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 #:

A9K0039

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: A9K0039

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

AMENDED REPORT

Monday, December 16, 2019

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

RE: A9K0039 - 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 A9K0039, which was received by the laboratory on 11/2/2019 at 7:30:00AM.

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

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

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	1.5 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.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

Apex Laboratories

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

Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PDI-TB-1911010000	A9K0039-01	WQ	11/01/19 00:00	11/02/19 07:30
PDI-062PW-08-10-191101	A9K0039-02	WX	11/01/19 11:12	11/02/19 07:30
PDI-064PW-10-12-191101	A9K0039-03	WX	11/01/19 15:39	11/02/19 07:30
PDI-067PW-06-08-191031	A9K0039-04	WX	10/31/19 12:46	11/02/19 07:30
PDI-069PW-07-09-191031	A9K0039-05	WX	10/31/19 15:39	11/02/19 07:30
PDI-1069PW-07-09-191031	A9K0039-06	WX	10/31/19 15:39	11/02/19 07:30
PDI-071PW-08-10-191031	A9K0039-07	WX	10/31/19 10:24	11/02/19 07:30

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL CASE NARRATIVE

Work Order: A9K0039

Amended Report Revision 1:

This report supersedes all previous reports.

Semivolatiles by EPA 8270D: Surrogates Reported from All Dilutions

At client request, Surrogate compounds are reported from all dilutions for all Semivolatile analyses for this project.
The reanalysis of client sample "PDI-1069PW-07-09-191031" (A9K0039-06RE1) was reported without surrogates.
The added surrogate compounds have been qualified with an "AMEND" flag in this report.

David Jack
Technical Manager
Apex Laboratories
December 5, 2019

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

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-1911010000 (A9K0039-01)				**Matrix: WQ**		**Batch: 9110413**		
Acetone	ND	10.0	20.0	ug/L	1	11/04/19 11:48	EPA 8260C	
Acrylonitrile	ND	1.00	2.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Benzene	ND	0.100	0.200	ug/L	1	11/04/19 11:48	EPA 8260C	
Bromobenzene	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
Bromochloromethane	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Bromoform	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Bromomethane	ND	5.00	5.00	ug/L	1	11/04/19 11:48	EPA 8260C	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	11/04/19 11:48	EPA 8260C	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Carbon disulfide	ND	5.00	10.0	ug/L	1	11/04/19 11:48	EPA 8260C	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Chlorobenzene	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
Chloroethane	ND	5.00	5.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Chloroform	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Chloromethane	ND	2.50	5.00	ug/L	1	11/04/19 11:48	EPA 8260C	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
Dibromomethane	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	11/04/19 11:48	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	11/04/19 11:48	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	11/04/19 11:48	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/04/19 11:48	EPA 8260C	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/04/19 11:48	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

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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-1911010000 (A9K0039-01)				**Matrix: WQ**		**Batch: 9110413**		
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Ethylbenzene	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	11/04/19 11:48	EPA 8260C	
n-Hexane	ND	5.00	10.0	ug/L	1	11/04/19 11:48	EPA 8260C	
2-Hexanone	ND	5.00	10.0	ug/L	1	11/04/19 11:48	EPA 8260C	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Methylene chloride	ND	2.50	5.00	ug/L	1	11/04/19 11:48	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	11/04/19 11:48	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Naphthalene	ND	1.00	2.00	ug/L	1	11/04/19 11:48	EPA 8260C	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
Styrene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	11/04/19 11:48	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	11/04/19 11:48	EPA 8260C	
Tetrahydrofuran	ND	5.00	10.0	ug/L	1	11/04/19 11:48	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	11/04/19 11:48	EPA 8260C	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	11/04/19 11:48	EPA 8260C	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	1.00	2.00	ug/L	1	11/04/19 11:48	EPA 8260C	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

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-1911010000 (A9K0039-01)				**Matrix: WQ**		**Batch: 9110413**		
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
Isobutyl alcohol	ND	250	250	ug/L	1	11/04/19 11:48	EPA 8260C	
m,p-Xylene	ND	0.500	1.00	ug/L	1	11/04/19 11:48	EPA 8260C	
o-Xylene	ND	0.250	0.500	ug/L	1	11/04/19 11:48	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	11/04/19 11:48	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*106 %*	*Limits: 80-120 %*	*1*	*11/04/19 11:48*	*EPA 8260C*	
Toluene-d8 (Surr)			*102 %*	*80-120 %*	*1*	*11/04/19 11:48*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*11/04/19 11:48*	*EPA 8260C*	
PDI-062PW-08-10-191101 (A9K0039-02RE1)				**Matrix: WX**		**Batch: 9110413**		**V-25**
Acetone	ND	100	200	ug/L	10	11/04/19 18:05	EPA 8260C	
Acrylonitrile	ND	10.0	20.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Benzene	**33.2**	1.00	2.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Bromobenzene	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Bromochloromethane	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Bromodichloromethane	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Bromoform	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Bromomethane	ND	50.0	50.0	ug/L	10	11/04/19 18:05	EPA 8260C	
2-Butanone (MEK)	ND	50.0	100	ug/L	10	11/04/19 18:05	EPA 8260C	
n-Butylbenzene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
sec-Butylbenzene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
tert-Butylbenzene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Carbon disulfide	ND	50.0	100	ug/L	10	11/04/19 18:05	EPA 8260C	
Carbon tetrachloride	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Chlorobenzene	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Chloroethane	ND	50.0	50.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Chloroform	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Chloromethane	ND	25.0	50.0	ug/L	10	11/04/19 18:05	EPA 8260C	
2-Chlorotoluene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
4-Chlorotoluene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Dibromochloromethane	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	25.0	50.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Dibromomethane	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	

Apex Laboratories

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-062PW-08-10-191101 (A9K0039-02RE1)				**Matrix: WX**		**Batch: 9110413**		**V-25**
1,2-Dichlorobenzene	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
1,3-Dichlorobenzene	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
1,4-Dichlorobenzene	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Dichlorodifluoromethane	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,1-Dichloroethane	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
1,1-Dichloroethene	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
cis-1,2-Dichloroethene	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
trans-1,2-Dichloroethene	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
1,2-Dichloropropane	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
1,3-Dichloropropane	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
2,2-Dichloropropane	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,1-Dichloropropene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
cis-1,3-Dichloropropene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
trans-1,3-Dichloropropene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Ethylbenzene	**16.1**	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Hexachlorobutadiene	ND	25.0	50.0	ug/L	10	11/04/19 18:05	EPA 8260C	
n-Hexane	ND	50.0	100	ug/L	10	11/04/19 18:05	EPA 8260C	
2-Hexanone	ND	50.0	100	ug/L	10	11/04/19 18:05	EPA 8260C	
Isopropylbenzene	**5.24**	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	J
4-Isopropyltoluene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Methylene chloride	ND	25.0	50.0	ug/L	10	11/04/19 18:05	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	50.0	100	ug/L	10	11/04/19 18:05	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Naphthalene	**452**	10.0	20.0	ug/L	10	11/04/19 18:05	EPA 8260C	
n-Propylbenzene	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Styrene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Tetrachloroethene (PCE)	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Tetrahydrofuran	ND	50.0	100	ug/L	10	11/04/19 18:05	EPA 8260C	
Toluene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,2,3-Trichlorobenzene	ND	10.0	20.0	ug/L	10	11/04/19 18:05	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

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-062PW-08-10-191101 (A9K0039-02RE1)				**Matrix: WX**		**Batch: 9110413**		**V-25**
1,2,4-Trichlorobenzene	ND	10.0	20.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,1,1-Trichloroethane	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
1,1,2-Trichloroethane	ND	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Trichloroethene (TCE)	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
Trichlorofluoromethane	ND	10.0	20.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,2,3-Trichloropropane	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	10.0	20.0	ug/L	10	11/04/19 18:05	EPA 8260C	
1,2,4-Trimethylbenzene	**6.14**	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	**J**
1,3,5-Trimethylbenzene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
Isobutyl alcohol	ND	2500	2500	ug/L	10	11/04/19 18:05	EPA 8260C	
Vinyl chloride	ND	2.00	4.00	ug/L	10	11/04/19 18:05	EPA 8260C	
m,p-Xylene	ND	5.00	10.0	ug/L	10	11/04/19 18:05	EPA 8260C	
o-Xylene	**3.95**	2.50	5.00	ug/L	10	11/04/19 18:05	EPA 8260C	**J**
trans-1,4-Dichloro-2-butene	ND	50.0	100	ug/L	10	11/04/19 18:05	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits:*	*80-120 %*	*1*	*11/04/19 18:05*	*EPA 8260C*	
Toluene-d8 (Surr)			*102 %*		*80-120 %*	*1*	*11/04/19 18:05*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*	*1*	*11/04/19 18:05*	*EPA 8260C*	
PDI-064PW-10-12-191101 (A9K0039-03)				**Matrix: WX**		**Batch: 9110413**		
Acetone	ND	10.0	20.0	ug/L	1	11/04/19 12:15	EPA 8260C	
Acrylonitrile	ND	1.00	2.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Benzene	ND	0.100	0.200	ug/L	1	11/04/19 12:15	EPA 8260C	
Bromobenzene	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
Bromochloromethane	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Bromodichloromethane	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Bromoform	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Bromomethane	ND	5.00	5.00	ug/L	1	11/04/19 12:15	EPA 8260C	
2-Butanone (MEK)	ND	5.00	10.0	ug/L	1	11/04/19 12:15	EPA 8260C	
n-Butylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
sec-Butylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
tert-Butylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Carbon disulfide	ND	5.00	10.0	ug/L	1	11/04/19 12:15	EPA 8260C	
Carbon tetrachloride	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	

Apex Laboratories

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064PW-10-12-191101 (A9K0039-03)				**Matrix: WX**		**Batch: 9110413**		
Chlorobenzene	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
Chloroethane	ND	5.00	5.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Chloroform	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Chloromethane	ND	2.50	5.00	ug/L	1	11/04/19 12:15	EPA 8260C	
2-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
4-Chlorotoluene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Dibromochloromethane	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	2.50	5.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
Dibromomethane	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
1,3-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
1,4-Dichlorobenzene	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
Dichlorodifluoromethane	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,1-Dichloroethane	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
trans-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2-Dichloropropane	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
1,3-Dichloropropane	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
2,2-Dichloropropane	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,1-Dichloropropene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
cis-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
trans-1,3-Dichloropropene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Ethylbenzene	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
Hexachlorobutadiene	ND	2.50	5.00	ug/L	1	11/04/19 12:15	EPA 8260C	
n-Hexane	ND	5.00	10.0	ug/L	1	11/04/19 12:15	EPA 8260C	
2-Hexanone	ND	5.00	10.0	ug/L	1	11/04/19 12:15	EPA 8260C	
Isopropylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
4-Isopropyltoluene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Methylene chloride	ND	2.50	5.00	ug/L	1	11/04/19 12:15	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	5.00	10.0	ug/L	1	11/04/19 12:15	EPA 8260C	

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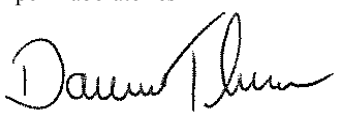

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064PW-10-12-191101 (A9K0039-03)				**Matrix: WX**		**Batch: 9110413**		
Methyl tert-butyl ether (MTBE)	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Naphthalene	**12.2**	1.00	2.00	ug/L	1	11/04/19 12:15	EPA 8260C	
n-Propylbenzene	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
Styrene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
Tetrahydrofuran	ND	5.00	10.0	ug/L	1	11/04/19 12:15	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2,3-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2,4-Trichlorobenzene	ND	1.00	2.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,1,1-Trichloroethane	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
1,1,2-Trichloroethane	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	11/04/19 12:15	EPA 8260C	
Trichlorofluoromethane	ND	1.00	2.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2,3-Trichloropropane	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	1.00	2.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,2,4-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
1,3,5-Trimethylbenzene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
Isobutyl alcohol	ND	250	250	ug/L	1	11/04/19 12:15	EPA 8260C	
m,p-Xylene	ND	0.500	1.00	ug/L	1	11/04/19 12:15	EPA 8260C	
o-Xylene	ND	0.250	0.500	ug/L	1	11/04/19 12:15	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	5.00	10.0	ug/L	1	11/04/19 12:15	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*104 %*	*Limits: 80-120 %*	*1*	*11/04/19 12:15*	*EPA 8260C*	
Toluene-d8 (Surr)			*103 %*	*80-120 %*	*1*	*11/04/19 12:15*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*98 %*	*80-120 %*	*1*	*11/04/19 12:15*	*EPA 8260C*	
PDI-067PW-06-08-191031 (A9K0039-04)				**Matrix: WX**		**Batch: 9110413**		**V-25**
Acetone	ND	1000	2000	ug/L	100	11/04/19 14:30	EPA 8260C	
Acrylonitrile	ND	100	200	ug/L	100	11/04/19 14:30	EPA 8260C	
Benzene	**97.7**	10.0	20.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Bromobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Bromochloromethane	ND	50.0	100	ug/L	100	11/04/19 14:30	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

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-067PW-06-08-191031 (A9K0039-04)				**Matrix: WX**		**Batch: 9110413**		**V-25**
Bromodichloromethane	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Bromoform	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Bromomethane	ND	500	500	ug/L	100	11/04/19 14:30	EPA 8260C	
2-Butanone (MEK)	ND	500	1000	ug/L	100	11/04/19 14:30	EPA 8260C	
n-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
sec-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
tert-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Carbon disulfide	ND	500	1000	ug/L	100	11/04/19 14:30	EPA 8260C	
Carbon tetrachloride	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Chlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Chloroethane	ND	500	500	ug/L	100	11/04/19 14:30	EPA 8260C	
Chloroform	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Chloromethane	ND	250	500	ug/L	100	11/04/19 14:30	EPA 8260C	
2-Chlorotoluene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
4-Chlorotoluene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Dibromochloromethane	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	250	500	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Dibromomethane	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
1,3-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
1,4-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Dichlorodifluoromethane	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
1,1-Dichloroethane	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
1,1-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
cis-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
trans-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2-Dichloropropane	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
1,3-Dichloropropane	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
2,2-Dichloropropane	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
1,1-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
cis-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	

Apex Laboratories

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-067PW-06-08-191031 (A9K0039-04)				**Matrix: WX**		**Batch: 9110413**		**V-25**
trans-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Ethylbenzene	**42.6**	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	**J**
Hexachlorobutadiene	ND	250	500	ug/L	100	11/04/19 14:30	EPA 8260C	
n-Hexane	ND	500	1000	ug/L	100	11/04/19 14:30	EPA 8260C	
2-Hexanone	ND	500	1000	ug/L	100	11/04/19 14:30	EPA 8260C	
Isopropylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
4-Isopropyltoluene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Methylene chloride	ND	250	500	ug/L	100	11/04/19 14:30	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	500	1000	ug/L	100	11/04/19 14:30	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Naphthalene	**6680**	100	200	ug/L	100	11/04/19 14:30	EPA 8260C	
n-Propylbenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Styrene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Tetrachloroethene (PCE)	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Tetrahydrofuran	ND	500	1000	ug/L	100	11/04/19 14:30	EPA 8260C	
Toluene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2,3-Trichlorobenzene	ND	100	200	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2,4-Trichlorobenzene	ND	100	200	ug/L	100	11/04/19 14:30	EPA 8260C	
1,1,1-Trichloroethane	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
1,1,2-Trichloroethane	ND	25.0	50.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Trichloroethene (TCE)	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
Trichlorofluoromethane	ND	100	200	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2,3-Trichloropropane	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	100	200	ug/L	100	11/04/19 14:30	EPA 8260C	
1,2,4-Trimethylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
1,3,5-Trimethylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
Isobutyl alcohol	ND	25000	25000	ug/L	100	11/04/19 14:30	EPA 8260C	
Vinyl chloride	ND	20.0	40.0	ug/L	100	11/04/19 14:30	EPA 8260C	
m,p-Xylene	ND	50.0	100	ug/L	100	11/04/19 14:30	EPA 8260C	
o-Xylene	ND	25.0	50.0	ug/L	100	11/04/19 14:30	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

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-067PW-06-08-191031 (A9K0039-04)				**Matrix: WX**		**Batch: 9110413**		**V-25**
trans-1,4-Dichloro-2-butene	ND	500	1000	ug/L	100	11/04/19 14:30	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits:*	*80-120 %*	*1*	*11/04/19 14:30*	*EPA 8260C*
Toluene-d8 (Surr)			*103 %*		*80-120 %*	*1*	*11/04/19 14:30*	*EPA 8260C*
4-Bromofluorobenzene (Surr)			*100 %*		*80-120 %*	*1*	*11/04/19 14:30*	*EPA 8260C*
PDI-069PW-07-09-191031 (A9K0039-05)				**Matrix: WX**		**Batch: 9110413**		**V-25**
Acetone	ND	1000	2000	ug/L	100	11/04/19 14:56	EPA 8260C	
Acrylonitrile	ND	100	200	ug/L	100	11/04/19 14:56	EPA 8260C	
Benzene	**1650**	10.0	20.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Bromobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Bromochloromethane	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Bromodichloromethane	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Bromoform	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Bromomethane	ND	500	500	ug/L	100	11/04/19 14:56	EPA 8260C	
2-Butanone (MEK)	ND	500	1000	ug/L	100	11/04/19 14:56	EPA 8260C	
n-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
sec-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
tert-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Carbon disulfide	ND	500	1000	ug/L	100	11/04/19 14:56	EPA 8260C	
Carbon tetrachloride	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Chlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Chloroethane	ND	500	500	ug/L	100	11/04/19 14:56	EPA 8260C	
Chloroform	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Chloromethane	ND	250	500	ug/L	100	11/04/19 14:56	EPA 8260C	
2-Chlorotoluene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
4-Chlorotoluene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Dibromochloromethane	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	250	500	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Dibromomethane	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
1,3-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
1,4-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Dichlorodifluoromethane	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-069PW-07-09-191031 (A9K0039-05)				**Matrix: WX**		**Batch: 9110413**		**V-25**
1,1-Dichloroethane	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
1,1-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
cis-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
trans-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2-Dichloropropane	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
1,3-Dichloropropane	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
2,2-Dichloropropane	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
1,1-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
cis-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
trans-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Ethylbenzene	**221**	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Hexachlorobutadiene	ND	250	500	ug/L	100	11/04/19 14:56	EPA 8260C	
n-Hexane	ND	500	1000	ug/L	100	11/04/19 14:56	EPA 8260C	
2-Hexanone	ND	500	1000	ug/L	100	11/04/19 14:56	EPA 8260C	
Isopropylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
4-Isopropyltoluene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Methylene chloride	ND	250	500	ug/L	100	11/04/19 14:56	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	500	1000	ug/L	100	11/04/19 14:56	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Naphthalene	**9730**	100	200	ug/L	100	11/04/19 14:56	EPA 8260C	
n-Propylbenzene	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Styrene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Tetrachloroethene (PCE)	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Tetrahydrofuran	ND	500	1000	ug/L	100	11/04/19 14:56	EPA 8260C	
Toluene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2,3-Trichlorobenzene	ND	100	200	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2,4-Trichlorobenzene	ND	100	200	ug/L	100	11/04/19 14:56	EPA 8260C	
1,1,1-Trichloroethane	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
1,1,2-Trichloroethane	ND	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
Trichloroethene (TCE)	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-069PW-07-09-191031 (A9K0039-05)				**Matrix: WX**		**Batch: 9110413**		**V-25**
Trichlorofluoromethane	ND	100	200	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2,3-Trichloropropane	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	100	200	ug/L	100	11/04/19 14:56	EPA 8260C	
1,2,4-Trimethylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
1,3,5-Trimethylbenzene	ND	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
Isobutyl alcohol	ND	25000	25000	ug/L	100	11/04/19 14:56	EPA 8260C	
Vinyl chloride	ND	20.0	40.0	ug/L	100	11/04/19 14:56	EPA 8260C	
m,p-Xylene	**180**	50.0	100	ug/L	100	11/04/19 14:56	EPA 8260C	
o-Xylene	**89.2**	25.0	50.0	ug/L	100	11/04/19 14:56	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	500	1000	ug/L	100	11/04/19 14:56	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits:*	*80-120 %*	*1*	*11/04/19 14:56*	*EPA 8260C*	
Toluene-d8 (Surr)			*102 %*		*80-120 %*	*1*	*11/04/19 14:56*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*	*1*	*11/04/19 14:56*	*EPA 8260C*	
PDI-1069PW-07-09-191031 (A9K0039-06)				**Matrix: WX**		**Batch: 9110413**		**V-25**
Acetone	ND	1000	2000	ug/L	100	11/04/19 15:23	EPA 8260C	
Acrylonitrile	ND	100	200	ug/L	100	11/04/19 15:23	EPA 8260C	
Benzene	**1470**	10.0	20.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Bromobenzene	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Bromochloromethane	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Bromodichloromethane	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Bromoform	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Bromomethane	ND	500	500	ug/L	100	11/04/19 15:23	EPA 8260C	
2-Butanone (MEK)	ND	500	1000	ug/L	100	11/04/19 15:23	EPA 8260C	
n-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
sec-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
tert-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Carbon disulfide	ND	500	1000	ug/L	100	11/04/19 15:23	EPA 8260C	
Carbon tetrachloride	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Chlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Chloroethane	ND	500	500	ug/L	100	11/04/19 15:23	EPA 8260C	
Chloroform	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Chloromethane	ND	250	500	ug/L	100	11/04/19 15:23	EPA 8260C	

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-1069PW-07-09-191031 (A9K0039-06)				**Matrix: WX**		**Batch: 9110413**		**V-25**
2-Chlorotoluene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
4-Chlorotoluene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Dibromochloromethane	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	250	500	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Dibromomethane	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
1,3-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
1,4-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Dichlorodifluoromethane	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
1,1-Dichloroethane	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
1,1-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
cis-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
trans-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2-Dichloropropane	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
1,3-Dichloropropane	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
2,2-Dichloropropane	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
1,1-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
cis-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
trans-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Ethylbenzene	**198**	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Hexachlorobutadiene	ND	250	500	ug/L	100	11/04/19 15:23	EPA 8260C	
n-Hexane	ND	500	1000	ug/L	100	11/04/19 15:23	EPA 8260C	
2-Hexanone	ND	500	1000	ug/L	100	11/04/19 15:23	EPA 8260C	
Isopropylbenzene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
4-Isopropyltoluene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Methylene chloride	ND	250	500	ug/L	100	11/04/19 15:23	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	500	1000	ug/L	100	11/04/19 15:23	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Naphthalene	**9120**	100	200	ug/L	100	11/04/19 15:23	EPA 8260C	
n-Propylbenzene	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Styrene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-1069PW-07-09-191031 (A9K0039-06)				**Matrix: WX**		**Batch: 9110413**		**V-25**
1,1,1,2-Tetrachloroethane	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Tetrachloroethene (PCE)	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Tetrahydrofuran	ND	500	1000	ug/L	100	11/04/19 15:23	EPA 8260C	
Toluene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2,3-Trichlorobenzene	ND	100	200	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2,4-Trichlorobenzene	ND	100	200	ug/L	100	11/04/19 15:23	EPA 8260C	
1,1,1-Trichloroethane	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
1,1,2-Trichloroethane	ND	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Trichloroethene (TCE)	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
Trichlorofluoromethane	ND	100	200	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2,3-Trichloropropane	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	100	200	ug/L	100	11/04/19 15:23	EPA 8260C	
1,2,4-Trimethylbenzene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
1,3,5-Trimethylbenzene	ND	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
Isobutyl alcohol	ND	25000	25000	ug/L	100	11/04/19 15:23	EPA 8260C	
Vinyl chloride	ND	20.0	40.0	ug/L	100	11/04/19 15:23	EPA 8260C	
m,p-Xylene	**165**	50.0	100	ug/L	100	11/04/19 15:23	EPA 8260C	
o-Xylene	**80.2**	25.0	50.0	ug/L	100	11/04/19 15:23	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	500	1000	ug/L	100	11/04/19 15:23	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits:*	*80-120 %*	*1*	*11/04/19 15:23*	*EPA 8260C*	
Toluene-d8 (Surr)			*102 %*		*80-120 %*	*1*	*11/04/19 15:23*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*98 %*		*80-120 %*	*1*	*11/04/19 15:23*	*EPA 8260C*	
PDI-071PW-08-10-191031 (A9K0039-07)				**Matrix: WX**		**Batch: 9110413**		**V-25**
Acetone	ND	1000	2000	ug/L	100	11/04/19 16:17	EPA 8260C	
Acrylonitrile	ND	100	200	ug/L	100	11/04/19 16:17	EPA 8260C	
Benzene	**6830**	10.0	20.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Bromobenzene	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Bromochloromethane	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Bromodichloromethane	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Bromoform	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Bromomethane	ND	500	500	ug/L	100	11/04/19 16:17	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

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-071PW-08-10-191031 (A9K0039-07)				**Matrix: WX**		**Batch: 9110413**		**V-25**
2-Butanone (MEK)	ND	500	1000	ug/L	100	11/04/19 16:17	EPA 8260C	
n-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
sec-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
tert-Butylbenzene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Carbon disulfide	ND	500	1000	ug/L	100	11/04/19 16:17	EPA 8260C	
Carbon tetrachloride	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Chlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Chloroethane	ND	500	500	ug/L	100	11/04/19 16:17	EPA 8260C	
Chloroform	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Chloromethane	ND	250	500	ug/L	100	11/04/19 16:17	EPA 8260C	
2-Chlorotoluene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
4-Chlorotoluene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Dibromochloromethane	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	250	500	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Dibromomethane	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
1,3-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
1,4-Dichlorobenzene	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Dichlorodifluoromethane	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
1,1-Dichloroethane	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
1,1-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
cis-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
trans-1,2-Dichloroethene	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2-Dichloropropane	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
1,3-Dichloropropane	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
2,2-Dichloropropane	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
1,1-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
cis-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
trans-1,3-Dichloropropene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Ethylbenzene	**289**	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Hexachlorobutadiene	ND	250	500	ug/L	100	11/04/19 16:17	EPA 8260C	

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-071PW-08-10-191031 (A9K0039-07)				**Matrix: WX**		**Batch: 9110413**		**V-25**
n-Hexane	ND	500	1000	ug/L	100	11/04/19 16:17	EPA 8260C	
2-Hexanone	ND	500	1000	ug/L	100	11/04/19 16:17	EPA 8260C	
Isopropylbenzene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
4-Isopropyltoluene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Methylene chloride	ND	250	500	ug/L	100	11/04/19 16:17	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	500	1000	ug/L	100	11/04/19 16:17	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Naphthalene	**12500**	100	200	ug/L	100	11/04/19 16:17	EPA 8260C	
n-Propylbenzene	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Styrene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Tetrachloroethene (PCE)	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Tetrahydrofuran	ND	500	1000	ug/L	100	11/04/19 16:17	EPA 8260C	
Toluene	**681**	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2,3-Trichlorobenzene	ND	100	200	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2,4-Trichlorobenzene	ND	100	200	ug/L	100	11/04/19 16:17	EPA 8260C	
1,1,1-Trichloroethane	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
1,1,2-Trichloroethane	ND	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Trichloroethene (TCE)	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
Trichlorofluoromethane	ND	100	200	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2,3-Trichloropropane	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	ND	100	200	ug/L	100	11/04/19 16:17	EPA 8260C	
1,2,4-Trimethylbenzene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
1,3,5-Trimethylbenzene	ND	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
Isobutyl alcohol	ND	25000	25000	ug/L	100	11/04/19 16:17	EPA 8260C	
Vinyl chloride	ND	20.0	40.0	ug/L	100	11/04/19 16:17	EPA 8260C	
m,p-Xylene	**518**	50.0	100	ug/L	100	11/04/19 16:17	EPA 8260C	
o-Xylene	**238**	25.0	50.0	ug/L	100	11/04/19 16:17	EPA 8260C	
trans-1,4-Dichloro-2-butene	ND	500	1000	ug/L	100	11/04/19 16:17	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*103 %*	*Limits:*	*80-120 %*	*1*	*11/04/19 16:17*	*EPA 8260C*
Toluene-d8 (Surr)			*102 %*		*80-120 %*	*1*	*11/04/19 16:17*	*EPA 8260C*
4-Bromofluorobenzene (Surr)			*100 %*		*80-120 %*	*1*	*11/04/19 16:17*	*EPA 8260C*

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes

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AMENDED REPORT

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6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

ANALYTICAL SAMPLE RESULTS

Vinyl Chloride by EPA 8260C SIM

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-TB-1911010000 (A9K0039-01)				**Matrix: WQ**		**Batch: 9110483**		
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/05/19 14:31	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*99 %*	*Limits: 70-130 %*	*1*	*11/05/19 14:31*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*97 %*	*70-130 %*	*1*	*11/05/19 14:31*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*95 %*	*70-130 %*	*1*	*11/05/19 14:31*	*EPA 8260C SIM*	
PDI-064PW-10-12-191101 (A9K0039-03)				**Matrix: WX**		**Batch: 9110483**		
Vinyl chloride	ND	0.0100	0.0200	ug/L	1	11/05/19 17:39	EPA 8260C SIM	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*101 %*	*Limits: 70-130 %*	*1*	*11/05/19 17:39*	*EPA 8260C SIM*	
Toluene-d8 (Surr)			*95 %*	*70-130 %*	*1*	*11/05/19 17:39*	*EPA 8260C SIM*	
4-Bromofluorobenzene (Surr)			*91 %*	*70-130 %*	*1*	*11/05/19 17:39*	*EPA 8260C SIM*	

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AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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-069PW-07-09-191031 (A9K0039-05)				**Matrix: WX**		**Batch: 9110429**		
Acenaphthene	**163**	22.8	45.5	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Acenaphthylene	**43.0**	22.8	45.5	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	**J**
Anthracene	ND	22.8	45.5	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Benz(a)anthracene	ND	11.4	22.8	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Benzo(a)pyrene	ND	11.4	22.8	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Benzo(b)fluoranthene	ND	11.4	22.8	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Benzo(k)fluoranthene	ND	11.4	22.8	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Benzo(g,h,i)perylene	ND	22.8	45.5	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Chrysene	ND	11.4	22.8	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Dibenz(a,h)anthracene	ND	11.4	22.8	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Fluoranthene	ND	22.8	45.5	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Fluorene	**49.3**	22.8	45.5	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Indeno(1,2,3-cd)pyrene	ND	11.4	22.8	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
2-Methylnaphthalene	**408**	45.5	91.1	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Naphthalene	**8290**	45.5	91.1	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Phenanthrene	**72.6**	45.5	91.1	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	**J**
Pyrene	ND	22.8	45.5	ug/L	1000	11/04/19 15:59	EPA 8270D LVI	
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery:*	*864 %*	*Limits: 80-120 %*	*1000*	*11/04/19 15:59*	*EPA 8270D LVI*	*S-05*
Benzo(a)pyrene-d12 (Surr)			*240 %*	*80-143 %*	*1000*	*11/04/19 15:59*	*EPA 8270D LVI*	*S-05*
PDI-1069PW-07-09-191031 (A9K0039-06)				**Matrix: WX**		**Batch: 9110429**		
Acenaphthene	**215**	19.8	39.6	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Acenaphthylene	**44.7**	19.8	39.6	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Anthracene	ND	19.8	39.6	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Benz(a)anthracene	ND	9.90	19.8	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Benzo(a)pyrene	ND	9.90	19.8	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Benzo(b)fluoranthene	ND	9.90	19.8	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Benzo(k)fluoranthene	ND	9.90	19.8	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Benzo(g,h,i)perylene	ND	19.8	39.6	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Chrysene	ND	9.90	19.8	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Dibenz(a,h)anthracene	ND	9.90	19.8	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Fluoranthene	ND	19.8	39.6	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Fluorene	**65.5**	19.8	39.6	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	

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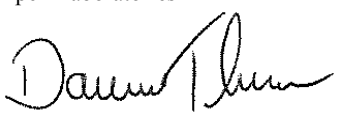

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AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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-1069PW-07-09-191031 (A9K0039-06)				**Matrix: WX**		**Batch: 9110429**		
Indeno(1,2,3-cd)pyrene	ND	9.90	19.8	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
2-Methylnaphthalene	**570**	39.6	79.2	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Phenanthrene	**99.6**	39.6	79.2	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Pyrene	ND	19.8	39.6	ug/L	1000	11/04/19 16:31	EPA 8270D LVI	
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery:*	*564 %*	*Limits:* *80-120 %*	*1000*	*11/04/19 16:31*	*EPA 8270D LVI*	*S-05*
Benzo(a)pyrene-d12 (Surr)			*229 %*	*80-143 %*	*1000*	*11/04/19 16:31*	*EPA 8270D LVI*	*S-05*
PDI-1069PW-07-09-191031 (A9K0039-06RE1)				**Matrix: WX**		**Batch: 9110429**		
Naphthalene	**10600**	396	792	ug/L	10000	11/04/19 17:03	EPA 8270D LVI	
Surrogate: Acenaphthylene-d8 (Surr)		*Recovery:*	*6040 %*	*Limits:* *80-120 %*	*10000*	*11/04/19 17:03*	*EPA 8270D LVI*	*. AMEND, S-01*
Benzo(a)pyrene-d12 (Surr)			*%*	*80-143 %*	*10000*	*11/04/19 17:03*	*EPA 8270D LVI*	*. AMEND, S-01*

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AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
Blank (9110413-BLK1)			Prepared: 11/04/19 09:00		Analyzed: 11/04/19 11:22							
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

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

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
Blank (9110413-BLK1)			Prepared: 11/04/19 09:00		Analyzed: 11/04/19 11:22							
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: 104 %* *Limits: 80-120 %* *Dilution: 1x*

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
Blank (9110413-BLK1)			Prepared: 11/04/19 09:00 Analyzed: 11/04/19 11:22									
Surr: Toluene-d8 (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*100 %*	*80-120 %*			*"*					
LCS (9110413-BS1)			Prepared: 11/04/19 09:00 Analyzed: 11/04/19 10:28									
EPA 8260C												
Acetone	36.1	10.0	20.0	ug/L	1	40.0	---	90	80-120%	---	---	
Acrylonitrile	21.4	1.00	2.00	ug/L	1	20.0	---	107	80-120%	---	---	
Benzene	19.4	0.100	0.200	ug/L	1	20.0	---	97	80-120%	---	---	
Bromobenzene	19.5	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Bromochloromethane	21.9	0.500	1.00	ug/L	1	20.0	---	109	80-120%	---	---	
Bromodichloromethane	20.5	0.500	1.00	ug/L	1	20.0	---	102	80-120%	---	---	
Bromoform	23.8	0.500	1.00	ug/L	1	20.0	---	119	80-120%	---	---	
Bromomethane	22.9	5.00	5.00	ug/L	1	20.0	---	114	80-120%	---	---	
2-Butanone (MEK)	39.5	5.00	10.0	ug/L	1	40.0	---	99	80-120%	---	---	
n-Butylbenzene	20.2	0.500	1.00	ug/L	1	20.0	---	101	80-120%	---	---	
sec-Butylbenzene	19.1	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
tert-Butylbenzene	18.2	0.500	1.00	ug/L	1	20.0	---	91	80-120%	---	---	
Carbon disulfide	18.4	5.00	10.0	ug/L	1	20.0	---	92	80-120%	---	---	
Carbon tetrachloride	19.5	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
Chlorobenzene	19.2	0.250	0.500	ug/L	1	20.0	---	96	80-120%	---	---	
Chloroethane	16.1	5.00	5.00	ug/L	1	20.0	---	80	80-120%	---	---	
Chloroform	19.5	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
Chloromethane	17.3	2.50	5.00	ug/L	1	20.0	---	87	80-120%	---	---	
2-Chlorotoluene	18.6	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
4-Chlorotoluene	18.9	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Dibromochloromethane	24.3	0.500	1.00	ug/L	1	20.0	---	**122**	**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)	19.5	0.250	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Dibromomethane	20.8	0.500	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
1,2-Dichlorobenzene	19.0	0.250	0.500	ug/L	1	20.0	---	95	80-120%	---	---	
1,3-Dichlorobenzene	19.4	0.250	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
1,4-Dichlorobenzene	19.1	0.250	0.500	ug/L	1	20.0	---	95	80-120%	---	---	
Dichlorodifluoromethane	18.6	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
1,1-Dichloroethane	19.0	0.200	0.400	ug/L	1	20.0	---	95	80-120%	---	---	

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
LCS (9110413-BS1)			Prepared: 11/04/19 09:00		Analyzed: 11/04/19 10:28							
1,2-Dichloroethane (EDC)	18.7	0.200	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
1,1-Dichloroethene	18.6	0.200	0.400	ug/L	1	20.0	---	93	80-120%	---	---	
cis-1,2-Dichloroethene	19.2	0.200	0.400	ug/L	1	20.0	---	96	80-120%	---	---	
trans-1,2-Dichloroethene	19.6	0.200	0.400	ug/L	1	20.0	---	98	80-120%	---	---	
1,2-Dichloropropane	19.8	0.250	0.500	ug/L	1	20.0	---	99	80-120%	---	---	
1,3-Dichloropropane	19.7	0.500	1.00	ug/L	1	20.0	---	99	80-120%	---	---	
2,2-Dichloropropane	18.1	0.500	1.00	ug/L	1	20.0	---	91	80-120%	---	---	
1,1-Dichloropropene	18.6	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
cis-1,3-Dichloropropene	19.3	0.500	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
trans-1,3-Dichloropropene	18.7	0.500	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
Ethylbenzene	18.4	0.250	0.500	ug/L	1	20.0	---	92	80-120%	---	---	
Hexachlorobutadiene	18.4	2.50	5.00	ug/L	1	20.0	---	92	80-120%	---	---	
2-Hexanone	37.8	5.00	10.0	ug/L	1	40.0	---	94	80-120%	---	---	
Isopropylbenzene	18.7	0.500	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
4-Isopropyltoluene	19.4	0.500	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
Methylene chloride	18.8	2.50	5.00	ug/L	1	20.0	---	94	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	39.8	5.00	10.0	ug/L	1	40.0	---	99	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	17.9	0.500	1.00	ug/L	1	20.0	---	89	80-120%	---	---	
Naphthalene	18.1	1.00	2.00	ug/L	1	20.0	---	91	80-120%	---	---	
n-Propylbenzene	19.0	0.250	0.500	ug/L	1	20.0	---	95	80-120%	---	---	
Styrene	19.1	0.500	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,1,1,2-Tetrachloroethane	20.8	0.200	0.400	ug/L	1	20.0	---	104	80-120%	---	---	
1,1,2,2-Tetrachloroethane	20.7	0.250	0.500	ug/L	1	20.0	---	104	80-120%	---	---	
Tetrachloroethene (PCE)	19.5	0.200	0.400	ug/L	1	20.0	---	97	80-120%	---	---	
Toluene	18.4	0.500	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
1,2,3-Trichlorobenzene	18.9	1.00	2.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,2,4-Trichlorobenzene	18.7	1.00	2.00	ug/L	1	20.0	---	94	80-120%	---	---	
1,1,1-Trichloroethane	18.2	0.200	0.400	ug/L	1	20.0	---	91	80-120%	---	---	
1,1,2-Trichloroethane	20.1	0.250	0.500	ug/L	1	20.0	---	100	80-120%	---	---	
Trichloroethene (TCE)	19.9	0.200	0.400	ug/L	1	20.0	---	99	80-120%	---	---	
Trichlorofluoromethane	19.2	1.00	2.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,2,3-Trichloropropane	20.0	0.500	1.00	ug/L	1	20.0	---	100	80-120%	---	---	
1,2,4-Trimethylbenzene	19.6	0.500	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
1,3,5-Trimethylbenzene	19.3	0.500	1.00	ug/L	1	20.0	---	96	80-120%	---	---	

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
LCS (9110413-BS1)			Prepared: 11/04/19 09:00 Analyzed: 11/04/19 10:28									
Vinyl chloride	19.6	0.200	0.400	ug/L	1	20.0	---	98	80-120%	---	---	
m,p-Xylene	37.2	0.500	1.00	ug/L	1	40.0	---	93	80-120%	---	---	
o-Xylene	18.5	0.250	0.500	ug/L	1	20.0	---	92	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*100 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*				*"*			
Duplicate (9110413-DUP1)			Prepared: 11/04/19 11:08 Analyzed: 11/04/19 15:50									
QC Source Sample: PDI-1069PW-07-09-191031 (A9K0039-06)												
EPA 8260C												
Acetone	ND	1000	2000	ug/L	100	---	ND	---	---	---	30%	
Acrylonitrile	ND	100	200	ug/L	100	---	ND	---	---	---	30%	
Benzene	**1520**	10.0	20.0	ug/L	100	---	1470	---	---	3	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

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AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
Duplicate (9110413-DUP1)			Prepared: 11/04/19 11:08 Analyzed: 11/04/19 15:50									
QC Source Sample: PDI-1069PW-07-09-191031 (A9K0039-06)												
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	**208**	25.0	50.0	ug/L	100	---	198	---	---	5	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	**9360**	100	200	ug/L	100	---	9120	---	---	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	50.0	100	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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503-718-2323
EPA ID: OR01039

AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
Duplicate (9110413-DUP1)			Prepared: 11/04/19 11:08 Analyzed: 11/04/19 15:50									
QC Source Sample: PDI-1069PW-07-09-191031 (A9K0039-06)												
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	ND	50.0	100	ug/L	100	---	ND	---	---	---	30%	
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	**168**	50.0	100	ug/L	100	---	165	---	---	2	30%	
o-Xylene	**82.6**	25.0	50.0	ug/L	100	---	80.2	---	---	3	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 104 %*		*Limits: 80-120 %*		*Dilution: 1x*					
Toluene-d8 (Surr)			*103 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*		*"*					
Matrix Spike (9110413-MS1)			Prepared: 11/04/19 11:08 Analyzed: 11/04/19 16:44									
QC Source Sample: PDI-071PW-08-10-191031 (A9K0039-07)												
EPA 8260C												
Acetone	3650	1000	2000	ug/L	100	4000	ND	91	39-160%	---	---	
Acrylonitrile	2180	100	200	ug/L	100	2000	ND	109	63-135%	---	---	
Benzene	8980	10.0	20.0	ug/L	100	2000	6830	108	79-120%	---	---	
Bromobenzene	2060	25.0	50.0	ug/L	100	2000	ND	103	80-120%	---	---	
Bromochloromethane	2320	50.0	100	ug/L	100	2000	ND	116	78-123%	---	---	
Bromodichloromethane	2190	50.0	100	ug/L	100	2000	ND	110	79-125%	---	---	
Bromoform	2430	50.0	100	ug/L	100	2000	ND	121	66-130%	---	---	
Bromomethane	2410	500	500	ug/L	100	2000	ND	120	53-141%	---	---	
2-Butanone (MEK)	4030	500	1000	ug/L	100	4000	ND	101	56-143%	---	---	
n-Butylbenzene	2270	50.0	100	ug/L	100	2000	ND	113	75-128%	---	---	
sec-Butylbenzene	2080	50.0	100	ug/L	100	2000	ND	104	77-126%	---	---	
tert-Butylbenzene	1960	50.0	100	ug/L	100	2000	ND	98	78-124%	---	---	
Carbon disulfide	2010	500	1000	ug/L	100	2000	ND	101	64-133%	---	---	
Carbon tetrachloride	2190	50.0	100	ug/L	100	2000	ND	109	72-136%	---	---	
Chlorobenzene	2070	25.0	50.0	ug/L	100	2000	ND	104	80-120%	---	---	
Chloroethane	1670	500	500	ug/L	100	2000	ND	84	60-138%	---	---	
Chloroform	2150	50.0	100	ug/L	100	2000	ND	108	79-124%	---	---	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
Matrix Spike (9110413-MS1)			Prepared: 11/04/19 11:08 Analyzed: 11/04/19 16:44									
QC Source Sample: PDI-071PW-08-10-191031 (A9K0039-07)												
Chloromethane	1920	250	500	ug/L	100	2000	ND	96	50-139%	---	---	
2-Chlorotoluene	2010	50.0	100	ug/L	100	2000	ND	101	79-122%	---	---	
4-Chlorotoluene	2010	50.0	100	ug/L	100	2000	ND	101	78-122%	---	---	
Dibromochloromethane	2540	50.0	100	ug/L	100	2000	ND	**127**	**74-126%**	---	---	Q-54
1,2-Dibromo-3-chloropropane	2020	250	500	ug/L	100	2000	ND	101	62-128%	---	---	
1,2-Dibromoethane (EDB)	2040	25.0	50.0	ug/L	100	2000	ND	102	77-121%	---	---	
Dibromomethane	2170	50.0	100	ug/L	100	2000	ND	109	79-123%	---	---	
1,2-Dichlorobenzene	2060	25.0	50.0	ug/L	100	2000	ND	103	80-120%	---	---	
1,3-Dichlorobenzene	2050	25.0	50.0	ug/L	100	2000	ND	103	80-120%	---	---	
1,4-Dichlorobenzene	2040	25.0	50.0	ug/L	100	2000	ND	102	79-120%	---	---	
Dichlorodifluoromethane	2090	50.0	100	ug/L	100	2000	ND	104	32-152%	---	---	
1,1-Dichloroethane	2100	20.0	40.0	ug/L	100	2000	ND	105	77-125%	---	---	
1,2-Dichloroethane (EDC)	1990	20.0	40.0	ug/L	100	2000	ND	99	73-128%	---	---	
1,1-Dichloroethene	2110	20.0	40.0	ug/L	100	2000	ND	106	71-131%	---	---	
cis-1,2-Dichloroethene	2100	20.0	40.0	ug/L	100	2000	ND	105	78-123%	---	---	
trans-1,2-Dichloroethene	2190	20.0	40.0	ug/L	100	2000	ND	110	75-124%	---	---	
1,2-Dichloropropane	2150	25.0	50.0	ug/L	100	2000	ND	108	78-122%	---	---	
1,3-Dichloropropane	2100	50.0	100	ug/L	100	2000	ND	105	80-120%	---	---	
2,2-Dichloropropane	1810	50.0	100	ug/L	100	2000	ND	90	60-139%	---	---	
1,1-Dichloropropene	2120	50.0	100	ug/L	100	2000	ND	106	79-125%	---	---	
cis-1,3-Dichloropropene	1960	50.0	100	ug/L	100	2000	ND	98	75-124%	---	---	
trans-1,3-Dichloropropene	1920	50.0	100	ug/L	100	2000	ND	96	73-127%	---	---	
Ethylbenzene	2340	25.0	50.0	ug/L	100	2000	289	102	79-121%	---	---	
Hexachlorobutadiene	1970	250	500	ug/L	100	2000	ND	98	66-134%	---	---	
2-Hexanone	4000	500	1000	ug/L	100	4000	ND	100	57-139%	---	---	
Isopropylbenzene	2090	50.0	100	ug/L	100	2000	ND	105	72-131%	---	---	
4-Isopropyltoluene	2110	50.0	100	ug/L	100	2000	ND	106	77-127%	---	---	
Methylene chloride	2020	250	500	ug/L	100	2000	ND	101	74-124%	---	---	
4-Methyl-2-pentanone (MiBK)	4070	500	1000	ug/L	100	4000	ND	102	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	1850	50.0	100	ug/L	100	2000	ND	92	71-124%	---	---	
Naphthalene	15100	100	200	ug/L	100	2000	12500	**129**	**61-128%**	---	---	Q-03
n-Propylbenzene	2070	25.0	50.0	ug/L	100	2000	ND	103	76-126%	---	---	
Styrene	2050	50.0	100	ug/L	100	2000	ND	102	78-123%	---	---	

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AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110413 - EPA 5030B							**Water**					
Matrix Spike (9110413-MS1)			Prepared: 11/04/19 11:08 Analyzed: 11/04/19 16:44									
QC Source Sample: PDI-071PW-08-10-191031 (A9K0039-07)												
1,1,1,2-Tetrachloroethane	2220	20.0	40.0	ug/L	100	2000	ND	111	78-124%	---	---	
1,1,2,2-Tetrachloroethane	2150	25.0	50.0	ug/L	100	2000	ND	108	71-121%	---	---	
Tetrachloroethene (PCE)	2120	20.0	40.0	ug/L	100	2000	ND	106	74-129%	---	---	
Toluene	2700	50.0	100	ug/L	100	2000	681	101	80-121%	---	---	
1,2,3-Trichlorobenzene	2160	100	200	ug/L	100	2000	ND	108	69-129%	---	---	
1,2,4-Trichlorobenzene	2050	100	200	ug/L	100	2000	ND	102	69-130%	---	---	
1,1,1-Trichloroethane	2010	20.0	40.0	ug/L	100	2000	ND	101	74-131%	---	---	
1,1,2-Trichloroethane	2130	25.0	50.0	ug/L	100	2000	ND	106	80-120%	---	---	
Trichloroethene (TCE)	2170	20.0	40.0	ug/L	100	2000	ND	108	79-123%	---	---	
Trichlorofluoromethane	2180	100	200	ug/L	100	2000	ND	109	65-141%	---	---	
1,2,3-Trichloropropane	2010	50.0	100	ug/L	100	2000	ND	101	73-122%	---	---	
1,2,4-Trimethylbenzene	2150	50.0	100	ug/L	100	2000	ND	108	76-124%	---	---	
1,3,5-Trimethylbenzene	2080	50.0	100	ug/L	100	2000	ND	104	75-124%	---	---	
Vinyl chloride	2220	20.0	40.0	ug/L	100	2000	ND	111	58-137%	---	---	
m,p-Xylene	4660	50.0	100	ug/L	100	4000	518	103	80-121%	---	---	
o-Xylene	2290	25.0	50.0	ug/L	100	2000	238	102	78-122%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 104 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*100 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*				*"*			

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AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110483 - EPA 5030B												**Water**
Blank (9110483-BLK1)			Prepared: 11/05/19 12:14 Analyzed: 11/05/19 13:35									
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)			*97 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*96 %*	*70-130 %*			*"*					
LCS (9110483-BS1)			Prepared: 11/05/19 12:14 Analyzed: 11/05/19 13:08									
EPA 8260C SIM												
Vinyl chloride	0.199	0.0100	0.0200	ug/L	1	0.200	---	100	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*	*Limits: 70-130 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*97 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*95 %*	*70-130 %*			*"*					
Duplicate (9110483-DUP1)			Prepared: 11/05/19 13:35 Analyzed: 11/05/19 16:18									
QC Source Sample: Non-SDG (A9J1114-05)												
Vinyl chloride	**0.327**	0.0100	0.0200	ug/L	1	---	0.313	---	---	4	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 99 %*	*Limits: 70-130 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*94 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*91 %*	*70-130 %*			*"*					
Matrix Spike (9110483-MS1)			Prepared: 11/05/19 13:35 Analyzed: 11/05/19 18:06									
QC Source Sample: PDI-064PW-10-12-191101 (A9K0039-03)												
EPA 8260C SIM												
Vinyl chloride	0.190	0.0100	0.0200	ug/L	1	0.200	ND	95	58-137%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 101 %*	*Limits: 70-130 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*94 %*	*70-130 %*			*"*					
4-Bromofluorobenzene (Surr)			*91 %*	*70-130 %*			*"*					

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AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**

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 9110429 - EPA 3511 (Bottle Extraction)							**Water**					
Blank (9110429-BLK1)			Prepared: 11/04/19 10:15		Analyzed: 11/04/19 14:22							
EPA 8270D LVI												
Acenaphthene	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	0.00800	0.0160	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	0.00800	0.0160	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	0.00800	0.0160	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	0.00800	0.0160	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	0.00800	0.0160	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	0.00800	0.0160	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	0.00800	0.0160	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	0.0320	0.0640	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	0.0320	0.0640	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	0.0320	0.0640	ug/L	1	---	---	---	---	---	---	
Phenanthrene	ND	0.0320	0.0640	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	0.0160	0.0320	ug/L	1	---	---	---	---	---	---	
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Benzo(a)pyrene-d12 (Surr)			*106 %*		*80-143 %*				*"*			
LCS (9110429-BS1)			Prepared: 11/04/19 10:15		Analyzed: 11/04/19 14:54							
EPA 8270D LVI												
Acenaphthene	1.48	0.0160	0.0320	ug/L	1	1.60	---	93	78-135%	---	---	
Acenaphthylene	1.60	0.0160	0.0320	ug/L	1	1.60	---	100	80-126%	---	---	
Anthracene	1.55	0.0160	0.0320	ug/L	1	1.60	---	97	80-120%	---	---	
Benz(a)anthracene	1.59	0.00800	0.0160	ug/L	1	1.60	---	99	76-124%	---	---	
Benzo(a)pyrene	1.63	0.00800	0.0160	ug/L	1	1.60	---	102	71-127%	---	---	
Benzo(b)fluoranthene	1.54	0.00800	0.0160	ug/L	1	1.60	---	96	68-120%	---	---	
Benzo(k)fluoranthene	1.60	0.00800	0.0160	ug/L	1	1.60	---	100	72-120%	---	---	
Carbazole	1.45	0.0160	0.0320	ug/L	1	1.60	---	91	80-122%	---	---	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

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 9110429 - EPA 3511 (Bottle Extraction)							**Water**					
LCS (9110429-BS1)			Prepared: 11/04/19 10:15		Analyzed: 11/04/19 14:54							
Dibenzofuran	1.38	0.0160	0.0320	ug/L	1	1.60	---	86	75-122%	---	---	
Benzo(g,h,i)perylene	1.59	0.0160	0.0320	ug/L	1	1.60	---	99	71-120%	---	---	
Chrysene	1.50	0.00800	0.0160	ug/L	1	1.60	---	94	71-121%	---	---	
Dibenz(a,h)anthracene	1.58	0.00800	0.0160	ug/L	1	1.60	---	99	69-122%	---	---	
Fluoranthene	1.52	0.0160	0.0320	ug/L	1	1.60	---	95	80-120%	---	---	
Fluorene	1.36	0.0160	0.0320	ug/L	1	1.60	---	85	78-129%	---	---	
Indeno(1,2,3-cd)pyrene	1.44	0.00800	0.0160	ug/L	1	1.60	---	90	72-132%	---	---	
1-Methylnaphthalene	1.60	0.0320	0.0640	ug/L	1	1.60	---	100	76-150%	---	---	
2-Methylnaphthalene	1.49	0.0320	0.0640	ug/L	1	1.60	---	93	80-158%	---	---	
Naphthalene	1.49	0.0320	0.0640	ug/L	1	1.60	---	93	80-132%	---	---	
Phenanthrene	1.42	0.0320	0.0640	ug/L	1	1.60	---	89	80-120%	---	---	
Pyrene	1.52	0.0160	0.0320	ug/L	1	1.60	---	95	73-127%	---	---	
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Benzo(a)pyrene-d12 (Surr)			*107 %*		*80-143 %*				*"*			
LCS Dup (9110429-BSD1)			Prepared: 11/04/19 10:15		Analyzed: 11/04/19 15:27							**Q-19**
EPA 8270D LVI												
Acenaphthene	1.47	0.0160	0.0320	ug/L	1	1.60	---	92	78-135%	0.6	30%	
Acenaphthylene	1.63	0.0160	0.0320	ug/L	1	1.60	---	102	80-126%	1	30%	
Anthracene	1.55	0.0160	0.0320	ug/L	1	1.60	---	97	80-120%	0.4	30%	
Benz(a)anthracene	1.62	0.00800	0.0160	ug/L	1	1.60	---	101	76-124%	2	30%	
Benzo(a)pyrene	1.66	0.00800	0.0160	ug/L	1	1.60	---	104	71-127%	2	30%	
Benzo(b)fluoranthene	1.54	0.00800	0.0160	ug/L	1	1.60	---	96	68-120%	0.5	30%	
Benzo(k)fluoranthene	1.62	0.00800	0.0160	ug/L	1	1.60	---	101	72-120%	1	30%	
Carbazole	1.45	0.0160	0.0320	ug/L	1	1.60	---	91	80-122%	0.2	30%	
Dibenzofuran	1.39	0.0160	0.0320	ug/L	1	1.60	---	87	75-122%	1	30%	
Benzo(g,h,i)perylene	1.56	0.0160	0.0320	ug/L	1	1.60	---	97	71-120%	2	30%	
Chrysene	1.51	0.00800	0.0160	ug/L	1	1.60	---	94	71-121%	0.6	30%	
Dibenz(a,h)anthracene	1.56	0.00800	0.0160	ug/L	1	1.60	---	98	69-122%	1	30%	
Fluoranthene	1.55	0.0160	0.0320	ug/L	1	1.60	---	97	80-120%	2	30%	
Fluorene	1.39	0.0160	0.0320	ug/L	1	1.60	---	87	78-129%	2	30%	
Indeno(1,2,3-cd)pyrene	1.44	0.00800	0.0160	ug/L	1	1.60	---	90	72-132%	0.04	30%	
1-Methylnaphthalene	1.52	0.0320	0.0640	ug/L	1	1.60	---	95	76-150%	5	30%	
2-Methylnaphthalene	1.48	0.0320	0.0640	ug/L	1	1.60	---	93	80-158%	0.6	30%	

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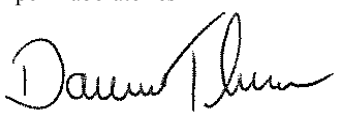

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

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 9110429 - EPA 3511 (Bottle Extraction)							**Water**					
LCS Dup (9110429-BSD1)			Prepared: 11/04/19 10:15		Analyzed: 11/04/19 15:27							**Q-19**
Naphthalene	1.49	0.0320	0.0640	ug/L	1	1.60	---	93	80-132%	0.3	30%	
Phenanthrene	1.43	0.0320	0.0640	ug/L	1	1.60	---	89	80-120%	0.5	30%	
Pyrene	1.54	0.0160	0.0320	ug/L	1	1.60	---	96	73-127%	2	30%	
Surr: Acenaphthylene-d8 (Surr)			*Recovery: 103 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Benzo(a)pyrene-d12 (Surr)			*107 %*		*80-143 %*				*"*			

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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: 9110413							
A9K0039-01	WQ	EPA 8260C	11/01/19 00:00	11/04/19 11:08	5mL/5mL	5mL/5mL	1.00
A9K0039-02RE1	WX	EPA 8260C	11/01/19 11:12	11/04/19 11:08	5mL/5mL	5mL/5mL	1.00
A9K0039-03	WX	EPA 8260C	11/01/19 15:39	11/04/19 11:08	5mL/5mL	5mL/5mL	1.00
A9K0039-04	WX	EPA 8260C	10/31/19 12:46	11/04/19 11:08	5mL/5mL	5mL/5mL	1.00
A9K0039-05	WX	EPA 8260C	10/31/19 15:39	11/04/19 11:08	5mL/5mL	5mL/5mL	1.00
A9K0039-06	WX	EPA 8260C	10/31/19 15:39	11/04/19 11:08	5mL/5mL	5mL/5mL	1.00
A9K0039-07	WX	EPA 8260C	10/31/19 10:24	11/04/19 11:08	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: 9110483							
A9K0039-01	WQ	EPA 8260C SIM	11/01/19 00:00	11/05/19 13:35	5mL/5mL	5mL/5mL	1.00
A9K0039-03	WX	EPA 8260C SIM	11/01/19 15:39	11/05/19 13:35	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: 9110429							
A9K0039-05	WX	EPA 8270D LVI	10/31/19 15:39	11/04/19 10:15	87.86mL/5mL	125mL/5mL	1.42
A9K0039-06	WX	EPA 8270D LVI	10/31/19 15:39	11/04/19 10:15	101.01mL/5mL	125mL/5mL	1.24
A9K0039-06RE1	WX	EPA 8270D LVI	10/31/19 15:39	11/04/19 10:15	101.01mL/5mL	125mL/5mL	1.24

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

QUALIFIER DEFINITIONS

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

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AMEND	Result for this sample or analyte has been amended from the original report. See Case Narrative for details.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
Q-54	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +2%. The results are reported as Estimated Values.
Q-56	Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260C
S-01	Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
V-25	SIM Analysis was not performed due to the high analyte concentration in this sample.

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Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

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

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

NR Result Not Reported

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

Detection Limits: Limit of Detection (LOD)

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

Reporting Limits: Limit of Quantitation (LOQ)

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

Reporting Conventions:

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

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

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

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

QC Source:

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

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

Miscellaneous Notes:

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

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

Blanks:

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

Apex Laboratories

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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**	**A9K0039 - 12 16 19 1541**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

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

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

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

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

Soil and Sediment Samples:

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

Sampling and Preservation Notes:

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

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

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

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

Apex Laboratories

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6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

LABORATORY ACCREDITATION INFORMATION

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

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

Apex Laboratories

Matrix	Analysis	TNI_ID	Analyte	TNI_ID	Accreditation

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

Secondary Accreditations

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

Subcontract Laboratory Accreditations

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

Field Testing Parameters

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

Apex Laboratories

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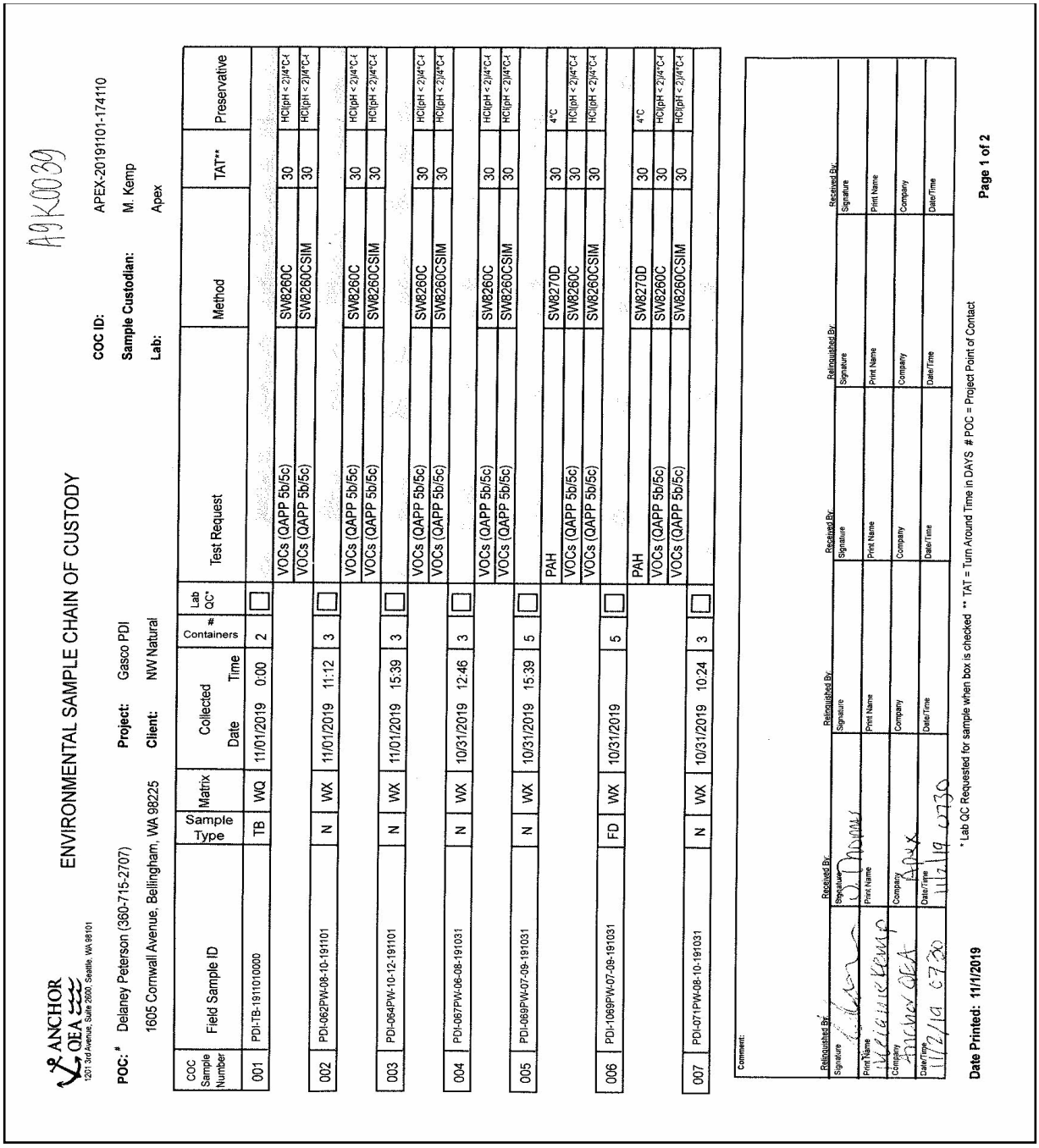
AMENDED REPORT

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**	**A9K0039 - 12 16 19 1541**



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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9K0039

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225
Project: Gasco PDI
Client: NW Natural
COC ID: APEX-20191101-174110
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-TB-19110100000	TB	WQ	11/01/2019	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
002	PDI-062PW-08-10-191101	N	WX	11/01/2019	11:12	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
003	PDI-064PW-10-12-191101	N	WX	11/01/2019	15:39	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-067PW-06-08-191031	N	WX	10/31/2019	12:46	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-069PW-07-09-191031	N	WX	10/31/2019	15:39	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
006	PDI-1069PW-07-09-191031	FD	WX	10/31/2019		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
007	PDI-071PW-08-10-191031	N	WX	10/31/2019	10:24	3	☐				

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

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

Page 1 of 2

Date Printed: 11/1/2019

Apex Laboratories

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Darwin Thomas, Business Development Director

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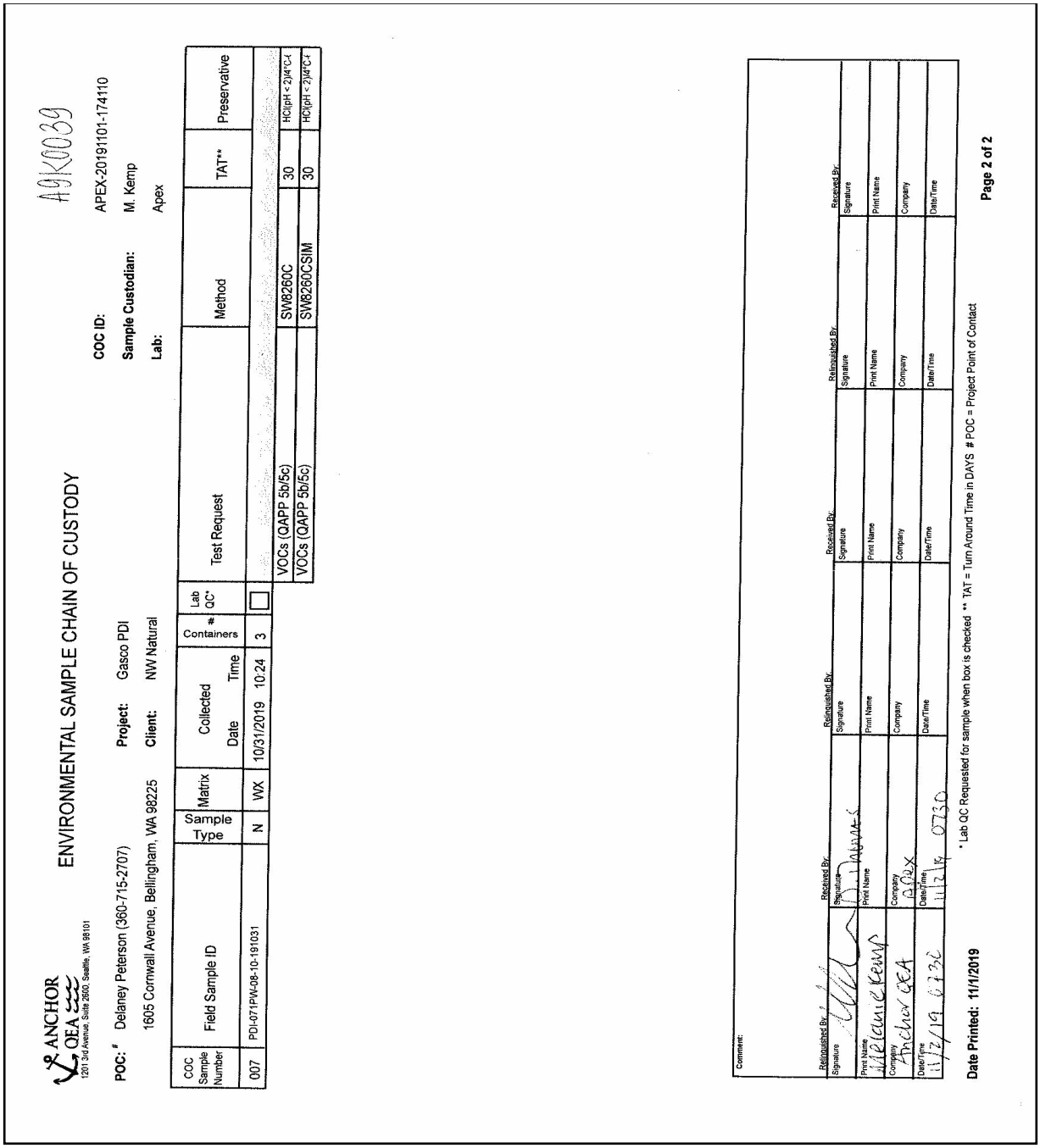
503-718-2323
EPA ID: OR01039

AMENDED REPORT

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

Report ID:
A9K0039 - 12 16 19 1541



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9K0039

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-20191101-174110
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-071PW-08-10-191031	N	WX	10/31/2019	10:24	3	☐	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: 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: Mélanie Kemp / Company: Anchor QEA / Date/Time: 11/2/19 0730
Received By: Signature / Print Name / Company: Apex / Date/Time: 11/2/19 0730

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

Date Printed: 11/1/2019

Page 2 of 2

Apex Laboratories

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

Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 5c. PW in Contact with NAPL**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9K0039 - 12 16 19 1541**

APEX LABS COOLER RECEIPT FORM

Client: Anchor Element WO#: A9 K0039

Project/Project #: Gasco PDI

Delivery Info:

Date/time received: 11/2/19 @ 730 By: DT

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

Cooler Inspection Date/time inspected: 11/2/19 @ 900 By: JS

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)	1.5						
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: 11/2/19 @ 910 By: JS

All samples intact? Yes X No Comments:

Bottle labels/COCs agree? Yes X No Comments: No Ton COC for PDI-1069PW-07-09-191031 Ton containers reads 15:39

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 2/3 VOAs for PDI-1069-07-09-191031 & 1/2 VOAs for PDI-1069-PW-07-09-191031

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

Comments:

Additional information:

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

JS JS

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 SW Sandburg St. Tigard OR 97223 phone 503-718-2323

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

A9K0039

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: 11/18/19 17:00 (10 day TAT)
Received By: Darwin Thomas
Date Received: 11/02/19 07:30
Logged In By: Susan L. Treat
Date Logged In: 11/02/19 09:16

Cooler #1 received at 1.5°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
A9K0039-01 PDI-TB-1911010000 [Water] Sampled 11/01/19 00:00				**TB# 2169**
(GMT-08:00) Pacific Time (US & Canada) 2 Containers				
Project Mgmt				
Data Package	01/03/20 17:00	10	02/08/20 00:00	
Volatiles				
8260C Full List	11/15/19 17:00	10	11/15/19 00:00	All Compounds. SIM if VC ND - Determine List
8260C SIM - VC Only	11/15/19 17:00	10	11/15/19 00:00	Needs 0.022ug/L RL
A9K0039-02 PDI-062PW-08-10-191101 [Water] Sampled 11/01/19 11:12				
(GMT-08:00) Pacific Time (US & Canada) 3 Containers				
Volatiles				
8260C Full List	11/15/19 17:00	10	11/15/19 11:12	All Compounds. SIM if VC ND - Determine List
~~8260C SIM - VC Only~~	11/15/19 17:00	10	11/15/19 11:12	Needs 0.022ug/L RL
A9K0039-03 PDI-064PW-10-12-191101 [Water] Sampled 11/01/19 15:39				
(GMT-08:00) Pacific Time (US & Canada) 3 Containers				
Volatiles				
8260C Full List	11/15/19 17:00	10	11/15/19 15:39	All Compounds. SIM if VC ND - Determine List
8260C SIM - VC Only	11/15/19 17:00	10	11/15/19 15:39	Needs 0.022ug/L RL
A9K0039-04 PDI-067PW-06-08-191031 [Water] Sampled 10/31/19 12:46				
(GMT-08:00) Pacific Time (US & Canada) 3 Containers				
Volatiles				
8260C Full List	11/15/19 17:00	10	11/14/19 12:46	All Compounds. SIM if VC ND - Determine List
~~8260C SIM - VC Only~~	11/15/19 17:00	10	11/14/19 12:46	Needs 0.022ug/L RL

A9K0039

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**
A9K0039-05 PDI-069PW-07-09-191031 [Water] Sampled 10/31/19 15:39				
(GMT-08:00) Pacific Time (US & Canada) 5 Containers				
Semivols (Scan)				
8270D PAH (125ml) LL	11/15/19 17:00	10	11/07/19 15:39	
Volatiles				
8260C Full List	11/15/19 17:00	10	11/14/19 15:39	HS in B & C containers, All Compounds. SIM if VC ND - Deter
~~8260C SIM - VC Only~~	11/15/19 17:00	10	11/14/19 15:39	HS in B & C containers, Needs 0.022ug/L RL
A9K0039-06 PDI-1069PW-07-09-191031 [Water] Sampled 10/31/19 15:39				**No T on CoC, containers read T of 1539**
(GMT-08:00) Pacific Time (US & Canada) 5 Containers				
Semivols (Scan)				
8270D PAH (125ml) LL	11/15/19 17:00	10	11/07/19 15:39	
Volatiles				
8260C Full List	11/15/19 17:00	10	11/14/19 15:39	HS in B & C containers, All Compounds. SIM if VC ND - Deter
~~8260C SIM - VC Only~~	11/15/19 17:00	10	11/14/19 15:39	HS in B & C containers, Needs 0.022ug/L RL
A9K0039-07 PDI-071PW-08-10-191031 [Water] Sampled 10/31/19 10:24				
(GMT-08:00) Pacific Time (US & Canada) 3 Containers				
Volatiles				
8260C Full List	11/15/19 17:00	10	11/14/19 10:24	HS in C container, All Compounds. SIM if VC ND - Determine I
~~8260C SIM - VC Only~~	11/15/19 17:00	10	11/14/19 10:24	HS in C container, Needs 0.022ug/L RL

Reviewed By

Date

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

A9K0039

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID: APEX-20191101-174110

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
001	PDI-TB-1911010000	TB	WQ	11/01/2019	0:00	2	☐				
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-[illegible]
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-[illegible]
002	PDI-062PW-08-10-191101	N	WX	11/01/2019	11:12	3	☐				
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-[illegible]
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-[illegible]
003	PDI-064PW-10-12-191101	N	WX	11/01/2019	15:39	3	☐				
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-[illegible]
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-[illegible]
004	PDI-067PW-06-08-191031	N	WX	10/31/2019	12:46	3	☐				
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-[illegible]
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-[illegible]
005	PDI-069PW-07-09-191031	N	WX	10/31/2019	15:39	5	☐				
								PAH	SW8270D	30	4°C
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-[illegible]
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-[illegible]
006	PDI-1069PW-07-09-191031	FD	WX	10/31/2019		5	☐				
								PAH	SW8270D	30	4°C
								VOCs (QAPP 5b/5c)	SW8260C	30	HCl(pH < 2)/4°C-[illegible]
								VOCs (QAPP 5b/5c)	SW8260CSIM	30	HCl(pH < 2)/4°C-[illegible]
007	PDI-071PW-08-10-191031	N	WX	10/31/2019	10:24	3	☐				

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: [signature]	Signature: [signature]	Signature:	Signature:	Signature:	Signature:
Print Name: Melanie Kemp	Print Name:	Print Name:	Print Name:	Print Name:	Print Name:
Company: Anchor QEA	Company: Apex	Company:	Company:	Company:	Company:
Date/Time: 11/2/19 0730	Date/Time: 11/2/19 0730	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Date Printed: 11/1/2019

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

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9K0039

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20191101-174110
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-071PW-08-10-191031	N	WX	10/31/2019	10:24	3	☐	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	Signature	Signature
Print Name: Melanie Kemp	Print Name	Print Name	Print Name	Print Name	Print Name
Company: Anchor QEA	Company: APEX	Company	Company	Company	Company
Date/Time: 11/2/19 0730	Date/Time: 11/2/19 0730	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 11/1/2019

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

APEX LABS COOLER RECEIPT FORM

Client: Anchor Element WO#: A9K0039

Project/Project #: Gasco PDI

Delivery Info:

Date/time received: 11/2/19 @ 730 By: DT

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

Cooler Inspection Date/time inspected: 11/2/19 @ 900 By: JS

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)	1.5						
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: 11/2/19 @ 910 By: JS

All samples intact? Yes X No ___ Comments: ___

Bottle labels/COCs agree? Yes X No ___ Comments: No Ton COC for PDI-1069PW-07-09-191031 Ton containers reads 15:39

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 2/3 VOAs for PDI-069-07-09-191031 & 1/2 VOAs for PDI-1069-PW-07-09-191031

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

Comments: ___

Additional information: ___

Labeled by: B Witness: JS Cooler Inspected by: JS 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
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-TB-1911010000	A9K0039-01	WQ
PDI-062PW-08-10-191101	A9K0039-02	WX
PDI-064PW-10-12-191101	A9K0039-03	WX
PDI-067PW-06-08-191031	A9K0039-04	WX
PDI-069PW-07-09-191031	A9K0039-05	WX
PDI-1069PW-07-09-191031	A9K0039-06	WX
PDI-071PW-08-10-191031	A9K0039-07	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 10:53AM
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-TB-1911010000

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:	A9K0039-01	File ID:	VI19110408.D
Sampled:	11/01/19 00:00	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 11:48
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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-1911010000

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: A9K0039-01 | File ID: VI19110408.D

Sampled: 11/01/19 00:00 | Prepared: 11/04/19 11:08 | Analyzed: 11/04/19 11:48

Preparation: EPA 5030B | Initial/Final: 5 mL / 5 mL

Batch: 9110413 | Sequence: 9K04028 | 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
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	52.9	106	80 - 120	
Toluene-d8 (Surr)	50.0	51.2	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.4	101	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	106357	6.217	116594	6.217	
Chlorobenzene-d5 (ISTD)	292155	9.916	325714	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	131374	11.856	155936	11.856	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-062PW-08-10-191101

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:	A9K0039-02RE1	File ID:	VI19110422.D
Sampled:	11/01/19 11:12	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 18:05
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Batch:	9110413	Sequence:	9K04028	Calibration:	A9J2503
Instrument:	VOA-GCMS9				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	10	100	U
107-13-1	Acrylonitrile	10	10.0	U
71-43-2	Benzene	10	33.2	D
108-86-1	Bromobenzene	10	2.50	U
74-97-5	Bromochloromethane	10	5.00	U
75-27-4	Bromodichloromethane	10	5.00	U
75-25-2	Bromoform	10	5.00	U
74-83-9	Bromomethane	10	50.0	U
78-93-3	2-Butanone (MEK)	10	50.0	U
104-51-8	n-Butylbenzene	10	5.00	U
135-98-8	sec-Butylbenzene	10	5.00	U
98-06-6	tert-Butylbenzene	10	5.00	U
75-15-0	Carbon disulfide	10	50.0	U
56-23-5	Carbon tetrachloride	10	5.00	U
108-90-7	Chlorobenzene	10	2.50	U
75-00-3	Chloroethane	10	50.0	U
67-66-3	Chloroform	10	5.00	U
74-87-3	Chloromethane	10	25.0	U
95-49-8	2-Chlorotoluene	10	5.00	U
106-43-4	4-Chlorotoluene	10	5.00	U
124-48-1	Dibromochloromethane	10	5.00	U
96-12-8	1,2-Dibromo-3-chloropropane	10	25.0	U
106-93-4	1,2-Dibromoethane (EDB)	10	2.50	U
74-95-3	Dibromomethane	10	5.00	U
95-50-1	1,2-Dichlorobenzene	10	2.50	U
541-73-1	1,3-Dichlorobenzene	10	2.50	U
106-46-7	1,4-Dichlorobenzene	10	2.50	U
75-71-8	Dichlorodifluoromethane	10	5.00	U
75-34-3	1,1-Dichloroethane	10	2.00	U
107-06-2	1,2-Dichloroethane (EDC)	10	2.00	U
75-35-4	1,1-Dichloroethene	10	2.00	U
156-59-2	cis-1,2-Dichloroethene	10	2.00	U
156-60-5	trans-1,2-Dichloroethene	10	2.00	U
78-87-5	1,2-Dichloropropane	10	2.50	U
142-28-9	1,3-Dichloropropane	10	5.00	U
594-20-7	2,2-Dichloropropane	10	5.00	U
563-58-6	1,1-Dichloropropene	10	5.00	U
10061-01-5	cis-1,3-Dichloropropene	10	5.00	U
10061-02-6	trans-1,3-Dichloropropene	10	5.00	U
100-41-4	Ethylbenzene	10	16.1	D

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-062PW-08-10-191101

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:	A9K0039-02RE1	File ID:	VI19110422.D
Sampled:	11/01/19 11:12	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 18:05
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 Calibration: A9J2503 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
87-68-3	Hexachlorobutadiene	10	25.0	U
110-54-3	n-Hexane	10	50.0	U
591-78-6	2-Hexanone	10	50.0	U
98-82-8	Isopropylbenzene	10	5.24	JD
99-87-6	4-Isopropyltoluene	10	5.00	U
75-09-2	Methylene chloride	10	25.0	U
108-10-1	4-Methyl-2-pentanone (MiBK)	10	50.0	U
1634-04-4	Methyl tert-butyl ether (MTBE)	10	5.00	U
91-20-3	Naphthalene	10	452	D
103-65-1	n-Propylbenzene	10	2.50	U
100-42-5	Styrene	10	5.00	U
630-20-6	1,1,1,2-Tetrachloroethane	10	2.00	U
79-34-5	1,1,2,2-Tetrachloroethane	10	2.50	U
127-18-4	Tetrachloroethene (PCE)	10	2.00	U
109-99-9	Tetrahydrofuran	10	50.0	U
87-61-6	1,2,3-Trichlorobenzene	10	10.0	U
120-82-1	1,2,4-Trichlorobenzene	10	10.0	U
71-55-6	1,1,1-Trichloroethane	10	2.00	U
79-00-5	1,1,2-Trichloroethane	10	2.50	U
79-01-6	Trichloroethene (TCE)	10	2.00	U
75-69-4	Trichlorofluoromethane	10	10.0	U
96-18-4	1,2,3-Trichloropropane	10	5.00	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon-113)	10	10.0	U
95-63-6	1,2,4-Trimethylbenzene	10	6.14	JD
108-67-8	1,3,5-Trimethylbenzene	10	5.00	U
78-83-1	Isobutyl alcohol	10	2500	U
108-88-3	Toluene	10	5.00	U
75-01-4	Vinyl chloride	10	2.00	U
179601-23-1	m,p-Xylene	10	5.00	U
95-47-6	o-Xylene	10	3.95	JD
110-57-6	trans-1,4-Dichloro-2-butene	10	50.0	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	52.5	105	80 - 120	
Toluene-d8 (Surr)	50.0	50.9	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.3	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	99899	6.217	116594	6.217	
Chlorobenzene-d5 (ISTD)	276610	9.916	325714	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	127702	11.856	155936	11.856	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-064PW-10-12-191101

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:	A9K0039-03	File ID:	VI19110409.D
Sampled:	11/01/19 15:39	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 12:15
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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-064PW-10-12-191101

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:	A9K0039-03	File ID:	VI19110409.D
Sampled:	11/01/19 15:39	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 12:15
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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	12.2	
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
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	51.9	104	80 - 120	
Toluene-d8 (Surr)	50.0	51.6	103	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	48.8	98	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	101423	6.223	116594	6.217	
Chlorobenzene-d5 (ISTD)	278335	9.916	325714	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	128511	11.856	155936	11.856	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-067PW-06-08-191031

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:	A9K0039-04	File ID:	VI19110414.D
Sampled:	10/31/19 12:46	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 14:30
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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	97.7	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	42.6	JD

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-067PW-06-08-191031

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:	A9K0039-04	File ID:	VI19110414.D
Sampled:	10/31/19 12:46	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 14:30
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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	6680	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	50.0	U
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	50.0	U
95-47-6	o-Xylene	100	25.0	U
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	51.7	103	80 - 120	
Toluene-d8 (Surr)	50.0	51.3	103	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.1	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	104748	6.217	116594	6.217	
Chlorobenzene-d5 (ISTD)	286683	9.916	325714	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	127496	11.856	155936	11.856	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-069PW-07-09-191031

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:	A9K0039-05	File ID:	VI19110415.D
Sampled:	10/31/19 15:39	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 14:56
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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	1650	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	221	D

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-069PW-07-09-191031

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:	A9K0039-05	File ID:	VI19110415.D
Sampled:	10/31/19 15:39	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 14:56
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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	9730	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	50.0	U
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	180	D
95-47-6	o-Xylene	100	89.2	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	51.2	102	80 - 120	
Toluene-d8 (Surr)	50.0	51.2	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.4	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	107640	6.217	116594	6.217	
Chlorobenzene-d5 (ISTD)	292780	9.916	325714	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	134078	11.856	155936	11.856	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-1069PW-07-09-191031

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:	A9K0039-06	File ID:	VI19110416.D
Sampled:	10/31/19 15:39	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 15:23
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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	1470	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	198	D

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-1069PW-07-09-191031

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:	A9K0039-06	File ID:	VI19110416.D
Sampled:	10/31/19 15:39	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 15:23
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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	9120	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	50.0	U
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	165	D
95-47-6	o-Xylene	100	80.2	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	51.2	102	80 - 120	
Toluene-d8 (Surr)	50.0	50.8	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	48.9	98	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	107910	6.217	116594	6.217	
Chlorobenzene-d5 (ISTD)	292418	9.916	325714	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	134157	11.856	155936	11.856	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-071PW-08-10-191031

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:	A9K0039-07	File ID:	VI19110418.D
Sampled:	10/31/19 10:24	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 16:17
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Batch:	9110413	Sequence:	9K04028	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	6830	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	289	D

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-071PW-08-10-191031

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:	A9K0039-07	File ID:	VI19110418.D
Sampled:	10/31/19 10:24	Prepared:	11/04/19 11:08	Analyzed:	11/04/19 16:17
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110413 Sequence: 9K04028 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	12500	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	50.0	U
108-67-8	1,3,5-Trimethylbenzene	100	50.0	U
78-83-1	Isobutyl alcohol	100	25000	U
108-88-3	Toluene	100	681	D
75-01-4	Vinyl chloride	100	20.0	U
179601-23-1	m,p-Xylene	100	518	D
95-47-6	o-Xylene	100	238	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	51.4	103	80 - 120	
Toluene-d8 (Surr)	50.0	51.0	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.2	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	108954	6.217	116594	6.217	
Chlorobenzene-d5 (ISTD)	297076	9.916	325714	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	138482	11.856	155936	11.856	

* 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: 9110413 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9110413-BLK1	VI19110407.D	11/04/19 09:00	
LCS	9110413-BS1	VI19110405.D	11/04/19 09:00	
PDI-1069PW-07-09-191031 (Dup)	9110413-DUP1	VI19110417.D	11/04/19 11:08	
PDI-071PW-08-10-191031 (MS)	9110413-MS1	VI19110419.D	11/04/19 11:08	
PDI-TB-1911010000	A9K0039-01	VI19110408.D	11/04/19 11:08	
PDI-062PW-08-10-191101	A9K0039-02RE1	VI19110422.D	11/04/19 11:08	
PDI-064PW-10-12-191101	A9K0039-03	VI19110409.D	11/04/19 11:08	
PDI-067PW-06-08-191031	A9K0039-04	VI19110414.D	11/04/19 11:08	
PDI-069PW-07-09-191031	A9K0039-05	VI19110415.D	11/04/19 11:08	
PDI-1069PW-07-09-191031	A9K0039-06	VI19110416.D	11/04/19 11:08	
PDI-071PW-08-10-191031	A9K0039-07	VI19110418.D	11/04/19 11:08	

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

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:	9110413-BLK1	File ID:	VI19110407.D
Prepared:	11/04/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/04/19 11:22	Instrument:	VOA-GCMS9		
Batch:	9110413	Sequence:	9K04028	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:	9110413-BLK1	File ID:	VI19110407.D
Prepared:	11/04/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/04/19 11:22	Instrument:	VOA-GCMS9		
Batch:	9110413	Sequence:	9K04028	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	52.2	104	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:	9110413-BLK1	File ID:	VI19110407.D
Prepared:	11/04/19 09:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/04/19 11:22	Instrument:	VOA-GCMS9		
Batch:	9110413	Sequence:	9K04028	Calibration:	A9J2503

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Surr)	50.0	49.9	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	113410	6.217	116594	6.217	
Chlorobenzene-d5 (ISTD)	311790	9.916	325714	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	140834	11.856	155936	11.856	

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:	9110413	Laboratory ID:	9110413-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	36.1	90	80 - 120
Acrylonitrile	20.0	21.4	107	80 - 120
Benzene	20.0	19.4	97	80 - 120
Bromobenzene	20.0	19.5	98	80 - 120
Bromochloromethane	20.0	21.9	109	80 - 120
Bromodichloromethane	20.0	20.5	102	80 - 120
Bromoform	20.0	23.8	119	80 - 120
Bromomethane	20.0	22.9	114	80 - 120
2-Butanone (MEK)	40.0	39.5	99	80 - 120
n-Butylbenzene	20.0	20.2	101	80 - 120
sec-Butylbenzene	20.0	19.1	95	80 - 120
tert-Butylbenzene	20.0	18.2	91	80 - 120
Carbon disulfide	20.0	18.4	92	80 - 120
Carbon tetrachloride	20.0	19.5	98	80 - 120
Chlorobenzene	20.0	19.2	96	80 - 120
Chloroethane	20.0	16.1	80	80 - 120
Chloroform	20.0	19.5	98	80 - 120
Chloromethane	20.0	17.3	87	80 - 120
2-Chlorotoluene	20.0	18.6	93	80 - 120
4-Chlorotoluene	20.0	18.9	95	80 - 120
Dibromochloromethane	20.0	24.3	122 *	80 - 120
1,2-Dibromo-3-chloropropane	20.0	20.2	101	80 - 120
1,2-Dibromoethane (EDB)	20.0	19.5	98	80 - 120
Dibromomethane	20.0	20.8	104	80 - 120
1,2-Dichlorobenzene	20.0	19.0	95	80 - 120
1,3-Dichlorobenzene	20.0	19.4	97	80 - 120
1,4-Dichlorobenzene	20.0	19.1	95	80 - 120
Dichlorodifluoromethane	20.0	18.6	93	80 - 120
1,1-Dichloroethane	20.0	19.0	95	80 - 120
1,2-Dichloroethane (EDC)	20.0	18.7	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:	9110413	Laboratory ID:	9110413-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	19.2	96	80 - 120
trans-1,2-Dichloroethene	20.0	19.6	98	80 - 120
1,2-Dichloropropane	20.0	19.8	99	80 - 120
1,3-Dichloropropane	20.0	19.7	99	80 - 120
2,2-Dichloropropane	20.0	18.1	91	80 - 120
1,1-Dichloropropene	20.0	18.6	93	80 - 120
cis-1,3-Dichloropropene	20.0	19.3	96	80 - 120
trans-1,3-Dichloropropene	20.0	18.7	94	80 - 120
Ethylbenzene	20.0	18.4	92	80 - 120
Hexachlorobutadiene	20.0	18.4	92	80 - 120
2-Hexanone	40.0	37.8	94	80 - 120
Isopropylbenzene	20.0	18.7	93	80 - 120
4-Isopropyltoluene	20.0	19.4	97	80 - 120
Methylene chloride	20.0	18.8	94	80 - 120
4-Methyl-2-pentanone (MiBK)	40.0	39.8	99	80 - 120
Methyl tert-butyl ether (MTBE)	20.0	17.9	89	80 - 120
Naphthalene	20.0	18.1	91	80 - 120
n-Propylbenzene	20.0	19.0	95	80 - 120
Styrene	20.0	19.1	95	80 - 120
1,1,1,2-Tetrachloroethane	20.0	20.8	104	80 - 120
1,1,2,2-Tetrachloroethane	20.0	20.7	104	80 - 120
Tetrachloroethene (PCE)	20.0	19.5	97	80 - 120
1,2,3-Trichlorobenzene	20.0	18.9	95	80 - 120
1,2,4-Trichlorobenzene	20.0	18.7	94	80 - 120
1,1,1-Trichloroethane	20.0	18.2	91	80 - 120
1,1,2-Trichloroethane	20.0	20.1	100	80 - 120
Trichloroethene (TCE)	20.0	19.9	99	80 - 120
Trichlorofluoromethane	20.0	19.2	96	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:	9110413	Laboratory ID:	9110413-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	19.6	98	80 - 120
1,3,5-Trimethylbenzene	20.0	19.3	96	80 - 120
Toluene	20.0	18.4	92	80 - 120
Vinyl chloride	20.0	19.6	98	80 - 120
m,p-Xylene	40.0	37.2	93	80 - 120
o-Xylene	20.0	18.5	92	80 - 120

* = Values outside of QC limits

DUPLICATES

PDI-1069PW-07-09-191031

EPA 8260C

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Water
Batch: 9110413
Preparation: EPA 5030B
Source Sample Name: PDI-1069PW-07-09-191031

SDG: Gasco_PreRD_DG 2019
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contac
Laboratory ID: 9110413-DUP1
Lab Source ID: A9K0039-06
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	80.8		ND				EPA 8260C
Acrylonitrile	30	0.00		ND				EPA 8260C
Benzene	30	1470		1520		3		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	28.1		ND				EPA 8260C
Chloroform	30	0.00		ND				EPA 8260C
Chloromethane	30	8.50		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-1069PW-07-09-191031

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Water
Batch: 9110413
Preparation: EPA 5030B
Source Sample Name: PDI-1069PW-07-09-191031

SDG: Gasco_PreRD_DG 2019
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contac
Laboratory ID: 9110413-DUP1
Lab Source ID: A9K0039-06
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	198		208		5		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	9120		9360		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	35.6		ND				EPA 8260C
1,3,5-Trimethylbenzene	30	12.1		ND				EPA 8260C
Toluene	30	24.6		ND				EPA 8260C
Vinyl chloride	30	0.00		ND				EPA 8260C

DUPLICATES

PDI-1069PW-07-09-191031

EPA 8260C

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Water
Batch: 9110413
Preparation: EPA 5030B
Source Sample Name: PDI-1069PW-07-09-191031

SDG: Gasco_PreRD_DG 2019
Project: Gasco_PreRD_DG 2019 - 5c. PW in Contac
Laboratory ID: 9110413-DUP1
Lab Source ID: A9K0039-06
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	165		168		2		EPA 8260C
o-Xylene	30	80.2		82.6		3		EPA 8260C

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C

PDI-071PW-08-10-191031

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: 9110413
Laboratory ID: 9110413-MS1
Preparation: EPA 5030B
Initial/Final: 5 mL / 5 mL
Source Sample Name: PDI-071PW-08-10-191031

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. (*=Out)	QC LIMITS REC.
Acetone	4000	ND	3650	91	39 - 160
Acrylonitrile	2000	ND	2180	109	63 - 135
Benzene	2000	6830	8980	108	79 - 120
Bromobenzene	2000	ND	2060	103	80 - 120
Bromochloromethane	2000	ND	2320	116	78 - 123
Bromodichloromethane	2000	ND	2190	110	79 - 125
Bromoform	2000	ND	2430	121	66 - 130
Bromomethane	2000	ND	2410	120	53 - 141
2-Butanone (MEK)	4000	ND	4030	101	56 - 143
n-Butylbenzene	2000	ND	2270	113	75 - 128
sec-Butylbenzene	2000	ND	2080	104	77 - 126
tert-Butylbenzene	2000	ND	1960	98	78 - 124
Carbon disulfide	2000	ND	2010	101	64 - 133
Carbon tetrachloride	2000	ND	2190	109	72 - 136
Chlorobenzene	2000	ND	2070	104	80 - 120
Chloroethane	2000	ND	1670	84	60 - 138
Chloroform	2000	ND	2150	108	79 - 124
Chloromethane	2000	ND	1920	96	50 - 139
2-Chlorotoluene	2000	ND	2010	101	79 - 122
4-Chlorotoluene	2000	ND	2010	101	78 - 122
Dibromochloromethane	2000	ND	2540	127 *	74 - 126
1,2-Dibromo-3-chloropropane	2000	ND	2020	101	62 - 128
1,2-Dibromoethane (EDB)	2000	ND	2040	102	77 - 121
Dibromomethane	2000	ND	2170	109	79 - 123
1,2-Dichlorobenzene	2000	ND	2060	103	80 - 120
1,3-Dichlorobenzene	2000	ND	2050	103	80 - 120
1,4-Dichlorobenzene	2000	ND	2040	102	79 - 120
Dichlorodifluoromethane	2000	ND	2090	104	32 - 152
1,1-Dichloroethane	2000	ND	2100	105	77 - 125
1,2-Dichloroethane (EDC)	2000	ND	1990	99	73 - 128
1,1-Dichloroethene	2000	ND	2110	106	71 - 131
cis-1,2-Dichloroethene	2000	ND	2100	105	78 - 123
trans-1,2-Dichloroethene	2000	ND	2190	110	75 - 124
1,2-Dichloropropane	2000	ND	2150	108	78 - 122
1,3-Dichloropropane	2000	ND	2100	105	80 - 120
2,2-Dichloropropane	2000	ND	1810	90	60 - 139
1,1-Dichloropropene	2000	ND	2120	106	79 - 125

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C

PDI-071PW-08-10-191031

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:	9110413	Laboratory ID:	9110413-MS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Source Sample Name: PDI-071PW-08-10-191031

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	1960	98	75 - 124
trans-1,3-Dichloropropene	2000	ND	1920	96	73 - 127
Ethylbenzene	2000	289	2340	102	79 - 121
Hexachlorobutadiene	2000	ND	1970	98	66 - 134
2-Hexanone	4000	ND	4000	100	57 - 139
Isopropylbenzene	2000	ND	2090	105	72 - 131
4-Isopropyltoluene	2000	ND	2110	106	77 - 127
Methylene chloride	2000	ND	2020	101	74 - 124
4-Methyl-2-pentanone (MiBK)	4000	ND	4070	102	67 - 130
Methyl tert-butyl ether (MTBE)	2000	ND	1850	92	71 - 124
Naphthalene	2000	12500	15100	129 *	61 - 128
n-Propylbenzene	2000	ND	2070	103	76 - 126
Styrene	2000	ND	2050	102	78 - 123
1,1,1,2-Tetrachloroethane	2000	ND	2220	111	78 - 124
1,1,2,2-Tetrachloroethane	2000	ND	2150	108	71 - 121
Tetrachloroethene (PCE)	2000	ND	2120	106	74 - 129
1,2,3-Trichlorobenzene	2000	ND	2160	108	69 - 129
1,2,4-Trichlorobenzene	2000	ND	2050	102	69 - 130
1,1,1-Trichloroethane	2000	ND	2010	101	74 - 131
1,1,2-Trichloroethane	2000	ND	2130	106	80 - 120
Trichloroethene (TCE)	2000	ND	2170	108	79 - 123
Trichlorofluoromethane	2000	ND	2180	109	65 - 141
1,2,3-Trichloropropane	2000	ND	2010	101	73 - 122
1,2,4-Trimethylbenzene	2000	ND	2150	108	76 - 124
1,3,5-Trimethylbenzene	2000	ND	2080	104	75 - 124
Toluene	2000	681	2700	101	80 - 121
Vinyl chloride	2000	ND	2220	111	58 - 137
m,p-Xylene	4000	518	4660	103	80 - 121
o-Xylene	2000	238	2290	102	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:	9K04028	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9K04028-TUN1	VI19110404.D	11/04/19 10:01
Calibration Check	9K04028-CCV1	VI19110405.D	11/04/19 10:28
Blank	9110413-BLK1	VI19110407.D	11/04/19 11:22
PDI-TB-1911010000	A9K0039-01	VI19110408.D	11/04/19 11:48
PDI-064PW-10-12-191101	A9K0039-03	VI19110409.D	11/04/19 12:15
PDI-067PW-06-08-191031	A9K0039-04	VI19110414.D	11/04/19 14:30
PDI-069PW-07-09-191031	A9K0039-05	VI19110415.D	11/04/19 14:56
PDI-1069PW-07-09-191031	A9K0039-06	VI19110416.D	11/04/19 15:23
PDI-1069PW-07-09-191031 (Dup)	9110413-DUP1	VI19110417.D	11/04/19 15:50
PDI-071PW-08-10-191031	A9K0039-07	VI19110418.D	11/04/19 16:17
PDI-071PW-08-10-191031 (MS)	9110413-MS1	VI19110419.D	11/04/19 16:44
PDI-062PW-08-10-191101	A9K0039-02RE1	VI19110422.D	11/04/19 18:05

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.

