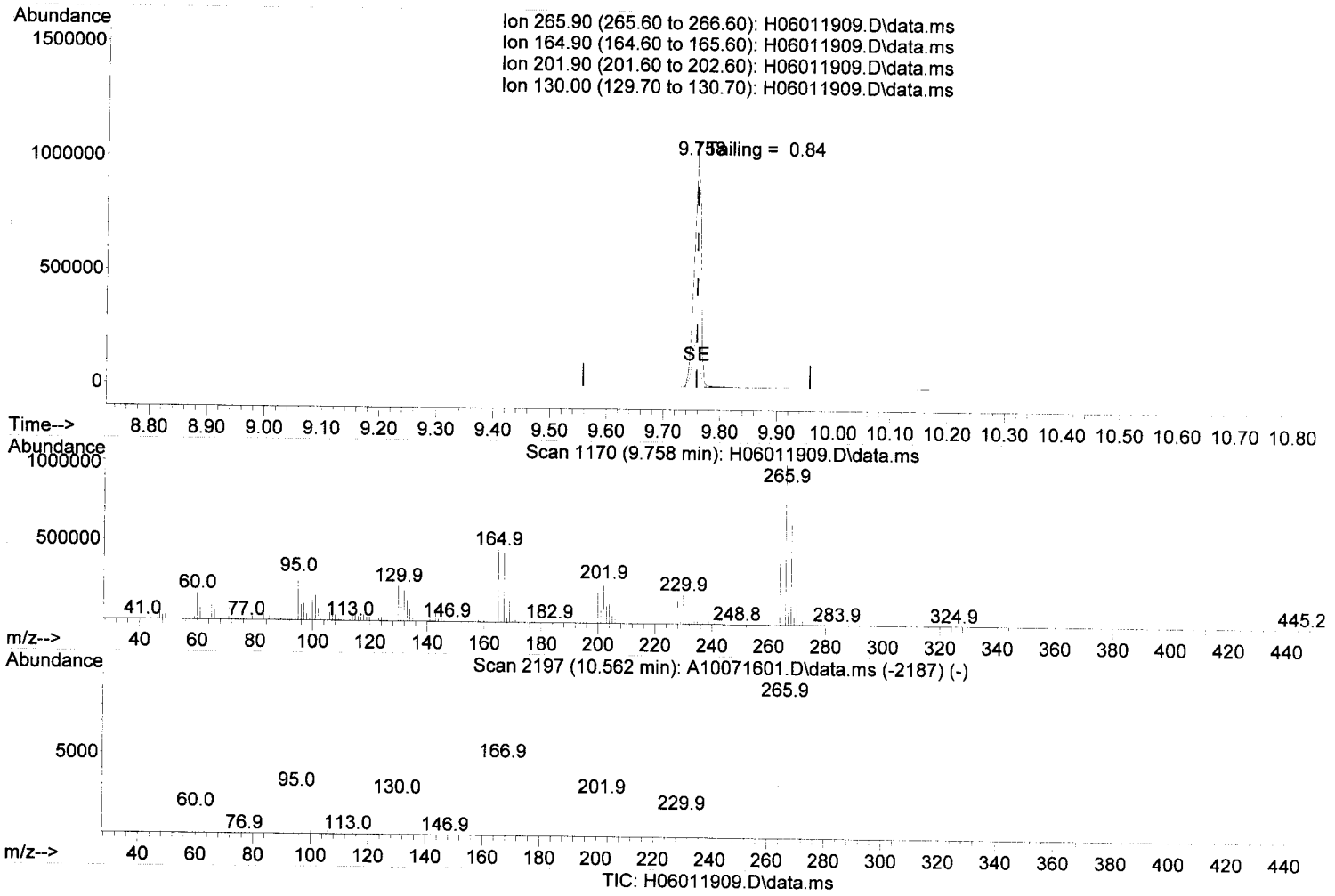
AutoFind: Scans 1253, 1254, 1255; Background Corrected with Scan 1246

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	42.7	459227	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.9	493292	PASS
70	69	0.00	2	0.5	2314	PASS
127	198	10	80	51.4	552853	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	1075200	PASS
199	198	5	9	6.7	72384	PASS
275	198	10	60	28.9	310869	PASS
365	198	1	100	3.3	35011	PASS
441	442	0.01	24	17.7	186637	PASS
442	198	50	200	97.9	1052331	PASS
443	442	15	24	19.3	203091	PASS

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011909.D
Acq On : 1 Jul 2019 1:14 pm
Operator : JK /AMS /DTH
Sample : 9G01051-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270-LVI.M

Quant Time: Jul 01 14:22:57 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270-LVI.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Mon Jul 01 14:22:45 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(3) Pentachlorophenol

9.758min (0.000) 29.59 ug/mL

response 858896

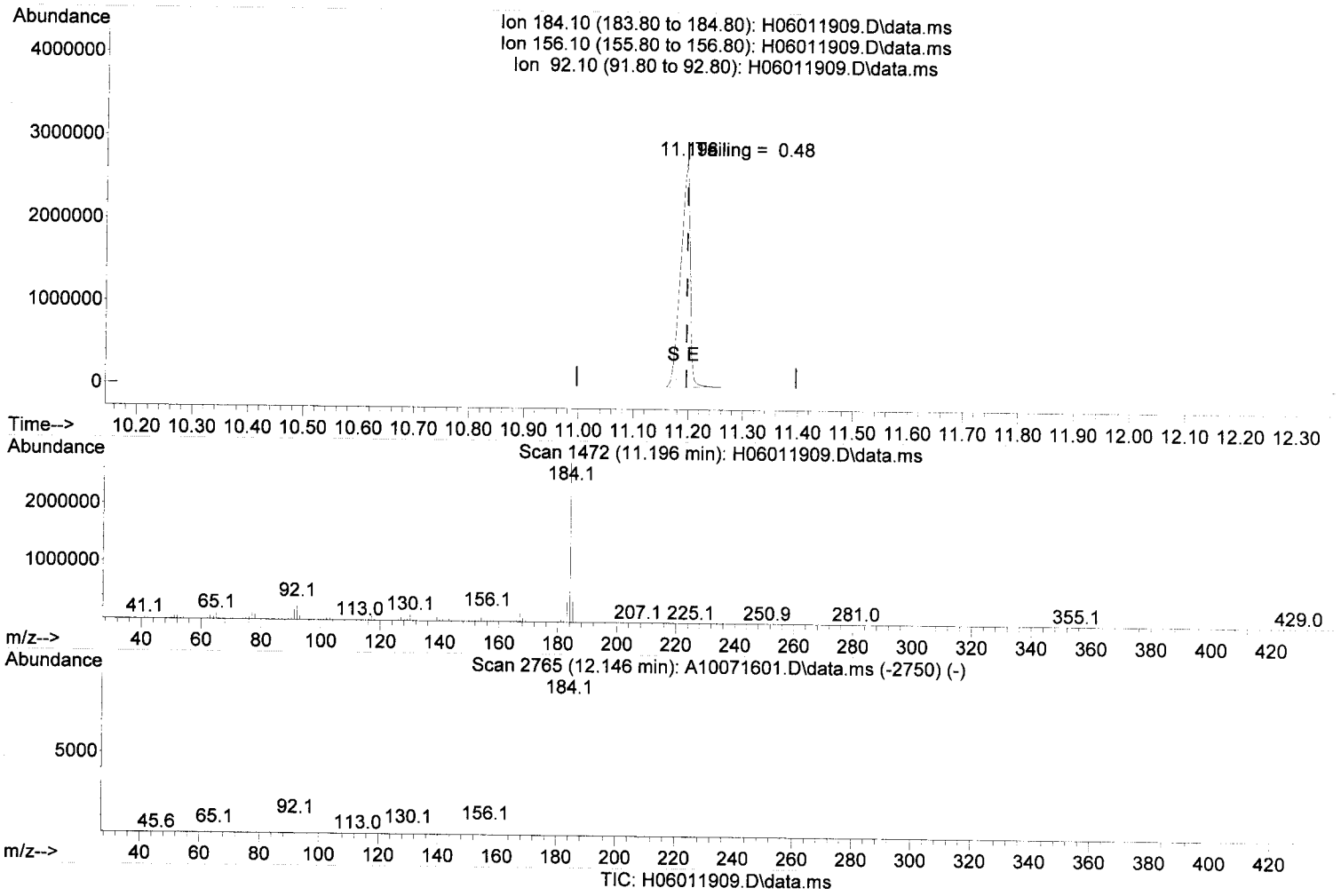
Ion	Exp%	Act%
265.90	100.00	100.00
164.90	40.50	44.96
201.90	23.90	24.28
130.00	19.70	22.40

7/1/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011909.D
Acq On : 1 Jul 2019 1:14 pm
Operator : JK /AMS /DTH
Sample : 9G01051-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270-LVI.M

Quant Time: Jul 01 14:22:57 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270-LVI.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Mon Jul 01 14:22:45 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(6) Benzidine

11.196min (0.000) 24.74 ug/mL

response 3326111

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	10.40	7.08
92.10	17.30	11.86
0.00	0.00	0.00

7/1/19

DDT Breakdown Check (Validated 5/1/2013)

From:
9G01051-TUN1
SV-GCMS8

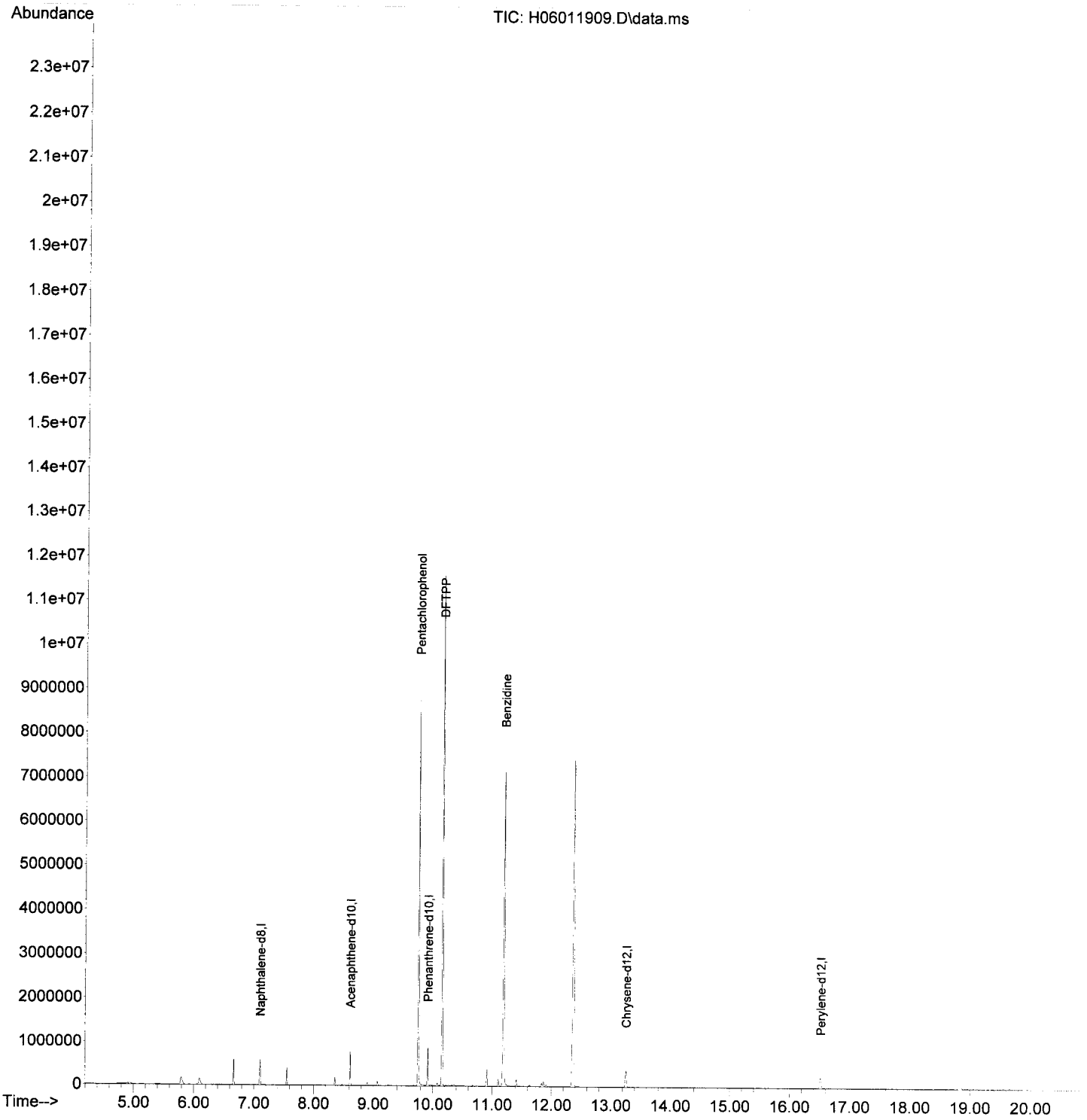
First Column Area Counts		Percent Breakdown	
DDE	151675		
DDD	125351		
DDT	11518263	2.35	PASS

Breakdown must be less than 20% to accept sample data.

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011909.D
Acq On : 1 Jul 2019 1:14 pm
Operator : JK /AMS /DTH
Sample : 9G01051-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270-LVI.M

Quant Time: Jul 01 14:22:57 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270-LVI.M
Quant Title : DFTPP Tune Methodug/mL
QLast Update : Mon Jul 01 14:22:45 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011910.D
Acq On : 1 Jul 2019 1:45 pm
Operator : JK /AMS /DTH
Sample : 9G01051-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 01 14:27:22 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/1/19