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:	VI19110404.D	Injection Date:	11/04/19
Instrument ID:	VOA-GCMS9	Injection Time:	10:01
Sequence:	9K04028	Lab Sample ID:	9K04028-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	120.73	PASS
m/z 96	5 - 9% of m/z 95	6.68	PASS
m/z 173	Less than 2% of m/z 174	0.23	PASS
m/z 174	50 - 200% of m/z 95	82.83	PASS
m/z 175	5 - 9% of m/z 174	7.13	PASS
m/z 176	95 - 105% of m/z 174	96.86	PASS
m/z 177	5 - 10% of m/z 176	6.72	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
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
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
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
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:	9K04028	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 (9110413-BS1)			Lab File ID: VI19110405.D		Analyzed: 11/04/19 10:28			
1,4-Difluorobenzene (Surr)	50.0	103	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.303	8.297273	0.0057	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	97	80 - 120	10.974	10.974	0.0000	+/-1.0	
Blank (9110413-BLK1)			Lab File ID: VI19110407.D		Analyzed: 11/04/19 11:22			
1,4-Difluorobenzene (Surr)	50.0	104	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.304	8.297273	0.0067	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-TB-1911010000 (A9K0039-01)			Lab File ID: VI19110408.D		Analyzed: 11/04/19 11:48			
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	8.304	8.297273	0.0067	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	101	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-064PW-10-12-191101 (A9K0039-03)			Lab File ID: VI19110409.D		Analyzed: 11/04/19 12:15			
1,4-Difluorobenzene (Surr)	50.0	104	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	103	80 - 120	8.304	8.297273	0.0067	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-067PW-06-08-191031 (A9K0039-04)			Lab File ID: VI19110414.D		Analyzed: 11/04/19 14:30			
1,4-Difluorobenzene (Surr)	50.0	103	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	103	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-069PW-07-09-191031 (A9K0039-05)			Lab File ID: VI19110415.D		Analyzed: 11/04/19 14:56			
1,4-Difluorobenzene (Surr)	50.0	102	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.304	8.297273	0.0067	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-1069PW-07-09-191031 (A9K0039-06)			Lab File ID: VI19110416.D		Analyzed: 11/04/19 15:23			
1,4-Difluorobenzene (Surr)	50.0	102	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	98	80 - 120	10.974	10.974	0.0000	+/-1.0	
Duplicate (9110413-DUP1)			Lab File ID: VI19110417.D		Analyzed: 11/04/19 15:50			
1,4-Difluorobenzene (Surr)	50.0	104	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	103	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	

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:	9K04028	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
PDI-071PW-08-10-191031 (A9K0039-07)			Lab File ID: VI19110418.D		Analyzed: 11/04/19 16:17			
1,4-Difluorobenzene (Surr)	50.0	103	80 - 120	6.783	6.780727	0.0023	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.304	8.297273	0.0067	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.974	10.974	0.0000	+/-1.0	
Matrix Spike (9110413-MS1)			Lab File ID: VI19110419.D		Analyzed: 11/04/19 16:44			
1,4-Difluorobenzene (Surr)	50.0	104	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	97	80 - 120	10.974	10.974	0.0000	+/-1.0	
PDI-062PW-08-10-191101 (A9K0039-02RE1)			Lab File ID: VI19110422.D		Analyzed: 11/04/19 18:05			
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	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:	9K04028	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 (9110413-BS1)			Lab File ID: VI19110405.D			Analyzed: 11/04/19 10:28			
Pentafluorobenzene (ISTD)	116594	6.217	116594	6.217	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	325714	9.916	325714	9.916	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	155936	11.856	155936	11.856	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9K04028-CCV1)			Lab File ID: VI19110405.D			Analyzed: 11/04/19 10:28			
Pentafluorobenzene (ISTD)	116594	6.217	112406	6.211	104	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	325714	9.916	307093	9.91	106	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	155936	11.856	151591	11.85	103	50 - 200	0.0060	+/-0.50	
Blank (9110413-BLK1)			Lab File ID: VI19110407.D			Analyzed: 11/04/19 11:22			
Pentafluorobenzene (ISTD)	113410	6.217	116594	6.217	97	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	311790	9.916	325714	9.916	96	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	140834	11.856	155936	11.856	90	50 - 200	0.0000	+/-0.50	
PDI-TB-1911010000 (A9K0039-01)			Lab File ID: VI19110408.D			Analyzed: 11/04/19 11:48			
Pentafluorobenzene (ISTD)	106357	6.217	116594	6.217	91	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	292155	9.916	325714	9.916	90	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	131374	11.856	155936	11.856	84	50 - 200	0.0000	+/-0.50	
PDI-064PW-10-12-191101 (A9K0039-03)			Lab File ID: VI19110409.D			Analyzed: 11/04/19 12:15			
Pentafluorobenzene (ISTD)	101423	6.223	116594	6.217	87	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	278335	9.916	325714	9.916	85	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	128511	11.856	155936	11.856	82	50 - 200	0.0000	+/-0.50	
PDI-067PW-06-08-191031 (A9K0039-04)			Lab File ID: VI19110414.D			Analyzed: 11/04/19 14:30			
Pentafluorobenzene (ISTD)	104748	6.217	116594	6.217	90	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	286683	9.916	325714	9.916	88	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	127496	11.856	155936	11.856	82	50 - 200	0.0000	+/-0.50	
PDI-069PW-07-09-191031 (A9K0039-05)			Lab File ID: VI19110415.D			Analyzed: 11/04/19 14:56			
Pentafluorobenzene (ISTD)	107640	6.217	116594	6.217	92	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	292780	9.916	325714	9.916	90	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	134078	11.856	155936	11.856	86	50 - 200	0.0000	+/-0.50	
PDI-1069PW-07-09-191031 (A9K0039-06)			Lab File ID: VI19110416.D			Analyzed: 11/04/19 15:23			
Pentafluorobenzene (ISTD)	107910	6.217	116594	6.217	93	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	292418	9.916	325714	9.916	90	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	134157	11.856	155936	11.856	86	50 - 200	0.0000	+/-0.50	
Duplicate (9110413-DUP1)			Lab File ID: VI19110417.D			Analyzed: 11/04/19 15:50			
Pentafluorobenzene (ISTD)	107983	6.217	116594	6.217	93	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	294112	9.916	325714	9.916	90	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	134847	11.856	155936	11.856	86	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:	9K04028	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9J2503

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-071PW-08-10-191031 (A9K0039-07)			Lab File ID: VI19110418.D			Analyzed: 11/04/19 16:17			
Pentafluorobenzene (ISTD)	108954	6.217	116594	6.217	93	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	297076	9.916	325714	9.916	91	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	138482	11.856	155936	11.856	89	50 - 200	0.0000	+/-0.50	
Matrix Spike (9110413-MS1)			Lab File ID: VI19110419.D			Analyzed: 11/04/19 16:44			
Pentafluorobenzene (ISTD)	107670	6.217	116594	6.217	92	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	301513	9.916	325714	9.916	93	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	145920	11.856	155936	11.856	94	50 - 200	0.0000	+/-0.50	
PDI-062PW-08-10-191101 (A9K0039-02RE1)			Lab File ID: VI19110422.D			Analyzed: 11/04/19 18:05			
Pentafluorobenzene (ISTD)	99899	6.217	116594	6.217	86	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	276610	9.916	325714	9.916	85	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	127702	11.856	155936	11.856	82	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

EPA 8260C

Laboratory: Apex Laboratories

SDG: Gasco_PreRD_DG 2019

Client: Anchor QEA, LLC

Project: Gasco_PreRD_DG 2019 - 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-TB-1911010000	11/01/19 00:00	11/02/19 07:30	11/04/19 11:08	3.46	14.00	11/04/19 11:48	3.49	14.00	
PDI-062PW-08-10-191101	11/01/19 11:12	11/02/19 07:30	11/04/19 11:08	3.00	14.00	11/04/19 18:05	3.29	14.00	
PDI-064PW-10-12-191101	11/01/19 15:39	11/02/19 07:30	11/04/19 11:08	2.81	14.00	11/04/19 12:15	2.86	14.00	
PDI-067PW-06-08-191031	10/31/19 12:46	11/02/19 07:30	11/04/19 11:08	3.93	14.00	11/04/19 14:30	4.07	14.00	
PDI-069PW-07-09-191031	10/31/19 15:39	11/02/19 07:30	11/04/19 11:08	3.81	14.00	11/04/19 14:56	3.97	14.00	
PDI-1069PW-07-09-191031	10/31/19 15:39	11/02/19 07:30	11/04/19 11:08	3.81	14.00	11/04/19 15:23	3.99	14.00	
PDI-071PW-08-10-191031	10/31/19 10:24	11/02/19 07:30	11/04/19 11:08	4.03	14.00	11/04/19 16:17	4.25	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
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-TB-1911010000	A9K0039-01	WQ
PDI-064PW-10-12-191101	A9K0039-03	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 10:53AM
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-TB-1911010000

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:	A9K0039-01	File ID:	7H19110512.D
Sampled:	11/01/19 00:00	Prepared:	11/05/19 13:35	Analyzed:	11/05/19 14:31
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110483 Sequence: 9K05040 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	2250	97	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2220	95	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	21210	6.317	21016	6.316	
Chlorobenzene-d5 (ISTD)	32770	10.423	32497	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	14076	12.739	13984	12.738	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C SIM

PDI-064PW-10-12-191101

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:	A9K0039-03	File ID:	7H19110519.D
Sampled:	11/01/19 15:39	Prepared:	11/05/19 13:35	Analyzed:	11/05/19 17:39
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9110483 Sequence: 9K05040 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	2350	101	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)	21469	6.316	21016	6.316	
Chlorobenzene-d5 (ISTD)	34553	10.423	32497	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	16356	12.738	13984	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: 9110483 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9110483-BLK1	7H19110510.D	11/05/19 12:14	
LCS	9110483-BS1	7H19110509.D	11/05/19 12:14	
PDI-064PW-10-12-191101 (MS)	9110483-MS1	7H19110520.D	11/05/19 13:35	
PDI-TB-1911010000	A9K0039-01	7H19110512.D	11/05/19 13:35	
PDI-064PW-10-12-191101	A9K0039-03	7H19110519.D	11/05/19 13:35	

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

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:	9110483-BLK1	File ID:	7H19110510.D
Prepared:	11/05/19 12:14	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	11/05/19 13:35	Instrument:	VOA-GCMS8		
Batch:	9110483	Sequence:	9K05040	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	2330	100	70 - 130	
Toluene-d8 (Surr)	2330	2250	97	70 - 130	
4-Bromofluorobenzene (Surr)	2330	2230	96	70 - 130	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	20981	6.317	21016	6.316	
Chlorobenzene-d5 (ISTD)	32773	10.423	32497	10.423	
1,4-Dichlorobenzene-d4 (ISTD)	14034	12.738	13984	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:	9110483	Laboratory ID:	9110483-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	0.199	100	80 - 120

* = Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C SIM

PDI-064PW-10-12-191101

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:	9110483	Laboratory ID:	9110483-MS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Source Sample Name: PDI-064PW-10-12-191101

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. (*=Out)	QC LIMITS REC.
Vinyl chloride	0.200	ND	0.190	95	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:	9K05040	Instrument:	VOA-GCMS8
Matrix:	Water	Calibration:	A9G1805

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9K05040-TUN1	7H19110507.D	11/05/19 12:14
Calibration Check	9K05040-CCV1	7H19110509.D	11/05/19 13:08
Blank	9110483-BLK1	7H19110510.D	11/05/19 13:35
PDI-TB-1911010000	A9K0039-01	7H19110512.D	11/05/19 14:31
PDI-064PW-10-12-191101	A9K0039-03	7H19110519.D	11/05/19 17:39
PDI-064PW-10-12-191101 (MS)	9110483-MS1	7H19110520.D	11/05/19 18:06

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:	7H19110507.D	Injection Date:	11/05/19
Instrument ID:	VOA-GCMS8	Injection Time:	12:14
Sequence:	9K05040	Lab Sample ID:	9K05040-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	136.11	PASS
m/z 96	5 - 9% of m/z 95	6.75	PASS
m/z 173	Less than 2% of m/z 174	0.00	PASS
m/z 174	50 - 200% of m/z 95	73.47	PASS
m/z 175	5 - 9% of m/z 174	7.82	PASS
m/z 176	95 - 105% of m/z 174	98.17	PASS
m/z 177	5 - 10% of m/z 176	6.65	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:	9K05040	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 (9110483-BS1)			Lab File ID: 7H19110509.D		Analyzed: 11/05/19 13:08			
1,4-Difluorobenzene (Surr)	2330	100	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	97	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	95	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
Blank (9110483-BLK1)			Lab File ID: 7H19110510.D		Analyzed: 11/05/19 13:35			
1,4-Difluorobenzene (Surr)	2330	100	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	97	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	96	70 - 130	11.718	11.72925	-0.0113	+/-1.0	
PDI-TB-1911010000 (A9K0039-01)			Lab File ID: 7H19110512.D		Analyzed: 11/05/19 14:31			
1,4-Difluorobenzene (Surr)	2330	99	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	97	70 - 130	8.422	8.435375	-0.0134	+/-1.0	
4-Bromofluorobenzene (Surr)	2330	95	70 - 130	11.719	11.72925	-0.0103	+/-1.0	
PDI-064PW-10-12-191101 (A9K0039-03)			Lab File ID: 7H19110519.D		Analyzed: 11/05/19 17:39			
1,4-Difluorobenzene (Surr)	2330	101	70 - 130	6.889	6.898	-0.0090	+/-1.0	
Toluene-d8 (Surr)	2330	95	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	
Matrix Spike (9110483-MS1)			Lab File ID: 7H19110520.D		Analyzed: 11/05/19 18:06			
1,4-Difluorobenzene (Surr)	2330	101	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	11.718	11.72925	-0.0113	+/-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:	9K05040	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 (9110483-BS1)			Lab File ID: 7H19110509.D			Analyzed: 11/05/19 13:08			
Pentafluorobenzene (ISTD)	21016	6.316	21016	6.316	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	32497	10.423	32497	10.423	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	13984	12.738	13984	12.738	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9K05040-CCV1)			Lab File ID: 7H19110509.D			Analyzed: 11/05/19 13:08			
Pentafluorobenzene (ISTD)	21016	6.316	17647	6.327	119	50 - 200	-0.0110	+/-0.50	
Chlorobenzene-d5 (ISTD)	32497	10.423	26428	10.434	123	50 - 200	-0.0110	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	13984	12.738	10417	12.749	134	50 - 200	-0.0110	+/-0.50	
Blank (9110483-BLK1)			Lab File ID: 7H19110510.D			Analyzed: 11/05/19 13:35			
Pentafluorobenzene (ISTD)	20981	6.317	21016	6.316	100	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	32773	10.423	32497	10.423	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	14034	12.738	13984	12.738	100	50 - 200	0.0000	+/-0.50	
PDI-TB-1911010000 (A9K0039-01)			Lab File ID: 7H19110512.D			Analyzed: 11/05/19 14:31			
Pentafluorobenzene (ISTD)	21210	6.317	21016	6.316	101	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	32770	10.423	32497	10.423	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	14076	12.739	13984	12.738	101	50 - 200	0.0010	+/-0.50	
Duplicate (9110483-DUP1)			Lab File ID: 7H19110516.D			Analyzed: 11/05/19 16:18			
Pentafluorobenzene (ISTD)	22102	6.316	21016	6.316	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	35256	10.423	32497	10.423	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	16733	12.738	13984	12.738	120	50 - 200	0.0000	+/-0.50	
PDI-064PW-10-12-191101 (A9K0039-03)			Lab File ID: 7H19110519.D			Analyzed: 11/05/19 17:39			
Pentafluorobenzene (ISTD)	21469	6.316	21016	6.316	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	34553	10.423	32497	10.423	106	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	16356	12.738	13984	12.738	117	50 - 200	0.0000	+/-0.50	
Matrix Spike (9110483-MS1)			Lab File ID: 7H19110520.D			Analyzed: 11/05/19 18:06			
Pentafluorobenzene (ISTD)	22192	6.316	21016	6.316	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	35696	10.423	32497	10.423	110	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	16791	12.738	13984	12.738	120	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-TB-1911010000	11/01/19 00:00	11/02/19 07:30	11/05/19 13:35	4.57	14.00	11/05/19 14:31	4.60	14.00	
PDI-064PW-10-12-191101	11/01/19 15:39	11/02/19 07:30	11/05/19 13:35	3.91	14.00	11/05/19 17:39	4.08	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

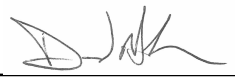
Client: Anchor QEA, LLC

SDG: Gasco PreRD_DG 2019

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

Client Sample Id:	Lab Sample Id:	Matrix
PDI-069PW-07-09-191031	A9K0039-05	WX
PDI-1069PW-07-09-191031	A9K0039-06	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 10:53AM

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-069PW-07-09-191031

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:	A9K0039-05	File ID:	H11041912.D
Sampled:	10/31/19 15:39	Prepared:	11/04/19 10:15	Analyzed:	11/04/19 15:59
		Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	87.86 mL / 5 mL

Batch: 9110429 Sequence: 9K04032 Calibration: A9G0205 Instrument: SV-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
83-32-9	Acenaphthene	1000	163	D
208-96-8	Acenaphthylene	1000	43.0	JD
120-12-7	Anthracene	1000	22.8	U
56-55-3	Benz(a)anthracene	1000	11.4	U
50-32-8	Benzo(a)pyrene	1000	11.4	U
205-99-2	Benzo(b)fluoranthene	1000	11.4	U
207-08-9	Benzo(k)fluoranthene	1000	11.4	U
191-24-2	Benzo(g,h,i)perylene	1000	22.8	U
218-01-9	Chrysene	1000	11.4	U
53-70-3	Dibenz(a,h)anthracene	1000	11.4	U
206-44-0	Fluoranthene	1000	22.8	U
86-73-7	Fluorene	1000	49.3	D
193-39-5	Indeno(1,2,3-cd)pyrene	1000	11.4	U
91-57-6	2-Methylnaphthalene	1000	408	D
91-20-3	Naphthalene	1000	8290	D
85-01-8	Phenanthrene	1000	72.6	JD
129-00-0	Pyrene	1000	22.8	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Acenaphthylene-d8 (Surr)	5.69	49.2	864	80 - 120	D
Benzo(a)pyrene-d12 (Surr)	5.69	13.7	240	80 - 143	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	167216	7.953	165067	7.954	
p-Terphenyl-d14 (ISTD)	261886	11.387	235920	11.387	
Naphthalene-d8 (ISTD)	148997	7.039	141035	7.035	
Acenaphthene-d10 (ISTD)	130469	8.549	123174	8.549	
Phenanthrene-d10 (ISTD)	295250	9.849	266529	9.849	
Chrysene-d12 (ISTD)	236882	13.12	241406	13.125	
Perylene-d12 (ISTD)	197815	16.368	219504	16.368	
Dibenz(a,h)anthracene-d14 (ISTD)	167870	18.687	178902	18.682	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D LVI

PDI-1069PW-07-09-191031

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:	A9K0039-06	File ID:	H11041913.D
Sampled:	10/31/19 15:39	Prepared:	11/04/19 10:15	Analyzed:	11/04/19 16:31
		Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	101.01 mL / 5 mL

Batch: 9110429 Sequence: 9K04032 Calibration: A9G0205 Instrument: SV-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
83-32-9	Acenaphthene	1000	215	D
208-96-8	Acenaphthylene	1000	44.7	D
120-12-7	Anthracene	1000	19.8	U
56-55-3	Benz(a)anthracene	1000	9.90	U
50-32-8	Benzo(a)pyrene	1000	9.90	U
205-99-2	Benzo(b)fluoranthene	1000	9.90	U
207-08-9	Benzo(k)fluoranthene	1000	9.90	U
191-24-2	Benzo(g,h,i)perylene	1000	19.8	U
218-01-9	Chrysene	1000	9.90	U
53-70-3	Dibenz(a,h)anthracene	1000	9.90	U
206-44-0	Fluoranthene	1000	19.8	U
86-73-7	Fluorene	1000	65.5	D
193-39-5	Indeno(1,2,3-cd)pyrene	1000	9.90	U
91-57-6	2-Methylnaphthalene	1000	570	D
85-01-8	Phenanthrene	1000	99.6	D
129-00-0	Pyrene	1000	19.8	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Acenaphthylene-d8 (Surr)	4.95	27.9	564	80 - 120	D
Benzo(a)pyrene-d12 (Surr)	4.95	11.3	229	80 - 143	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	177847	7.954	165067	7.954	
p-Terphenyl-d14 (ISTD)	269681	11.387	235920	11.387	
Naphthalene-d8 (ISTD)	160334	7.035	141035	7.035	
Acenaphthene-d10 (ISTD)	135386	8.549	123174	8.549	
Phenanthrene-d10 (ISTD)	301495	9.849	266529	9.849	
Chrysene-d12 (ISTD)	262239	13.12	241406	13.125	
Perylene-d12 (ISTD)	225207	16.368	219504	16.368	
Dibenz(a,h)anthracene-d14 (ISTD)	184433	18.687	178902	18.682	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D LVI

PDI-1069PW-07-09-191031

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:	A9K0039-06RE1	File ID:	H11041914.D
Sampled:	10/31/19 15:39	Prepared:	11/04/19 10:15	Analyzed:	11/04/19 17:03
		Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	101.01 mL / 5 mL

Batch:	9110429	Sequence:	9K04032	Calibration:	A9G0205	Instrument:	SV-GCMS8

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
91-20-3	Naphthalene	10000	10600	D

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Acenaphthylene-d8 (Surr)	4.95	299	6040	80 - 120	D
Benzo(a)pyrene-d12 (Surr)	4.95	0.00		80 - 143	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	185833	7.954	165067	7.954	
p-Terphenyl-d14 (ISTD)	242113	11.387	235920	11.387	
Naphthalene-d8 (ISTD)	167428	7.039	141035	7.035	

* 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: 9110429 Batch Matrix: Water
Preparation: EPA 3511 (Bottle Extraction)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9110429-BLK1	H11041909.D	11/04/19 10:15	
LCS	9110429-BS1	H11041910.D	11/04/19 10:15	
LCS Dup	9110429-BSD1	H11041911.D	11/04/19 10:15	
PDI-069PW-07-09-191031	A9K0039-05	H11041912.D	11/04/19 10:15	
PDI-1069PW-07-09-191031	A9K0039-06	H11041913.D	11/04/19 10:15	
PDI-1069PW-07-09-191031	A9K0039-06RE1	H11041914.D	11/04/19 10:15	

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.

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:	9110429-BLK1	File ID:	H11041909.D
Prepared:	11/04/19 10:15	Preparation:	EPA 3511 (Bottle Extraction	Initial/Final:	125 mL / 5 mL
Analyzed:	11/04/19 14:22	Instrument:	SV-GCMS8		
Batch:	9110429	Sequence:	9K04032	Calibration:	A9G0205

CAS NO.	COMPOUND	CONC. (ug/L)	Q
83-32-9	Acenaphthene	0.0160	U
208-96-8	Acenaphthylene	0.0160	U
120-12-7	Anthracene	0.0160	U
56-55-3	Benz(a)anthracene	0.00800	U
50-32-8	Benzo(a)pyrene	0.00800	U
205-99-2	Benzo(b)fluoranthene	0.00800	U
207-08-9	Benzo(k)fluoranthene	0.00800	U
86-74-8	Carbazole	0.0160	U
132-64-9	Dibenzofuran	0.0160	U
191-24-2	Benzo(g,h,i)perylene	0.0160	U
218-01-9	Chrysene	0.00800	U
53-70-3	Dibenz(a,h)anthracene	0.00800	U
206-44-0	Fluoranthene	0.0160	U
86-73-7	Fluorene	0.0160	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.00800	U
90-12-0	1-Methylnaphthalene	0.0320	U
91-57-6	2-Methylnaphthalene	0.0320	U
91-20-3	Naphthalene	0.0320	U
85-01-8	Phenanthrene	0.0320	U
129-00-0	Pyrene	0.0160	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Acenaphthylene-d8 (Surr)	4.00	4.12	103	80 - 120	
Benzo(a)pyrene-d12 (Surr)	4.00	4.23	106	80 - 143	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
2-Fluorobiphenyl (ISTD)	200021	7.954	165067	7.954	
p-Terphenyl-d14 (ISTD)	303135	11.387	235920	11.387	
Naphthalene-d8 (ISTD)	169166	7.035	141035	7.035	
Acenaphthene-d10 (ISTD)	150356	8.549	123174	8.549	
Phenanthrene-d10 (ISTD)	342550	9.849	266529	9.849	
Chrysene-d12 (ISTD)	300108	13.125	241406	13.125	
Perylene-d12 (ISTD)	264597	16.368	219504	16.368	
Dibenz(a,h)anthracene-d14 (ISTD)	224631	18.687	178902	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:	9110429	Laboratory ID:	9110429-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	1.48	93	78 - 135
Acenaphthylene	1.60	1.60	100	80 - 126
Anthracene	1.60	1.55	97	80 - 120
Benz(a)anthracene	1.60	1.59	99	76 - 124
Benzo(a)pyrene	1.60	1.63	102	71 - 127
Benzo(b)fluoranthene	1.60	1.54	96	68 - 120
Benzo(k)fluoranthene	1.60	1.60	100	72 - 120
Carbazole	1.60	1.45	91	80 - 122
Dibenzofuran	1.60	1.38	86	75 - 122
Benzo(g,h,i)perylene	1.60	1.59	99	71 - 120
Chrysene	1.60	1.50	94	71 - 121
Dibenz(a,h)anthracene	1.60	1.58	99	69 - 122
Fluoranthene	1.60	1.52	95	80 - 120
Fluorene	1.60	1.36	85	78 - 129
Indeno(1,2,3-cd)pyrene	1.60	1.44	90	72 - 132
1-Methylnaphthalene	1.60	1.60	100	76 - 150
2-Methylnaphthalene	1.60	1.49	93	80 - 158
Naphthalene	1.60	1.49	93	80 - 132
Phenanthrene	1.60	1.42	89	80 - 120
Pyrene	1.60	1.52	95	73 - 127

* = Values outside of QC limits

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:	9110429	Laboratory ID:	9110429-BSD1
Preparation:	EPA 3511 (Bottle Extraction)	Initial/Final:	125 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	
Acenaphthene	1.60	1.47	92	0.6	30	78 - 135
Acenaphthylene	1.60	1.63	102	1	30	80 - 126
Anthracene	1.60	1.55	97	0.4	30	80 - 120
Benz(a)anthracene	1.60	1.62	101	2	30	76 - 124
Benzo(a)pyrene	1.60	1.66	104	2	30	71 - 127
Benzo(b)fluoranthene	1.60	1.54	96	0.5	30	68 - 120
Benzo(k)fluoranthene	1.60	1.62	101	1	30	72 - 120
Carbazole	1.60	1.45	91	0.2	30	80 - 122
Dibenzofuran	1.60	1.39	87	1	30	75 - 122
Benzo(g,h,i)perylene	1.60	1.56	97	2	30	71 - 120
Chrysene	1.60	1.51	94	0.6	30	71 - 121
Dibenz(a,h)anthracene	1.60	1.56	98	1	30	69 - 122
Fluoranthene	1.60	1.55	97	2	30	80 - 120
Fluorene	1.60	1.39	87	2	30	78 - 129
Indeno(1,2,3-cd)pyrene	1.60	1.44	90	0.04	30	72 - 132
1-Methylnaphthalene	1.60	1.52	95	5	30	76 - 150
2-Methylnaphthalene	1.60	1.48	93	0.6	30	80 - 158
Naphthalene	1.60	1.49	93	0.3	30	80 - 132
Phenanthrene	1.60	1.43	89	0.5	30	80 - 120
Pyrene	1.60	1.54	96	2	30	73 - 127

* = Values outside of QC limits

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:	9K04032	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9K04032-TUN2	H11041905.D	11/04/19 12:02
Calibration Check	9K04032-CCV2	H11041906.D	11/04/19 12:31
Calibration Blank	9K04032-CCB2	H11041907.D	11/04/19 13:03
Blank	9110429-BLK1	H11041909.D	11/04/19 14:22
LCS	9110429-BS1	H11041910.D	11/04/19 14:54
LCS Dup	9110429-BSD1	H11041911.D	11/04/19 15:27
PDI-069PW-07-09-191031	A9K0039-05	H11041912.D	11/04/19 15:59
PDI-1069PW-07-09-191031	A9K0039-06	H11041913.D	11/04/19 16:31
PDI-1069PW-07-09-191031	A9K0039-06RE1	H11041914.D	11/04/19 17:03

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:	H11041905.D	Injection Date:	11/04/19
Instrument ID:	SV-GCMS8	Injection Time:	12:02
Sequence:	9K04032	Lab Sample ID:	9K04032-TUN2

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	0.48	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	6.84	PASS
m/z 365	1 - 100% of m/z 198	3.50	PASS
m/z 441	Less than 150% of m/z 443	86.41	PASS
m/z 442	0.1 - 200% of m/z 198	85.78	PASS
m/z 443	15 - 24% of m/z 442	19.00	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				
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	
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:	H11041906.D	Calibration Date:	07/02/19 10:26
Sequence:	9K04032	Injection Date:	11/04/19
Lab Sample ID:	9K04032-CCV2	Injection Time:	12:31

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	47.4		1.482551	1.404615	-5.3	20
Acenaphthylene	Ave	50.0	51.7		1.987626	2.05407	3.3	20
Anthracene	Ave	50.0	50.9		1.065167	1.084077	1.8	20
Benz(a)anthracene	XXX	50.0	52.7	5.5				20
Benzo(a)pyrene	XXX	50.0	55.3	10.7				20
Benzo(b)fluoranthene	XXX	50.0	54.7	9.5				20
Benzo(k)fluoranthene	XXX	50.0	55.0	10.0				20
Carbazole	Ave	50.0	43.8		1.033017	0.9041718	-12.5	20
Dibenzofuran	Ave	50.0	45.6		2.118276	1.933687	-8.7	20
Benzo(g,h,i)perylene	Ave	50.0	51.8		1.048624	1.087377	3.7	20
Chrysene	Ave	50.0	48.6		1.107706	1.077322	-2.7	20
Dibenz(a,h)anthracene	Ave	50.0	53.6		1.179609	1.263552	7.1	20
Fluoranthene	Ave	50.0	46.7		1.193601	1.114408	-6.6	20
Fluorene	Ave	50.0	45.5		1.835019	1.671635	-8.9	20
Indeno(1,2,3-cd)pyrene	Ave	50.0	46.3		1.183314	1.096321	-7.4	20
1-Methylnaphthalene	Ave	50.0	53.2		0.8482177	0.9023008	6.4	20
2-Methylnaphthalene	Ave	50.0	51.5		0.8960954	0.9235438	3.1	20
Naphthalene	Ave	50.0	47.4		1.160382	1.100904	-5.1	20
Phenanthrene	Ave	50.0	46.3		1.199406	1.110318	-7.4	20
Pyrene	Ave	50.0	47.9		1.294321	1.240833	-4.1	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:	9K04032	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 (9K04032-CCV2)			Lab File ID: H11041906.D		Analyzed: 11/04/19 12:31			
Acenaphthylene-d8 (Surr)	50.0	98	0 - 200	8.411	8.477125	-0.0661	+/-1.0	
Benzo(a)pyrene-d12 (Surr)	50.0	111	0 - 200	16.177	16.33189	-0.1549	+/-1.0	
Calibration Blank (9K04032-CCB2)			Lab File ID: H11041907.D		Analyzed: 11/04/19 13:03			
Acenaphthylene-d8 (Surr)			80 - 120	8.415	8.477125	-0.0621	+/-1.0	
Benzo(a)pyrene-d12 (Surr)			80 - 143	0	16.33189	-16.3319	+/-1.0	
Blank (9110429-BLK1)			Lab File ID: H11041909.D		Analyzed: 11/04/19 14:22			
Acenaphthylene-d8 (Surr)	4.00	103	80 - 120	8.411	8.477125	-0.0661	+/-1.0	
Benzo(a)pyrene-d12 (Surr)	4.00	106	80 - 143	16.182	16.33189	-0.1499	+/-1.0	
LCS (9110429-BS1)			Lab File ID: H11041910.D		Analyzed: 11/04/19 14:54			
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	
LCS Dup (9110429-BSD1)			Lab File ID: H11041911.D		Analyzed: 11/04/19 15:27			
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-069PW-07-09-191031 (A9K0039-05)			Lab File ID: H11041912.D		Analyzed: 11/04/19 15:59			
Acenaphthylene-d8 (Surr)	5.69	864	80 - 120	8.415	8.477125	-0.0621	+/-1.0	*
Benzo(a)pyrene-d12 (Surr)	5.69	240	80 - 143	16.187	16.33189	-0.1449	+/-1.0	*
PDI-1069PW-07-09-191031 (A9K0039-06)			Lab File ID: H11041913.D		Analyzed: 11/04/19 16:31			
Acenaphthylene-d8 (Surr)	4.95	564	80 - 120	8.416	8.477125	-0.0611	+/-1.0	*
Benzo(a)pyrene-d12 (Surr)	4.95	229	80 - 143	16.178	16.33189	-0.1539	+/-1.0	*
PDI-1069PW-07-09-191031 (A9K0039-06RE1)			Lab File ID: H11041914.D		Analyzed: 11/04/19 17:03			
Acenaphthylene-d8 (Surr)	4.95	6040	80 - 120	8.42	8.477125	-0.0571	+/-1.0	*
Benzo(a)pyrene-d12 (Surr)	4.95		80 - 143	0	16.33189	-16.3319	+/-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:	9K04032	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 (9K04032-CCV2)			Lab File ID: H11041906.D			Analyzed: 11/04/19 12:31			
2-Fluorobiphenyl (ISTD)	165067	7.954				50 - 200	7.9540	+/-0.50	*
p-Terphenyl-d14 (ISTD)	235920	11.387				50 - 200	11.3870	+/-0.50	*
Naphthalene-d8 (ISTD)	141035	7.035	222732	7.101	63	10 - 500	-0.0660	+/-0.50	
Acenaphthene-d10 (ISTD)	123174	8.549	177842	8.615	69	10 - 500	-0.0660	+/-0.50	
Phenanthrene-d10 (ISTD)	266529	9.849	449650	9.915	59	10 - 500	-0.0660	+/-0.50	
Chrysene-d12 (ISTD)	241406	13.125	443314	13.263	54	10 - 500	-0.1380	+/-0.50	
Perylene-d12 (ISTD)	219504	16.368	394032	16.525	56	10 - 500	-0.1570	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	178902	18.682	345981	18.839	52	10 - 500	-0.1570	+/-0.50	
Calibration Blank (9K04032-CCB2)			Lab File ID: H11041907.D			Analyzed: 11/04/19 13:03			
2-Fluorobiphenyl (ISTD)	136103	7.954	165067	7.954	82	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	227923	11.387	235920	11.387	97	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	136415	7.039	141035	7.035	97	10 - 500	0.0040	+/-0.50	
Acenaphthene-d10 (ISTD)	120490	8.549	123174	8.549	98	10 - 500	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	285385	9.849	266529	9.849	107	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	243713	13.12	241406	13.125	101	10 - 500	-0.0050	+/-0.50	
Perylene-d12 (ISTD)	206202	16.363	219504	16.368	94	10 - 500	-0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	174430	18.687	178902	18.682	98	10 - 500	0.0050	+/-0.50	
Blank (9110429-BLK1)			Lab File ID: H11041909.D			Analyzed: 11/04/19 14:22			
2-Fluorobiphenyl (ISTD)	200021	7.954	165067	7.954	121	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	303135	11.387	235920	11.387	128	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	169166	7.035	141035	7.035	120	10 - 500	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	150356	8.549	123174	8.549	122	10 - 500	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	342550	9.849	266529	9.849	129	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	300108	13.125	241406	13.125	124	10 - 500	0.0000	+/-0.50	
Perylene-d12 (ISTD)	264597	16.368	219504	16.368	121	10 - 500	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	224631	18.687	178902	18.682	126	10 - 500	0.0050	+/-0.50	
LCS (9110429-BS1)			Lab File ID: H11041910.D			Analyzed: 11/04/19 14:54			
2-Fluorobiphenyl (ISTD)	230005	7.954	165067	7.954	139	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	358367	11.387	235920	11.387	152	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	208527	7.034	141035	7.035	148	10 - 500	-0.0010	+/-0.50	
Acenaphthene-d10 (ISTD)	163649	8.549	123174	8.549	133	10 - 500	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	367884	9.849	266529	9.849	138	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	366121	13.125	241406	13.125	152	10 - 500	0.0000	+/-0.50	
Perylene-d12 (ISTD)	335492	16.368	219504	16.368	153	10 - 500	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	299122	18.687	178902	18.682	167	10 - 500	0.0050	+/-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:	9K04032	Instrument:	SV-GCMS8
Matrix:	Water	Calibration:	A9G0205

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (9110429-BSD1)			Lab File ID: H11041911.D			Analyzed: 11/04/19 15:27			
2-Fluorobiphenyl (ISTD)	211338	7.954	165067	7.954	128	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	330697	11.387	235920	11.387	140	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	213658	7.035	141035	7.035	151	10 - 500	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	161122	8.544	123174	8.549	131	10 - 500	-0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	364562	9.849	266529	9.849	137	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	366948	13.125	241406	13.125	152	10 - 500	0.0000	+/-0.50	
Perylene-d12 (ISTD)	335798	16.368	219504	16.368	153	10 - 500	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	296314	18.687	178902	18.682	166	10 - 500	0.0050	+/-0.50	
PDI-069PW-07-09-191031 (A9K0039-05)			Lab File ID: H11041912.D			Analyzed: 11/04/19 15:59			
2-Fluorobiphenyl (ISTD)	167216	7.953	165067	7.954	101	50 - 200	-0.0010	+/-0.50	
p-Terphenyl-d14 (ISTD)	261886	11.387	235920	11.387	111	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	148997	7.039	141035	7.035	106	10 - 500	0.0040	+/-0.50	
Acenaphthene-d10 (ISTD)	130469	8.549	123174	8.549	106	10 - 500	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	295250	9.849	266529	9.849	111	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	236882	13.12	241406	13.125	98	10 - 500	-0.0050	+/-0.50	
Perylene-d12 (ISTD)	197815	16.368	219504	16.368	90	10 - 500	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	167870	18.687	178902	18.682	94	10 - 500	0.0050	+/-0.50	
PDI-1069PW-07-09-191031 (A9K0039-06)			Lab File ID: H11041913.D			Analyzed: 11/04/19 16:31			
2-Fluorobiphenyl (ISTD)	177847	7.954	165067	7.954	108	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	269681	11.387	235920	11.387	114	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	160334	7.035	141035	7.035	114	10 - 500	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	135386	8.549	123174	8.549	110	10 - 500	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	301495	9.849	266529	9.849	113	10 - 500	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	262239	13.12	241406	13.125	109	10 - 500	-0.0050	+/-0.50	
Perylene-d12 (ISTD)	225207	16.368	219504	16.368	103	10 - 500	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	184433	18.687	178902	18.682	103	10 - 500	0.0050	+/-0.50	
PDI-1069PW-07-09-191031 (A9K0039-06RE1)			Lab File ID: H11041914.D			Analyzed: 11/04/19 17:03			
2-Fluorobiphenyl (ISTD)	185833	7.954	165067	7.954	113	50 - 200	0.0000	+/-0.50	
p-Terphenyl-d14 (ISTD)	242113	11.387	235920	11.387	103	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	167428	7.039	141035	7.035	119	10 - 500	0.0040	+/-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-069PW-07-09-191031	10/31/19 15:39	11/02/19 07:30	11/04/19 10:15	3.78	7.00	11/04/19 15:59	0.24	40.00	
PDI-1069PW-07-09-191031	10/31/19 15:39	11/02/19 07:30	11/04/19 10:15	3.78	7.00	11/04/19 16:31	0.26	40.00	
PDI-1069PW-07-09-191031	10/31/19 15:39	11/02/19 07:30	11/04/19 10:15	3.78	7.00	11/04/19 17:03	0.28	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 9110413
Sequence 9K04028 (A9K0039-01,02RE1,03,04,05,06,07)

PREPARATION BENCH SHEET

BATCH #: 9110413 (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*
9110413-BLK1		QC	11/04/19 09:00	5	5							
9110413-BS1		QC	11/04/19 09:00	5	5	A19K007		5				
9110413-BS2		QC	11/04/19 09:00	5	5	A19J354		5				
A9J1110-10RE1	B	8260C Full List	11/04/19 11:08	5	5					GW-DUP-4-1019	10X RR-02 Cis12DCE	<2
A9J1114-03RE1	B	8260C Full List	11/04/19 11:08	5	5					PDI-037PW-04-06-191028	1000X RR-02 Cis12DCE	<2
A9K0039-01	A	8260C Full List	11/04/19 11:08	5	5					PDI-TB-1911010000	SIM if VC ND - Determine List	<2
A9K0039-02	A	8260C Full List	11/04/19 11:08	5	5					PDI-062PW-08-10-191101	SIM if VC ND - Determine List	<2
A9K0039-02RE1	A	8260C Full List	11/04/19 11:08	5	5					PDI-062PW-08-10-191101	10X RR-01 SIM IF VC ND	<2
A9K0039-03	A	8260C Full List	11/04/19 11:08	5	5					PDI-064PW-10-12-191101	SIM if VC ND - Determine List	<2
A9K0039-04	A	8260C Full List	11/04/19 11:08	5	5					PDI-067PW-06-08-191031	SIM if VC ND - Determine List	<2
A9K0039-05	A	8260C Full List	11/04/19 11:08	5	5					PDI-069PW-07-09-191031	~~HS in B & C . SIM if VC ND -~~ Det	<2
A9K0039-06	A	8260C Full List	11/04/19 11:08	5	5					PDI-1069PW-07-09-191031	~~HS in B & C . SIM if VC ND -~~ Det	<2
9110413-DUP1		QC	11/04/19 11:08	5	5		A9K0039-06					<2
A9K0039-07	A	8260C Full List	11/04/19 11:08	5	5					PDI-071PW-08-10-191031	HS in C . SIM if VC ND - Determi	<2
9110413-MS1		QC	11/04/19 11:08	5	5	A19K007	A9K0039-07	500			@100X	<2

*pH <2 verified 11/5/19 tnl

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

11/5/19 tnl
Prepared By: Date

11/5/19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9K04028	Instrument:	VOA-GCMS9
Date:	11/04/19 08:18	Calibration:	A9J2503

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9K04028-IBL1	Water	QC	QC			A19I040	
2	9K04028-IBL2	Water	QC	QC			A19I040	
3	9K04028-IBL3	Water	QC	QC			A19I040	
4	9K04028-TUN1	Water	QC	QC			A19I040	
5	9K04028-CCV1	Water	QC	QC			A19I040	
6	9110413-BS1	Water	QC	QC		9110413	A19I040	
7	9K04028-CCV2	Water	QC	QC			A19I040	
8	9110413-BS2	Water	QC	QC		9110413	A19I040	
9	9110413-BLK1	Water	QC	QC		9110413	A19I040	
10	A9K0039-01	Water	8260C Full List	Anchor QEA, LLC	11/15/19	9110413	A19I040	
11	A9K0039-03	Water	8260C Full List	Anchor QEA, LLC	11/15/19	9110413	A19I040	
12	9K04028-IBL4	Water	QC	QC			A19I040	
13	A9J1110-10RE1	Water	8260C Full List		11/13/19	9110413	A19I040	
14	A9J1114-03RE1	Water	8260C Full List	Anchor QEA, LLC	11/13/19	9110413	A19I040	
15	A9K0039-02	Water	8260C Full List	Anchor QEA, LLC	11/15/19	9110413	A19I040	
16	A9K0039-04	Water	8260C Full List	Anchor QEA, LLC	11/15/19	9110413	A19I040	
17	A9K0039-05	Water	8260C Full List	Anchor QEA, LLC	11/15/19	9110413	A19I040	
18	A9K0039-06	Water	8260C Full List	Anchor QEA, LLC	11/15/19	9110413	A19I040	
19	9110413-DUP1	Water	QC	QC		9110413	A19I040	
20	A9K0039-07	Water	8260C Full List	Anchor QEA, LLC	11/15/19	9110413	A19I040	
21	9110413-MS1	Water	QC	QC		9110413	A19I040	
22	9K04028-IBL5	Water	QC	QC			A19I040	
23	9K04028-IBL6	Water	QC	QC			A19I040	
24	A9K0039-02RE1	Water	8260C Full List	Anchor QEA, LLC	11/15/19	9110413	A19I040	
25	9K04028-IBL7	Water	QC	QC			A19I040	
26	9K04028-IBL8	Water	QC	QC			A19I040	
27	9K04028-IBL9	Water	QC	QC			A19I040	

Comments: DCM → MDL↑ MRL↑ to 2.5ppb/5ppb

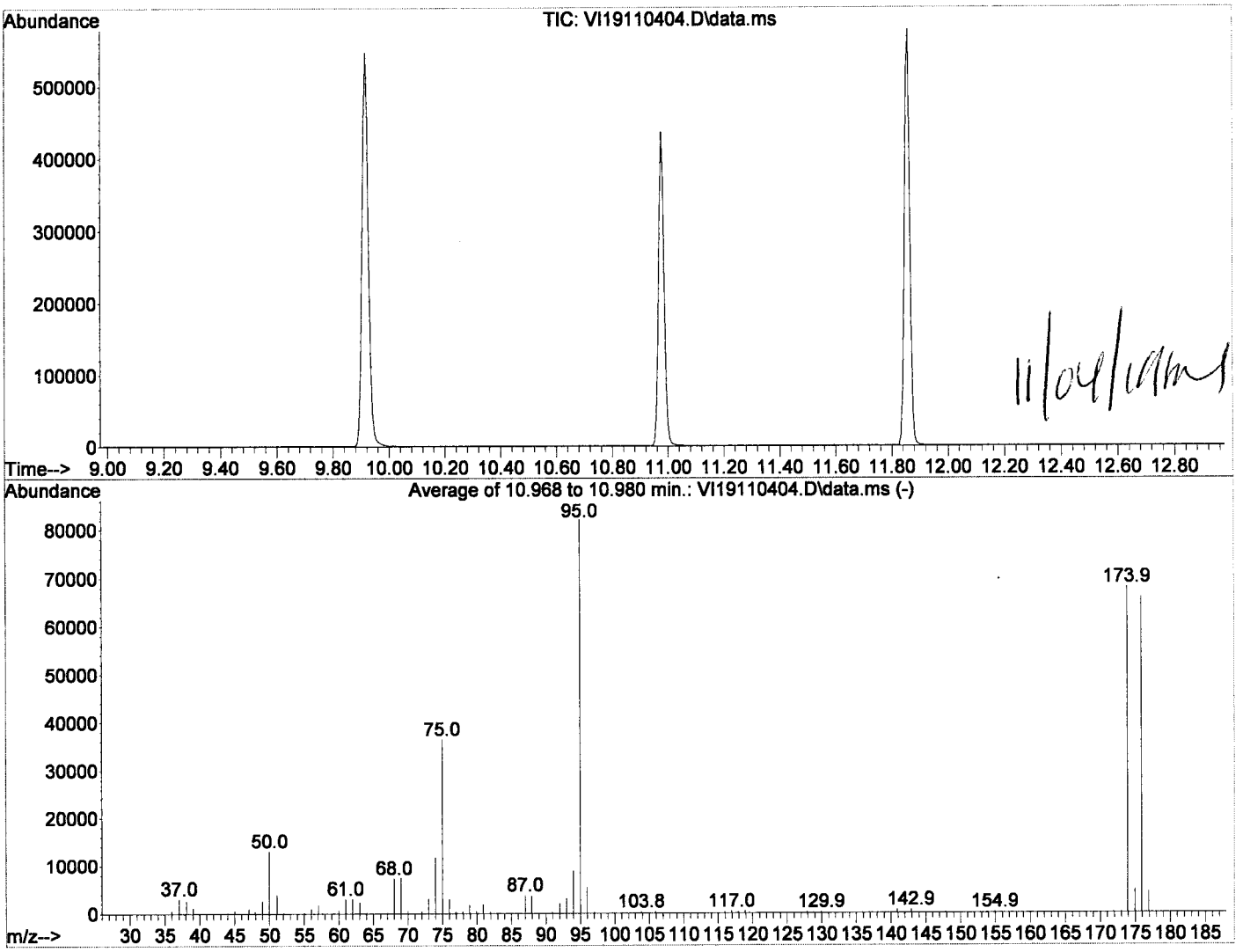
Data Entered By: 11/5/19 tml

Data Reviewed By: 11/5/19

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110404.D
Acq On : 4 Nov 2019 10:01 am
Operator : tb
Sample : 9K04028-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 4 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	120.7	82117	PASS
96	95	5	9	6.7	5486	PASS
173	174	0.00	2	0.2	156	PASS
174	95	50	200	82.8	68016	PASS
175	174	5	9	7.1	4847	PASS
176	174	95	105	96.9	65877	PASS
177	176	5	10	6.7	4428	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110404.D
Acq On : 4 Nov 2019 10:01 am
Operator : tb
Sample : 9K04028-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:07 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)	6.223	99	111602	50.00	ug/L	# 0.01
45) Chlorobenzene-d5 (I)	9.916	117	308623	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	137765	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	113972	51.97	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	368803	52.31	ug/L	0.01
48) Toluene-d8 (S)	8.304	98	412454	50.92	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	112723	50.64	ug/L	0.00
Target Compounds						Qvalue
6) Chloroethane	2.494	64	301	0.27	ug/L #	36
14) Methylene Chloride	3.881	84	2209	0.22	ug/L	85
15) Acetone	3.954	43	2384	2.44	ug/L	89

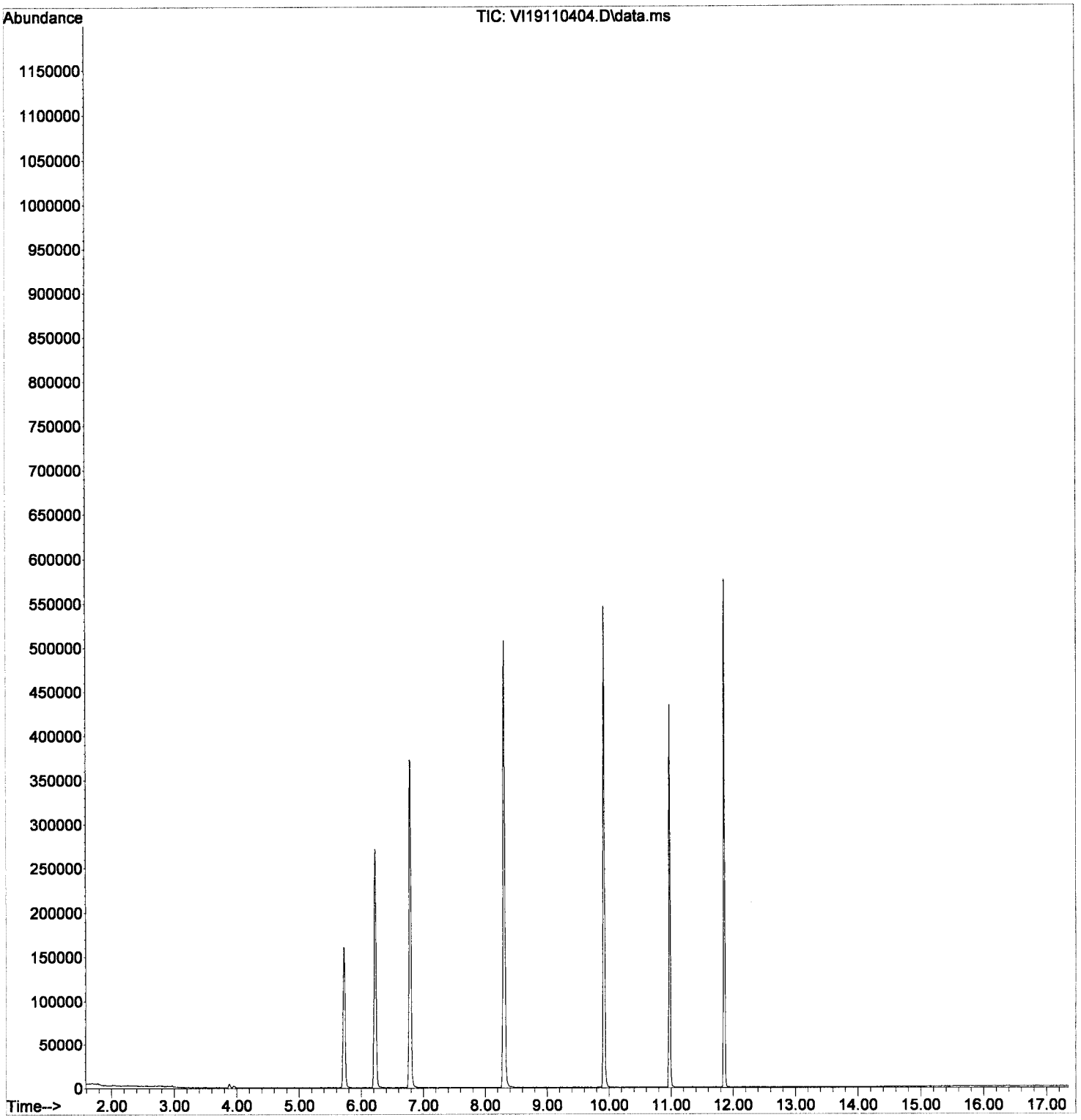
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/04/19 RL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110404.D
Acq On : 4 Nov 2019 10:01 am
Operator : tb
Sample : 9K04028-TUN1
Misc : A19I040 BFB (IS/SURR)
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:07 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\9K04028\
Data File : VI19110405.D
Acq On : 4 Nov 2019 10:28 am
Operator : tb
Sample : 9110413-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:10 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

11/4/19 MJ

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	104	0.00
2		Dichlorodifluoromethane	20.000	18.605		7.0	99	0.01
3	P	Chloromethane	20.000	17.338		13.3	97	0.00
4	C	Vinyl Chloride	20.000	19.550		2.2	99	0.00
5		Bromomethane	20.000	22.859		-14.3	124	0.01
6		Chloroethane	20.000	16.085		19.6	94	0.01
7		Trichlorofluoromethane	20.000	19.170		4.1	95	0.01
8		Ethanol	1250.000	1086.855		13.1	87	0.00
9	C	1,1-Dichloroethene	20.000	18.564		7.2	95	0.00
10		Carbon Disulfide	20.000	18.449		7.8	95	0.01
11		Freon 113	20.000	19.524		2.4	98	0.01
12		Iodomethane	20.000	10.995	NR	45.0#	55	0.01
13		Acrolein	20.000	18.724		6.4	95	0.01
14		Methylene Chloride	20.000	18.813		5.9	96	0.00
15		Acetone	40.000	36.056		9.9	94	0.00
16		t-1,2-Dichloroethene	20.000	19.553		2.2	94	0.01
17		n-Hexane	20.000	19.878		0.6	99	0.01
18		Methyl-tert-butyl-ether	20.000	17.894		10.5	91	0.00
19		tert-Butanol (TBA)	1250.000	1067.495		14.6	78	0.00
20		Diisopropyl ether (DIPE)	5.000	4.126		17.5	80	0.00
21	P	1,1-Dichloroethane	20.000	18.957		5.2	95	0.01
22		Acrylonitrile	20.000	21.388		-6.9	105	0.00
23		Ethyl-tert-butyl ether (ET	5.000	3.932	NR	21.4#	76	0.00
24		Vinyl Acetate	20.000	18.861		5.7	95	0.00
25		c-1,2-Dichloroethene	20.000	19.202		4.0	95	0.01
26		2,2-Dichloropropane	20.000	18.119		9.4	92	0.00
27		Bromochloromethane	20.000	21.856		-9.3	101	0.00
28	C	Chloroform	20.000	19.532		2.3	94	0.00
29		Carbon Tetrachloride	20.000	19.546		2.3	99	0.00
30		Tetrahydrofuran	20.000	19.417		2.9	98	0.00
31		1,1,1-Trichloroethane	20.000	18.207		9.0	91	0.00
32	S	Dibromofluoromethane (S)	50.000	50.968		-1.9	107	0.00
33		1,1-Dichloropropene	20.000	18.634		6.8	94	0.00
34		2-Butanone (MEK)	40.000	39.520		1.2	99	0.00
35		Benzene	20.000	19.366		3.2	98	0.00
36		tert-Amyl methyl ether (TA	5.000	3.951	NR	21.0#	79	0.00
37		1,2-Dichloroethane (EDC)	20.000	18.702		6.5	93	0.00
38		iso-Butyl Alcohol	500.000	484.401		3.1	94	0.00
39	S	1,4-Difluorobenzene (S)	50.000	51.676		-3.4	107	0.00
40		Trichloroethene (TCE)	20.000	19.854		0.7	96	0.00
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	3.875	NR	22.5#	75	0.00
42		Dibromomethane	20.000	20.801		-4.0	101	0.00
43	C	1,2-Dichloropropane	20.000	19.813		0.9	99	0.00
44		Bromodichloromethane	20.000	20.488		-2.4	102	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000		0.0	106	0.00
46		2-Chloroethyl Vinyl Ether	20.000	17.639		11.8	89	0.00
47		c-1,3-Dichloropropene	20.000	19.295		3.5	96	0.00
48	S	Toluene-d8 (S)	50.000	50.076		-0.2	107	0.00
49	C	Toluene	20.000	18.406		8.0	96	0.00
50		Tetrachloroethene (PCE)	20.000	19.468		2.7	95	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110405.D
Acq On : 4 Nov 2019 10:28 am
Operator : tb
Sample : 9110413-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:10 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

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	39.758	0.6	96	0.00
52		t-1,3-Dichloropropene	20.000	18.709	6.5	94	0.00
53		1,1,2-Trichloroethane	20.000	20.062	-0.3	99	0.00
54		Dibromochloromethane	20.000	24.300	-21.5#	113	0.00
55		1,3-Dichloropropane	20.000	19.731	1.3	98	0.00
56		1,2-Dibromoethane (EDB)	20.000	19.509	2.5	96	0.00
57		2-Hexanone	40.000	37.799	5.5	92	0.00
58	P	Chlorobenzene	20.000	19.176	4.1	97	0.00
59	C	Ethylbenzene	20.000	18.395	8.0	95	0.00
60		1,1,1,2-Tetrachloroethane	20.000	20.780	-3.9	102	0.00
61		m,p-Xylenes (2)	40.000	37.163	7.1	93	0.00
62		o-Xylene	20.000	18.451	7.7	91	0.00
63		Styrene	20.000	19.065	4.7	93	0.00
64	P	Bromoform	20.000	23.796	-19.0	127	0.00
65		Isopropylbenzene	20.000	18.693	6.5	92	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	103	0.00
67	S	4-Bromofluorobenzene (S)	50.000	48.271	3.5	101	0.00
68		Bromobenzene	20.000	19.546	2.3	94	0.00
69		n-Propylbenzene	20.000	19.024	4.9	94	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.708	-3.5	101	0.00
71		2-Chlorotoluene	20.000	18.581	7.1	91	0.00
72		1,3,5-Trimethylbenzene	20.000	19.269	3.7	92	0.00
73		1,2,3-Trichloropropane	20.000	19.963	0.2	98	0.00
74		t-1,4-Dichloro-2-butene	20.000	20.736	-3.7	101	0.00
75		4-Chlorotoluene	20.000	18.904	5.5	93	0.00
76		tert-Butylbenzene	20.000	18.216	8.9	88	0.00
77		1,2,4-Trimethylbenzene	20.000	19.630	1.9	93	0.00
78		sec-Butylbenzene	20.000	19.085	4.6	92	0.00
79		4-Isopropyltoluene	20.000	19.428	2.9	89	0.00
80		1,3-Dichlorobenzene	20.000	19.366	3.2	95	0.00
81		1,4-Dichlorobenzene	20.000	19.079	4.6	93	0.00
82		n-Butylbenzene	20.000	20.237	-1.2	91	0.00
83		1,2-Dichlorobenzene	20.000	18.962	5.2	92	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	20.203	-1.0	102	0.00
85		Hexachlorobutadiene	20.000	18.392	8.0	87	0.00
86		1,2,4-Trichlorobenzene	20.000	18.730	6.3	87	0.00
87		Naphthalene	20.000	18.147	9.3	84	0.00
88		1,2,3-Trichlorobenzene	20.000	18.925	5.4	88	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110405.D
Acq On : 4 Nov 2019 10:28 am
Operator : tb
Sample : 9110413-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:10 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

11/04/19 MJ

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	116594	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	325714	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	155936	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	116763	50.97	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	380651	51.68	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	428102	50.08	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	121621	48.27	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	35460	18.61	ug/L		98
3) Chloromethane	1.897	50	43819	17.34	ug/L		97
4) Vinyl Chloride	2.001	62	49501	19.55	ug/L		95
5) Bromomethane	2.366	96	34123	22.86	ug/L		97
6) Chloroethane	2.500	64	18719	16.08	ug/L		84
7) Trichlorofluoromethane	2.670	101	54965	19.17	ug/L		97
8) Ethanol	3.236	45	60897	1086.85	ug/L		87
9) 1,1-Dichloroethene	3.236	61	51310	18.56	ug/L		95
10) Carbon Disulfide	3.254	76	94095	18.45	ug/L		99
11) Freon 113	3.291	101	38801	19.52	ug/L		96
12) Iodomethane	3.394	142	6336	11.00	ug/L		95
13) Acrolein	3.625	56	9919	18.72	ug/L		79
14) Methylene Chloride	3.875	84	41826	18.81	ug/L		90
15) Acetone	3.942	43	36839	36.06	ug/L		90
16) t-1,2-Dichloroethene	4.045	61	52893	19.55	ug/L		91
17) n-Hexane	4.130	86	8187	19.88	ug/L	#	98
18) Methyl-tert-butyl-ether	4.173	73	112517	17.89	ug/L		93
19) tert-Butanol (TBA)	4.294	59	481874	1067.50	ug/L		96
20) Diisopropyl ether (DIPE)	4.568	45	27915	4.13	ug/L		94
21) 1,1-Dichloroethane	4.690	63	71225	18.96	ug/L		97
22) Acrylonitrile	4.751	53	24188	21.39	ug/L		99
23) Ethyl-tert-butyl ether...	4.939	59	25565	3.93	ug/L		98
24) Vinyl Acetate	4.958	43	85589	18.86	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	55693	19.20	ug/L		90
26) 2,2-Dichloropropane	5.353	77	44425	18.12	ug/L		94
27) Bromochloromethane	5.450	130	31105	21.86	ug/L		97
28) Chloroform	5.529	83	71745	19.53	ug/L		96
29) Carbon Tetrachloride	5.663	117	43668	19.55	ug/L		93
30) Tetrahydrofuran	5.706	42	20876	19.42	ug/L		87
31) 1,1,1-Trichloroethane	5.736	97	56455	18.21	ug/L		98
33) 1,1-Dichloropropene	5.864	75	55484	18.63	ug/L		94
34) 2-Butanone (MEK)	5.858	43	64015	39.52	ug/L		97
35) Benzene	6.126	78	172536	19.37	ug/L		96
36) tert-Amyl methyl ether...	6.247	73	23881	3.95	ug/L		87
37) 1,2-Dichloroethane (EDC)	6.345	62	54581	18.70	ug/L		93
38) iso-Butyl Alcohol	6.375	43	78608	484.40	ug/L		95
40) Trichloroethene (TCE)	6.746	130	45579	19.85	ug/L		94
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	16913	3.88	ug/L		87
42) Dibromomethane	7.202	93	29743	20.80	ug/L		94
43) 1,2-Dichloropropane	7.312	63	44029	19.81	ug/L		89
44) Bromodichloromethane	7.385	83	52496	20.49	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.024	63	29491	17.64	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	62136	19.30	ug/L		85

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110405.D
Acq On : 4 Nov 2019 10:28 am
Operator : tb
Sample : 9110413-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:10 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

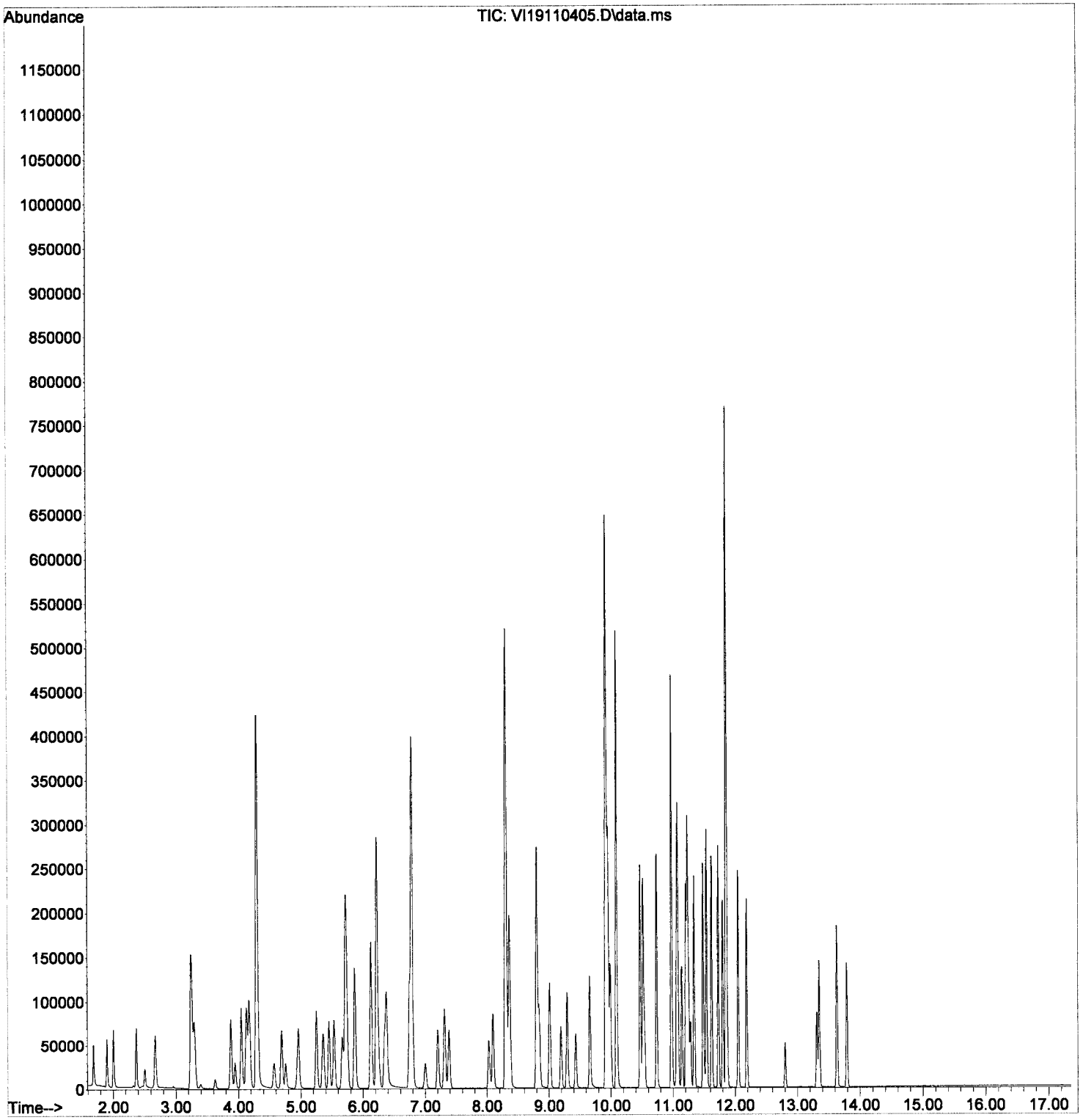
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	8.358	91	176297	18.41 ug/L	100
50) Tetrachloroethene (PCE)	8.802	166	43403	19.47 ug/L	96
51) 4-Methyl-2-Pentanone (...	8.802	43	115606	39.76 ug/L	94
52) t-1,3-Dichloropropene	8.839	75	53439	18.71 ug/L	98
53) 1,1,2-Trichloroethane	9.009	97	42598	20.06 ug/L	96
54) Dibromochloromethane	9.192	129	41712	24.30 ug/L	99
55) 1,3-Dichloropropane	9.289	76	72268	19.73 ug/L	90
56) 1,2-Dibromoethane (EDB)	9.429	107	45100	19.51 ug/L	96
57) 2-Hexanone	9.654	43	80537	37.80 ug/L	91
58) Chlorobenzene	9.928	112	117239	19.18 ug/L	97
59) Ethylbenzene	9.952	91	184767	18.39 ug/L	98
60) 1,1,1,2-Tetrachloroethane	9.989	131	37051	20.78 ug/L	95
61) m,p-Xylenes (2)	10.086	91	274884	37.16 ug/L	99
62) o-Xylene	10.469	91	135306	18.45 ug/L	99
63) Styrene	10.518	104	112373	19.07 ug/L	99
64) Bromoform	10.542	173	30321	23.80 ug/L	97
65) Isopropylbenzene	10.737	105	167239	18.69 ug/L	97
68) Bromobenzene	11.059	156	47240	19.55 ug/L	87
69) n-Propylbenzene	11.078	91	197153	19.02 ug/L	99
70) 1,1,2,2-Tetrachloroethane	11.145	85	42251	20.71 ug/L	93
71) 2-Chlorotoluene	11.205	126	41494	18.58 ug/L	99
72) 1,3,5-Trimethylbenzene	11.230	105	136461	19.27 ug/L	97
73) 1,2,3-Trichloropropane	11.248	110	19808	19.96 ug/L	96
74) t-1,4-Dichloro-2-butene	11.284	53	14723	20.74 ug/L #	74
75) 4-Chlorotoluene	11.339	91	120583	18.90 ug/L	97
76) tert-Butylbenzene	11.485	91	72033	18.22 ug/L	99
77) 1,2,4-Trimethylbenzene	11.540	105	139848	19.63 ug/L	98
78) sec-Butylbenzene	11.619	105	166532	19.08 ug/L	98
79) 4-Isopropyltoluene	11.729	119	134128	19.43 ug/L	97
80) 1,3-Dichlorobenzene	11.802	146	81541	19.37 ug/L	98
81) 1,4-Dichlorobenzene	11.868	146	83767	19.08 ug/L	97
82) n-Butylbenzene	12.045	91	118730	20.24 ug/L	96
83) 1,2-Dichlorobenzene	12.185	146	77534	18.96 ug/L	98
84) 1,2-Dibromo-3-Chloropr...	12.799	157	13968	20.20 ug/L	91
85) Hexachlorobutadiene	13.310	223	10508	18.39 ug/L	91
86) 1,2,4-Trichlorobenzene	13.347	180	44138	18.73 ug/L	98
87) Naphthalene	13.627	128	135963	18.15 ug/L	98
88) 1,2,3-Trichlorobenzene	13.791	180	42342	18.93 ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110405.D
Acq On : 4 Nov 2019 10:28 am
Operator : tb
Sample : 9110413-BS1
Misc : 1X 5mL 20/40PPB VOCR A19K007
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:10 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



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110406.D
Acq On : 4 Nov 2019 10:55 am
Operator : tb
Sample : 9110413-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:25:09 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	106	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	51.296	-2.6	109	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	48.556	2.9	104	0.00
4	H	NWTPH-Gx (TPH)	500.000	460.454	7.9	98	0.00
5	H	TPHg (C5-C9)	500.000	473.102	5.4	101	0.00
6	H	TPHg (C6-C10)	500.000	474.017	5.2	101	0.00
7	H	CA-LUFT (C5-C12)	500.000	464.165	7.2	100	0.00
8		Benzene (NR)	-1.000	0.000	0.0	106	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	107	0.00
10		Toluene (NR)	-1.000	0.000	0.0	102	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	106	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	105	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	100	0.00

11/4/19 hc

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110406.D
Acq On : 4 Nov 2019 10:55 am
Operator : tb
Sample : 9110413-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:25:09 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	226896	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	378442	51.30	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	119594	48.56	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	423932	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	318854	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	235420	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	2927673m	460.45	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4188904m	473.10	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3558322m	474.02	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	4872701m	464.17	ug/L	

11/04/19 bg

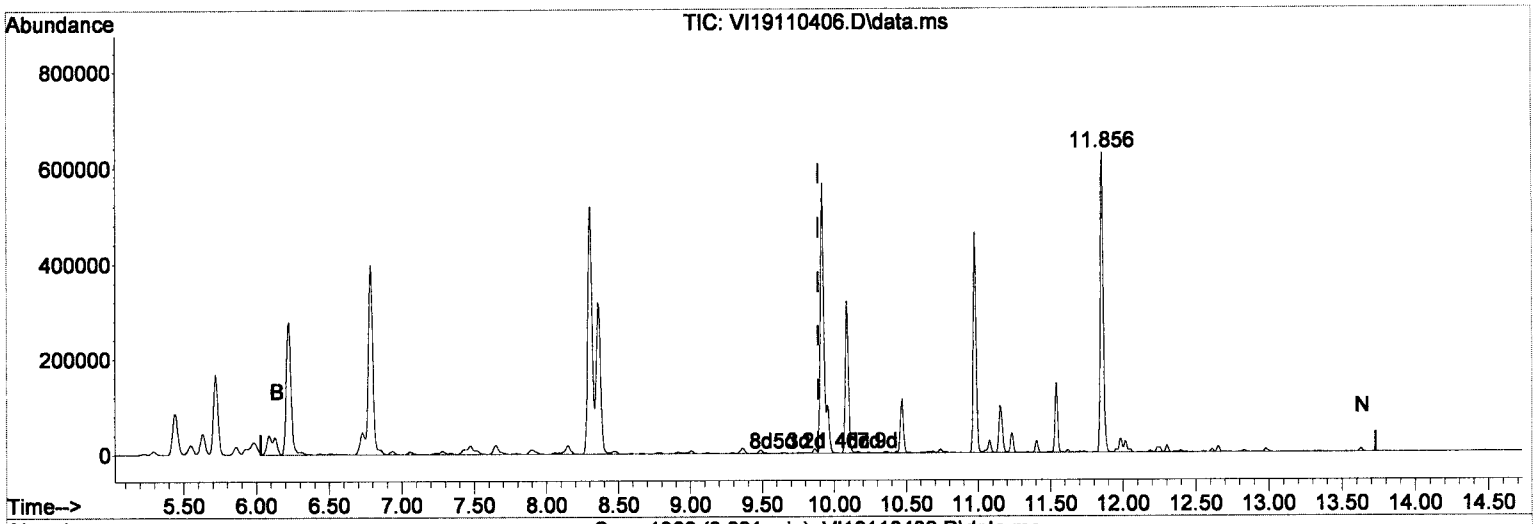
NR

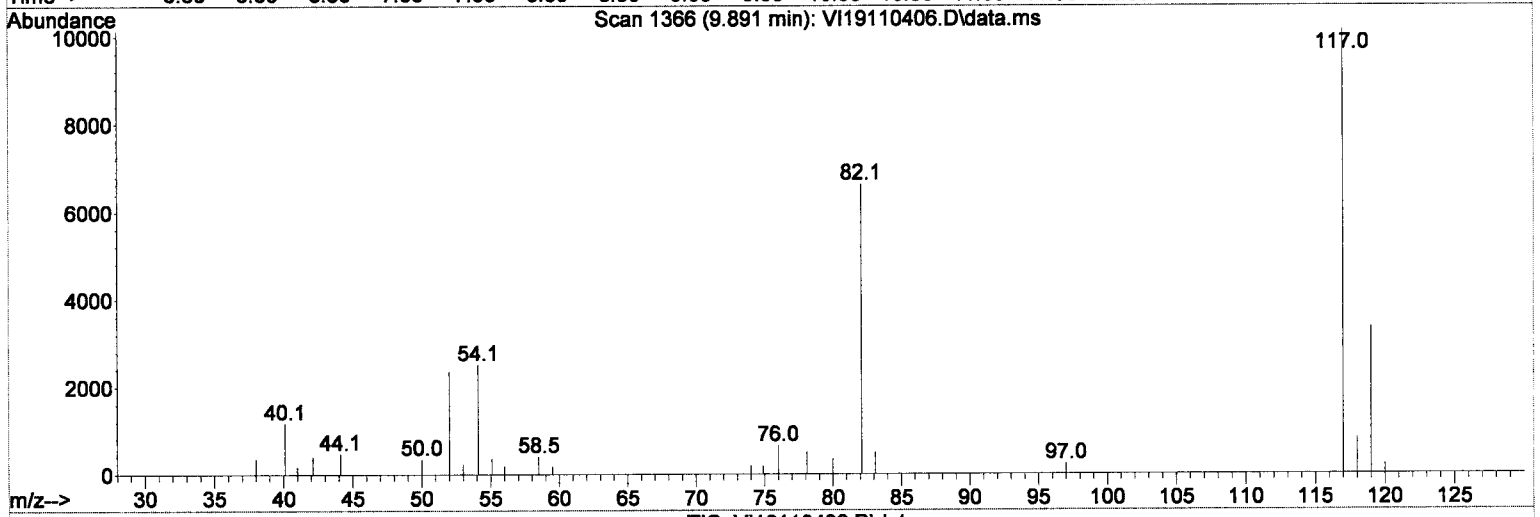
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110406.D
Acq On : 4 Nov 2019 10:55 am
Operator : tb
Sample : 9110413-BS2
Misc : 1X 5mL 500PPB GX A19J354
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:25:09 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: VI19110406.D\data.ms

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

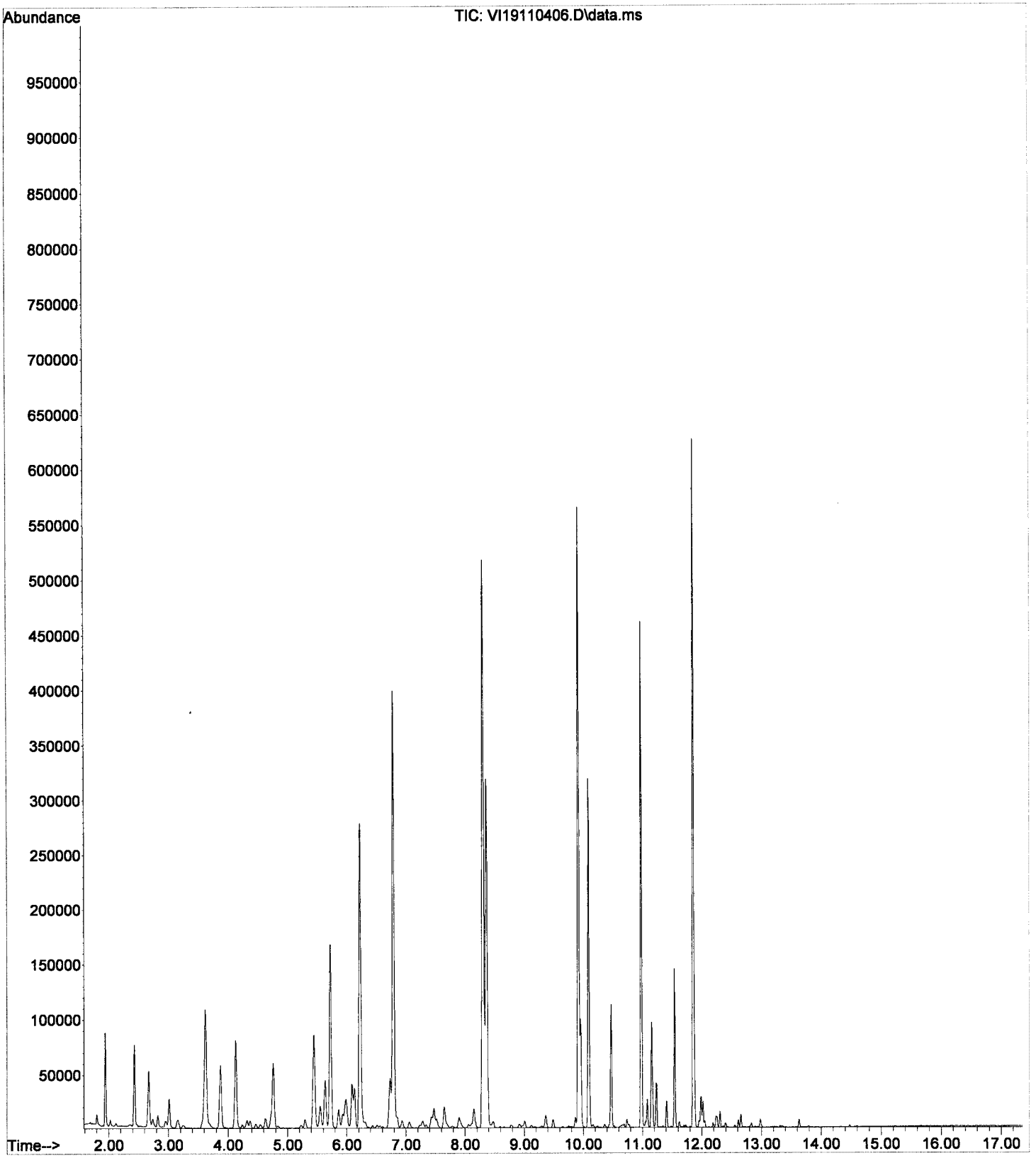
9.890min (0.000) 460.45 ug/L m

response 2927673

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

11/04/19 bh

File :C:\msdchem\1\data\2019-11\9K04028\VI19110406.D
Operator : tb
Acquired : 4 Nov 2019 10:55 am using AcqMethod VI1611RUN.M
Instrument : VOA-GCMS9
Sample Name: 9110413-BS2
Misc Info : 1X 5mL 500PPB GX A19J354
Vial Number: 6



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110407.D
Acq On : 4 Nov 2019 11:22 am
Operator : tb
Sample : 9110413-BLK1
Misc : 1X 5mL DI
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:25:12 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	223746	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	374547	51.48	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	113491	46.73	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	419294	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	311790	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	220200	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	-9001m	23.27	ug/L	
5) TPHg (C5-C9)	9.890	TIC	366156m	16.55	ug/L	
6) TPHg (C6-C10)	9.890	TIC	346632m	19.33	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	364691m	19.90	ug/L	

11/4/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110407.D
Acq On : 4 Nov 2019 11:22 am
Operator : tb
Sample : 9110413-BLK1
Misc : 1X 5mL DI
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:13 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	113410	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	311790	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	140834	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	114467	51.37	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	374203	52.23	ug/L	0.00
48) Toluene-d8 (S)	8.304	98	419294	51.24	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	113491	49.87	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.898	50	244	0.10	ug/L	# 47
6) Chloroethane	2.476	64	519	0.46	ug/L	# 36
14) Methylene Chloride	3.875	84	799	Below Cal		89
15) Acetone	3.948	43	716	0.72	ug/L	# 44

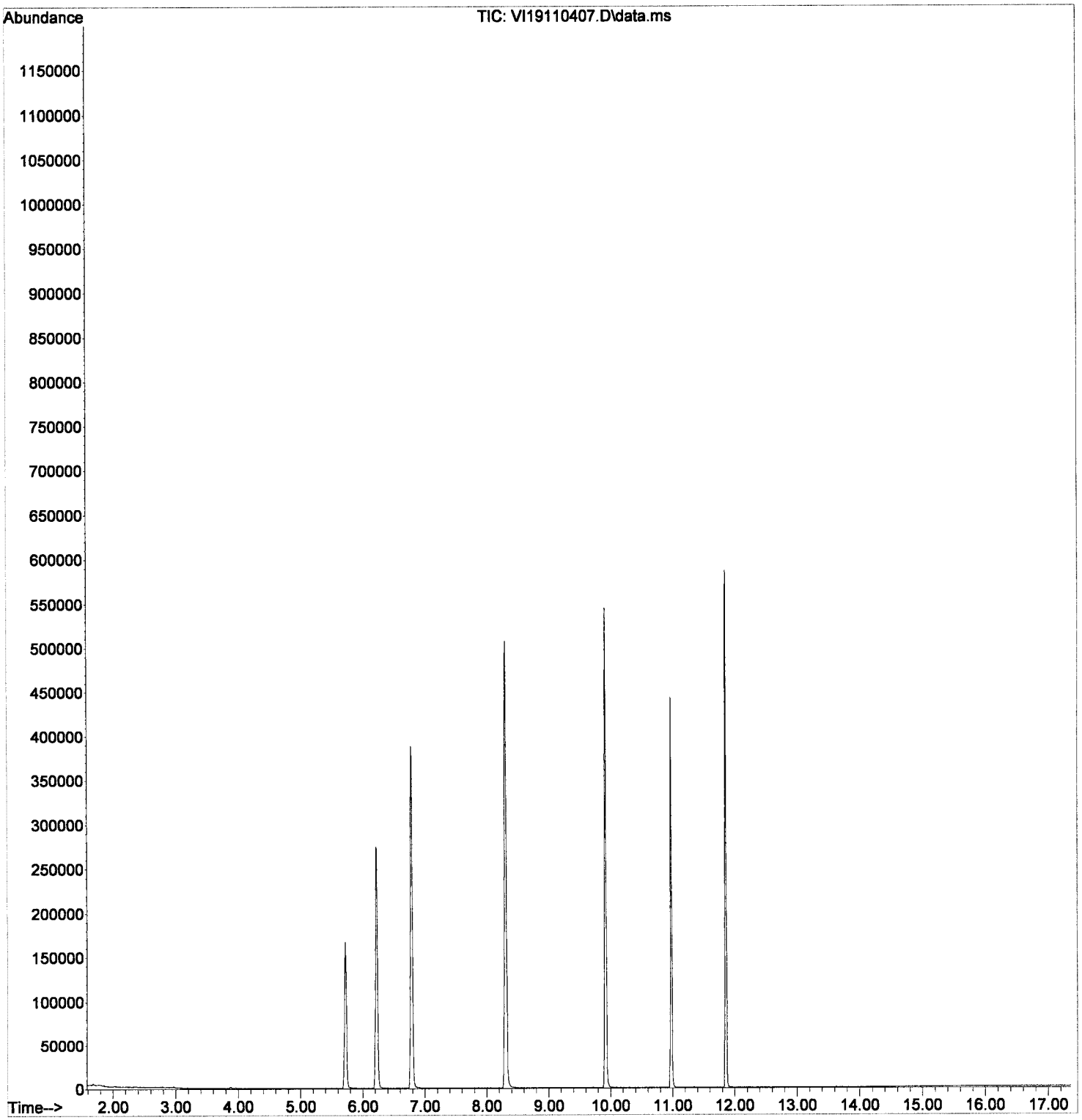
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/4/19 KW

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110407.D
Acq On : 4 Nov 2019 11:22 am
Operator : tb
Sample : 9110413-BLK1
Misc : 1X 5mL DI
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:13 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\9K04028\
Data File : VI19110408.D
Acq On : 4 Nov 2019 11:48 am
Operator : tb
Sample : A9K0039-01
Misc : 1X 5mL 8260C TB
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:16 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	106357	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	292155	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	131374	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	107776	51.57	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	355141	52.85	ug/L	0.00
48) Toluene-d8 (S)	8.304	98	392341	51.16	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	107049	50.43	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.898	50	334	0.14	ug/L	# 47
6) Chloroethane	2.500	64	177	0.17	ug/L	# 36
14) Methylene Chloride	3.875	84	661	Below Cal		86
15) Acetone	3.954	43	2466	2.65	ug/L	90

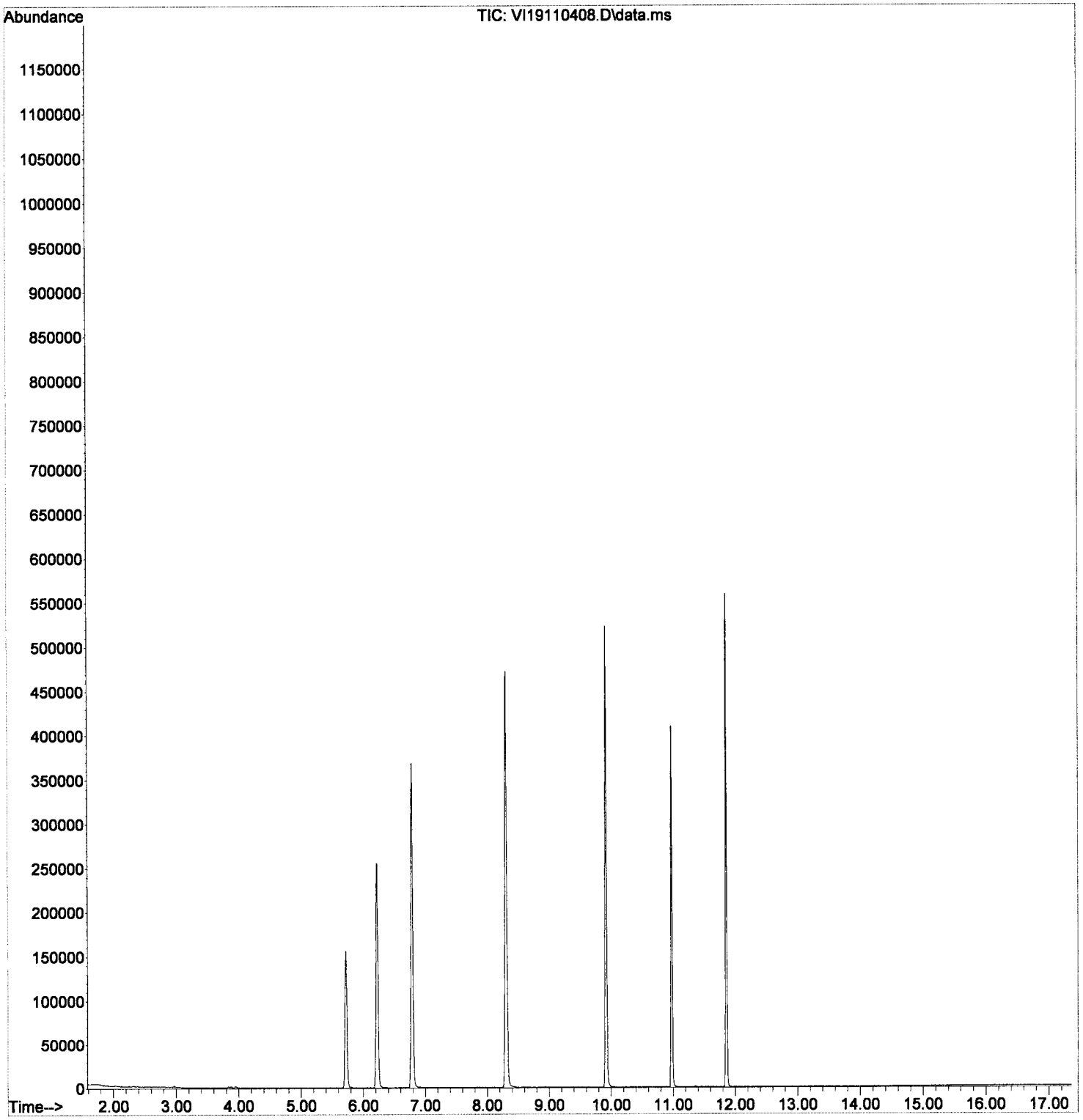
(#) = qualifier out of range (m) = manual integration (+) = signals summed

11/4/19 hm

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110408.D
Acq On : 4 Nov 2019 11:48 am
Operator : tb
Sample : A9K0039-01
Misc : 1X 5mL 8260C TB
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 12:21:16 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



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110409.D
Acq On : 4 Nov 2019 12:15 pm
Operator : tb
Sample : A9K0039-03
Misc : 1X 5mL 8260C
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 13:05:17 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)	6.223	99	101423	50.00	ug/L	# 0.01
45) Chlorobenzene-d5 (I)	9.916	117	278335	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	128511	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	102535	51.45	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	332342	51.87	ug/L	0.00
48) Toluene-d8 (S)	8.304	98	376890	51.59	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	101322	48.80	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.904	50	278	0.13	ug/L #	47
6) Chloroethane	2.488	64	366	0.36	ug/L #	36
15) Acetone	3.948	43	3676	4.14	ug/L	95
19) tert-Butanol (TBA)	4.301	59	5594	14.25	ug/L	73
38) iso-Butyl Alcohol	6.478	43	1276	9.04	ug/L	72
62) o-Xylene	10.469	91	1202	0.19	ug/L	93
82) n-Butylbenzene	11.984	91	13494	2.79	ug/L #	39
87) Naphthalene	13.627	128	75305	12.20	ug/L	96