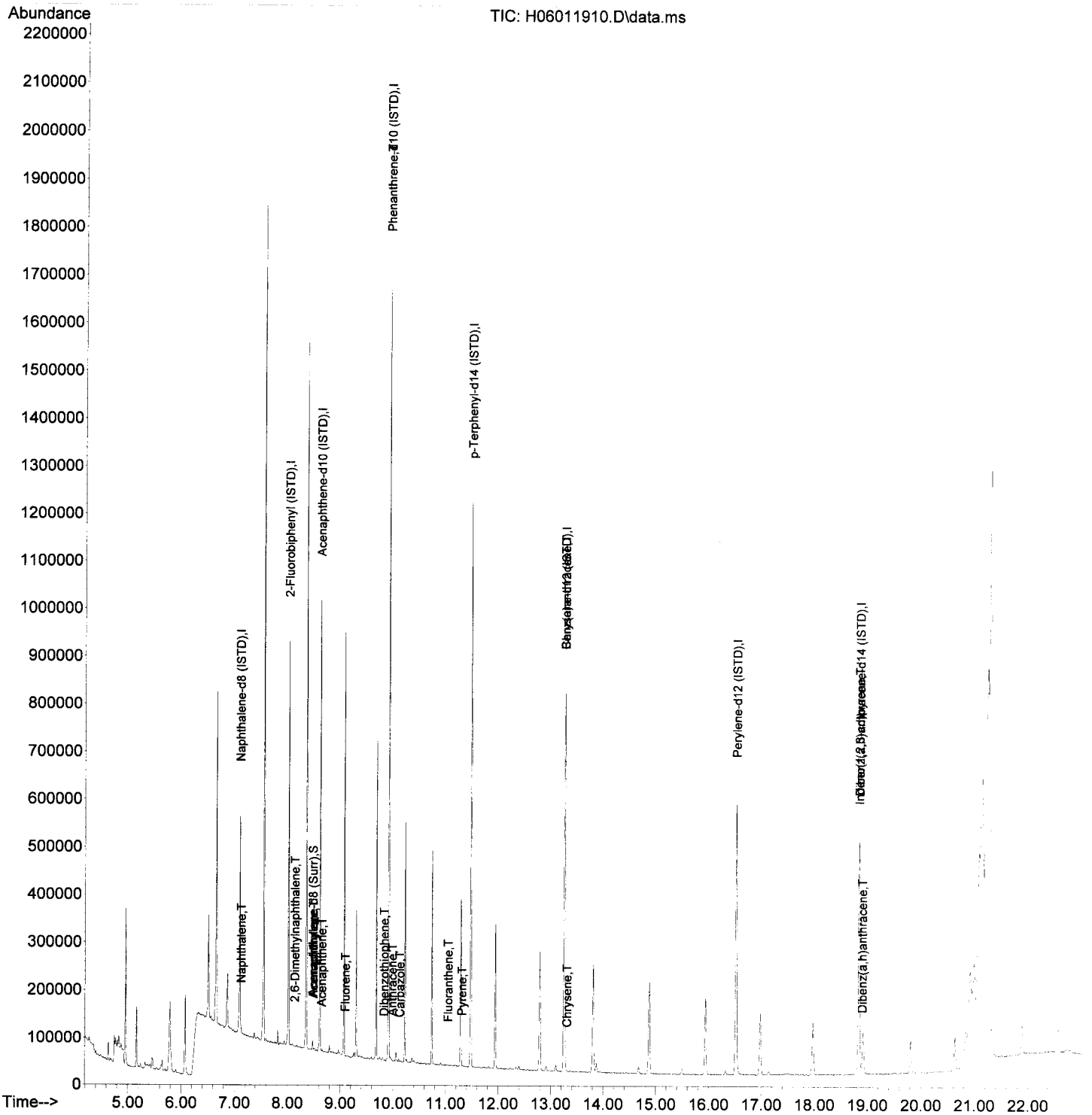
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	209215	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.615	164	170869	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	468424	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	422572	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.520	264	344534	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.839	292	340561	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	220082	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	429020	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	5612	0.83	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
2) Naphthalene	7.120	128	155	0.06	ng/ml	70
3) 2-Methylnaphthalene	0.000		0	N.D.		
4) 1-Methylnaphthalene	0.000		0	N.D.		
6) Biphenyl	8.106	154	417	Below Cal		86
7) 2,6-Dimethylnaphthalene	8.134	156	53	0.03	ng/ml#	43
9) Acenaphthylene	8.482	152	41	0.01	ng/ml	62
10) Acenaphthene	8.644	153	47	0.02	ng/ml#	14
11) Dibenzofuran	0.000		0	N.D.		
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
13) Fluorene	9.092	166	49	0.02	ng/ml#	25
15) Dibenzothiophene	9.825	184	43	0.01	ng/ml	68
16) Phenanthrene	9.915	178	377	0.07	ng/ml#	1
17) Anthracene	9.982	178	64	0.01	ng/ml#	36
18) Carbazole	10.125	167	74	0.02	ng/ml	62
19) Fluoranthene	11.044	202	158	0.03	ng/ml	58
20) Pyrene	11.306	202	183	0.03	ng/ml	59
22) Benz(a)anthracene	13.258	228	1112	0.04	ng/ml	77
23) Chrysene	13.306	228	156	0.03	ng/ml	73
25) Benzo(b)fluoranthene	0.000		0	N.D.		
26) Benzo(k)fluoranthene	0.000		0	N.D.		
27) Benzo(b+k)fluoranthene	0.000		0	N.D.		
28) Benzo(e)pyrene	0.000		0	N.D.		
30) Benzo(a)pyrene	0.000		0	N.D.		
31) Perylene	0.000		0	N.D.		
33) Indeno(1,2,3-cd)pyrene	18.835	276	264	0.00	ng/ml#	1
34) Dibenz(a,h)anthracene	18.897	278	147	0.04	ng/ml	72
35) 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 : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011910.D
Acq On : 1 Jul 2019 1:45 pm
Operator : JK /AMS /DTH
Sample : 9G01051-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 01 14:27:22 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011910.D
Acq On : 1 Jul 2019 1:45 pm
Operator : JK /AMS /DTH
Sample : 9G01051-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Final Reqmnt

Quant Time: Jul 02 09:34:15 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

7/2/19

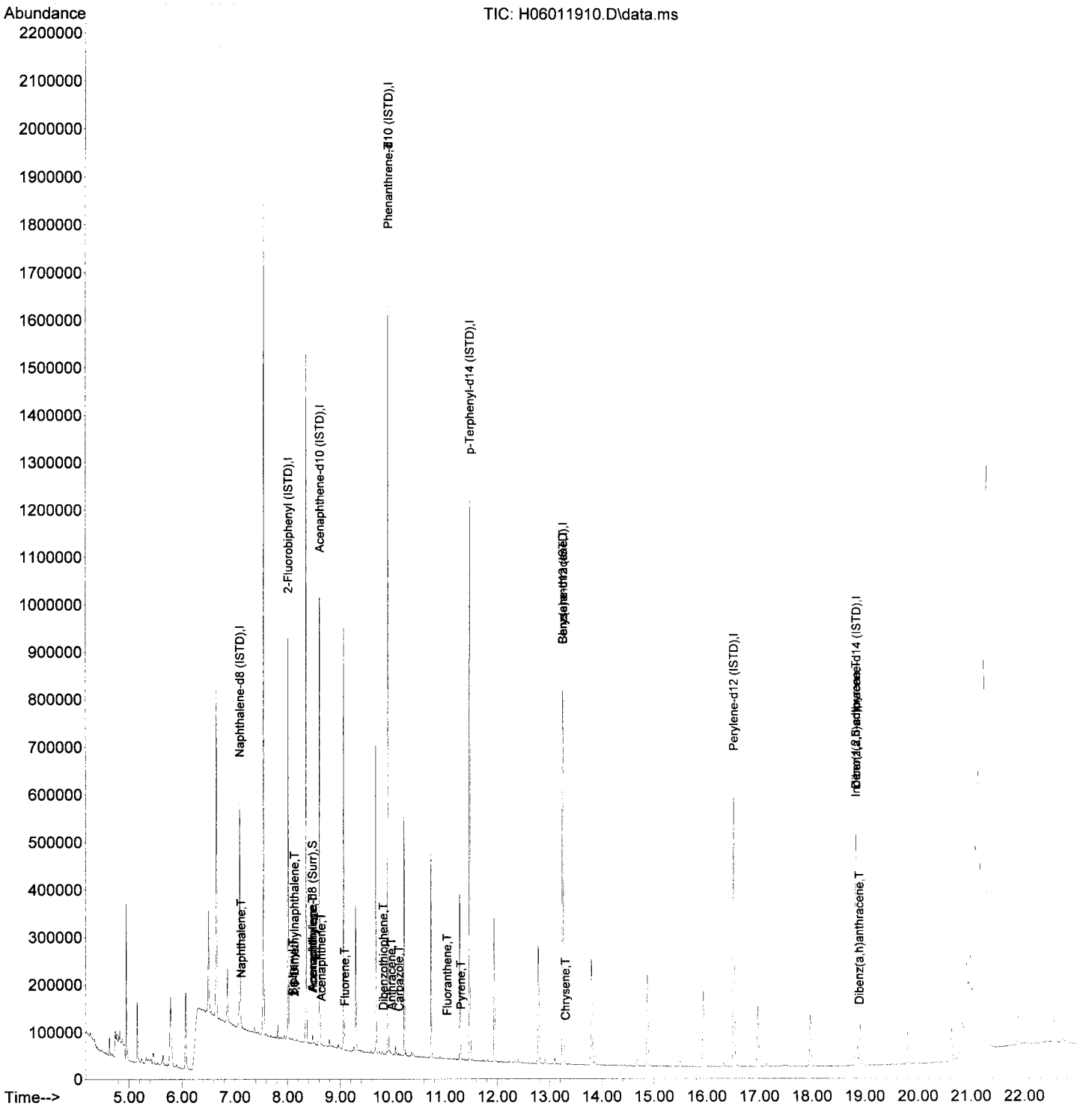
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	209215	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.615	164	170869	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	468424	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	422572	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.520	264	344534	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.839	292	340561	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	220082	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	429020	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	5612	0.93	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
2) Naphthalene	7.120	128	155	0.06	ng/ml	70
3) 2-Methylnaphthalene	0.000		0	N.D.		
4) 1-Methylnaphthalene	0.000		0	N.D.		
6) Biphenyl	8.106	154	417	0.15	ng/ml	86
7) 2,6-Dimethylnaphthalene	8.134	156	53	0.03	ng/ml#	43
9) Acenaphthylene	8.482	152	41	0.01	ng/ml	62
10) Acenaphthene	8.644	153	47	0.02	ng/ml#	14
11) Dibenzofuran	0.000		0	N.D.		
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
13) Fluorene	9.092	166	49	0.02	ng/ml#	25
15) Dibenzothiophene	9.825	184	43	0.01	ng/ml	68
16) Phenanthrene	9.915	178	377	0.07	ng/ml#	1
17) Anthracene	9.982	178	64	0.01	ng/ml#	36
18) Carbazole	10.125	167	74	0.02	ng/ml	62
19) Fluoranthene	11.044	202	158	0.03	ng/ml	58
20) Pyrene	11.306	202	183	0.03	ng/ml	59
22) Benz(a)anthracene	13.258	228	1112	0.03	ng/ml	77
23) Chrysene	13.306	228	156	0.03	ng/ml	73
25) Benzo(b)fluoranthene	0.000		0	N.D.		
26) Benzo(k)fluoranthene	0.000		0	N.D.		
27) Benzo(b+k)fluoranthene	0.000		0	N.D.		
28) Benzo(e)pyrene	0.000		0	N.D.		
30) Benzo(a)pyrene	0.000		0	N.D.		
31) Perylene	0.000		0	N.D.		
33) Indeno(1,2,3-cd)pyrene	18.835	276	264	0.07	ng/ml#	1
34) Dibenz(a,h)anthracene	18.897	278	147	0.04	ng/ml	72
35) 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 : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011910.D
Acq On : 1 Jul 2019 1:45 pm
Operator : JK /AMS /DTH
Sample : 9G01051-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 09:34:15 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 01 15:05:42 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

GH 7/1/19

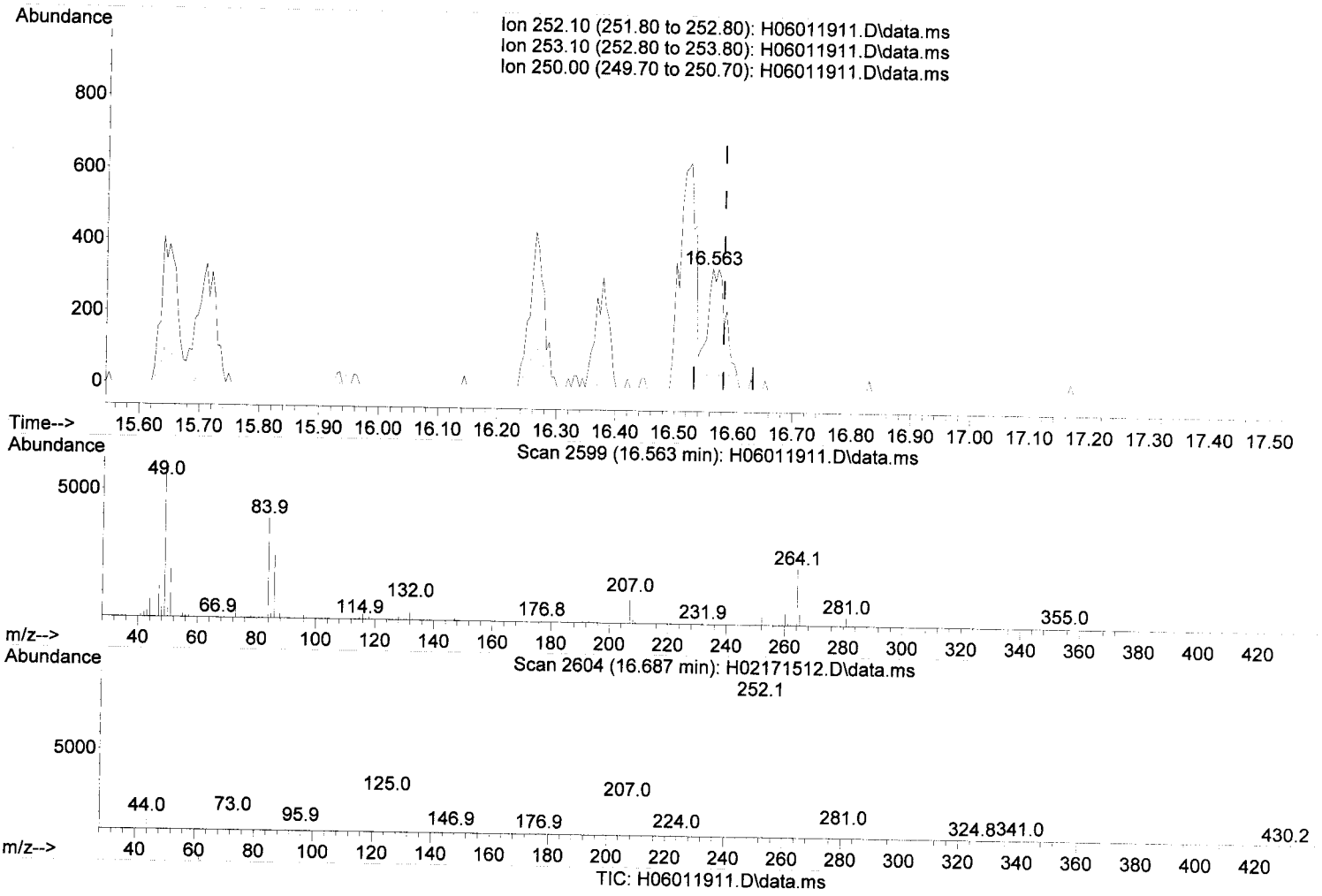
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	226171	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	170224	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.916	188	441148	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	399823	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.520	264	347189	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.839	292	296516	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	227562	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	413880	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	6147	1.02	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.320	264	411	0.38	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.120	128	783	0.30	ng/ml	91
3) 2-Methylnaphthalene	7.706	142	429	0.22	ng/ml	96
4) 1-Methylnaphthalene	7.787	142	396	0.21	ng/ml	76
6) Biphenyl	8.106	154	982	0.20	ng/ml	90
7) 2,6-Dimethylnaphthalene	8.244	156	413	0.21	ng/ml#	43
9) Acenaphthylene	8.487	152	642	0.19	ng/ml	95
10) Acenaphthene	8.644	153	612	0.26	ng/ml	94
11) Dibenzofuran	8.792	168	878	0.25	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	8.973	170	473	0.21	ng/ml#	1
13) Fluorene	9.092	166	678	0.23	ng/ml	83
15) Dibenzothiophene	9.825	184	976	0.22	ng/ml	80
16) Phenanthrene	9.935	178	1477	0.27	ng/ml	88
17) Anthracene	9.982	178	924	0.21	ng/ml	92
18) Carbazole	10.120	167	922	0.21	ng/ml	90
19) Fluoranthene	11.044	202	1127	0.23	ng/ml	91
20) Pyrene	11.301	202	1319	0.25	ng/ml	92
22) Benz(a)anthracene	13.254	228	1777	0.22	ng/ml	75
23) Chrysene	13.311	228	964	0.22	ng/ml	94
25) Benzo(b)fluoranthene	15.639	252	739	0.23	ng/ml	94
26) Benzo(k)fluoranthene	15.711	252	698	0.26	ng/ml	92
27) Benzo(b+k)fluoranthene	15.639	252	1437	0.49	ng/ml	94
28) Benzo(e)pyrene	16.263	252	722	0.20	ng/ml	96
30) Benzo(a)pyrene	16.378	252	479	0.27	ng/ml	61
31) Perylene	16.563	252	577	0.30	ng/ml	89
33) Indeno(1,2,3-cd)pyrene	18.830	276	885	0.23	ng/ml#	1
34) Dibenz(a,h)anthracene	18.892	278	720	0.23	ng/ml	74
35) Benzo(g,h,i)perylene	19.344	276	548	0.36	ng/ml	70

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 01 15:05:42 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(31) Perylene (T)