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

11/04/19 bmp

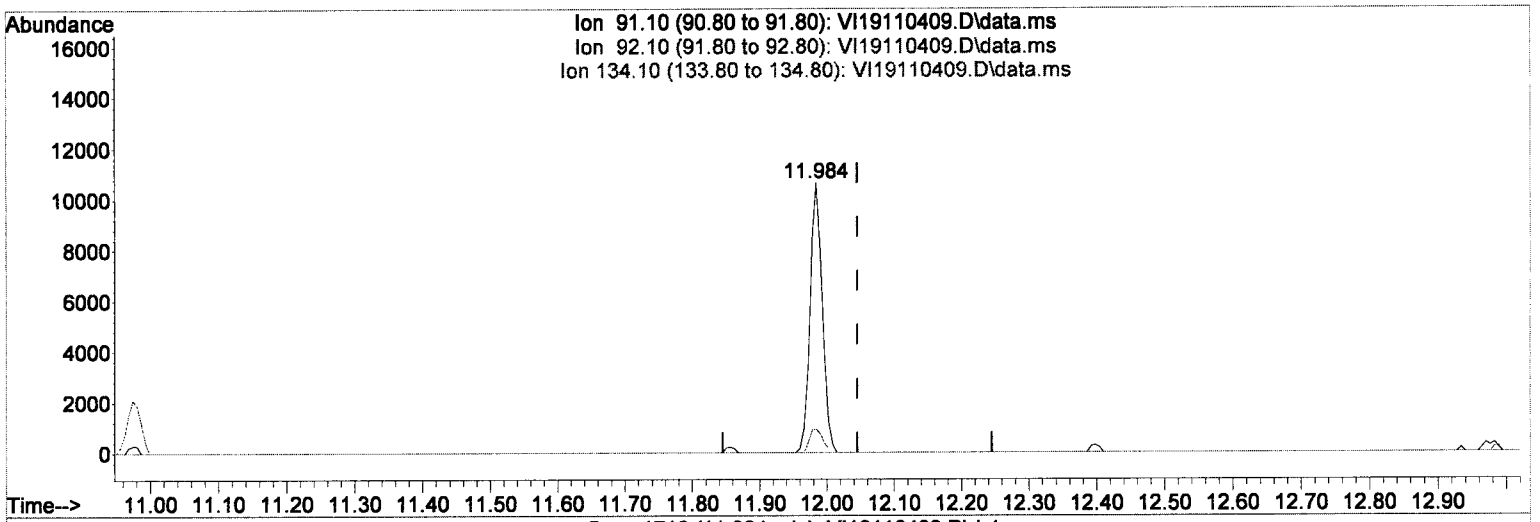
NR

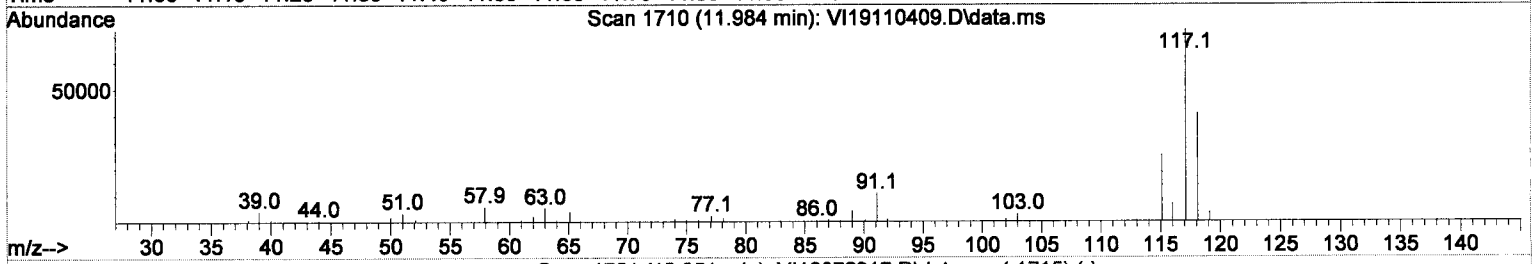
MC ND

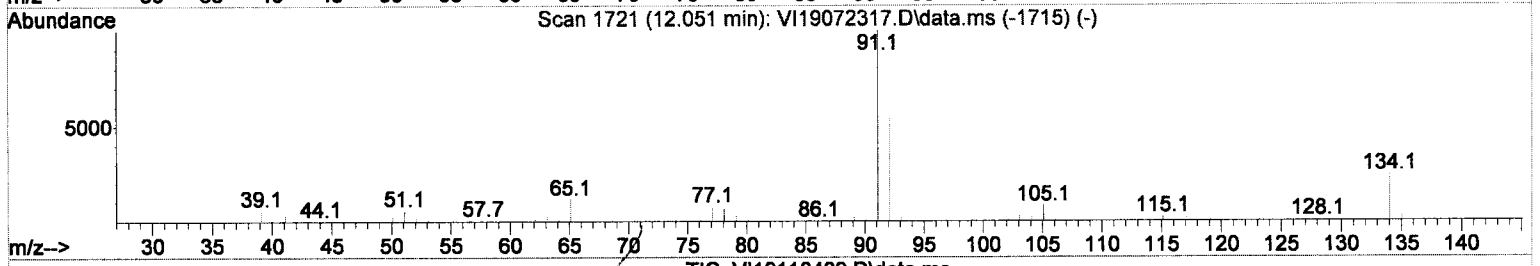
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110409.D
Acq On : 4 Nov 2019 12:15 pm
Operator : tb
Sample : A9K0039-03
Misc : 1X 5mL 8260C
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 13:05:17 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: VI19110409.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 2.79 ug/L

response 13494

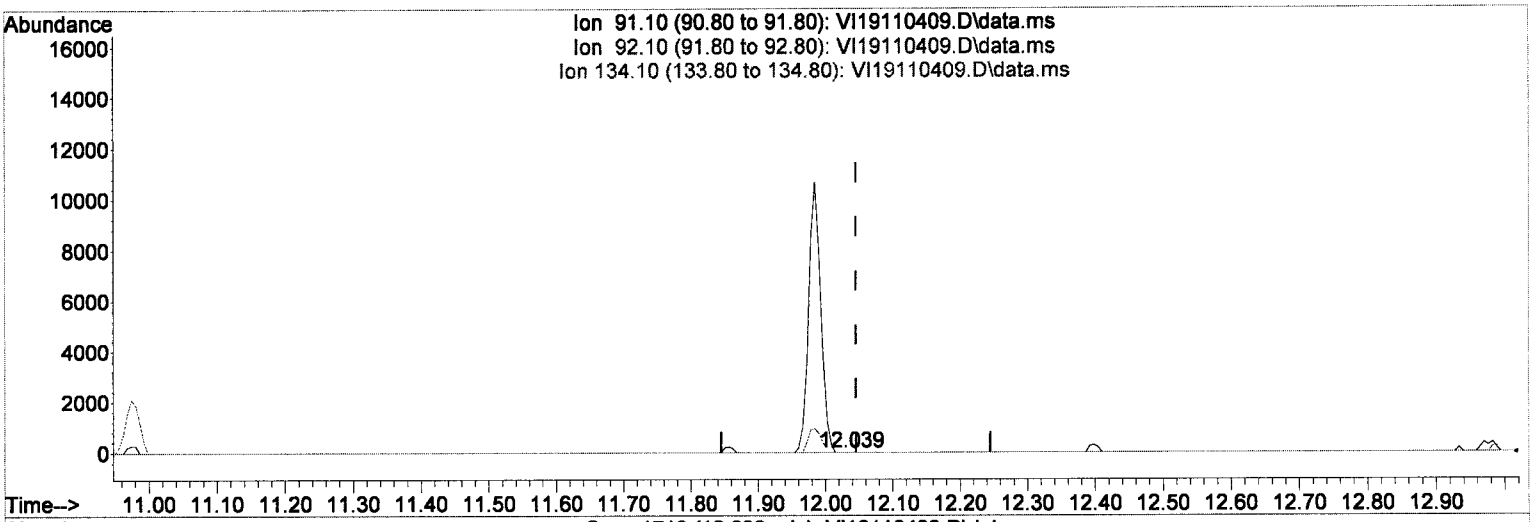
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	8.76#
134.10	28.20	0.00
0.00	0.00	0.00

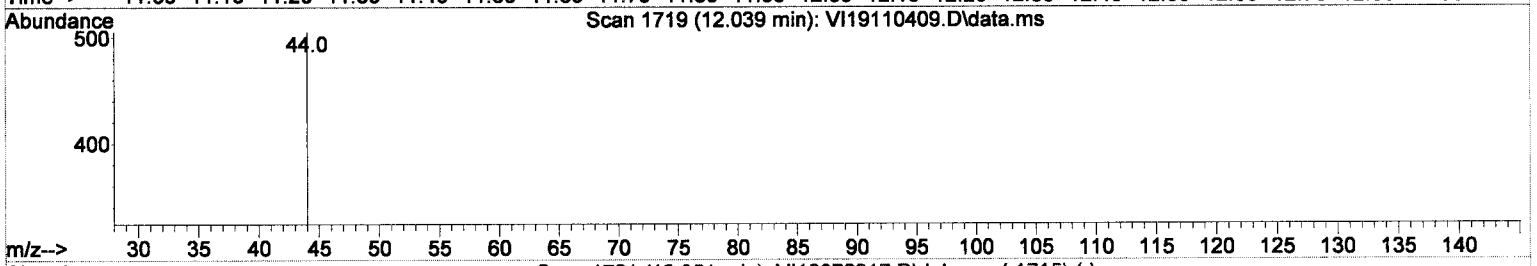
ME 10/04/19 mj

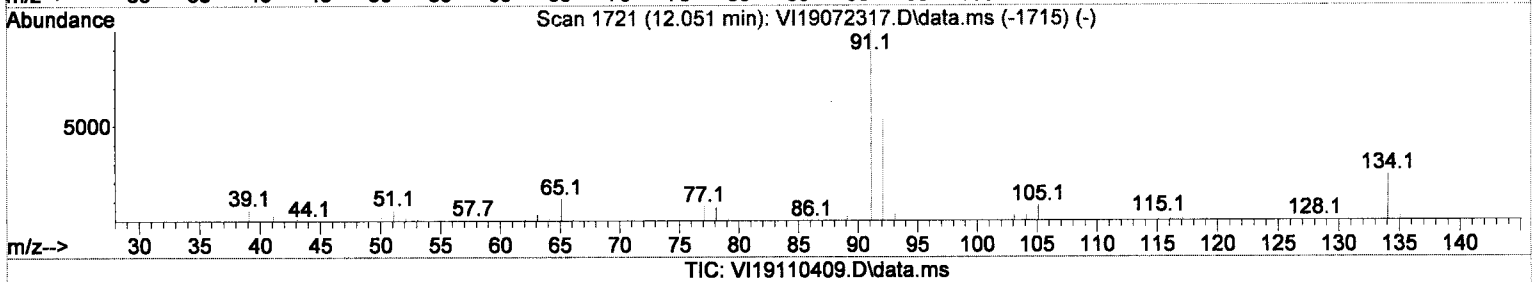
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110409.D
Acq On : 4 Nov 2019 12:15 pm
Operator : tb
Sample : A9K0039-03
Misc : 1X 5mL 8260C
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 13:05:17 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: VI19110409.D\data.ms

(82) n-Butylbenzene

12.039min (-0.006) 0.00 ug/L m

response 0

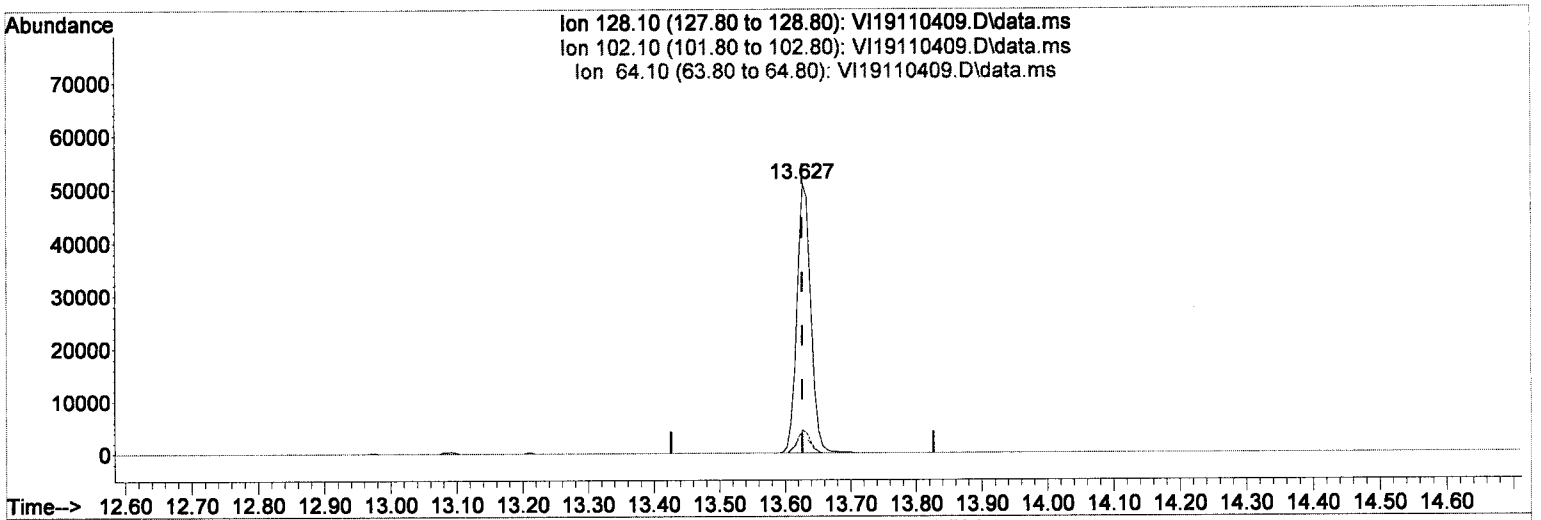
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

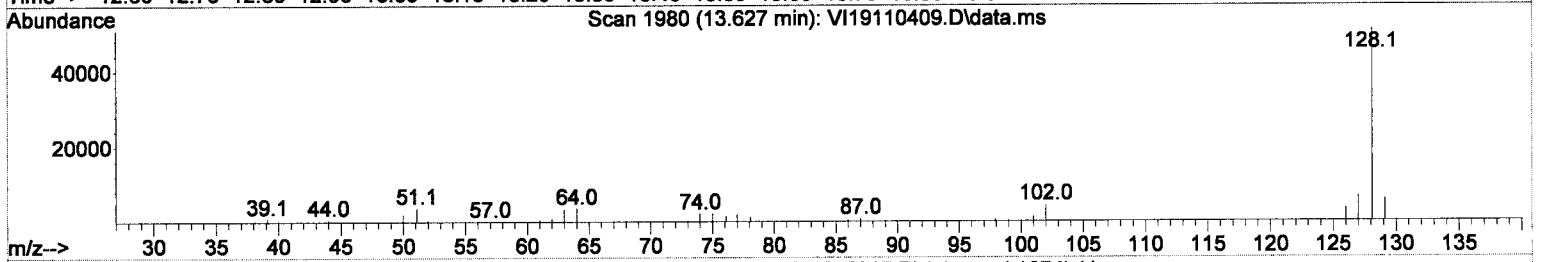
NP
11/04/19 MM

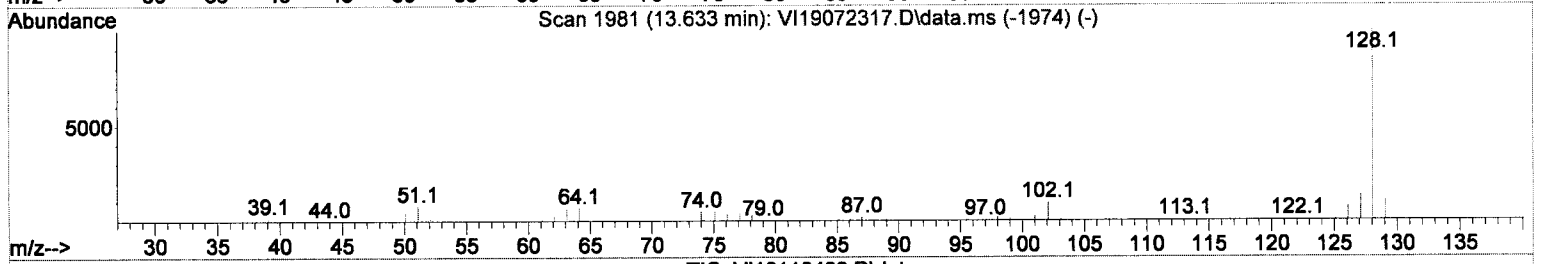
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110409.D
Acq On : 4 Nov 2019 12:15 pm
Operator : tb
Sample : A9K0039-03
Misc : 1X 5mL 8260C
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 13:05:17 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: VI19110409.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 12.20 ug/L

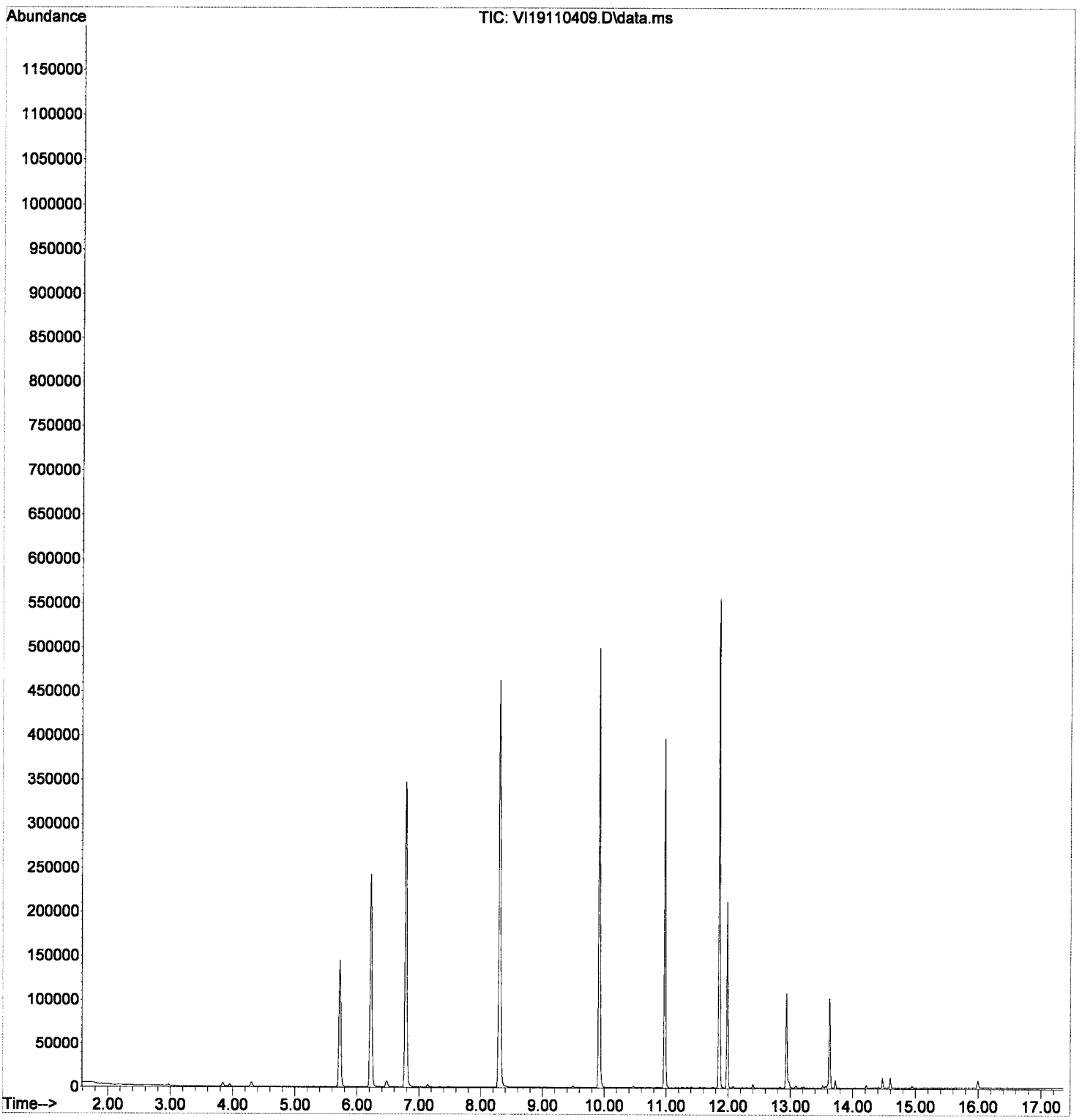
response 75305

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	8.55
64.10	4.70	6.91
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110409.D
Acq On : 4 Nov 2019 12:15 pm
Operator : tb
Sample : A9K0039-03
Misc : 1X 5mL 8260C
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 13:05:17 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\9K04028\
Data File : VI19110413.D
Acq On : 4 Nov 2019 2:03 pm
Operator : tb
Sample : A9K0039-02@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 14:45:37 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	106015	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	291859	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	128690	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	108408	52.04	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	352642	52.65	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	394243	51.46	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	105906	50.93	ug/L		0.00
Target Compounds							Qvalue
6) Chloroethane	2.500	64	376	0.36	ug/L	#	36
14) Methylene Chloride	3.881	84	952	Below Cal			91
15) Acetone	3.948	43	669	0.72	ug/L	#	44
35) Benzene	6.132	78	2705	0.33	ug/L		89
59) Ethylbenzene	9.958	91	1444	0.16	ug/L		87
82) n-Butylbenzene	11.984	91	1863	0.38	ug/L	#	45
87) Naphthalene	13.627	128	17819	2.88	ug/L		95

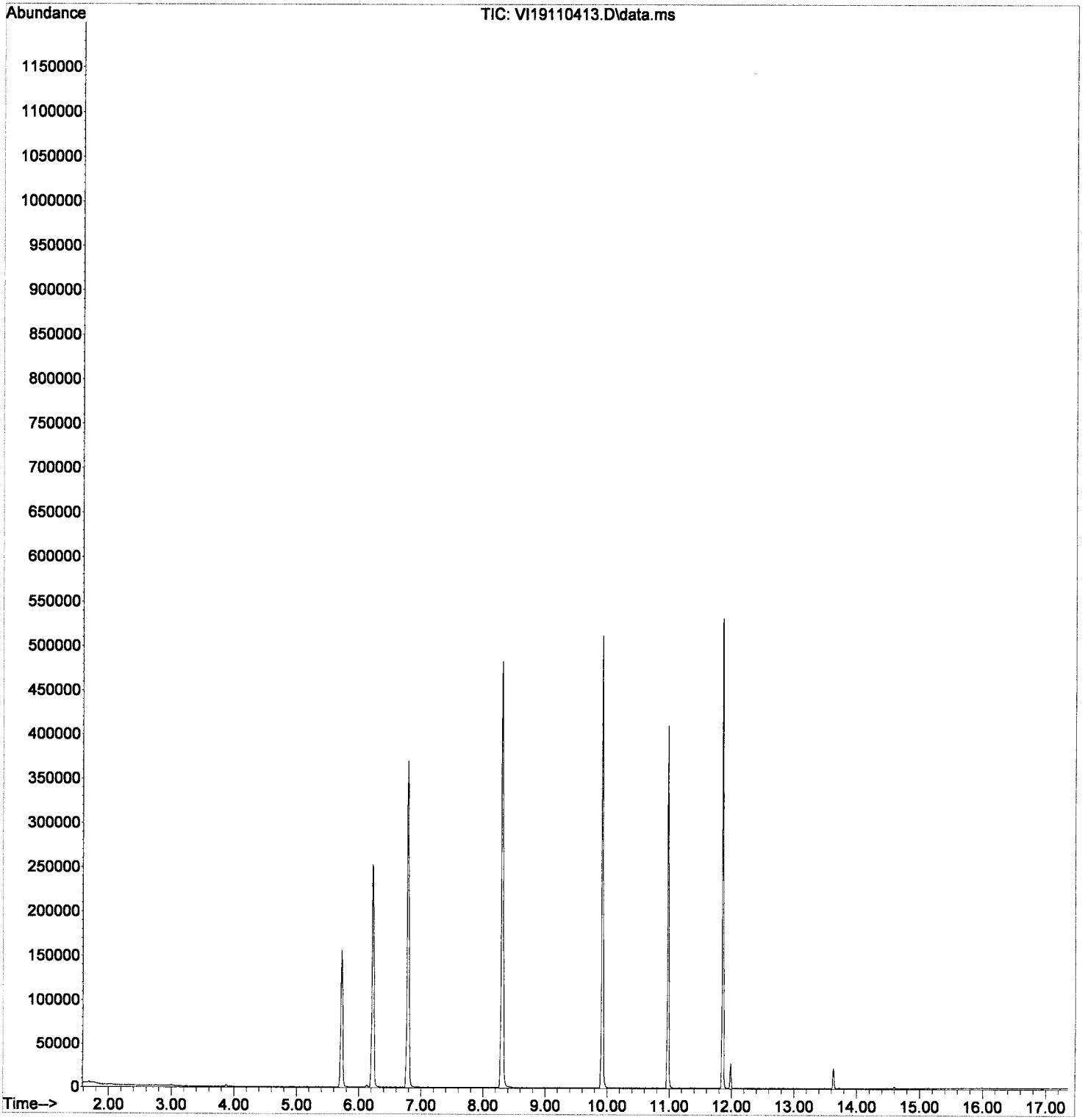
(#) = qualifier out of range (m) = manual integration (+) = signals summed

RPD
11/04/19 bm

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110413.D
Acq On : 4 Nov 2019 2:03 pm
Operator : tb
Sample : A9K0039-02@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 14:45:37 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\9K04028\
Data File : VI19110414.D
Acq On : 4 Nov 2019 2:30 pm
Operator : tb
Sample : A9K0039-04@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:23 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	104748	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	286683	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	127496	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	105111	51.07	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	342133	51.70	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	386191	51.32	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	103307	50.15	ug/L	0.00
Target Compounds						Qvalue
6) Chloroethane	2.451	64	508	0.49	ug/L #	36
14) Methylene Chloride	3.875	84	946	Below Cal		85
15) Acetone	3.948	43	713	0.78	ug/L #	44
35) Benzene	6.126	78	7817	0.98	ug/L	93
49) Toluene	8.370	91	703	0.08	ug/L	77
59) Ethylbenzene	9.952	91	3766	0.43	ug/L	98
61) m,p-Xylenes (2)	10.098	91	742	0.11	ug/L	87
62) o-Xylene	10.469	91	1402	0.22	ug/L	90
77) 1,2,4-Trimethylbenzene	11.540	105	1429	0.25	ug/L	94
78) sec-Butylbenzene	11.540	105	1429	0.20	ug/L	59
82) n-Butylbenzene	11.984	91	2170	0.45	ug/L #	31
87) Naphthalene	13.627	128	409250	66.81	ug/L	97

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

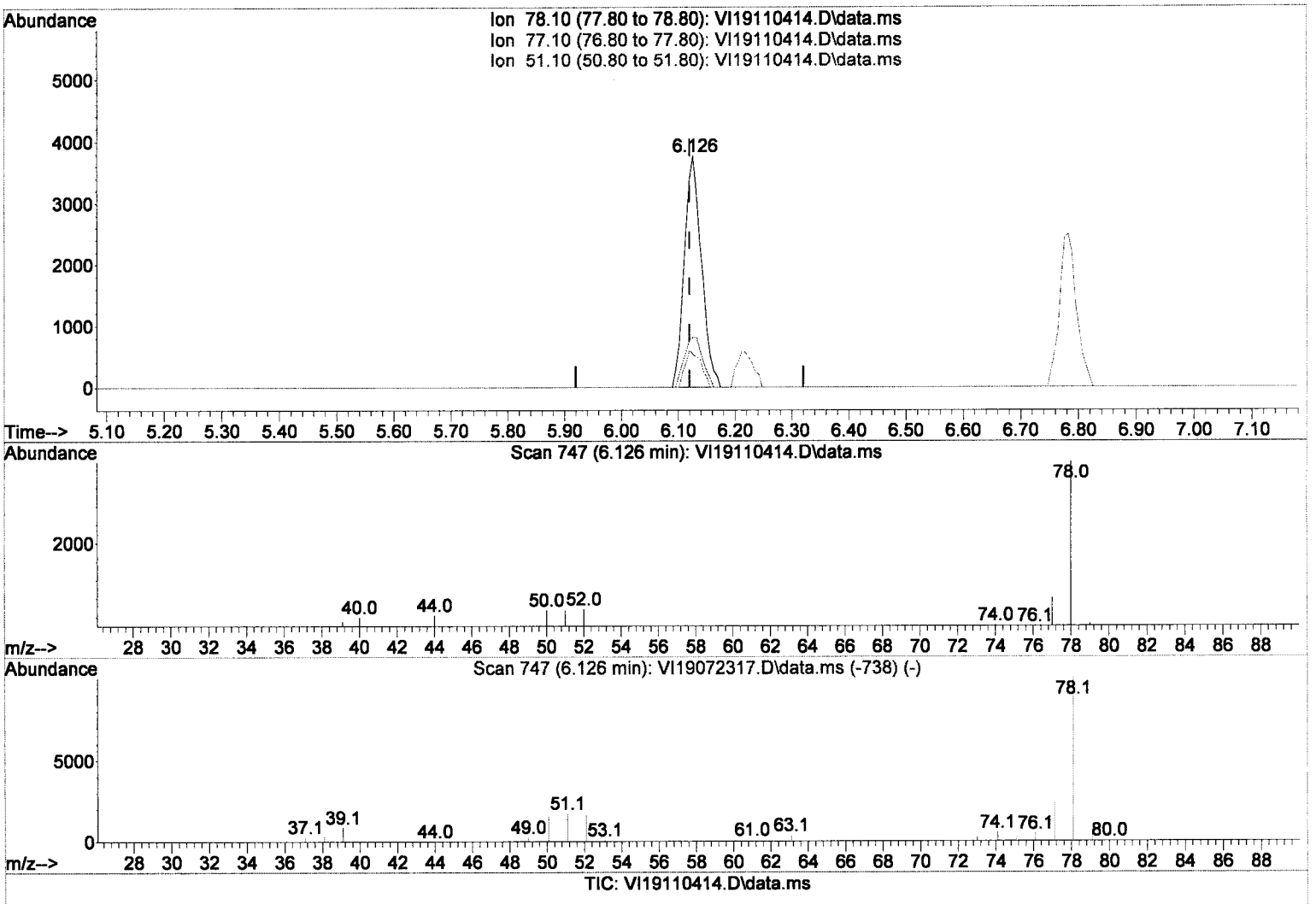
11/04/19 MK

MD ND

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110414.D
Acq On : 4 Nov 2019 2:30 pm
Operator : tb
Sample : A9K0039-04@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:23 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



TIC: VI19110414.D\data.ms

(35) Benzene

6.126min (+ 0.006) 0.98 ug/L

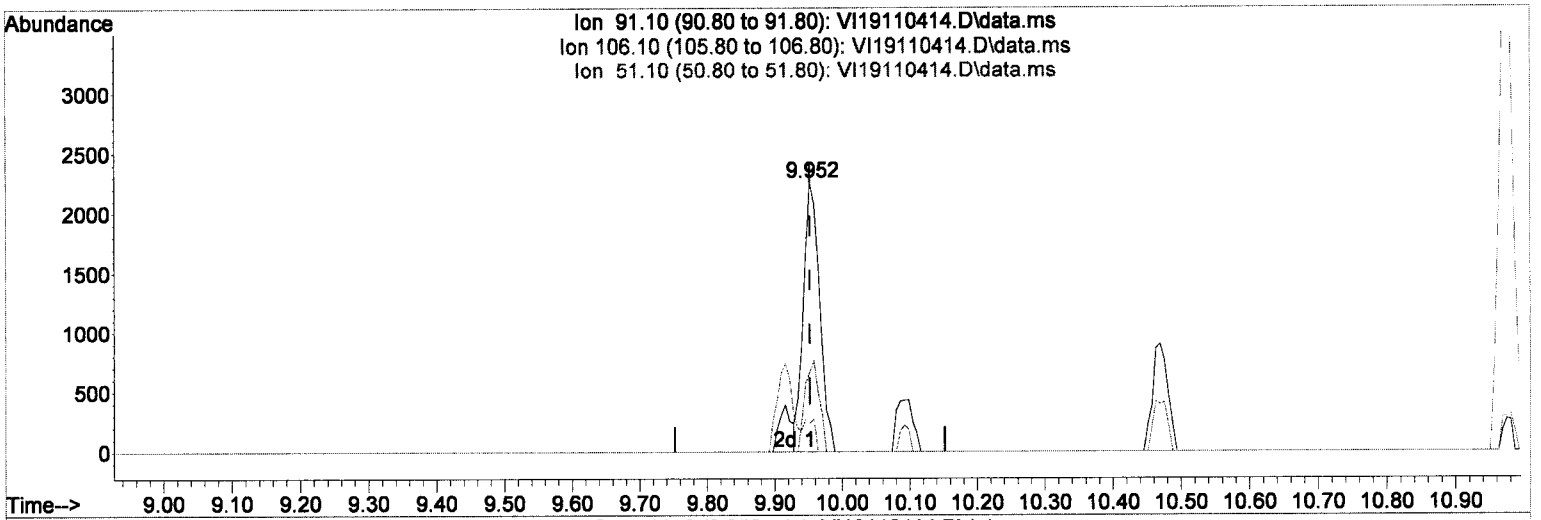
response 7817

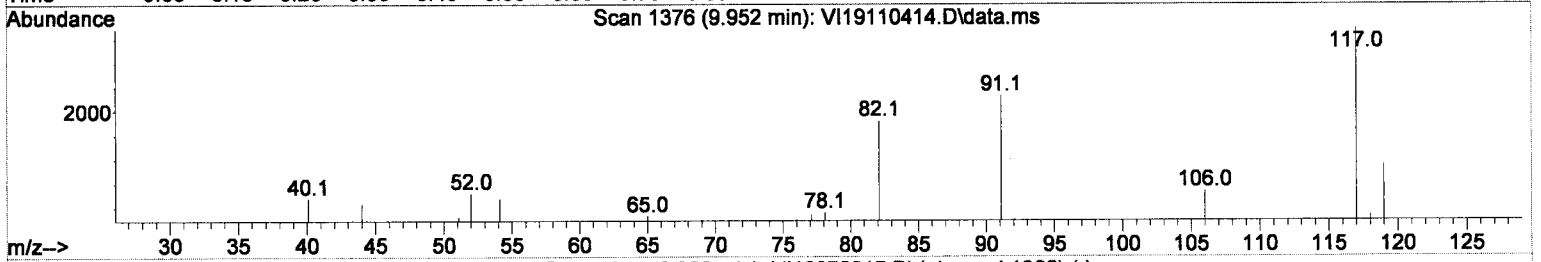
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	21.57
51.10	17.20	14.19
0.00	0.00	0.00

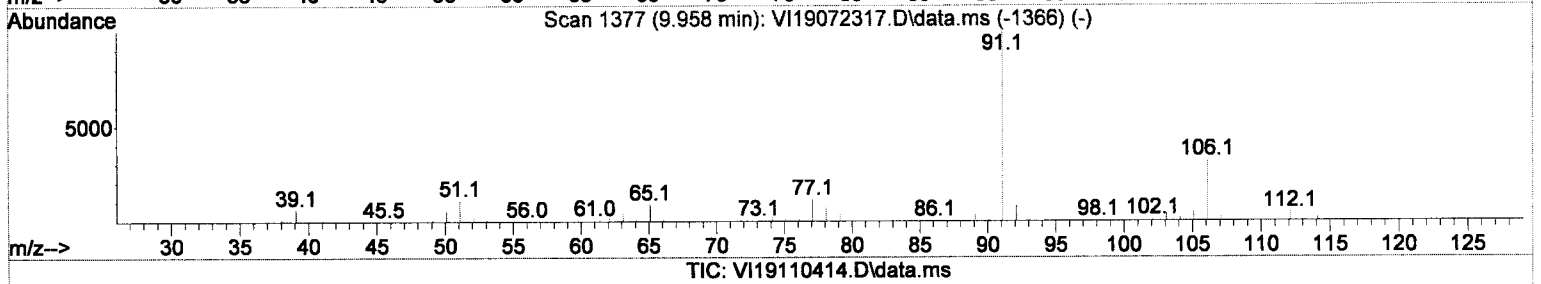
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110414.D
Acq On : 4 Nov 2019 2:30 pm
Operator : tb
Sample : A9K0039-04@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:23 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







TIC: VI19110414.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 0.43 ug/L

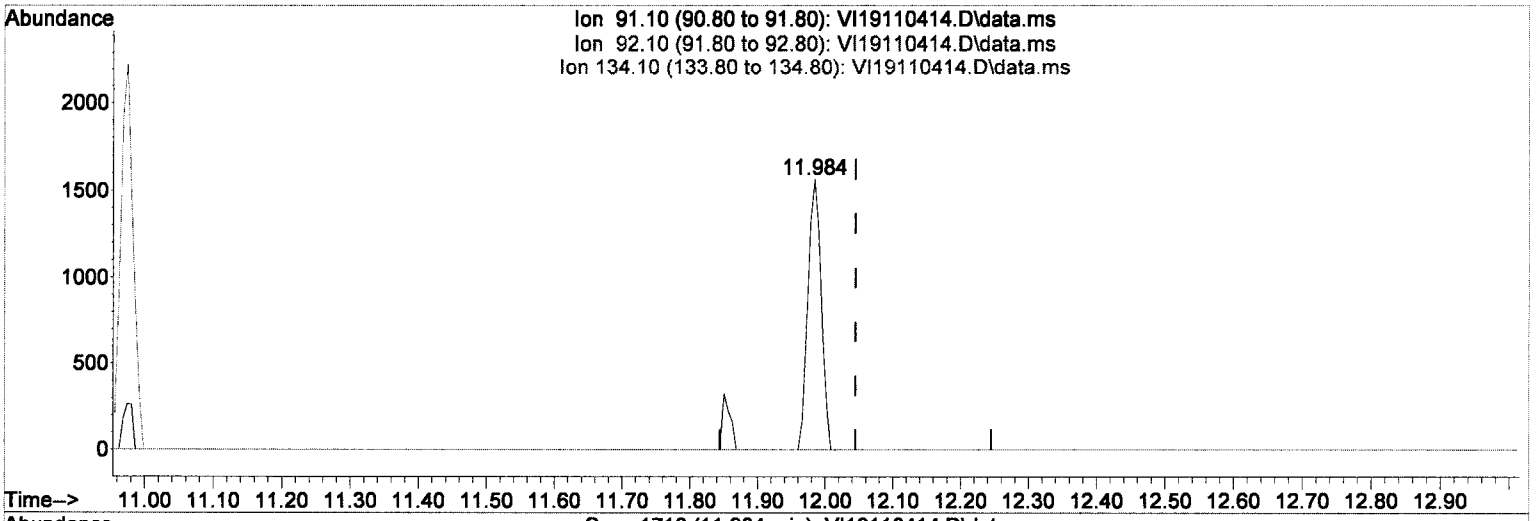
response 3766

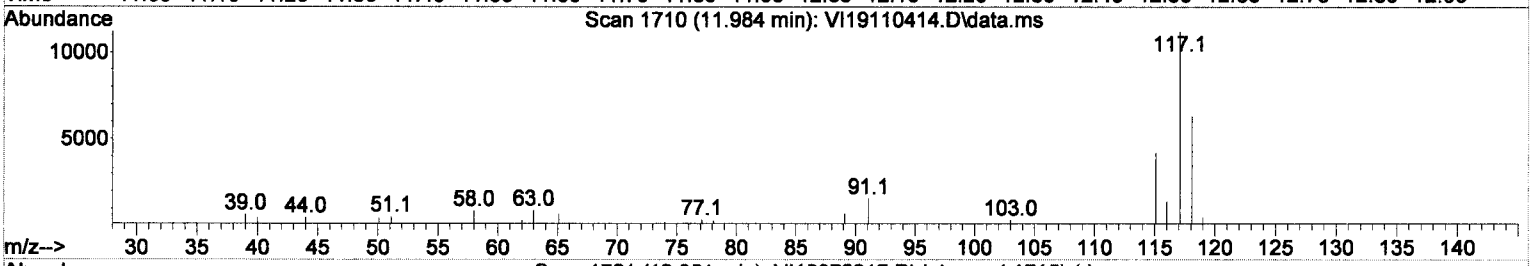
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	29.33
51.10	10.40	10.54
0.00	0.00	0.00

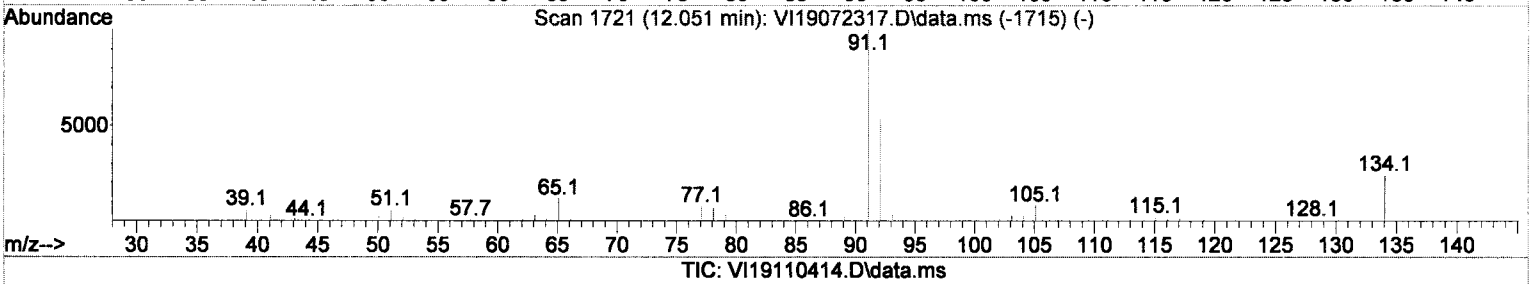
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110414.D
Acq On : 4 Nov 2019 2:30 pm
Operator : tb
Sample : A9K0039-04@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:23 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







TIC: VI19110414.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 0.45 ug/L

response 2170

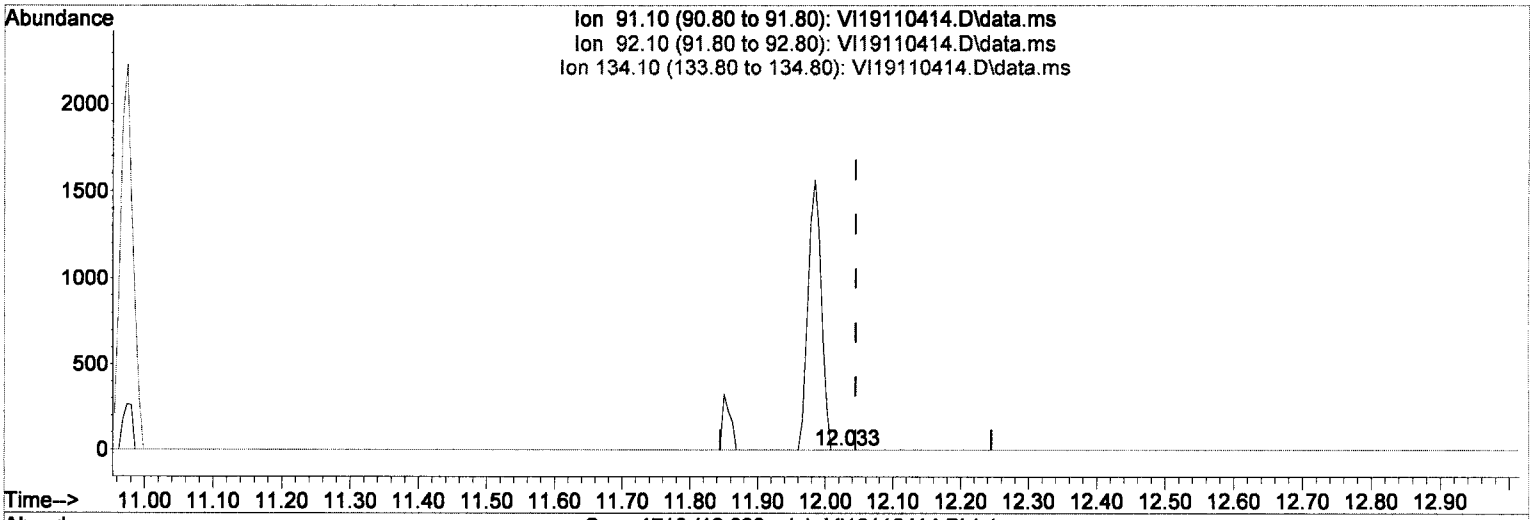
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

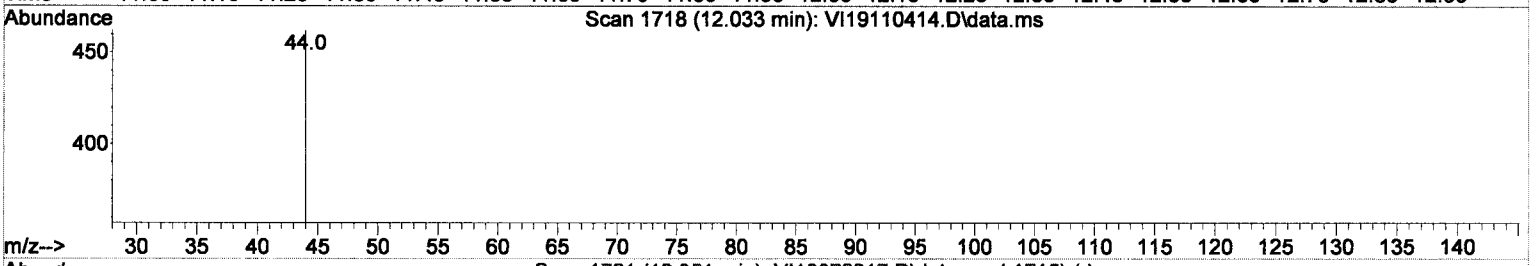
(MI) 11/4/19 MI

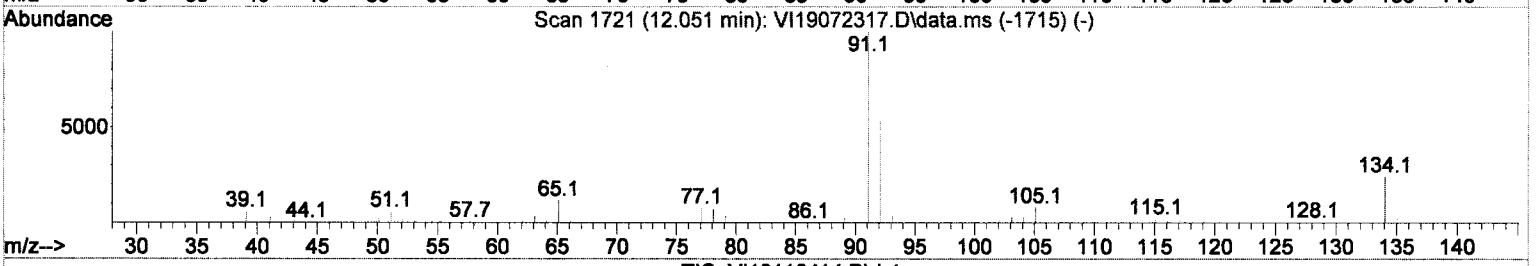
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110414.D
Acq On : 4 Nov 2019 2:30 pm
Operator : tb
Sample : A9K0039-04@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:23 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







TIC: VI19110414.D\data.ms

(82) n-Butylbenzene

12.033min (-0.012) 0.00 ug/L m

response 0

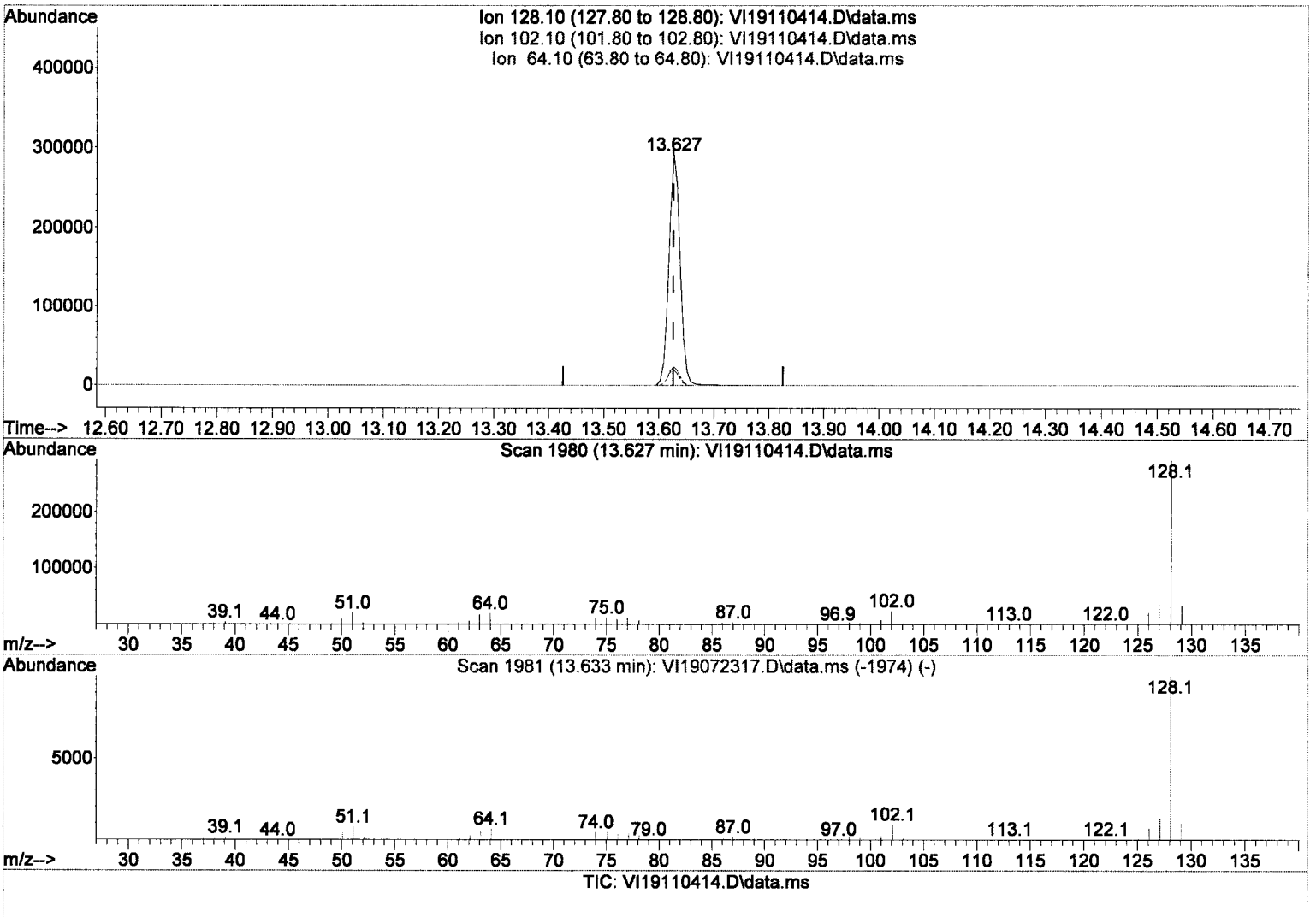
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

ND 11/4/19 JM

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110414.D
Acq On : 4 Nov 2019 2:30 pm
Operator : tb
Sample : A9K0039-04@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:23 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



TIC: VI19110414.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 66.81 ug/L

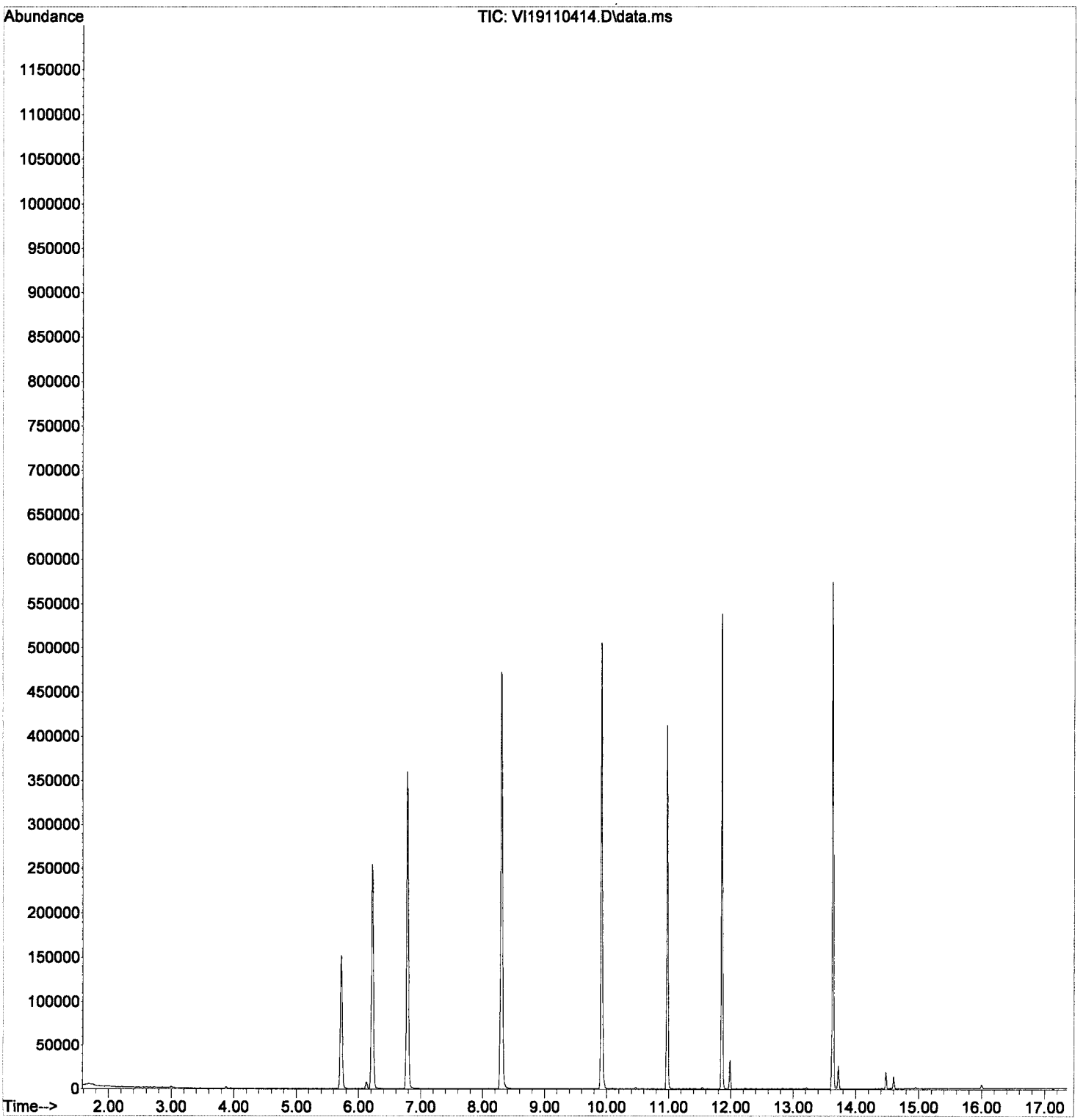
response 409250

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	8.20
64.10	4.70	6.62
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110414.D
Acq On : 4 Nov 2019 2:30 pm
Operator : tb
Sample : A9K0039-04@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:23 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\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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

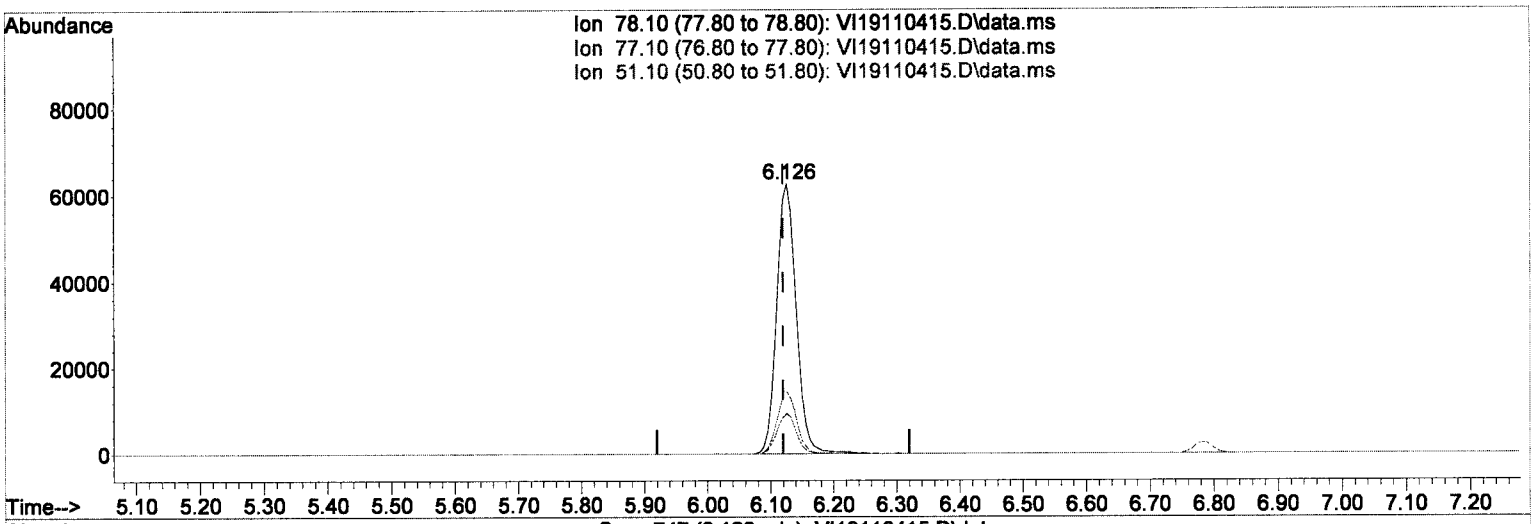
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	107640	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	292780	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	134078	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	106911	50.55 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	348338	51.22 ug/L	0.00
48) Toluene-d8 (S)	8.304	98	393385	51.19 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	106974	49.38 ug/L	0.00
Target Compounds					Qvalue
6) Chloroethane	2.488	64	525	0.49 ug/L #	36
14) Methylene Chloride	3.875	84	847	Below Cal	84
15) Acetone	3.948	43	756	0.80 ug/L #	44
35) Benzene	6.126	78	135438	16.47 ug/L	96
49) Toluene	8.358	91	2301	0.27 ug/L	85
59) Ethylbenzene	9.952	91	2067	2.29 ug/L	98
61) m,p-Xylenes (2)	10.086	91	11996	1.80 ug/L	97
62) o-Xylene	10.469	91	5879	0.89 ug/L	96
72) 1,3,5-Trimethylbenzene	11.230	105	756	0.12 ug/L	95
77) 1,2,4-Trimethylbenzene	11.540	105	2281	0.37 ug/L	99
82) n-Butylbenzene	11.984	91	5420	1.07 ug/L #	39
87) Naphthalene	13.627	128	627120	97.35 ug/L	97

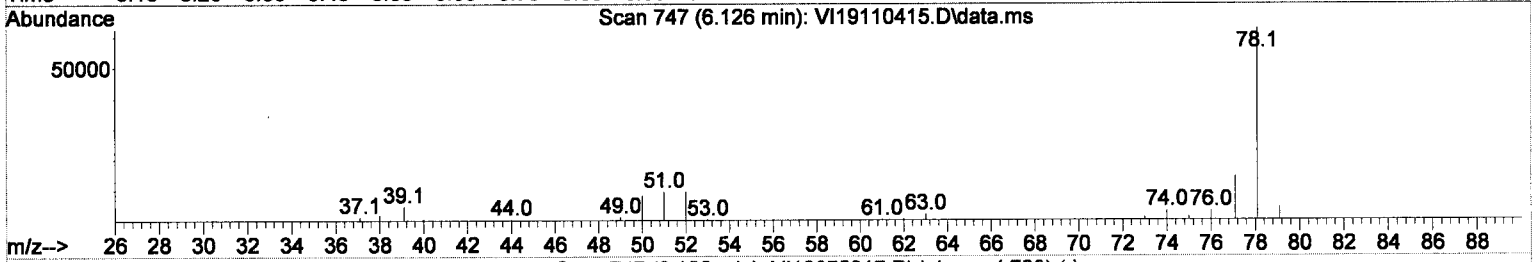
(#) = qualifier out of range (m) = manual integration (+) = signals summed

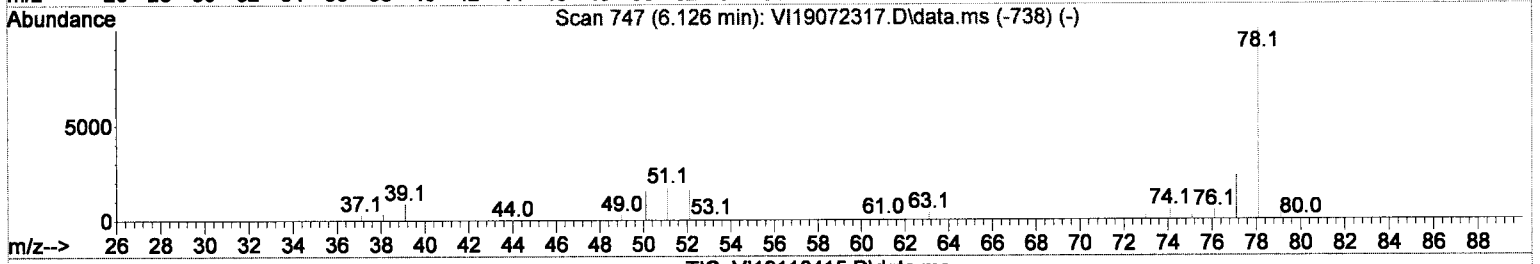
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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: VI19110415.D\data.ms

(35) Benzene

6.126min (+ 0.006) 16.47 ug/L

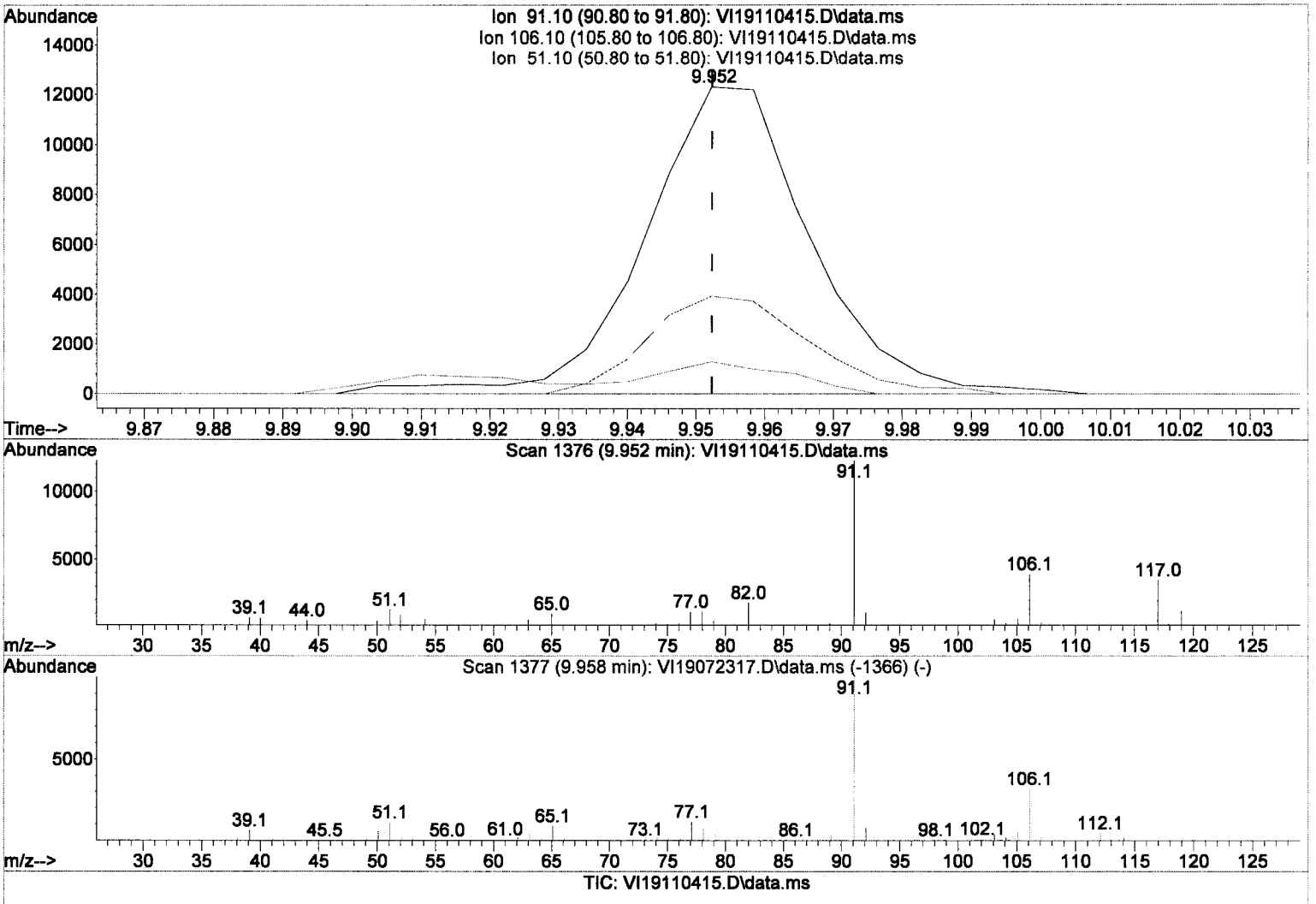
response 135438

Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	23.15
51.10	17.20	14.98
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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: VI19110415.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 2.29 ug/L

response 20676

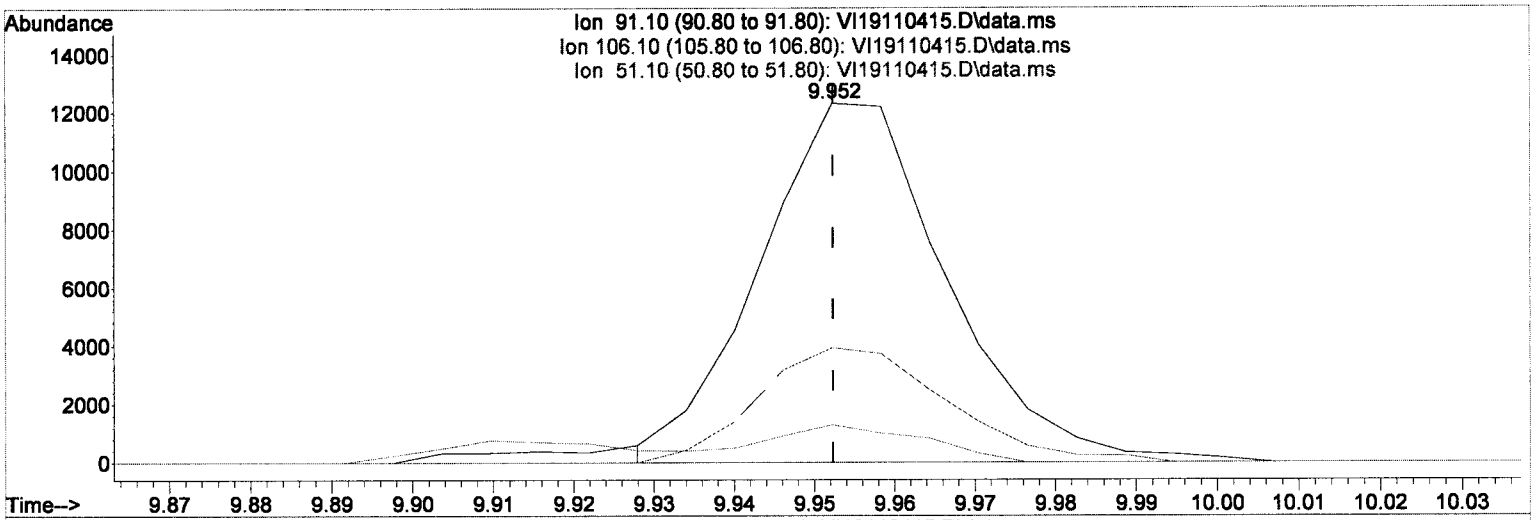
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.03
51.10	10.40	10.51
0.00	0.00	0.00

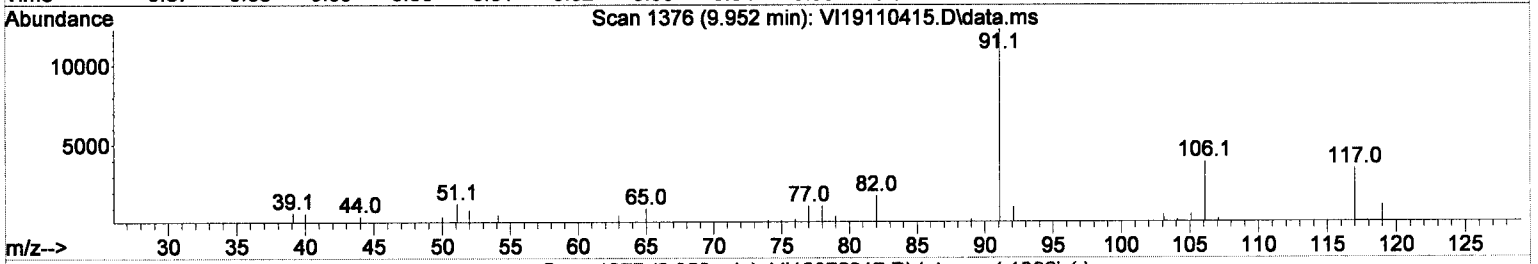
MD 11/4/19

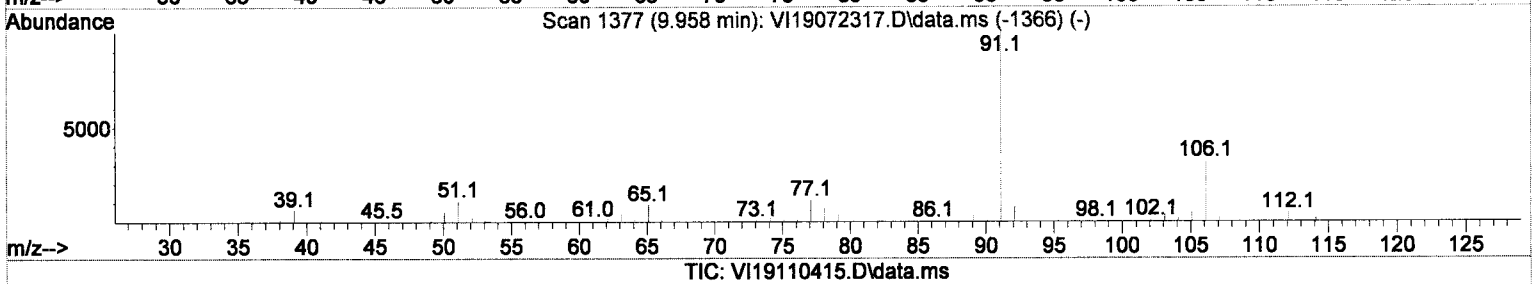
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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: VI19110415.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 2.21 ug/L m

11/4/19 mf

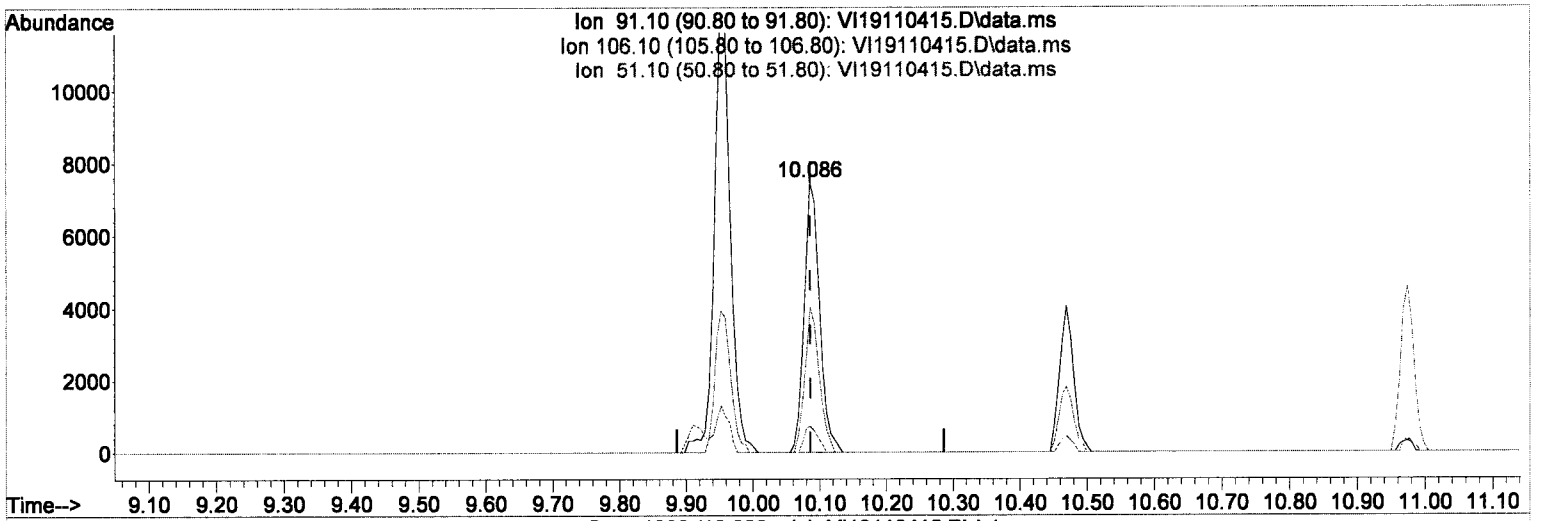
response 19965

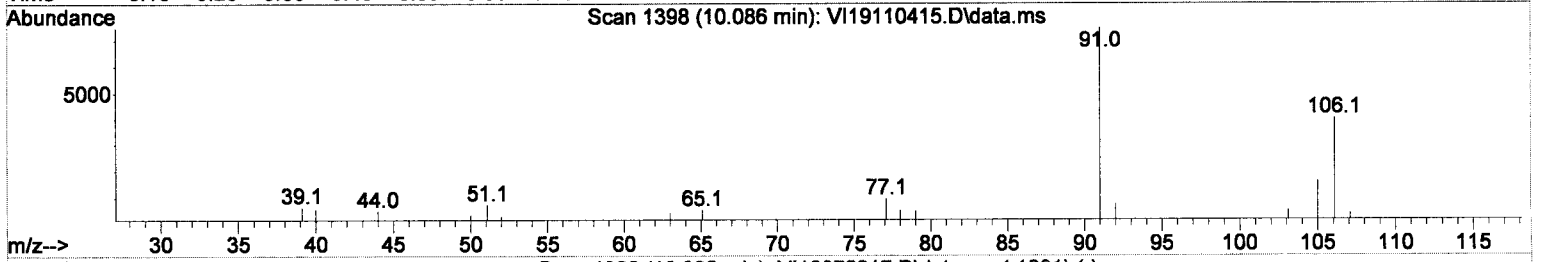
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.03
51.10	10.40	10.51
0.00	0.00	0.00

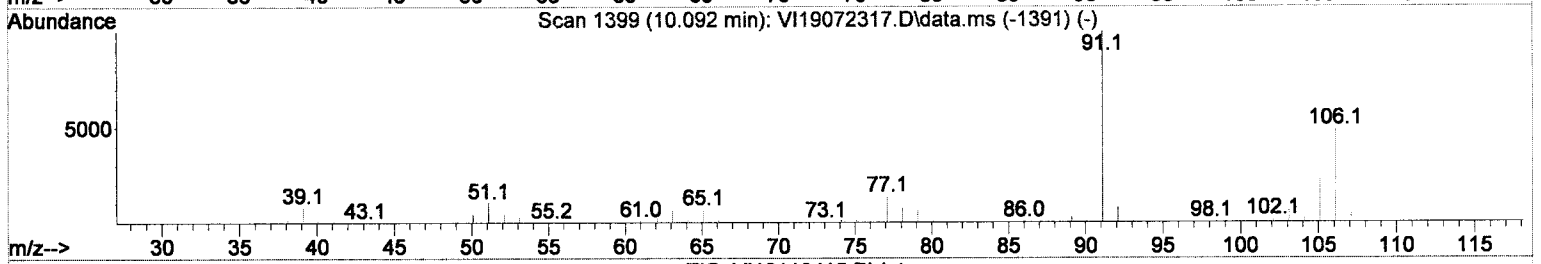
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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: VI19110415.D\data.ms

(61) m,p-Xylenes (2)

10.086min (+ 0.000) 1.80 ug/L

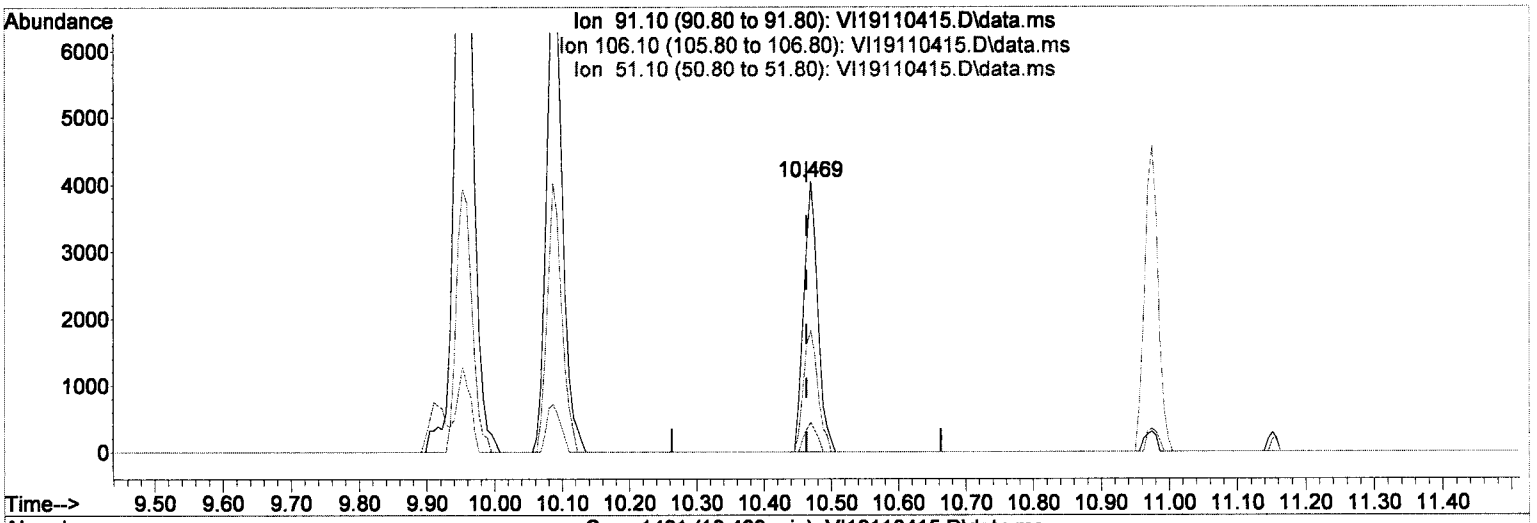
response 11996

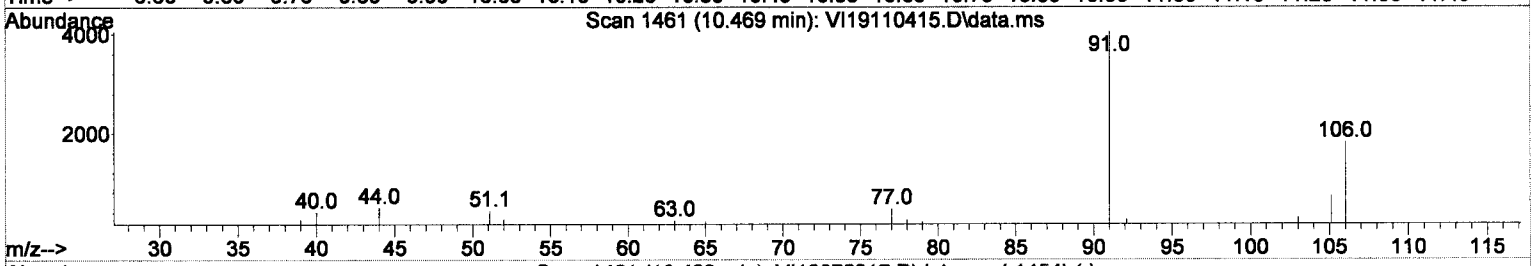
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	53.70
51.10	9.80	9.69
0.00	0.00	0.00

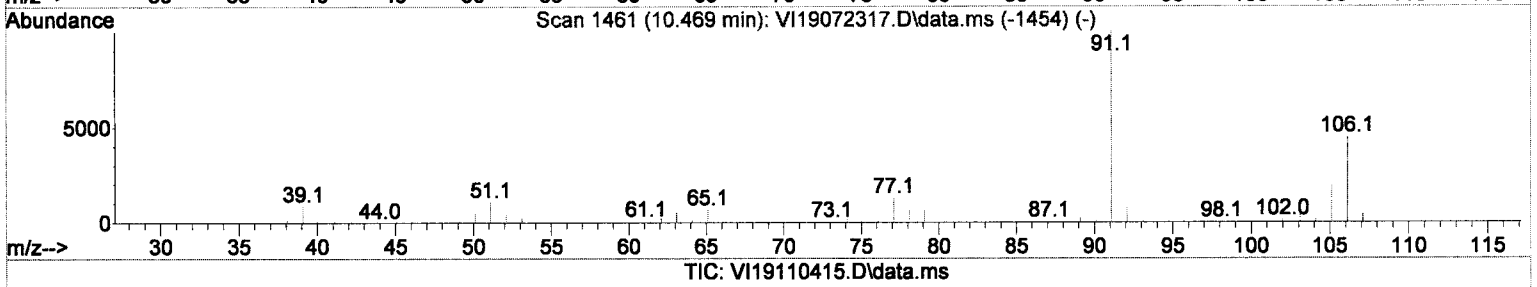
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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: VI19110415.D\data.ms

(62) o-Xylene

10.469min (+ 0.006) 0.89 ug/L

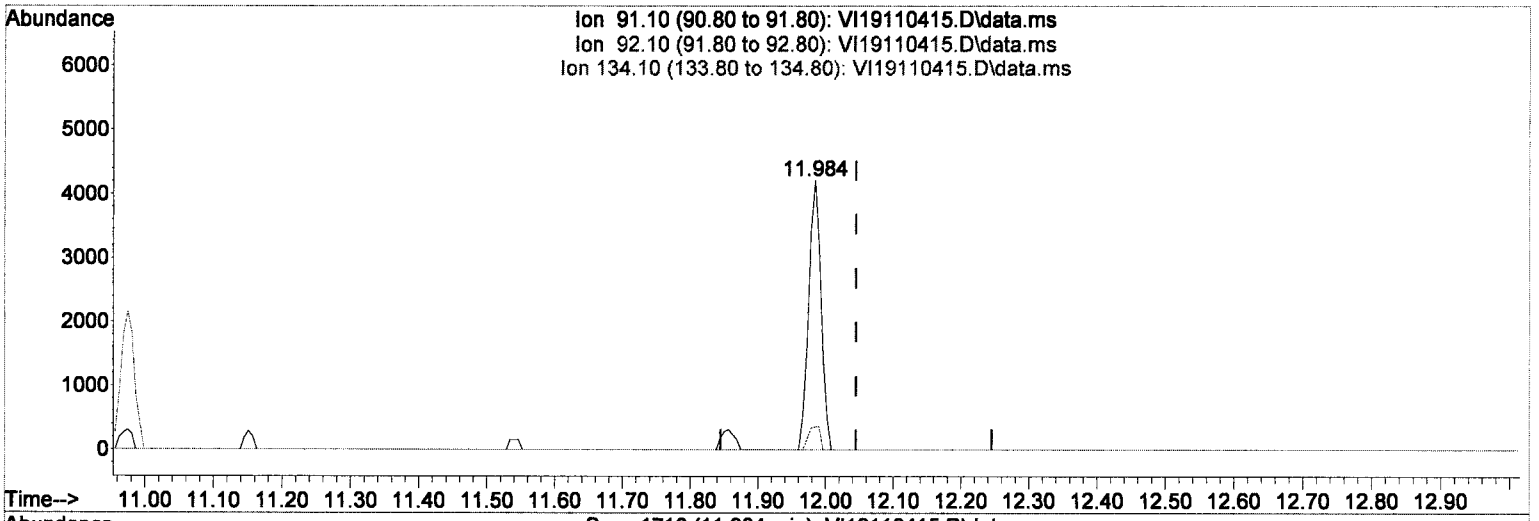
response 5879

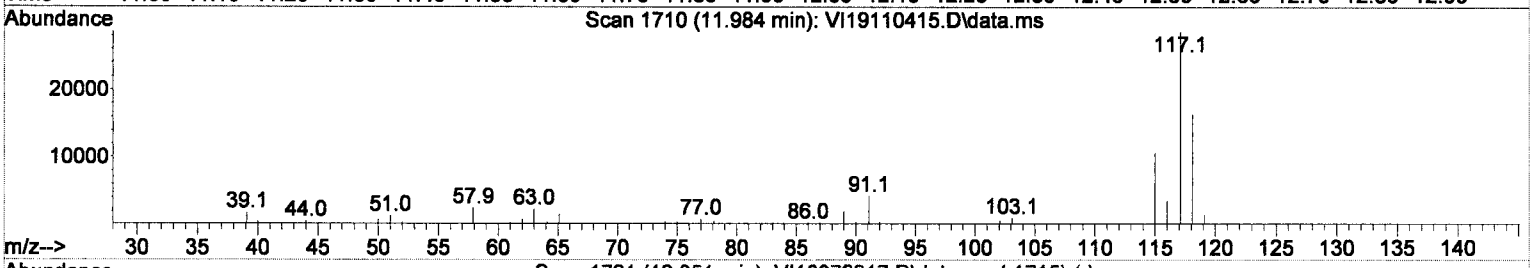
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	45.05
51.10	10.20	11.04
0.00	0.00	0.00

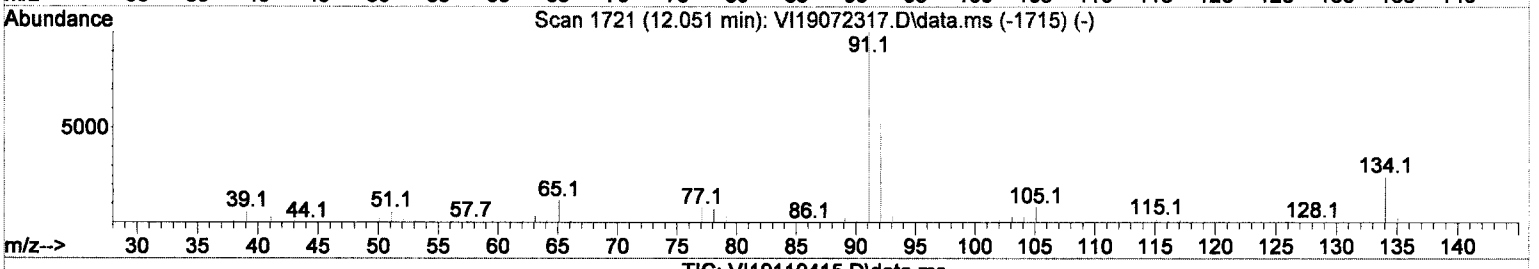
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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: VI19110415.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 1.07 ug/L

response 5420

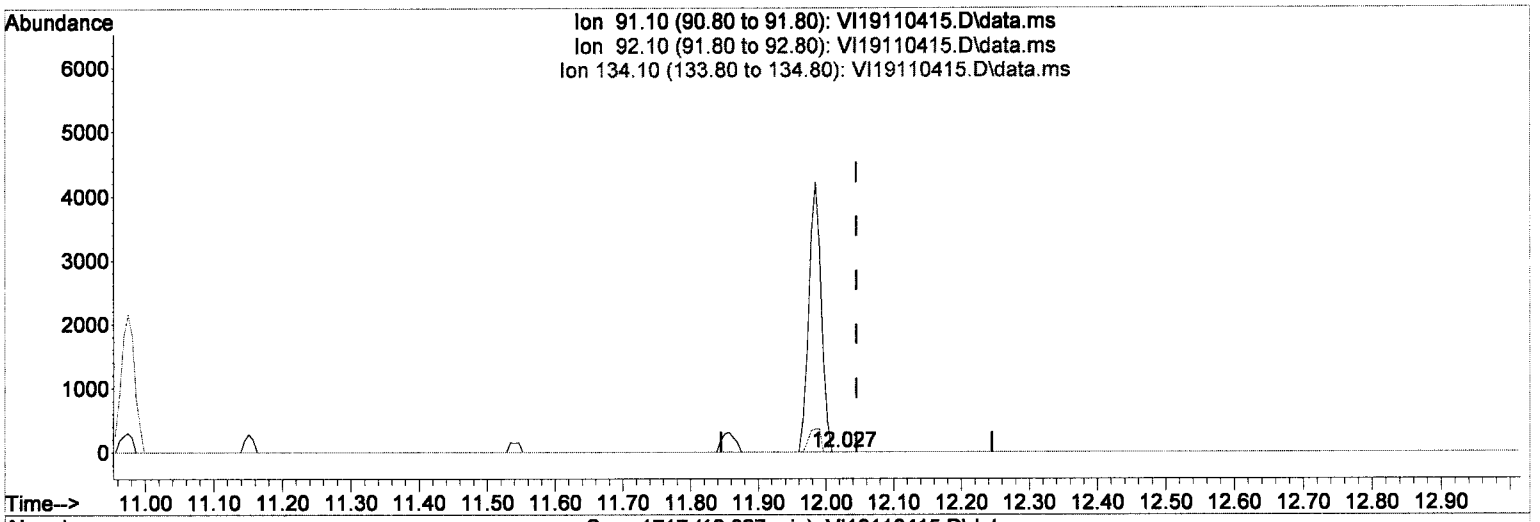
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	8.58#
134.10	28.20	0.00
0.00	0.00	0.00

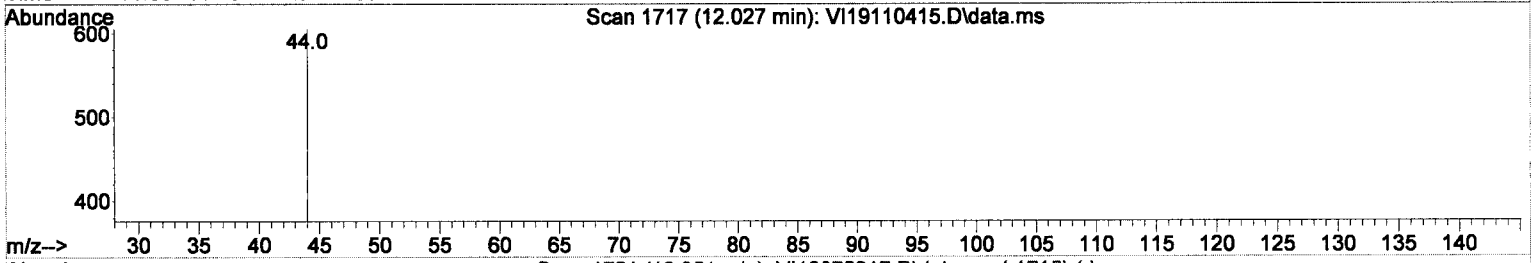
(MC) 11/4/19 AM

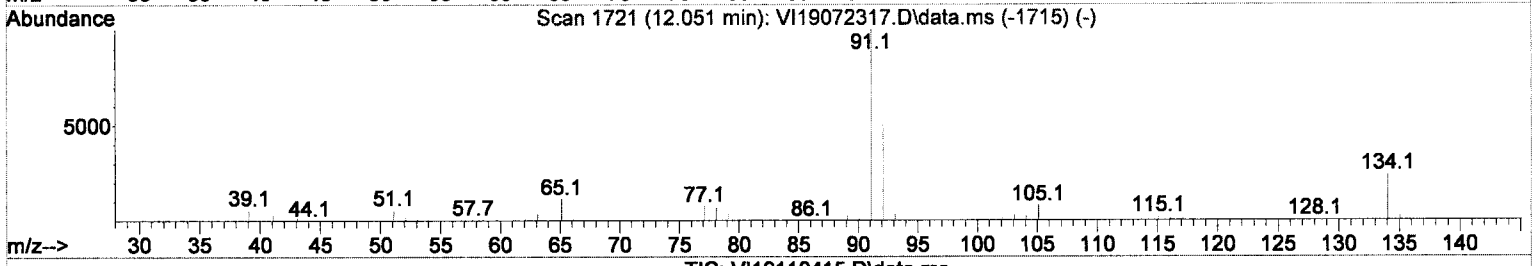
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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: VI19110415.D\data.ms

(82) n-Butylbenzene

12.027min (-0.018) 0.00 ug/L m

response 0

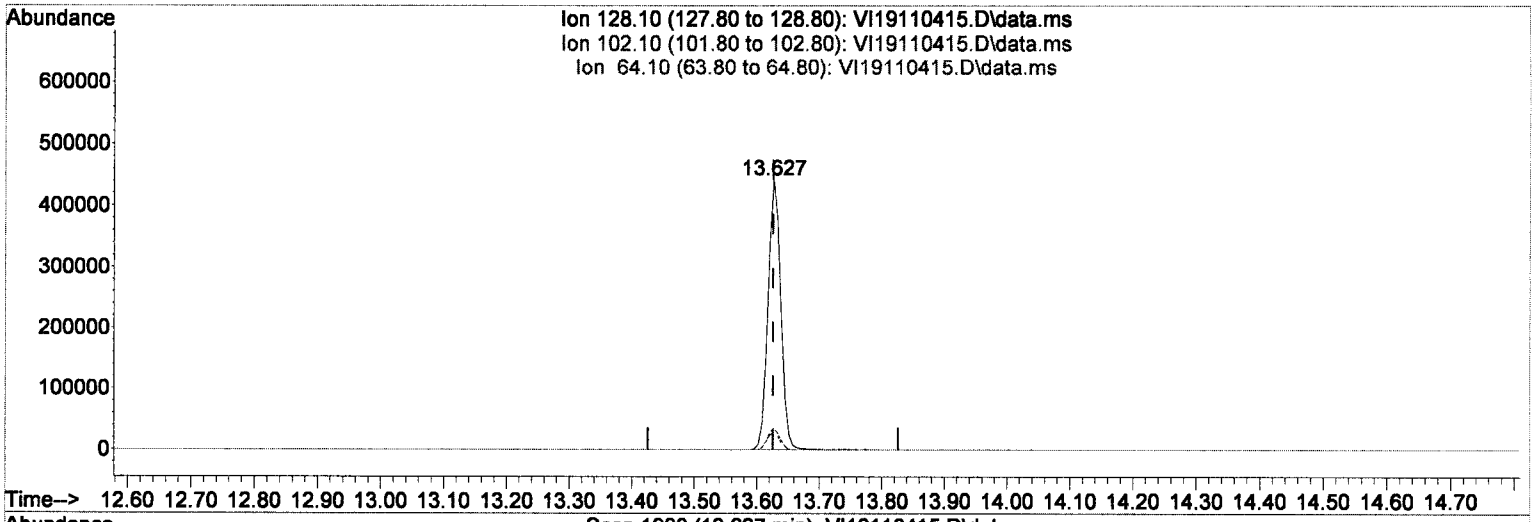
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