16.563min (-0.019) 0.30 ng/ml

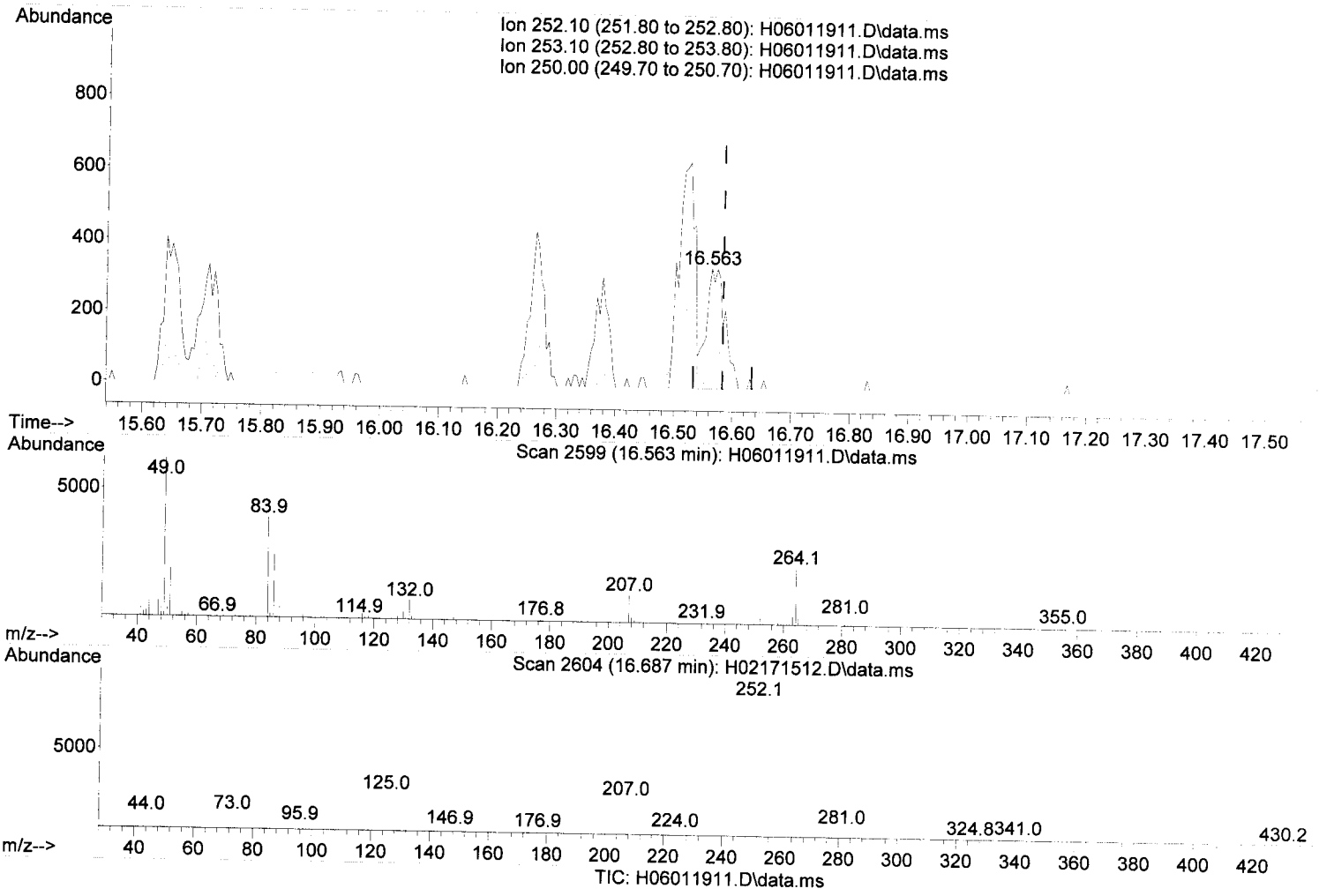
response 577

Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	28.99
250.00	27.60	33.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 01 15:05:42 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(31) Perylene (T)

16.563min (-0.019) 0.35 ng/ml m

response 758

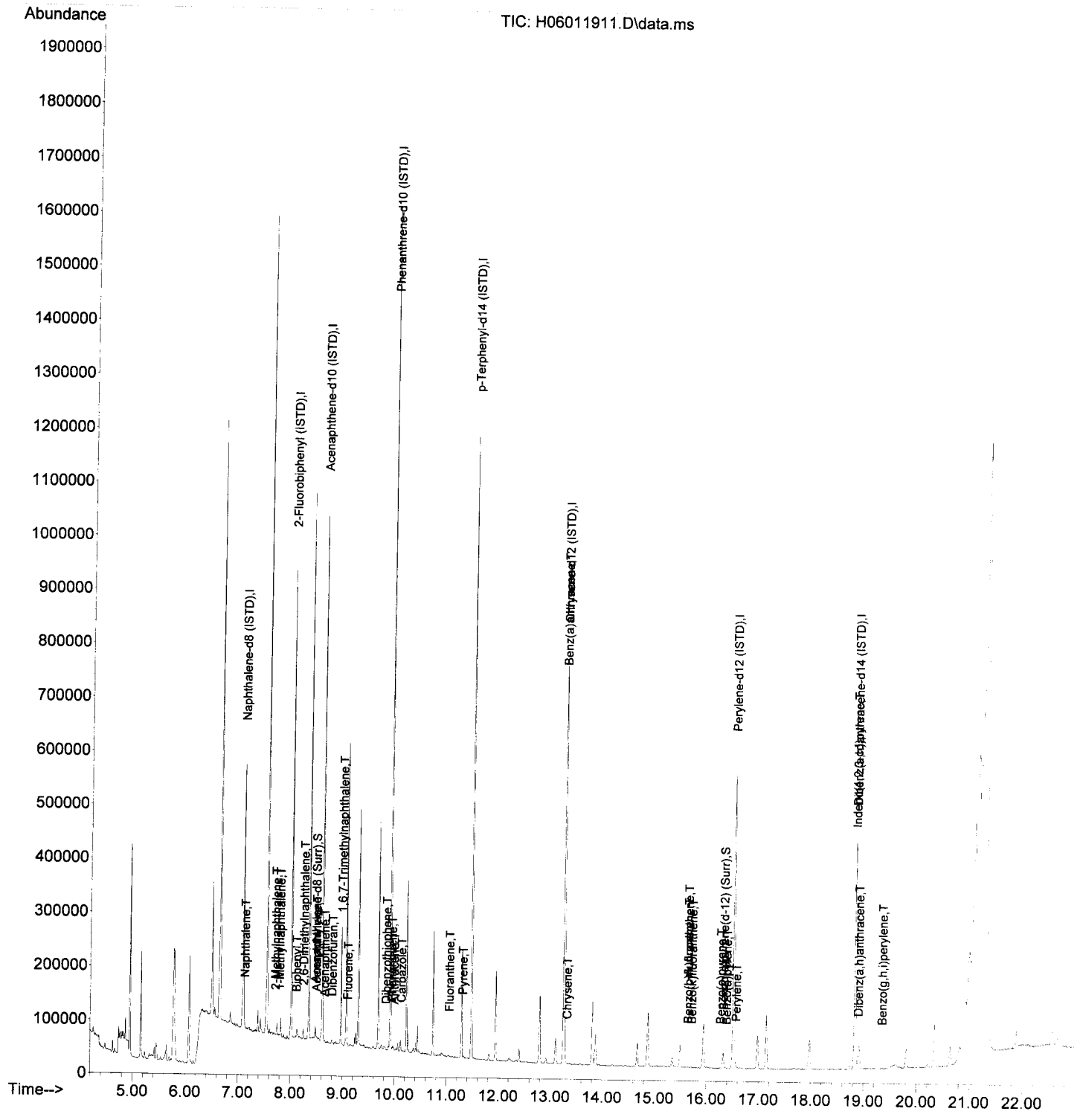
Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	28.99
250.00	27.60	33.43
0.00	0.00	0.00

7/1/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011911.D
Acq On : 1 Jul 2019 2:19 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL1
Misc : 1x, A19F394@0.2
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 01 15:05:42 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011912.D
Acq On : 1 Jul 2019 2:52 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL2
Misc : 1x, A19F395@0.4
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:02 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	237437	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	191205	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.916	188	449057	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.259	240	400979	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.520	264	344338	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.835	292	295116	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.016	172	246901	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.478	244	412625	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	6161	0.79	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.330	264	703	0.51	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.116	128	1258	0.46	ng/ml	88
3) 2-Methylnaphthalene	7.706	142	902	0.44	ng/ml	99
4) 1-Methylnaphthalene	7.792	142	792	0.40	ng/ml	97
6) Biphenyl	8.106	154	1589	0.36	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.244	156	914	0.41	ng/ml	85
9) Acenaphthylene	8.492	152	1372	0.37	ng/ml	88
10) Acenaphthene	8.639	153	1175	0.44	ng/ml	97
11) Dibenzofuran	8.792	168	1477	0.37	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	8.973	170	1018	0.41	ng/ml#	1
13) Fluorene	9.092	166	1370	0.42	ng/ml	92
15) Dibenzothiophene	9.825	184	1878	0.42	ng/ml	94
16) Phenanthrene	9.935	178	2410	0.43	ng/ml	94
17) Anthracene	9.982	178	1748	0.38	ng/ml	97
18) Carbazole	10.120	167	1682	0.38	ng/ml	93
19) Fluoranthene	11.044	202	1984	0.40	ng/ml	93
20) Pyrene	11.301	202	2251	0.41	ng/ml	99
22) Benz(a)anthracene	13.239	228	2448	0.38	ng/ml	95
23) Chrysene	13.311	228	1776	0.41	ng/ml	94
25) Benzo(b)fluoranthene	15.649	252	1236	0.37	ng/ml	89
26) Benzo(k)fluoranthene	15.706	252	1115	0.38	ng/ml	89
27) Benzo(b+k)fluoranthene	15.649	252	2352	0.74	ng/ml	89
28) Benzo(e)pyrene	16.263	252	1235	0.34	ng/ml	96
30) Benzo(a)pyrene	16.373	252	830	0.39	ng/ml	99
31) Perylene	~~16.563~~	~~252~~	~~864~~	~~0.38~~	~~ng/ml~~	~~88~~
33) Indeno(1,2,3-cd)pyrene	18.835	276	1492	0.45	ng/ml#	1
34) Dibenz(a,h)anthracene	18.897	278	1353	0.44	ng/ml	94
35) Benzo(g,h,i)perylene	19.359	276	983	0.52	ng/ml	76

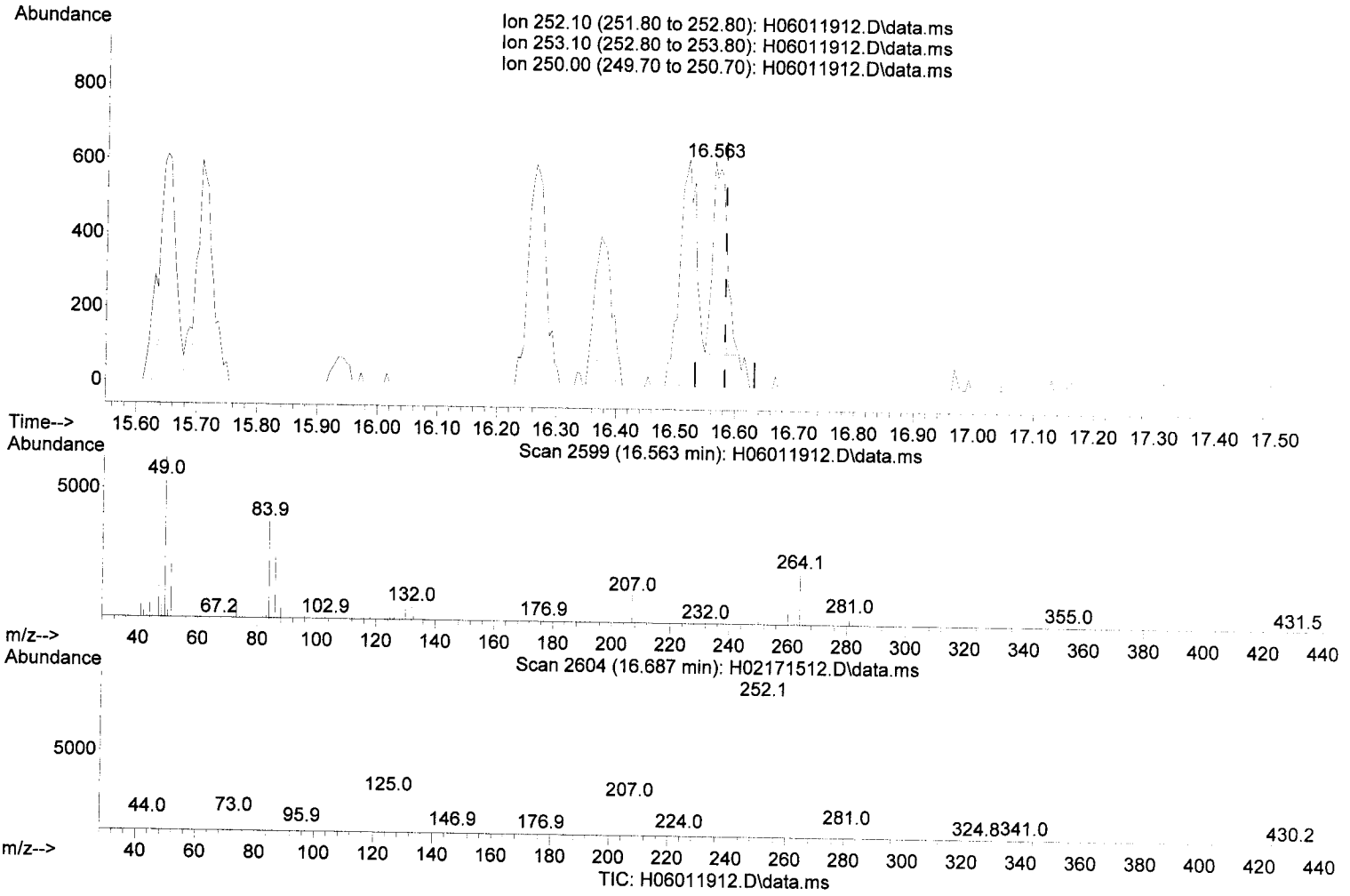
See MI

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011912.D
Acq On : 1 Jul 2019 2:52 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL2
Misc : 1x, A19F395@0.4
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:02 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(31) Perylene (T)

16.563min (-0.019) 0.38 ng/ml

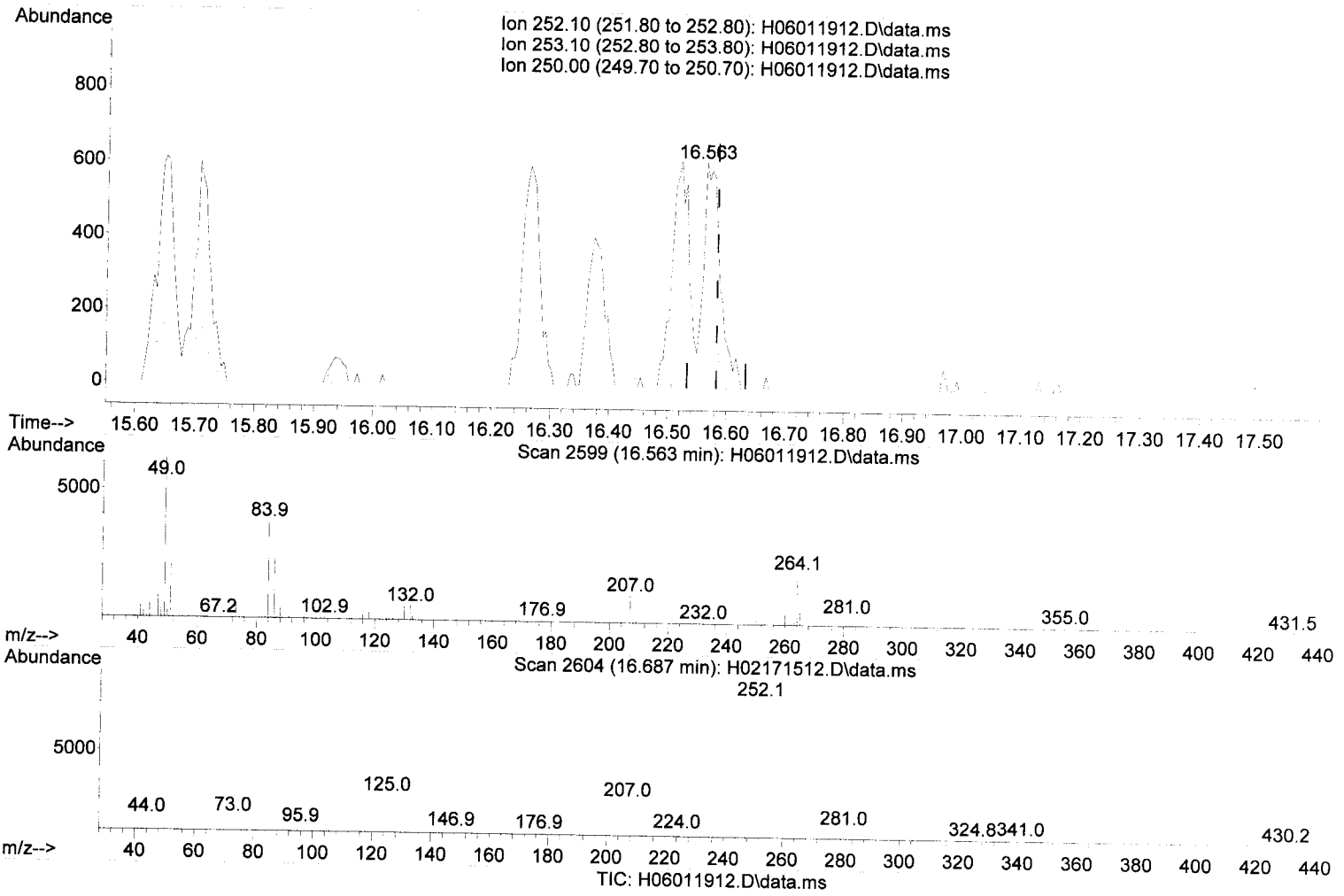
response 864

Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	16.83
250.00	27.60	33.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011912.D
Acq On : 1 Jul 2019 2:52 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL2
Misc : 1x, A19F395@0.4
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:02 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(31) Perylene (T)