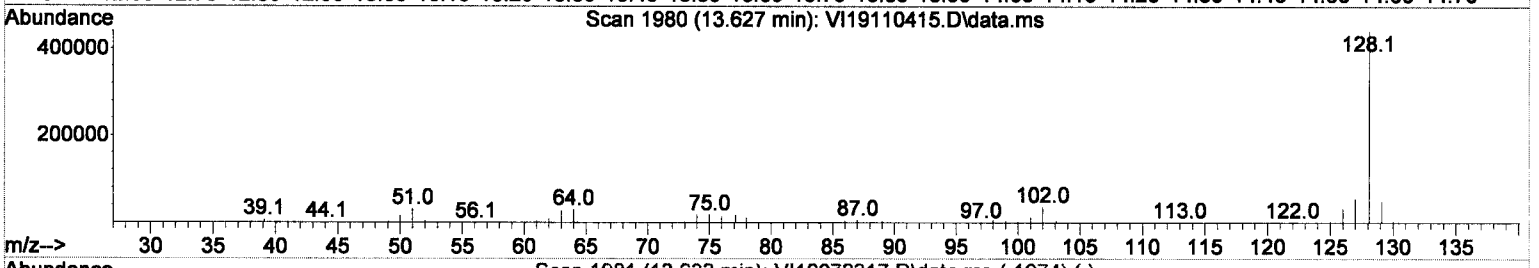
NP 11/4/19 PM

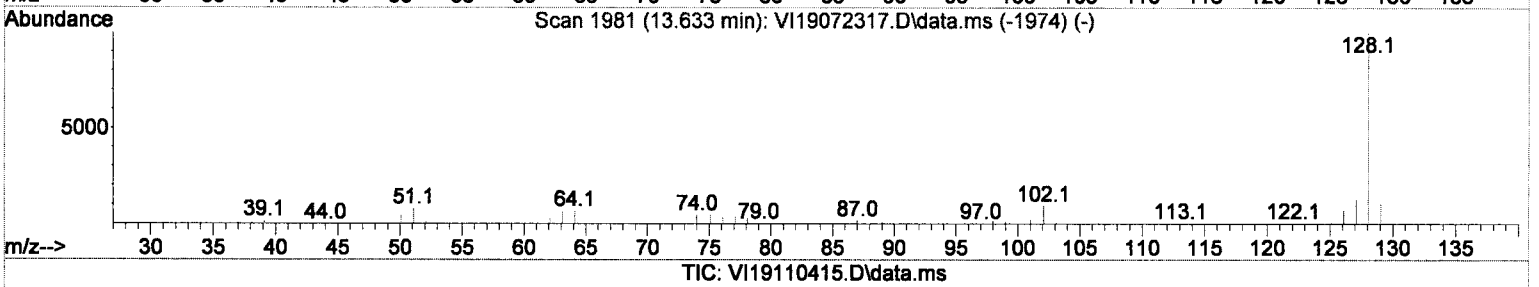
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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: VI19110415.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 97.35 ug/L

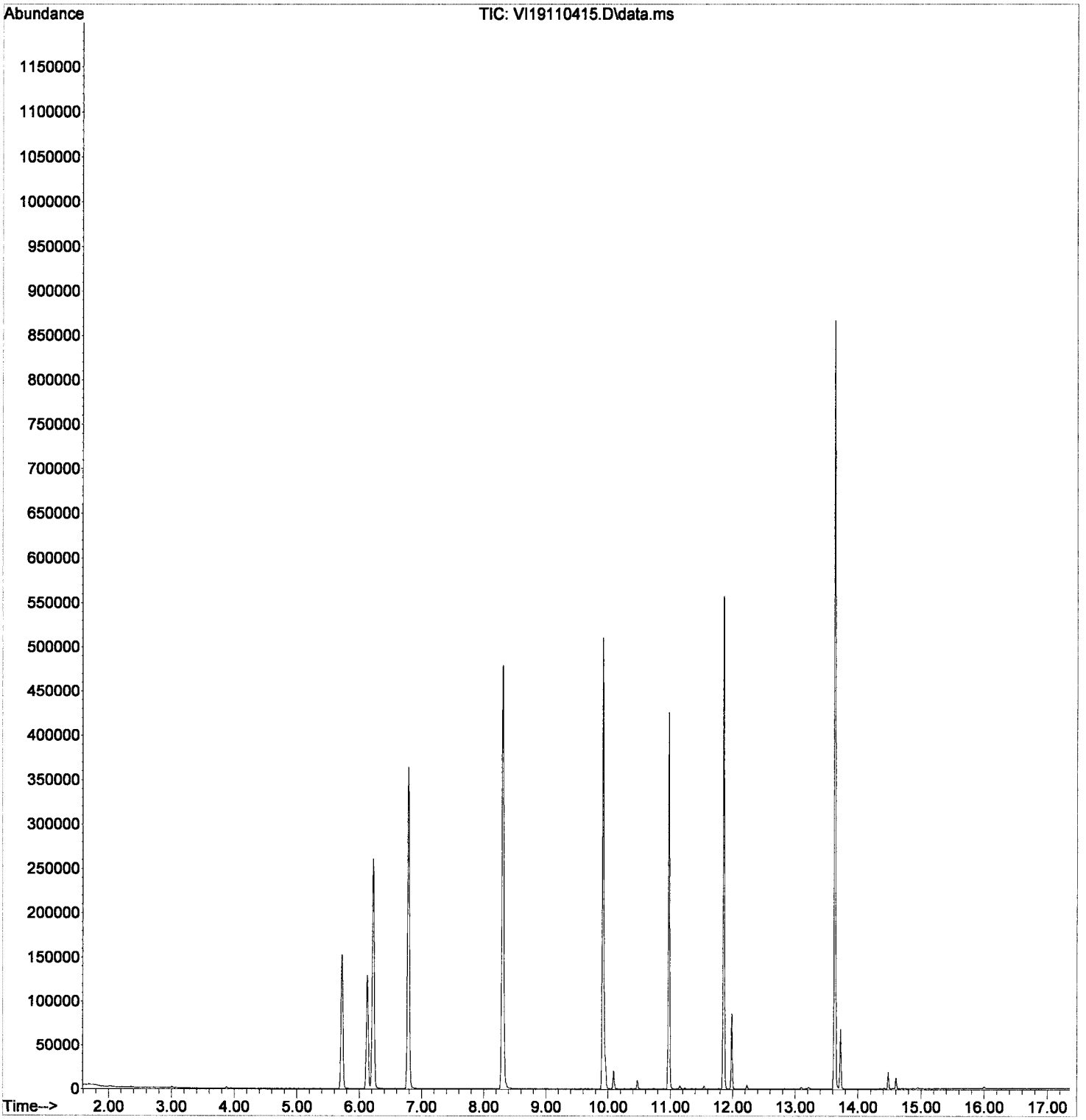
response 627120

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	8.13
64.10	4.70	6.67
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110415.D
Acq On : 4 Nov 2019 2:56 pm
Operator : tb
Sample : A9K0039-05@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:27 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\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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

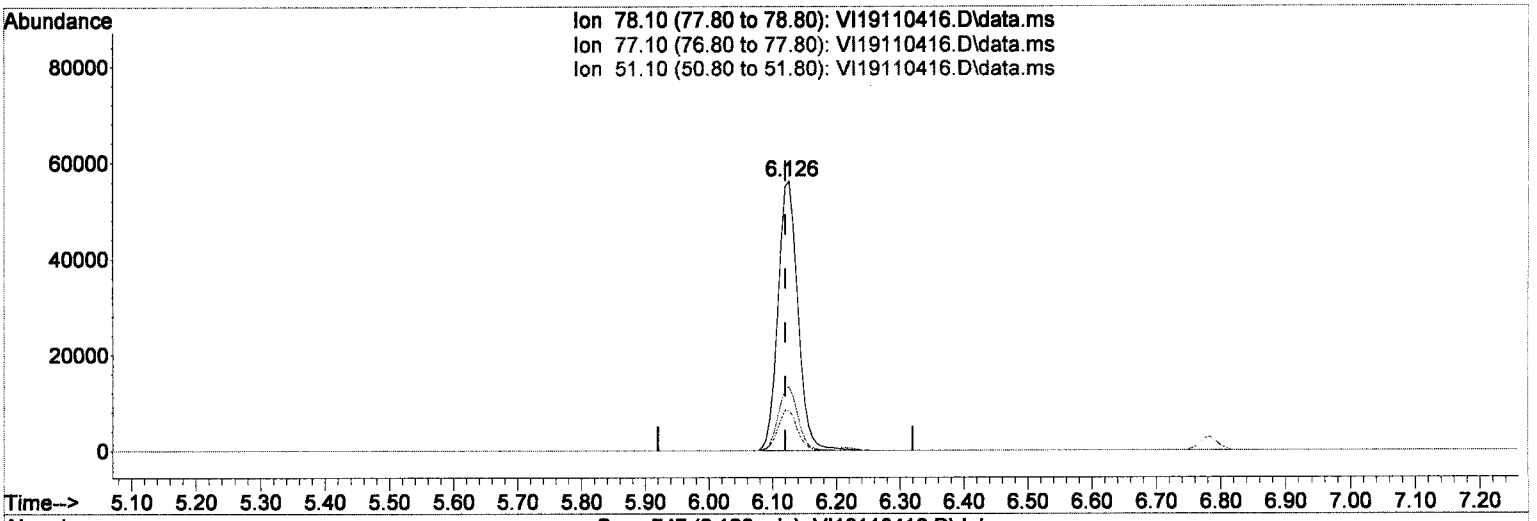
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	107910	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	292418	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	134157	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	106076	50.03	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	348784	51.16	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	389725	50.78	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	105920	48.86	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.891	50	199	0.09	ug/L	#	47
6) Chloroethane	2.445	64	303	0.28	ug/L	#	36
14) Methylene Chloride	3.875	84	958	Below Cal		#	77
15) Acetone	3.948	43	764	0.81	ug/L	#	44
35) Benzene	6.126	78	121335	14.71	ug/L		96
49) Toluene	8.358	91	2113	0.25	ug/L		77
59) Ethylbenzene	9.952	91	18354	2.04	ug/L		99
61) m,p-Xylenes (2)	10.086	91	10950	1.65	ug/L		99
62) o-Xylene	10.469	91	5279	0.80	ug/L		99
72) 1,3,5-Trimethylbenzene	11.230	105	738	0.12	ug/L		94
77) 1,2,4-Trimethylbenzene	11.540	105	2179	0.36	ug/L		96
82) n-Butylbenzene	11.984	91	5099	1.01	ug/L	#	39
87) Naphthalene	13.627	128	587859	91.20	ug/L		97

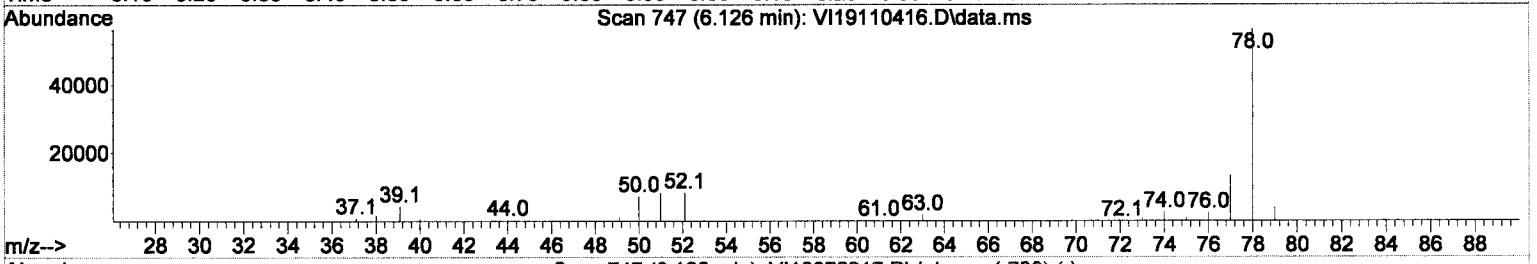
(#) = qualifier out of range (m) = manual integration (+) = signals summed

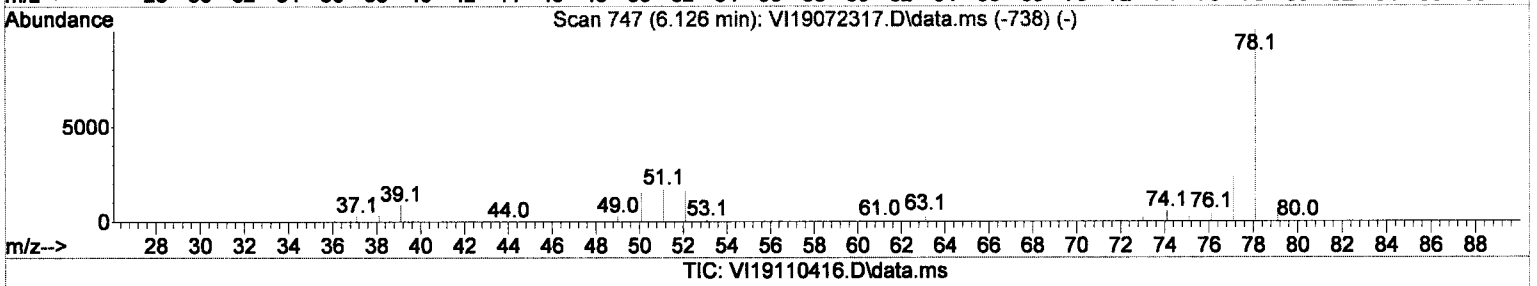
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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: VI19110416.D\data.ms

(35) Benzene

6.126min (+ 0.006) 14.71 ug/L

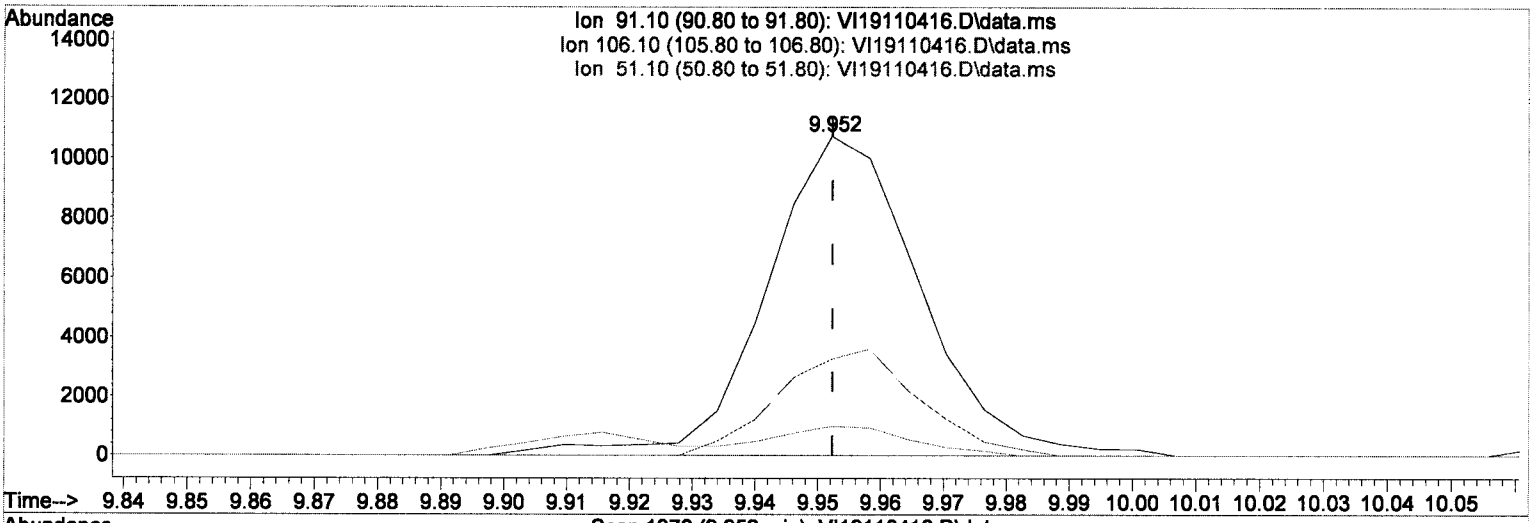
response 121335

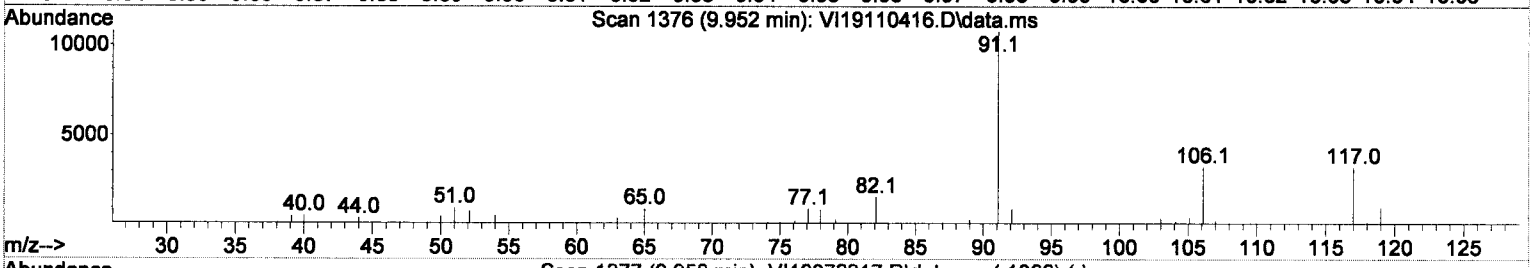
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	23.59
51.10	17.20	14.81
0.00	0.00	0.00

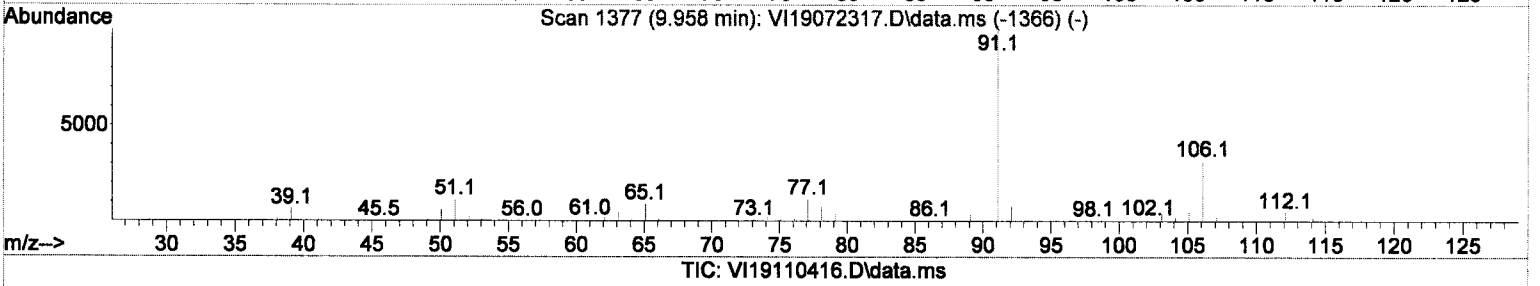
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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: VI19110416.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 2.04 ug/L

response 18354

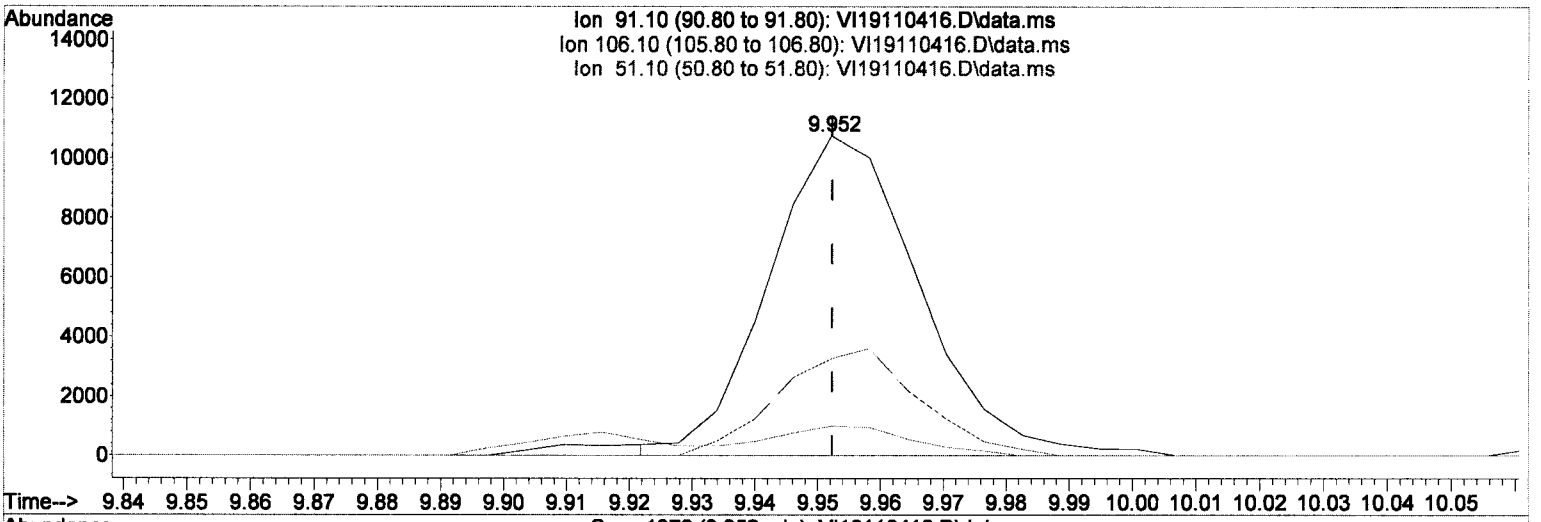
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	30.49
51.10	10.40	9.26
0.00	0.00	0.00

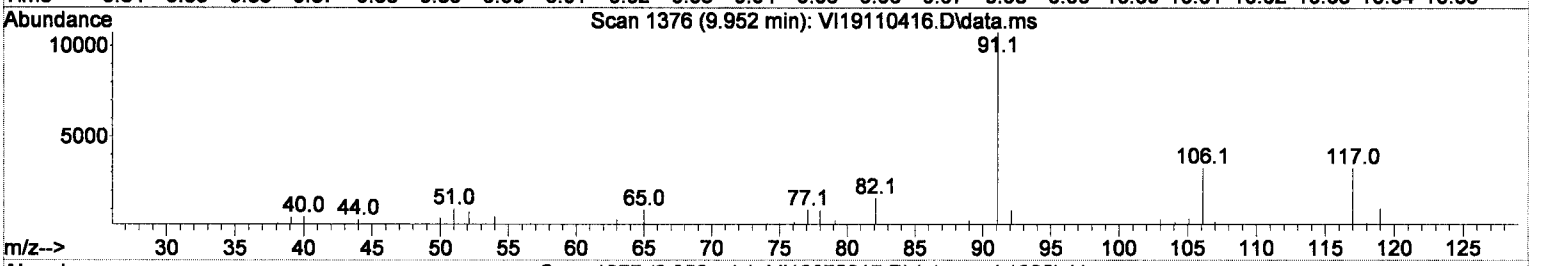
(ME) 11/4/19 ME

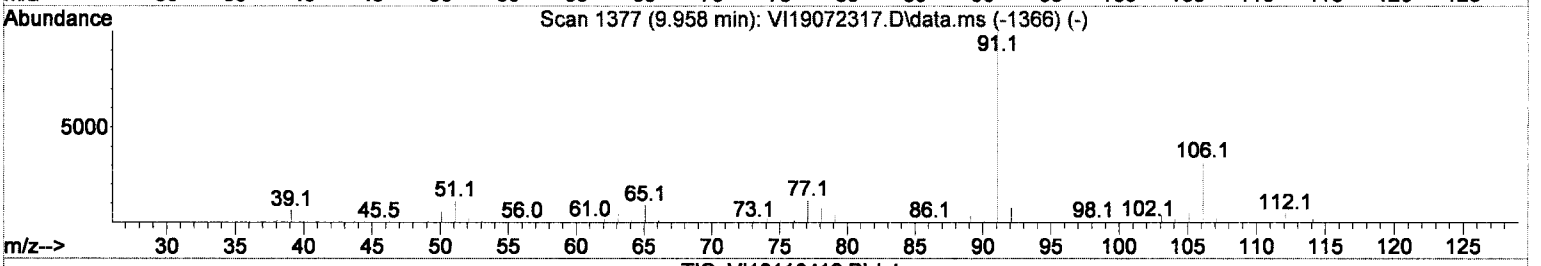
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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: VI19110416.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 1.98 ug/L m

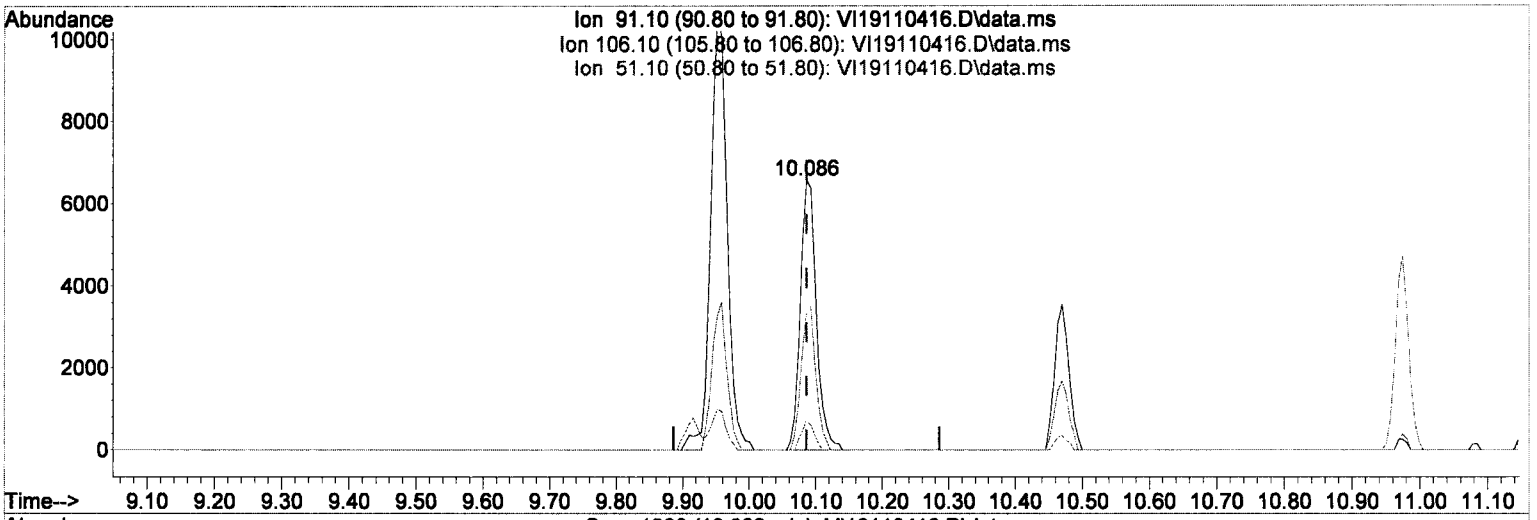
response 17898

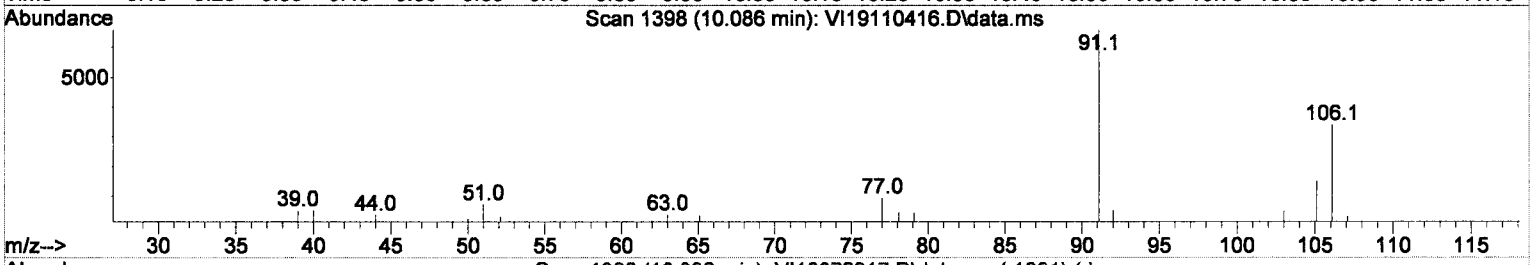
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	30.49
51.10	10.40	9.26
0.00	0.00	0.00

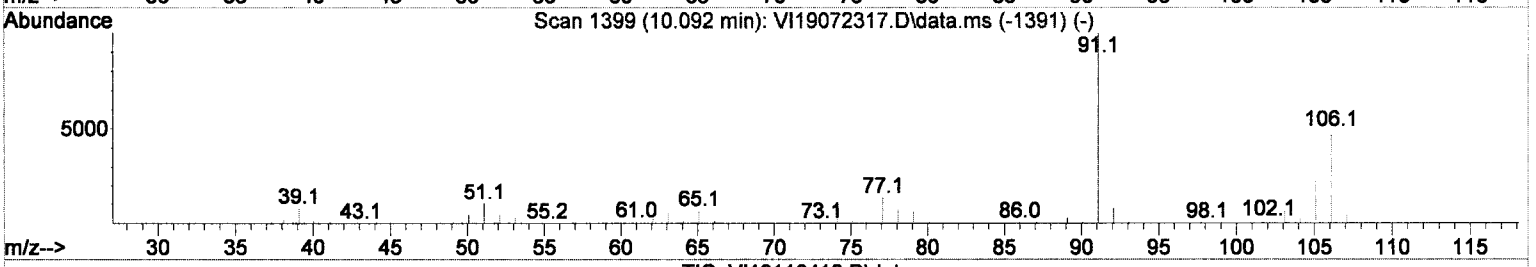
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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: VI19110416.D\data.ms

(61) m,p-Xylenes (2)

10.086min (+ 0.000) 1.65 ug/L

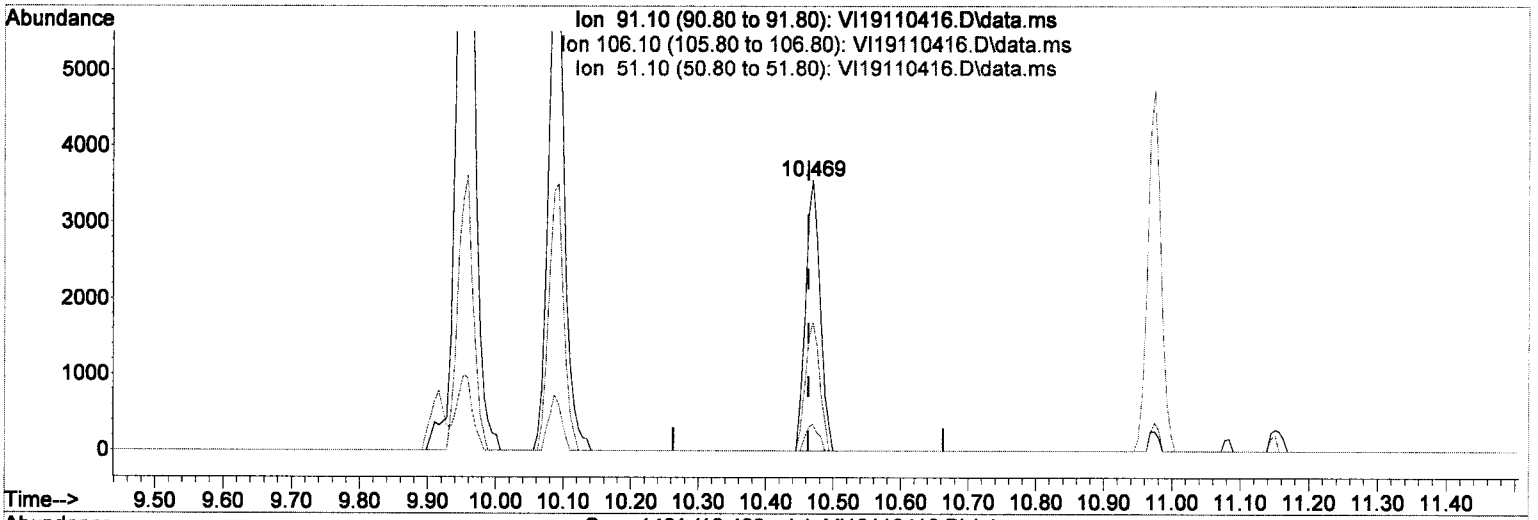
response 10950

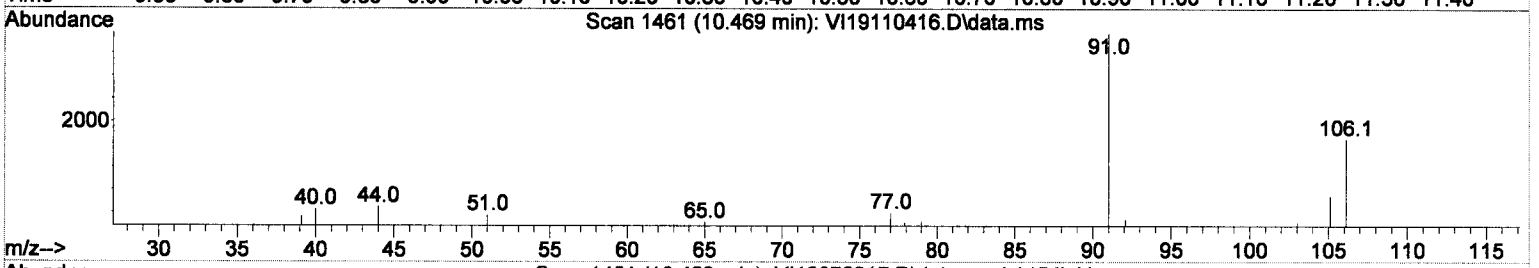
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	51.67
51.10	9.80	11.17
0.00	0.00	0.00

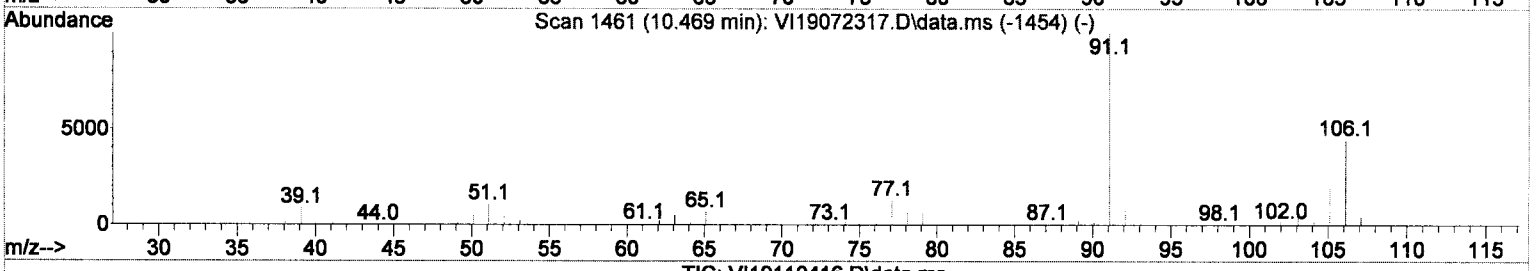
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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: VI19110416.D\data.ms

(62) o-Xylene

10.469min (+ 0.006) 0.80 ug/L

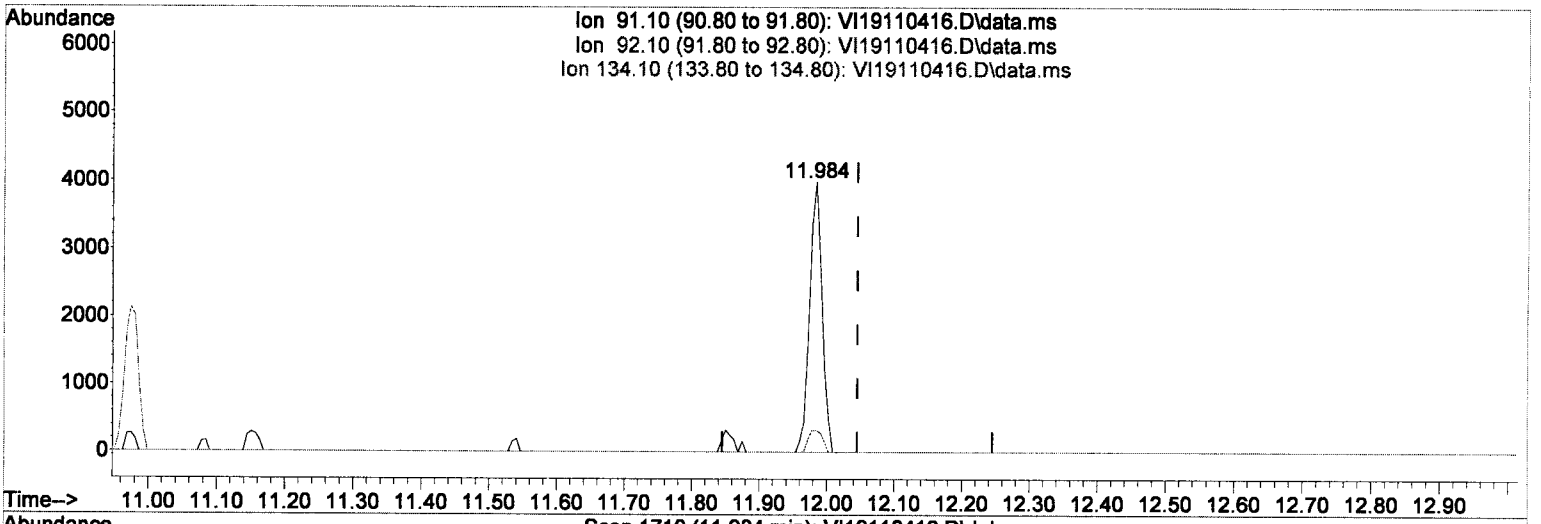
response 5279

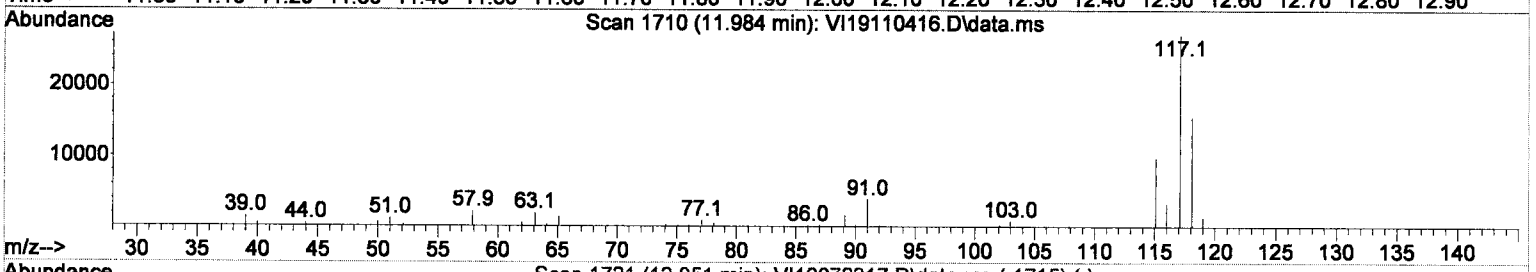
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	47.60
51.10	10.20	9.84
0.00	0.00	0.00

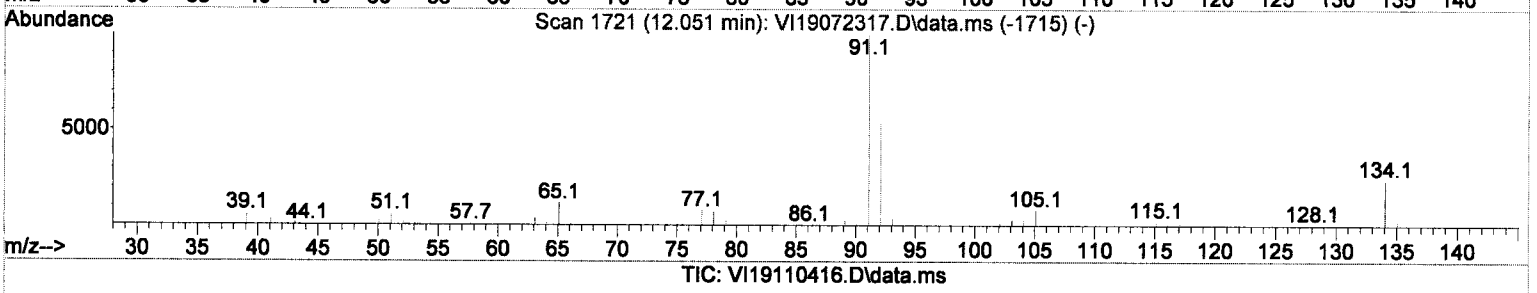
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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: VI19110416.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 1.01 ug/L

response 5099

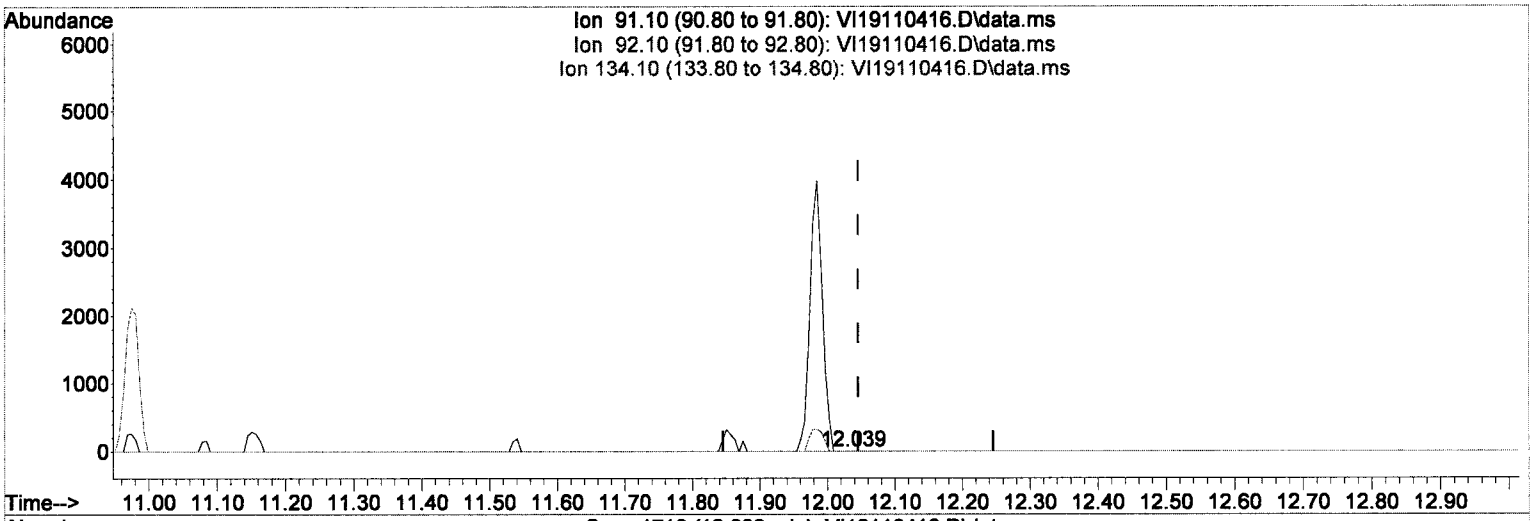
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	8.14#
134.10	28.20	0.00
0.00	0.00	0.00

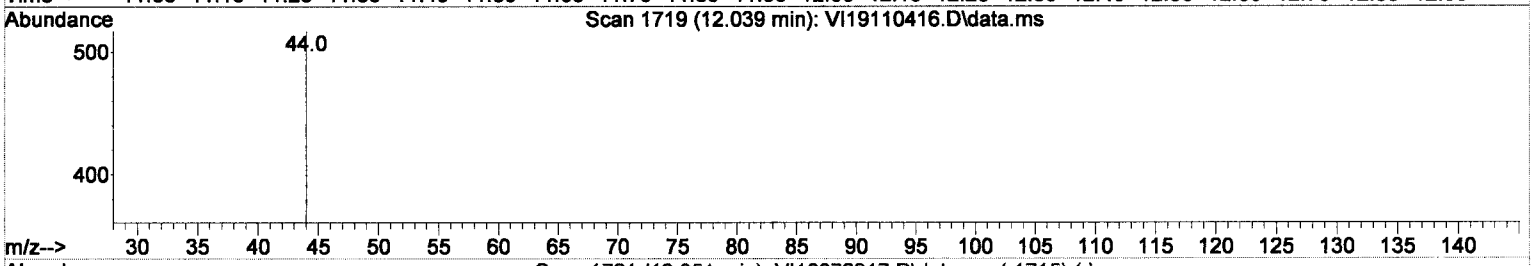
(ME) 11/4/19 mf

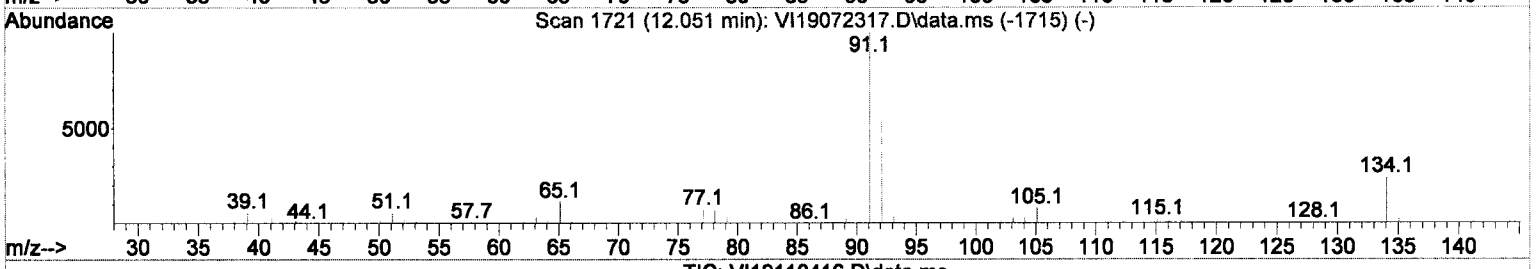
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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: VI19110416.D\data.ms

(82) n-Butylbenzene

12.039min (-0.006) 0.00 ug/L m

response 0

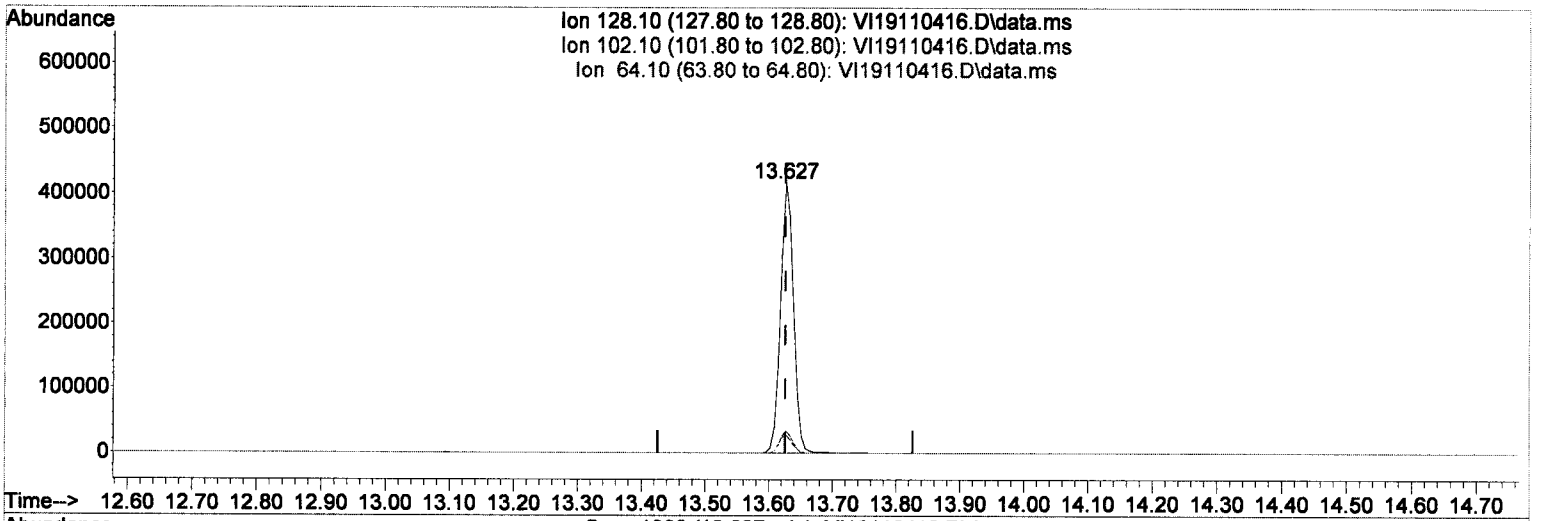
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

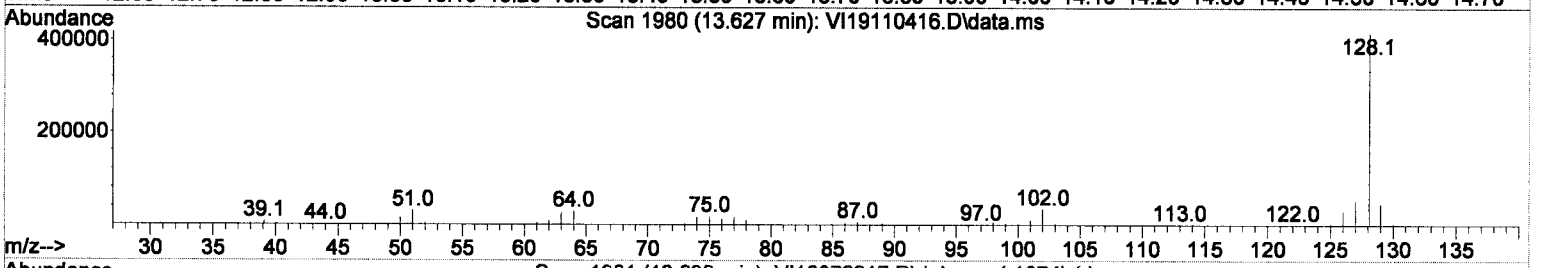
NP 11/4/19 PM

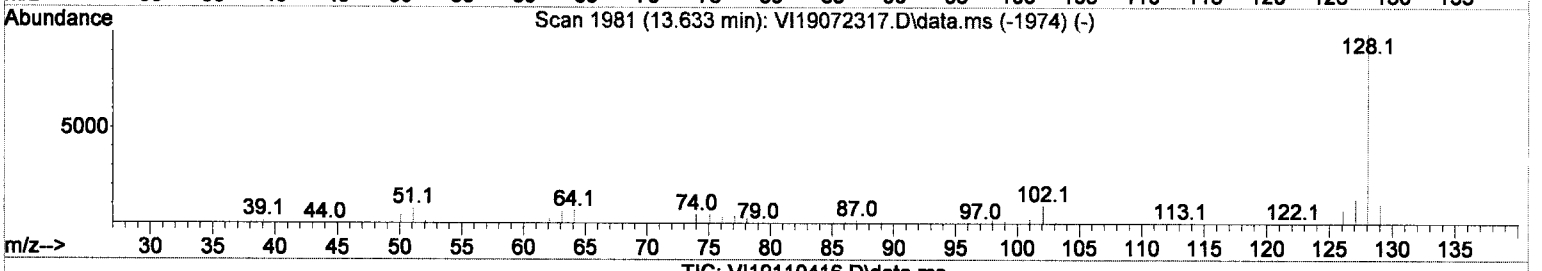
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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: VI19110416.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 91.20 ug/L

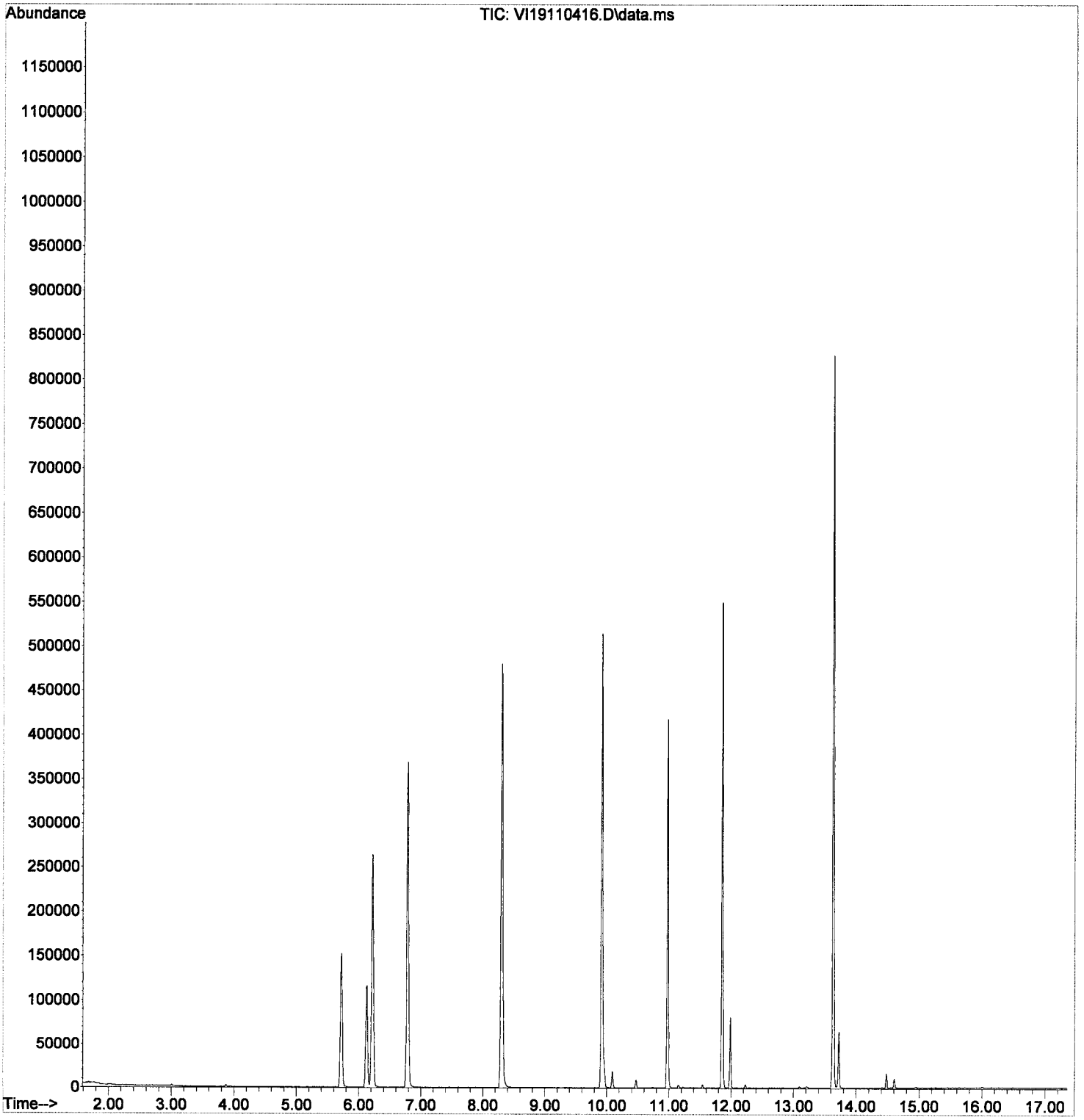
response 587859

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	8.17
64.10	4.70	6.75
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110416.D
Acq On : 4 Nov 2019 3:23 pm
Operator : tb
Sample : A9K0039-06@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 04 15:43:30 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\9K04028\
Data File : VI19110417.D
Acq On : 4 Nov 2019 3:50 pm
Operator : tb
Sample : 9110413-DUP1@100
Misc : 100X 500uL/50mL A9K0039-06
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:55 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	107983	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	294112	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	134847	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	107623	50.72	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	353907	51.88	ug/L	0.00
48) Toluene-d8 (S)	8.297	98	396680	51.39	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	107781	49.47	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.898	50	203	0.09	ug/L #	47
6) Chloroethane	2.500	64	314	0.29	ug/L	36
14) Methylene Chloride	3.875	84	962	Below Cal		91
15) Acetone	3.948	43	706	0.75	ug/L	44
35) Benzene	6.126	78	125629	15.23	ug/L	96
36) tert-Amyl methyl ether...	6.132	73	1855	0.33	ug/L #	46
49) Toluene	8.358	91	2372	0.27	ug/L	96
59) Ethylbenzene	9.952	91	19376	2.14	ug/L	99
61) m,p-Xylenes (2)	10.086	91	11231	1.68	ug/L	96
62) o-Xylene	10.469	91	5471	0.83	ug/L	98
72) 1,3,5-Trimethylbenzene	11.236	105	809	0.13	ug/L	95
77) 1,2,4-Trimethylbenzene	11.540	105	2180	0.35	ug/L	90
82) n-Butylbenzene	11.984	91	5138	1.01	ug/L #	42
87) Naphthalene	13.627	128	606550	93.62	ug/L	97

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

11/5/19 hml

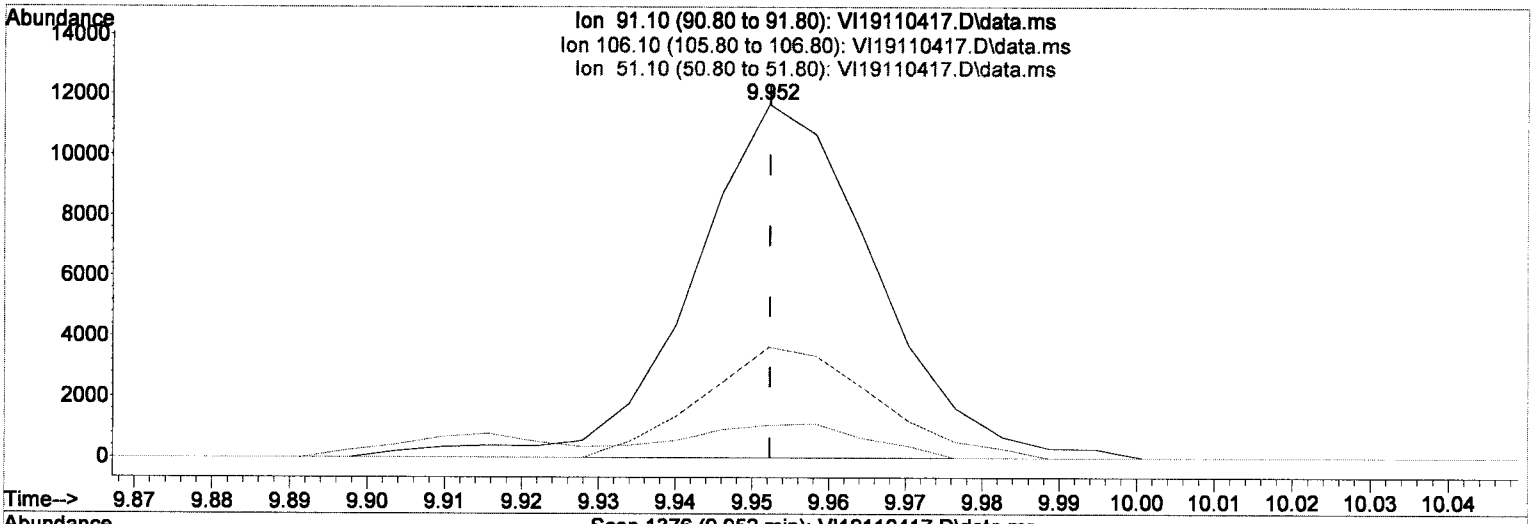
(ME) 2.08 ppb

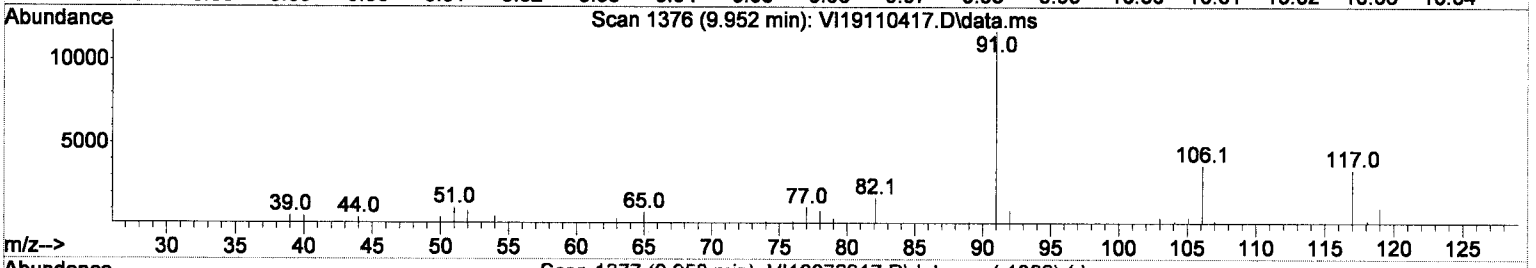
(ME) ND

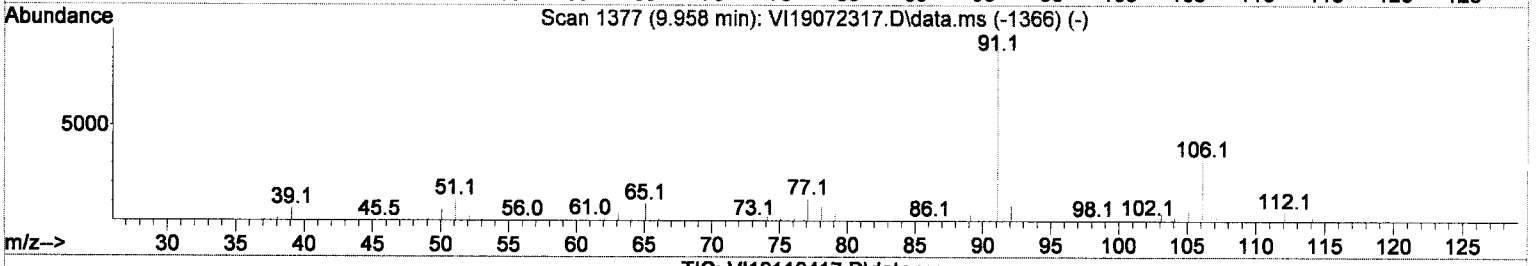
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110417.D
Acq On : 4 Nov 2019 3:50 pm
Operator : tb
Sample : 9110413-DUP1@100
Misc : 100X 500uL/50mL A9K0039-06
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:55 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: VI19110417.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 2.14 ug/L

response 19376

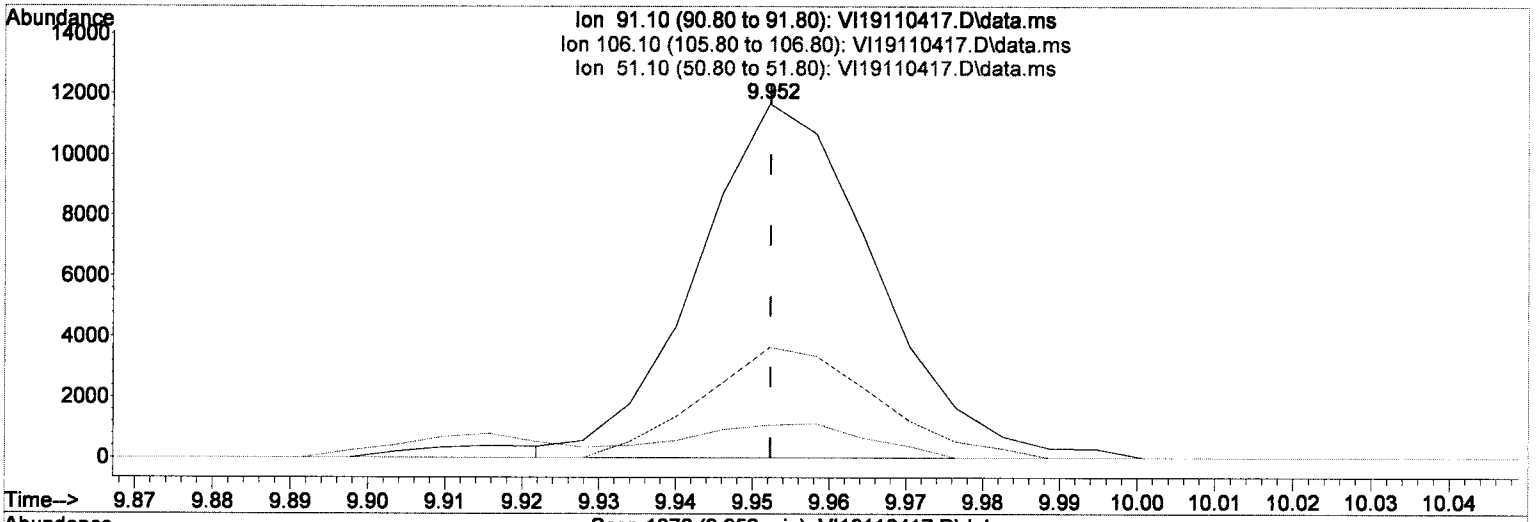
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	31.20
51.10	10.40	9.24
0.00	0.00	0.00

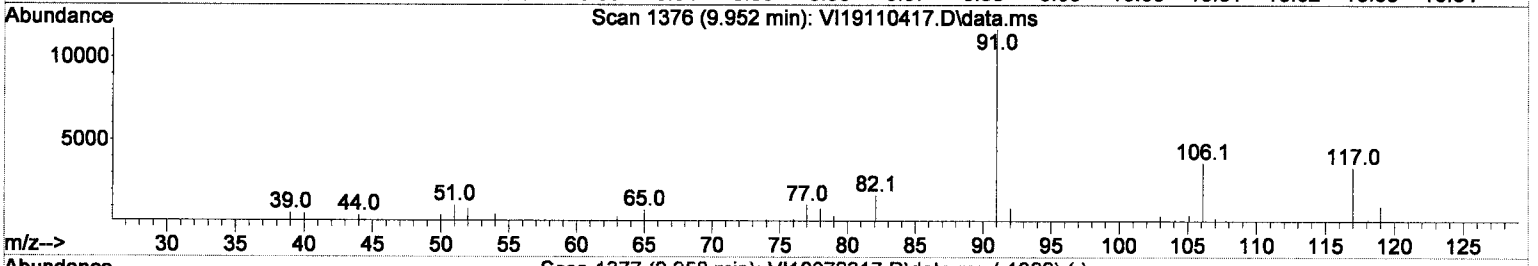
MC 11/5/19

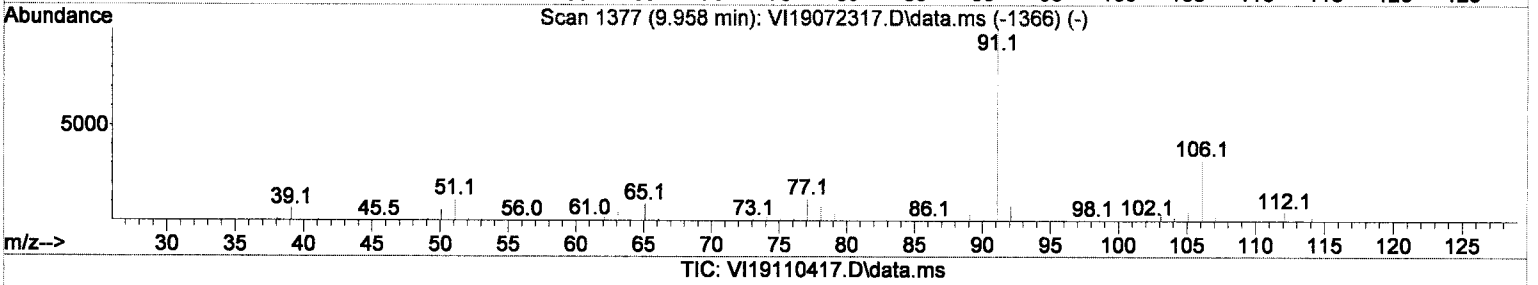
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110417.D
Acq On : 4 Nov 2019 3:50 pm
Operator : tb
Sample : 9110413-DUP1@100
Misc : 100X 500uL/50mL A9K0039-06
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:55 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: VI19110417.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 2.08 ug/L m

response 18906

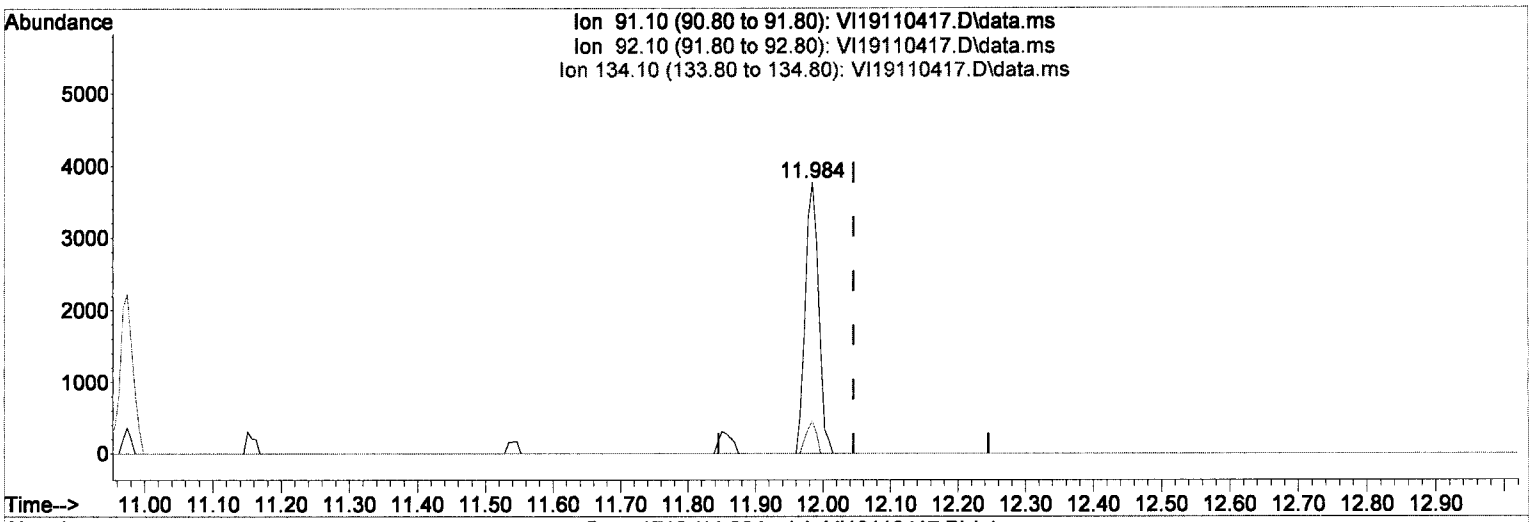
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	31.20
51.10	10.40	9.24
0.00	0.00	0.00

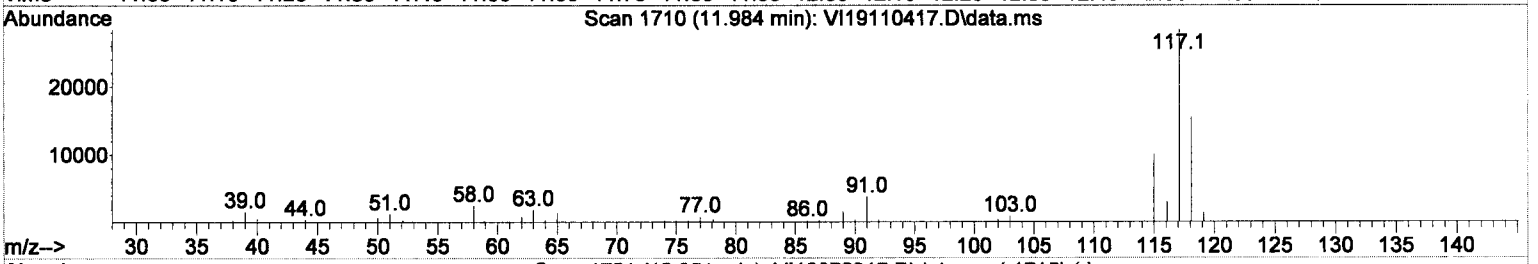
11/5/19 JM

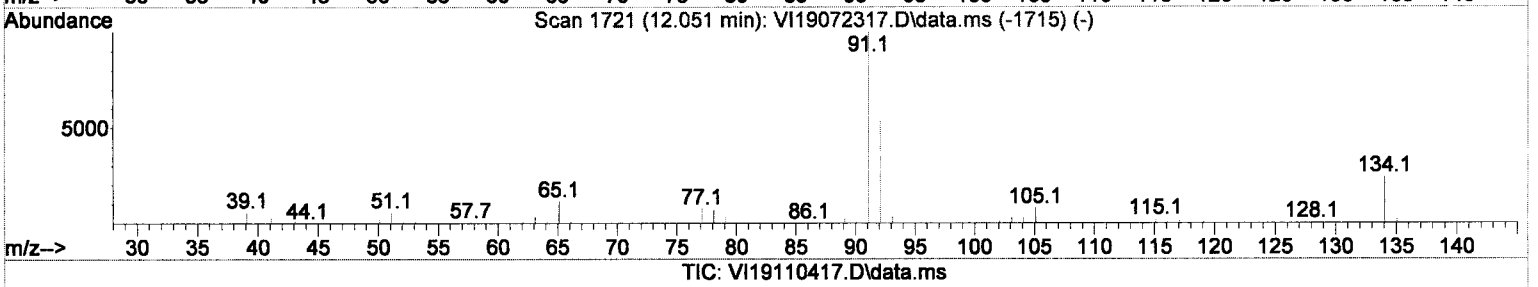
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110417.D
Acq On : 4 Nov 2019 3:50 pm
Operator : tb
Sample : 9110413-DUP1@100
Misc : 100X 500uL/50mL A9K0039-06
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:55 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: VI19110417.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 1.01 ug/L

response 5138

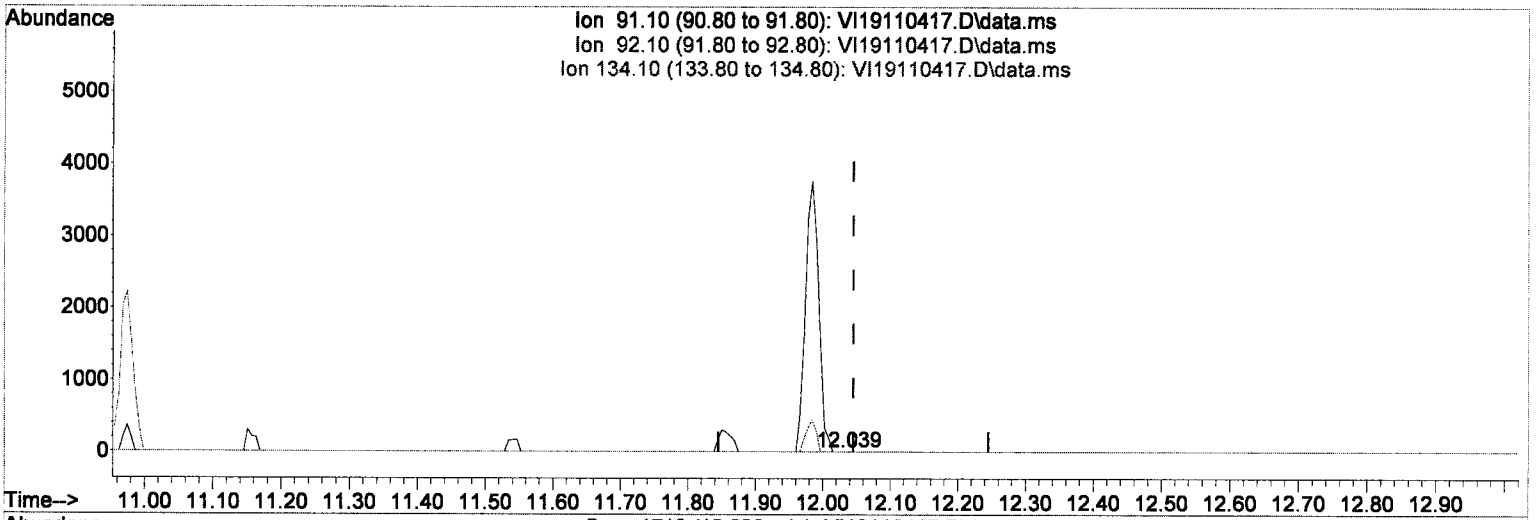
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	11.98#
134.10	28.20	0.00
0.00	0.00	0.00

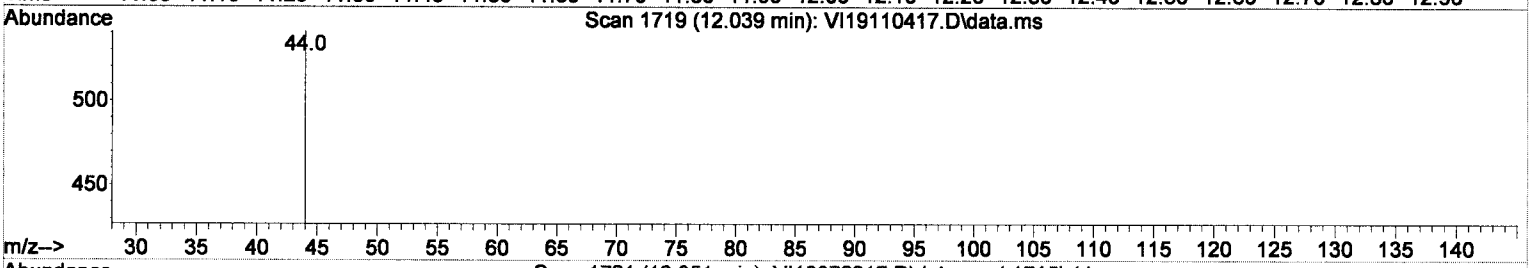
ME 11/5/19 bm

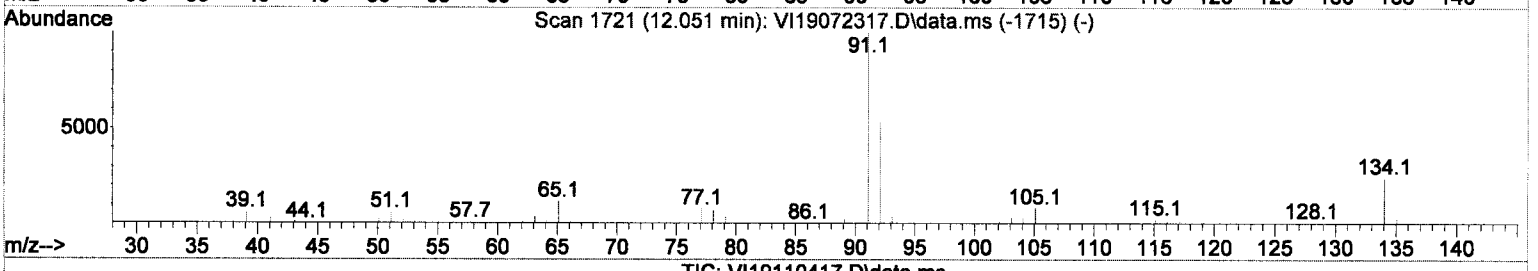
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110417.D
Acq On : 4 Nov 2019 3:50 pm
Operator : tb
Sample : 9110413-DUP1@100
Misc : 100X 500uL/50mL A9K0039-06
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:55 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: VI19110417.D\data.ms

(82) n-Butylbenzene

12.039min (-0.006) 0.00 ug/L m

response 0

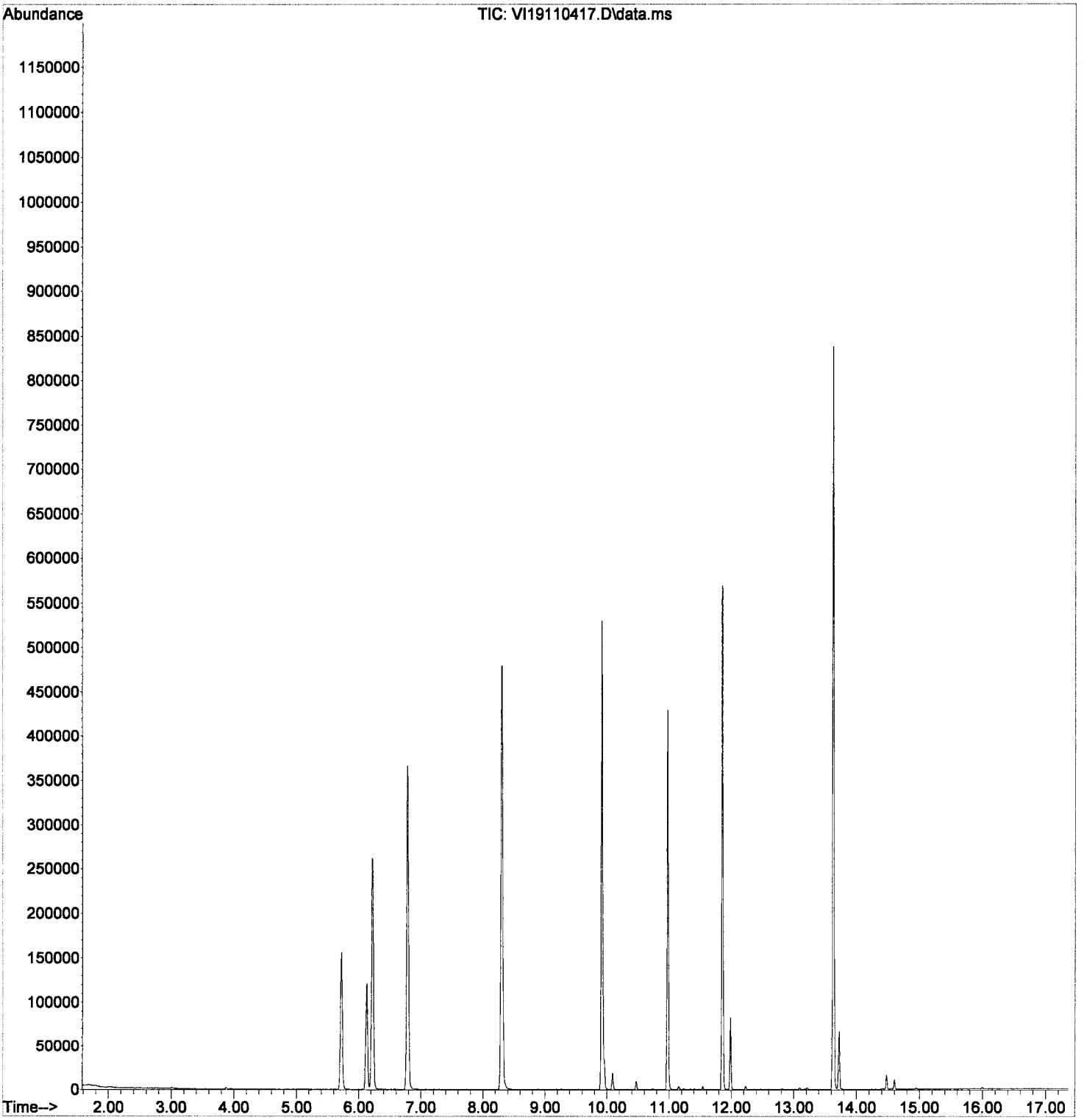
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

ND
11/5/19 tm

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110417.D
Acq On : 4 Nov 2019 3:50 pm
Operator : tb
Sample : 9110413-DUP1@100
Misc : 100X 500uL/50mL A9K0039-06
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:55 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



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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

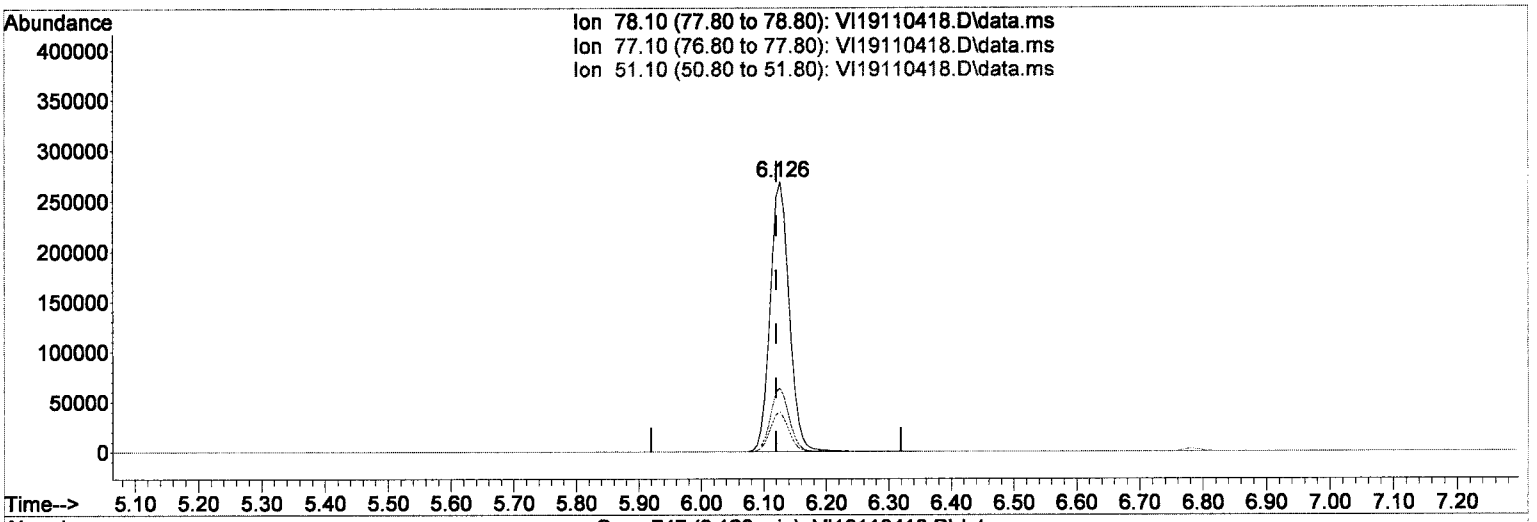
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	108954	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	297076	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138482	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	108532	50.70 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	353704	51.39 ug/L	0.00
48) Toluene-d8 (S)	8.304	98	397633	51.00 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	112343	50.21 ug/L	0.00
Target Compounds					Qvalue
5) Bromomethane	2.366	96	120	0.09 ug/L #	15
6) Chloroethane	2.469	64	365	0.34 ug/L #	36
14) Methylene Chloride	3.881	84	954	Below Cal	83
15) Acetone	3.960	43	582	0.61 ug/L	44
35) Benzene	6.126	78	568720	68.31 ug/L	96
49) Toluene	8.358	91	59526	6.81 ug/L	98
59) Ethylbenzene	9.952	91	26966	2.94 ug/L	98
61) m,p-Xylenes (2)	10.086	91	34979	5.18 ug/L	98
62) o-Xylene	10.469	91	15897	2.38 ug/L	99
65) Isopropylbenzene	10.737	105	2355	0.29 ug/L	97
72) 1,3,5-Trimethylbenzene	11.230	105	1059	0.17 ug/L	82
77) 1,2,4-Trimethylbenzene	11.540	105	3146	0.50 ug/L	99
78) sec-Butylbenzene	11.619	105	779	0.10 ug/L	67
82) n-Butylbenzene	11.984	91	4647	0.89 ug/L #	40
87) Naphthalene	13.627	128	830694	124.85 ug/L	97

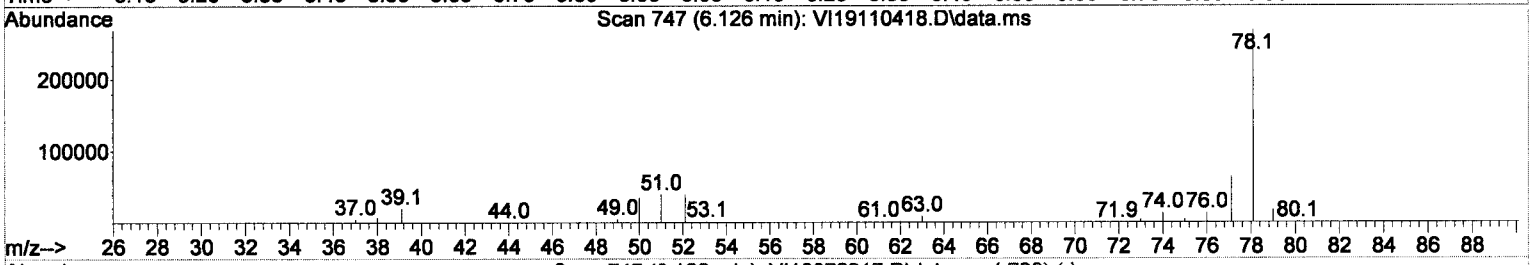
(#) = qualifier out of range (m) = manual integration (+) = signals summed

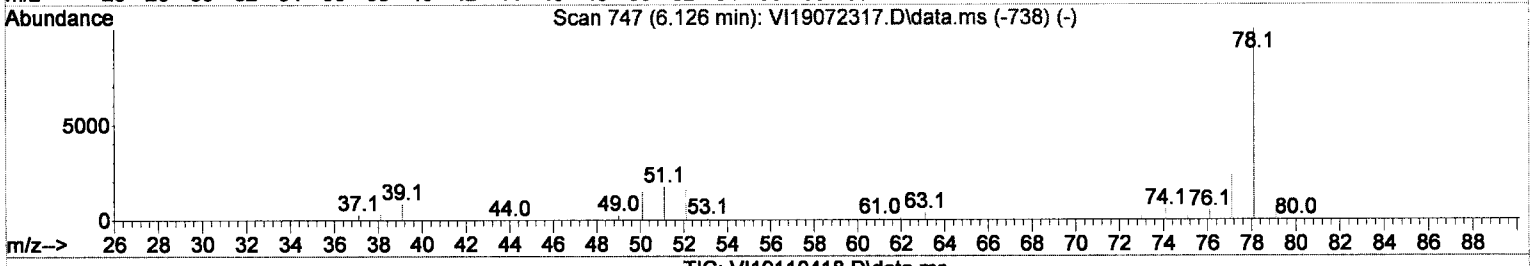
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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







TIC: VI19110418.D\data.ms

(35) Benzene

6.126min (+ 0.006) 68.31 ug/L

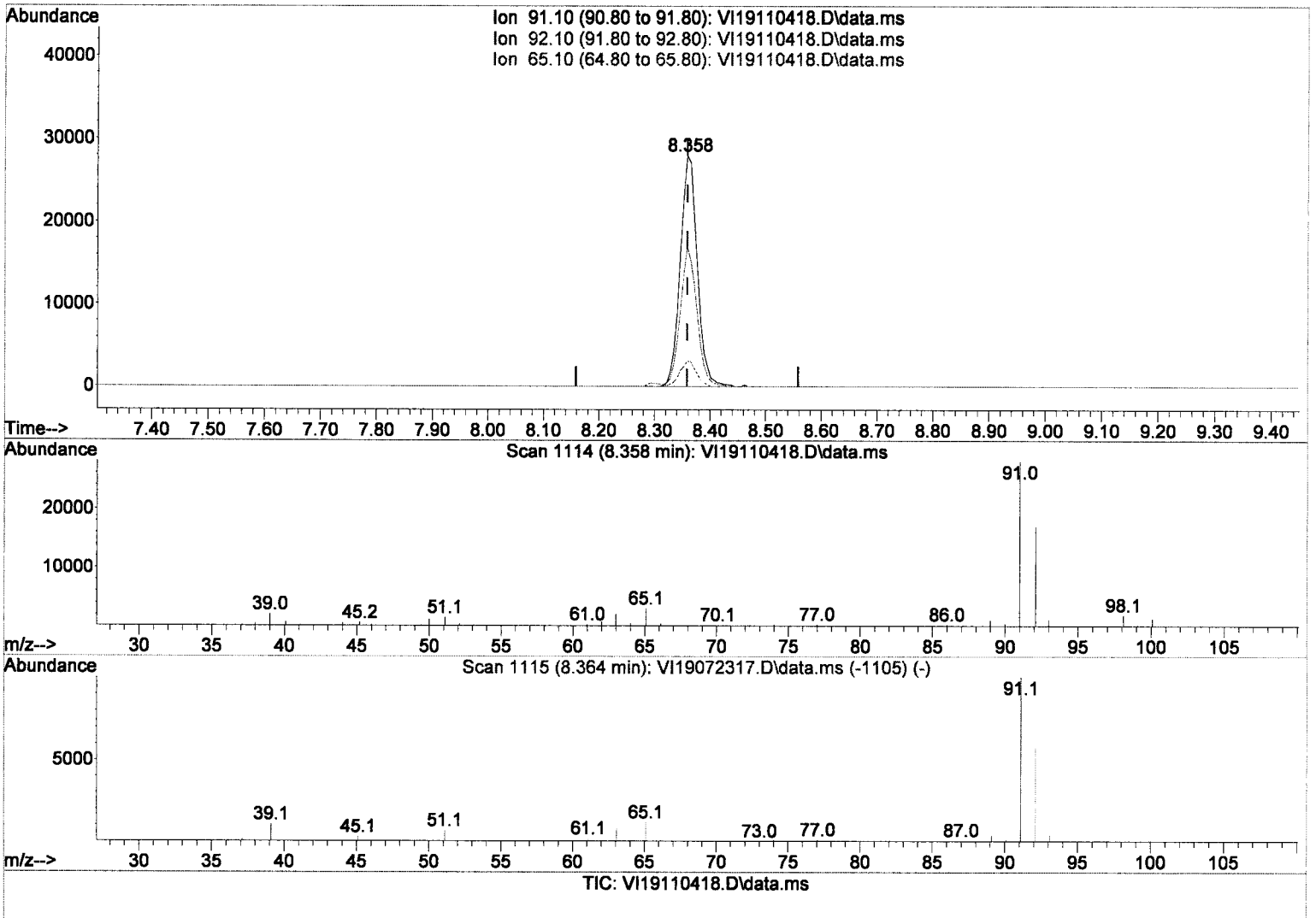
response 568720

Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	23.64
51.10	17.20	14.72
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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



TIC: VI19110418.D\data.ms

(49) Toluene (C)

8.358min (-0.000) 6.81 ug/L

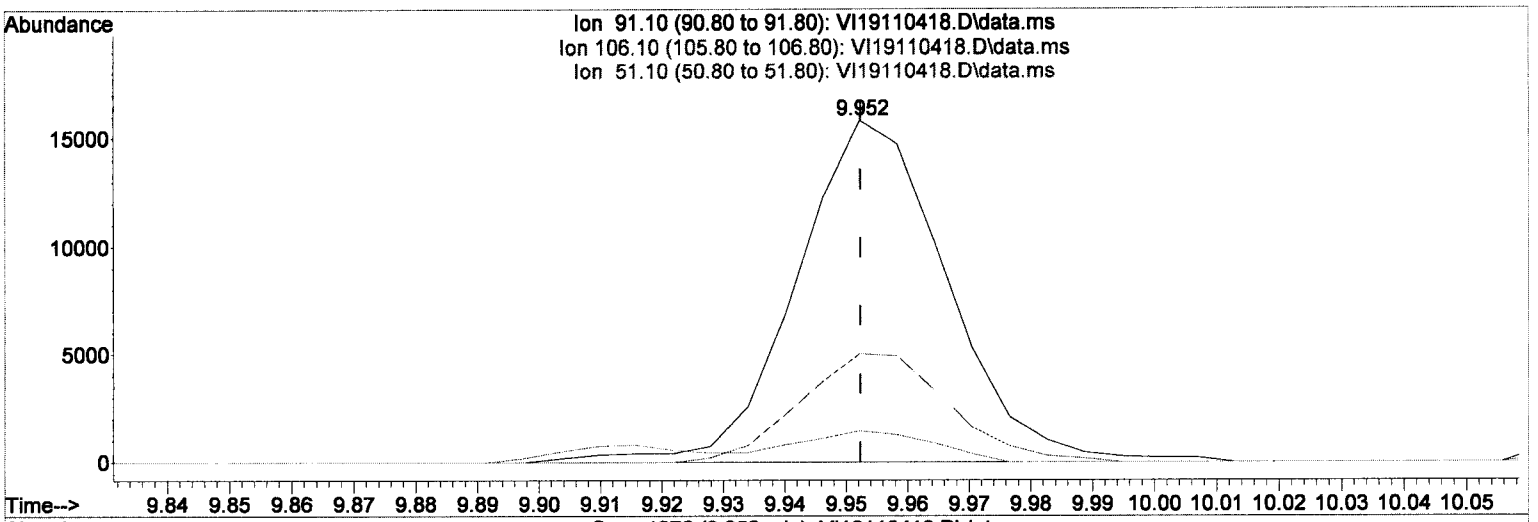
response 59526

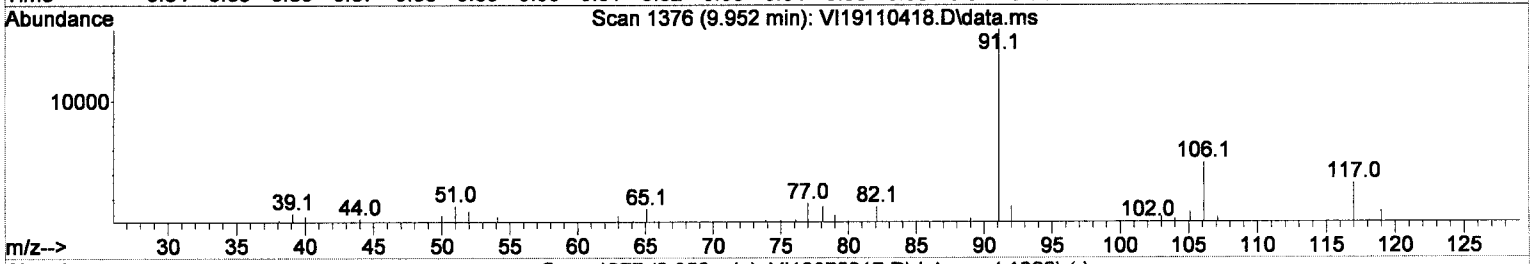
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	59.80	60.89
65.10	10.30	11.01
0.00	0.00	0.00