16.563min (-0.019) 0.48 ng/ml (m)

response 1220

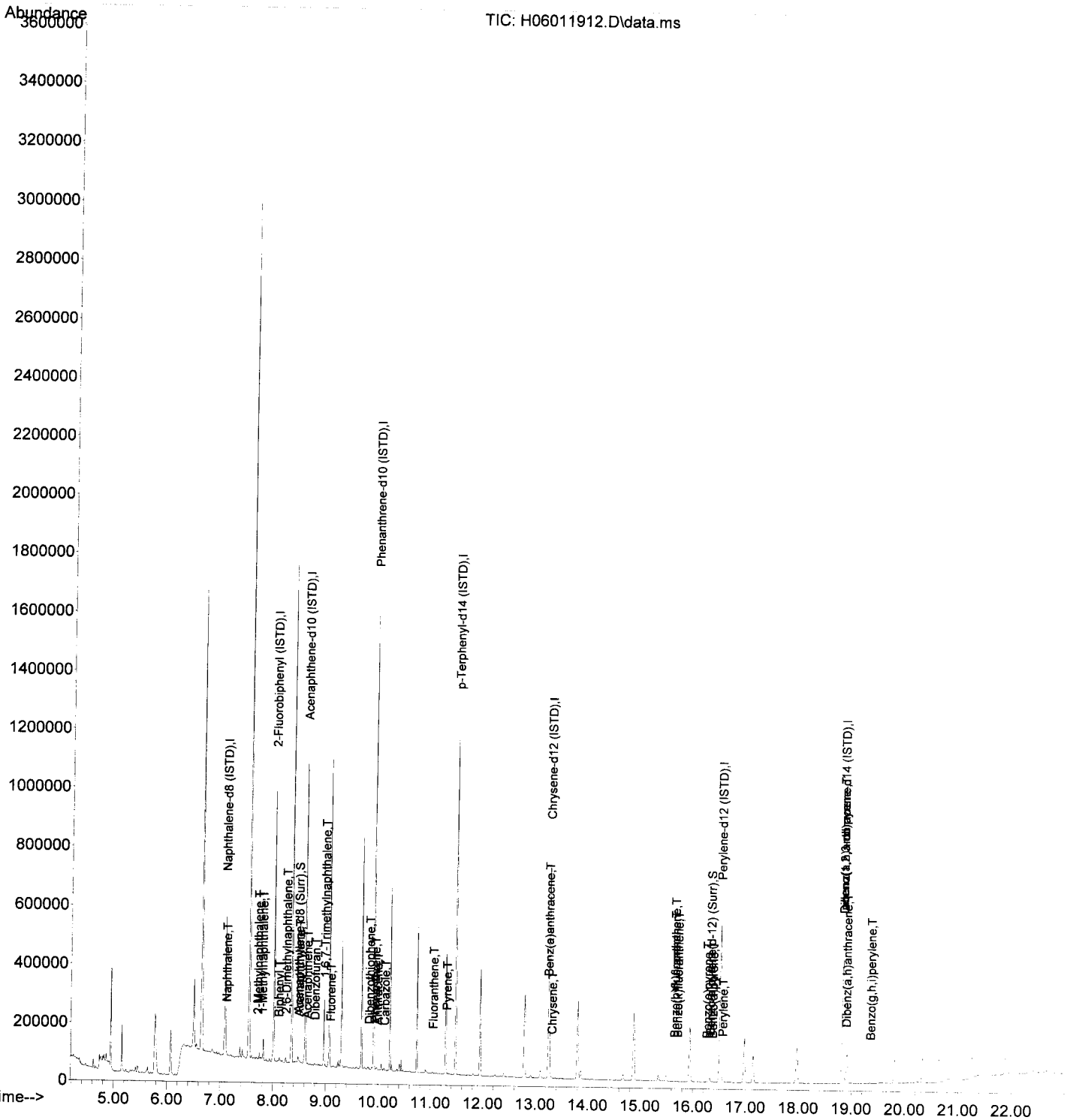
Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	16.83
250.00	27.60	33.01
0.00	0.00	0.00

JK 7/2/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011912.D
Acq On : 1 Jul 2019 2:52 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL2
Misc : 1x, A19F395@0.4
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:02 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011913.D
Acq On : 1 Jul 2019 3:26 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL3
Misc : 1x, A19F394@1.0
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:07 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

7/2/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	200447	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	168841	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	434435	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	422954	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.520	264	381661	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.835	292	341309	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	220227	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	424512	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	5745	0.90	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.320	264	1857	0.90	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.120	128	2534	1.09	ng/ml	98
3) 2-Methylnaphthalene	7.706	142	1881	1.08	ng/ml	95
4) 1-Methylnaphthalene	7.792	142	1693	1.02	ng/ml	96
6) Biphenyl	8.106	154	2831	0.89	ng/ml	96
7) 2,6-Dimethylnaphthalene	8.244	156	1809	0.92	ng/ml	88
9) Acenaphthylene	8.492	152	2915	0.89	ng/ml	95
10) Acenaphthene	8.639	153	2544	1.08	ng/ml	89
11) Dibenzofuran	8.792	168	3382	0.97	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	8.973	170	2302	1.04	ng/ml#	41
13) Fluorene	9.092	166	2836	0.98	ng/ml	96
15) Dibenzothiophene	9.825	184	4216	0.97	ng/ml	93
16) Phenanthrene	9.934	178	5203	0.97	ng/ml	99
17) Anthracene	9.982	178	3985	0.90	ng/ml	97
18) Carbazole	10.120	167	4222	0.99	ng/ml	96
19) Fluoranthene	11.039	202	4690	0.97	ng/ml	97
20) Pyrene	11.301	202	5488	1.04	ng/ml	96
22) Benz(a)anthracene	13.239	228	4814	0.90	ng/ml	96
23) Chrysene	13.311	228	4368	0.95	ng/ml	94
25) Benzo(b)fluoranthene	15.649	252	3521	0.91	ng/ml	94
26) Benzo(k)fluoranthene	15.706	252	3174	0.85	ng/ml	86
27) Benzo(b+k)fluoranthene	15.649	252	6695	1.75	ng/ml	94
28) Benzo(e)pyrene	16.268	252	3406	0.85	ng/ml	95
30) Benzo(a)pyrene	16.382	252	2569	0.87	ng/ml	100
31) Perylene	~~16.573~~	~~252~~	~~2704~~	~~0.80~~	~~ng/ml~~	81
33) Indeno(1,2,3-cd)pyrene	18.835	276	3749	1.08	ng/ml#	1
34) Dibenz(a,h)anthracene	18.901	278	3547	0.99	ng/ml	83
35) Benzo(g,h,i)perylene	19.354	276	2972	1.12	ng/ml#	67

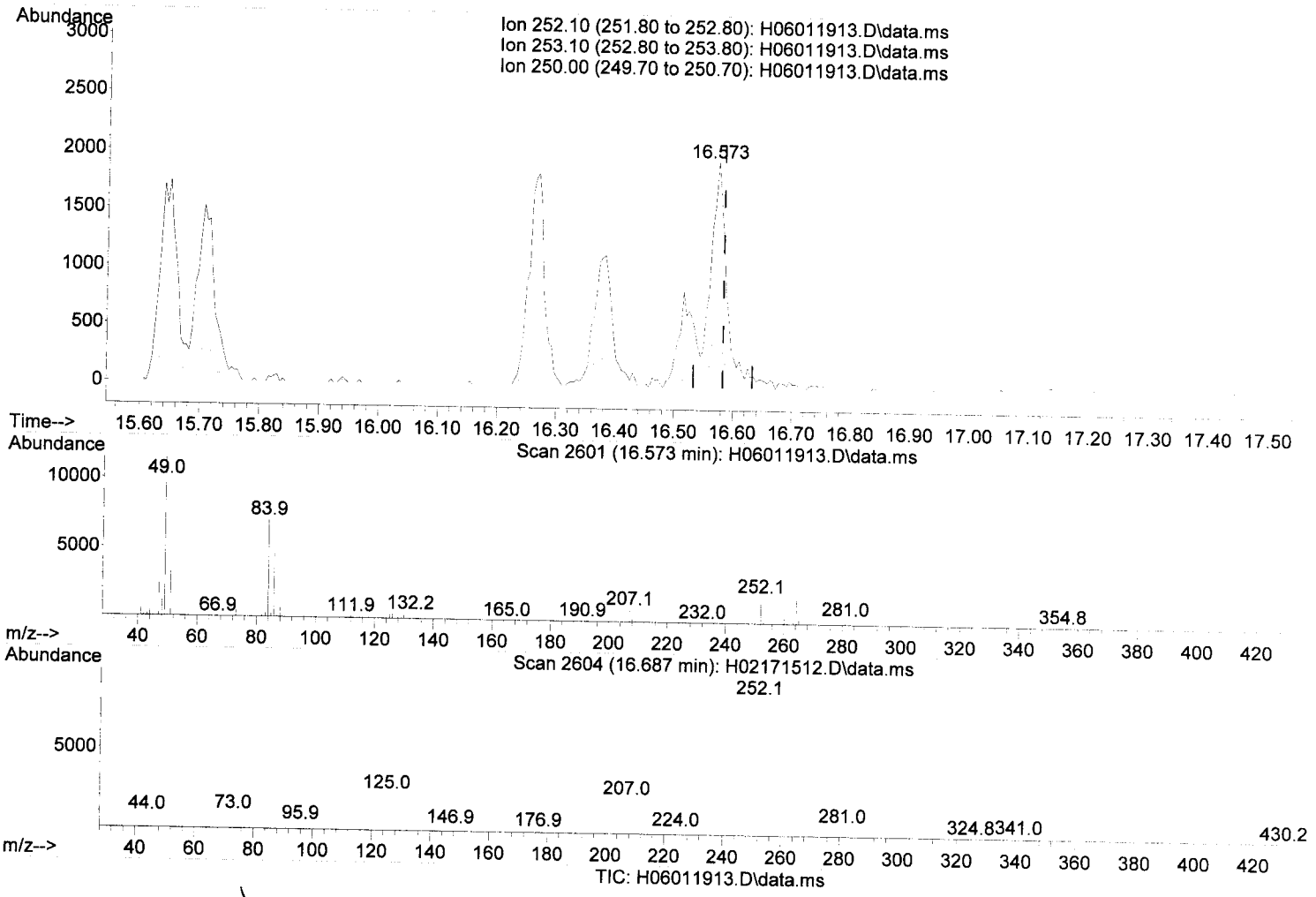
See NJ

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011913.D
Acq On : 1 Jul 2019 3:26 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL3
Misc : 1x, A19F394@1.0
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:07 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(31) Perylene (T)

16.573min (-0.010) 0.80 ng/ml

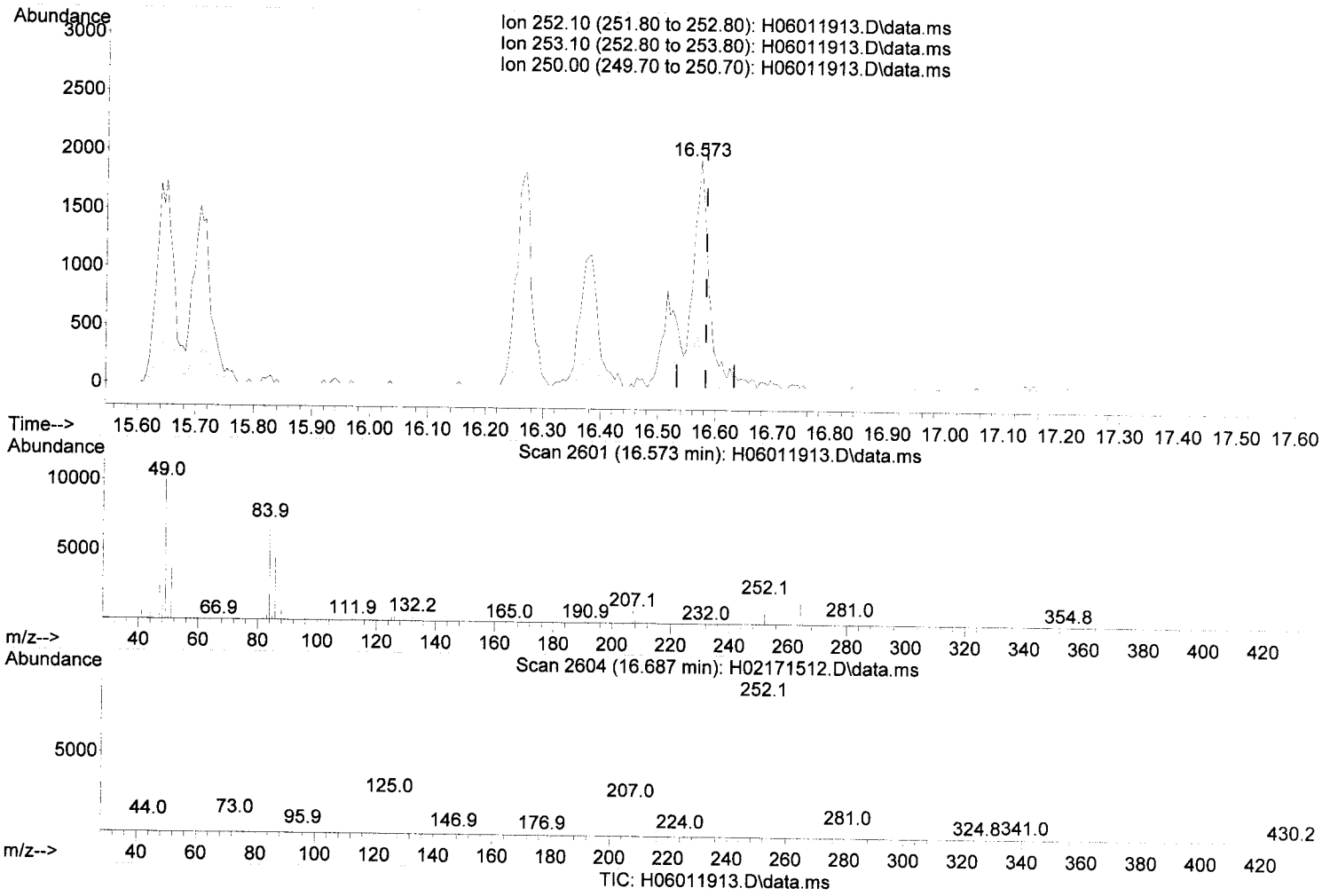
response 2704

Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	17.15
250.00	27.60	15.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011913.D
Acq On : 1 Jul 2019 3:26 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL3
Misc : 1x, A19F394@1.0
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:07 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(31) Perylene (T)

16.573min (-0.010) 1.06 ng/ml m

response 3763

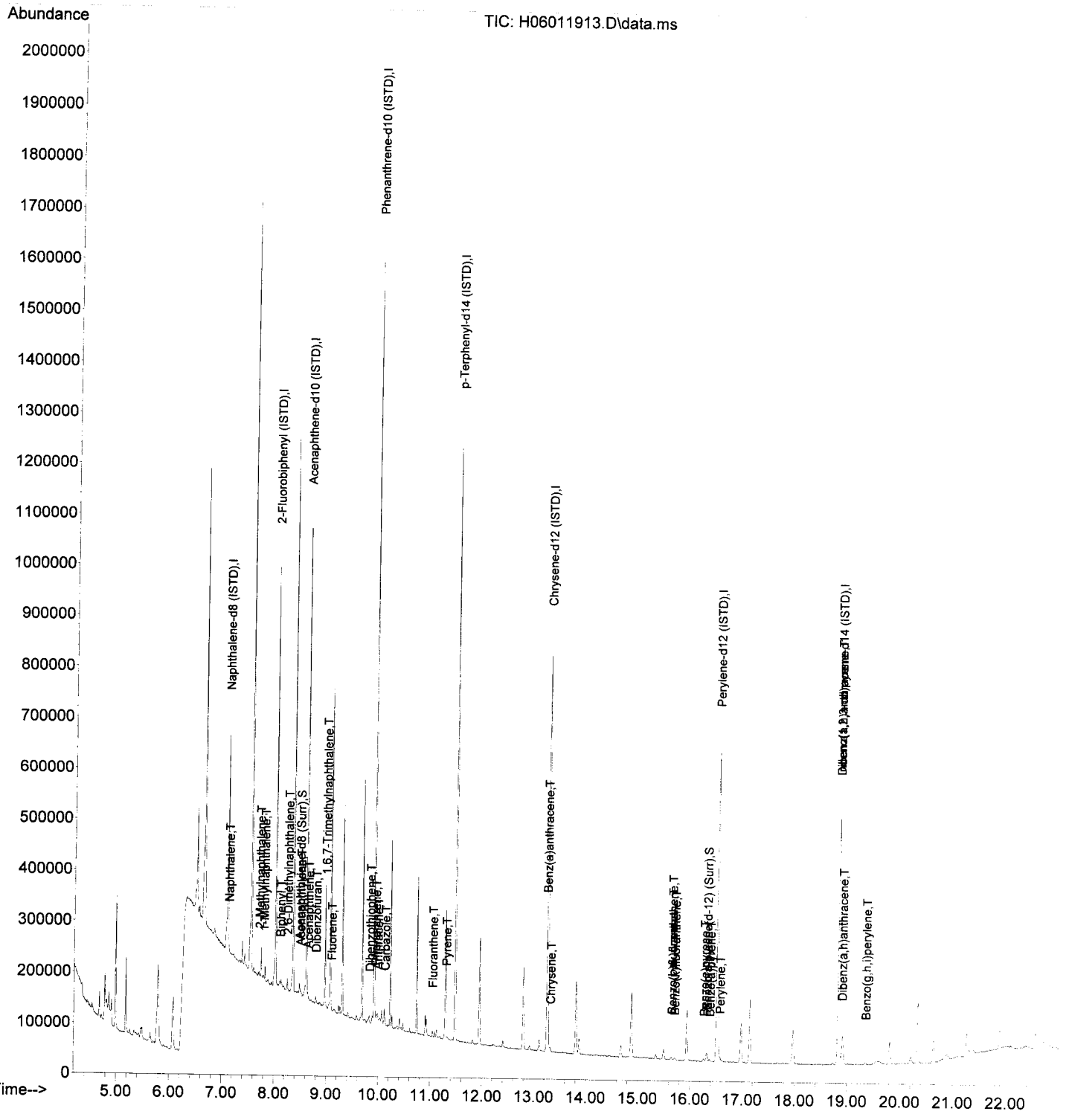
Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	17.15
250.00	27.60	15.31
0.00	0.00	0.00

7/2/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011913.D
Acq On : 1 Jul 2019 3:26 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL3
Misc : 1x, A19F394@1.0
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:07 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011914.D
Acq On : 1 Jul 2019 4:00 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL4
Misc : 1x, A19F394@5.0
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:11 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

7/2/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	245257	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	192433	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	458424	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	426655	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.520	264	378340	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.839	292	329943	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	254896	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	430869	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	19755	4.98	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.325	264	11870	4.62	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.120	128	14208	4.98	ng/ml	96
3) 2-Methylnaphthalene	7.706	142	10730	5.01	ng/ml	93
4) 1-Methylnaphthalene	7.792	142	10780	5.30	ng/ml	95
6) Biphenyl	8.106	154	15613	4.90	ng/ml	92
7) 2,6-Dimethylnaphthalene	8.244	156	10989	4.88	ng/ml	92
9) Acenaphthylene	8.487	152	18304	4.88	ng/ml	97
10) Acenaphthene	8.639	153	13774	5.13	ng/ml	99
11) Dibenzofuran	8.792	168	19460	4.90	ng/ml#	40
12) 1,6,7-Trimethylnaphtha...	8.972	170	12763	5.08	ng/ml	80
13) Fluorene	9.092	166	16703	5.06	ng/ml	99
15) Dibenzothiophene	9.825	184	22772	4.98	ng/ml	98
16) Phenanthrene	9.934	178	26479	4.68	ng/ml	98
17) Anthracene	9.982	178	22858	4.90	ng/ml	97
18) Carbazole	10.120	167	21769	4.83	ng/ml	98
19) Fluoranthene	11.044	202	25465	4.98	ng/ml	98
20) Pyrene	11.296	202	27834	5.00	ng/ml	97
22) Benz(a)anthracene	13.239	228	21489	4.68	ng/ml	96
23) Chrysene	13.311	228	23698	5.11	ng/ml	98
25) Benzo(b)fluoranthene	15.644	252	18004	4.58	ng/ml	96
26) Benzo(k)fluoranthene	15.706	252	17999	4.51	ng/ml	94
27) Benzo(b+k)fluoranthene	15.644	252	36706	9.21	ng/ml	96
28) Benzo(e)pyrene	16.268	252	19136	4.79	ng/ml	95
30) Benzo(a)pyrene	16.382	252	14702	4.42	ng/ml	97
31) Perylene	16.577	252	16355	4.15	ng/ml	95
33) Indeno(1,2,3-cd)pyrene	18.835	276	17697	5.57	ng/ml	74
34) Dibenz(a,h)anthracene	18.896	278	18877	5.44	ng/ml	93
35) Benzo(g,h,i)perylene	19.349	276	16282	5.58	ng/ml	90

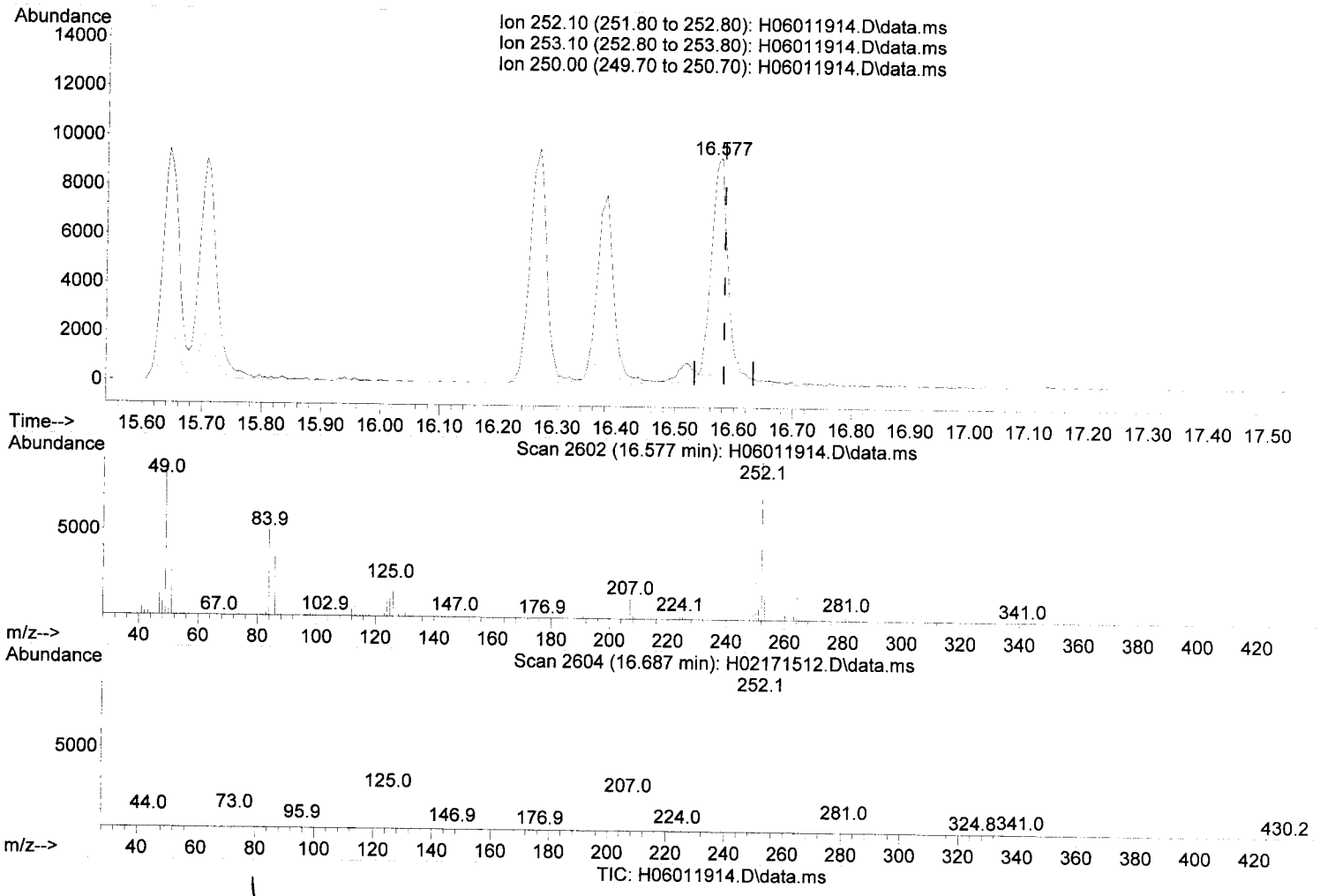
Re MJ

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011914.D
Acq On : 1 Jul 2019 4:00 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL4
Misc : 1x, A19F394@5.0
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:11 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(31) Perylene (T)

16.577min (-0.005) 4.15 ng/ml

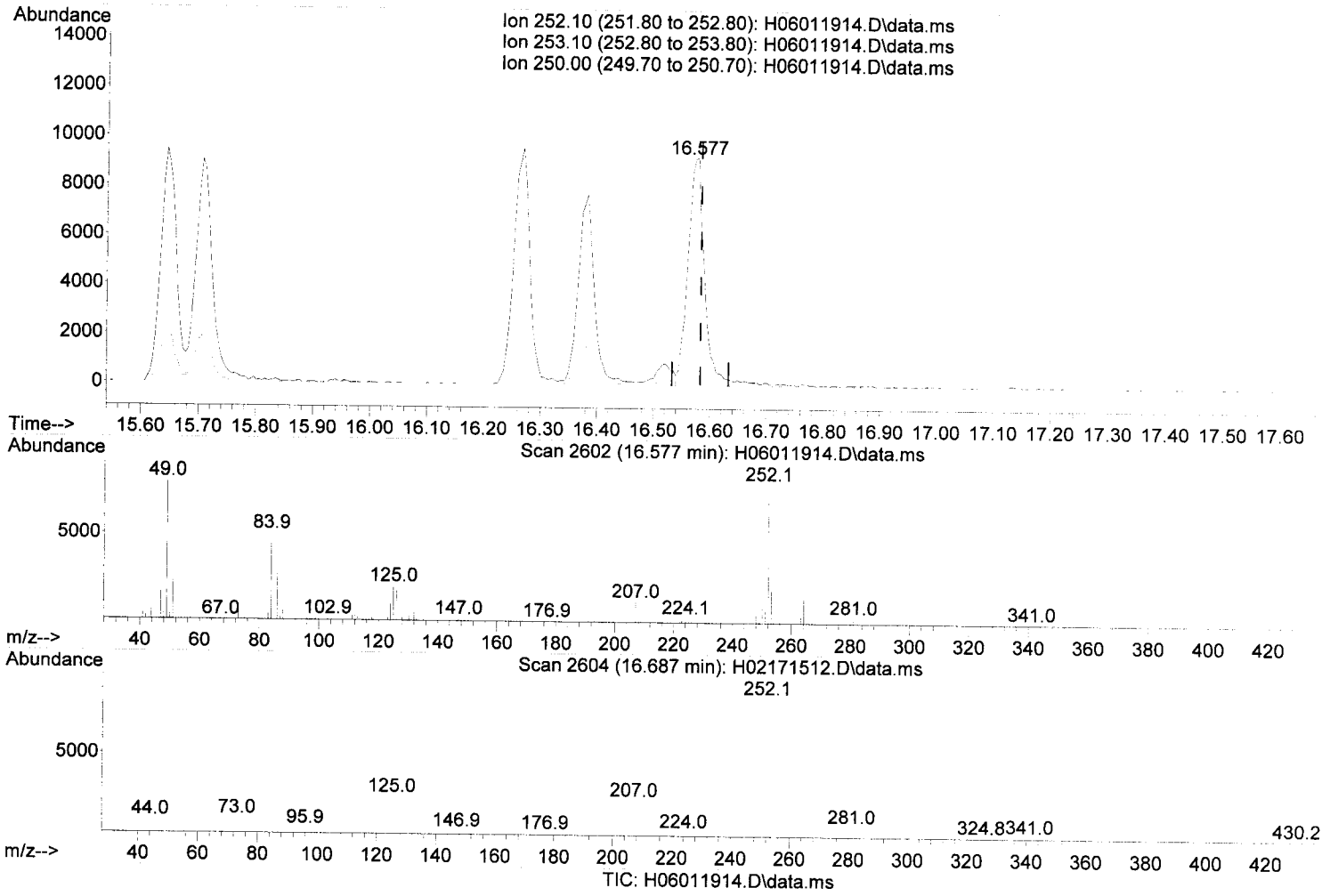
response 16355

Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	20.79
250.00	27.60	24.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011914.D
Acq On : 1 Jul 2019 4:00 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL4
Misc : 1x, A19F394@5.0
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:11 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



(31) Perylene (T)

16.577min (-0.005) 4.90 ng/ml m

response 19457

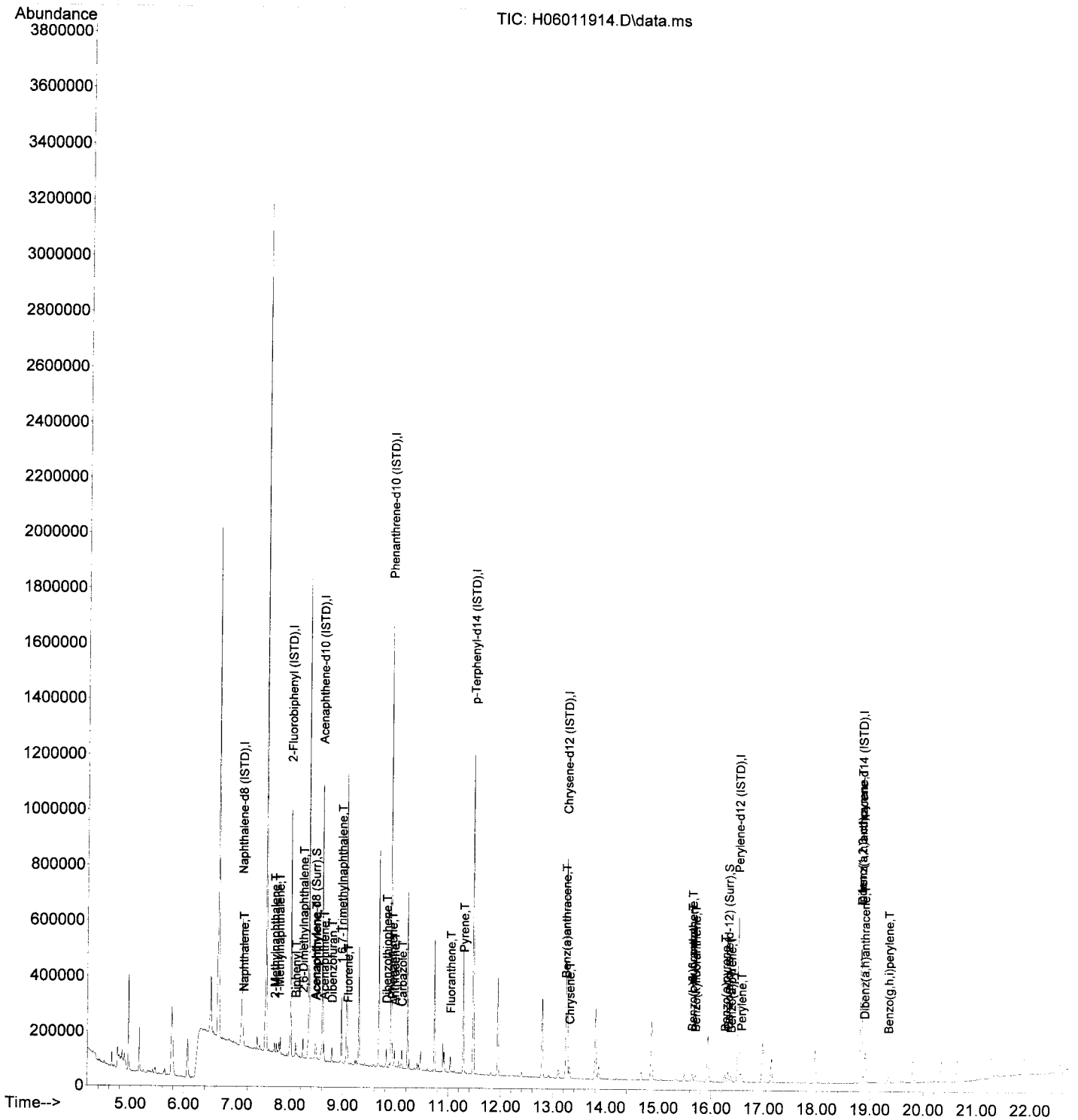
Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	20.79
250.00	27.60	24.95
0.00	0.00	0.00