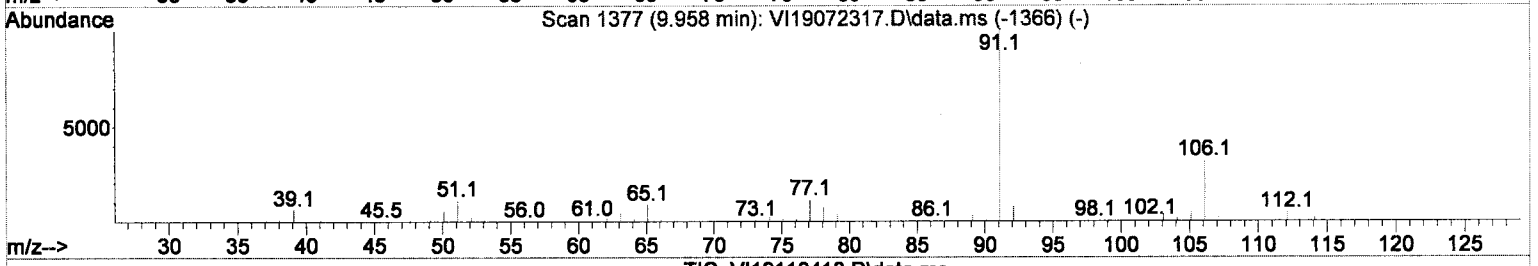
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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







TIC: VI19110418.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 2.94 ug/L

response 26966

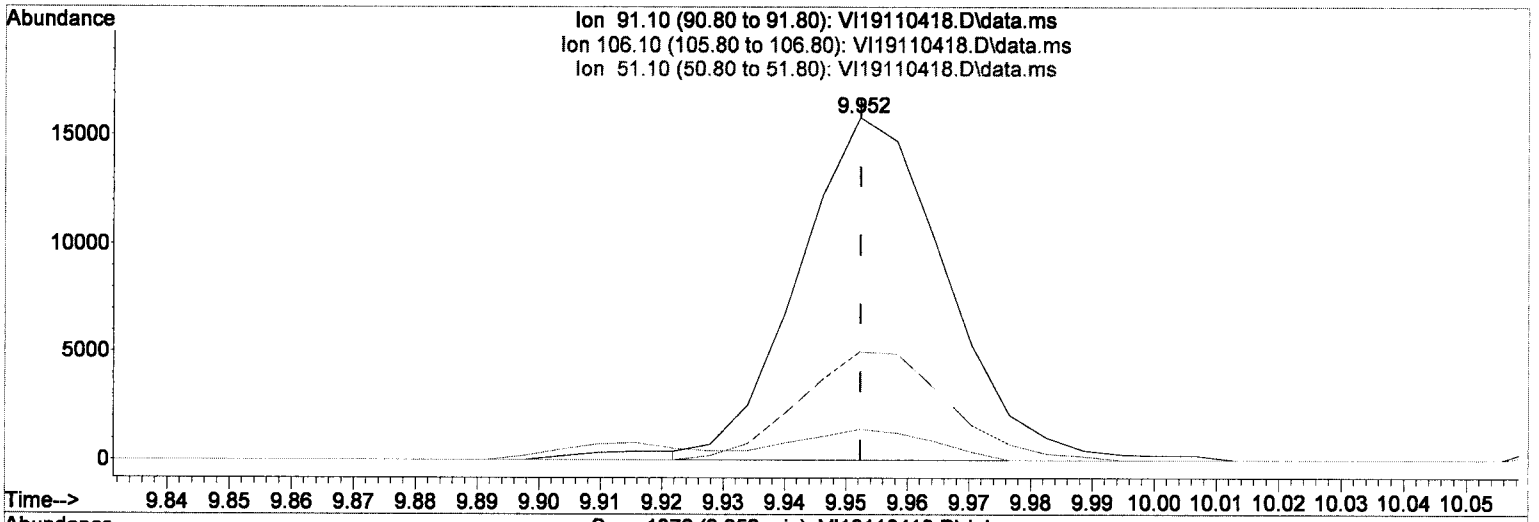
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	31.62
51.10	10.40	9.07
0.00	0.00	0.00

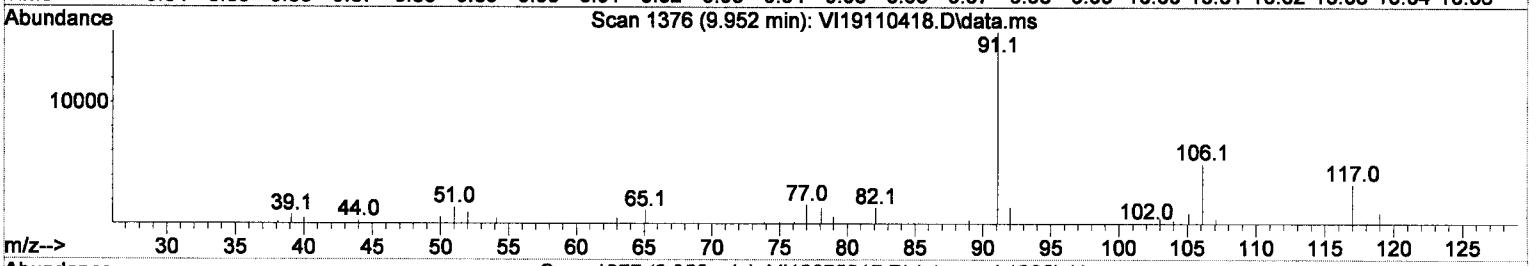
MI 11/5/19 mf

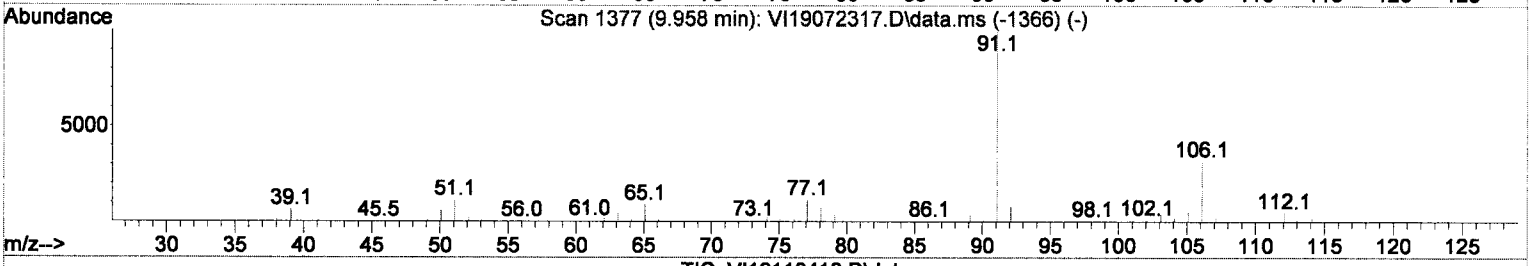
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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







TIC: VI19110418.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 2.89 ug/L m

11/5/19 hm

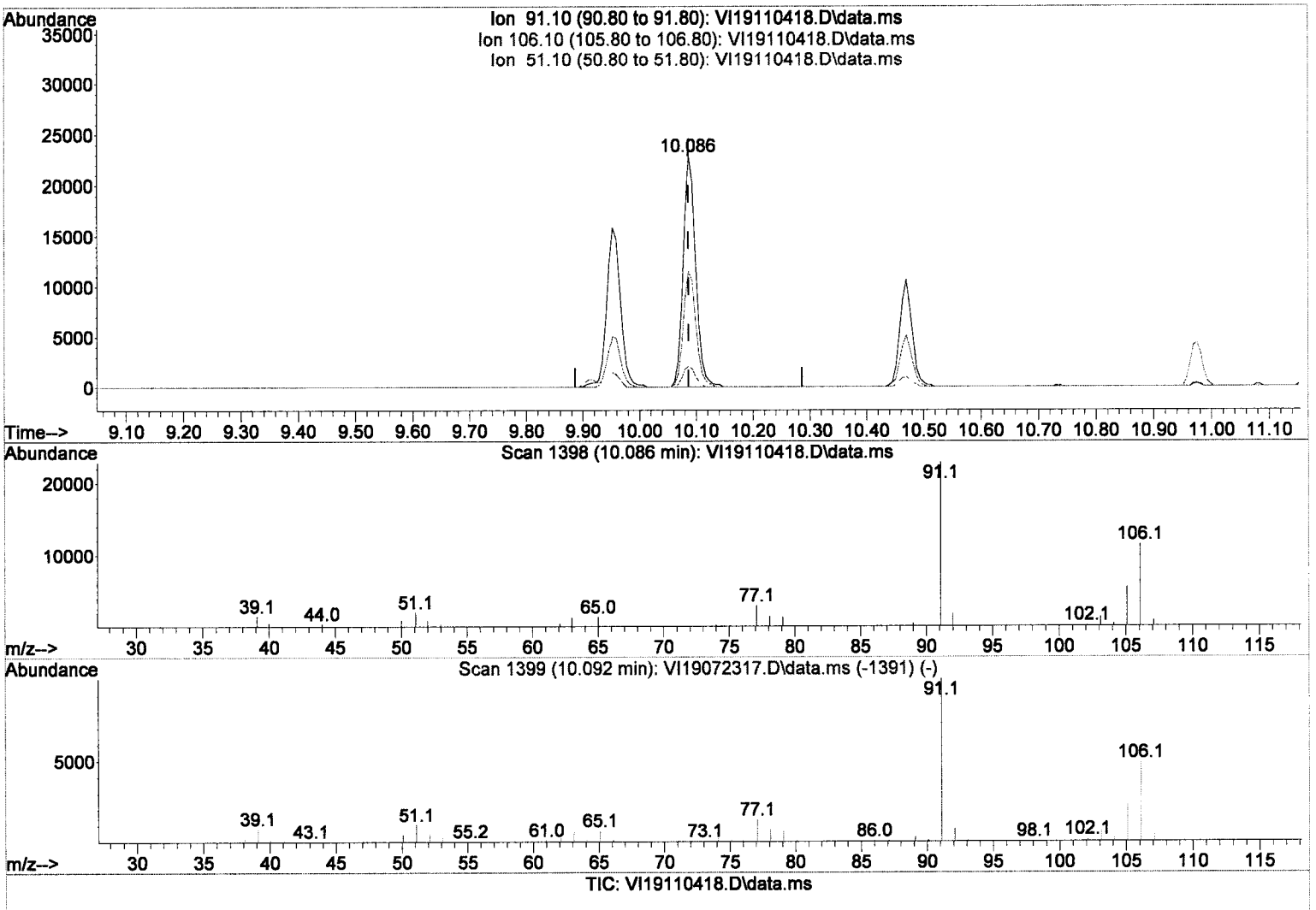
response 26487

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	31.62
51.10	10.40	9.07
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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



TIC: VI19110418.D\data.ms

(61) m,p-Xylenes (2)

10.086min (+ 0.000) 5.18 ug/L

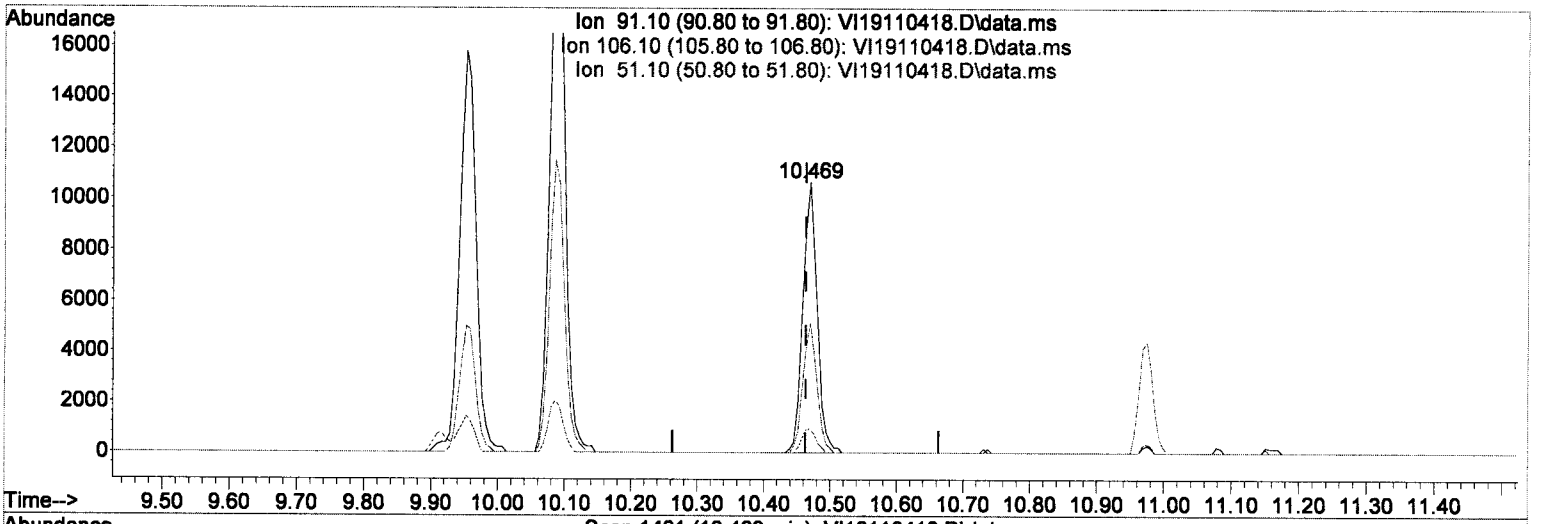
response 34979

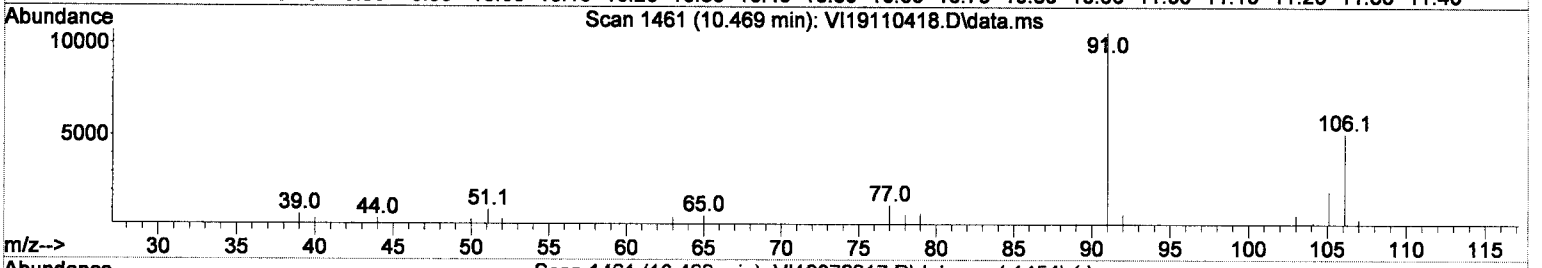
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	50.22
51.10	9.80	9.03
0.00	0.00	0.00

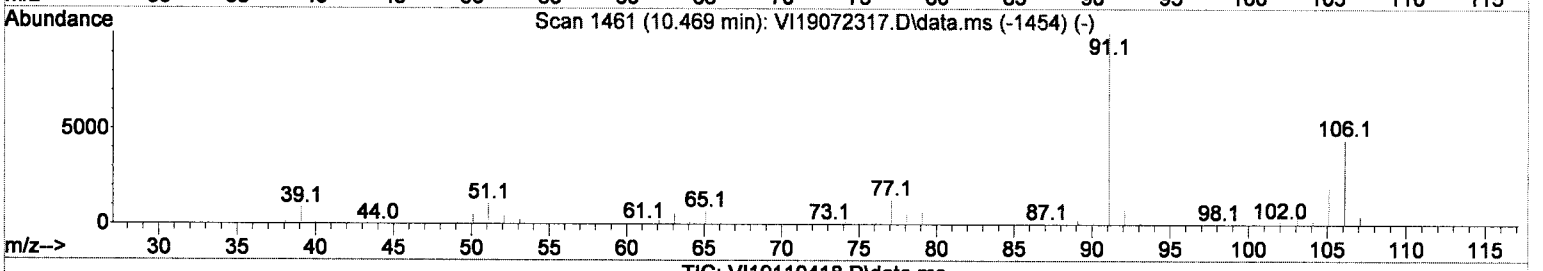
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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







TIC: VI19110418.D\data.ms

(62) o-Xylene

10.469min (+ 0.006) 2.38 ug/L

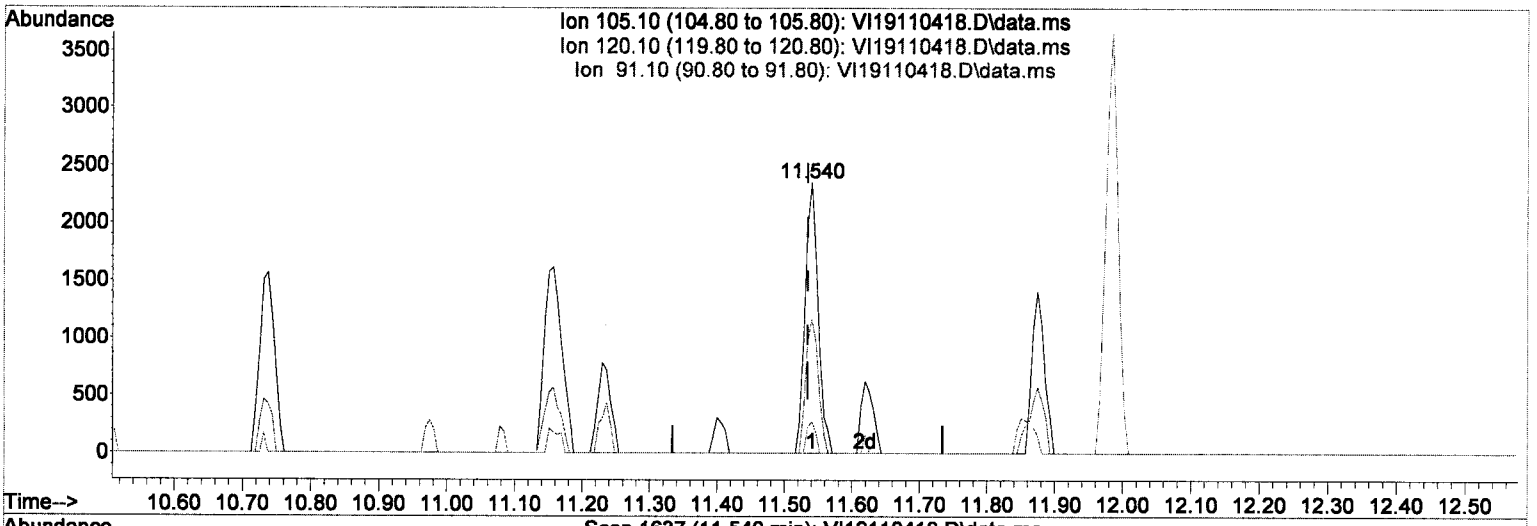
response 15897

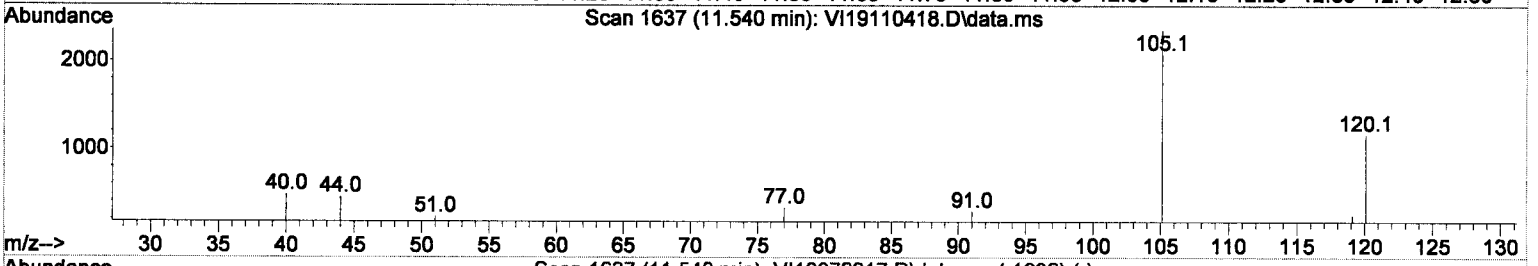
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	48.09
51.10	10.20	9.09
0.00	0.00	0.00

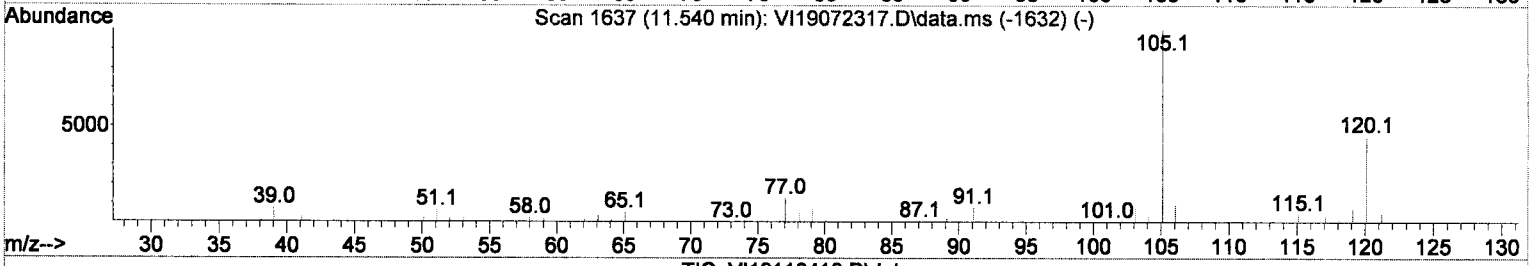
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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







TIC: VI19110418.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (+ 0.006) 0.50 ug/L

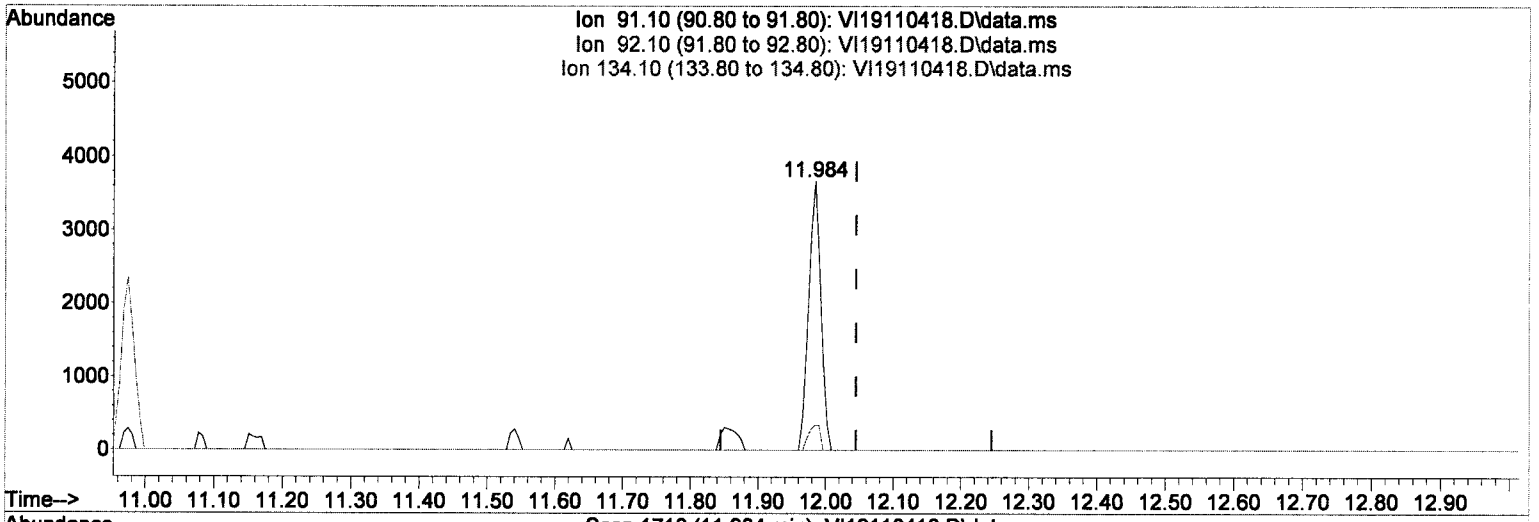
response 3146

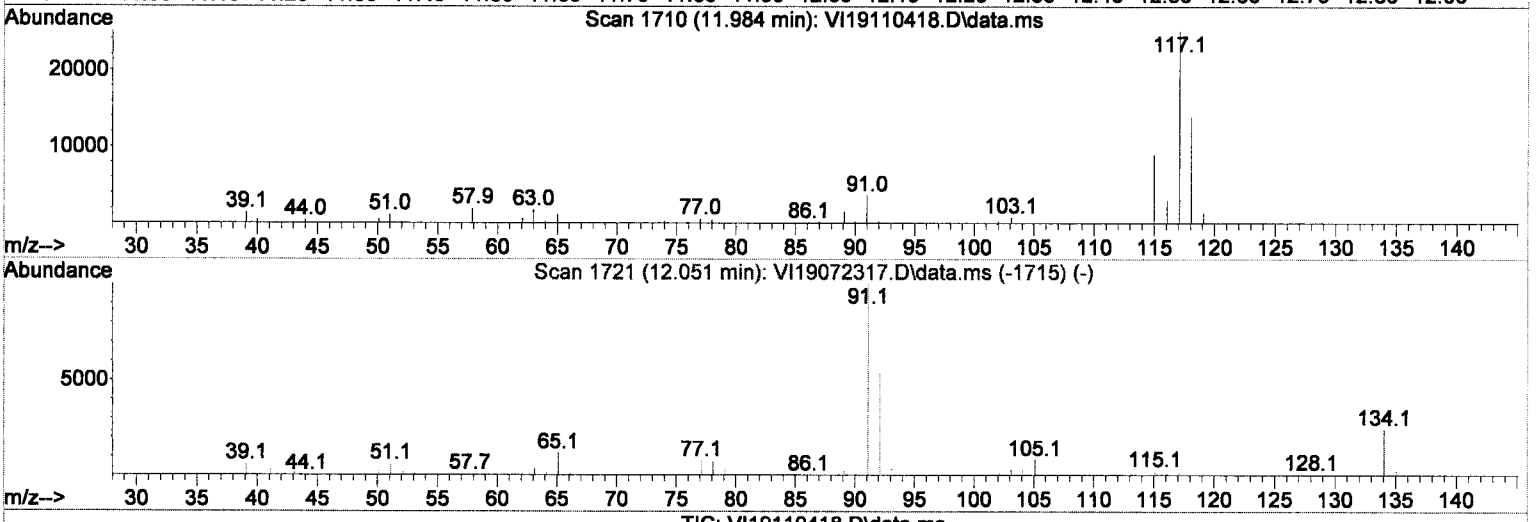
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	49.47
91.10	10.50	11.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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





TIC: VI19110418.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 0.89 ug/L

response 4647

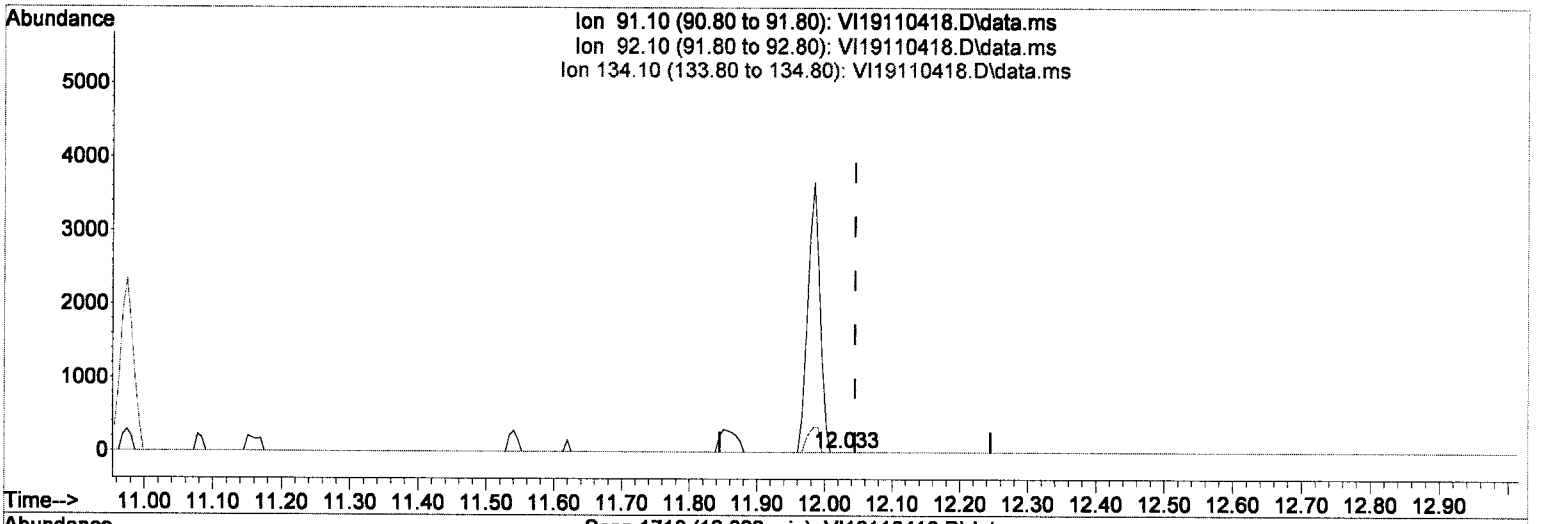
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	9.33#
134.10	28.20	0.00
0.00	0.00	0.00

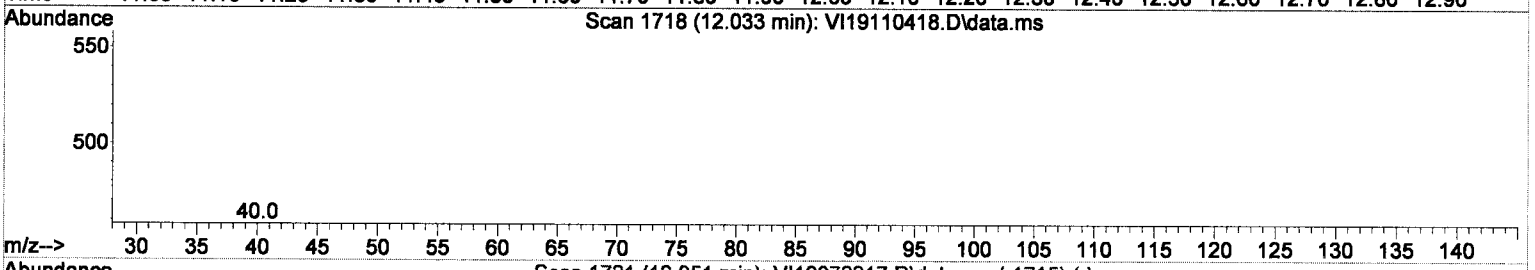
ME 11/5/19 ml

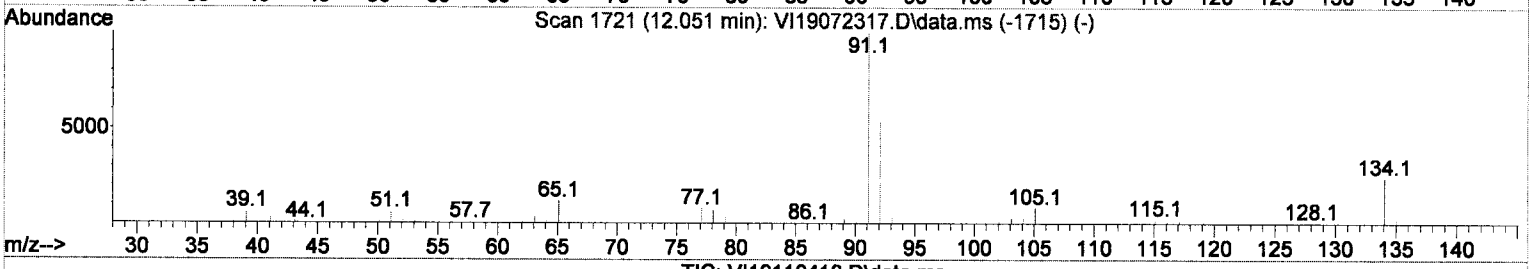
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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







TIC: VI19110418.D\data.ms

(82) n-Butylbenzene

12.033min (-0.012) 0.00 ug/L m

response 0

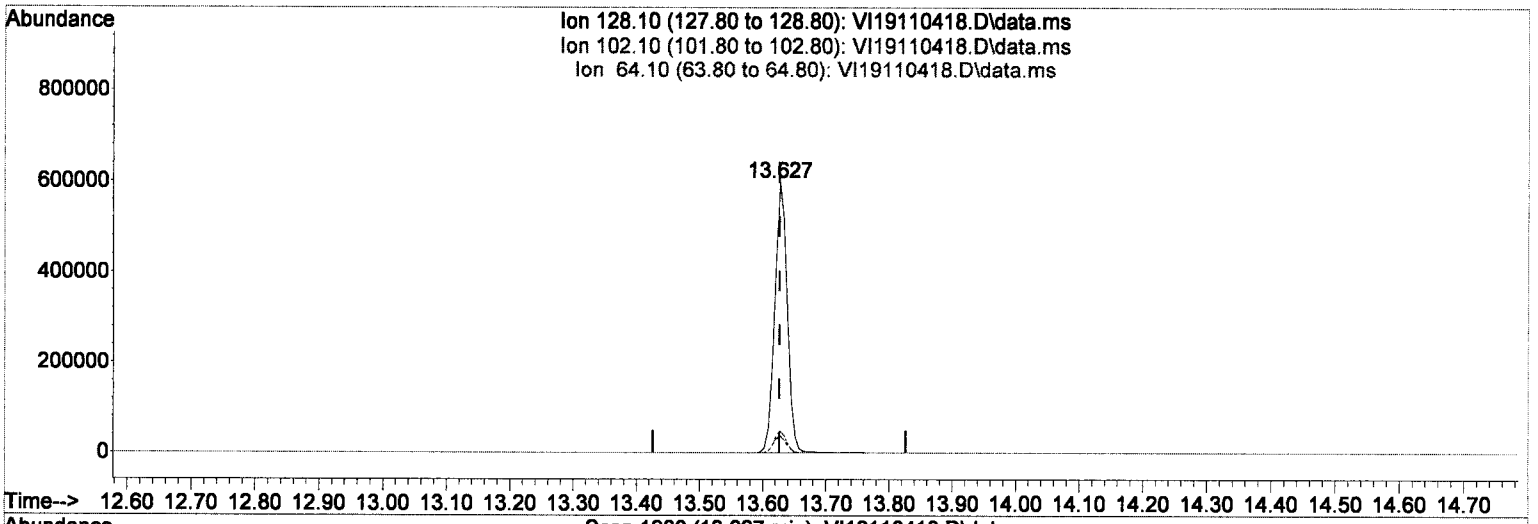
Ion	Exp%	Act%
91.10	100.00	0.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

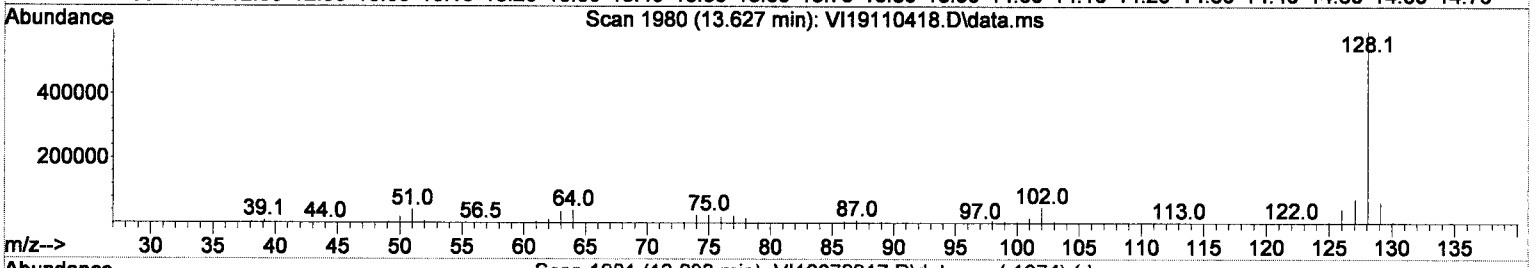
ND 11/5/19 hml

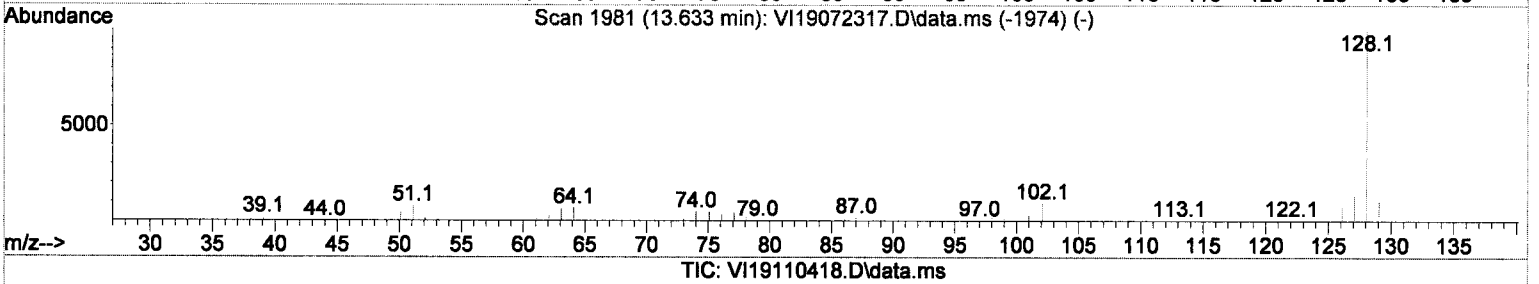
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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







TIC: VI19110418.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 124.85 ug/L

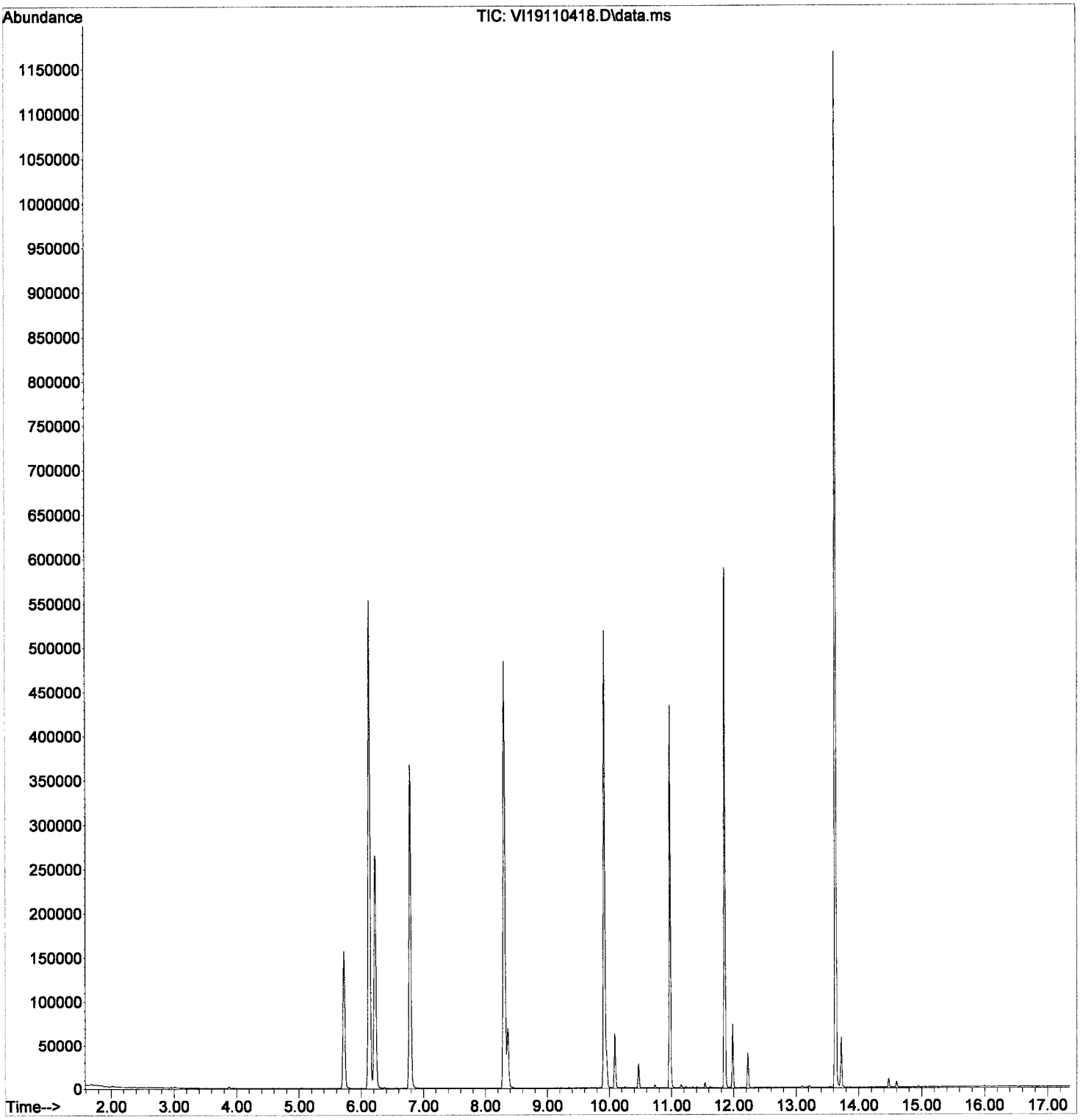
response 830694

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	7.99
64.10	4.70	6.43
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110418.D
Acq On : 4 Nov 2019 4:17 pm
Operator : tb
Sample : A9K0039-07@100
Misc : 100X 500uL/50mL 8260C
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:49:59 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\9K04028\
Data File : VI19110419.D
Acq On : 4 Nov 2019 4:44 pm
Operator : tb
Sample : 9110413-MS1@100
Misc : 100X 500uL/50mL A9K0007 (A9K0039-07)
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:02 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	107670	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	301513	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	145920	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	109166	51.60	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	352359	51.80	ug/L		0.00
48) Toluene-d8 (S)	8.297	98	397275	50.20	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	113840	48.28	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	36721	20.86	ug/L		99
3) Chloromethane	1.904	50	44718	19.16	ug/L		98
4) Vinyl Chloride	2.007	62	51826	22.16	ug/L		97
5) Bromomethane	2.366	96	33215	24.10	ug/L		98
6) Chloroethane	2.506	64	17990	16.74	ug/L		83
7) Trichlorofluoromethane	2.670	101	57845	21.85	ug/L		96
8) Ethanol	3.242	45	57216	1105.79	ug/L		88
9) 1,1-Dichloroethene	3.242	61	53917	21.12	ug/L		92
10) Carbon Disulfide	3.260	76	94839	20.14	ug/L		99
11) Freon 113	3.297	101	39921	21.75	ug/L		93
12) Iodomethane	3.400	142	6514	11.55	ug/L		94
13) Acrolein	3.631	56	9835	20.10	ug/L		74
14) Methylene Chloride	3.881	84	41416	20.24	ug/L		90
15) Acetone	3.948	43	34394	36.45	ug/L		90
16) t-1,2-Dichloroethene	4.045	61	54797	21.94	ug/L		95
17) n-Hexane	4.124	86	8432	22.17	ug/L		93
18) Methyl-tert-butyl-ether	4.173	73	107318	18.48	ug/L		91
19) tert-Butanol (TBA)	4.294	59	441189	1058.37	ug/L		91
20) Diisopropyl ether (DIPE)	4.568	45	27819	4.45	ug/L		92
21) 1,1-Dichloroethane	4.690	63	72925	21.02	ug/L		96
22) Acrylonitrile	4.757	53	22738	21.77	ug/L		98
23) Ethyl-tert-butyl ether...	4.945	59	25013	4.17	ug/L		97
24) Vinyl Acetate	4.964	43	82644	19.72	ug/L		96
25) c-1,2-Dichloroethene	5.250	61	56361	21.04	ug/L		91
26) 2,2-Dichloropropane	5.359	77	40913	18.07	ug/L		92
27) Bromochloromethane	5.450	130	30519	23.22	ug/L		96
28) Chloroform	5.529	83	73005	21.52	ug/L		95
29) Carbon Tetrachloride	5.663	117	45143	21.88	ug/L		95
30) Tetrahydrofuran	5.706	42	19595	19.74	ug/L		90
31) 1,1,1-Trichloroethane	5.742	97	57684	20.15	ug/L		98
33) 1,1-Dichloropropene	5.870	75	58322	21.21	ug/L		96
34) 2-Butanone (MEK)	5.858	43	60299	40.31	ug/L		97
35) Benzene	6.126	78	739164	89.84	ug/L		96
36) tert-Amyl methyl ether...	6.253	73	22417	4.02	ug/L		90
37) 1,2-Dichloroethane (EDC)	6.345	62	53582	19.88	ug/L		89
38) iso-Butyl Alcohol	6.375	43	72908	486.51	ug/L		99
40) Trichloroethene (TCE)	6.746	130	45942	21.67	ug/L		91
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	17032	4.23	ug/L		86
42) Dibromomethane	7.202	93	28663	21.71	ug/L		97
43) 1,2-Dichloropropane	7.312	63	44206	21.54	ug/L		90
44) Bromodichloromethane	7.385	83	51855	21.92	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.024	63	5674	3.67	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	58499	19.62	ug/L		86

11/04/19 tml

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110419.D
Acq On : 4 Nov 2019 4:44 pm
Operator : tb
Sample : 9110413-MS1@100
Misc : 100X 500uL/50mL A9K0007 (A9K0039-07)
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:02 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

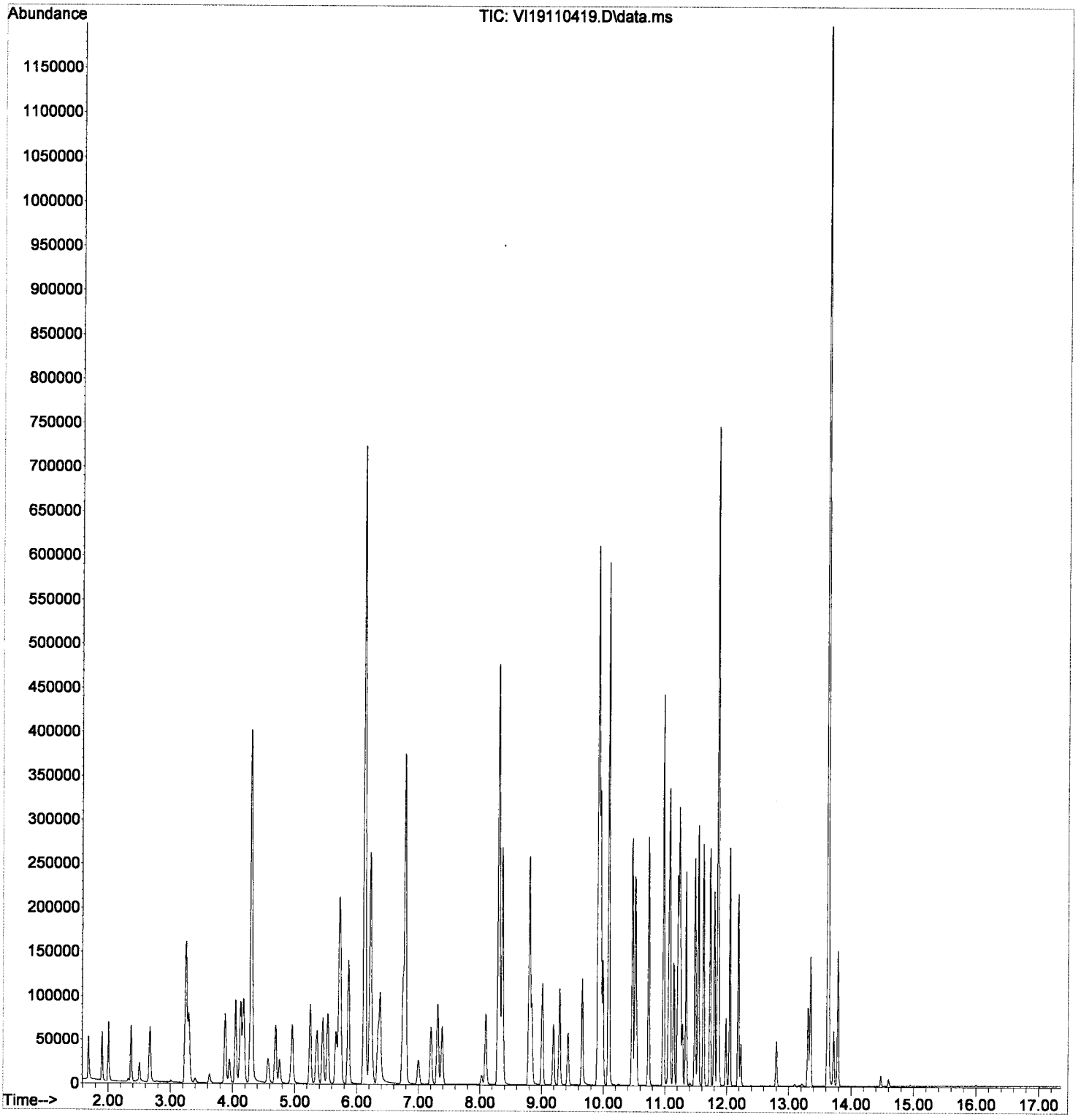
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	239730	27.04	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	43656	21.15	ug/L		92
51) 4-Methyl-2-Pentanone (...	8.802	43	109525	40.69	ug/L		94
52) t-1,3-Dichloropropene	8.839	75	50854	19.23	ug/L		98
53) 1,1,2-Trichloroethane	9.009	97	41854	21.29	ug/L		95
54) Dibromochloromethane	9.192	129	40395	25.42	ug/L		97
55) 1,3-Dichloropropane	9.289	76	71111	20.97	ug/L		91
56) 1,2-Dibromoethane (EDB)	9.429	107	43569	20.36	ug/L		91
57) 2-Hexanone	9.654	43	78885	40.00	ug/L		92
58) Chlorobenzene	9.928	112	117311	20.73	ug/L		98
59) Ethylbenzene	9.952	91	217375	23.38	ug/L		98
60) 1,1,1,2-Tetrachloroethane	9.989	131	36691	22.23	ug/L		95
61) m,p-Xylenes (2)	10.086	91	318897	46.57	ug/L		99
62) o-Xylene	10.469	91	155189	22.86	ug/L		99
63) Styrene	10.518	104	111606	20.45	ug/L		98
64) Bromoform	10.536	173	28703	24.28	ug/L		97
65) Isopropylbenzene	10.731	105	173434	20.94	ug/L		99
68) Bromobenzene	11.059	156	46539	20.58	ug/L		85
69) n-Propylbenzene	11.078	91	200374	20.66	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.138	85	41096	21.52	ug/L		94
71) 2-Chlorotoluene	11.205	126	42085	20.14	ug/L		98
72) 1,3,5-Trimethylbenzene	11.230	105	138166	20.85	ug/L		97
73) 1,2,3-Trichloropropane	11.248	110	18669	20.11	ug/L		95
74) t-1,4-Dichloro-2-butene	11.278	53	13441	20.23	ug/L	#	69
75) 4-Chlorotoluene	11.339	91	120263	20.15	ug/L		96
76) tert-Butylbenzene	11.485	91	72643	19.63	ug/L		99
77) 1,2,4-Trimethylbenzene	11.540	105	143441	21.52	ug/L		98
78) sec-Butylbenzene	11.619	105	170066	20.83	ug/L		97
79) 4-Isopropyltoluene	11.729	119	136330	21.10	ug/L		97
80) 1,3-Dichlorobenzene	11.795	146	80892	20.53	ug/L		97
81) 1,4-Dichlorobenzene	11.862	146	83896	20.42	ug/L		98
82) n-Butylbenzene	12.045	91	124399	22.66	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	78728	20.58	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.799	157	13052	20.17	ug/L		93
85) Hexachlorobutadiene	13.310	223	10523	19.68	ug/L		97
86) 1,2,4-Trichlorobenzene	13.347	180	45135	20.47	ug/L		96
87) Naphthalene	13.627	128	1055576	150.56	ug/L		97
88) 1,2,3-Trichlorobenzene	13.785	180	45136	21.56	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110419.D
Acq On : 4 Nov 2019 4:44 pm
Operator : tb
Sample : 9110413-MS1@100
Misc : 100X 500uL/50mL A9K0007 (A9K0039-07)
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:02 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\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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	99899	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	276610	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	127702	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	101940	51.93 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	331241	52.48 ug/L	0.00
48) Toluene-d8 (S)	8.297	98	369381	50.88 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	101755	49.31 ug/L	0.00
Target Compounds					Qvalue
6) Chloroethane	2.475	64	777	0.78 ug/L	36
14) Methylene Chloride	3.875	84	834	Below Cal	86
15) Acetone	3.954	43	1822	2.08 ug/L	99
19) tert-Butanol (TBA)	4.294	59	610	1.58 ug/L	59
35) Benzene	6.126	78	25353	3.32 ug/L	96
49) Toluene	8.358	91	1114	0.14 ug/L	92
59) Ethylbenzene	9.952	91	14363	1.68 ug/L	99
61) m,p-Xylenes (2)	10.092	91	1259	0.20 ug/L	91
62) o-Xylene	10.469	91	2457	0.39 ug/L	89
65) Isopropylbenzene	10.737	105	3981	0.52 ug/L	99
69) n-Propylbenzene	11.078	91	754	0.09 ug/L	58
72) 1,3,5-Trimethylbenzene	11.230	105	1625	0.28 ug/L	86
76) tert-Butylbenzene	11.540	91	300	0.09 ug/L	46
77) 1,2,4-Trimethylbenzene	11.540	105	3585	0.61 ug/L	99
78) sec-Butylbenzene	11.619	105	1609	0.23 ug/L	95
82) n-Butylbenzene	11.984	91	21265	4.43 ug/L #	40
87) Naphthalene	13.627	128	277358	45.20 ug/L	97

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

11/5/19 tm

CALDR

CALDR

CALDR

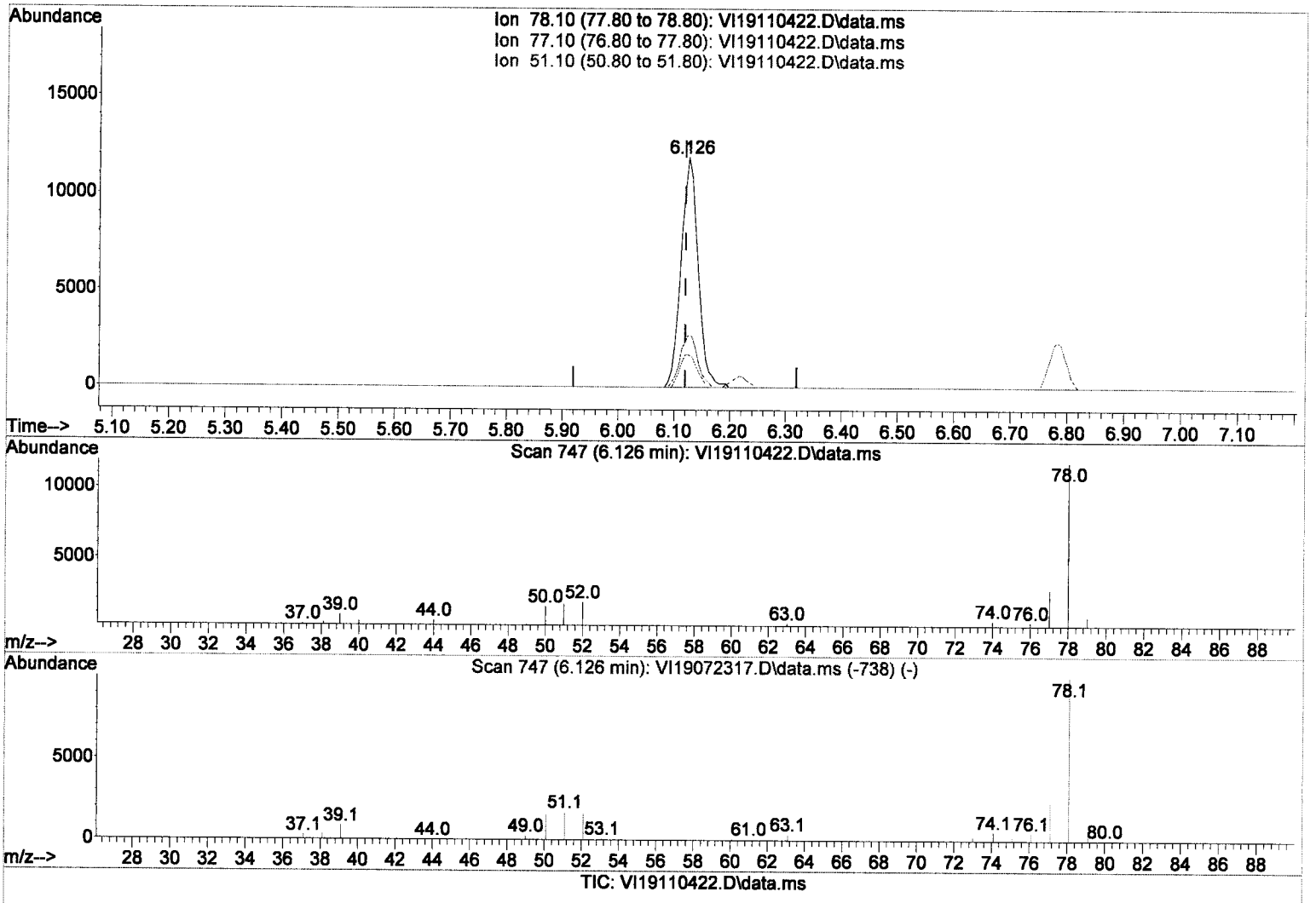
ME 1.61 ppb ✓

ME ND

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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



TIC: VI19110422.D\data.ms

(35) Benzene

6.126min (+ 0.006) 3.32 ug/L

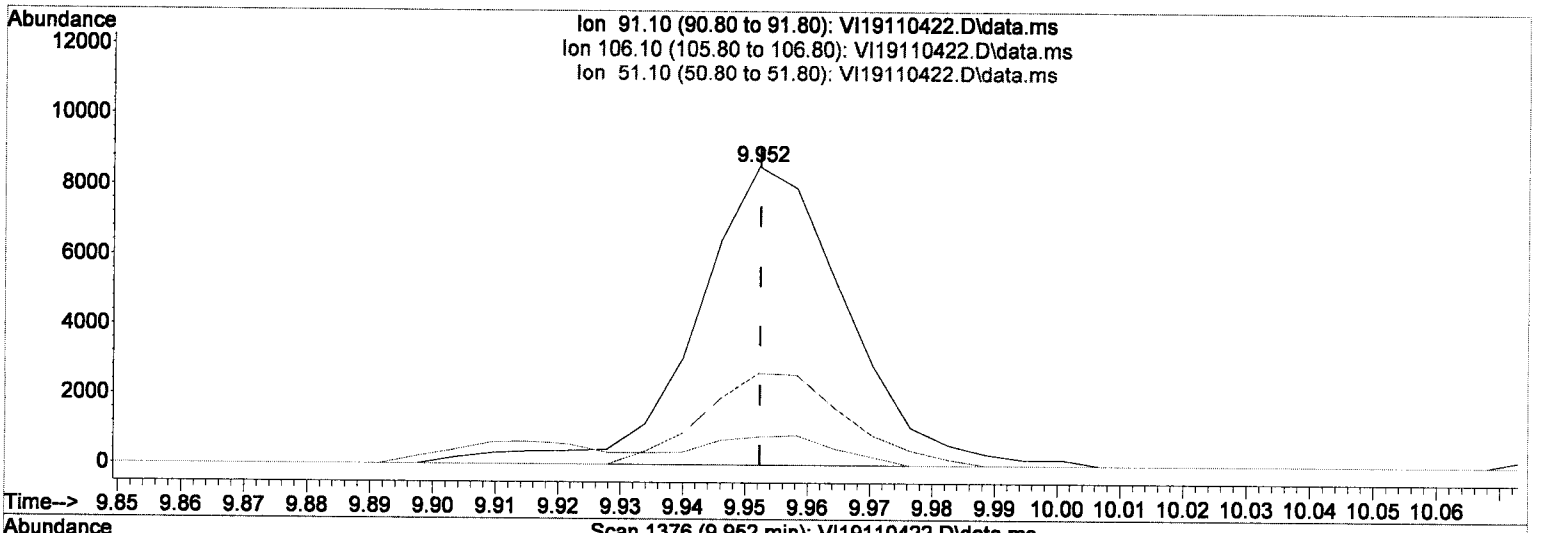
response 25353

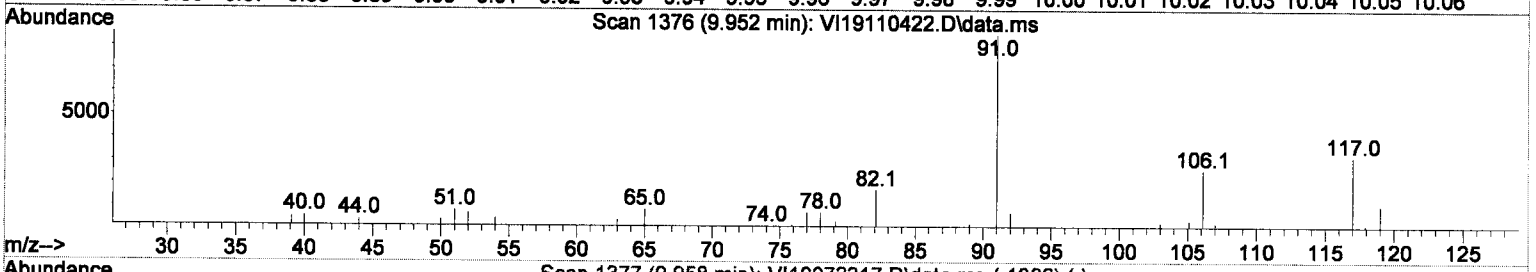
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	23.32
51.10	17.20	14.25
0.00	0.00	0.00

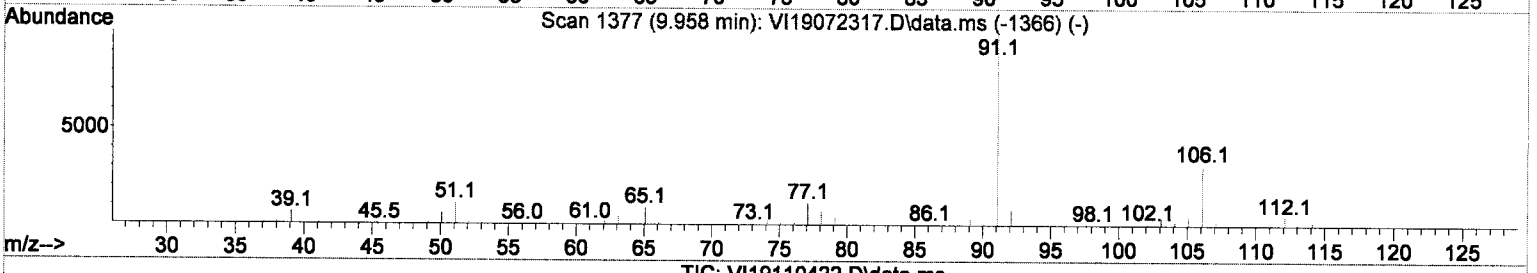
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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







TIC: VI19110422.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 1.68 ug/L

response 14363

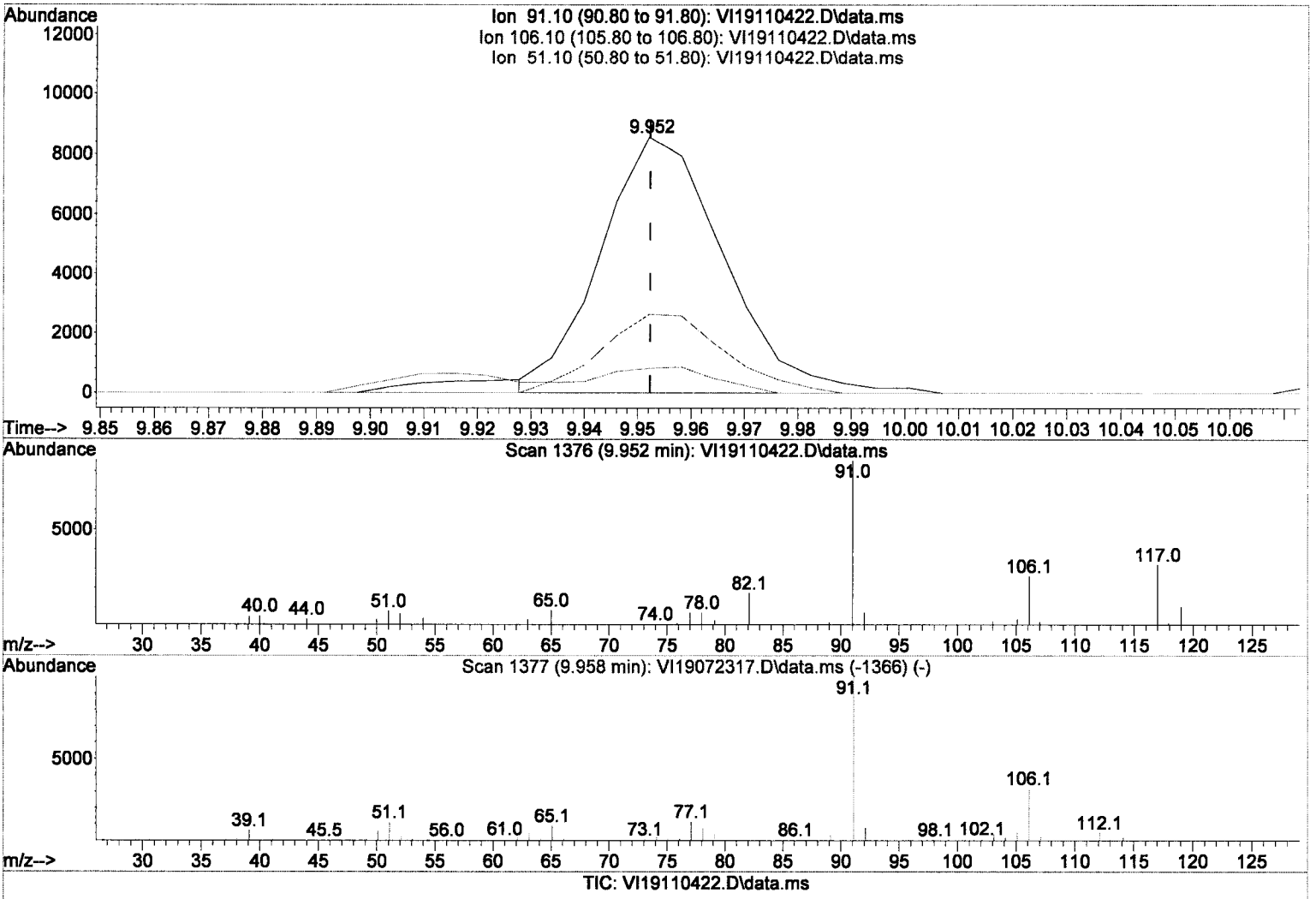
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	30.71
51.10	10.40	9.56
0.00	0.00	0.00

MC 11/5/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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



TIC: VI19110422.D\data.ms

(59) Ethylbenzene (C)

9.952min (-0.000) 1.61 ug/L m 11/5/19 tm

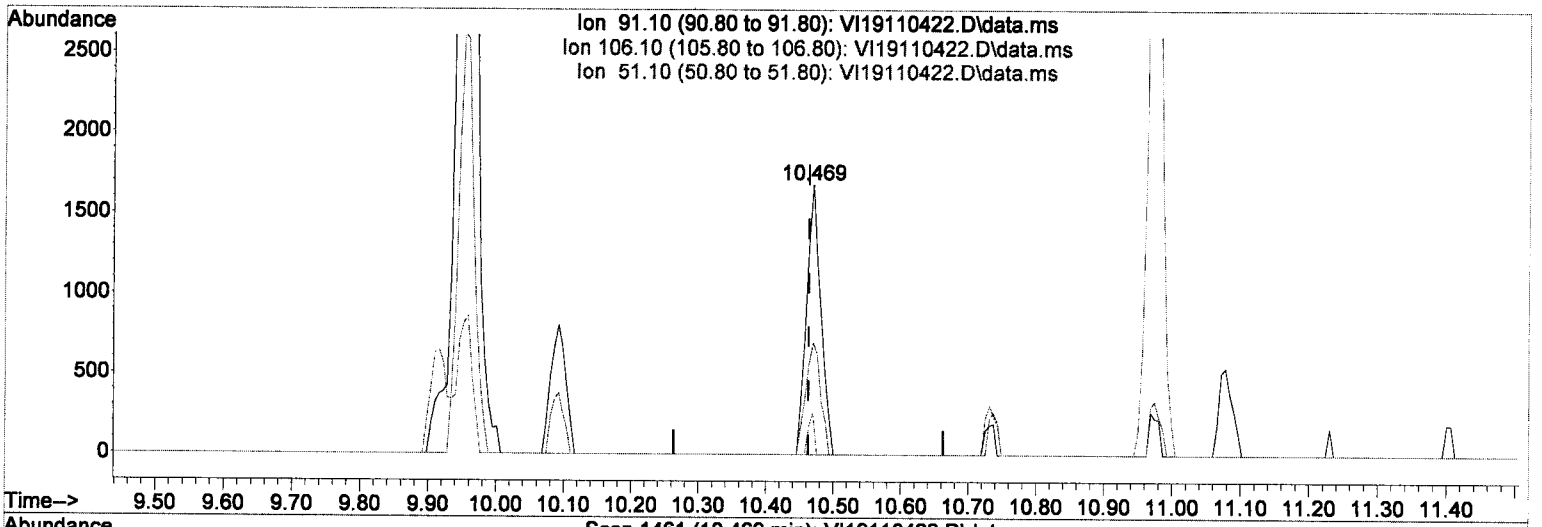
response 13744

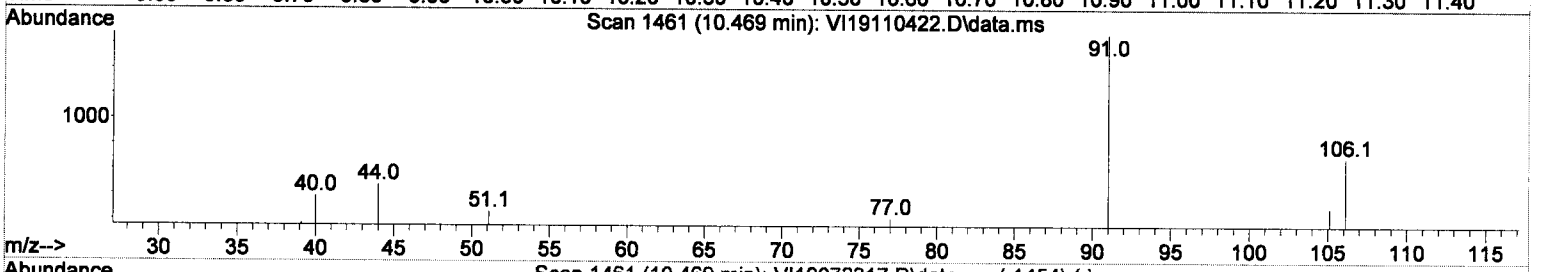
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	30.71
51.10	10.40	9.56
0.00	0.00	0.00

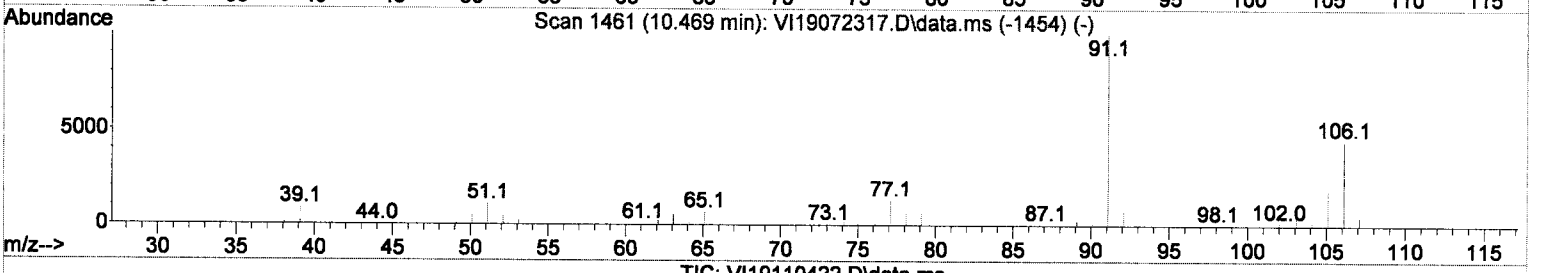
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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







TIC: VI19110422.D\data.ms

(62) o-Xylene

10.469min (+ 0.006) 0.39 ug/L

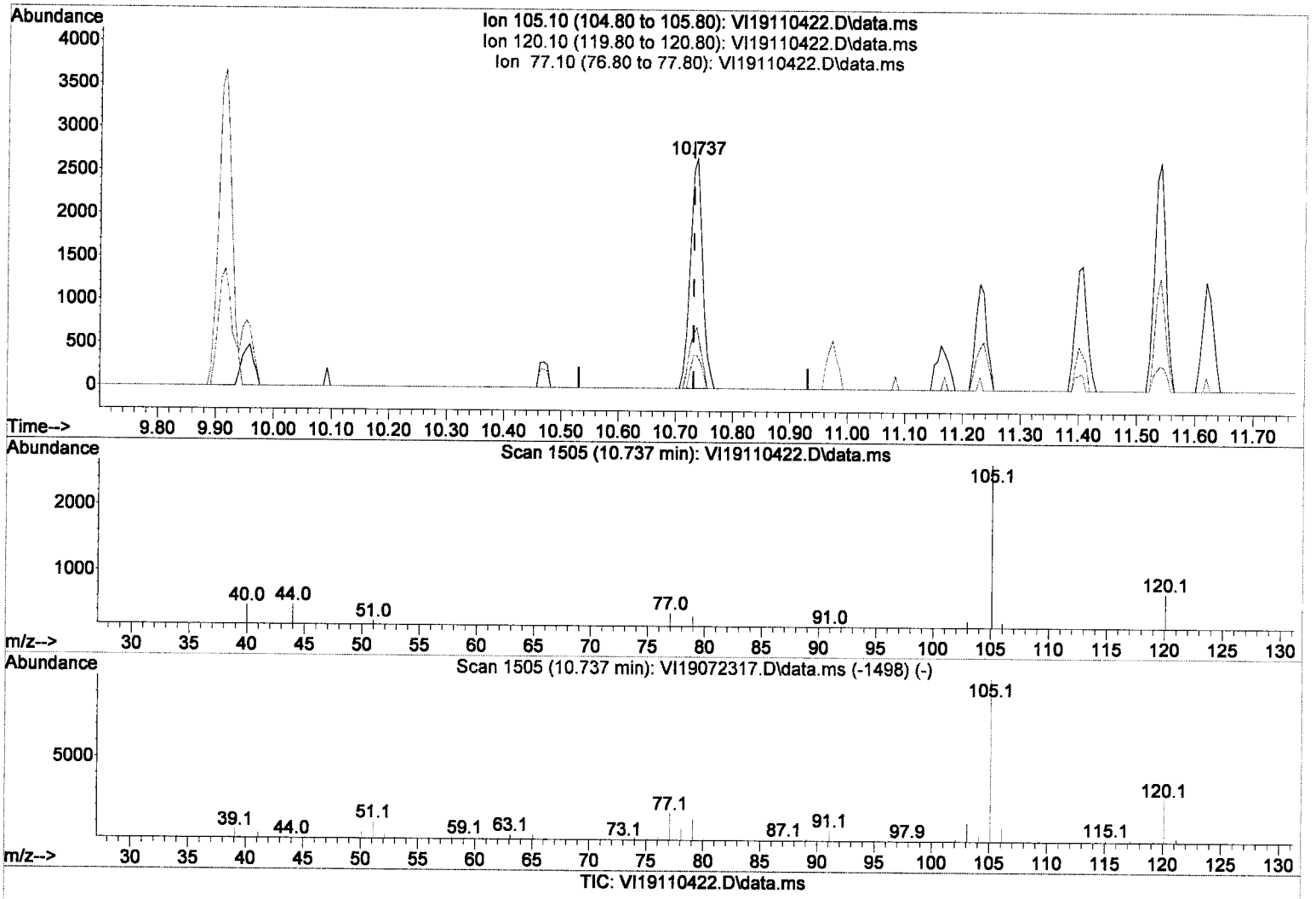
response 2457

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	41.44
51.10	10.20	15.46
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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



(65) Isopropylbenzene

10.737min (+ 0.006) 0.52 ug/L

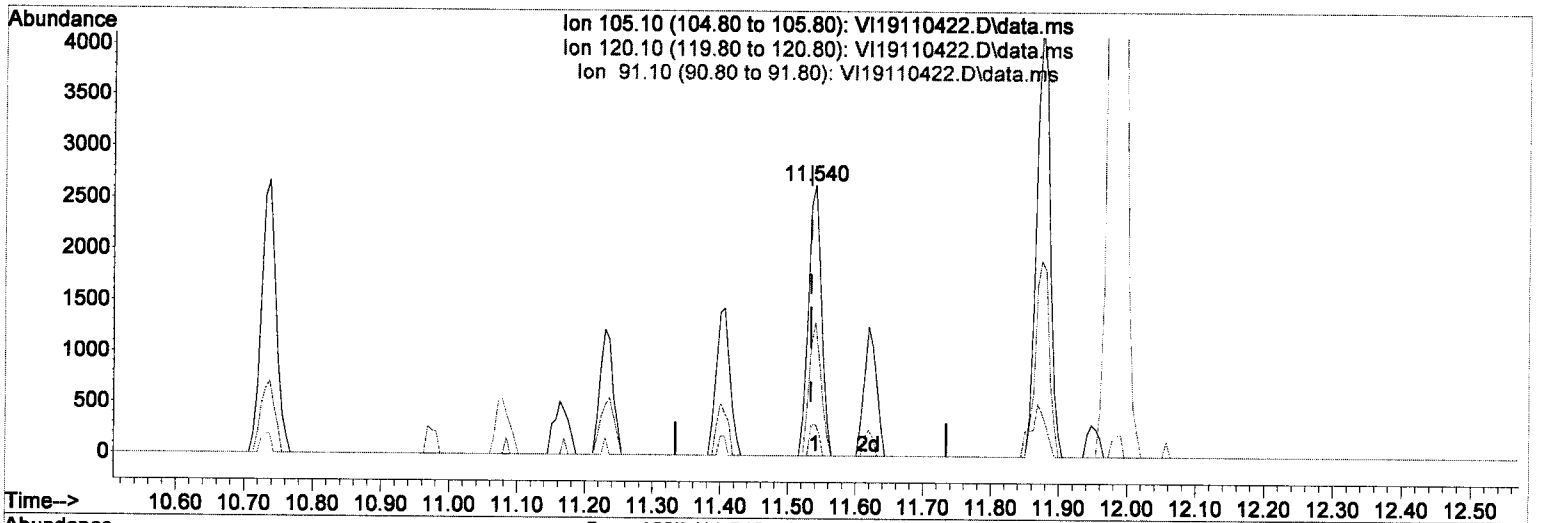
response 3981

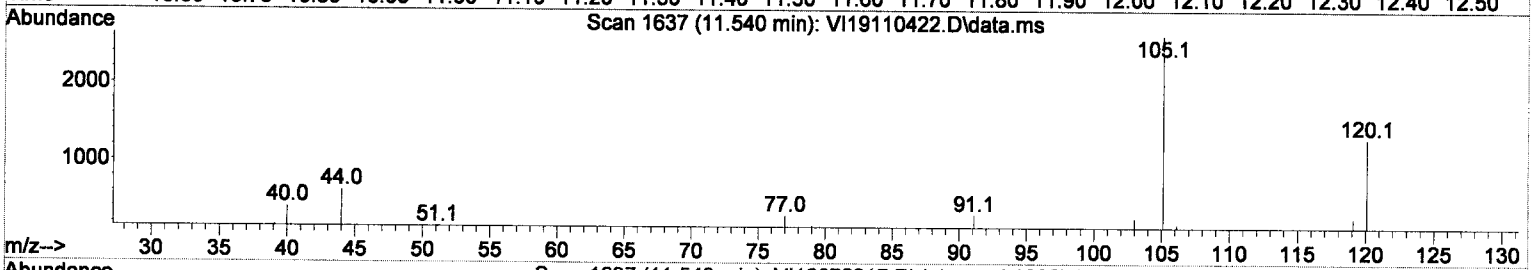
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	26.40	26.45
77.10	15.50	14.33
0.00	0.00	0.00

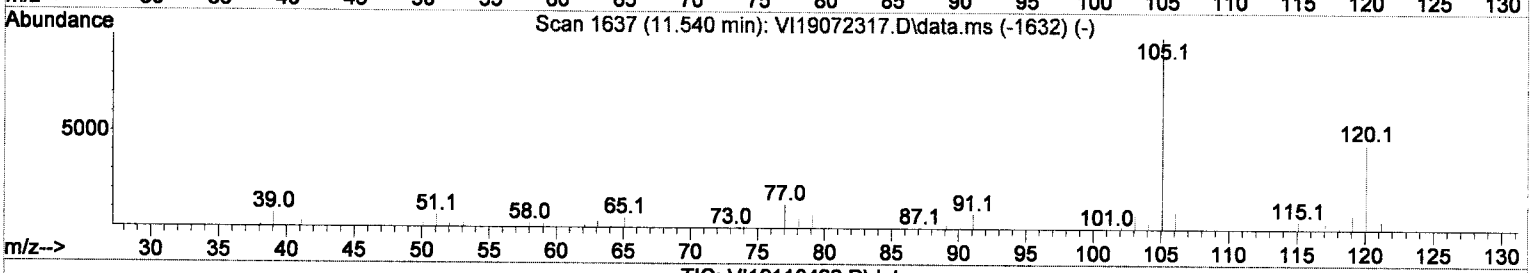
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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







TIC: VI19110422.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (+ 0.006) 0.61 ug/L

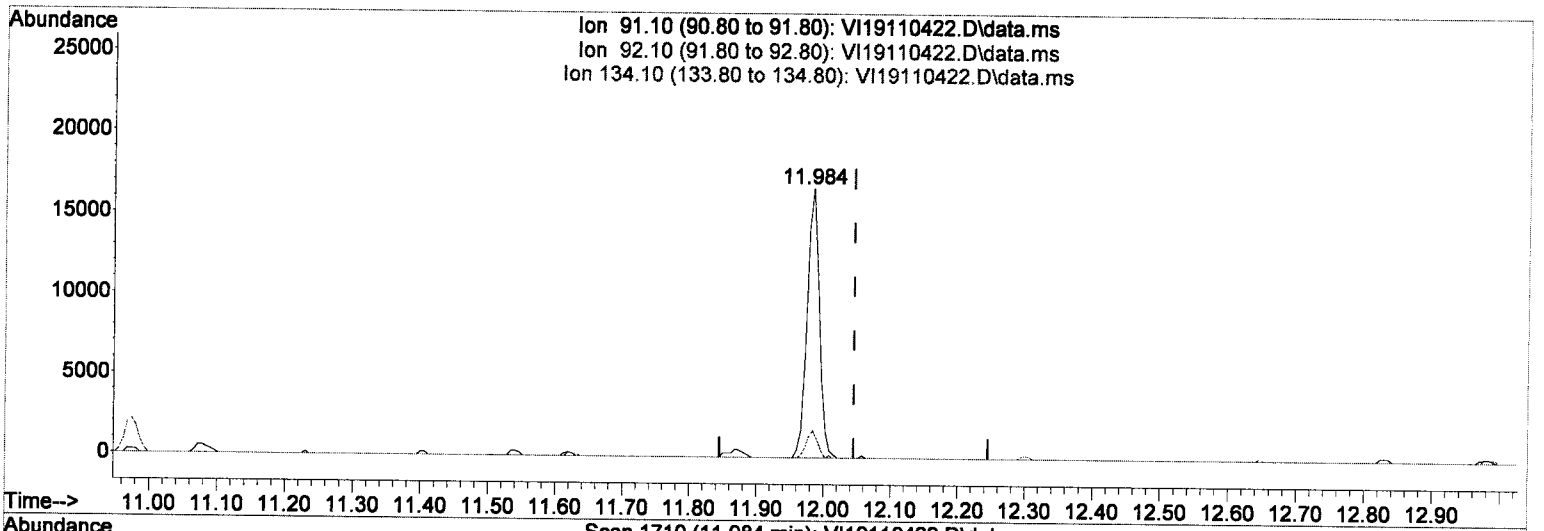
response 3585

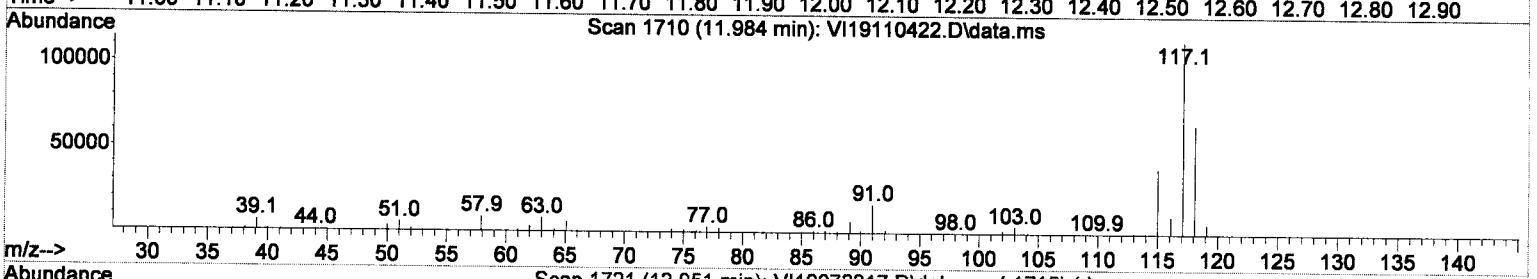
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	49.34
91.10	10.50	11.66
0.00	0.00	0.00

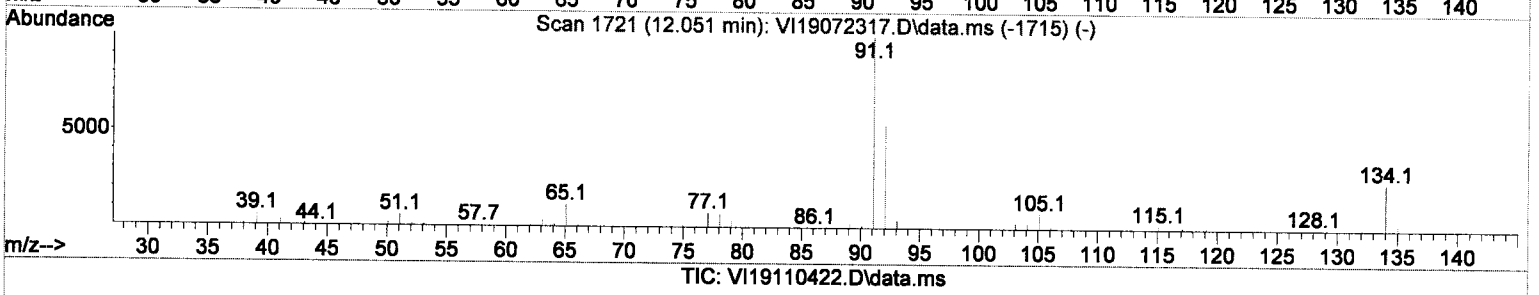
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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







TIC: VI19110422.D\data.ms

(82) n-Butylbenzene

11.984min (-0.061) 4.43 ug/L

response 21265

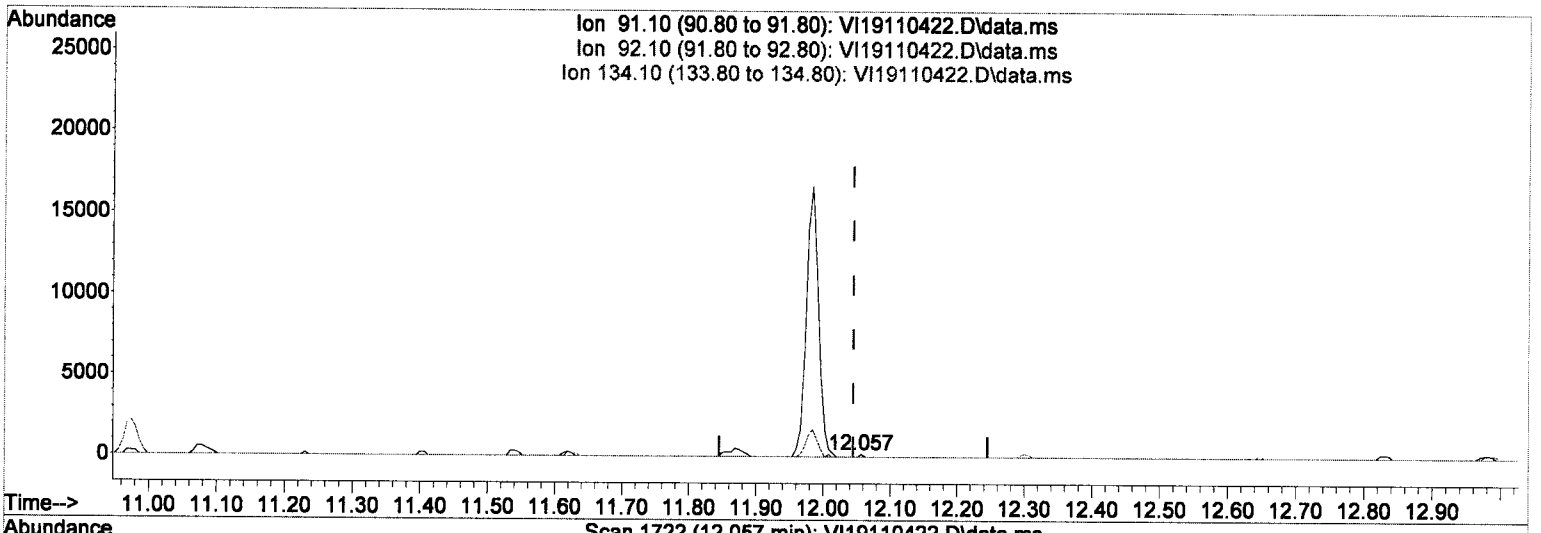
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	10.12#
134.10	28.20	0.00
0.00	0.00	0.00

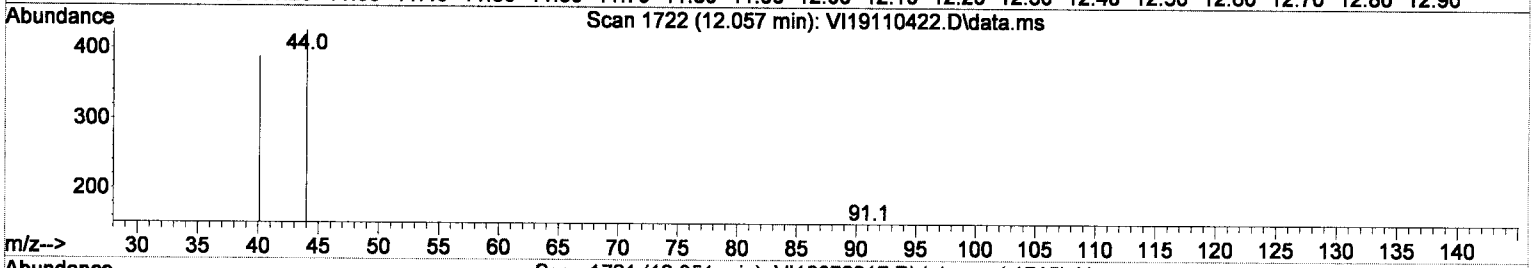
ME 11/5/19 JM

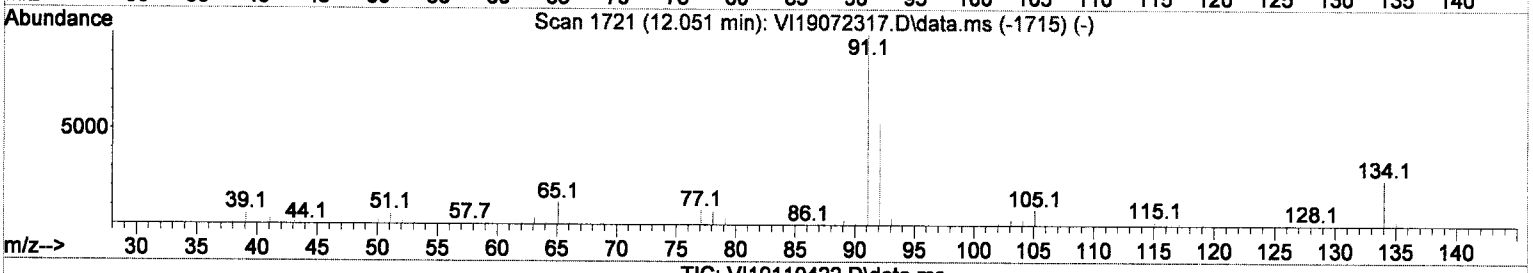
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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







TIC: VI19110422.D\data.ms

(82) n-Butylbenzene

12.057min (+ 0.012) 0.01 ug/L m

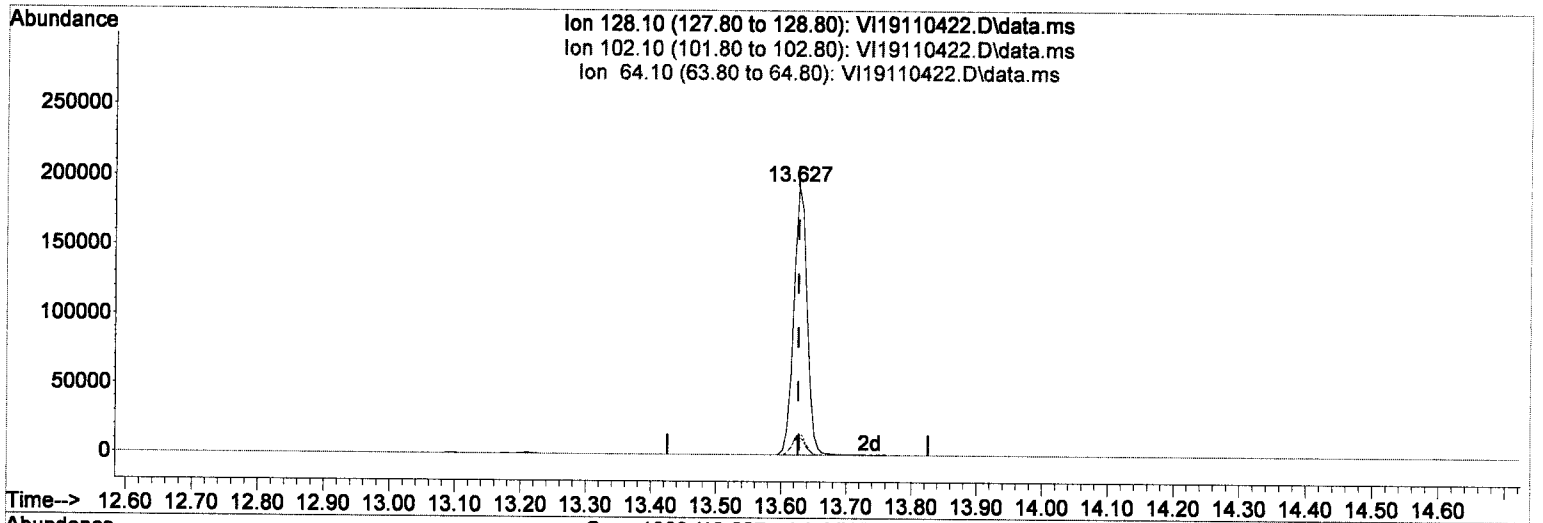
response 55

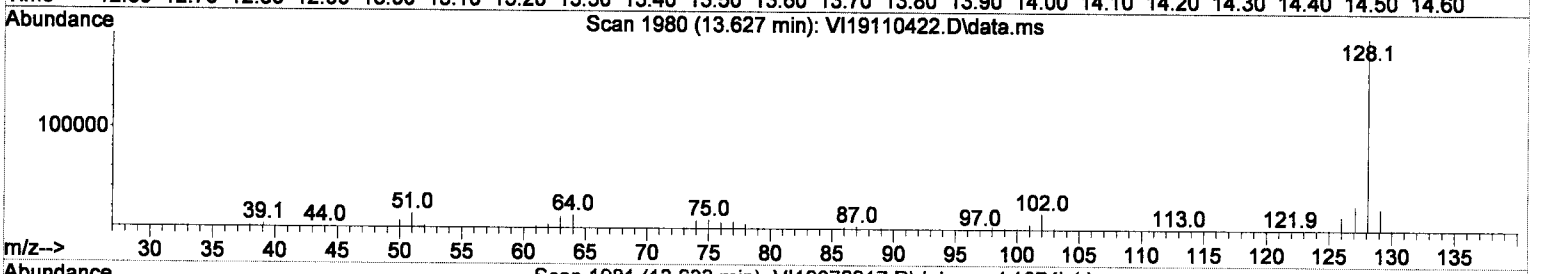
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	55.90	0.00#
134.10	28.20	0.00
0.00	0.00	0.00

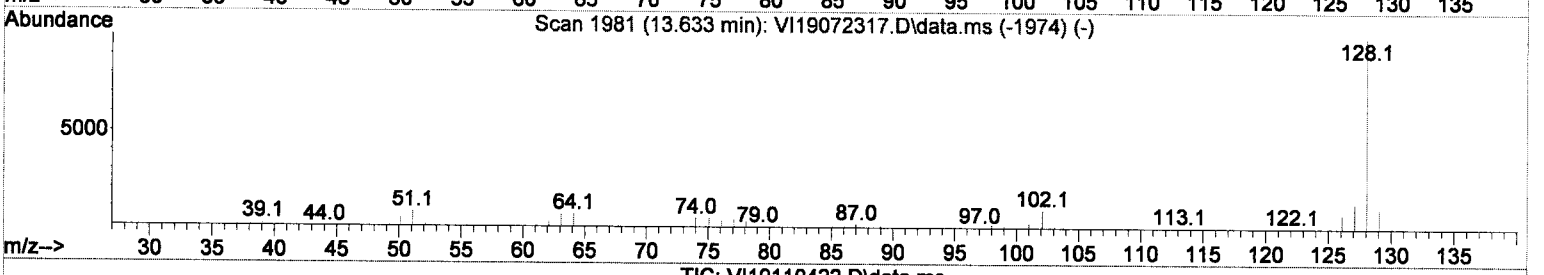
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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







TIC: VI19110422.D\data.ms

(87) Naphthalene

13.627min (+ 0.001) 45.20 ug/L

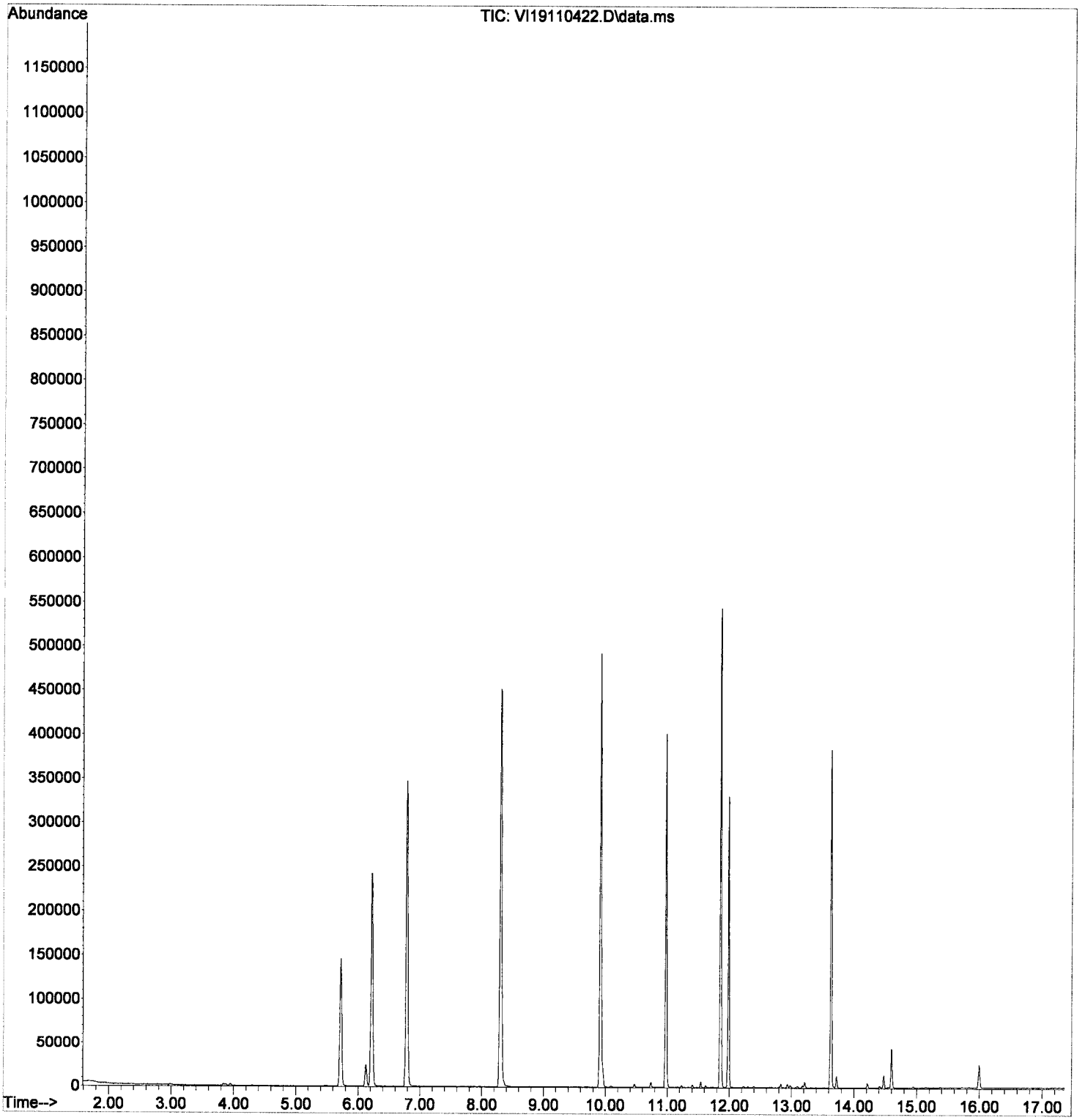
response 277358

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	8.05
64.10	4.70	6.59
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-11\9K04028\
Data File : VI19110422.D
Acq On : 4 Nov 2019 6:05 pm
Operator : tb
Sample : A9K0039-02RE1@10
Misc : 10X 5ml/50mL RR-01 8260C
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Nov 05 08:50:11 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



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.