7/2/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011914.D
Acq On : 1 Jul 2019 4:00 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL4
Misc : 1x, A19F394@5.0
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:11 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011915.D
Acq On : 1 Jul 2019 4:34 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL5
Misc : 1x, A19F394@10
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:15 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

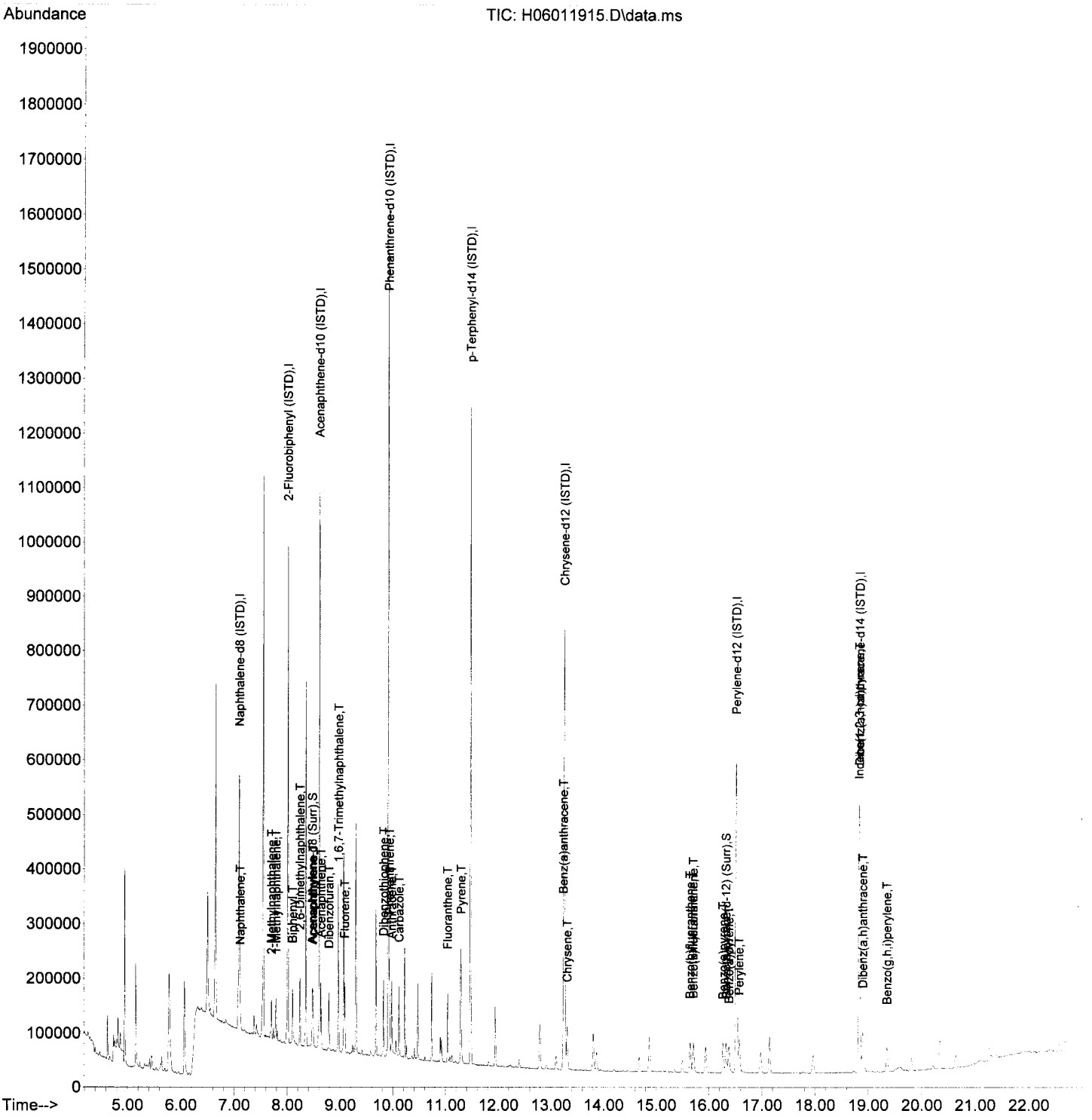
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	237364	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	186187	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	454809	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	426442	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.520	264	373007	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.839	292	318957	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	241032	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	432080	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	34491	9.87	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.325	264	24957	9.50	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.115	128	26697	9.66	ng/ml	94
3) 2-Methylnaphthalene	7.706	142	19906	9.61	ng/ml	96
4) 1-Methylnaphthalene	7.792	142	19757	10.04	ng/ml	97
6) Biphenyl	8.106	154	29196	9.62	ng/ml	94
7) 2,6-Dimethylnaphthalene	8.244	156	21138	9.71	ng/ml	91
9) Acenaphthylene	8.487	152	36078	9.93	ng/ml	98
10) Acenaphthene	8.639	153	25823	9.94	ng/ml	98
11) Dibenzofuran	8.792	168	38578	10.03	ng/ml	80
12) 1,6,7-Trimethylnaphtha...	8.973	170	25095	10.32	ng/ml	86
13) Fluorene	9.092	166	32684	10.24	ng/ml	99
15) Dibenzothiophene	9.825	184	45528	10.03	ng/ml	97
16) Phenanthrene	9.934	178	52493	9.35	ng/ml	98
17) Anthracene	9.982	178	46769	10.10	ng/ml	98
18) Carbazole	10.120	167	45411	10.15	ng/ml	96
19) Fluoranthene	11.039	202	52232	10.29	ng/ml	98
20) Pyrene	11.296	202	55553	10.05	ng/ml	98
22) Benz(a)anthracene	13.239	228	42737	9.48	ng/ml	98
23) Chrysene	13.311	228	46002	9.93	ng/ml	100
25) Benzo(b)fluoranthene	15.644	252	38876	9.93	ng/ml	96
26) Benzo(k)fluoranthene	15.706	252	39586	9.90	ng/ml	95
27) Benzo(b+k)fluoranthene	15.706	252	79081	19.85	ng/ml	98
28) Benzo(e)pyrene	16.268	252	38536	9.79	ng/ml	97
30) Benzo(a)pyrene	16.382	252	32764	9.72	ng/ml	99
31) Perylene	16.573	252	34765	8.72	ng/ml	98
33) Indeno(1,2,3-cd)pyrene	18.830	276	34953	11.39	ng/ml	90
34) Dibenz(a,h)anthracene	18.901	278	35647	10.63	ng/ml	91
35) Benzo(g,h,i)perylene	19.354	276	32675	11.32	ng/ml	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011915.D
Acq On : 1 Jul 2019 4:34 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL5
Misc : 1x, A19F394@10
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:15 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011916.D
Acq On : 1 Jul 2019 5:07 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL6
Misc : 1x, A19F394@20
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:20 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

GA 7/2/19

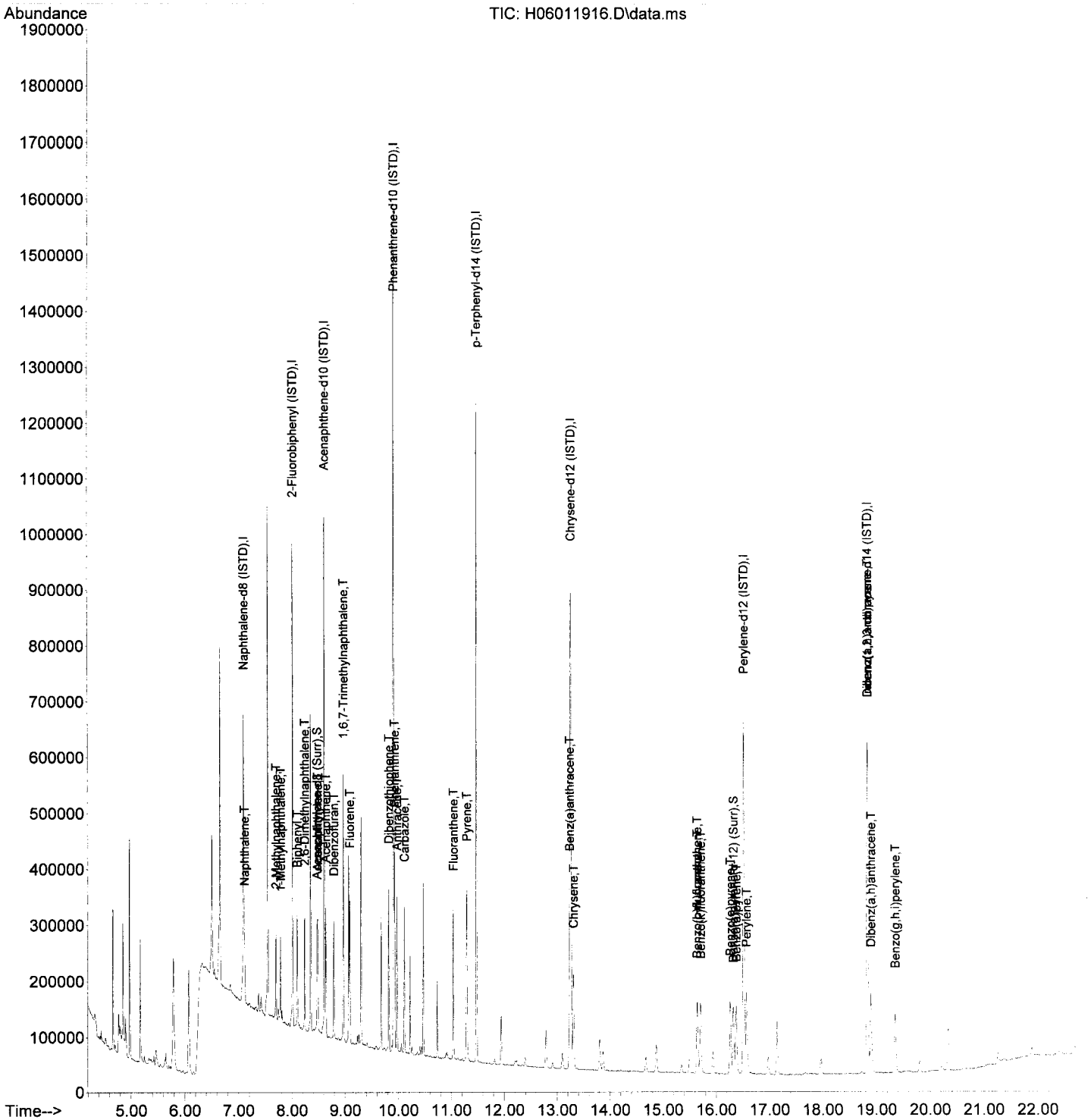
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	237164	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	172012	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	453703	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	442821	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.520	264	402383	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.835	292	339347	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	231104	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	433689	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	63570	20.64	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.325	264	63553	21.59	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.115	128	53579	19.40	ng/ml	95
3) 2-Methylnaphthalene	7.706	142	39853	19.26	ng/ml	98
4) 1-Methylnaphthalene	7.792	142	37675	19.16	ng/ml	94
6) Biphenyl	8.106	154	56077	20.17	ng/ml	91
7) 2,6-Dimethylnaphthalene	8.244	156	40192	19.98	ng/ml	94
9) Acenaphthylene	8.487	152	70272	20.94	ng/ml	99
10) Acenaphthene	8.639	153	48203	20.08	ng/ml	97
11) Dibenzofuran	8.792	168	74487	20.96	ng/ml	83
12) 1,6,7-Trimethylnaphtha...	8.973	170	50774	22.59	ng/ml	86
13) Fluorene	9.092	166	65459	22.20	ng/ml	98
15) Dibenzothiophene	9.825	184	93543	20.67	ng/ml	98
16) Phenanthrene	9.934	178	108414	19.36	ng/ml	98
17) Anthracene	9.982	178	99029	21.44	ng/ml	99
18) Carbazole	10.120	167	94428	21.16	ng/ml	96
19) Fluoranthene	11.044	202	109483	21.63	ng/ml	96
20) Pyrene	11.296	202	114772	20.81	ng/ml	98
22) Benz(a)anthracene	13.239	228	97344	20.85	ng/ml	99
23) Chrysene	13.311	228	98622	20.49	ng/ml	99
25) Benzo(b)fluoranthene	15.644	252	92479	21.50	ng/ml	93
26) Benzo(k)fluoranthene	15.711	252	94005	21.33	ng/ml	94
27) Benzo(b+k)fluoranthene	15.644	252	187520	42.79	ng/ml	93
28) Benzo(e)pyrene	16.268	252	88018	20.73	ng/ml	99
30) Benzo(a)pyrene	16.382	252	81687	21.74	ng/ml	98
31) Perylene	16.573	252	84802	19.30	ng/ml	96
33) Indeno(1,2,3-cd)pyrene	18.835	276	76588	23.29	ng/ml	86
34) Dibenz(a,h)anthracene	18.901	278	79659	22.33	ng/ml	92
35) Benzo(g,h,i)perylene	19.354	276	74206	23.58	ng/ml	89

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011916.D
Acq On : 1 Jul 2019 5:07 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL6
Misc : 1x, A19F394@20
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:20 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011917.D
Acq On : 1 Jul 2019 5:41 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL7
Misc : 1x, A19F394@50
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:25 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