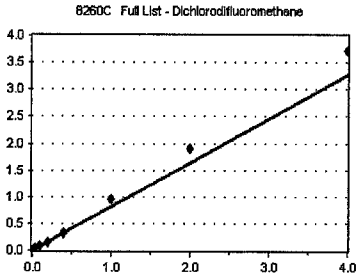
Element Calibration Review Sheet

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**

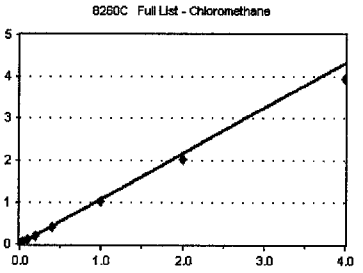


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	562	0.627	1.67
9J24043-CAL4	1	1583	0.682	1.68
9J24043-CAL5	2	3731	0.842	1.69
9J24043-CAL6	5	9010	0.812	1.68
9J24043-CAL7	10	18118	0.770	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**

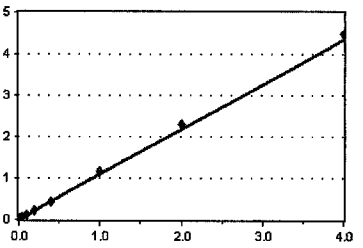


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~479~~	~~2.063~~	~~1.90~~
9J24043-CAL2	0.2	669	1.457	1.90
9J24043-CAL3	0.4	1136	1.268	1.89
9J24043-CAL4	1	2407	1.037	1.89
9J24043-CAL5	2	4743	1.070	1.90
9J24043-CAL6	5	11370	1.024	1.89
9J24043-CAL7	10	22449	0.954	1.90
9J24043-CAL8	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**

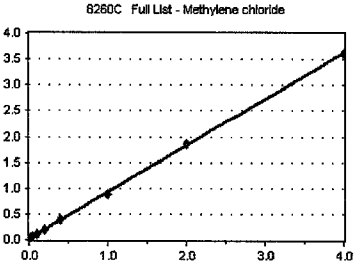


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	406	0.884	2.01
9J24043-CAL3	0.4	967	1.079	2.00
9J24043-CAL4	1	2351	1.013	2.00
9J24043-CAL5	2	5030	1.135	2.01
9J24043-CAL6	5	12653	1.140	2.00
9J24043-CAL7	10	25149	1.069	2.00
9J24043-CAL8	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**

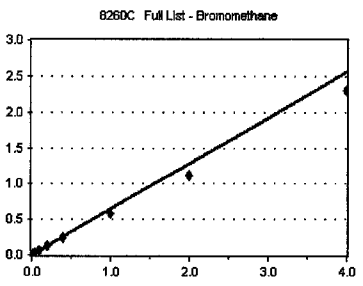
Element Calibration Review Sheet

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**

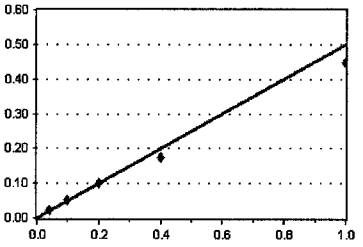


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~839~~	~~0.937~~	~~2.36~~
9J24043-CAL4	1	1763	0.760	2.36
9J24043-CAL5	2	3140	0.709	2.37
9J24043-CAL6	5	7782	0.701	2.36
9J24043-CAL7	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**

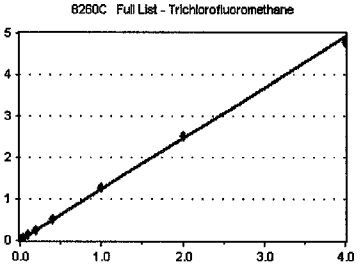


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL5	2	2540	0.573	2.52
9J24043-CAL6	5	5899	0.531	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**

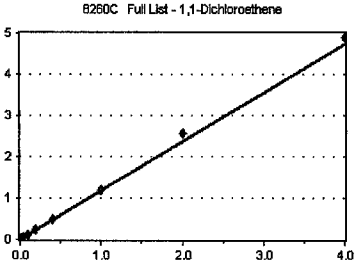


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	958	1.069	2.66
9J24043-CAL4	1	2784	1.200	2.66
9J24043-CAL5	2	5667	1.279	2.68
9J24043-CAL6	5	14236	1.282	2.66
9J24043-CAL7	10	29038	1.235	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**

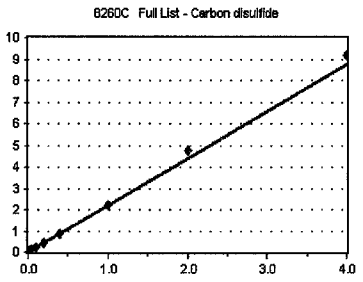
Element Calibration Review Sheet

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**

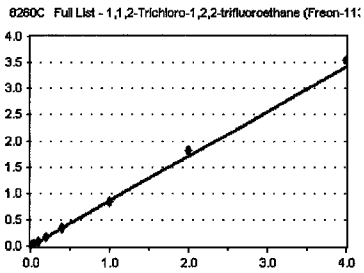


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	4573	1.970	3.25
9J24043-CAL5	2	9757	2.202	3.26
9J24043-CAL6	5	24060	2.167	3.25
9J24043-CAL7	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**

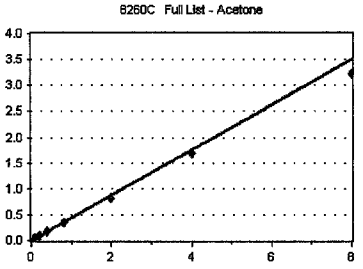


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	1717	0.740	3.29
9J24043-CAL5	2	3803	0.858	3.30
9J24043-CAL6	5	9544	0.860	3.29
9J24043-CAL7	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**

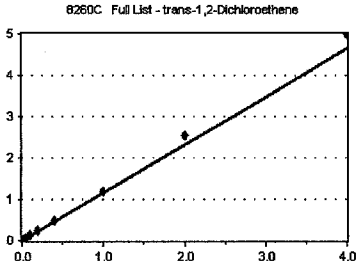


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.4~~	~~1168~~	~~1.272~~	~~3.95~~
~~9J24043-CAL3~~	~~0.8~~	~~1616~~	~~0.902~~	~~3.95~~
~~9J24043-CAL4~~	~~2~~	~~2940~~	~~0.633~~	~~3.95~~
9J24043-CAL5	4	4523	0.510	3.95
9J24043-CAL6	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**

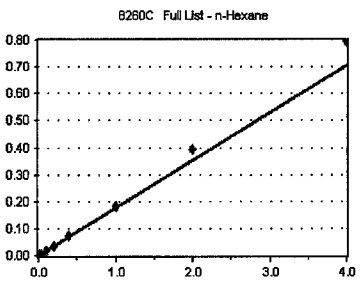
Element Calibration Review Sheet

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**

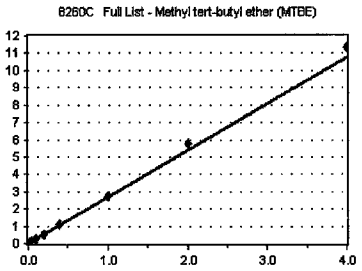


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	357	0.154	4.12
9J24043-CAL5	2	709	0.160	4.13
9J24043-CAL6	5	1836	0.165	4.12
9J24043-CAL7	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**

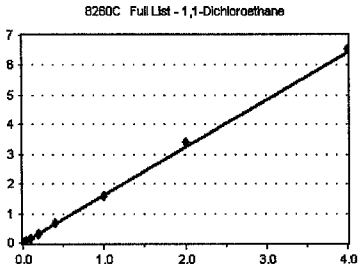


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	2309	2.577	4.17
9J24043-CAL4	1	5789	2.494	4.17
9J24043-CAL5	2	11957	2.698	4.17
9J24043-CAL6	5	29908	2.694	4.17
9J24043-CAL7	10	61557	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**

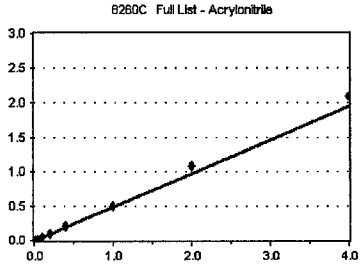


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1323	1.477	4.68
9J24043-CAL4	1	3672	1.582	4.68
9J24043-CAL5	2	7227	1.631	4.69
9J24043-CAL6	5	18307	1.649	4.68
9J24043-CAL7	10	36999	1.573	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**

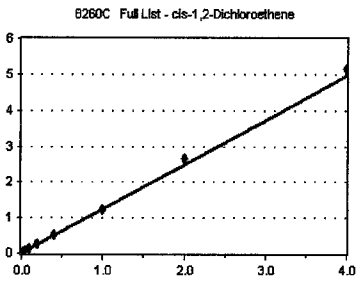
Element Calibration Review Sheet

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**

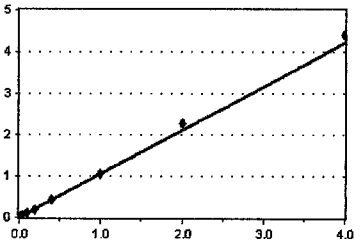


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1008	1.125	5.24
9J24043-CAL4	1	2744	1.182	5.24
9J24043-CAL5	2	5568	1.256	5.25
9J24043-CAL6	5	13959	1.257	5.24
9J24043-CAL7	10	28723	1.221	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**

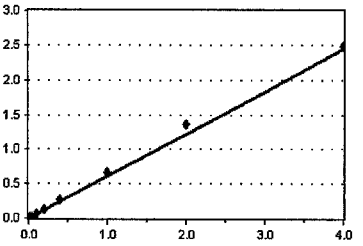


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	853	0.952	5.35
9J24043-CAL4	1	2316	0.998	5.35
9J24043-CAL5	2	4776	1.078	5.35
9J24043-CAL6	5	11793	1.062	5.35
9J24043-CAL7	10	23663	1.006	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**

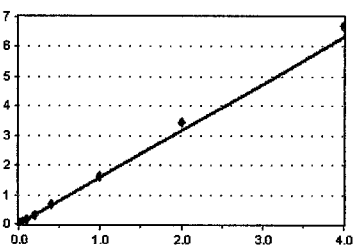


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	391	0.436	5.44
9J24043-CAL4	1	1188	0.512	5.45
9J24043-CAL5	2	2679	0.605	5.46
9J24043-CAL6	5	7172	0.646	5.44
9J24043-CAL7	10	14961	0.636	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**

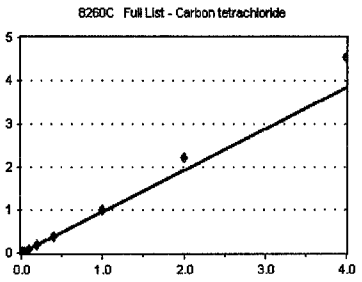
Element Calibration Review Sheet

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**

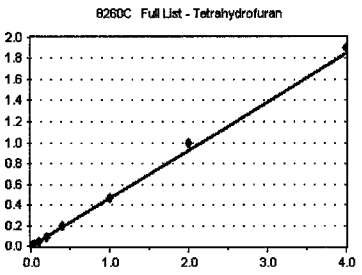


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~618~~	~~0.690~~	~~5.65~~
9J24043-CAL4	1	1791	0.772	5.66
9J24043-CAL5	2	4001	0.903	5.66
9J24043-CAL6	5	9957	0.897	5.66
9J24043-CAL7	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**

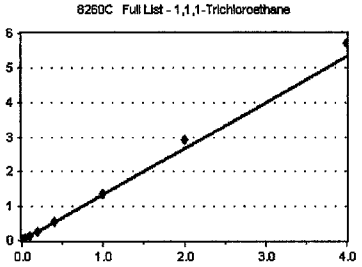


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	945	0.407	5.71
9J24043-CAL5	2	2045	0.461	5.71
9J24043-CAL6	5	5112	0.460	5.71
9J24043-CAL7	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**

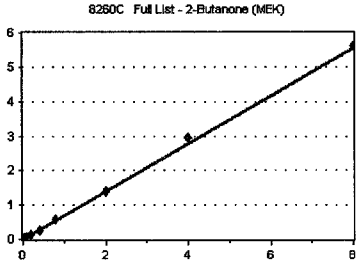


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1012	1.130	5.73
9J24043-CAL4	1	2903	1.251	5.73
9J24043-CAL5	2	5937	1.340	5.74
9J24043-CAL6	5	14957	1.347	5.73
9J24043-CAL7	10	30210	1.284	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**

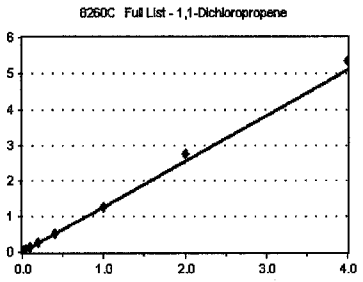
Element Calibration Review Sheet

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**

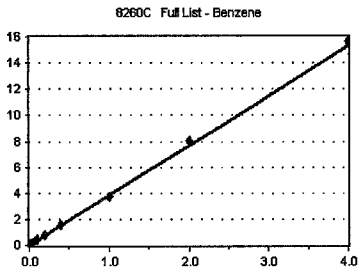


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1049	1.171	5.87
9J24043-CAL4	1	2749	1.184	5.86
9J24043-CAL5	2	5724	1.292	5.87
9J24043-CAL6	5	14423	1.299	5.86
9J24043-CAL7	10	29295	1.245	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**

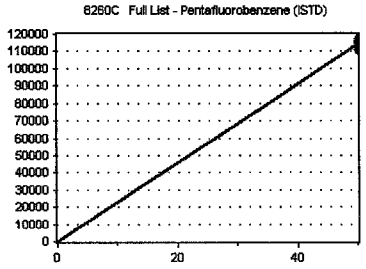


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	917	3.949	6.13
9J24043-CAL2	0.2	1584	3.450	6.13
9J24043-CAL3	0.4	3381	3.774	6.12
9J24043-CAL4	1	8314	3.582	6.13
9J24043-CAL5	2	17935	4.047	6.13
9J24043-CAL6	5	43404	3.910	6.12
9J24043-CAL7	10	87359	3.714	6.12
9J24043-CAL8	20	175817	3.910	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**

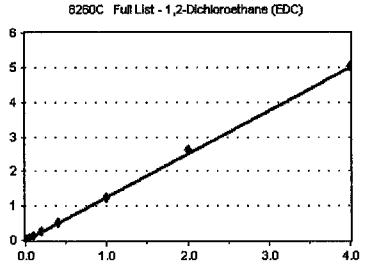


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116102	2322.040	6.22
9J24043-CAL2	50	114788	2295.760	6.22
9J24043-CAL3	50	111985	2239.700	6.21
9J24043-CAL4	50	116043	2320.860	6.21
9J24043-CAL5	50	110790	2215.800	6.22
9J24043-CAL6	50	111010	2220.200	6.21
9J24043-CAL7	50	117608	2352.160	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**

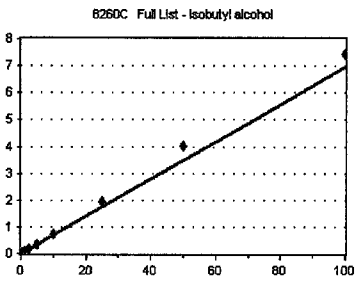
Element Calibration Review Sheet

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**

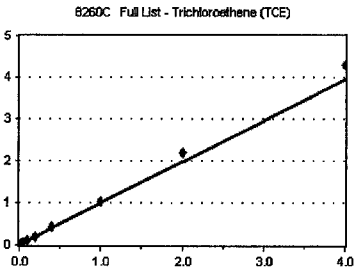


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~2.5~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~5~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	10	1172	5.233	6.39
9J24043-CAL4	25	3120	5.377	6.38
9J24043-CAL5	50	7968	7.192	6.38
9J24043-CAL6	125	20710	7.462	6.38
9J24043-CAL7	250	39286	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**

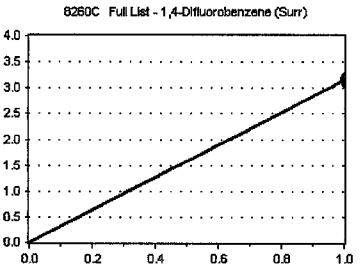


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	372	0.810	6.75
9J24043-CAL3	0.4	718	0.801	6.75
9J24043-CAL4	1	2166	0.933	6.74
9J24043-CAL5	2	4576	1.033	6.75
9J24043-CAL6	5	11340	1.022	6.74
9J24043-CAL7	10	23449	0.997	6.74
9J24043-CAL8	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**

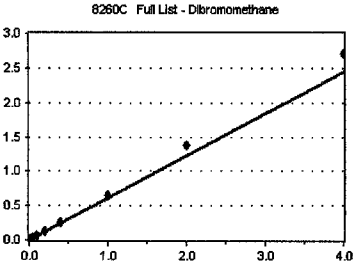


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	364447	3.139	6.78
9J24043-CAL2	50	359462	3.132	6.78
9J24043-CAL3	50	352302	3.146	6.78
9J24043-CAL4	50	366642	3.160	6.78
9J24043-CAL5	50	347212	3.134	6.78
9J24043-CAL6	50	353918	3.188	6.78
9J24043-CAL7	50	367409	3.124	6.78
9J24043-CAL8	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**

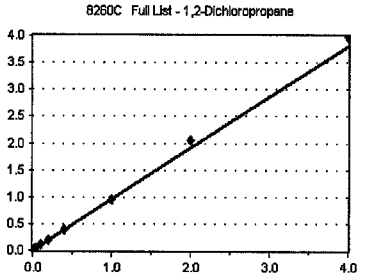
Element Calibration Review Sheet

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**

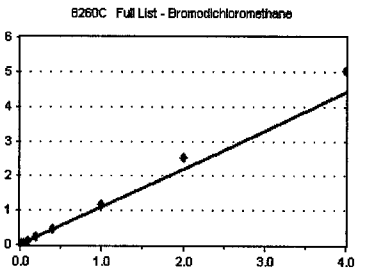


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	797	0.890	7.31
9J24043-CAL4	1	1944	0.838	7.31
9J24043-CAL5	2	4373	0.987	7.31
9J24043-CAL6	5	10897	0.982	7.31
9J24043-CAL7	10	21915	0.932	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**

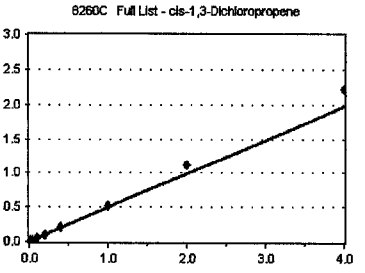


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	800	0.893	7.38
9J24043-CAL4	1	2259	0.973	7.38
9J24043-CAL5	2	4681	1.056	7.39
9J24043-CAL6	5	12021	1.083	7.38
9J24043-CAL7	10	25055	1.065	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**

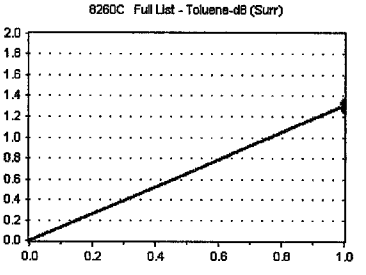


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	1014	0.431	8.09
9J24043-CAL4	1	2667	0.429	8.09
9J24043-CAL5	2	5578	0.468	8.09
9J24043-CAL6	5	14229	0.474	8.09
9J24043-CAL7	10	30482	0.487	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**

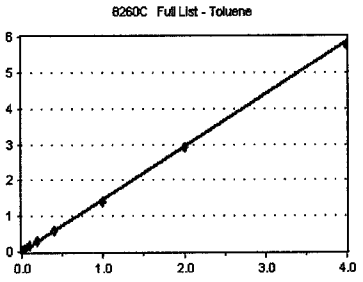
Element Calibration Review Sheet

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**

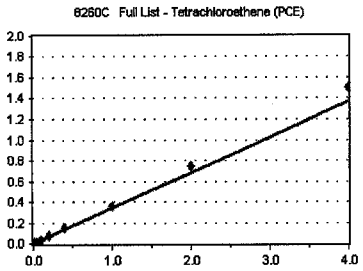


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	978	1.590	8.36
9J24043-CAL2	0.2	1744	1.439	8.35
9J24043-CAL3	0.4	3505	1.488	8.36
9J24043-CAL4	1	9040	1.454	8.35
9J24043-CAL5	2	17851	1.499	8.36
9J24043-CAL6	5	44272	1.474	8.36
9J24043-CAL7	10	90400	1.445	8.36
9J24043-CAL8	20	183309	1.492	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**

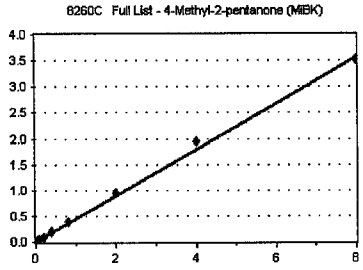


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	267	0.220	8.81
9J24043-CAL3	0.4	787	0.334	8.80
9J24043-CAL4	1	1994	0.321	8.80
9J24043-CAL5	2	4333	0.364	8.80
9J24043-CAL6	5	10847	0.361	8.80
9J24043-CAL7	10	22099	0.353	8.80
9J24043-CAL8	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**

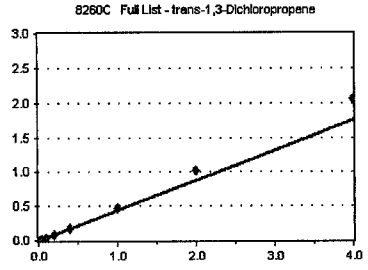


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.4	890	0.367	8.80
9J24043-CAL3	0.8	1912	0.406	8.81
9J24043-CAL4	2	5042	0.406	8.80
9J24043-CAL5	4	11029	0.463	8.81
9J24043-CAL6	10	28183	0.469	8.80
9J24043-CAL7	20	58009	0.464	8.80
9J24043-CAL8	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**

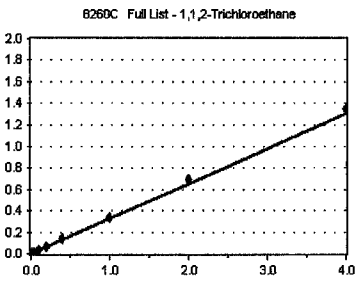
Element Calibration Review Sheet

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**

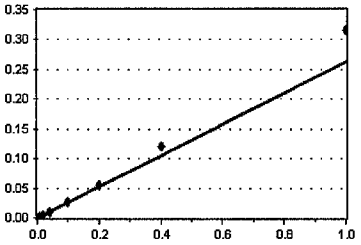


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	288	0.238	9.01
9J24043-CAL3	0.4	717	0.304	9.00
9J24043-CAL4	1	1944	0.313	9.00
9J24043-CAL5	2	4134	0.347	9.00
9J24043-CAL6	5	10336	0.344	9.00
9J24043-CAL7	10	21402	0.342	9.01
9J24043-CAL8	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**

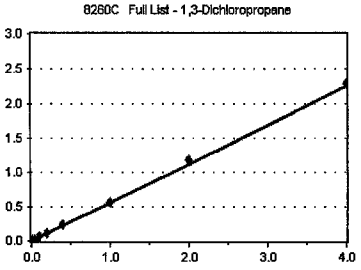


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	505	0.214	9.19
9J24043-CAL4	1	1349	0.217	9.19
9J24043-CAL5	2	3038	0.255	9.19
9J24043-CAL6	5	8016	0.267	9.19
9J24043-CAL7	10	17208	0.275	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**

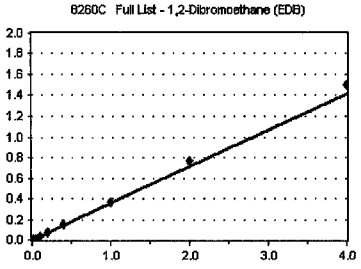


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	568	0.469	9.29
9J24043-CAL3	0.4	1253	0.532	9.29
9J24043-CAL4	1	3361	0.541	9.29
9J24043-CAL5	2	6889	0.578	9.29
9J24043-CAL6	5	17551	0.584	9.29
9J24043-CAL7	10	36354	0.581	9.29
9J24043-CAL8	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**

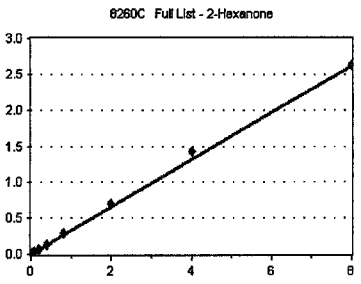
Element Calibration Review Sheet

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**

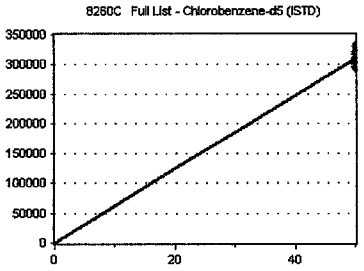


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.8	1346	0.286	9.66
9J24043-CAL4	2	3526	0.284	9.66
9J24043-CAL5	4	7610	0.319	9.66
9J24043-CAL6	10	19724	0.328	9.65
9J24043-CAL7	20	41881	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**

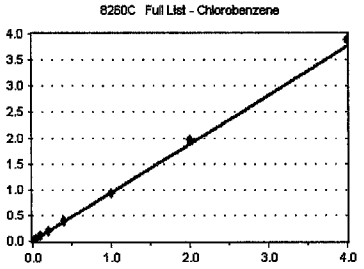


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	307577	6151.540	9.91
9J24043-CAL2	50	302974	6059.480	9.92
9J24043-CAL3	50	294372	5887.440	9.91
9J24043-CAL4	50	310797	6215.940	9.91
9J24043-CAL5	50	297754	5955.080	9.92
9J24043-CAL6	50	300317	6006.340	9.91
9J24043-CAL7	50	312833	6256.660	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**

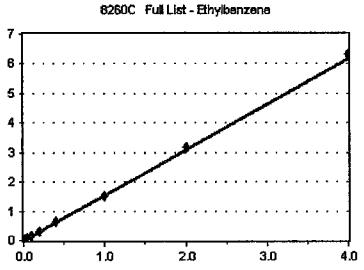


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	480	0.780	9.93
9J24043-CAL2	0.2	1045	0.862	9.93
9J24043-CAL3	0.4	2226	0.945	9.93
9J24043-CAL4	1	5770	0.928	9.93
9J24043-CAL5	2	11701	0.982	9.93
9J24043-CAL6	5	29555	0.984	9.93
9J24043-CAL7	10	60359	0.965	9.93
9J24043-CAL8	20	120984	0.985	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**

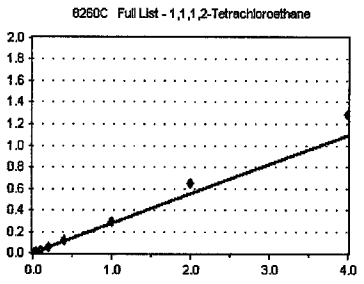
Element Calibration Review Sheet

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**

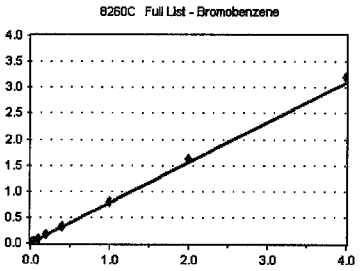


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~129~~	~~0.106~~	~~0.00~~
9J24043-CAL3	0.4	470	0.200	9.99
9J24043-CAL4	1	1476	0.237	9.99
9J24043-CAL5	2	2985	0.251	9.99
9J24043-CAL6	5	7981	0.266	9.99
9J24043-CAL7	10	16995	0.272	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**

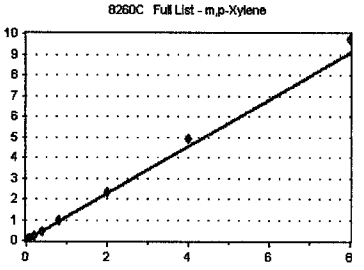


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	124	0.444	0.00
9J24043-CAL2	0.2	432	0.800	11.06
9J24043-CAL3	0.4	875	0.813	11.06
9J24043-CAL4	1	2220	0.771	11.06
9J24043-CAL5	2	4634	0.830	11.06
9J24043-CAL6	5	11623	0.819	11.06
9J24043-CAL7	10	24222	0.812	11.06
9J24043-CAL8	20	50013	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**

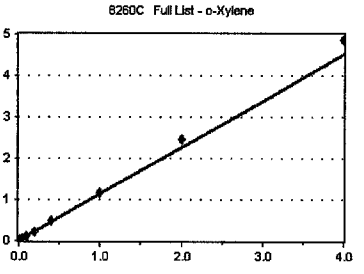


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.2	1368	1.112	10.09
9J24043-CAL2	0.4	2470	1.019	10.09
9J24043-CAL3	0.8	5197	1.103	10.09
9J24043-CAL4	2	12789	1.029	10.09
9J24043-CAL5	4	27092	1.137	10.09
9J24043-CAL6	10	68847	1.146	10.09
9J24043-CAL7	20	142004	1.135	10.09
9J24043-CAL8	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**

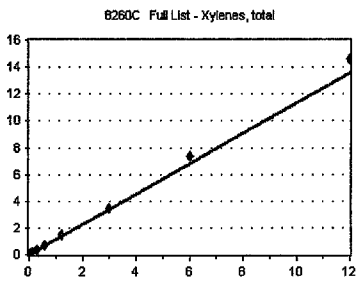
Element Calibration Review Sheet

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**

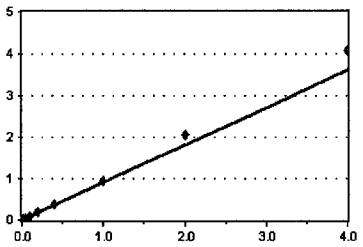


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.3	1953	1.058	10.47
9J24043-CAL2	0.6	3691	1.015	10.47
9J24043-CAL3	1.2	7802	1.104	10.47
9J24043-CAL4	3	19419	1.041	10.46
9J24043-CAL5	6	40697	1.139	10.47
9J24043-CAL6	15	103303	1.147	10.46
9J24043-CAL7	30	213421	1.137	10.46
9J24043-CAL8	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**

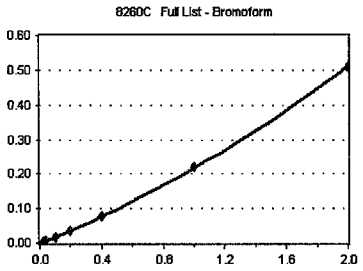


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~754~~	~~0.622~~	~~10.52~~
9J24043-CAL3	0.4	1656	0.703	10.52
9J24043-CAL4	1	4878	0.785	10.52
9J24043-CAL5	2	10363	0.870	10.52
9J24043-CAL6	5	26739	0.890	10.51
9J24043-CAL7	10	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**

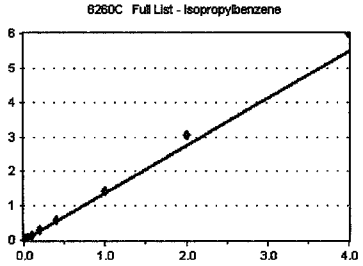


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	795	0.128	10.54
9J24043-CAL5	2	1771	0.149	10.54
9J24043-CAL6	5	4690	0.156	10.54
9J24043-CAL7	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**

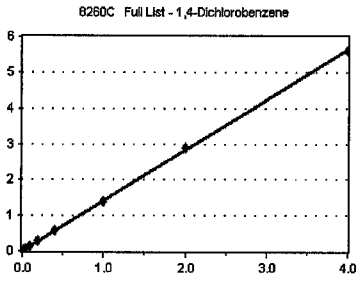
Element Calibration Review Sheet

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**

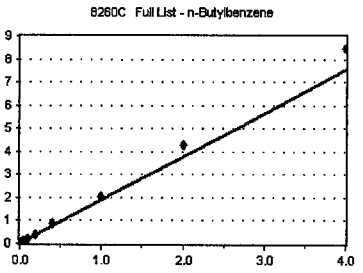


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	311	1.113	0.00
9J24043-CAL2	0.2	725	1.342	11.86
9J24043-CAL3	0.4	1564	1.454	11.86
9J24043-CAL4	1	4177	1.451	11.86
9J24043-CAL5	2	8550	1.531	11.86
9J24043-CAL6	5	20421	1.440	11.86
9J24043-CAL7	10	42771	1.433	11.86
9J24043-CAL8	20	89594	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**

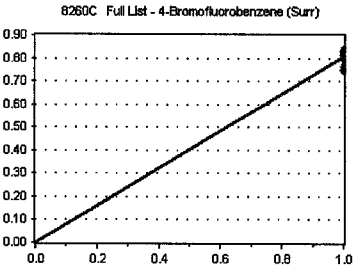


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	379	1.357	0.00
9J24043-CAL2	0.2	805	1.491	12.05
9J24043-CAL3	0.4	1867	1.735	12.05
9J24043-CAL4	1	4997	1.735	12.05
9J24043-CAL5	2	10626	1.903	12.05
9J24043-CAL6	5	28526	2.011	12.05
9J24043-CAL7	10	59515	1.994	12.05
9J24043-CAL8	20	130970	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**

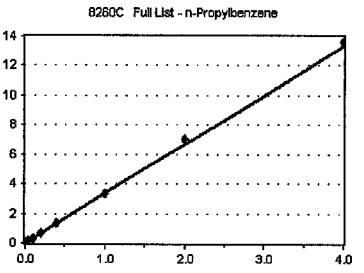


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116090	0.831	10.97
9J24043-CAL2	50	113180	0.838	10.97
9J24043-CAL3	50	112304	0.835	10.97
9J24043-CAL4	50	118563	0.823	10.97
9J24043-CAL5	50	115163	0.825	10.97
9J24043-CAL6	50	115652	0.815	10.97
9J24043-CAL7	50	121121	0.812	10.97
9J24043-CAL8	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**

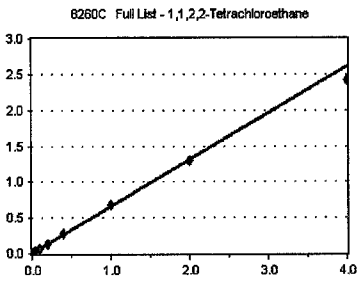
Element Calibration Review Sheet

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**

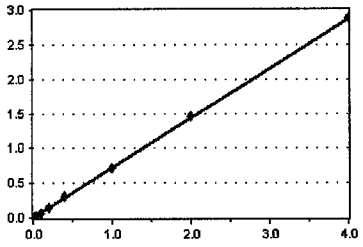


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	305	0.565	11.14
9J24043-CAL3	0.4	671	0.624	11.14
9J24043-CAL4	1	1876	0.651	11.14
9J24043-CAL5	2	4008	0.718	11.14
9J24043-CAL6	5	9843	0.694	11.14
9J24043-CAL7	10	20098	0.673	11.14
9J24043-CAL8	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**

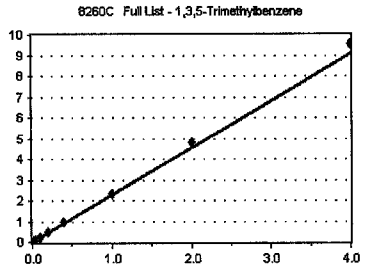


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.4	719	0.668	11.21
9J24043-CAL4	1	1910	0.663	11.21
9J24043-CAL5	2	4172	0.747	11.21
9J24043-CAL6	5	10150	0.716	11.21
9J24043-CAL7	10	21625	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**

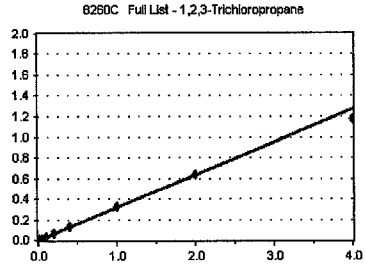


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	556	1.990	11.23
9J24043-CAL2	0.2	1127	2.087	11.23
9J24043-CAL3	0.4	2289	2.127	11.23
9J24043-CAL4	1	6197	2.152	11.23
9J24043-CAL5	2	13089	2.344	11.23
9J24043-CAL6	5	33314	2.349	11.23
9J24043-CAL7	10	69892	2.342	11.23
9J24043-CAL8	20	148694	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**

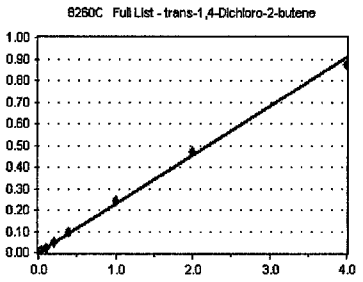
Element Calibration Review Sheet

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**

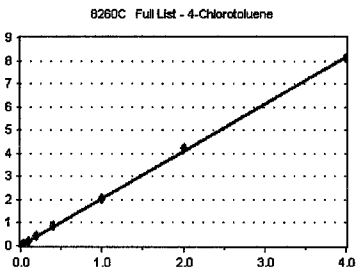


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	531	0.184	11.29
9J24043-CAL5	2	1313	0.235	11.28
9J24043-CAL6	5	3293	0.232	11.28
9J24043-CAL7	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**

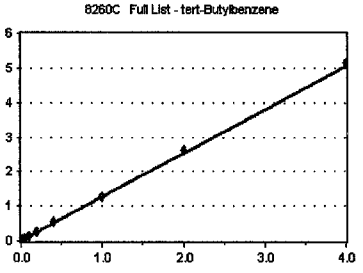


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	1020	1.889	11.34
9J24043-CAL3	0.4	2178	2.024	11.34
9J24043-CAL4	1	5461	1.896	11.34
9J24043-CAL5	2	11718	2.099	11.34
9J24043-CAL6	5	30239	2.132	11.34
9J24043-CAL7	10	61742	2.069	11.34
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**

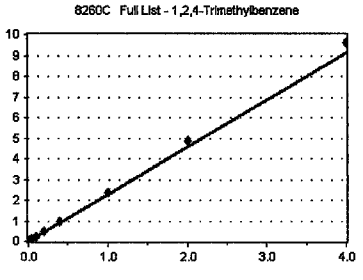


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	602	1.115	11.49
9J24043-CAL3	0.4	1248	1.160	11.49
9J24043-CAL4	1	3551	1.233	11.49
9J24043-CAL5	2	7395	1.324	11.49
9J24043-CAL6	5	18808	1.326	11.48
9J24043-CAL7	10	38411	1.287	11.48
9J24043-CAL8	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**

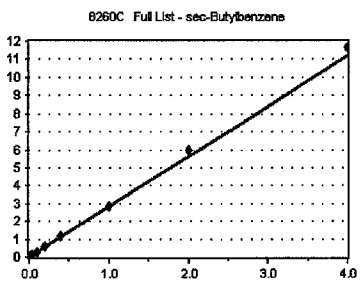
Element Calibration Review Sheet

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**

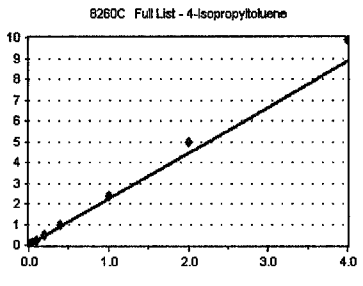


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	1301	2.409	11.62
9J24043-CAL3	0.4	2990	2.779	11.62
9J24043-CAL4	1	7450	2.587	11.62
9J24043-CAL5	2	15756	2.822	11.62
9J24043-CAL6	5	40240	2.837	11.62
9J24043-CAL7	10	83977	2.814	11.62
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**

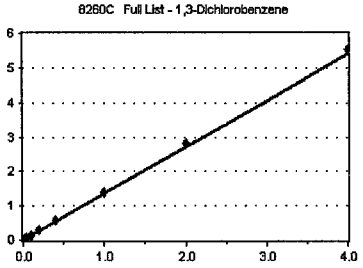


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	0.1	481	1.722	11.73
9J24043-CAL2	0.2	919	1.702	11.72
9J24043-CAL3	0.4	2236	2.078	11.73
9J24043-CAL4	1	6086	2.114	11.73
9J24043-CAL5	2	12523	2.243	11.73
9J24043-CAL6	5	33176	2.339	11.73
9J24043-CAL7	10	68628	2.300	11.73
9J24043-CAL8	20	151382	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**

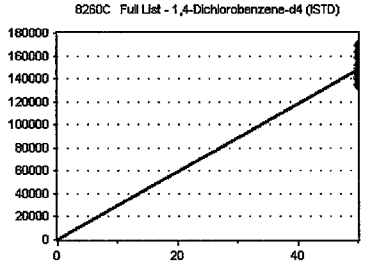


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	629	1.165	11.80
9J24043-CAL3	0.4	1412	1.312	11.80
9J24043-CAL4	1	3650	1.268	11.80
9J24043-CAL5	2	7718	1.382	11.80
9J24043-CAL6	5	19712	1.390	11.80
9J24043-CAL7	10	41299	1.384	11.80
9J24043-CAL8	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**

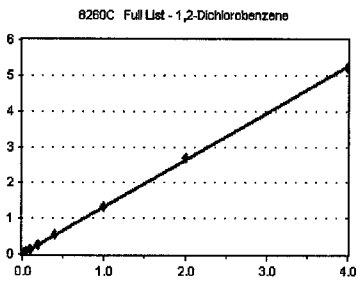
Element Calibration Review Sheet

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**

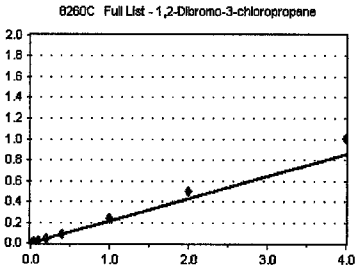


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL2	0.2	624	1.155	12.19
9J24043-CAL3	0.4	1284	1.193	12.19
9J24043-CAL4	1	3650	1.268	12.19
9J24043-CAL5	2	7854	1.407	12.19
9J24043-CAL6	5	19460	1.372	12.19
9J24043-CAL7	10	40125	1.345	12.18
9J24043-CAL8	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**

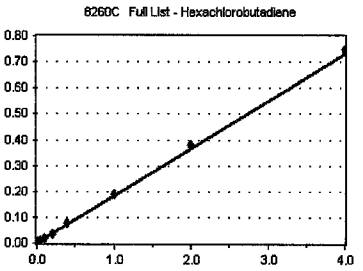


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL4~~	1	447	0.155	12.80
9J24043-CAL5	2	1006	0.180	12.80
9J24043-CAL6	5	2728	0.192	12.80
9J24043-CAL7	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**

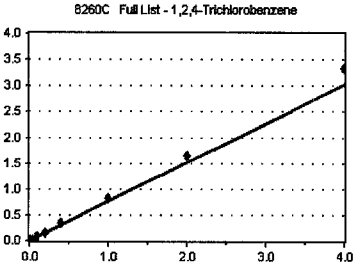


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	443	0.154	13.31
9J24043-CAL5	2	963	0.172	13.30
9J24043-CAL6	5	2715	0.191	13.30
9J24043-CAL7	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**

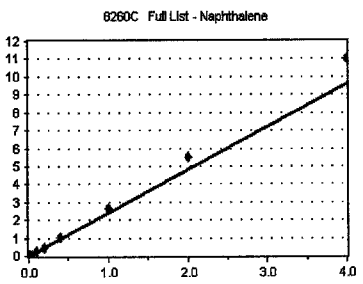
Element Calibration Review Sheet

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**

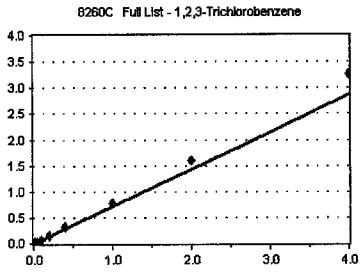


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~924~~	~~1.711~~	~~13.63~~
9J24043-CAL3	0.4	2009	1.867	13.63
9J24043-CAL4	1	5345	1.856	13.63
9J24043-CAL5	2	12724	2.279	13.63
9J24043-CAL6	5	32892	2.319	13.63
9J24043-CAL7	10	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**

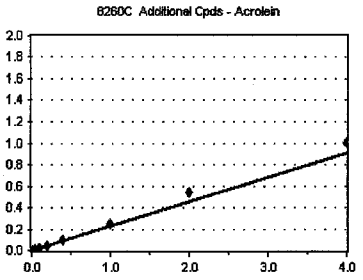
Element Calibration Review Sheet

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**

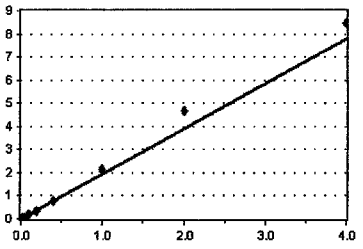


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	420	0.181	3.63
9J24043-CAL5	2	927	0.209	3.63
9J24043-CAL6	5	2465	0.222	3.62
9J24043-CAL7	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**

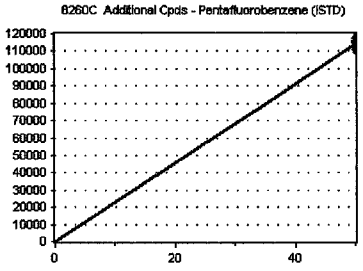


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL4	1	3620	1.560	4.96
9J24043-CAL5	2	7854	1.772	4.96
9J24043-CAL6	5	20467	1.844	4.96
9J24043-CAL7	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**

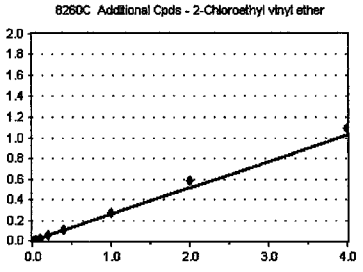


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116102	2322.040	6.22
9J24043-CAL2	50	114788	2295.760	6.22
9J24043-CAL3	50	111985	2239.700	6.21
9J24043-CAL4	50	116043	2320.860	6.21
9J24043-CAL5	50	110790	2215.800	6.22
9J24043-CAL6	50	111010	2220.200	6.21
9J24043-CAL7	50	117608	2352.160	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**

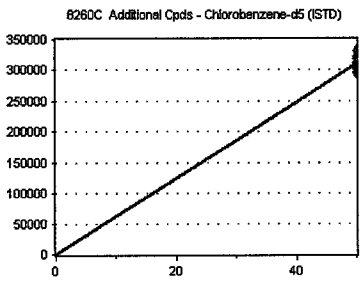
Element Calibration Review Sheet

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**

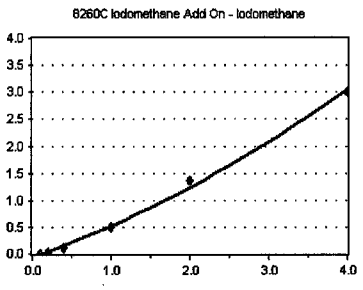
Element Calibration Review Sheet

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**

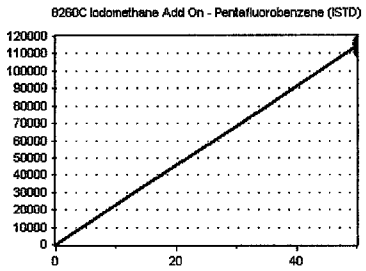


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL5~~	~~2~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL6	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**

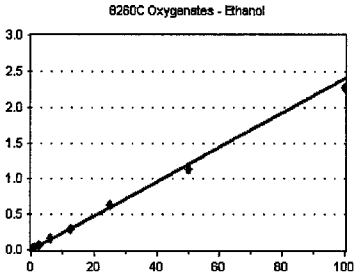
Element Calibration Review Sheet

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**

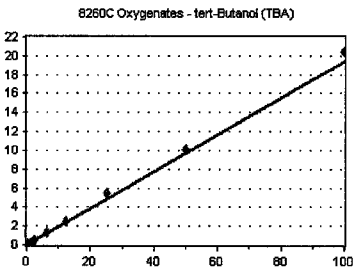


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~6.25~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~12.5~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	25	1315	2.349	3.23
9J24043-CAL4	62.5	3446	2.376	3.24
9J24043-CAL5	125	7229	2.610	3.24
9J24043-CAL6	312	17243	2.489	3.23
9J24043-CAL7	625	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**

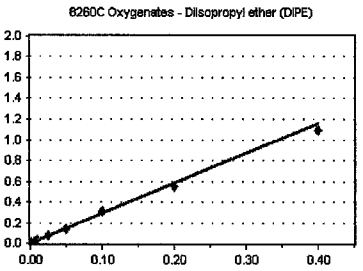


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	6.25	2472	0.170	4.30
9J24043-CAL2	12.5	4690	0.163	4.30
9J24043-CAL3	25	10086	0.180	4.29
9J24043-CAL4	62.5	25977	0.179	4.30
9J24043-CAL5	125	58093	0.210	4.30
9J24043-CAL6	312	143817	0.208	4.29
9J24043-CAL7	625	292252	0.199	4.29
9J24043-CAL8	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**

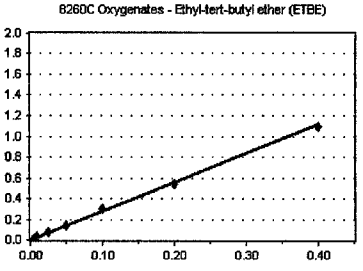


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.1	638	2.849	4.56
9J24043-CAL4	0.25	1604	2.764	4.56
9J24043-CAL5	0.5	3305	2.983	4.57
9J24043-CAL6	1.25	8576	3.090	4.57
9J24043-CAL7	2.5	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**

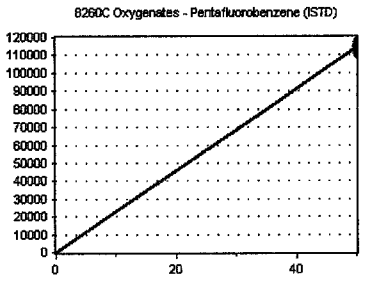
Element Calibration Review Sheet

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**

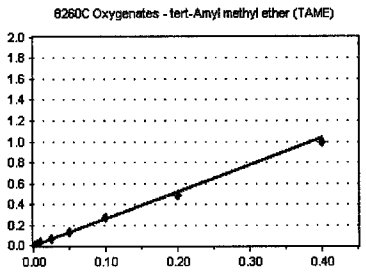


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116102	2322.040	6.22
9J24043-CAL2	50	114788	2295.760	6.22
9J24043-CAL3	50	111985	2239.700	6.21
9J24043-CAL4	50	116043	2320.860	6.21
9J24043-CAL5	50	110790	2215.800	6.22
9J24043-CAL6	50	111010	2220.200	6.21
9J24043-CAL7	50	117608	2352.160	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**

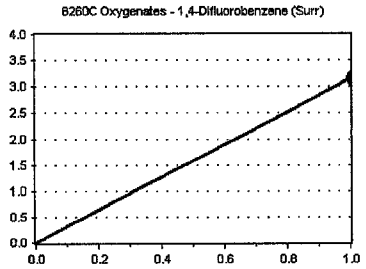


Standard	Concentration	Response	Response Factor	RT
~~9J24043-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9J24043-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
9J24043-CAL3	0.1	580	2.590	6.25
9J24043-CAL4	0.25	1462	2.520	6.25
9J24043-CAL5	0.5	2996	2.704	6.25
9J24043-CAL6	1.25	7445	2.683	6.25
9J24043-CAL7	2.5	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**

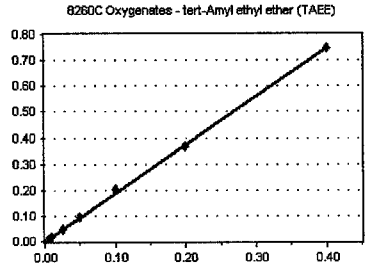


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	364447	3.139	6.78
9J24043-CAL2	50	359462	3.132	6.78
9J24043-CAL3	50	352302	3.146	6.78
9J24043-CAL4	50	366642	3.160	6.78
9J24043-CAL5	50	347212	3.134	6.78
9J24043-CAL6	50	353918	3.188	6.78
9J24043-CAL7	50	367409	3.124	6.78
9J24043-CAL8	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**

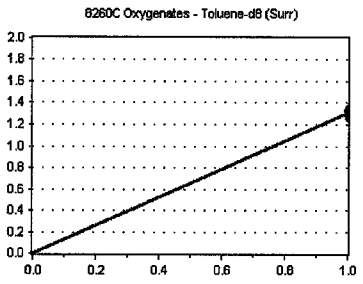
Element Calibration Review Sheet

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**

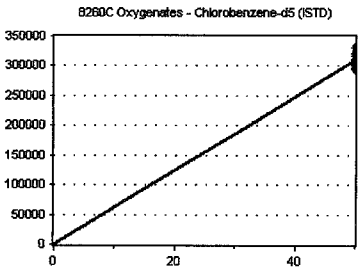


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	406288	1.321	8.30
9J24043-CAL2	50	403793	1.333	8.30
9J24043-CAL3	50	396027	1.345	8.30
9J24043-CAL4	50	410518	1.321	8.30
9J24043-CAL5	50	395017	1.327	8.30
9J24043-CAL6	50	397005	1.322	8.30
9J24043-CAL7	50	415174	1.327	8.30
9J24043-CAL8	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**

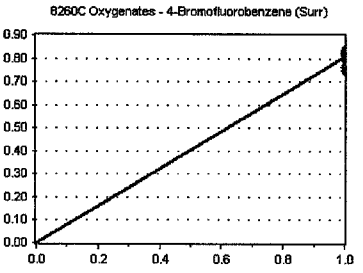


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	307577	6151.540	9.91
9J24043-CAL2	50	302974	6059.480	9.92
9J24043-CAL3	50	294372	5887.440	9.91
9J24043-CAL4	50	310797	6215.940	9.91
9J24043-CAL5	50	297754	5955.080	9.92
9J24043-CAL6	50	300317	6006.340	9.91
9J24043-CAL7	50	312833	6256.660	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**

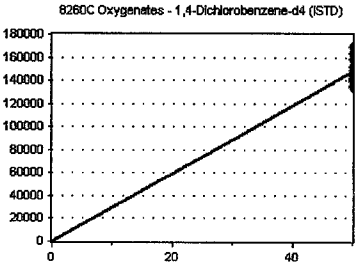


Standard	Concentration	Response	Response Factor	RT
9J24043-CAL1	50	116090	0.831	10.97
9J24043-CAL2	50	113180	0.838	10.97
9J24043-CAL3	50	112304	0.835	10.97
9J24043-CAL4	50	118563	0.823	10.97
9J24043-CAL5	50	115163	0.825	10.97
9J24043-CAL6	50	115652	0.815	10.97
9J24043-CAL7	50	121121	0.812	10.97
9J24043-CAL8	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

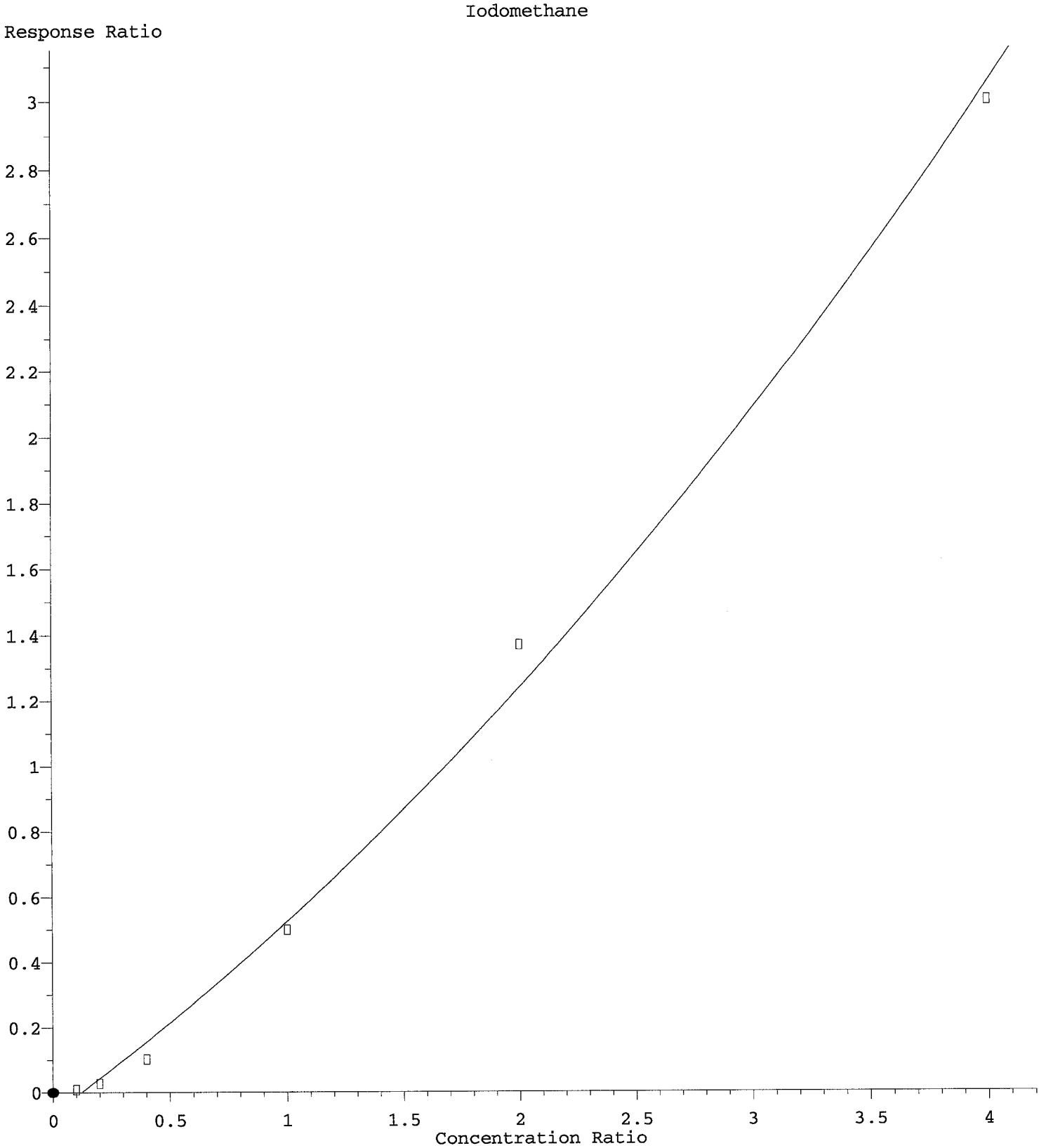
Total Cpnds : 88

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

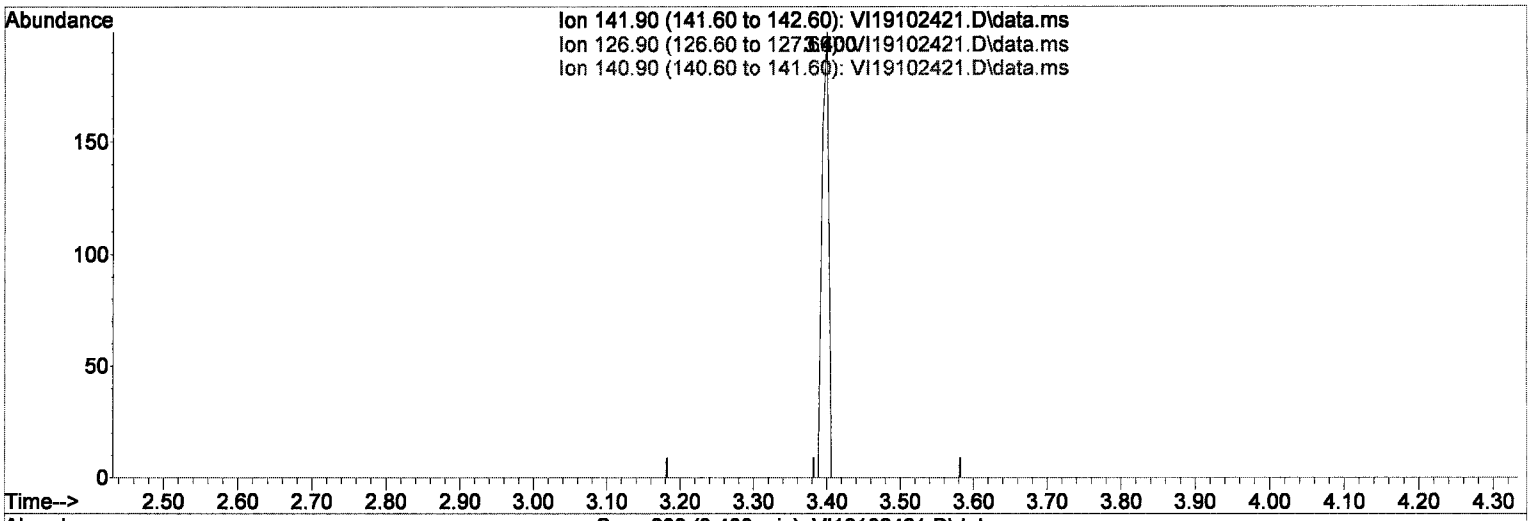


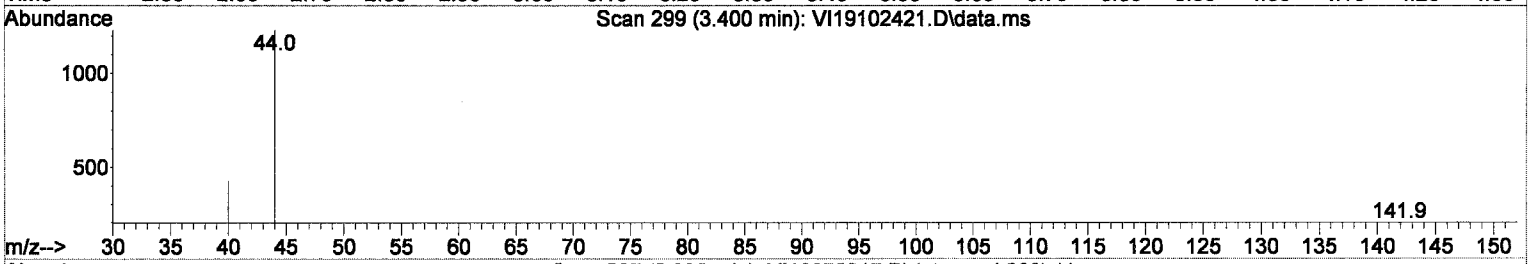
R = 6.36e-002 A*A + 5.25e-001 A - 6.41e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025W.M
Calibration Table Last Updated: Fri Oct 25 08:33:22 2019

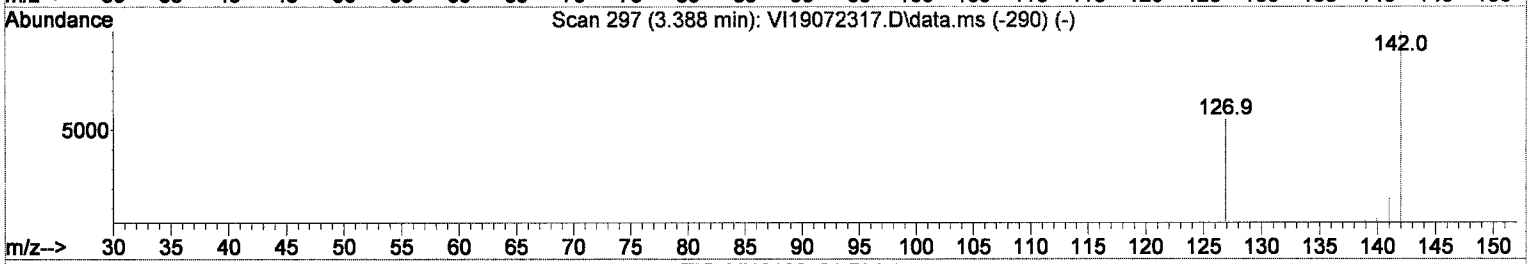
Quantitation Report (Qedit)

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







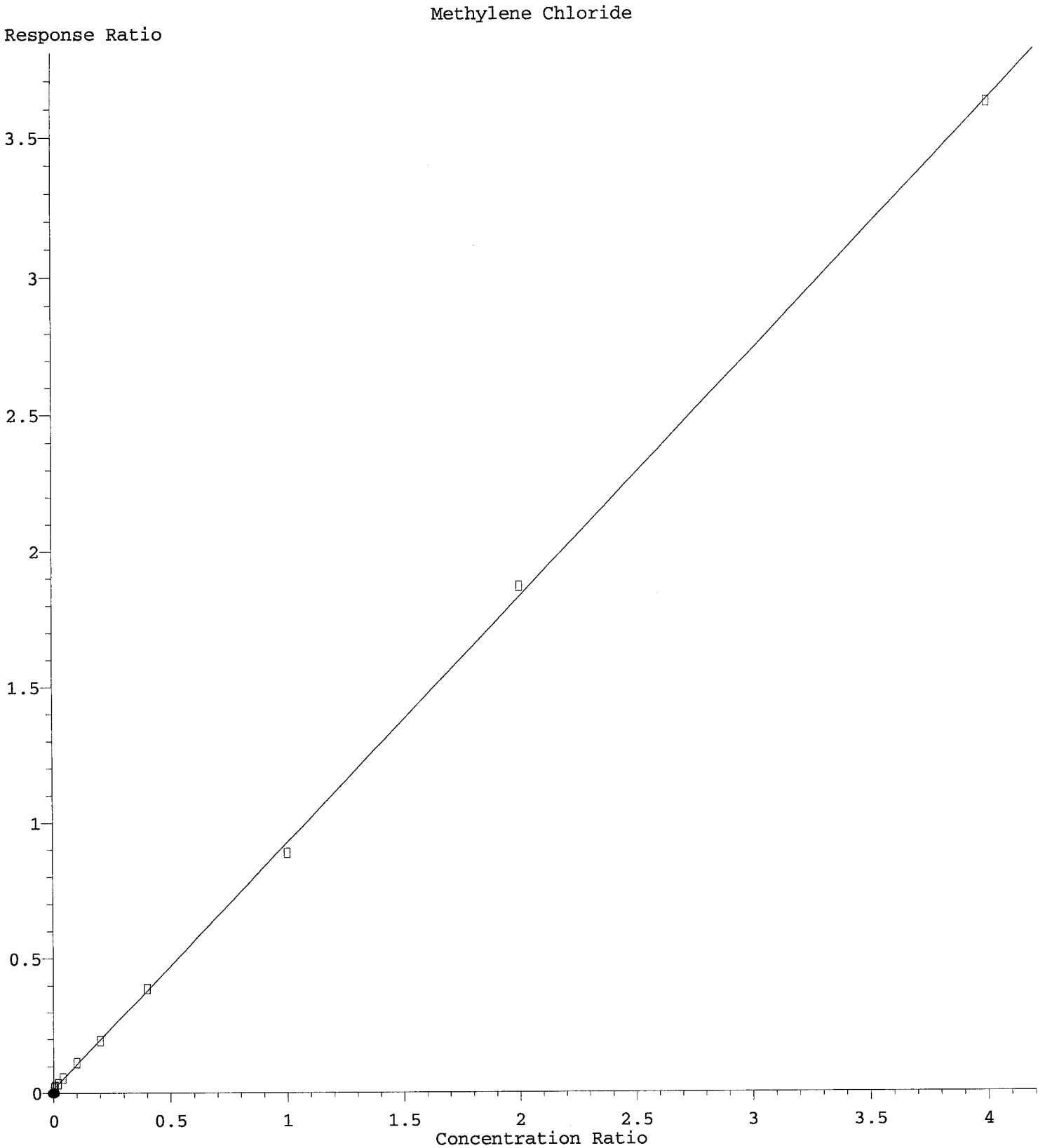
TIC: VI19102421.D\data.ms

(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

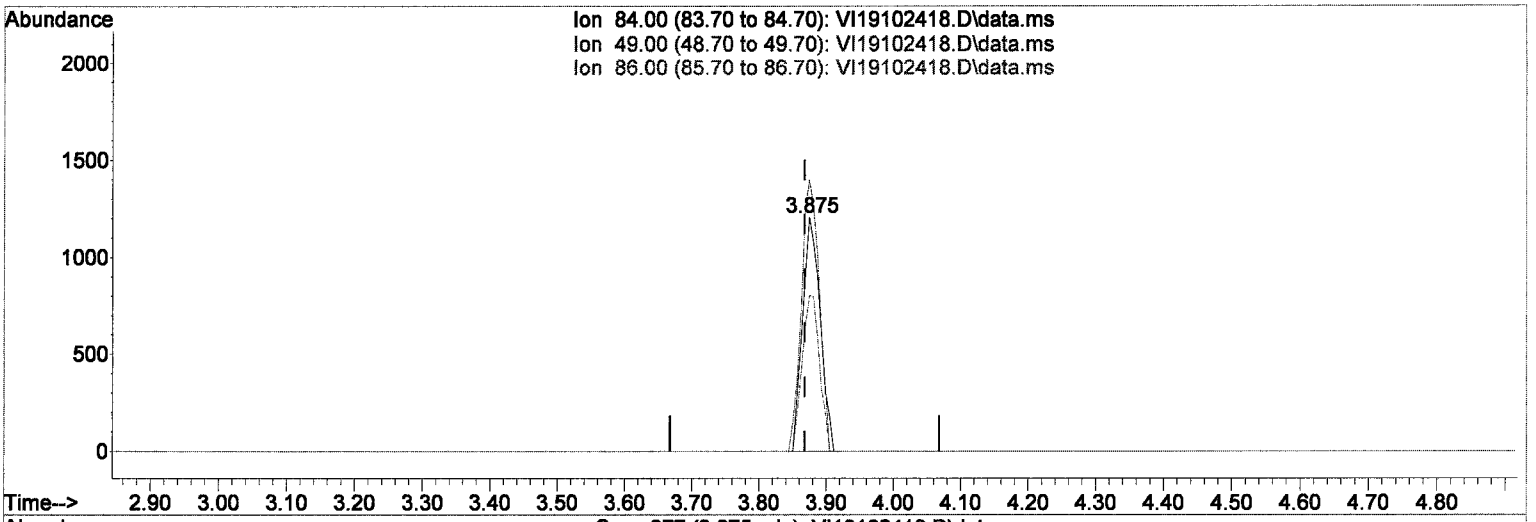


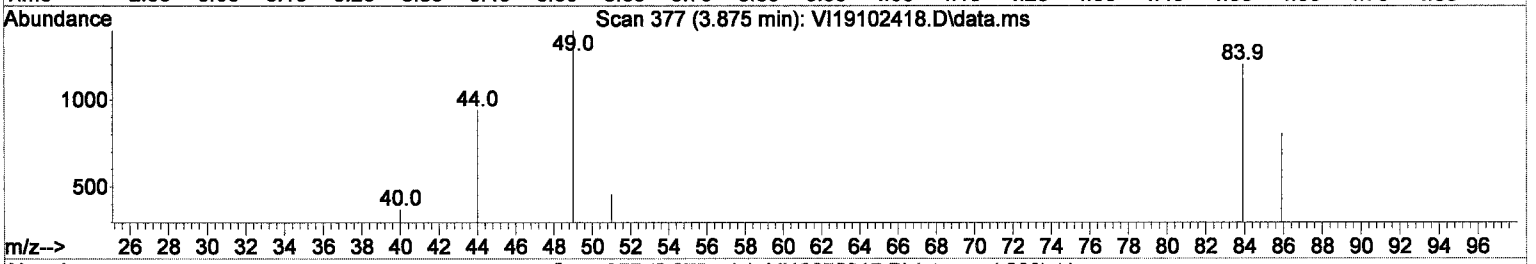
R = -2.46e-003 A*A + 9.12e-001 A + 1.58e-002
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025W.M
Calibration Table Last Updated: Fri Oct 25 08:34:03 2019

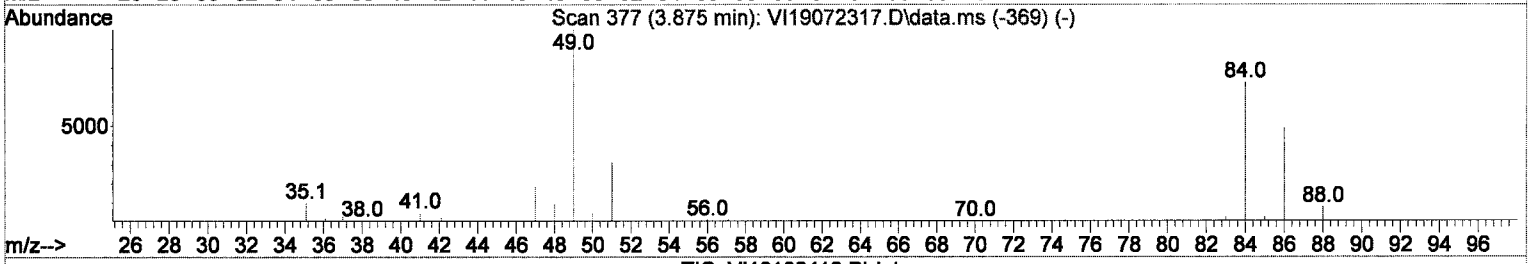
Quantitation Report (Qedit)

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







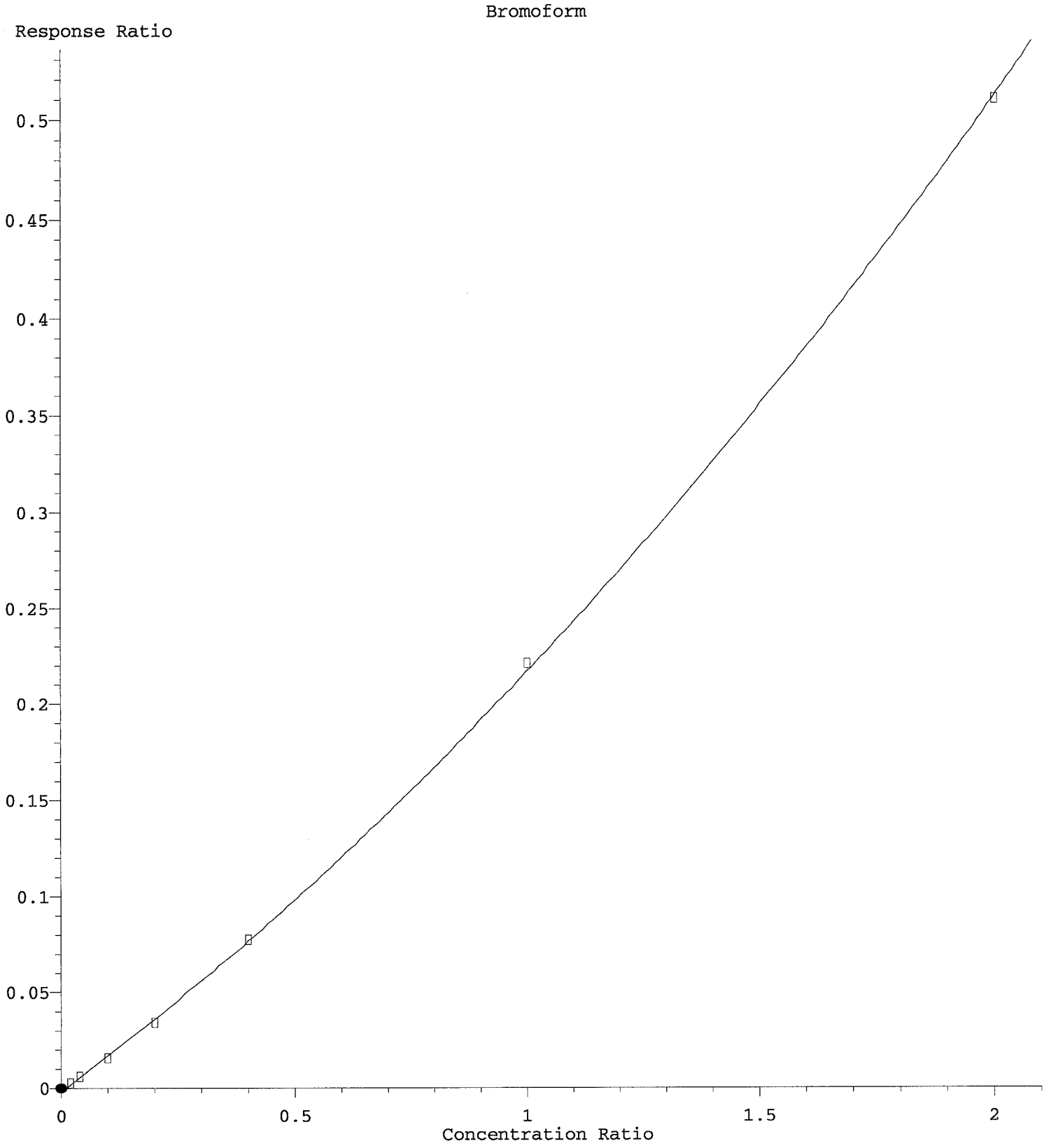
TIC: VI19102418.D\data.ms

(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

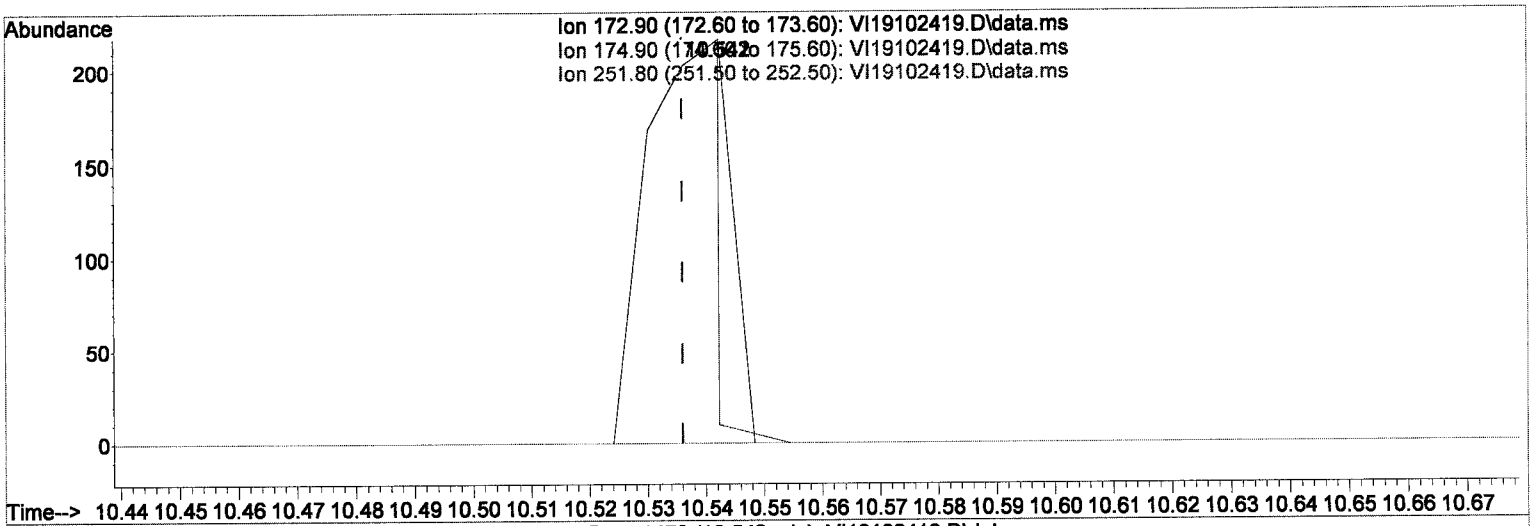


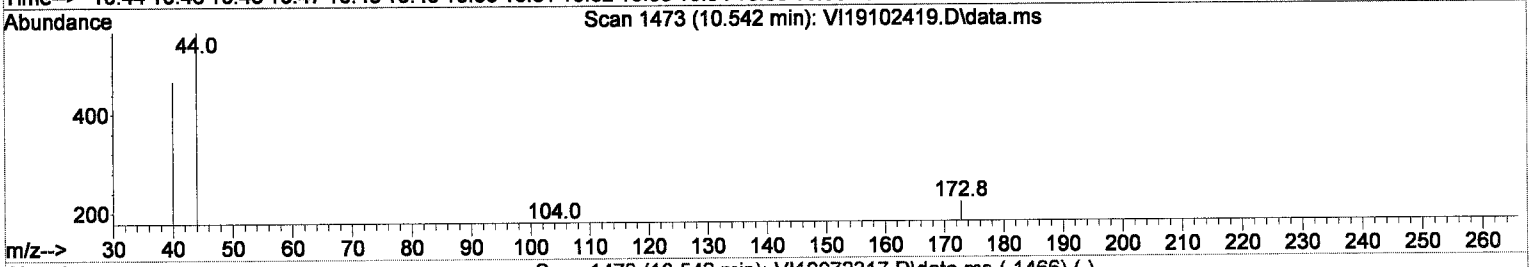
R = 3.82e-002 A*A + 1.80e-001 A - 1.40e-003
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w/(1/a)
Method Name: C:\msdchem\1\methods\VI191025W.M
Calibration Table Last Updated: Fri Oct 25 08:48:07 2019

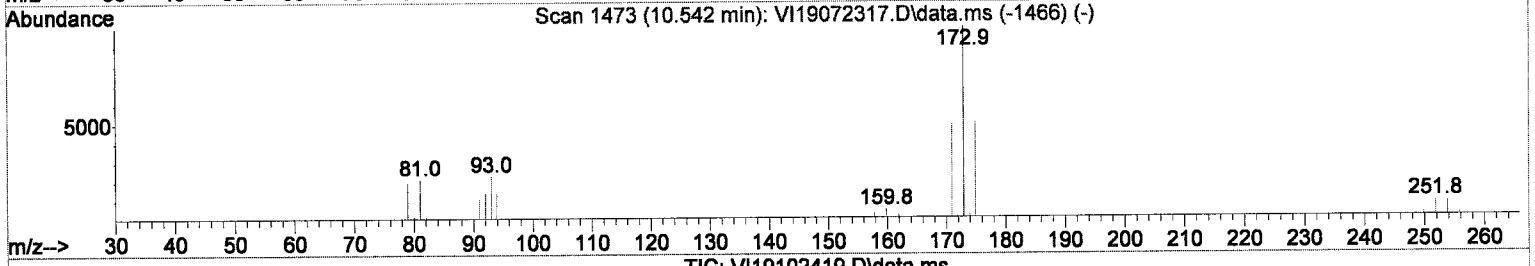
Quantitation Report (Qedit)

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

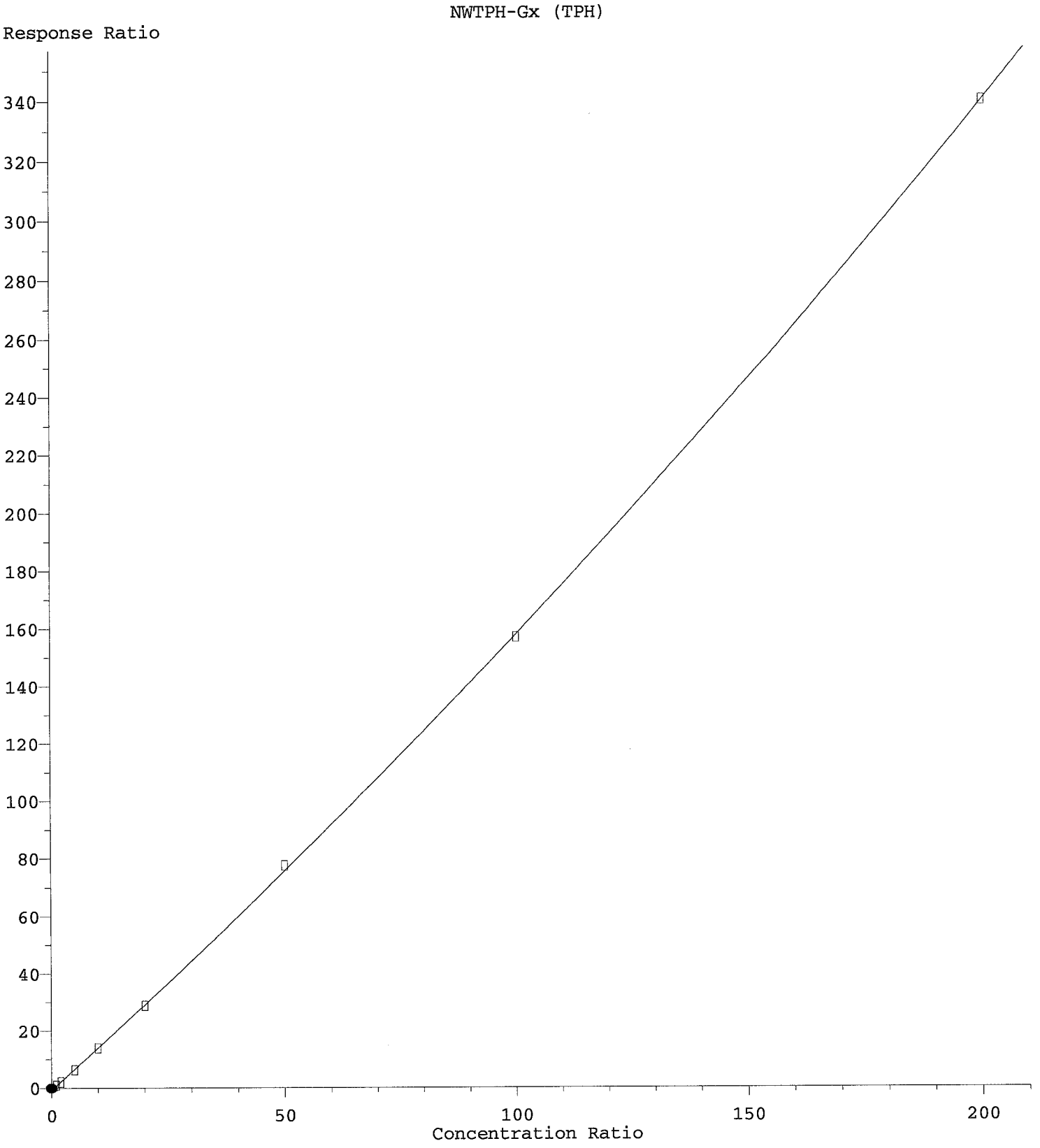
Method Path : C:\msdchem\1\methods\
Method File : VI191025G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Oct 25 10:31:05 2019
Response Via : Initial Calibration

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

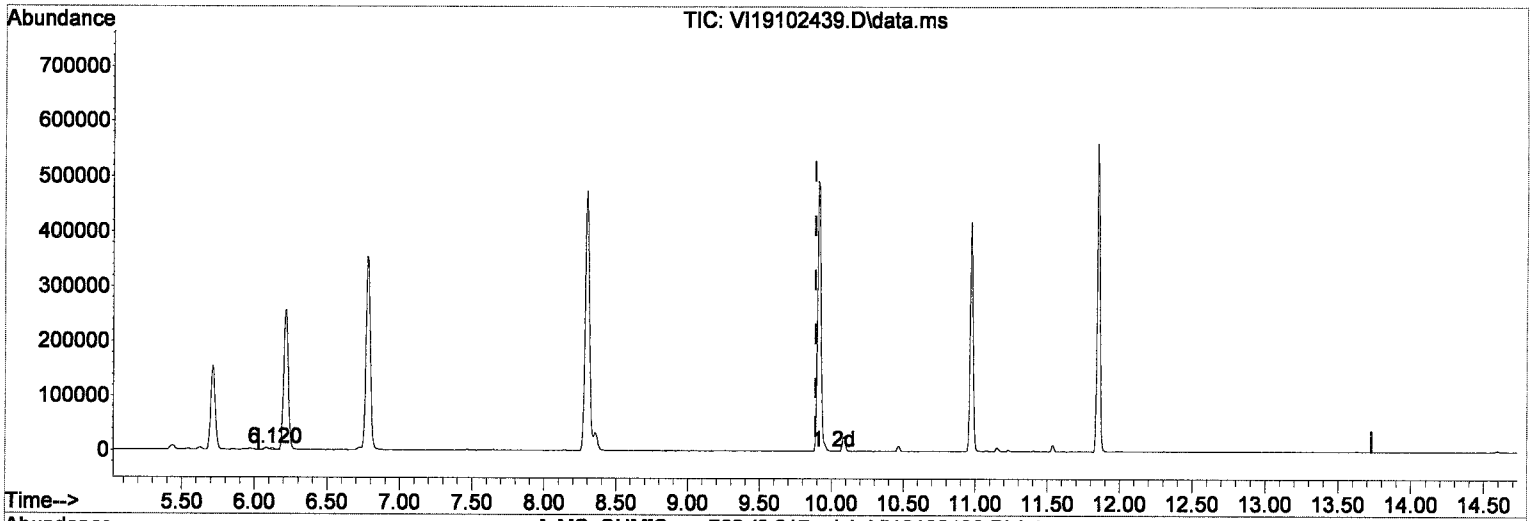


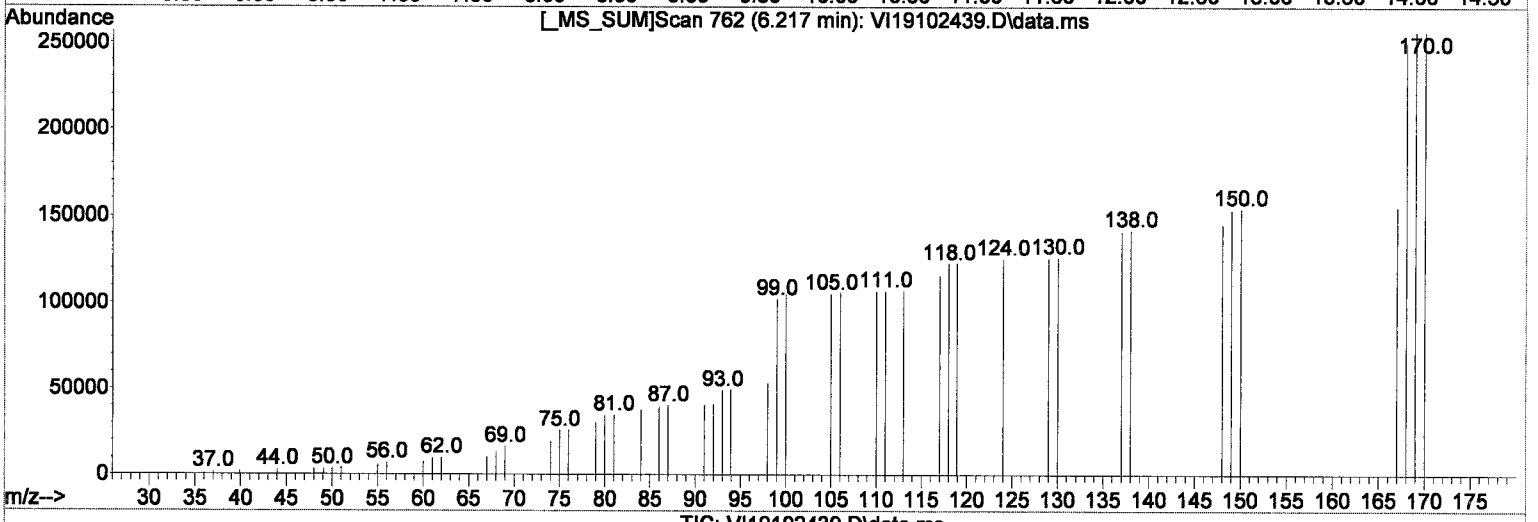
R = 1.17e-003 A*A + 1.47e+000 A - 7.24e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025G.M
Calibration Table Last Updated: Fri Oct 25 10:31:34 2019