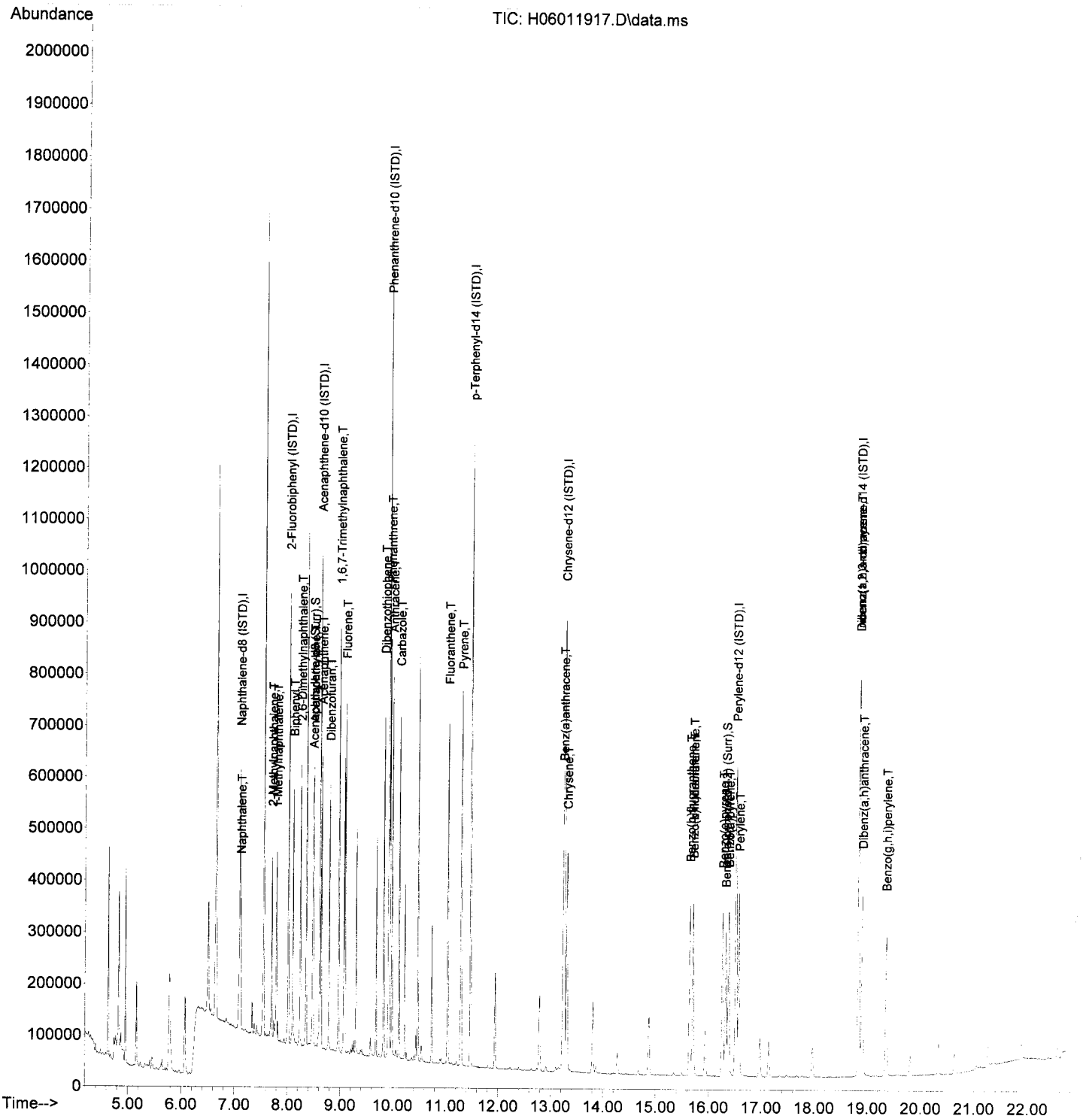
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	222732	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.615	164	177842	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	449650	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.263	240	443314	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.525	264	394032	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.839	292	345981	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	237200	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	434321	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	158862	50.38	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.330	264	166645	53.87	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.115	128	122253	47.14	ng/ml	95
3) 2-Methylnaphthalene	7.706	142	96882	49.85	ng/ml	98
4) 1-Methylnaphthalene	7.792	142	93180	50.45	ng/ml	95
6) Biphenyl	8.106	154	139537	48.67	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.244	156	103453	49.74	ng/ml	96
9) Acenaphthylene	8.487	152	183466	52.89	ng/ml	97
10) Acenaphthene	8.639	153	125153	50.44	ng/ml	97
11) Dibenzofuran	8.792	168	182405	49.65	ng/ml	94
12) 1,6,7-Trimethylnaphtha...	8.973	170	127208	54.75	ng/ml	91
13) Fluorene	9.092	166	162311	53.23	ng/ml	99
15) Dibenzothiophene	9.825	184	229587	51.18	ng/ml	99
16) Phenanthrene	9.934	178	260092	46.86	ng/ml	99
17) Anthracene	9.982	178	250861	54.79	ng/ml	99
18) Carbazole	10.120	167	241951	54.71	ng/ml	97
19) Fluoranthene	11.044	202	274291	54.68	ng/ml	97
20) Pyrene	11.301	202	288704	52.83	ng/ml	98
22) Benz(a)anthracene	13.239	228	247094	51.81	ng/ml	99
23) Chrysene	13.315	228	239451	49.71	ng/ml	99
25) Benzo(b)fluoranthene	15.649	252	232462	52.74	ng/ml	94
26) Benzo(k)fluoranthene	15.711	252	235280	52.02	ng/ml	95
27) Benzo(b+k)fluoranthene	15.711	252	469282	104.54	ng/ml	97
28) Benzo(e)pyrene	16.273	252	220653	53.07	ng/ml	96
30) Benzo(a)pyrene	16.387	252	211927	53.72	ng/ml	99
31) Perylene	16.582	252	220349	49.25	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.839	276	198968	57.60	ng/ml	83
34) Dibenz(a,h)anthracene	18.906	278	209258	57.52	ng/ml	91
35) Benzo(g,h,i)perylene	19.358	276	200896	59.43	ng/ml	93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011917.D
Acq On : 1 Jul 2019 5:41 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL7
Misc : 1x, A19F394@50
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:25 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011918.D
Acq On : 1 Jul 2019 6:15 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL8
Misc : 1x, A19F394@100
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:30 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

GJ 7/2/19

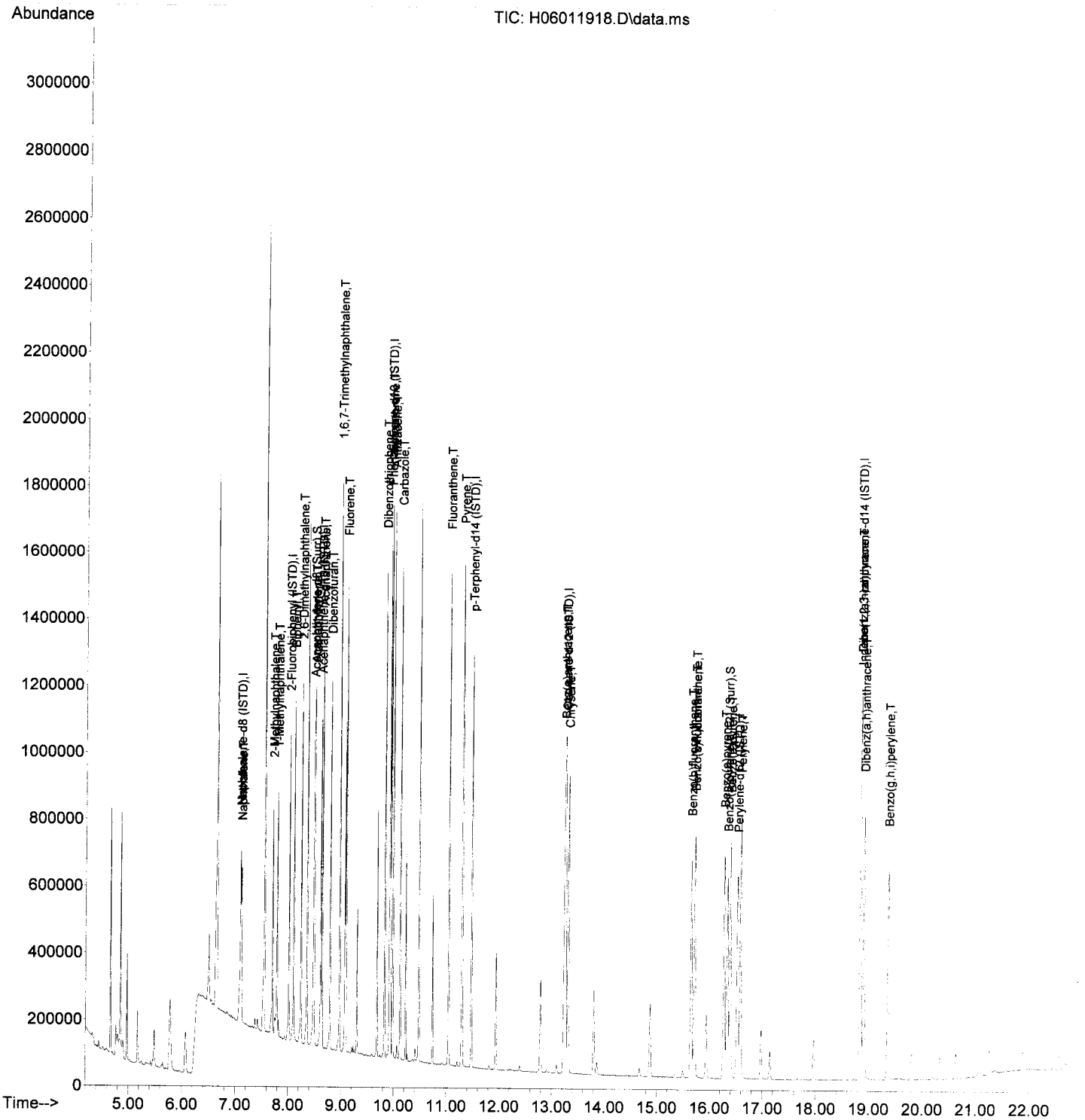
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	224200	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	182494	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.916	188	464459	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.263	240	454246	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.530	264	417215	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.844	292	390282	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	243913	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	441046	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	332809	100.44	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.339	264	378999	105.07	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.115	128	248338	95.13	ng/ml	96
3) 2-Methylnaphthalene	7.706	142	198999	101.73	ng/ml	100
4) 1-Methylnaphthalene	7.792	142	190884	102.68	ng/ml	95
6) Biphenyl	8.106	154	295903	100.45	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.244	156	216019	101.22	ng/ml	95
9) Acenaphthylene	8.492	152	387885	108.96	ng/ml	98
10) Acenaphthene	8.639	153	259899	102.07	ng/ml	97
11) Dibenzofuran	8.792	168	384696	102.05	ng/ml	93
12) 1,6,7-Trimethylnaphtha...	8.973	170	266477	111.76	ng/ml	90
13) Fluorene	9.092	166	341047	109.00	ng/ml	100
15) Dibenzothiophene	9.825	184	477825	103.12	ng/ml	98
16) Phenanthrene	9.935	178	546686	95.36	ng/ml	99
17) Anthracene	9.982	178	526935	111.43	ng/ml	98
18) Carbazole	10.120	167	504021	110.34	ng/ml	96
19) Fluoranthene	11.044	202	579086	111.77	ng/ml	98
20) Pyrene	11.301	202	610600	108.17	ng/ml	99
22) Benz(a)anthracene	13.244	228	516954	101.78	ng/ml	99
23) Chrysene	13.316	228	505327	102.37	ng/ml	100
25) Benzo(b)fluoranthene	15.654	252	501350	100.63	ng/ml	95
26) Benzo(k)fluoranthene	15.720	252	517957	101.01	ng/ml	95
27) Benzo(b+k)fluoranthene	15.720	252	1022018	201.43	ng/ml	99
28) Benzo(e)pyrene	16.278	252	483957	109.92	ng/ml	98
30) Benzo(a)pyrene	16.392	252	475524	103.42	ng/ml	99
31) Perylene	16.587	252	477887	95.74	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.849	276	454748	111.32	ng/ml	83
34) Dibenz(a,h)anthracene	18.911	278	487911	118.90	ng/ml	94
35) Benzo(g,h,i)perylene	19.368	276	464914	113.66	ng/ml	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011918.D
Acq On : 1 Jul 2019 6:15 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL8
Misc : 1x, A19F394@100
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:30 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011919.D
Acq On : 1 Jul 2019 6:48 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL9
Misc : 1x, A19F394@150
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

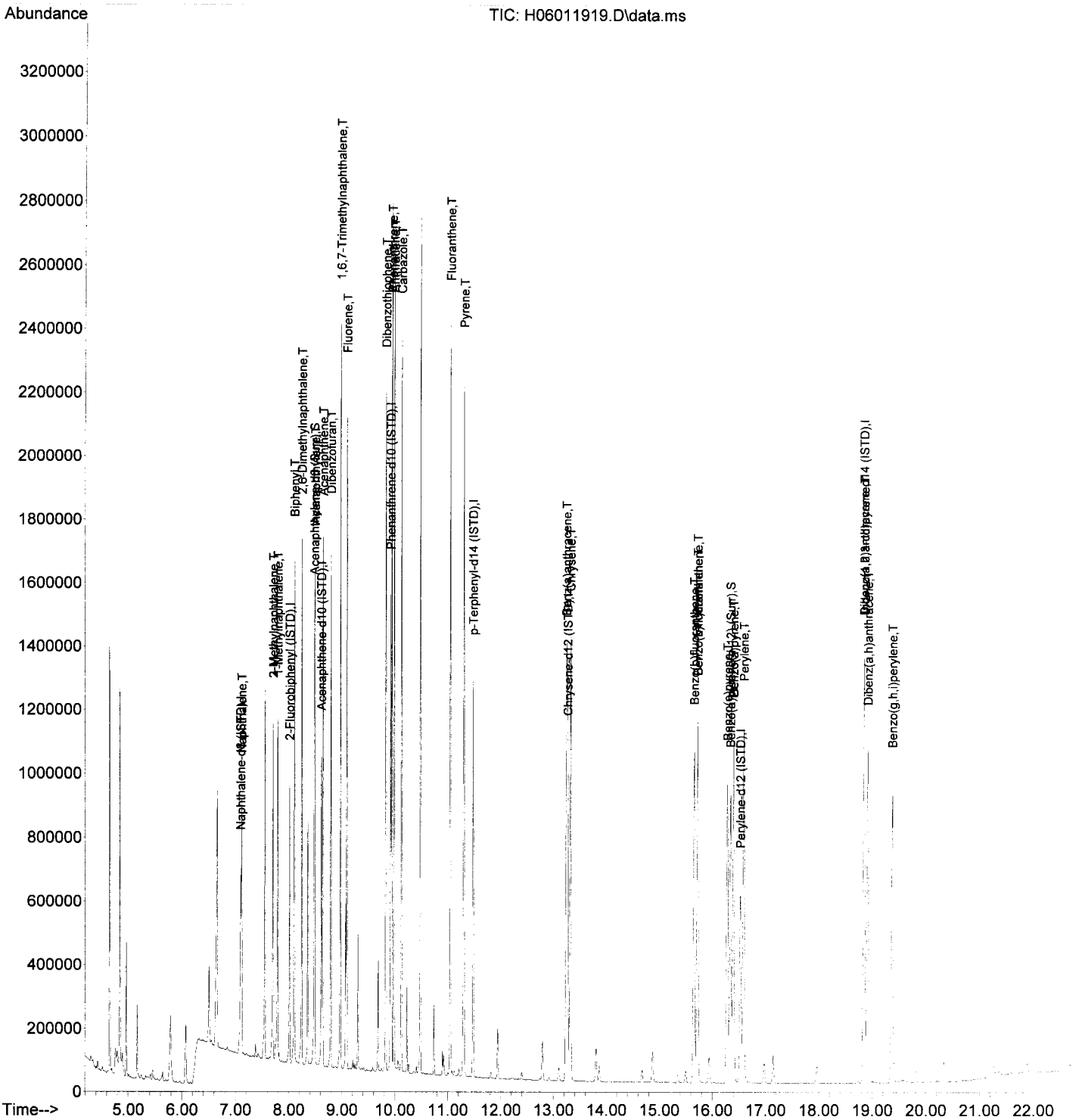
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.096	136	228839	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	177847	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	474967	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.268	240	464736	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.530	264	415251	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.849	292	379328	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	239674	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	451005	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	498389	149.86	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.344	264	587870	151.32	ng/ml	0.01
Target Compounds						Qvalue
2) Naphthalene	7.115	128	387711	145.51	ng/ml	95
3) 2-Methylnaphthalene	7.706	142	303853	152.18	ng/ml	99
4) 1-Methylnaphthalene	7.792	142	289327	152.48	ng/ml	94
6) Biphenyl	8.106	154	441920	153.53	ng/ml	92
7) 2,6-Dimethylnaphthalene	8.244	156	329101	158.23	ng/ml	96
9) Acenaphthylene	8.492	152	586723	169.13	ng/ml	97
10) Acenaphthene	8.644	153	391103	157.62	ng/ml	97
11) Dibenzofuran	8.792	168	576993	157.05	ng/ml	91
12) 1,6,7-Trimethylnaphtha...	8.973	170	407603	175.42	ng/ml	90
13) Fluorene	9.092	166	516977	169.54	ng/ml	99
15) Dibenzothiophene	9.825	184	753776	159.07	ng/ml	97
16) Phenanthrene	9.939	178	861794	147.00	ng/ml	99
17) Anthracene	9.982	178	835574	172.78	ng/ml	98
18) Carbazole	10.120	167	802342	171.77	ng/ml	96
19) Fluoranthene	11.044	202	908792	171.52	ng/ml	99
20) Pyrene	11.301	202	944807	163.67	ng/ml	98
22) Benz(a)anthracene	13.244	228	821572	152.10	ng/ml	99
23) Chrysene	13.320	228	781486	154.75	ng/ml	99
25) Benzo(b)fluoranthene	15.658	252	785531	148.94	ng/ml	97
26) Benzo(k)fluoranthene	15.725	252	804711	148.28	ng/ml	95
27) Benzo(b+k)fluoranthene	15.725	252	1593161	297.03	ng/ml	98
28) Benzo(e)pyrene	16.287	252	742397	169.42	ng/ml	98
30) Benzo(a)pyrene	16.401	252	737782	148.84	ng/ml	98
31) Perylene	16.596	252	755906	144.54	ng/ml	98
33) Indeno(1,2,3-cd)pyrene	18.854	276	677855	163.37	ng/ml	82
34) Dibenz(a,h)anthracene	18.920	278	716680	179.69	ng/ml	92
35) Benzo(g,h,i)perylene	19.377	276	686846	162.85	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011919.D
Acq On : 1 Jul 2019 6:48 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CAL9
Misc : 1x, A19F394@150
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:34 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011920.D
Acq On : 1 Jul 2019 7:22 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CALA
Misc : 1x, A19F394@200
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:39 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