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





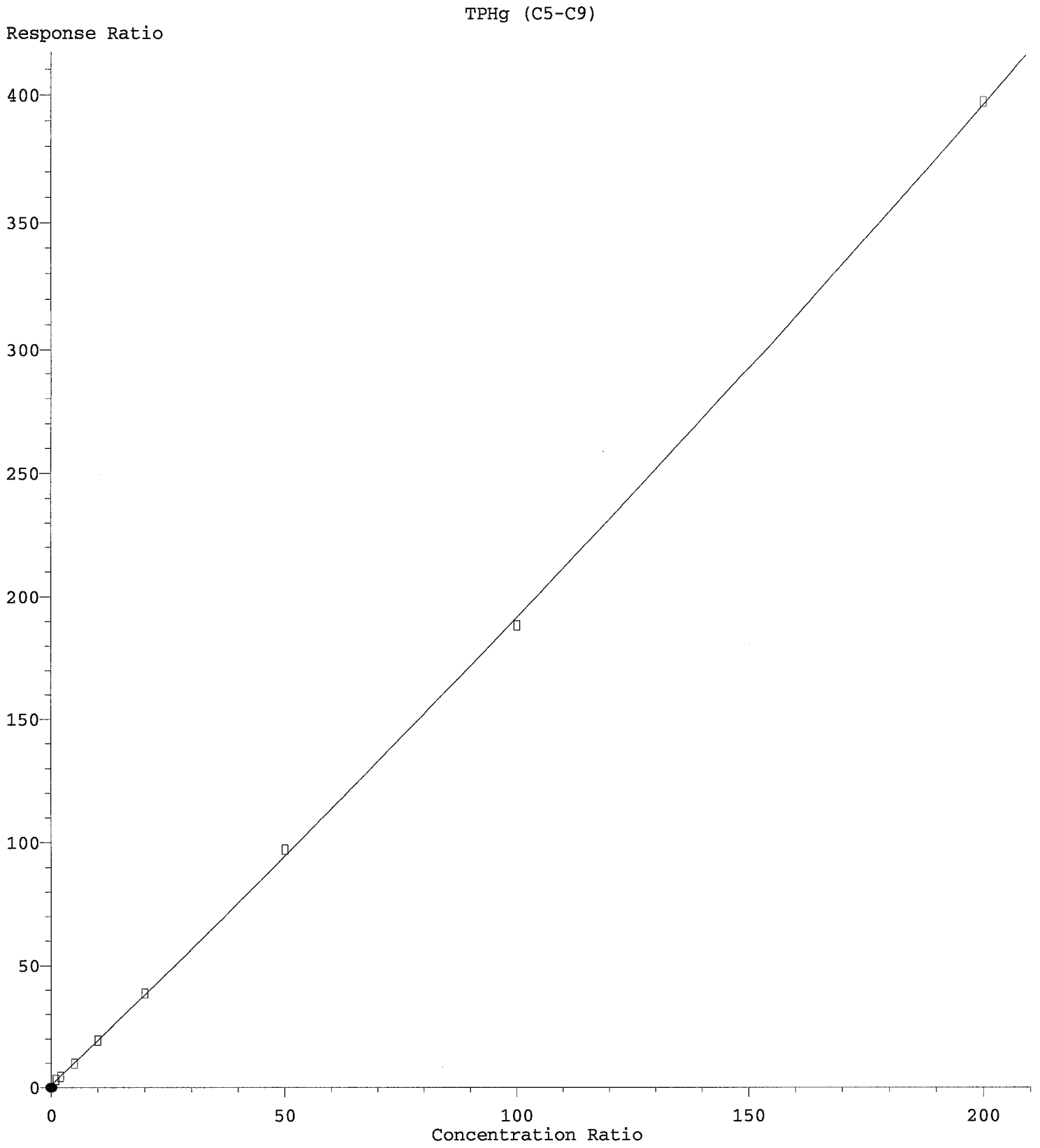
TIC: VI19102439.D\data.ms

(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

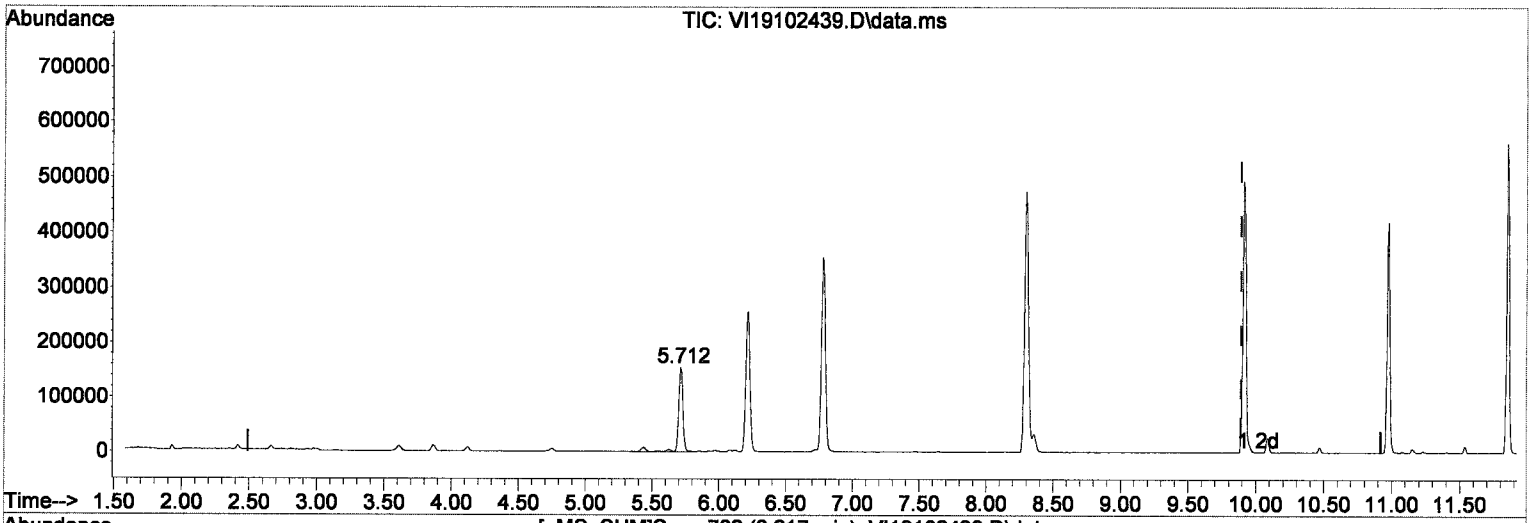


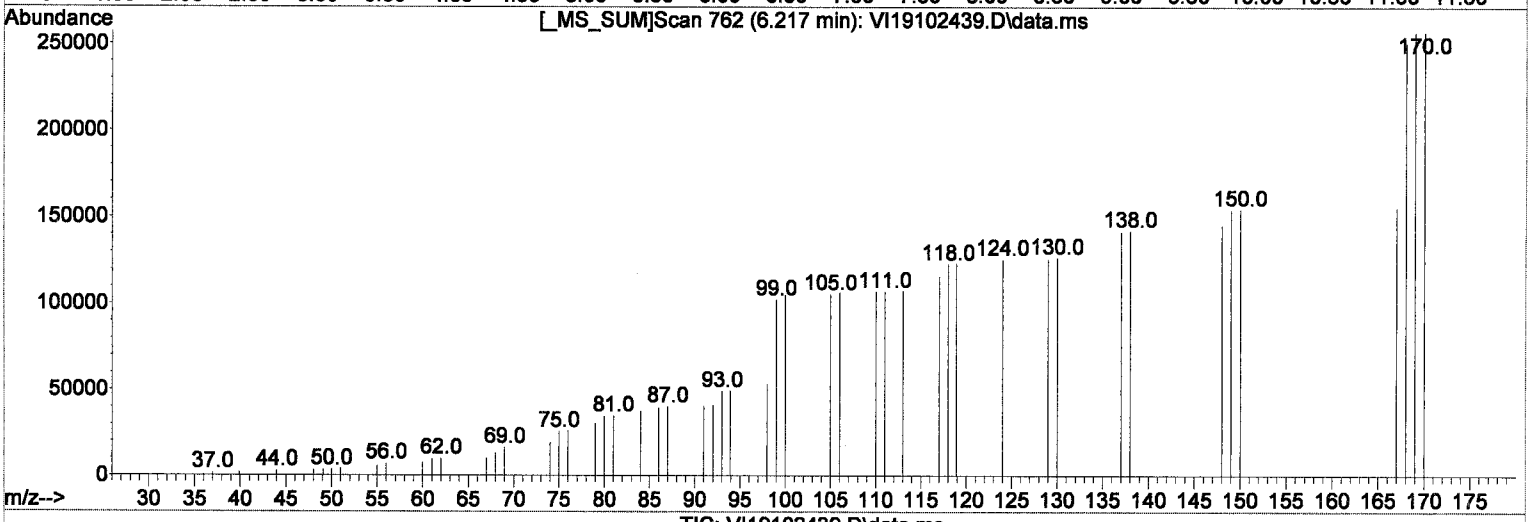
R = 6.91e-004 A*A + 1.84e+000 A + 1.03e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025G.M
Calibration Table Last Updated: Fri Oct 25 10:31:34 2019

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





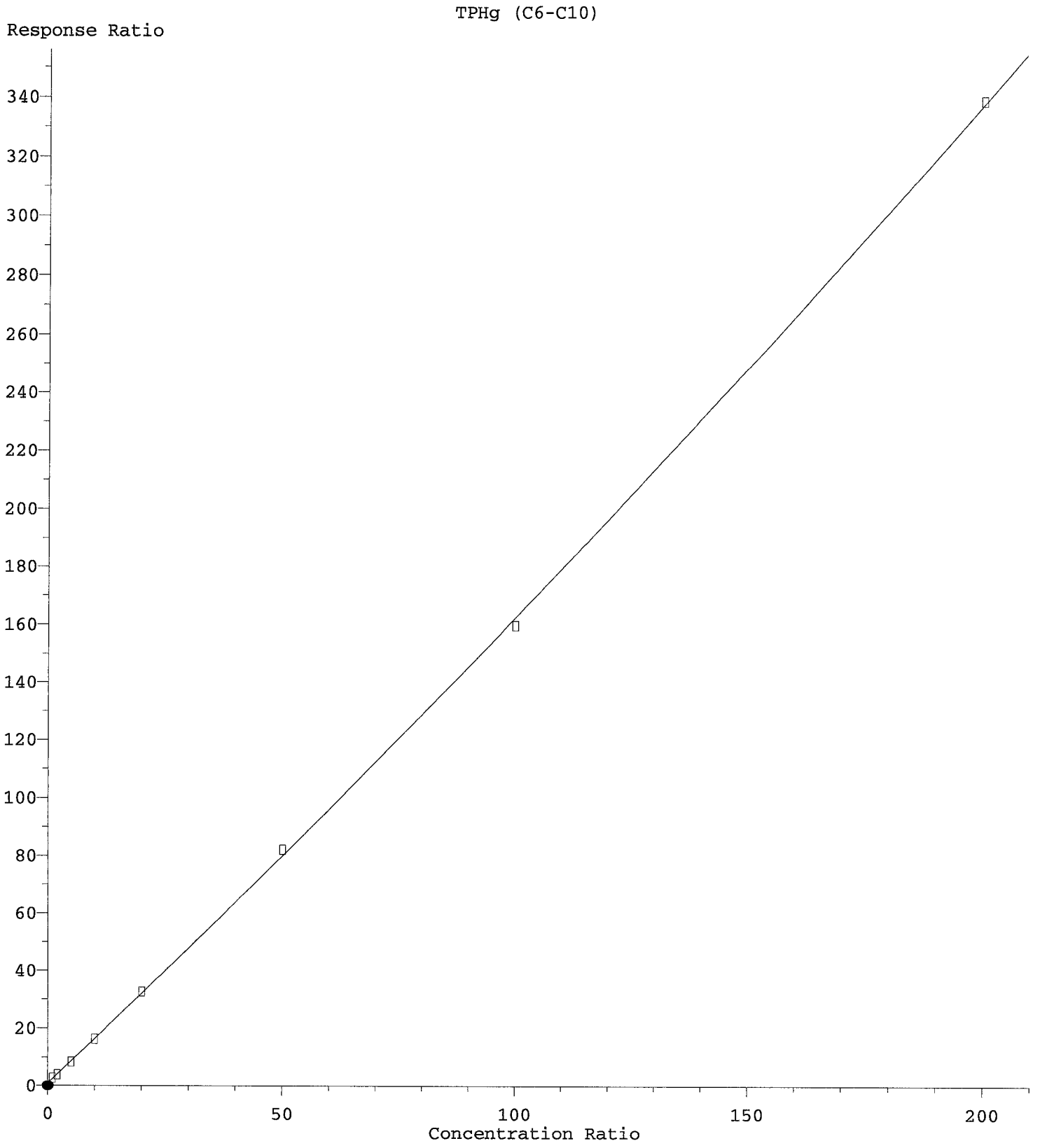
TIC: VI19102439.D\data.ms

(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

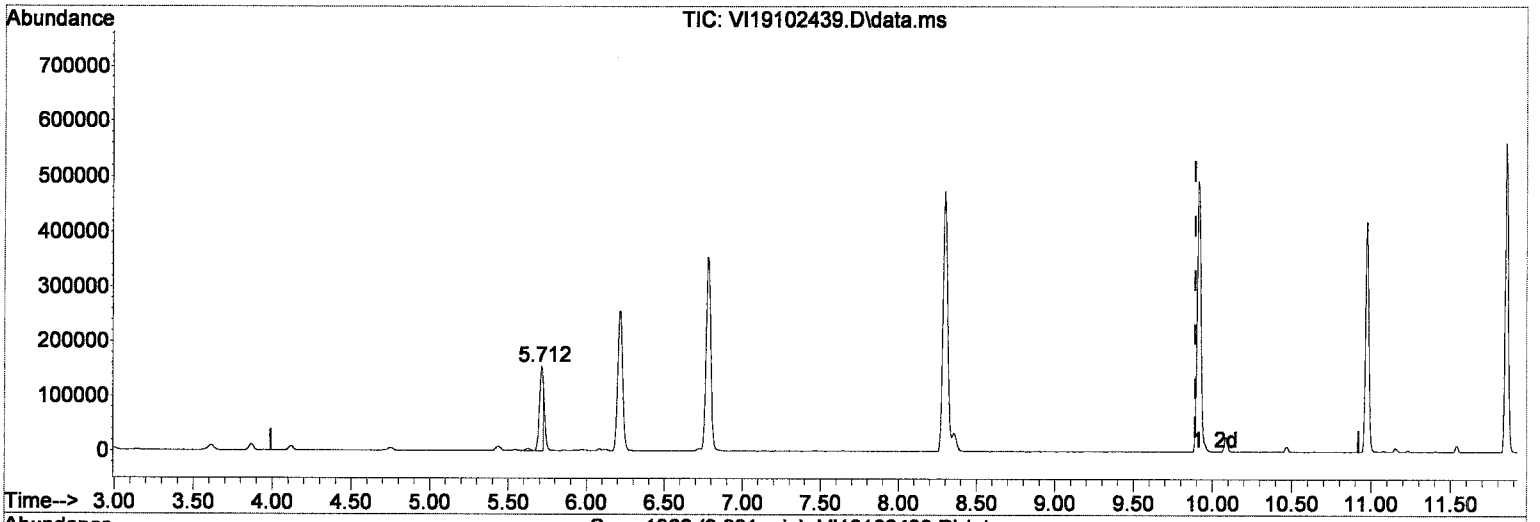


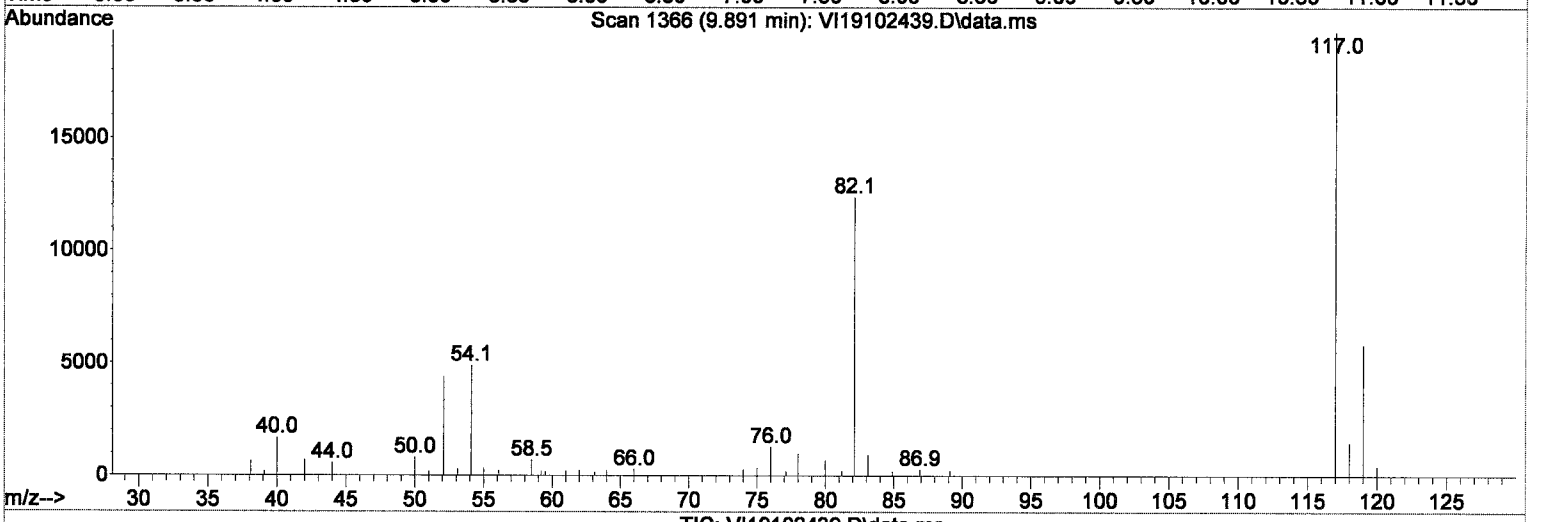
R = 6.87e-004 A*A + 1.55e+000 A + 9.51e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025G.M
Calibration Table Last Updated: Fri Oct 25 10:31:34 2019

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





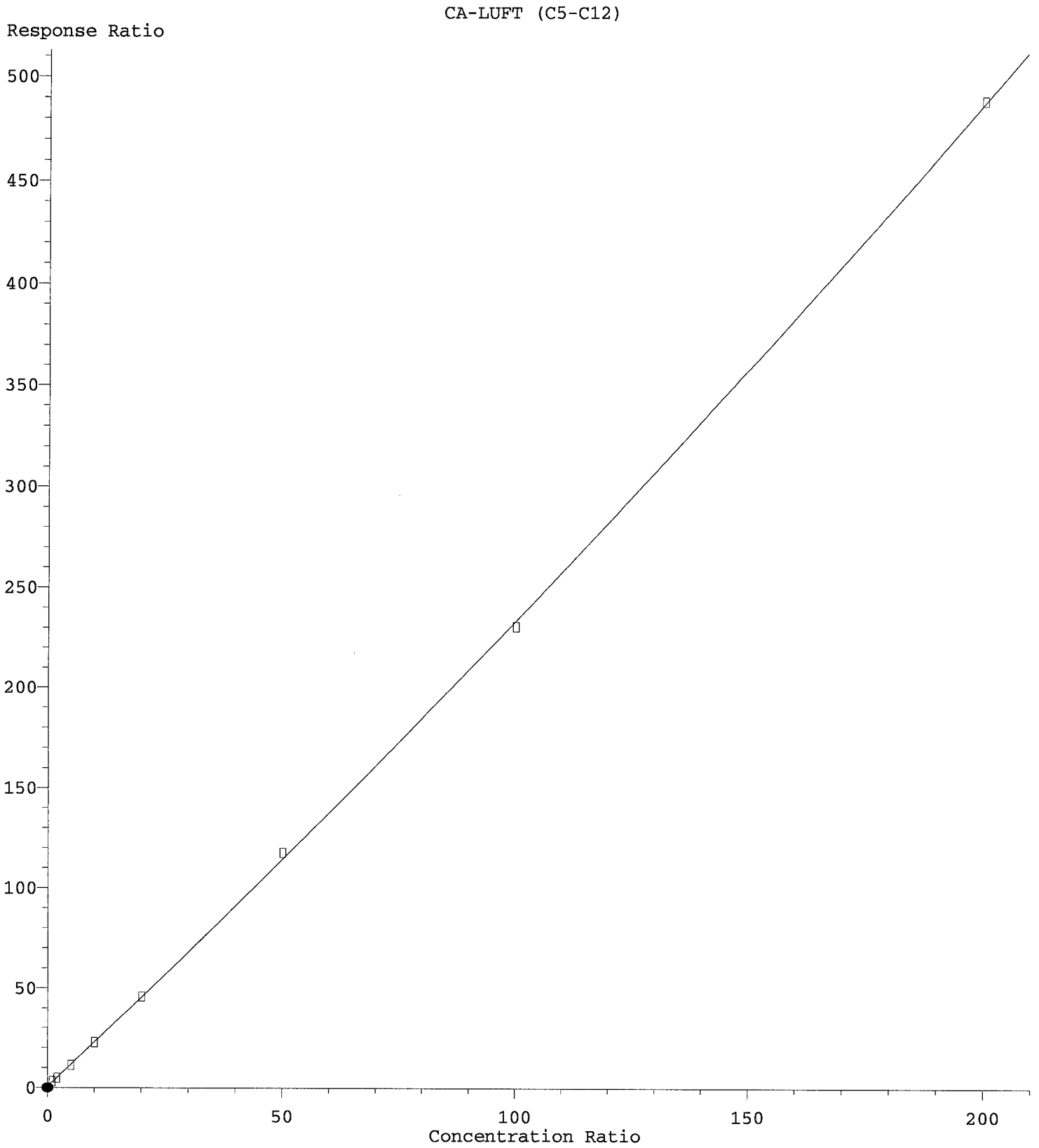
TIC: VI19102439.D\data.ms

(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

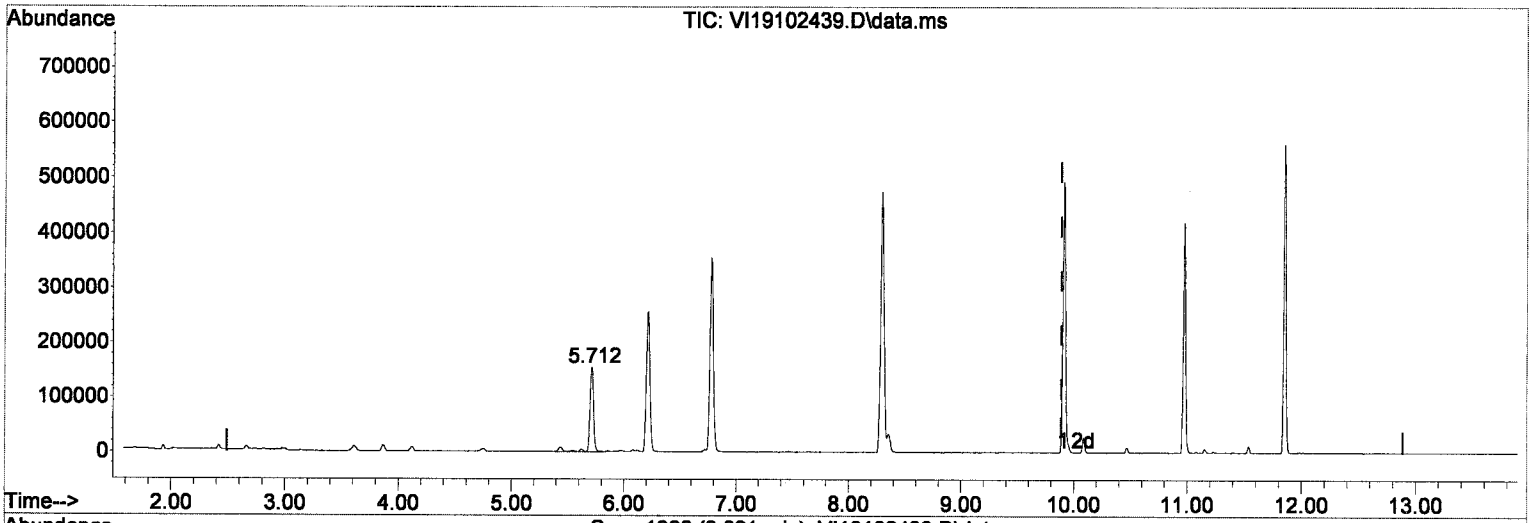


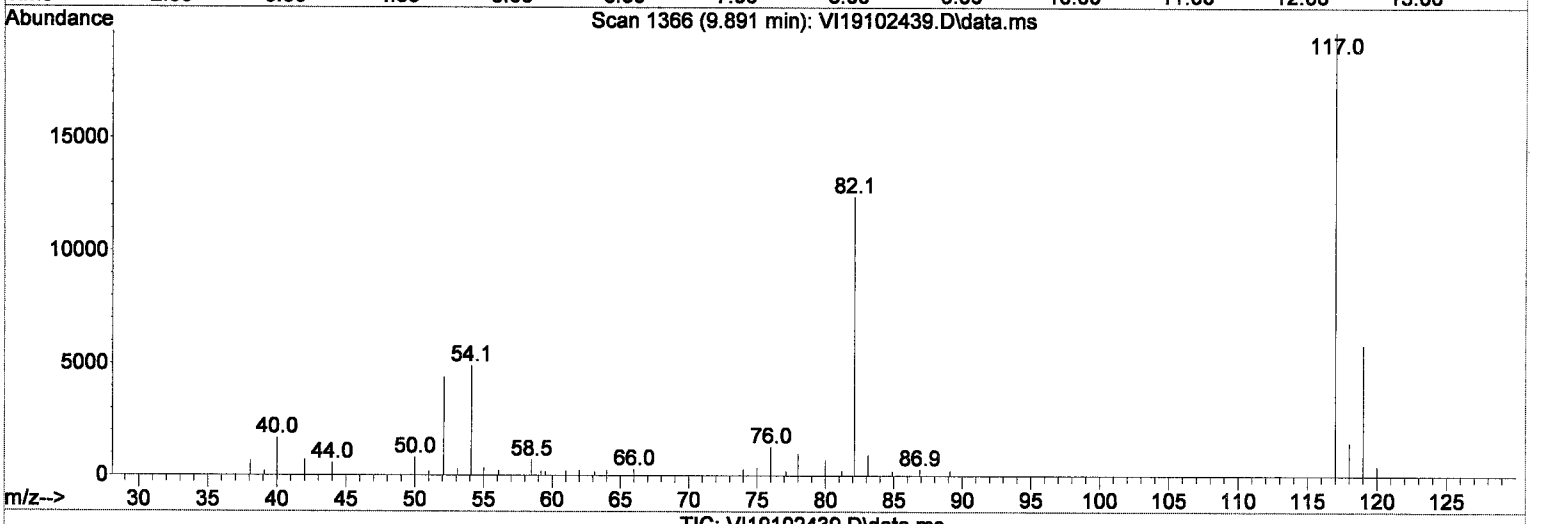
R = 1.05e-003 A*A + 2.22e+000 A + 7.45e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI191025G.M
Calibration Table Last Updated: Fri Oct 25 10:31:34 2019

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.

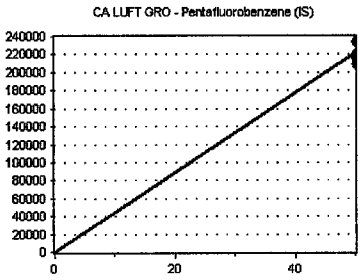
Element Calibration Review Sheet

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**

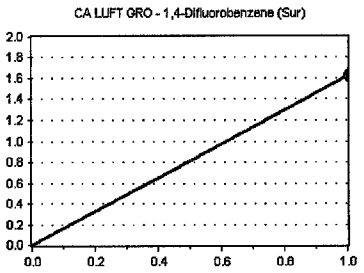


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	209290	4185.800	6.22
9J24043-CALD	50	209478	4189.560	6.22
9J24043-CALE	50	220921	4418.420	6.22
9J24043-CALF	50	214780	4295.600	6.22
9J24043-CALG	50	234293	4685.860	6.22
9J24043-CALH	50	216435	4328.700	6.22
9J24043-CALI	50	233849	4676.980	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**

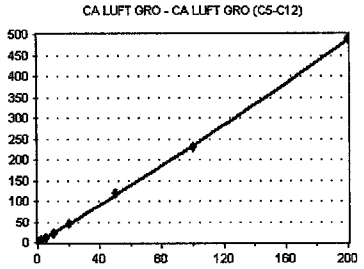


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	341977	1.634	6.78
9J24043-CALD	50	342473	1.635	6.78
9J24043-CALE	50	357958	1.620	6.78
9J24043-CALF	50	347086	1.616	6.78
9J24043-CALG	50	376297	1.606	6.78
9J24043-CALH	50	352248	1.628	6.78
9J24043-CALI	50	379658	1.624	6.78
9J24043-CALJ	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**

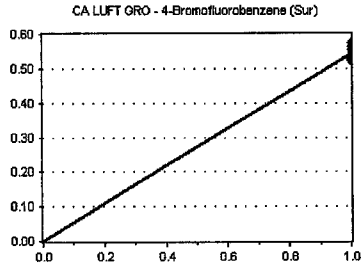


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	681991	3.259	9.89
9J24043-CALD	100	1014687	2.422	9.89
9J24043-CALE	250	2493143	2.257	9.89
9J24043-CALF	500	4877141	2.271	9.89
9J24043-CALG	1000	1.073362E+07	2.291	9.89
9J24043-CALH	2500	2.54612E+07	2.353	9.89
9J24043-CALI	5000	5.393736E+07	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**

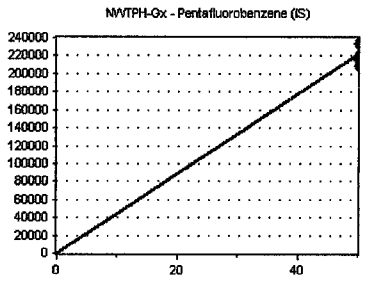
Element Calibration Review Sheet

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**

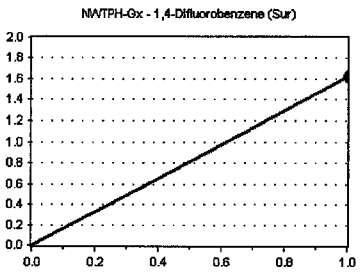


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	209290	4185.800	6.22
9J24043-CALD	50	209478	4189.560	6.22
9J24043-CALE	50	220921	4418.420	6.22
9J24043-CALF	50	214780	4295.600	6.22
9J24043-CALG	50	234293	4685.860	6.22
9J24043-CALH	50	216435	4328.700	6.22
9J24043-CALI	50	233849	4676.980	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**

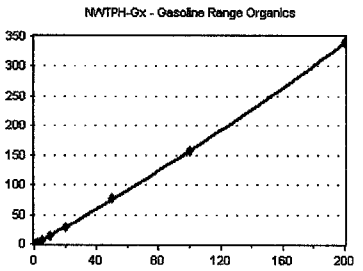


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	341977	1.634	6.78
9J24043-CALD	50	342473	1.635	6.78
9J24043-CALE	50	357958	1.620	6.78
9J24043-CALF	50	347086	1.616	6.78
9J24043-CALG	50	376297	1.606	6.78
9J24043-CALH	50	352248	1.628	6.78
9J24043-CALI	50	379658	1.624	6.78
9J24043-CALJ	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**

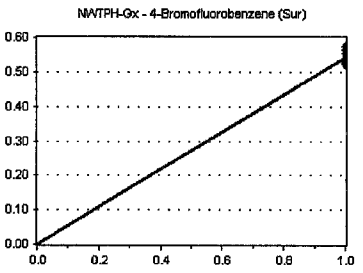


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	193702	0.926	9.89
9J24043-CALD	100	430822	1.028	9.89
9J24043-CALE	250	1374008	1.244	9.89
9J24043-CALF	500	2976997	1.386	9.89
9J24043-CALG	1000	6735895	1.437	9.89
9J24043-CALH	2500	1.67752E+07	1.550	9.89
9J24043-CALI	5000	3.669824E+07	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**

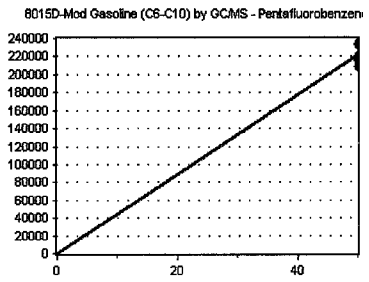
Element Calibration Review Sheet

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**

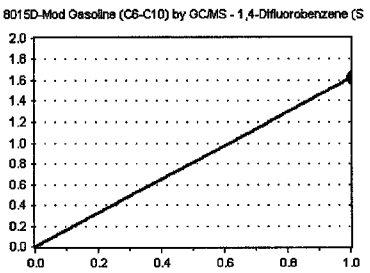


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	209290	4185.800	6.22
9J24043-CALD	50	209478	4189.560	6.22
9J24043-CALE	50	220921	4418.420	6.22
9J24043-CALF	50	214780	4295.600	6.22
9J24043-CALG	50	234293	4685.860	6.22
9J24043-CALH	50	216435	4328.700	6.22
9J24043-CALI	50	233849	4676.980	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**

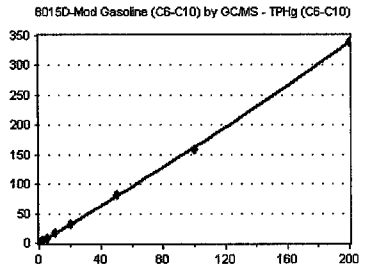


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	341977	1.634	6.78
9J24043-CALD	50	342473	1.635	6.78
9J24043-CALE	50	357958	1.620	6.78
9J24043-CALF	50	347086	1.616	6.78
9J24043-CALG	50	376297	1.606	6.78
9J24043-CALH	50	352248	1.628	6.78
9J24043-CALI	50	379658	1.624	6.78
9J24043-CALJ	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**

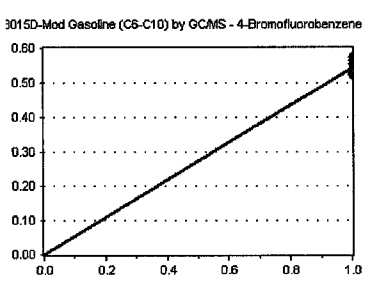


Standard	Concentration	Response	Response Factor	RT
9J24043-CALC	50	557886	2.666	9.89
9J24043-CALD	100	799328	1.908	9.89
9J24043-CALE	250	1839524	1.665	9.89
9J24043-CALF	500	3507779	1.633	9.89
9J24043-CALG	1000	7648071	1.632	9.89
9J24043-CALH	2500	1.778026E+07	1.643	9.89
9J24043-CALI	5000	3.735262E+07	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

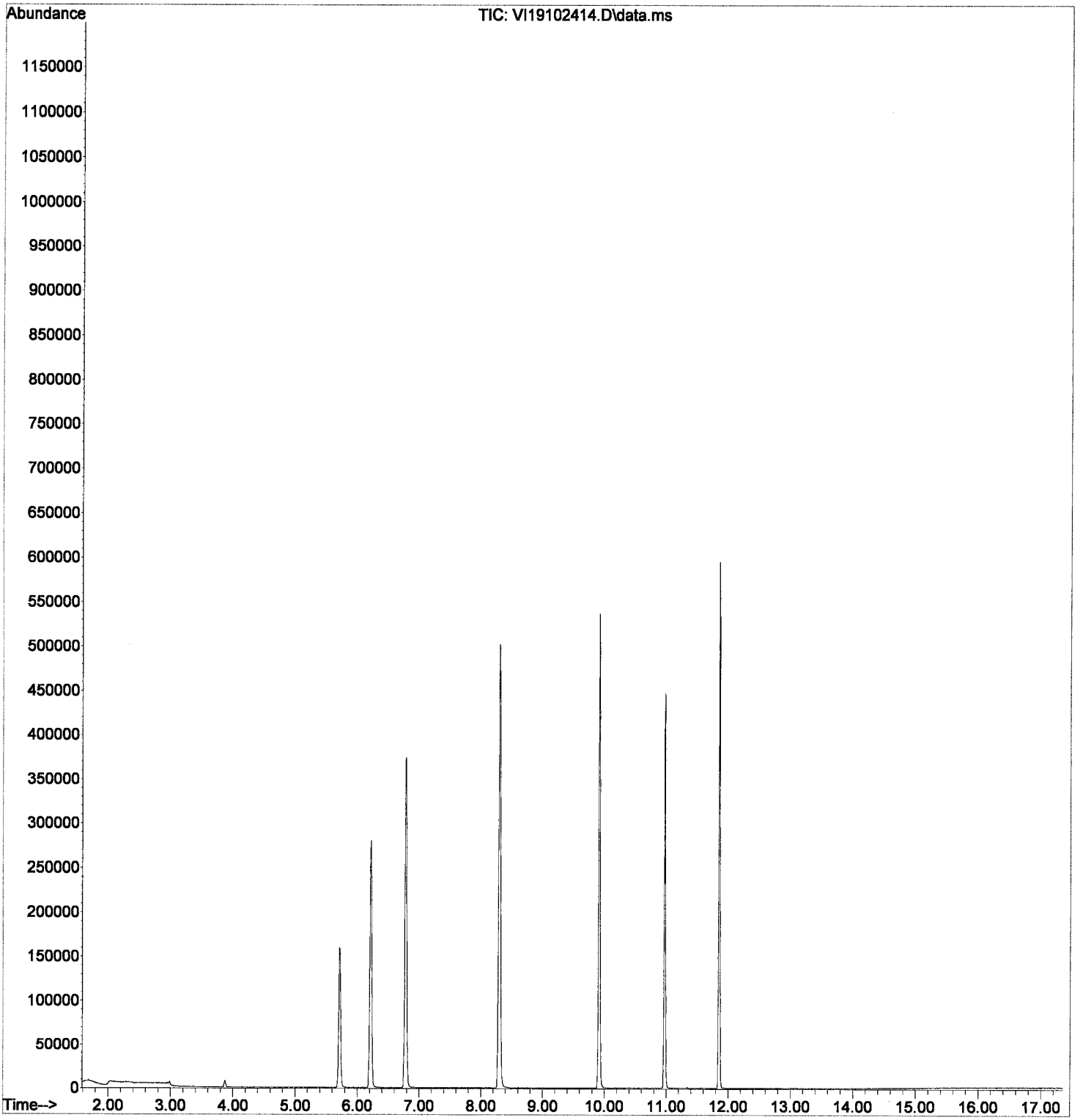
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.217	99	116268	50.00	ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.909	117	306026	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	138672	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (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

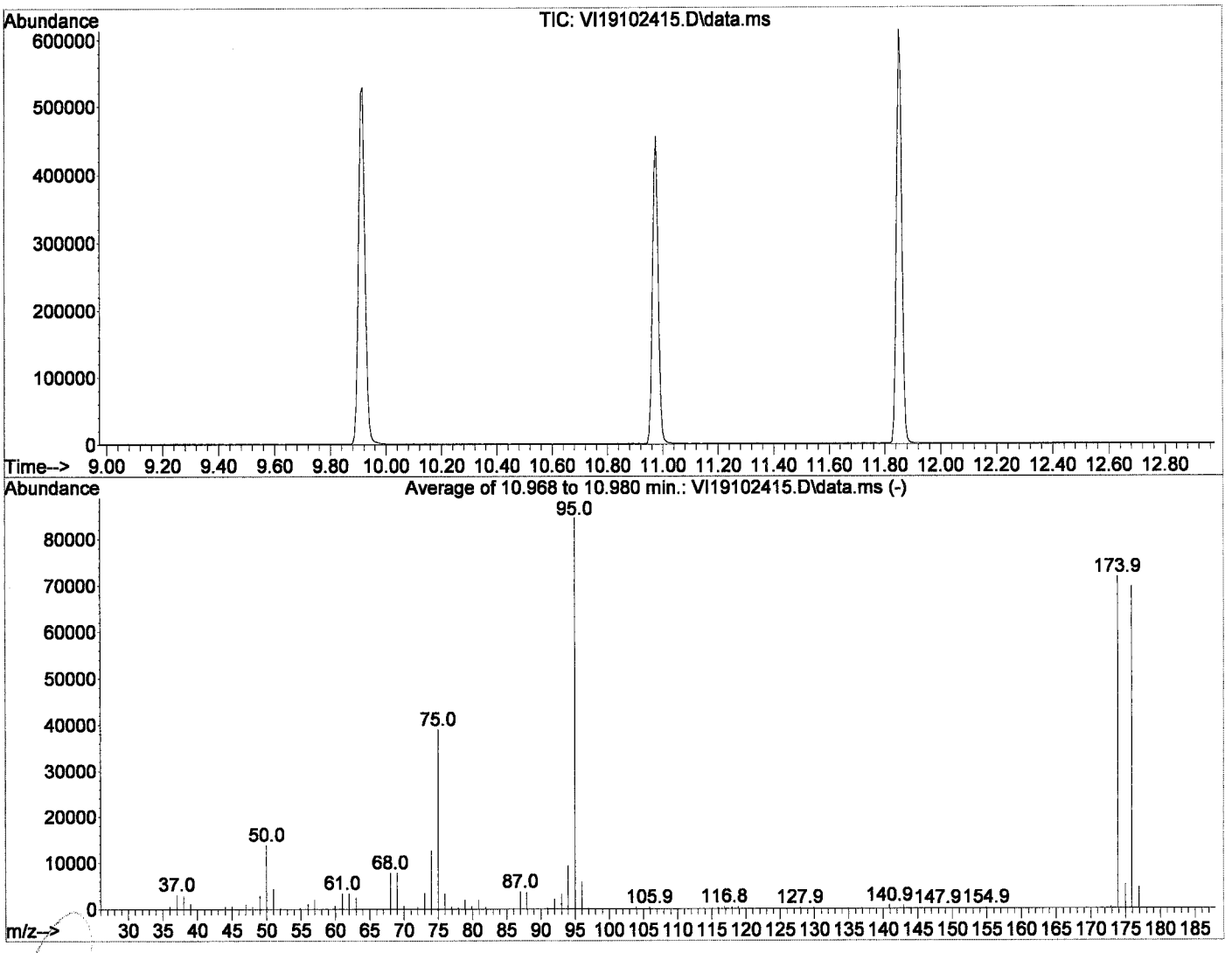


BFB

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

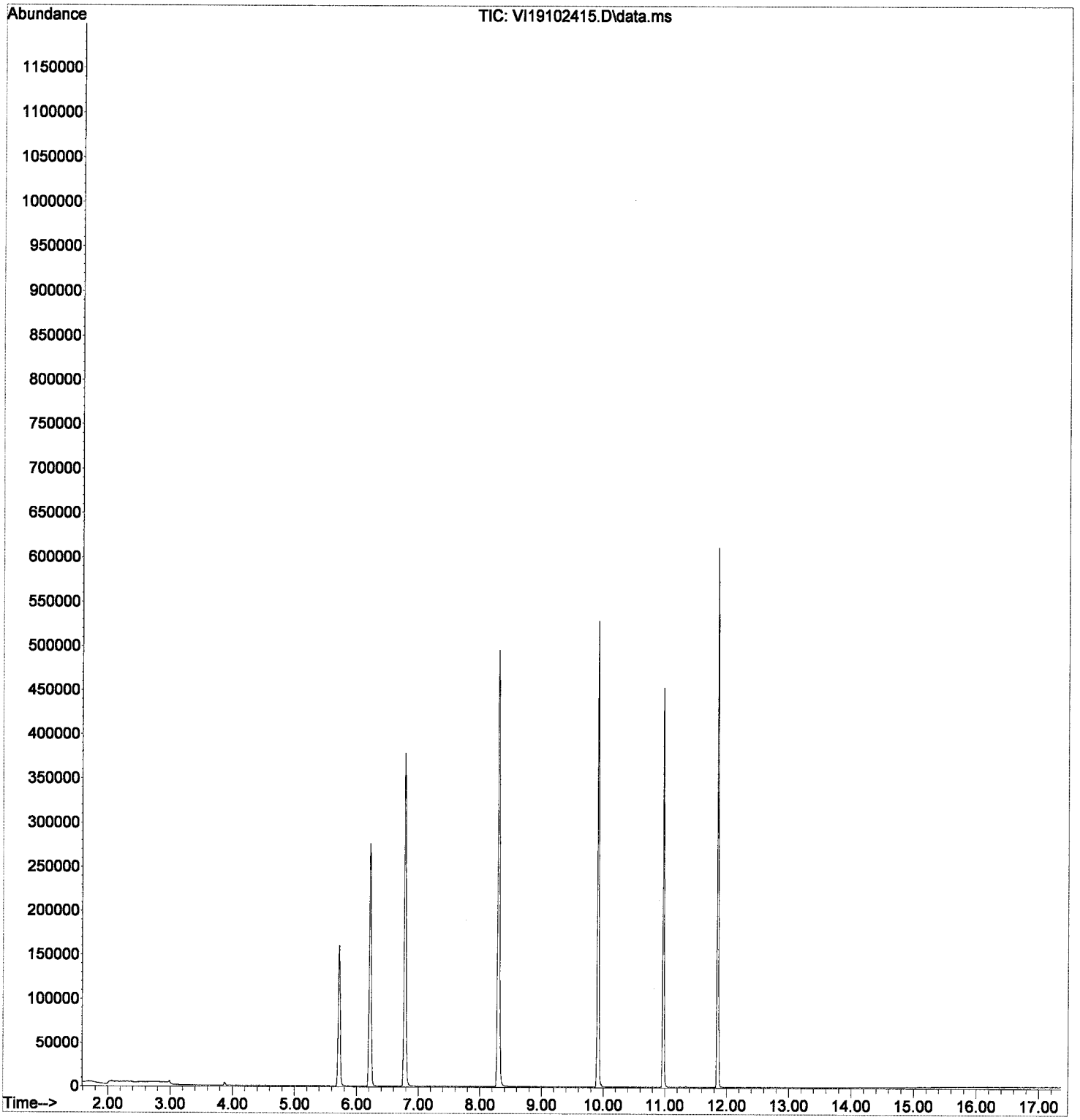
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	115135	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	306446	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	141323	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (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

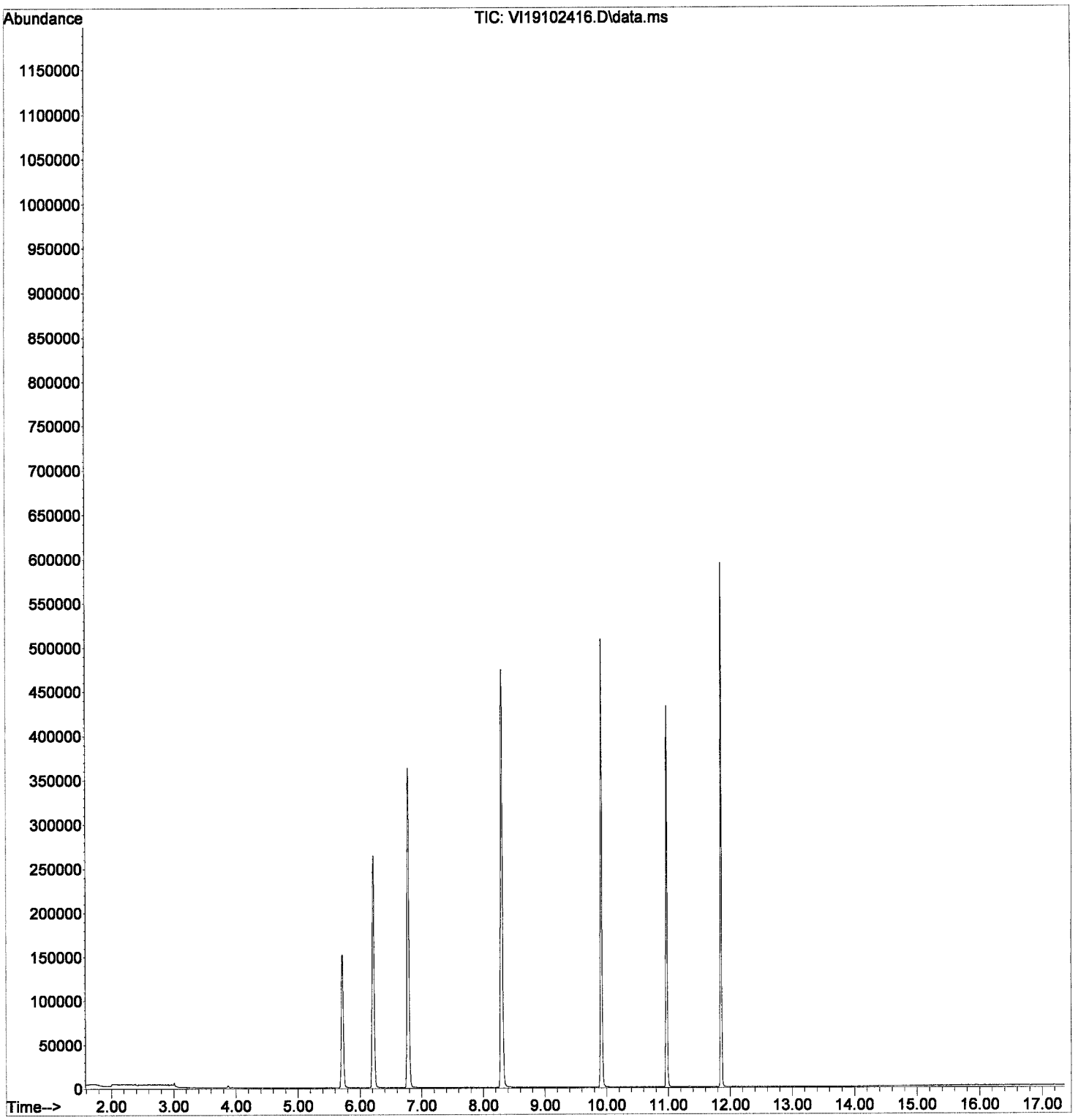
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	109157	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.916	117	292802	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	134268	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (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

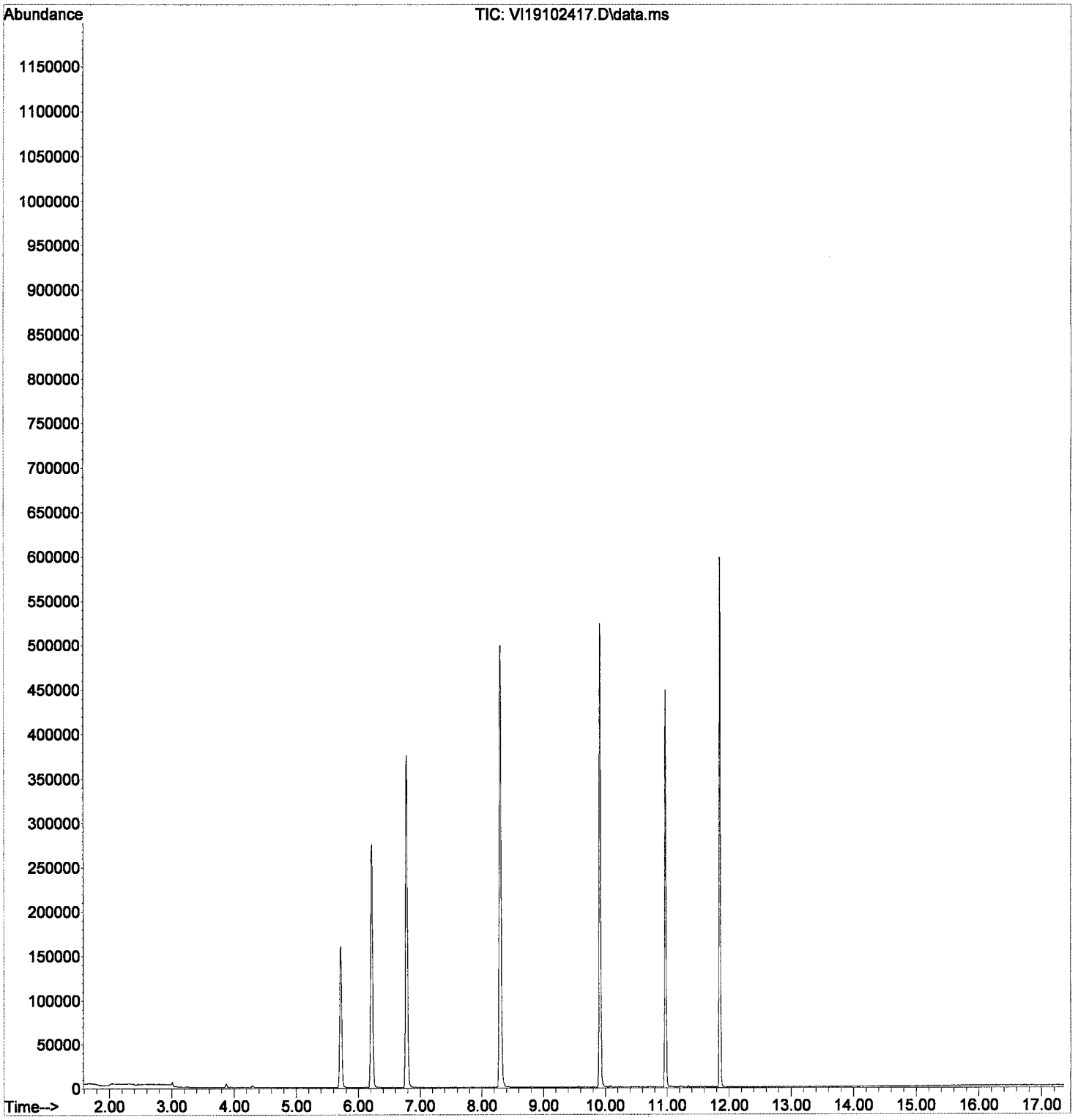
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	978	0.11	ug/L		85
50) Tetrachloroethene (PCE)	0.000		0	N.D.			
51) 4-Methyl-2-Pentanone (...	8.808	43	433	0.16	ug/L	#	43
52) t-1,3-Dichloropropene	0.000		0	N.D.			
53) 1,1,2-Trichloroethane	0.000		0	N.D.			
54) Dibromochloromethane	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

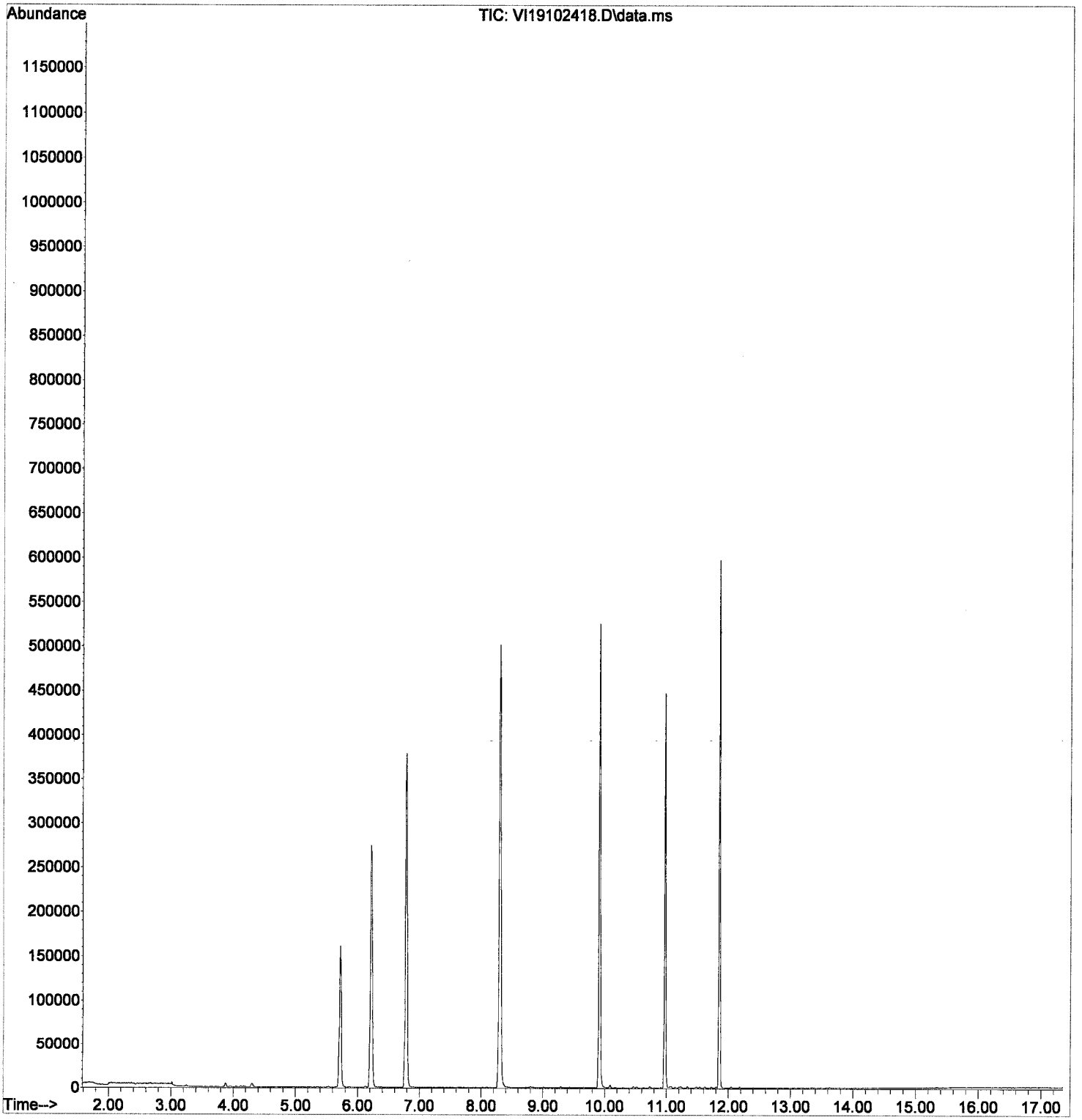
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.352	91	1744	0.21	ug/L		93
50) Tetrachloroethene (PCE)	8.808	166	267	0.14	ug/L	#	25
51) 4-Methyl-2-Pentanone (...	8.796	43	890	0.33	ug/L		85
52) t-1,3-Dichloropropene	8.839	75	300	0.11	ug/L	#	45
53) 1,1,2-Trichloroethane	9.009	97	288	0.14	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

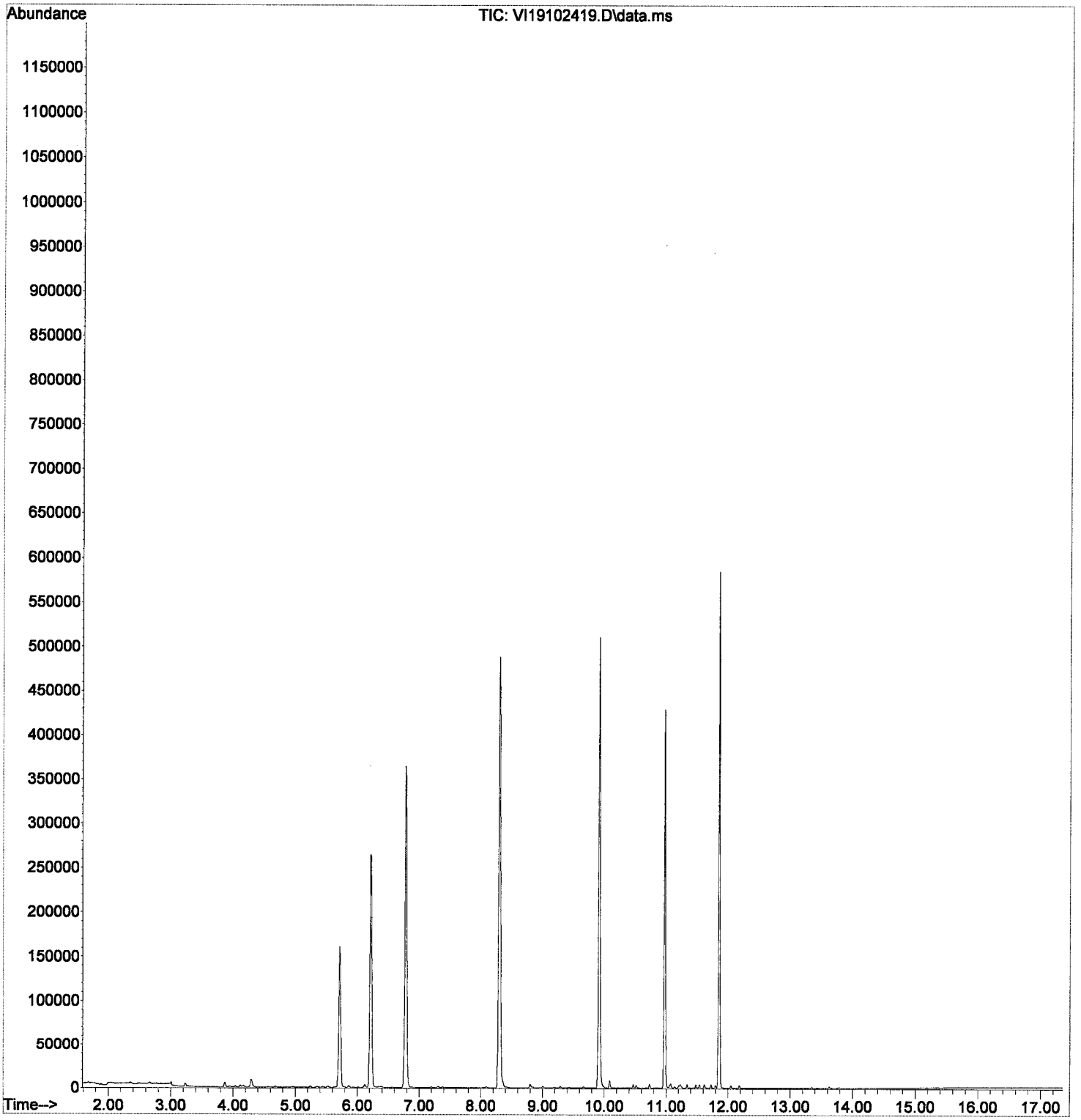
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	3505	0.43	ug/L		93
50) Tetrachloroethene (PCE)	8.796	166	787	0.42	ug/L		94
51) 4-Methyl-2-Pentanone (...	8.808	43	1912	0.73	ug/L		91
52) t-1,3-Dichloropropene	8.839	75	610	0.22	ug/L	#	45
53) 1,1,2-Trichloroethane	9.003	97	717	0.36	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

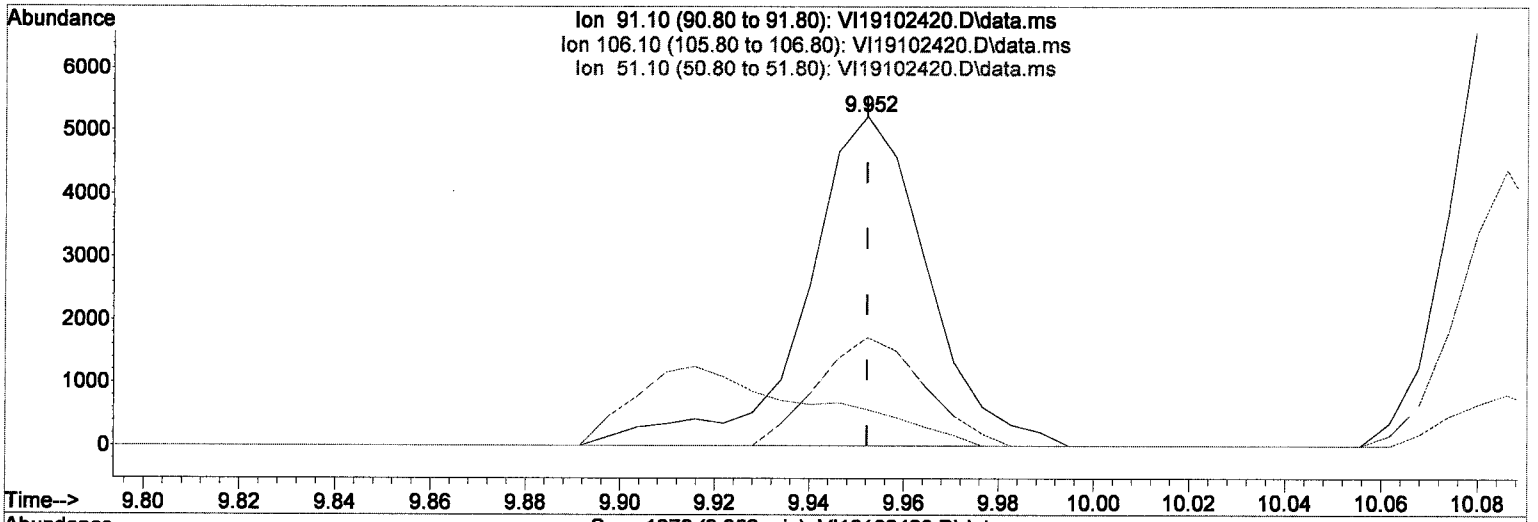
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.352	91	9040	1.04	ug/L		99
50) Tetrachloroethene (PCE)	8.796	166	1994	1.00	ug/L		91
51) 4-Methyl-2-Pentanone (...	8.802	43	5042	1.83	ug/L		93
52) t-1,3-Dichloropropene	8.839	75	2122	0.72	ug/L		95
53) 1,1,2-Trichloroethane	9.003	97	1944	0.93	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

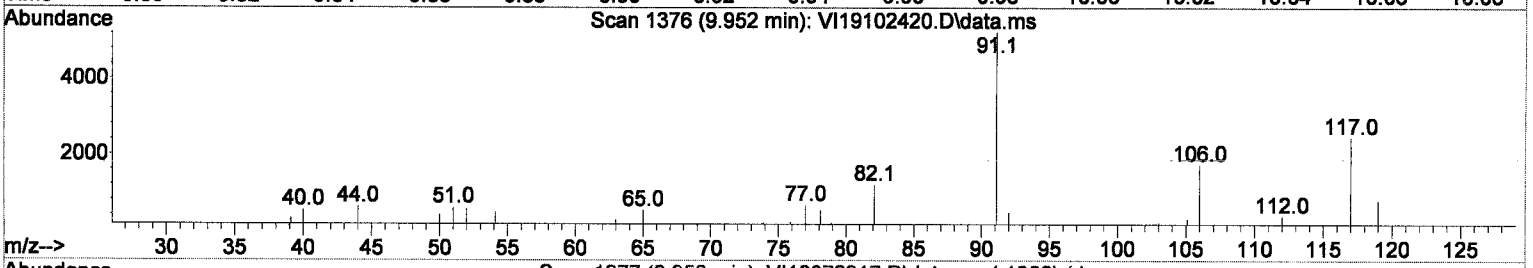
(#) = qualifier out of range (m) = manual integration (+) = signals summed

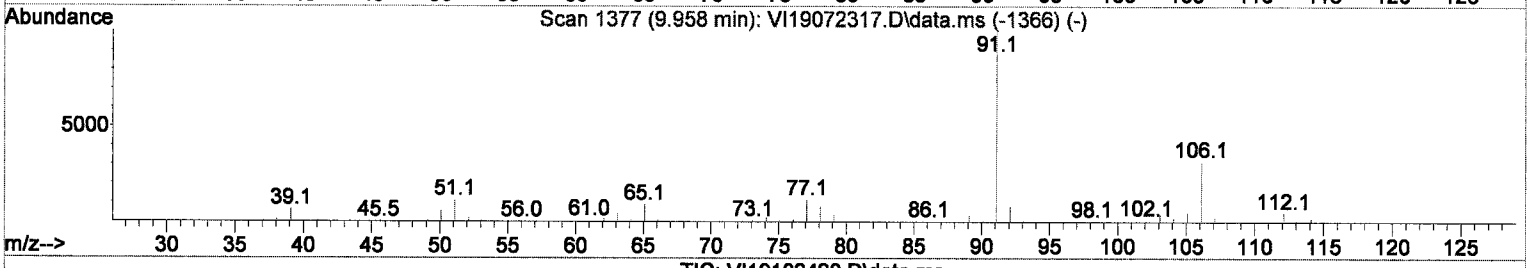
Quantitation Report (Qedit)

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

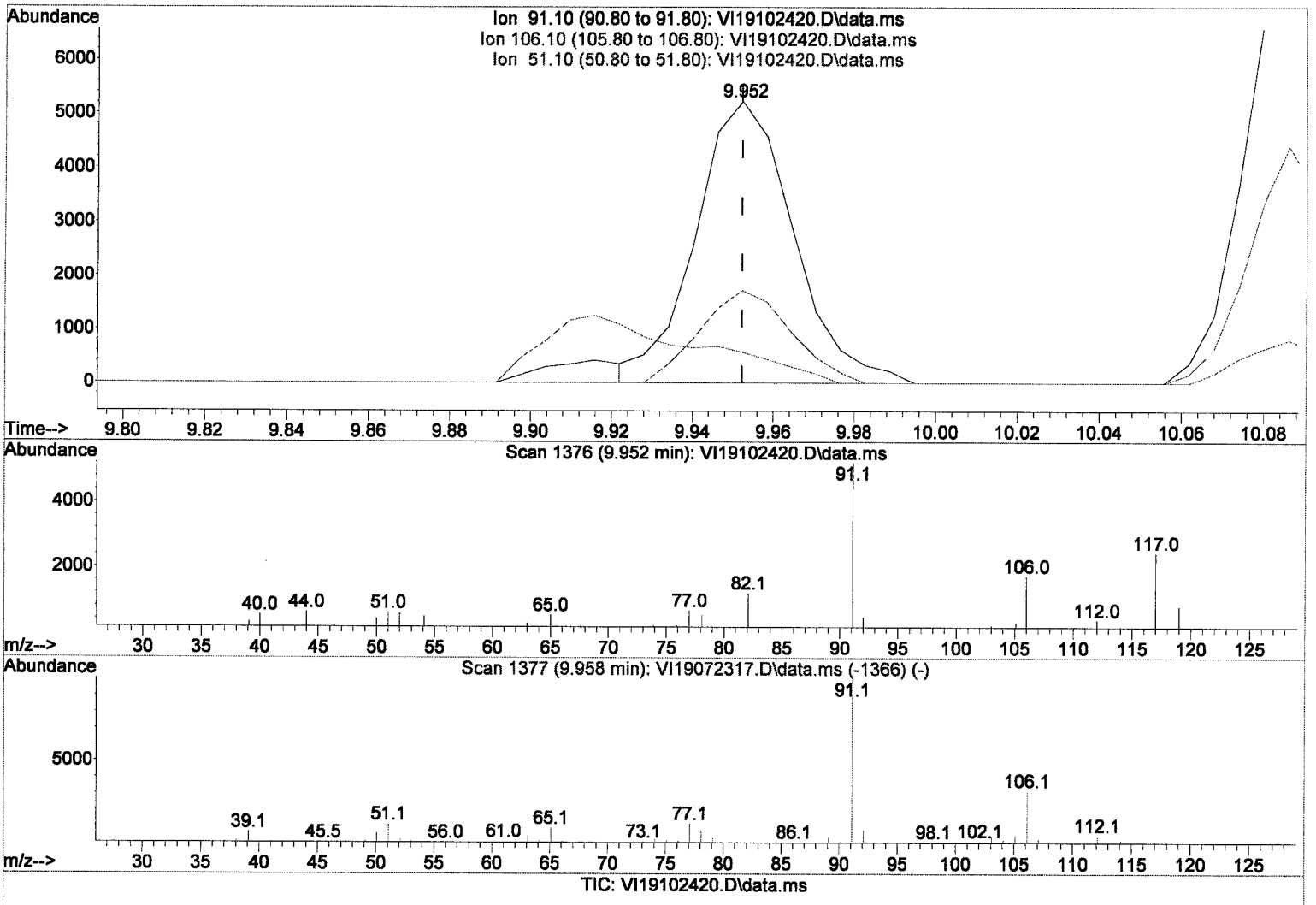
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.98
51.10	10.40	11.11
0.00	0.00	0.00

M.2

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

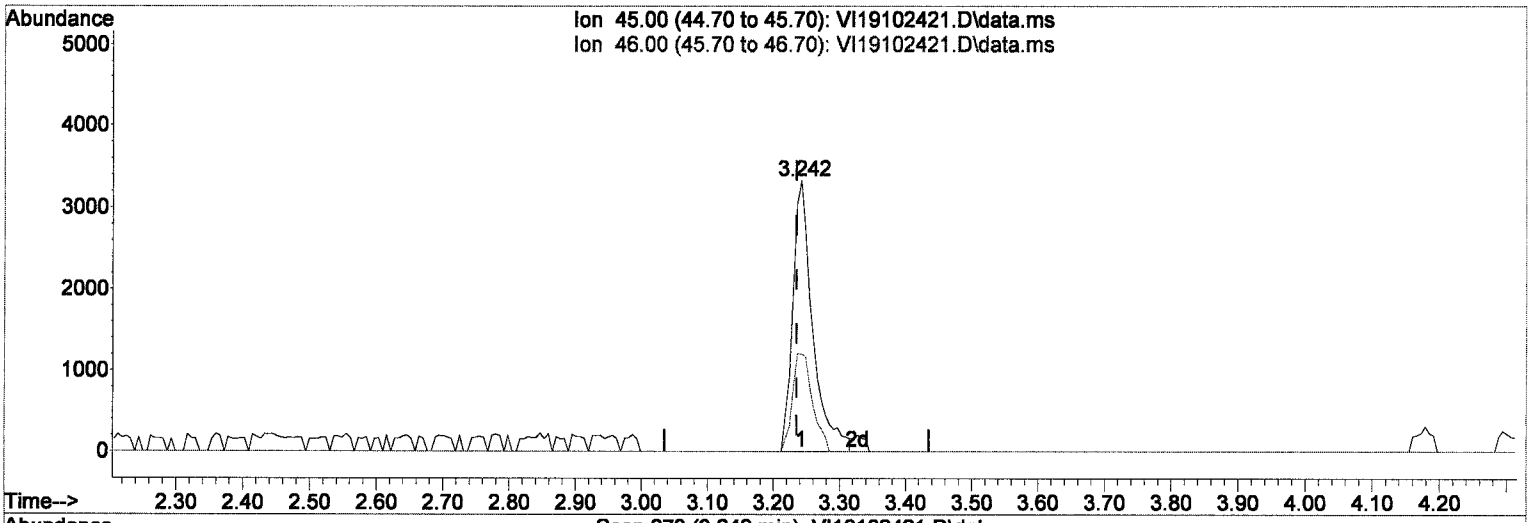
response 8761

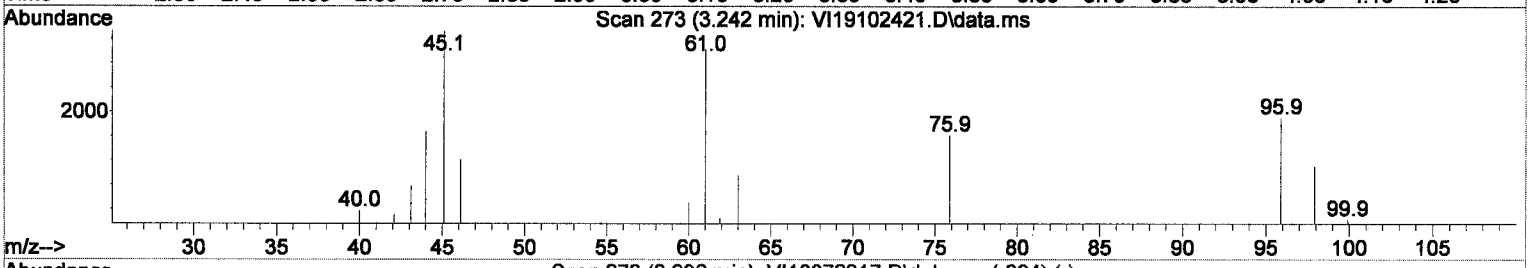
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.98
51.10	10.40	11.11
0.00	0.00	0.00

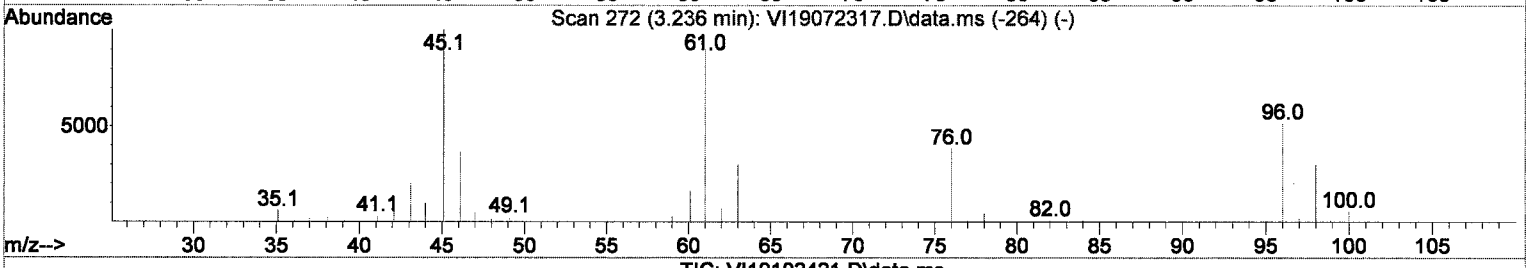
Quantitation Report (Qedit)

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

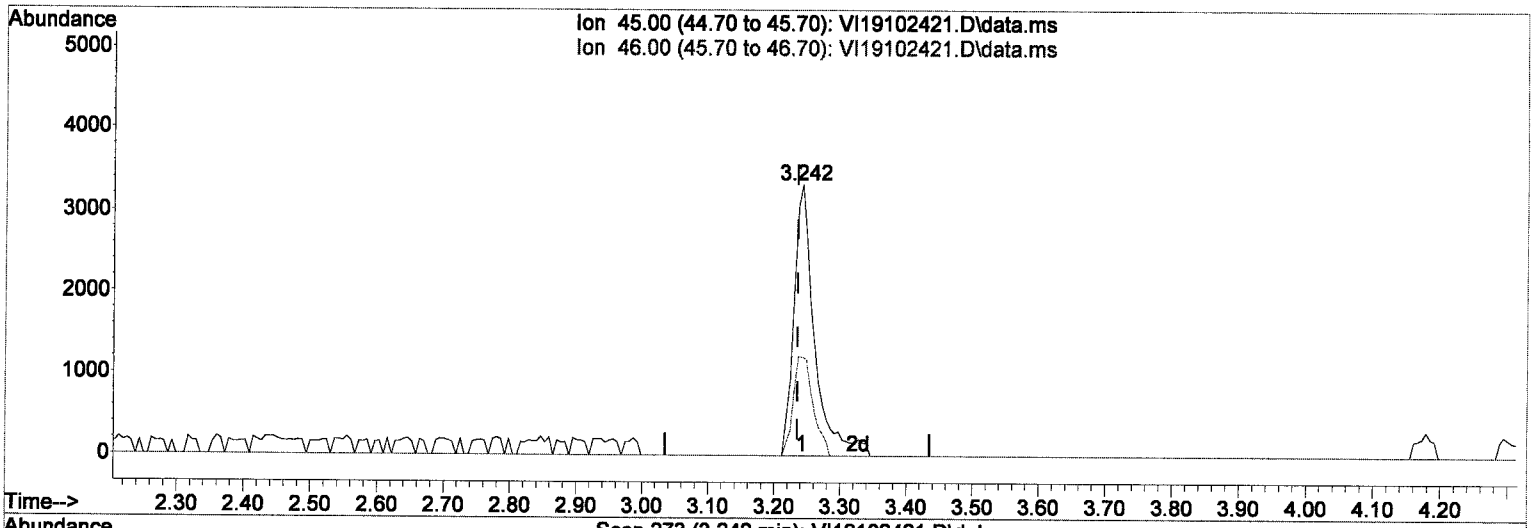
M.2.