JK 7/2/19

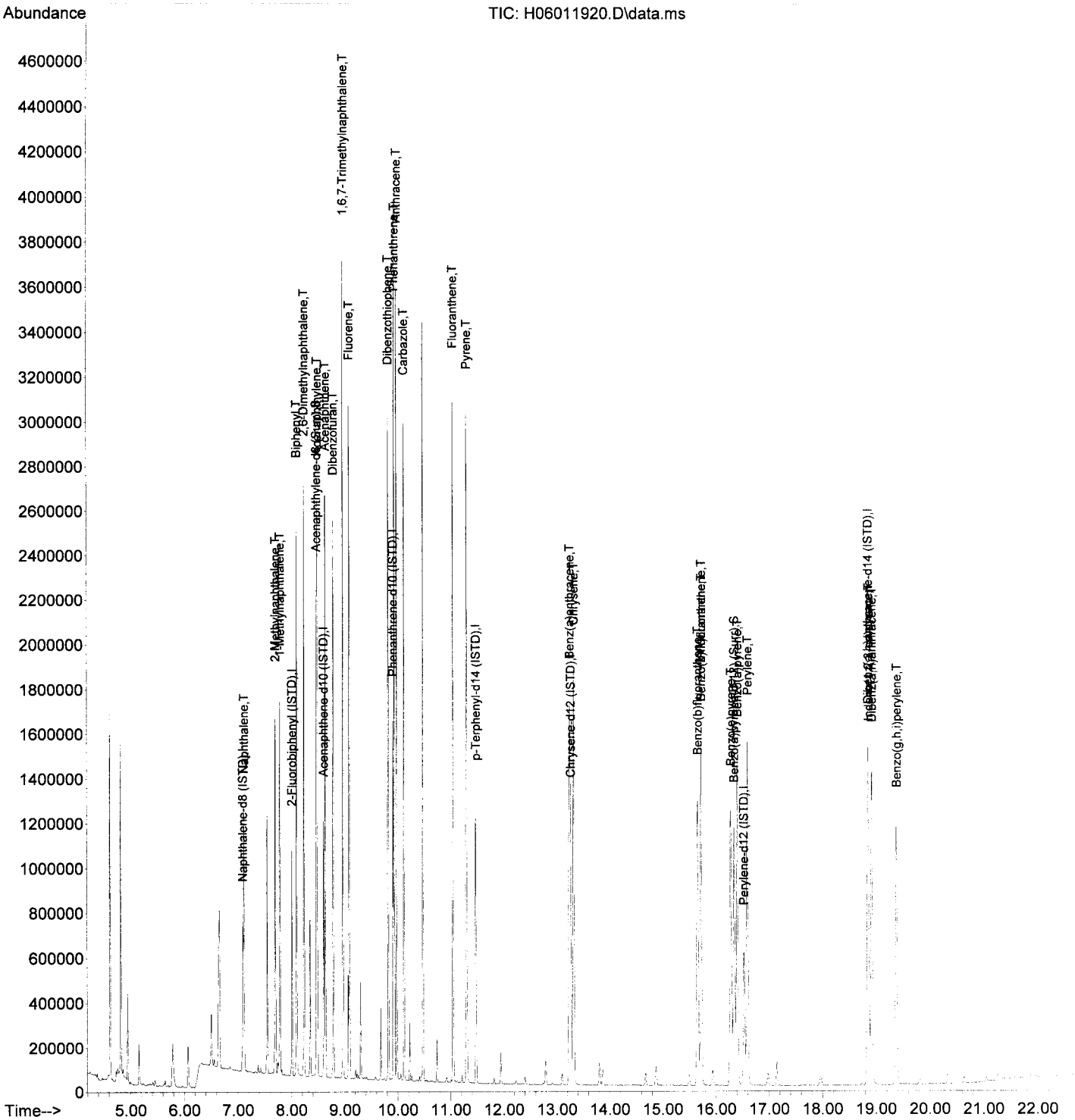
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.097	136	238727	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	204462	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.916	188	493691	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.268	240	474804	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.530	264	418167	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.854	292	387820	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.016	172	267153	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.478	244	450750	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.478	160	763403	194.30	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.349	264	787130	189.39	ng/ml	0.02
Target Compounds						Qvalue
2) Naphthalene	7.116	128	528470	190.13	ng/ml	95
3) 2-Methylnaphthalene	7.706	142	443011	212.68	ng/ml	99
4) 1-Methylnaphthalene	7.792	142	425660	215.04	ng/ml	96
6) Biphenyl	8.106	154	665698	200.65	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.244	156	497247	207.96	ng/ml	94
9) Acenaphthylene	8.492	152	899358	225.50	ng/ml	98
10) Acenaphthene	8.644	153	600092	210.36	ng/ml	98
11) Dibenzofuran	8.792	168	853703	202.13	ng/ml	91
12) 1,6,7-Trimethylnaphtha...	8.973	170	606216	226.93	ng/ml	90
13) Fluorene	9.092	166	761219	217.14	ng/ml	98
15) Dibenzothiophene	9.825	184	1039017	210.94	ng/ml	97
16) Phenanthrene	9.939	178	1192385	195.68	ng/ml	100
17) Anthracene	9.982	178	1159111	230.59	ng/ml	98
18) Carbazole	10.120	167	1086682	223.82	ng/ml	96
19) Fluoranthene	11.044	202	1250210	227.01	ng/ml	99
20) Pyrene	11.306	202	1289789	214.95	ng/ml	98
22) Benz(a)anthracene	13.249	228	1105899	194.19	ng/ml	99
23) Chrysene	13.325	228	1058383	205.13	ng/ml	99
25) Benzo(b)fluoranthene	15.663	252	1051021	188.63	ng/ml	96
26) Benzo(k)fluoranthene	15.730	252	1079720	188.14	ng/ml	95
27) Benzo(b+k)fluoranthene	15.730	252	2134617	376.83	ng/ml	98
28) Benzo(e)pyrene	16.287	252	997204	225.98	ng/ml	98
30) Benzo(a)pyrene	16.411	252	981717	185.28	ng/ml	98
31) Perylene	16.601	252	1021188	186.02	ng/ml	98
33) Indeno(1,2,3-cd)pyrene	18.863	276	911198	207.26	ng/ml	83
34) Dibenz(a,h)anthracene	18.925	278	963080	236.18	ng/ml	93
35) Benzo(g,h,i)perylene	19.387	276	926323	204.82	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011920.D
Acq On : 1 Jul 2019 7:22 pm
Operator : JK /AMS /DTH
Sample : 9G01051-CALA
Misc : 1x, A19F394@200
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:39 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011922.D
Acq On : 1 Jul 2019 8:29 pm
Operator : JK /AMS /DTH
Sample : 9G01051-ICV1
Misc : 1x, A19B042@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:55 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8

7/2/19

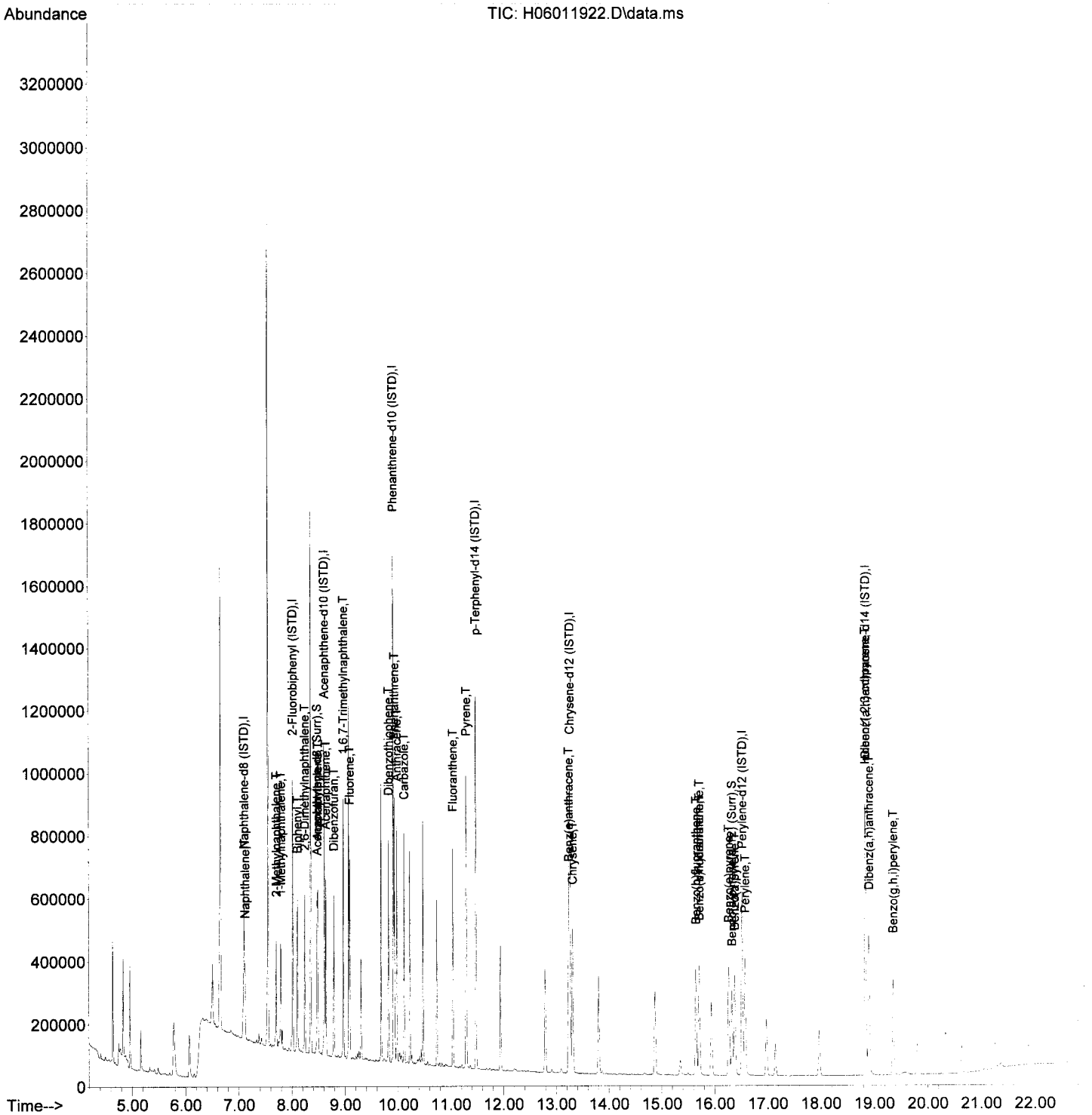
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	221361	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	182926	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	475962	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	455684	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.525	264	399591	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.839	292	421176	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	235267	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	450197	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	164581	50.74	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.330	264	171882	54.70	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.115	128	119478	46.36	ng/ml	96
3) 2-Methylnaphthalene	7.706	142	97221	50.34	ng/ml	99
4) 1-Methylnaphthalene	7.792	142	94964	51.74	ng/ml	96
6) Biphenyl	8.106	154	143967	48.82	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.244	156	102758	48.03	ng/ml	95
9) Acenaphthylene	8.487	152	189329	53.06	ng/ml	98
10) Acenaphthene	8.639	153	125121	49.02	ng/ml	96
11) Dibenzofuran	8.792	168	183599	48.59	ng/ml	94
12) 1,6,7-Trimethylnaphtha...	8.973	170	129746	54.29	ng/ml	91
13) Fluorene	9.092	166	163870	52.25	ng/ml	100
15) Dibenzothiophene	9.825	184	234736	49.43	ng/ml	99
16) Phenanthrene	9.934	178	271794	46.27	ng/ml	99
17) Anthracene	9.982	178	261484	53.96	ng/ml	98
18) Carbazole	10.120	167	246314	52.62	ng/ml	97
19) Fluoranthene	11.044	202	289109	54.45	ng/ml	97
20) Pyrene	11.296	202	302203	52.24	ng/ml	98
22) Benz(a)anthracene	13.239	228	257394	52.48	ng/ml	99
23) Chrysene	13.311	228	261405	52.79	ng/ml	99
25) Benzo(b)fluoranthene	15.649	252	247603	55.20	ng/ml	95
26) Benzo(k)fluoranthene	15.711	252	255782	55.49	ng/ml	94
27) Benzo(b+k)fluoranthene	15.711	252	505112	110.50	ng/ml	97
28) Benzo(e)pyrene	16.268	252	239529	56.80	ng/ml	98
30) Benzo(a)pyrene	16.382	252	228559	56.78	ng/ml	99
31) Perylene	16.577	252	233239	51.29	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.835	276	218802	52.28	ng/ml	84
34) Dibenz(a,h)anthracene	18.906	278	232600	52.52	ng/ml	90
35) Benzo(g,h,i)perylene	19.358	276	221437	54.20	ng/ml	93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011922.D
Acq On : 1 Jul 2019 8:29 pm
Operator : JK /AMS /DTH
Sample : 9G01051-ICV1
Misc : 1x, A19B042@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Jul 02 08:40:55 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Jul 01 14:27:07 2019
Response via : Initial Calibration
InstName : SV-GCMS8



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011922.D
Acq On : 1 Jul 2019 8:29 pm
Operator : JK /AMS /DTH
Sample : 9G01051-ICV1
Misc : 1x, A19B042@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Final Reqmant
JK 7/2/19

Quant Time: Jul 02 09:34:20 2019
Quant Method : C:\msdchem\1\METHODS\LVI8_070119.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Tue Jul 02 08:51:04 2019
Response via : Initial Calibration
InstName : SV-GCMS8

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	221361	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	182926	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	475962	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	455684	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.525	264	399591	100.00	ng/ml	0.00
32) Dibenz(a,h)anthracene-...	18.839	292	421176	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	8.015	172	235267	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.477	244	450197	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.477	160	164581	50.28	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.330	264	171823	55.19	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.115	128	119478	46.51	ng/ml	96
3) 2-Methylnaphthalene	7.706	142	97221	49.01	ng/ml	99
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7) 2,6-Dimethylnaphthalene	8.244	156	102758	47.92	ng/ml	95
9) Acenaphthylene	8.487	152	189329	52.07	ng/ml	98
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11) Dibenzofuran	8.792	168	183599	47.38	ng/ml	94
12) 1,6,7-Trimethylnaphtha...	8.973	170	129746	50.18	ng/ml	91
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17) Anthracene	9.982	178	261484	51.58	ng/ml	98
18) Carbazole	10.120	167	246314	50.10	ng/ml	97
19) Fluoranthene	11.044	202	289109	50.89	ng/ml	97
20) Pyrene	11.296	202	302203	49.06	ng/ml	98
22) Benz(a)anthracene	13.239	228	257394	53.71	ng/ml	99
23) Chrysene	13.311	228	261405	51.79	ng/ml	99
25) Benzo(b)fluoranthene	15.649	252	247603	56.29	ng/ml	95
26) Benzo(k)fluoranthene	15.711	252	255782	57.66	ng/ml	94
27) Benzo(b+k)fluoranthene	15.711	252	505061	113.71	ng/ml	97
28) Benzo(e)pyrene	16.268	252	239529	56.38	ng/ml	98
30) Benzo(a)pyrene	16.382	252	228559	58.59	ng/ml	99
31) Perylene	16.577	252	233239	54.67	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.835	276	218802	43.90	ng/ml	84
34) Dibenz(a,h)anthracene	18.906	278	232600	46.82	ng/ml	90
35) Benzo(g,h,i)perylene	19.358	276	221437	50.14	ng/ml	93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G01051\
Data File : H06011922.D
Acq On : 1 Jul 2019 8:29 pm
Operator : JK /AMS /DTH
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Misc : 1x, A19B042@50
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Response via : Initial Calibration
InstName : SV-GCMS8