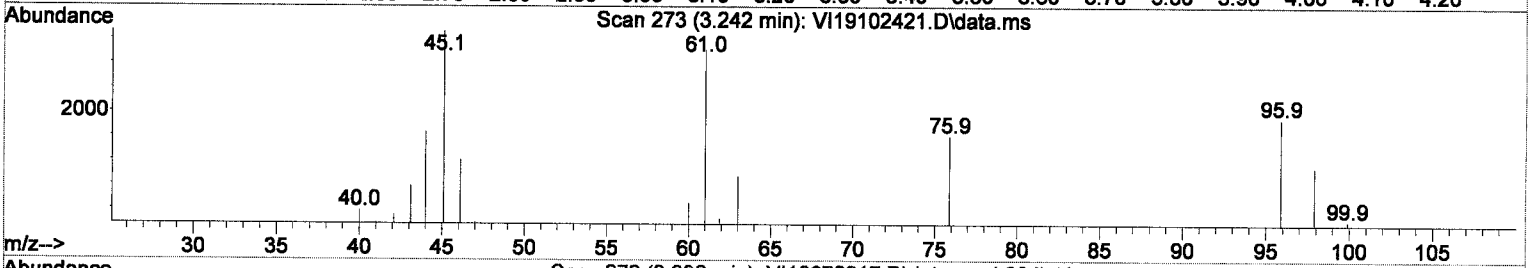
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	36.12
0.00	0.00	0.00
0.00	0.00	0.00

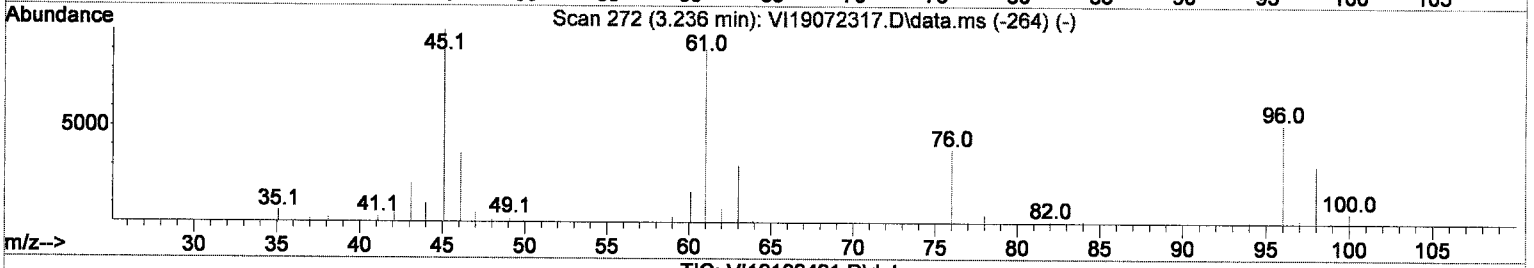
Quantitation Report (Qedit)

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

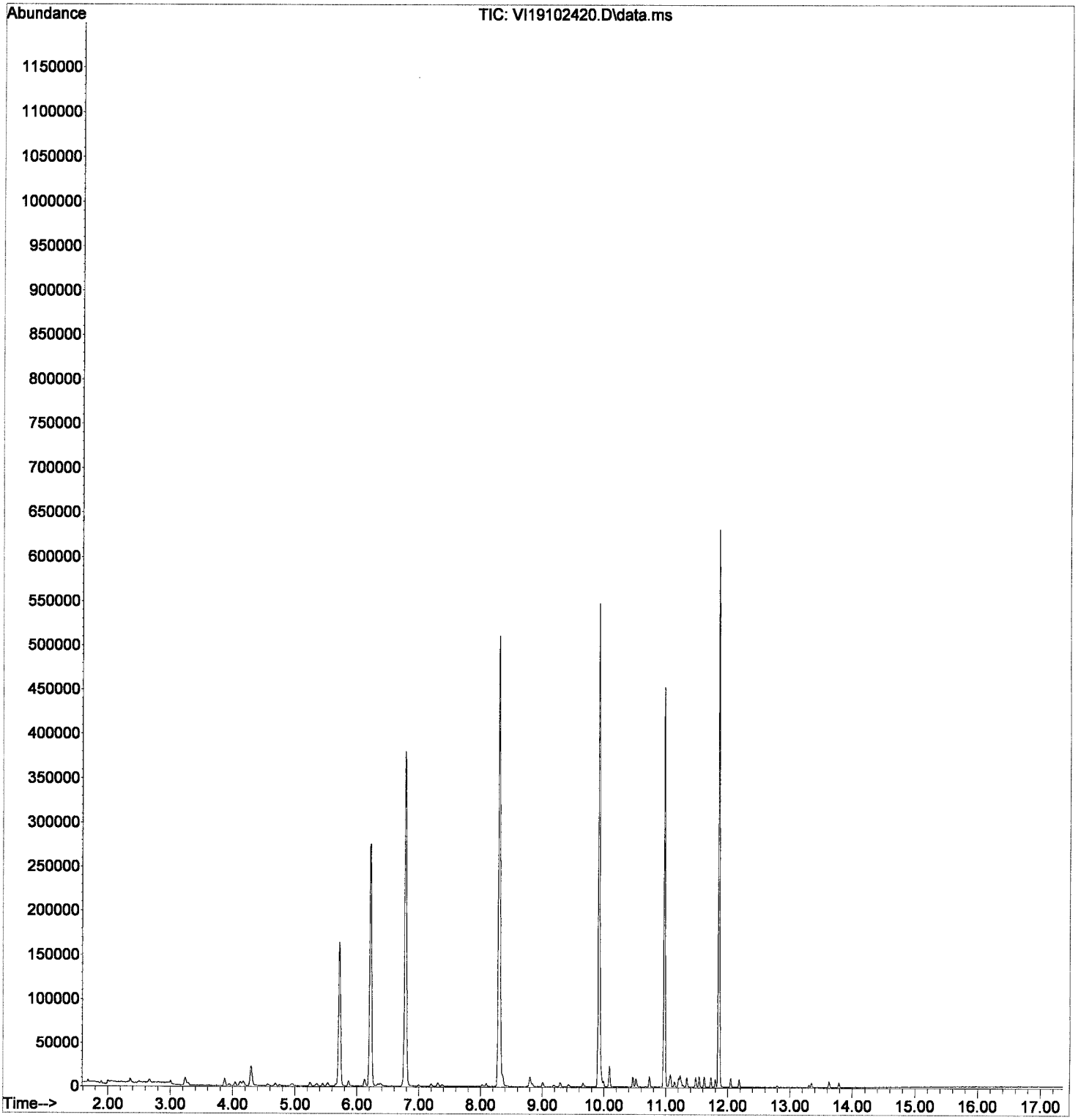
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	36.12
0.00	0.00	0.00
0.00	0.00	0.00

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 Qual
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

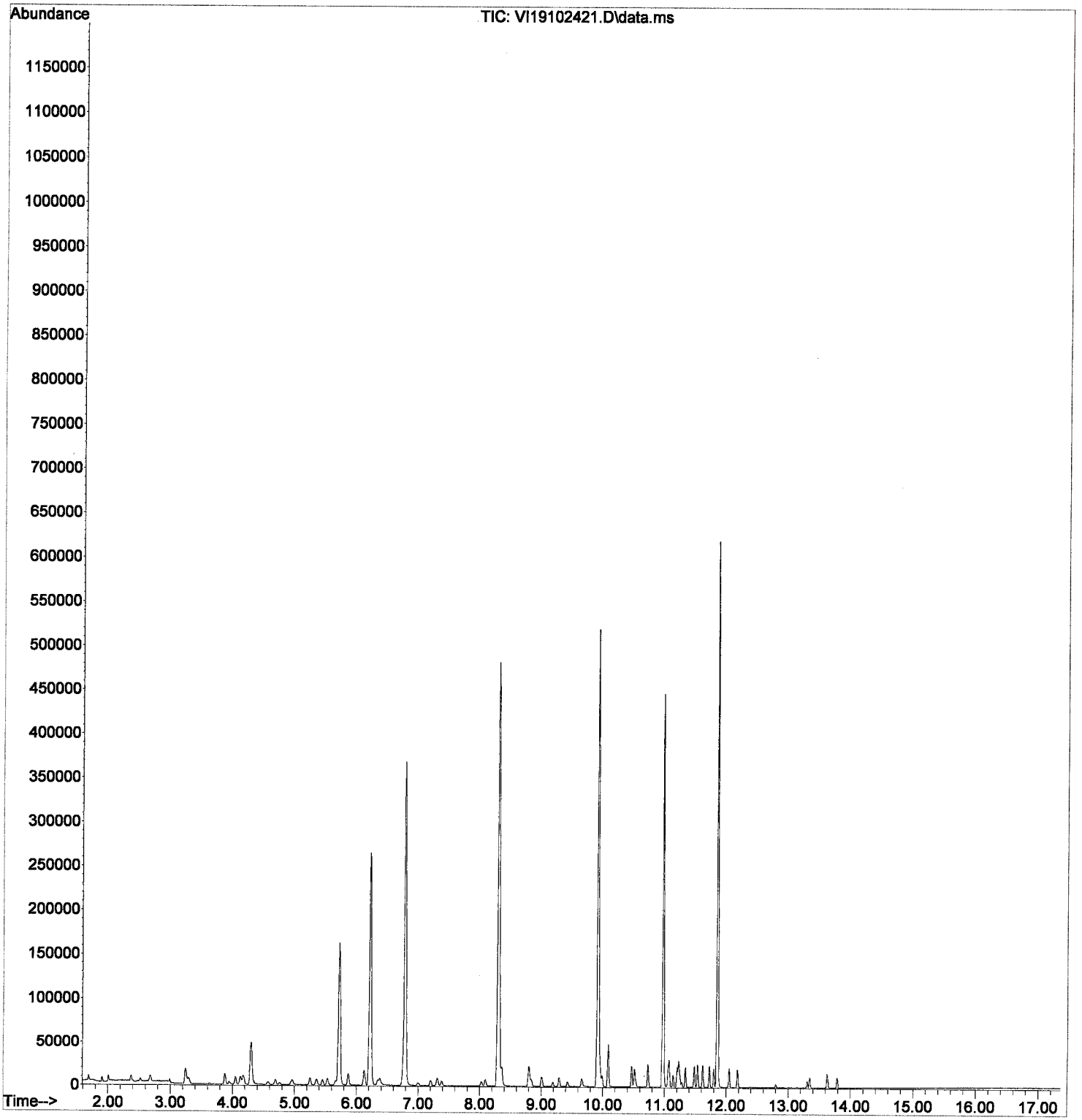
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	17851	2.14	ug/L		99
50) Tetrachloroethene (PCE)	8.796	166	4333	2.28	ug/L		92
51) 4-Methyl-2-Pentanone (...	8.809	43	11029	4.18	ug/L		98
52) t-1,3-Dichloropropene	8.839	75	4500	1.60	ug/L		95
53) 1,1,2-Trichloroethane	9.003	97	4134	2.06	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

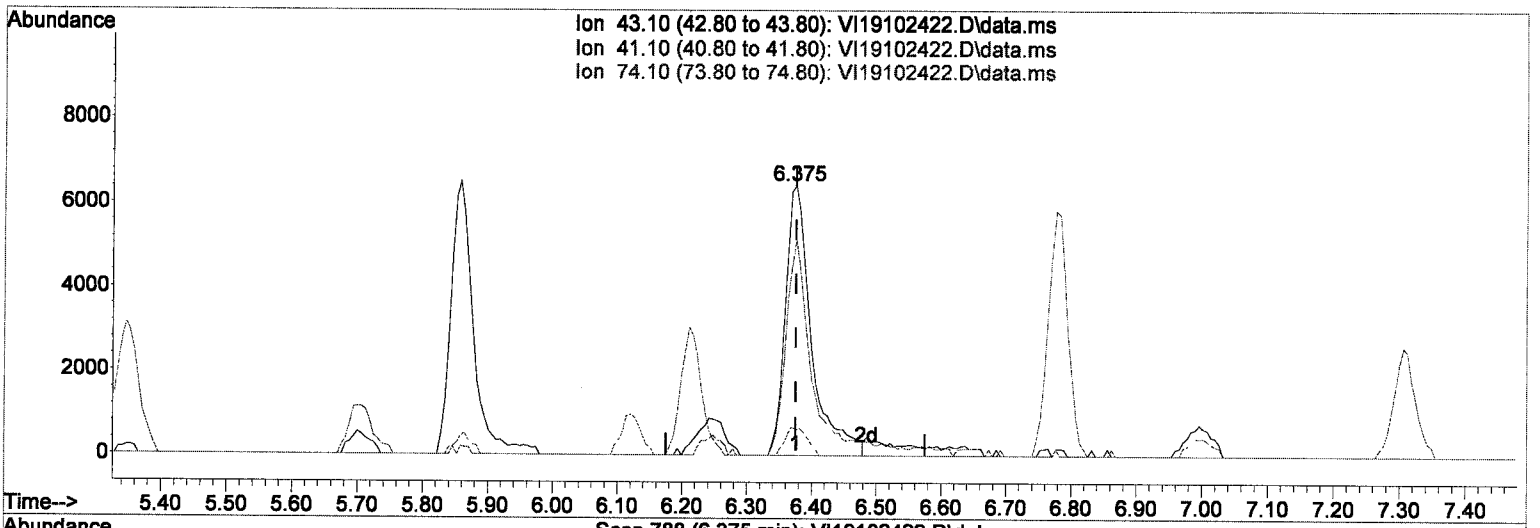
Quant Time: Oct 25 08:10:29 2019
Quant Method : C:\msdchem\1\methods\VI191025W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

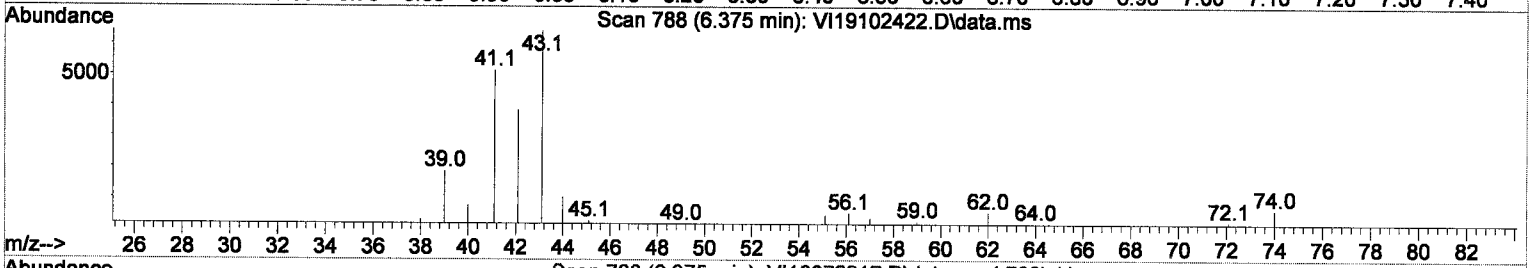
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	111010	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	300317	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	141843	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (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

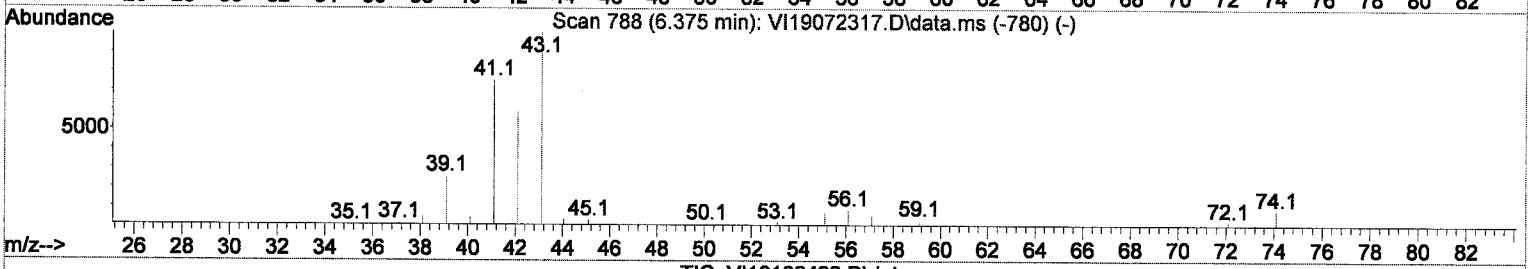
Quantitation Report (Qedit)

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

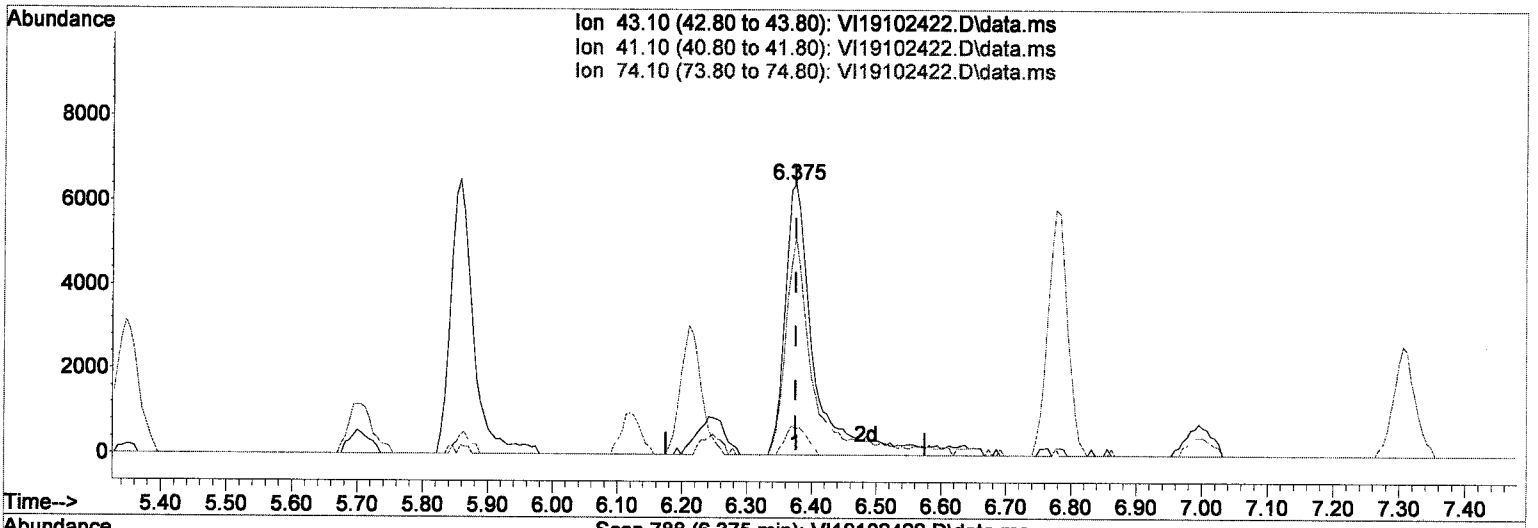
response 18074

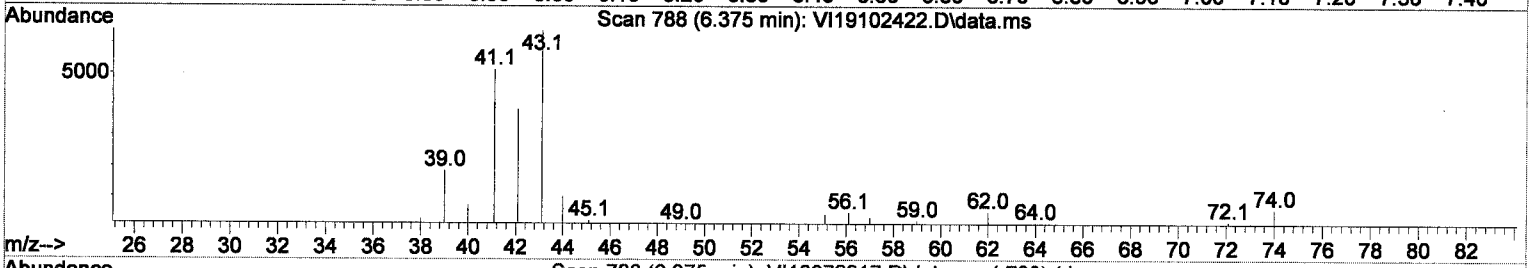
Ion	Exp%	Act%
43.10	100.00	100.00
41.10	78.60	80.03
74.10	11.20	9.63
0.00	0.00	0.00

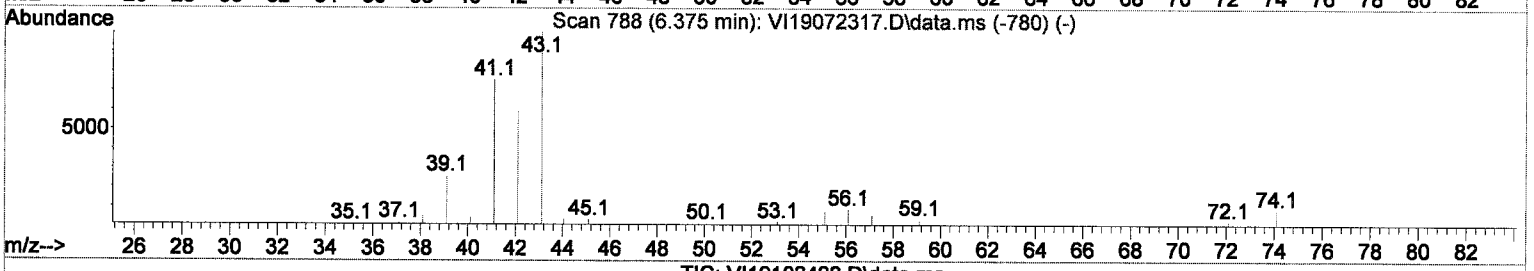
Quantitation Report (Qedit)

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

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

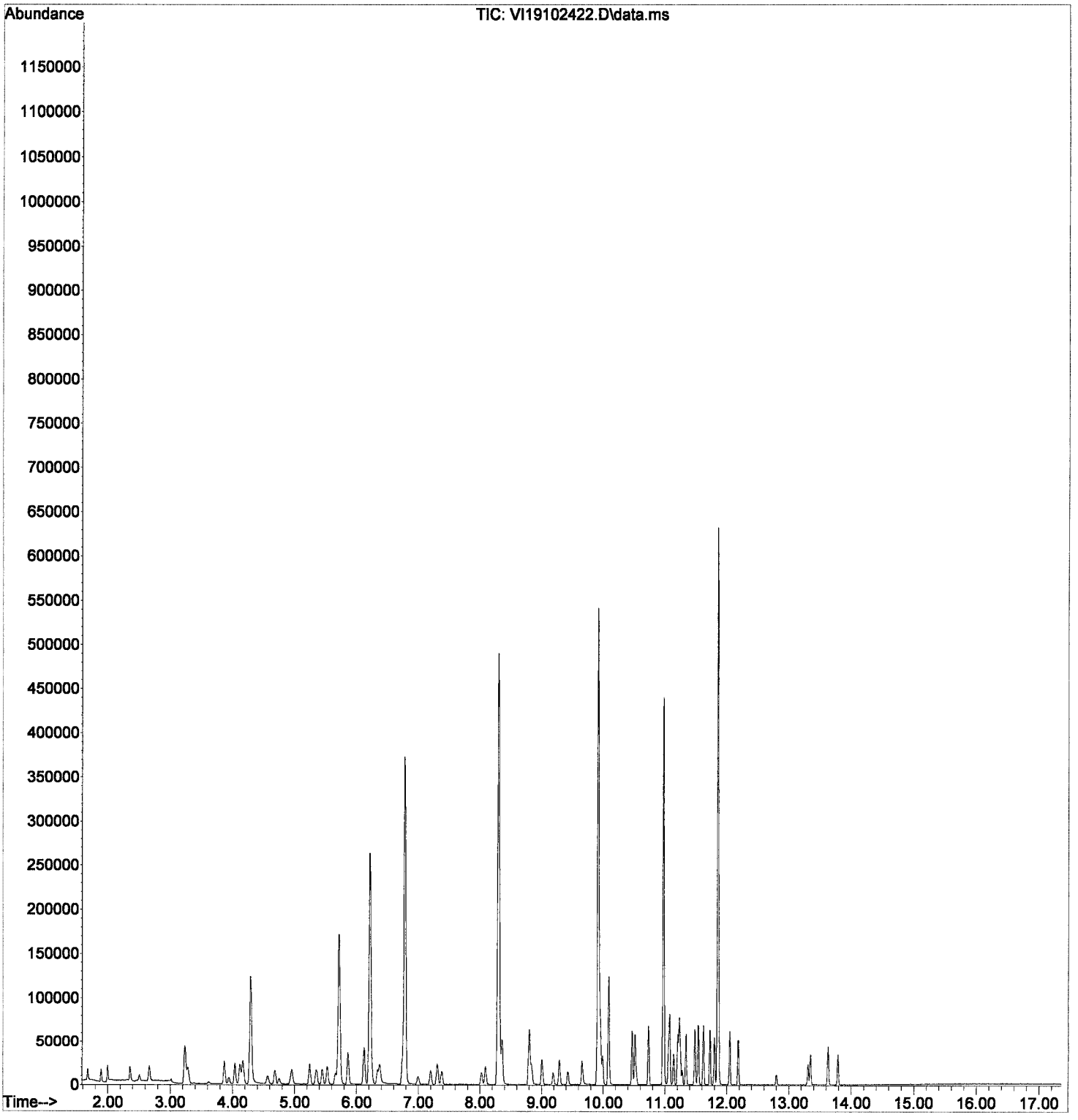
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	44272	5.27	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	10847	5.65	ug/L		90
51) 4-Methyl-2-Pentanone (...	8.796	43	28183	10.59	ug/L		97
52) t-1,3-Dichloropropene	8.839	75	12130	4.29	ug/L		98
53) 1,1,2-Trichloroethane	9.003	97	10336	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

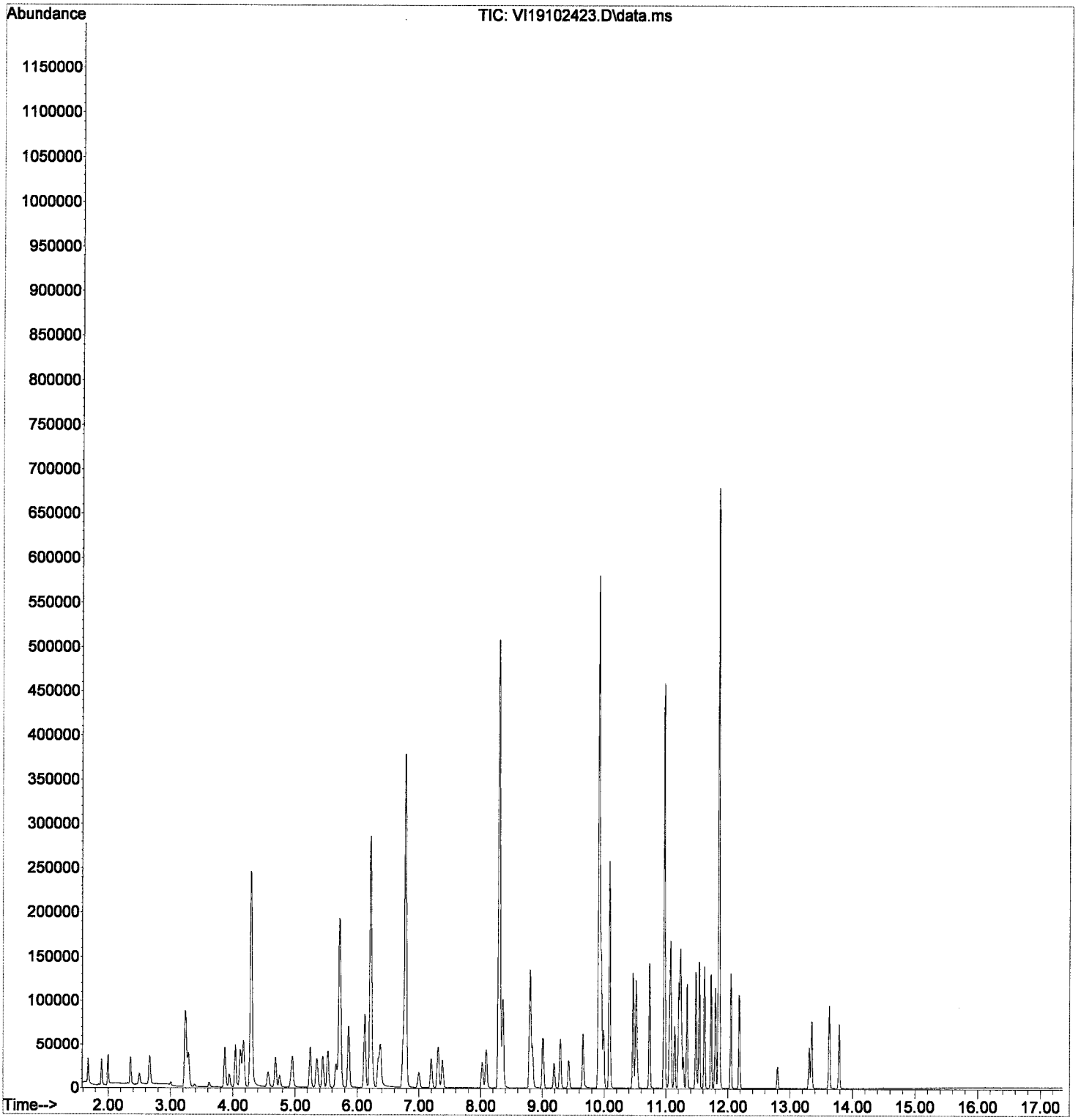
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	90400	10.33	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	22099	11.06	ug/L		92
51) 4-Methyl-2-Pentanone (...	8.802	43	58009	20.92	ug/L		92
52) t-1,3-Dichloropropene	8.839	75	26302	8.92	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	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

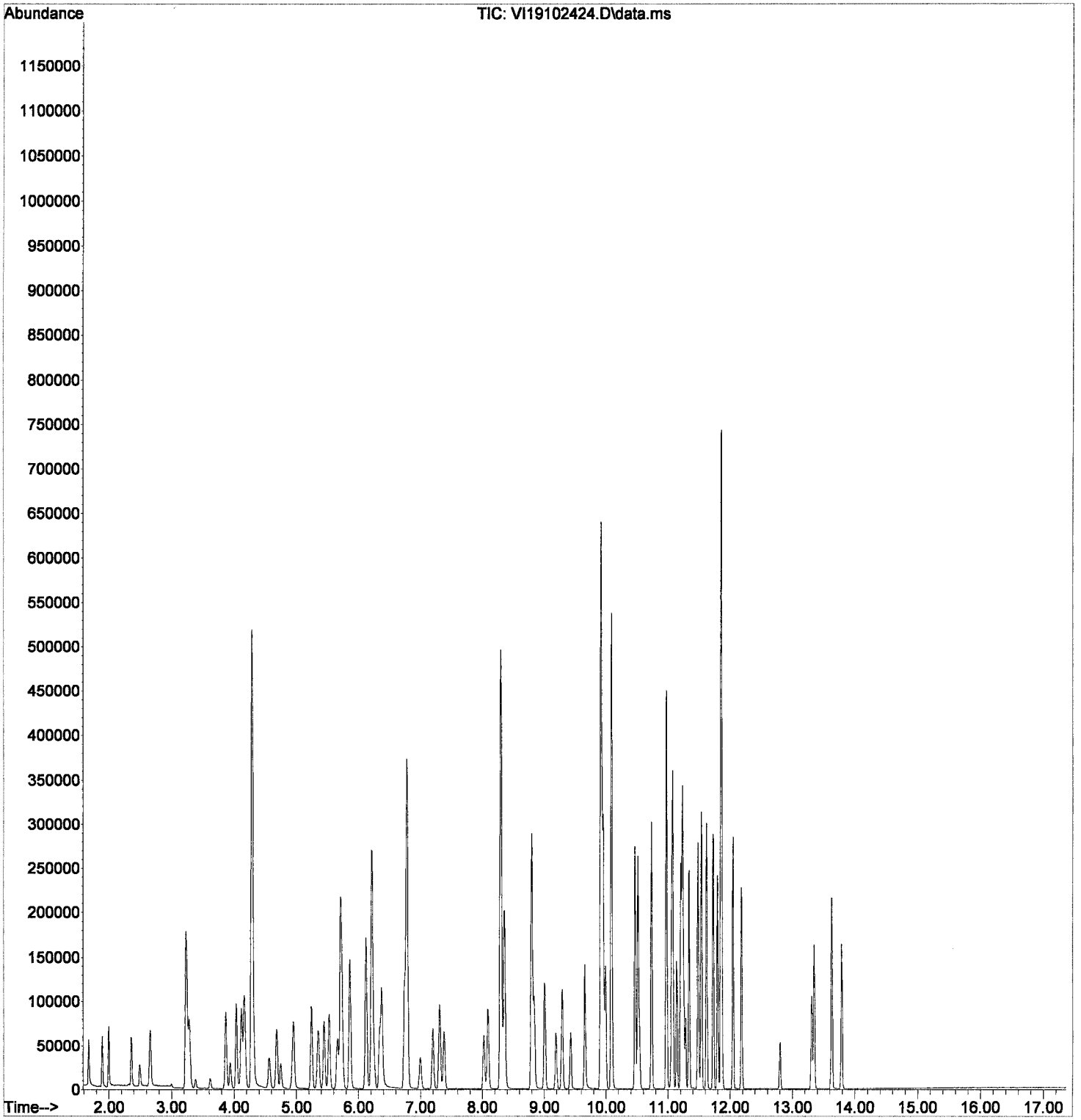
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	183309	21.33	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	45467	23.17	ug/L		91
51) 4-Methyl-2-Pentanone (...	8.796	43	120524	44.27	ug/L		94
52) t-1,3-Dichloropropene	8.833	75	57085	19.72	ug/L		96
53) 1,1,2-Trichloroethane	9.003	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\~~VI191025~~W.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Tue Aug 06 08:58:13 2019
Response via : Initial Calibration

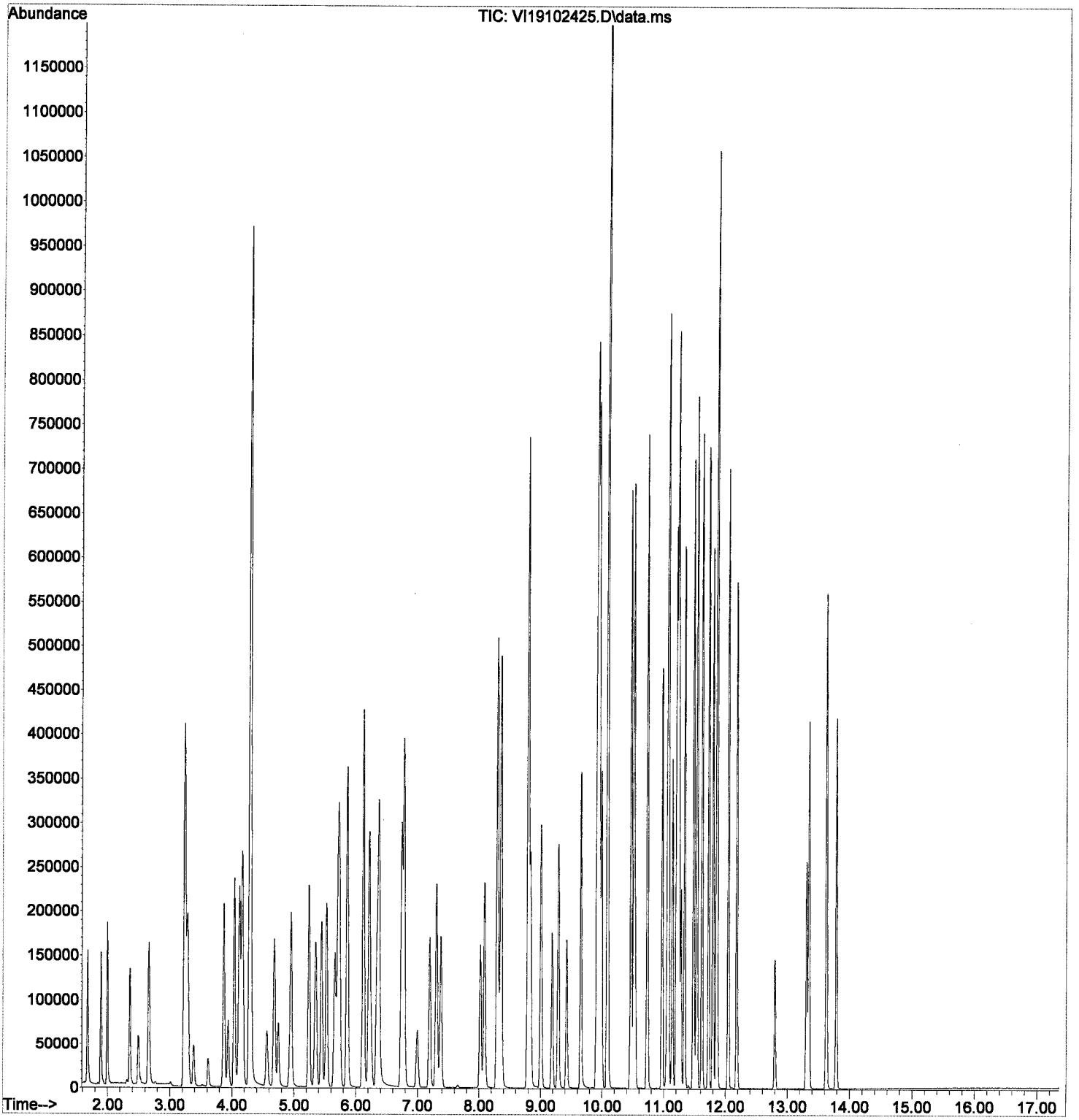
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.358	91	446611	49.69	ug/L	99
50) Tetrachloroethene (PCE)	8.796	166	113079	55.11	ug/L	92
51) 4-Methyl-2-Pentanone (...	8.796	43	304356	106.90	ug/L	94
52) t-1,3-Dichloropropene	8.833	75	151987	50.21	ug/L	97
53) 1,1,2-Trichloroethane	9.003	97	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	51.81	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

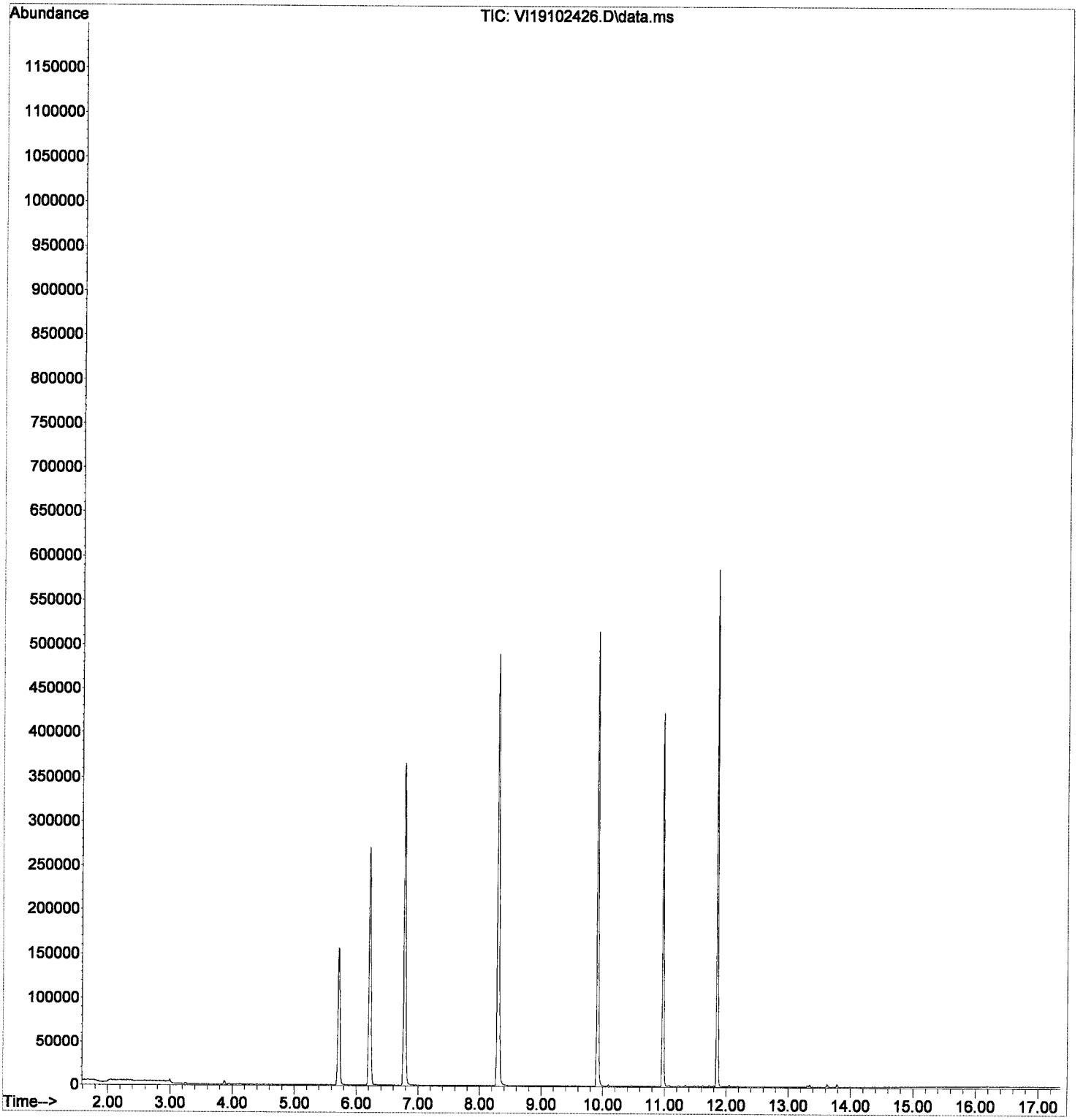
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	99	112457	50.00	ug/L	#	0.00
45) Chlorobenzene-d5 (I)	9.910	117	299558	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	136435	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (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

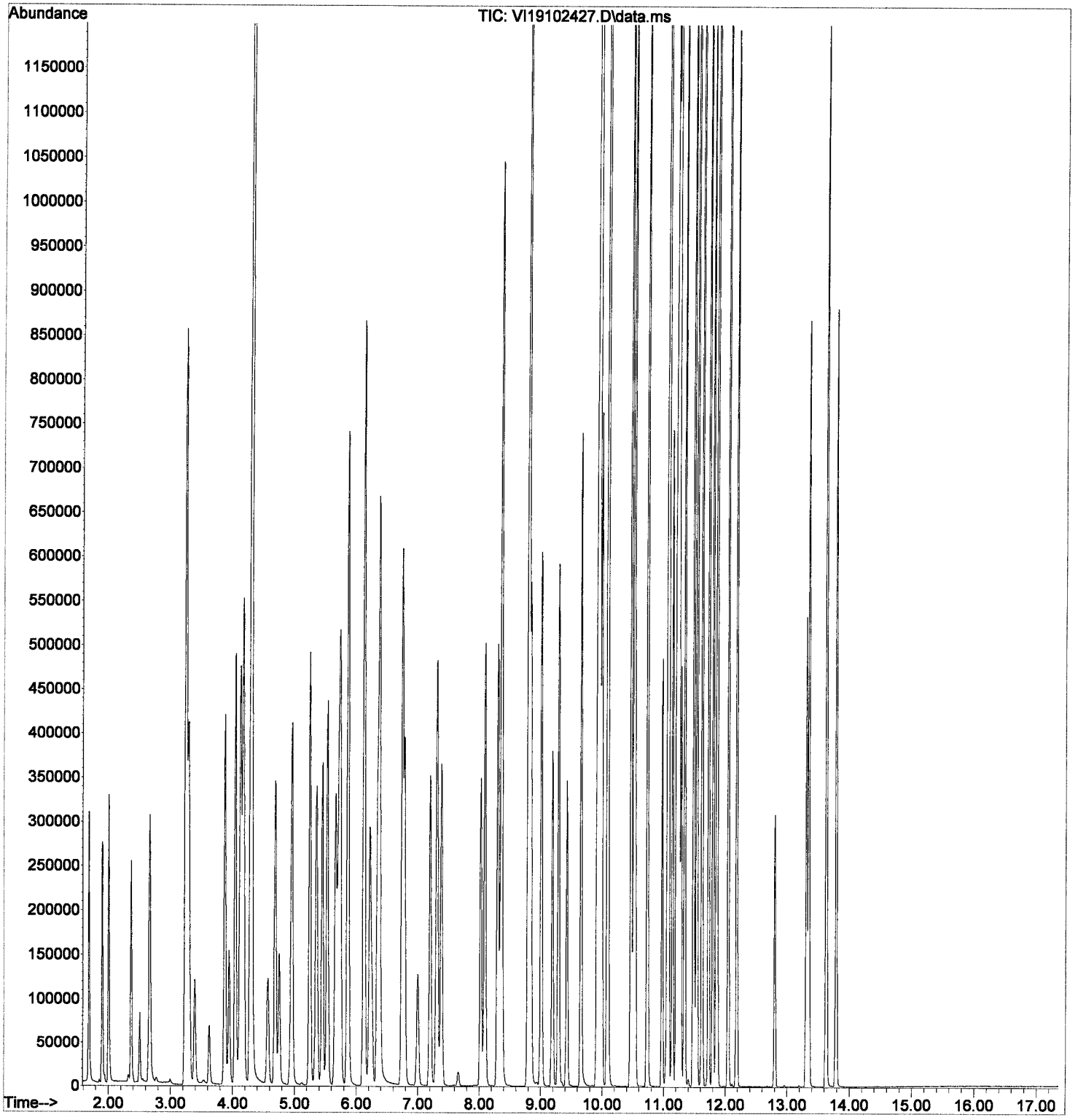
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.358	91	931584	104.48	ug/L	99
50) Tetrachloroethene (PCE)	8.796	166	236880	116.36	ug/L	92
51) 4-Methyl-2-Pentanone (...	8.796	43	616767	218.34	ug/L	92
52) t-1,3-Dichloropropene	8.839	75	327146	108.93	ug/L	98
53) 1,1,2-Trichloroethane	9.009	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

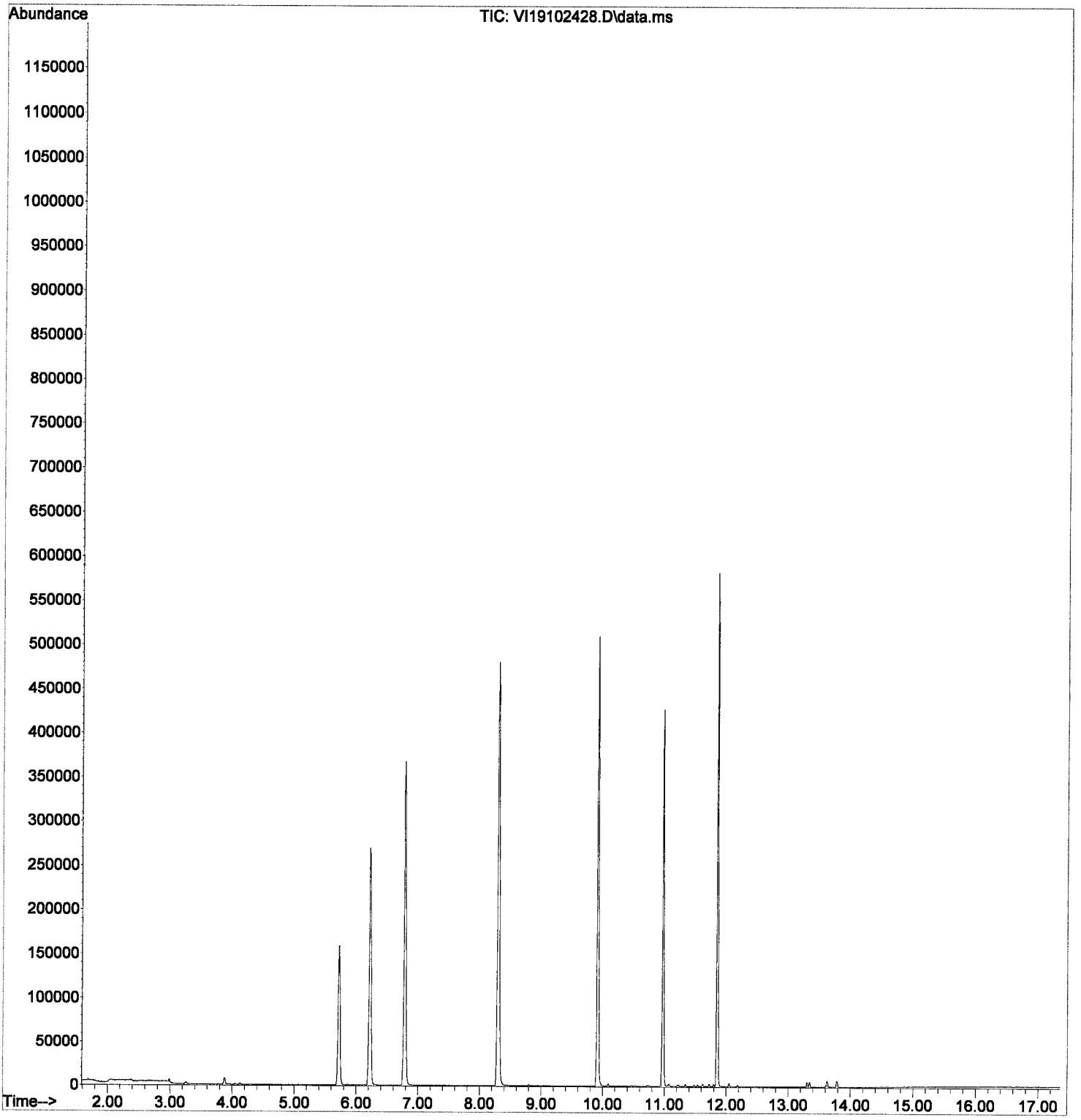
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

(#) = 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

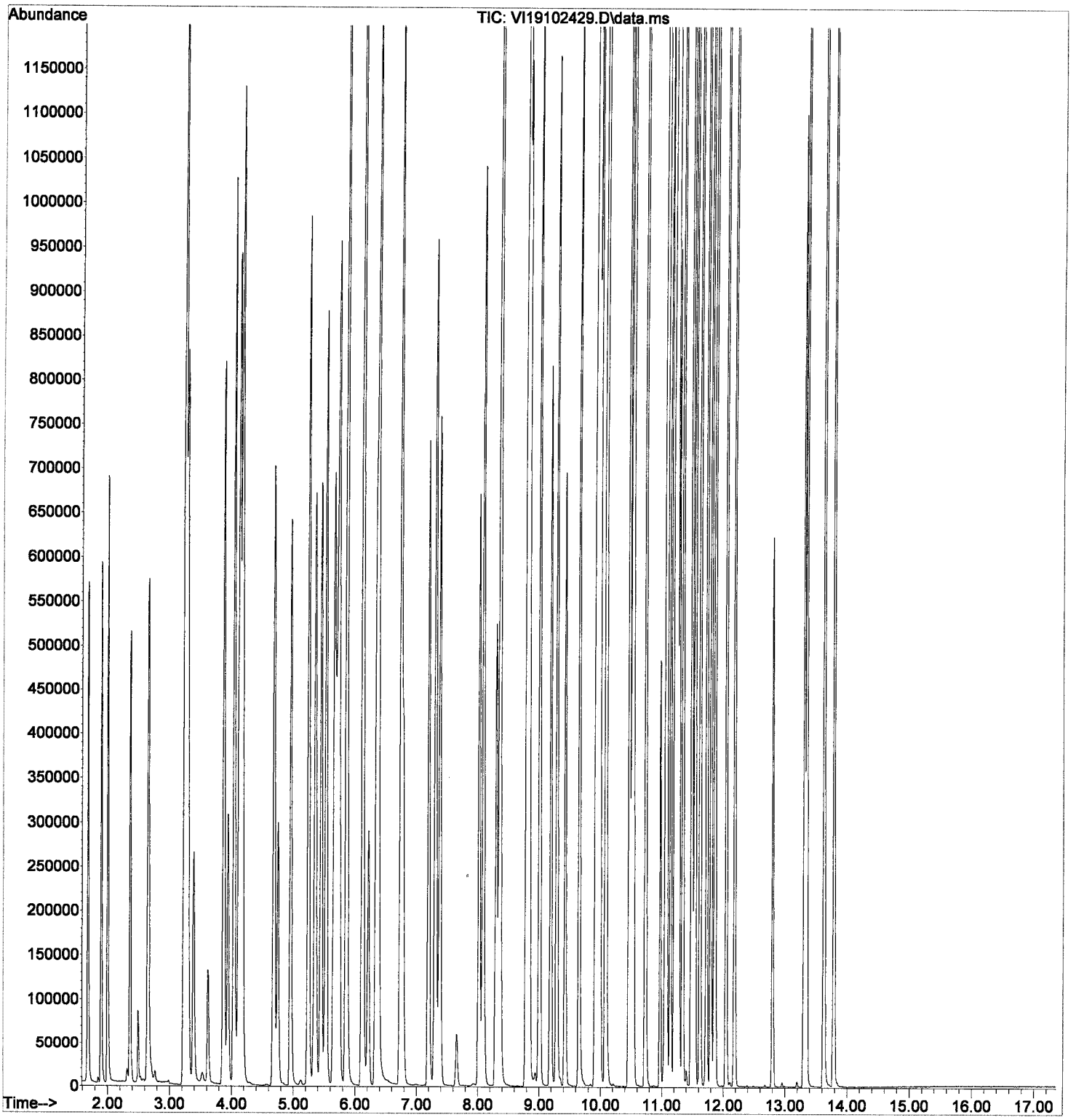
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.358	91	1905088	205.73	ug/L	100
50) Tetrachloroethene (PCE)	8.796	166	496433	234.81	ug/L	93
51) 4-Methyl-2-Pentanone (...	8.796	43	1166981	397.79	ug/L	90
52) t-1,3-Dichloropropene	8.839	75	678927	217.67	ug/L	98
53) 1,1,2-Trichloroethane	9.009	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

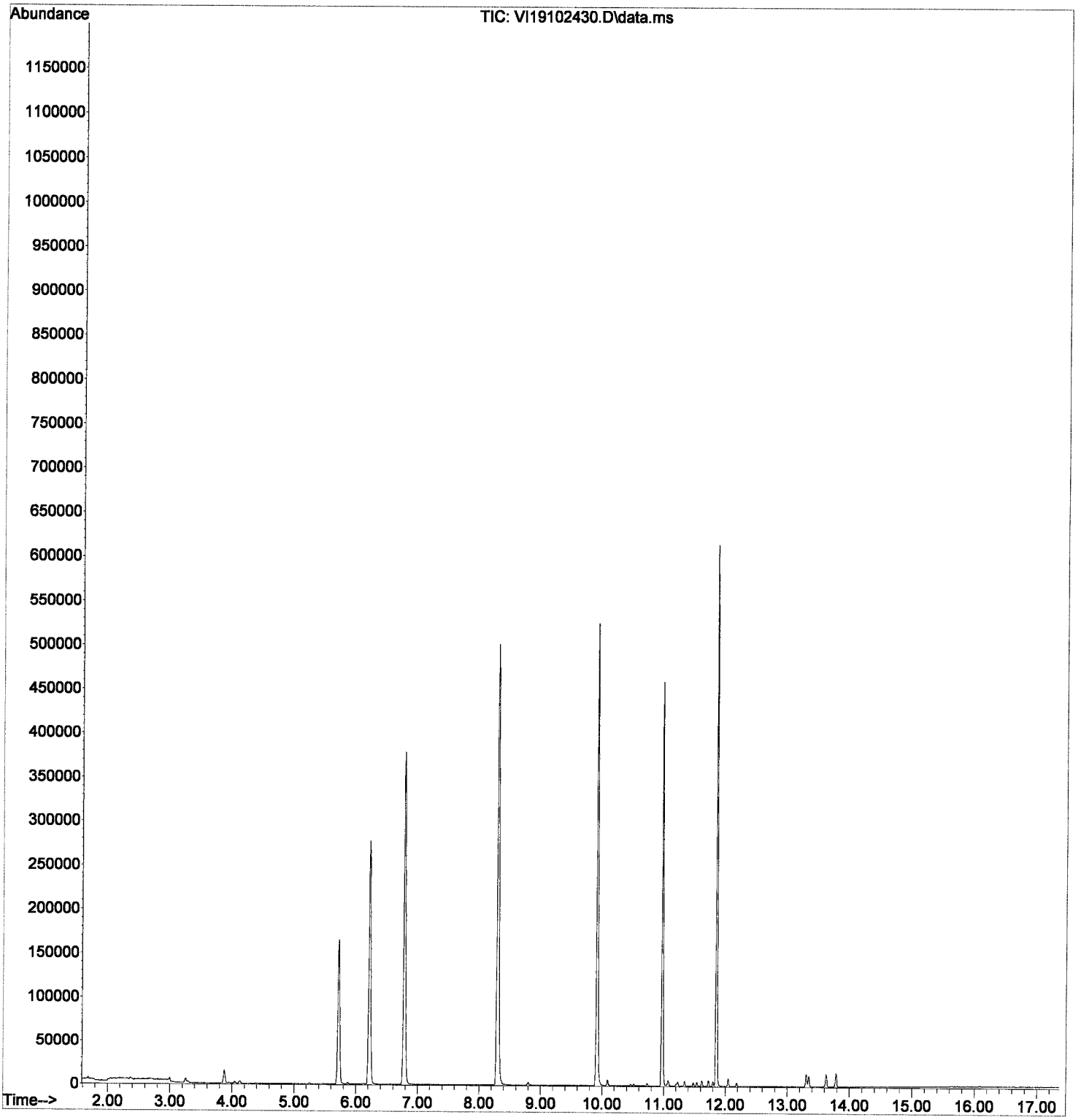
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
88) 1,2,3-Trichlorobenzene	13.785	180	5992	2.88	ug/L	97

(#) = 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

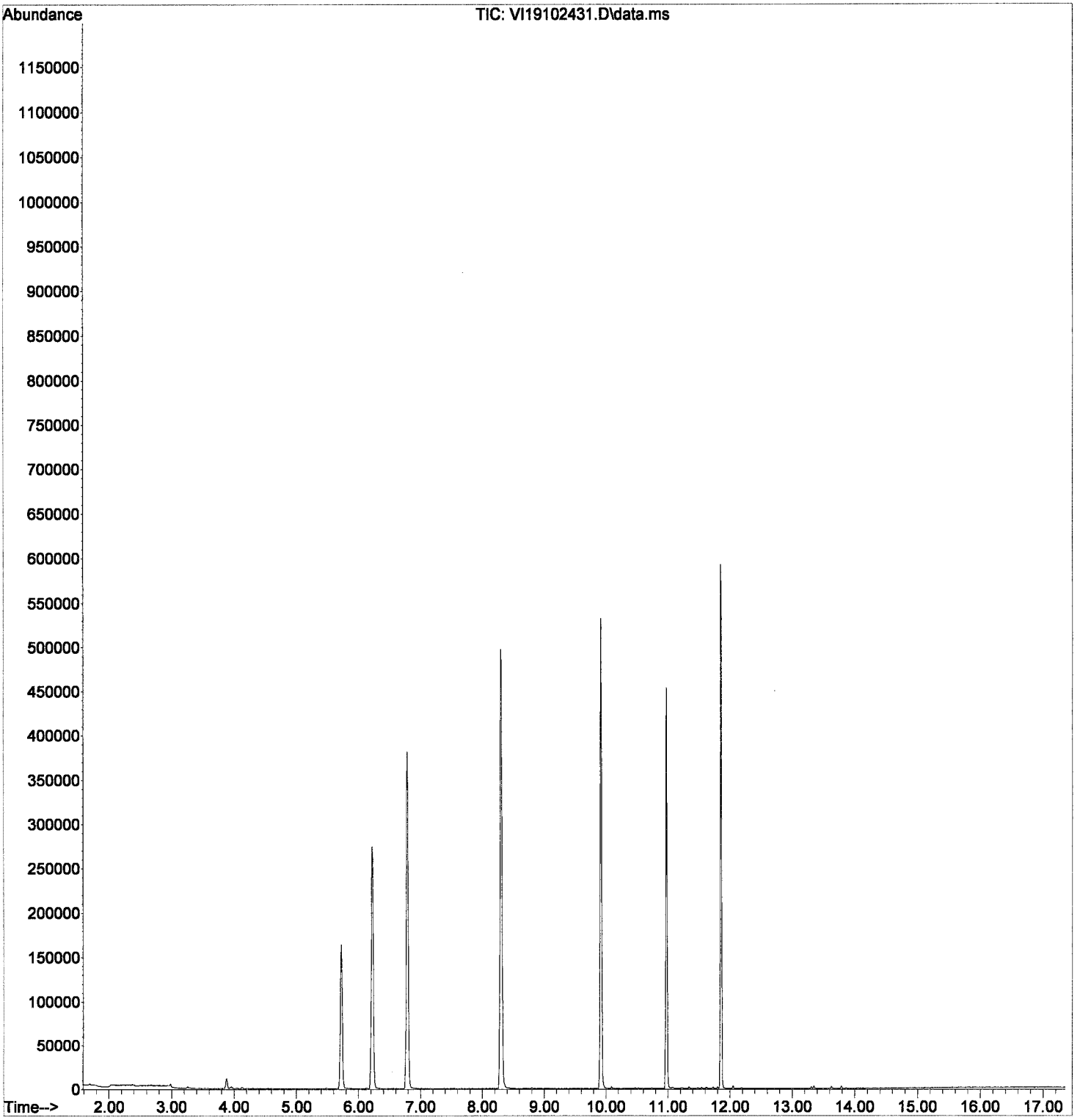
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.217	99	114296	50.00 ug/L	# 0.00
45) Chlorobenzene-d5 (I)	9.916	117	308297	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	139384	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (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

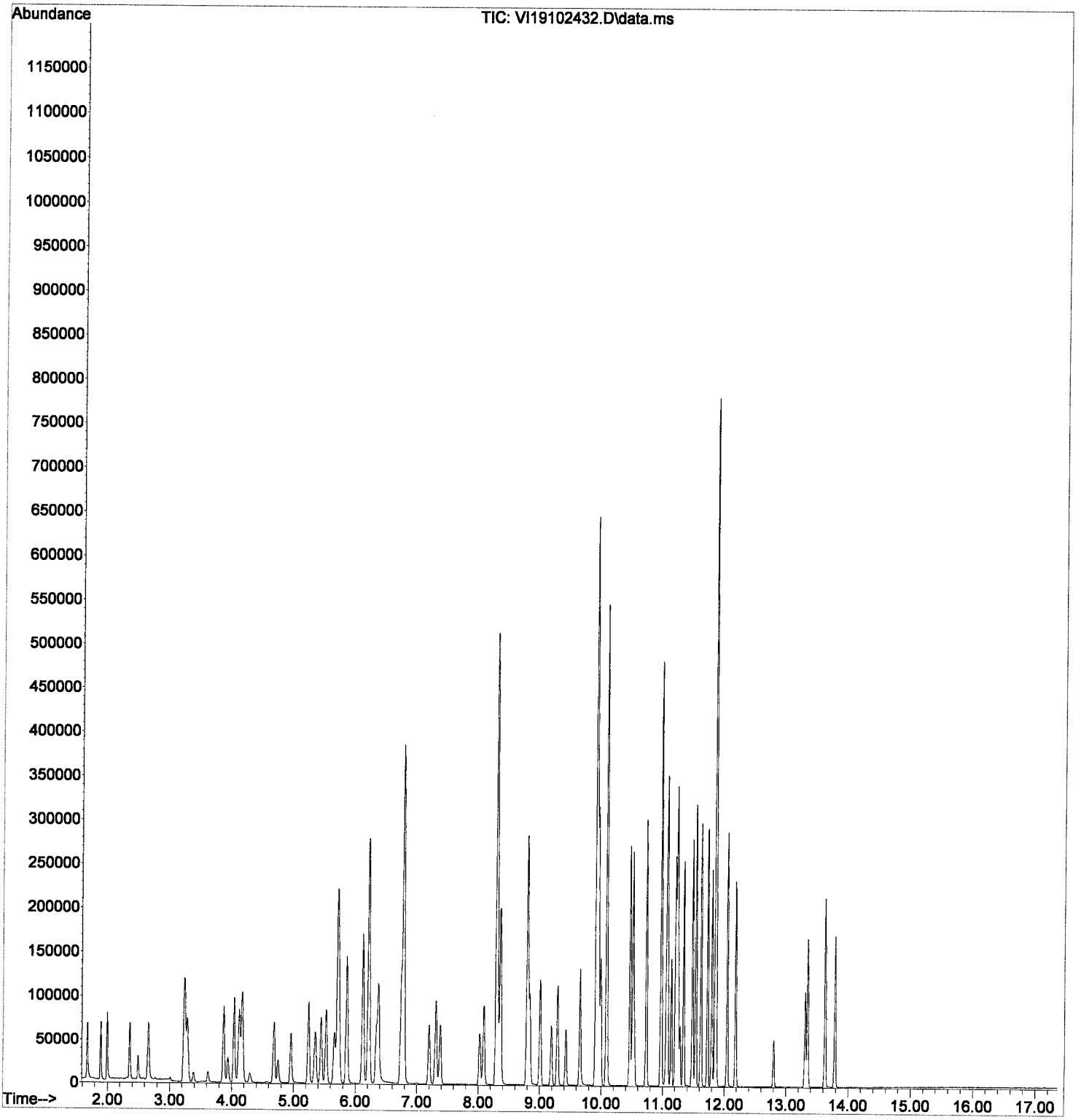
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	182339	19.39	ug/L		100
50) Tetrachloroethene (PCE)	8.796	166	45736	20.89	ug/L		91
51) 4-Methyl-2-Pentanone (...	8.796	43	117185	41.04	ug/L		94
52) t-1,3-Dichloropropene	8.839	75	58067	20.70	ug/L		99
53) 1,1,2-Trichloroethane	9.003	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

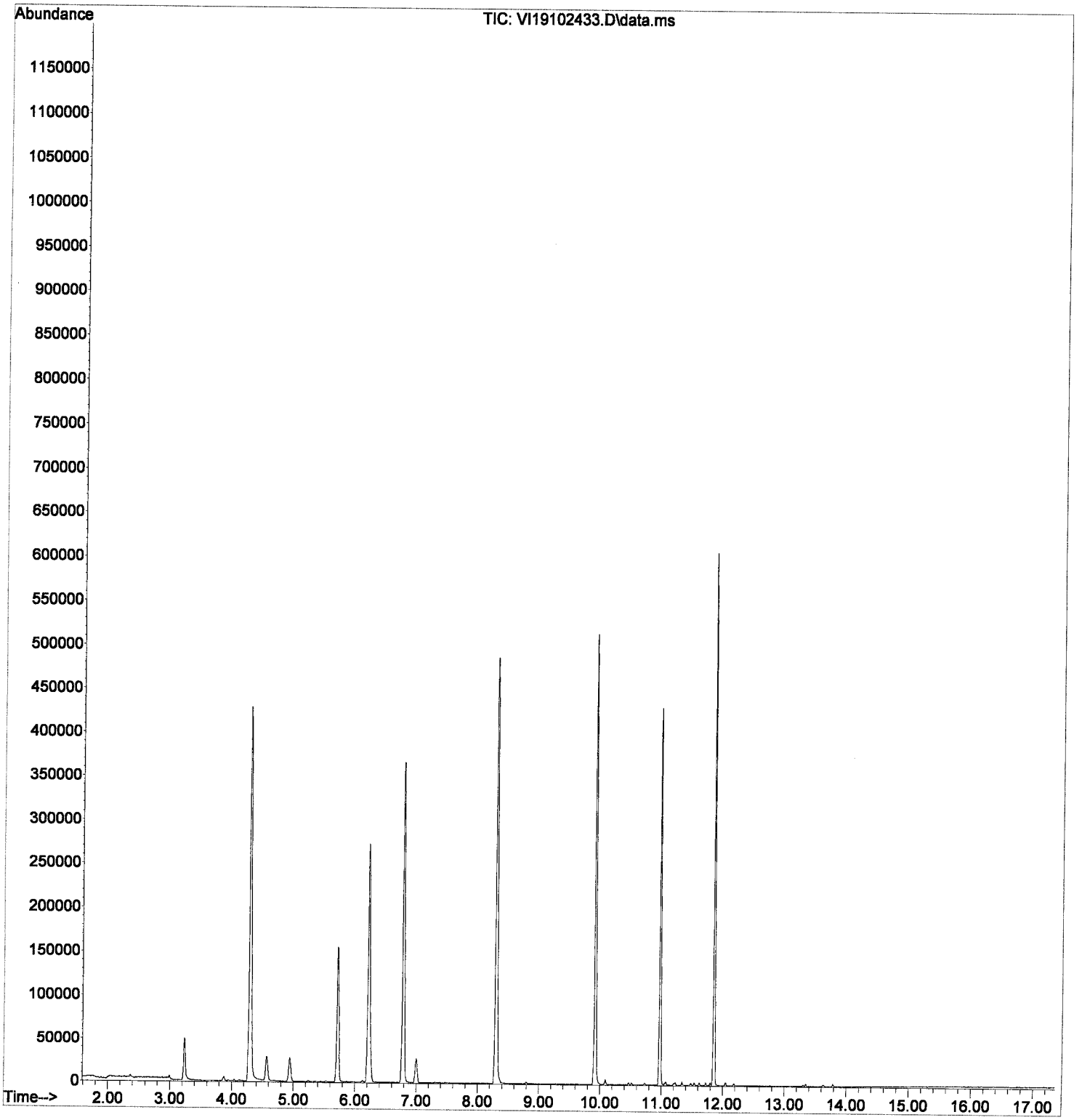
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
75) 4-Chlorotoluene	11.339	91	2029	0.36	ug/L		92
76) tert-Butylbenzene	11.479	91	857	0.24	ug/L		90
77) 1,2,4-Trimethylbenzene	11.540	105	1902	0.30	ug/L		99
78) sec-Butylbenzene	11.619	105	2140	0.28	ug/L		96
79) 4-Isopropyltoluene	11.729	119	1814	0.30	ug/L		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

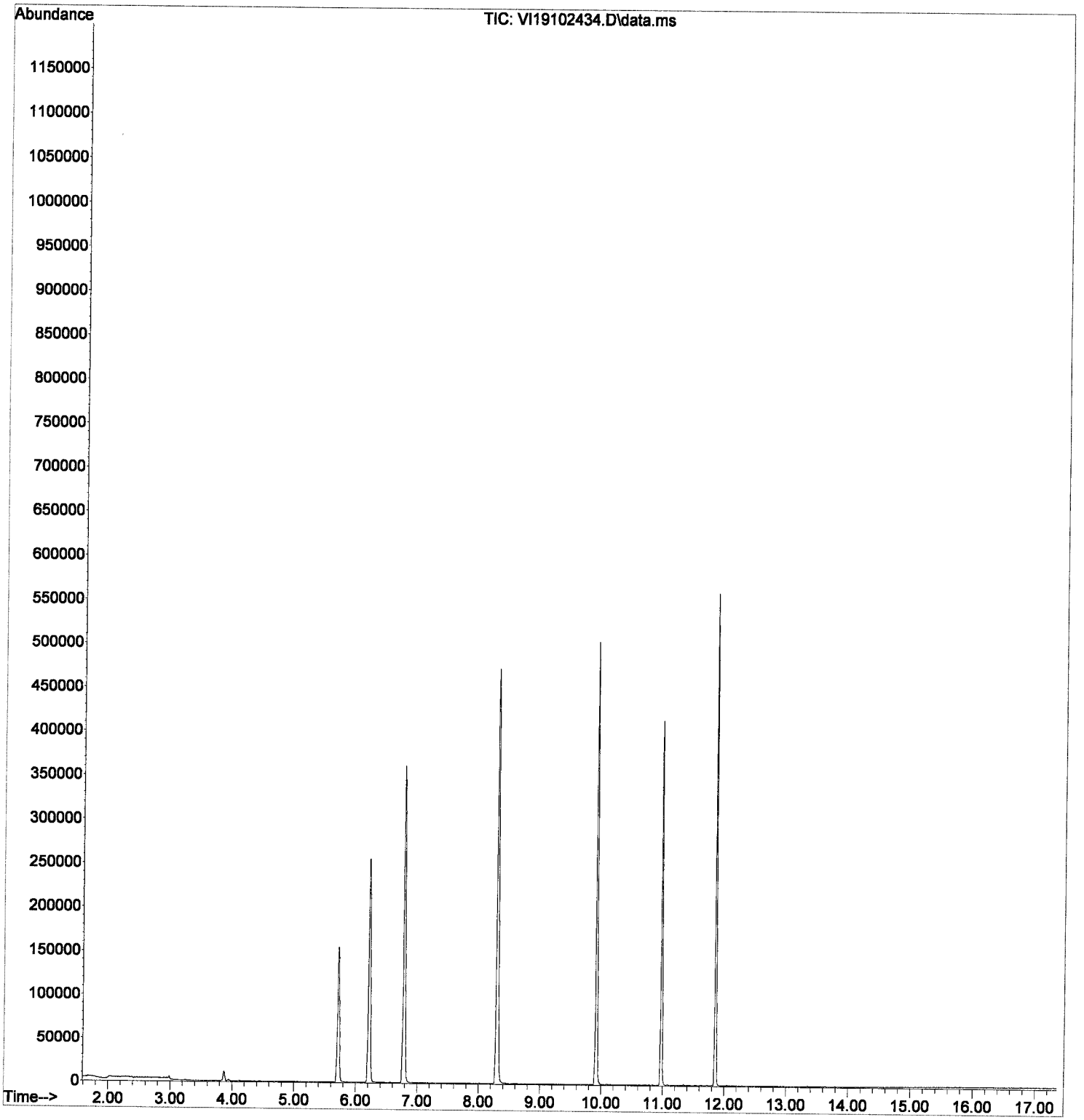
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.211	99	109647	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.910	117	290801	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.850	152	129266	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (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

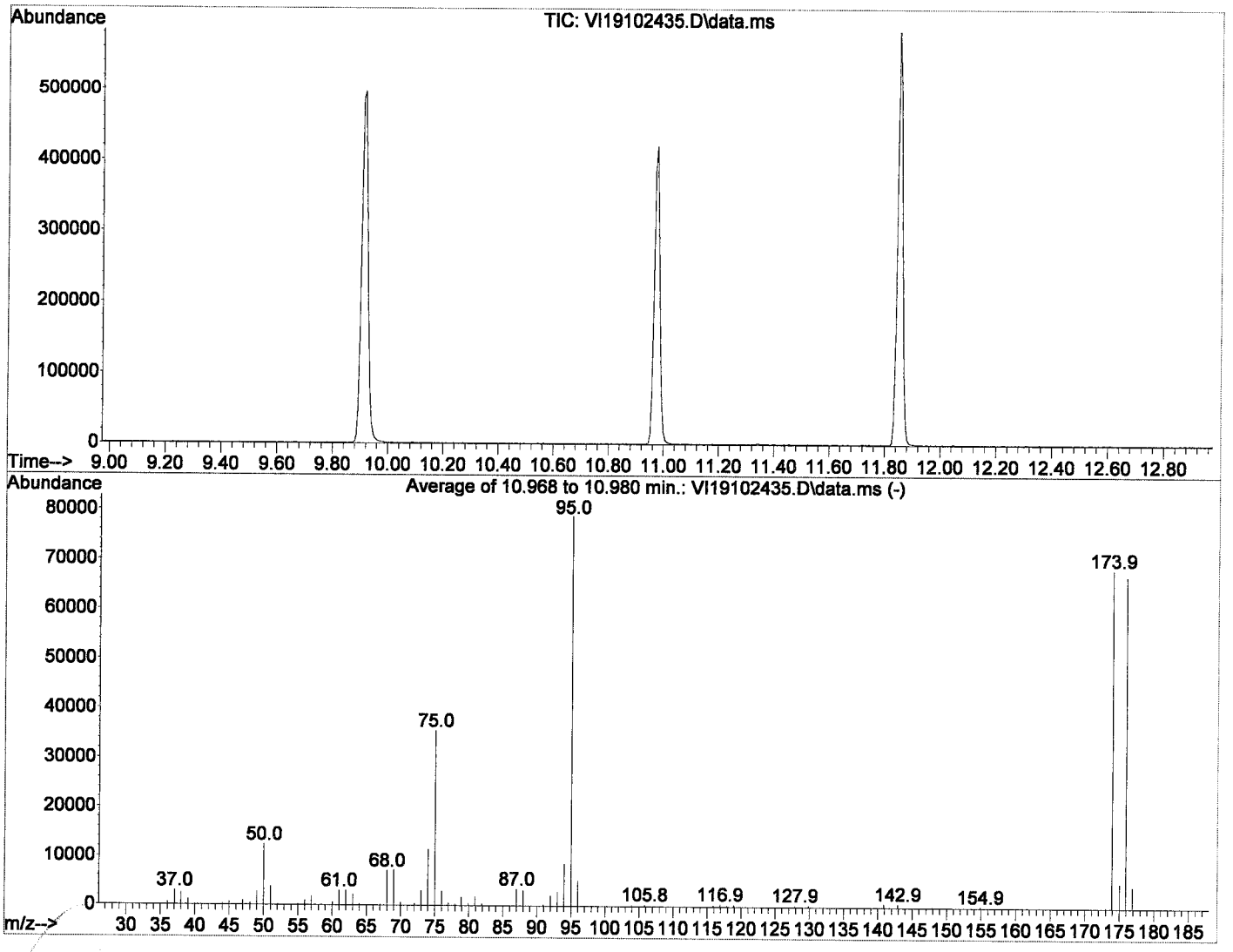


BFB

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

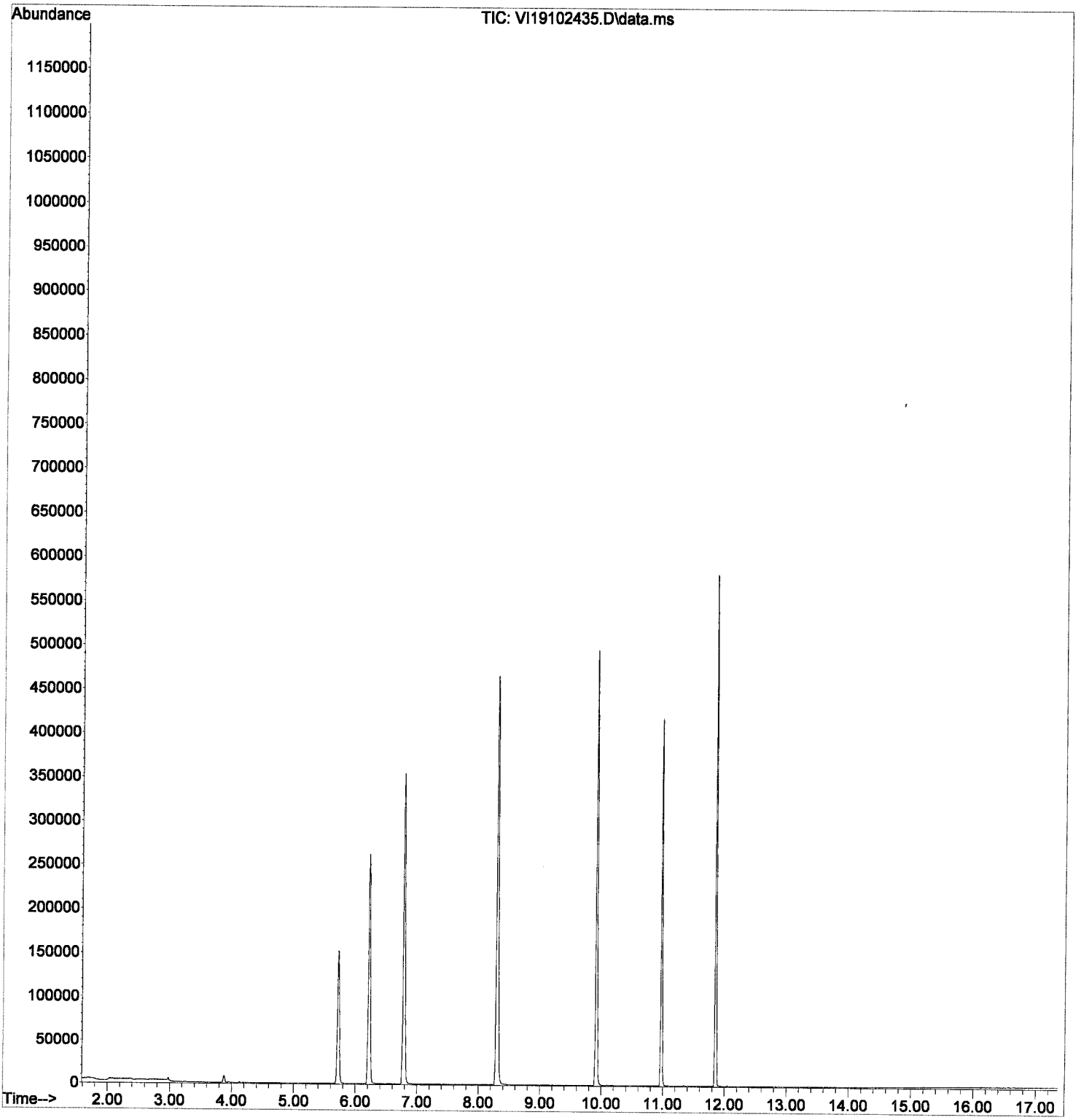
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	210406	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	342441	50.05	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	110054	48.18	ug/L	0.00
9) Toluene-d8 (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

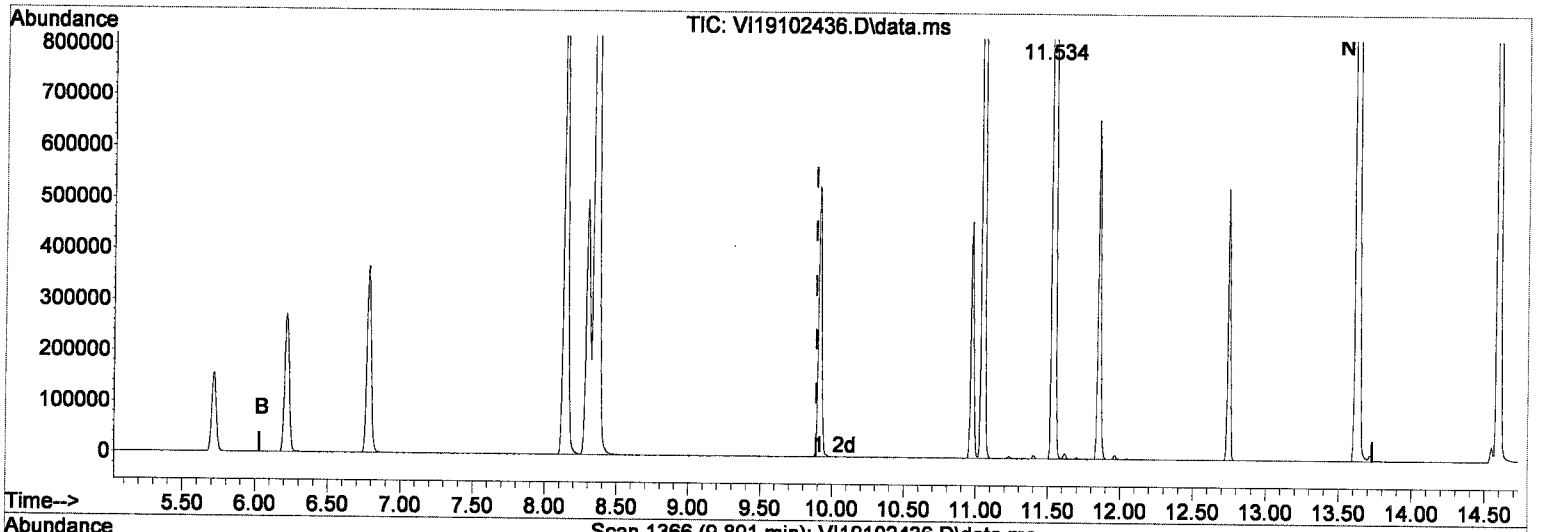
Quant Time: Oct 25 10:34:47 2019
Quant Method : C:\msdchem\1\methods\VI191025G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Oct 25 10:31:05 2019
Response via : Initial Calibration

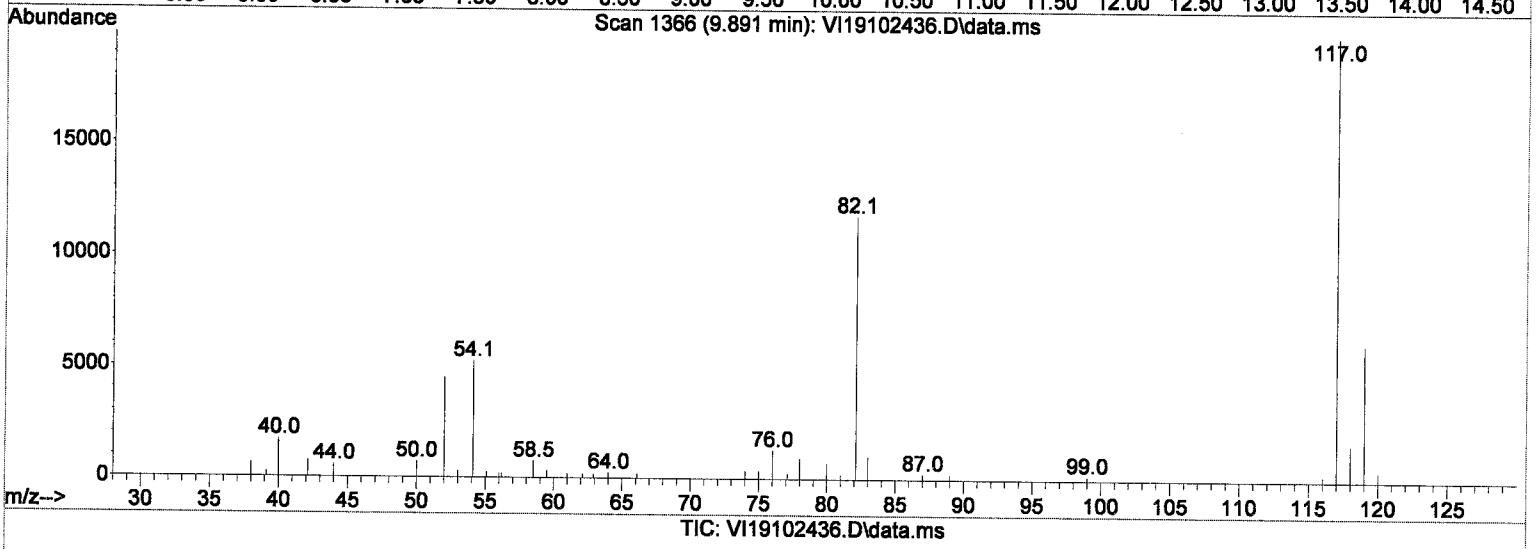


Quantitation Report (Qedit)

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

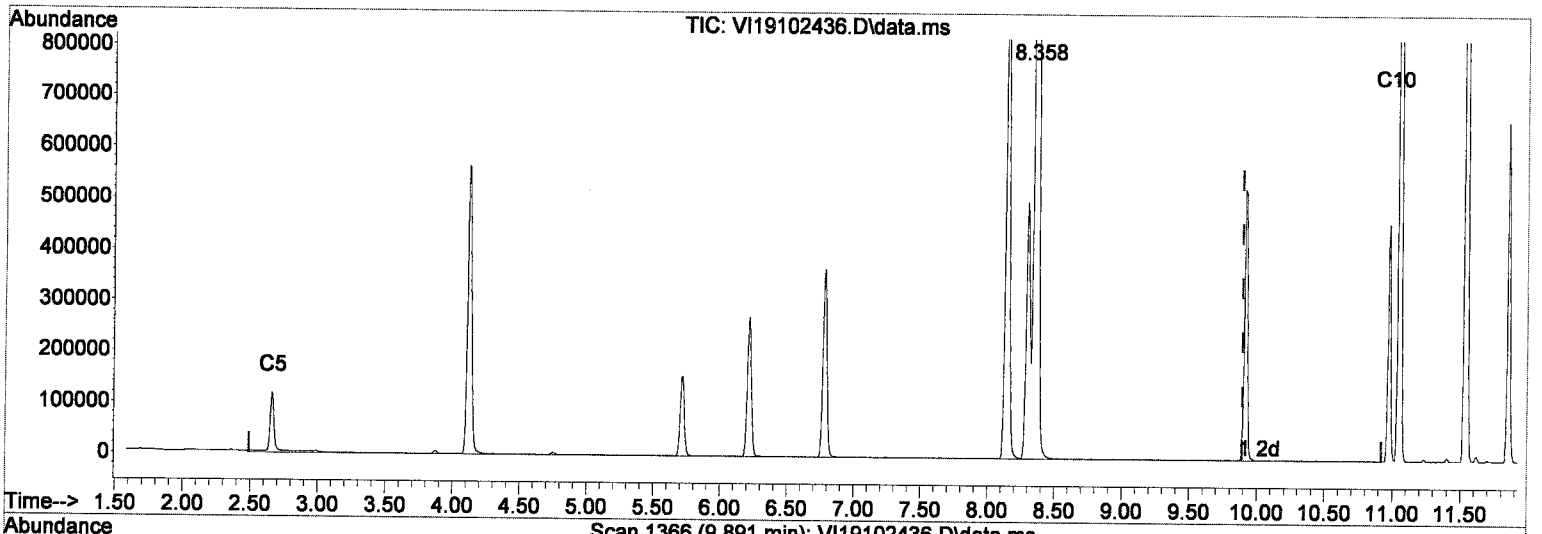
response 19501721

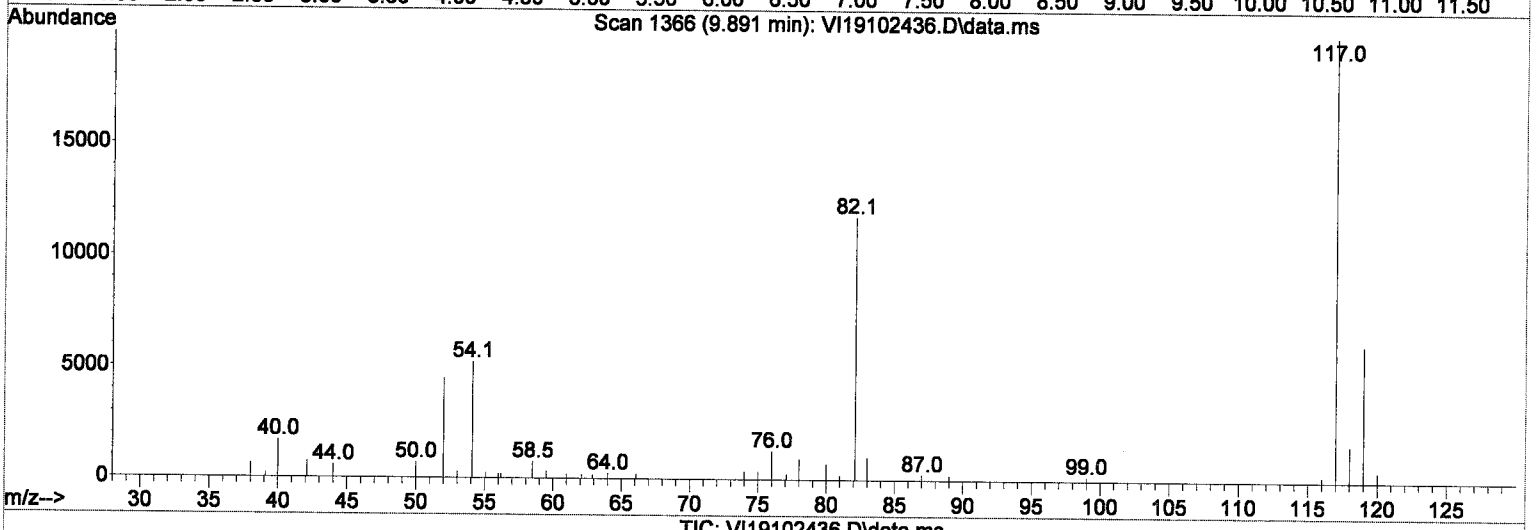
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.04#
0.00	0.00	0.76#
0.00	0.00	0.00

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

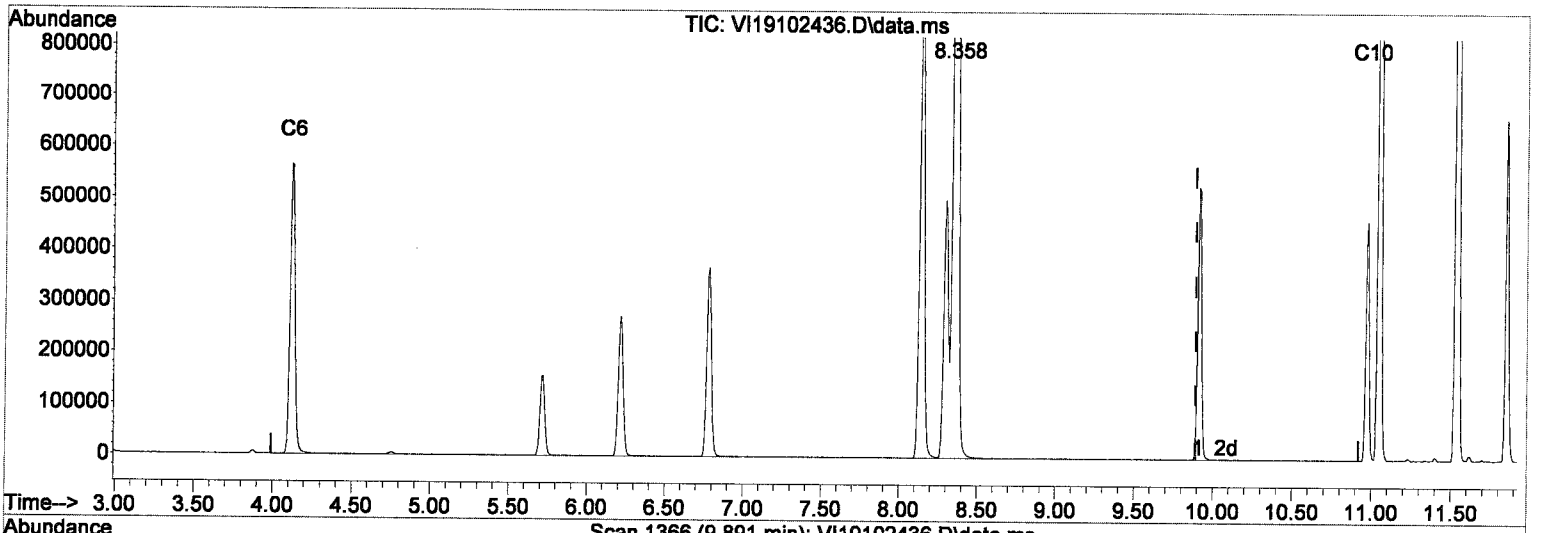
response 8083029

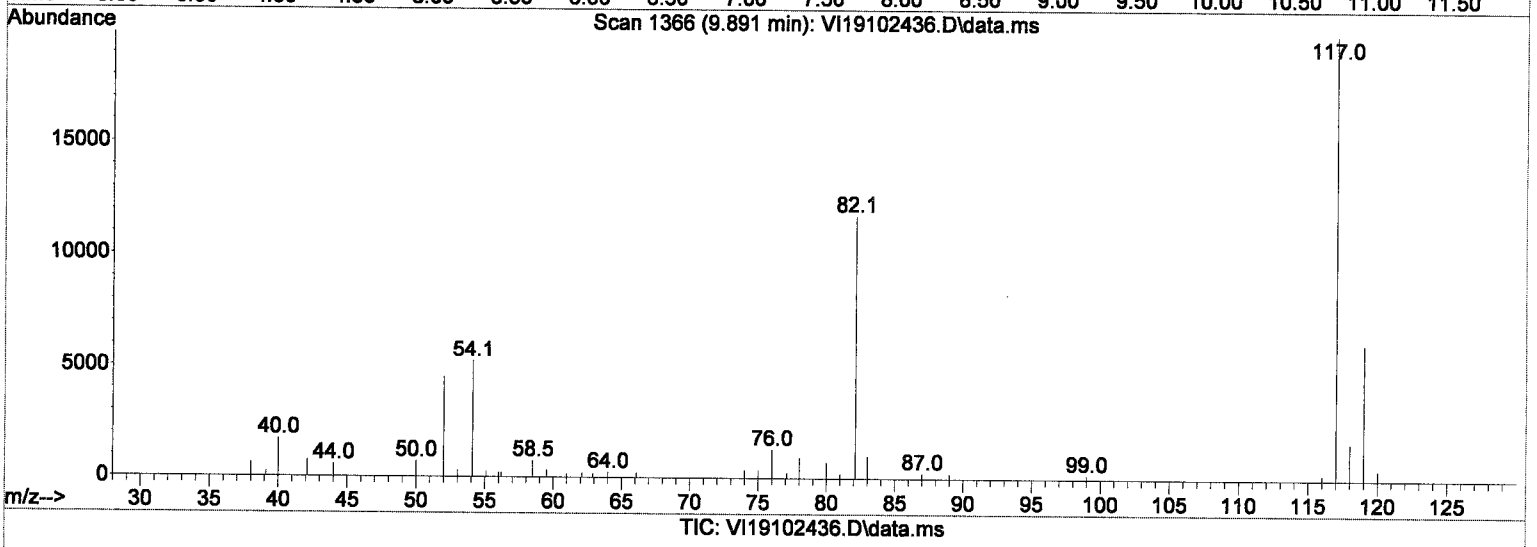
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.52#
0.00	0.00	1.83#
0.00	0.00	0.00

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

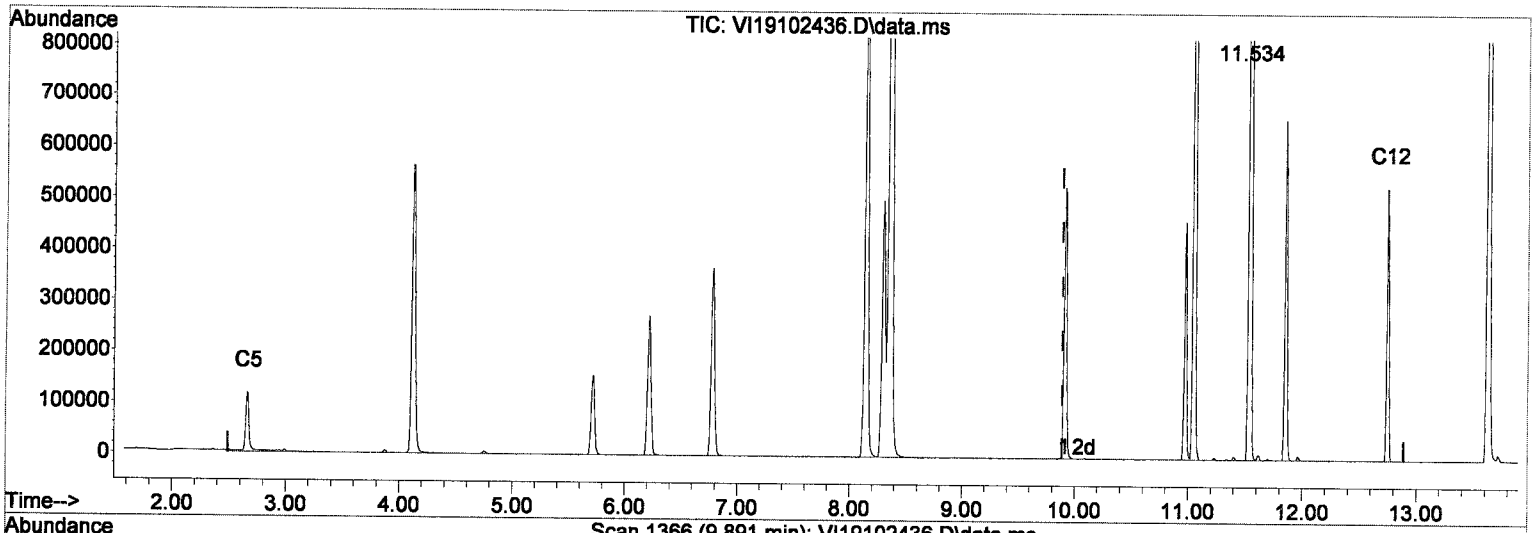
response 7845020

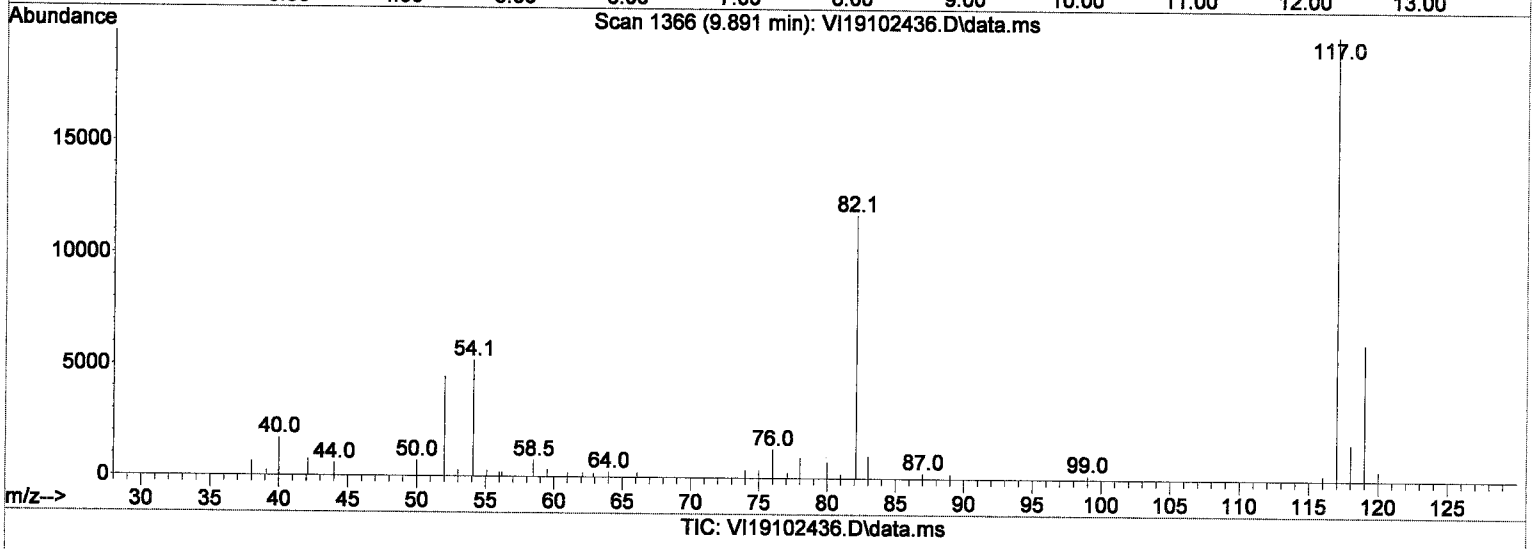
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.60#
0.00	0.00	1.88#
0.00	0.00	0.00

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

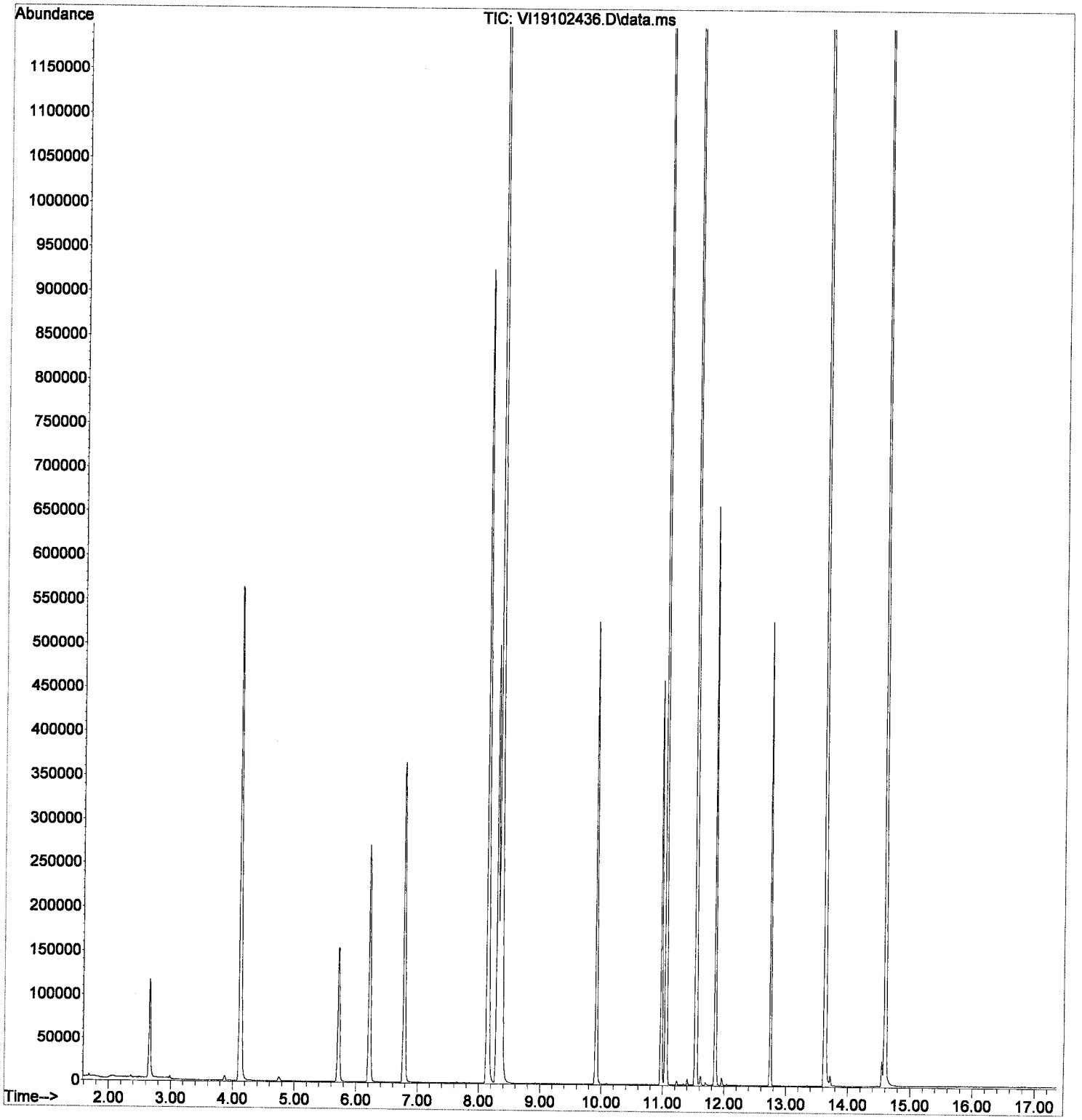
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	218196	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	354554	49.97	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	120603	50.92	ug/L	0.00
9) Toluene-d8 (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

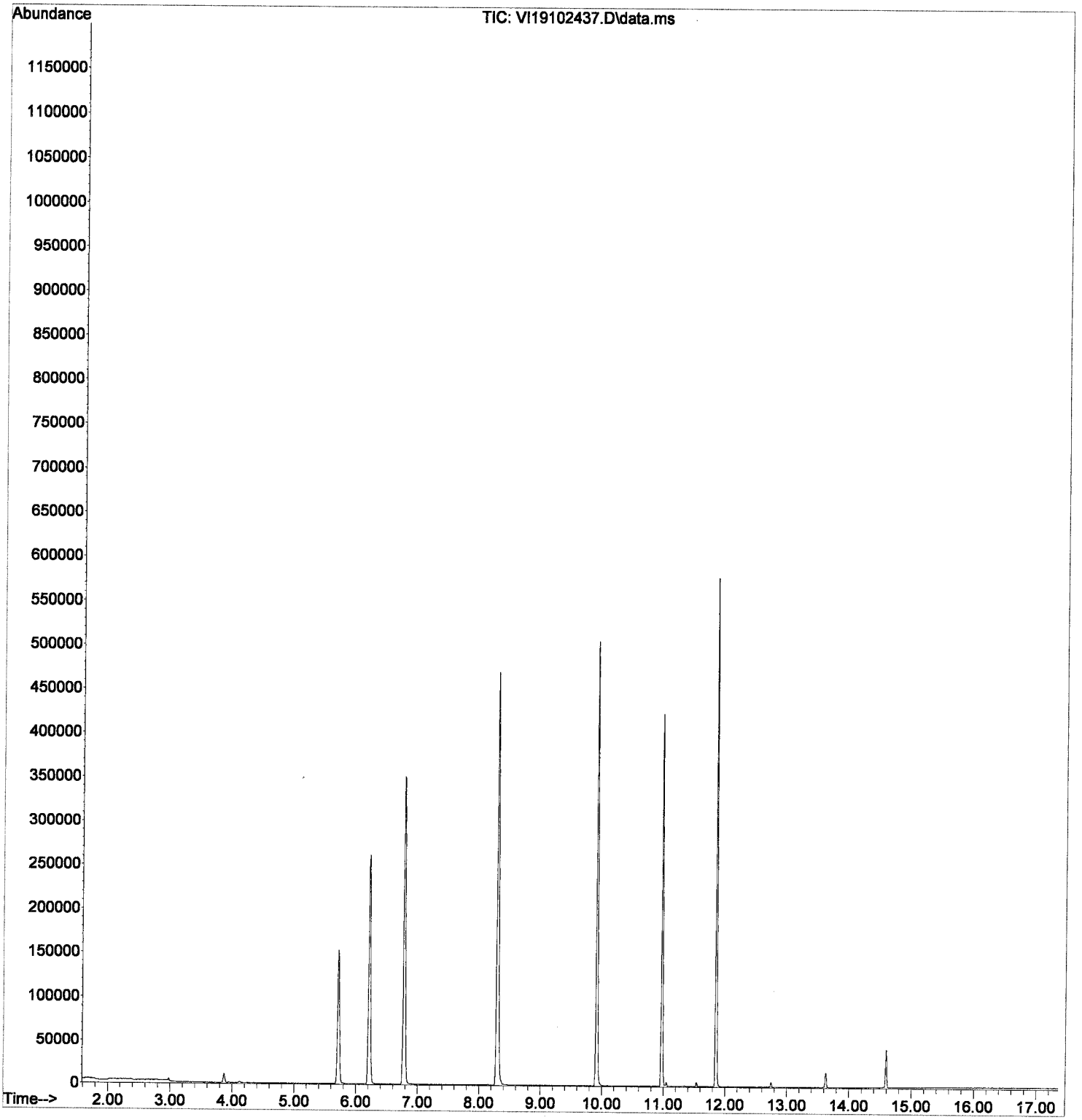
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	210247	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	345936	50.60	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	111405	48.81	ug/L	0.00
9) Toluene-d8 (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

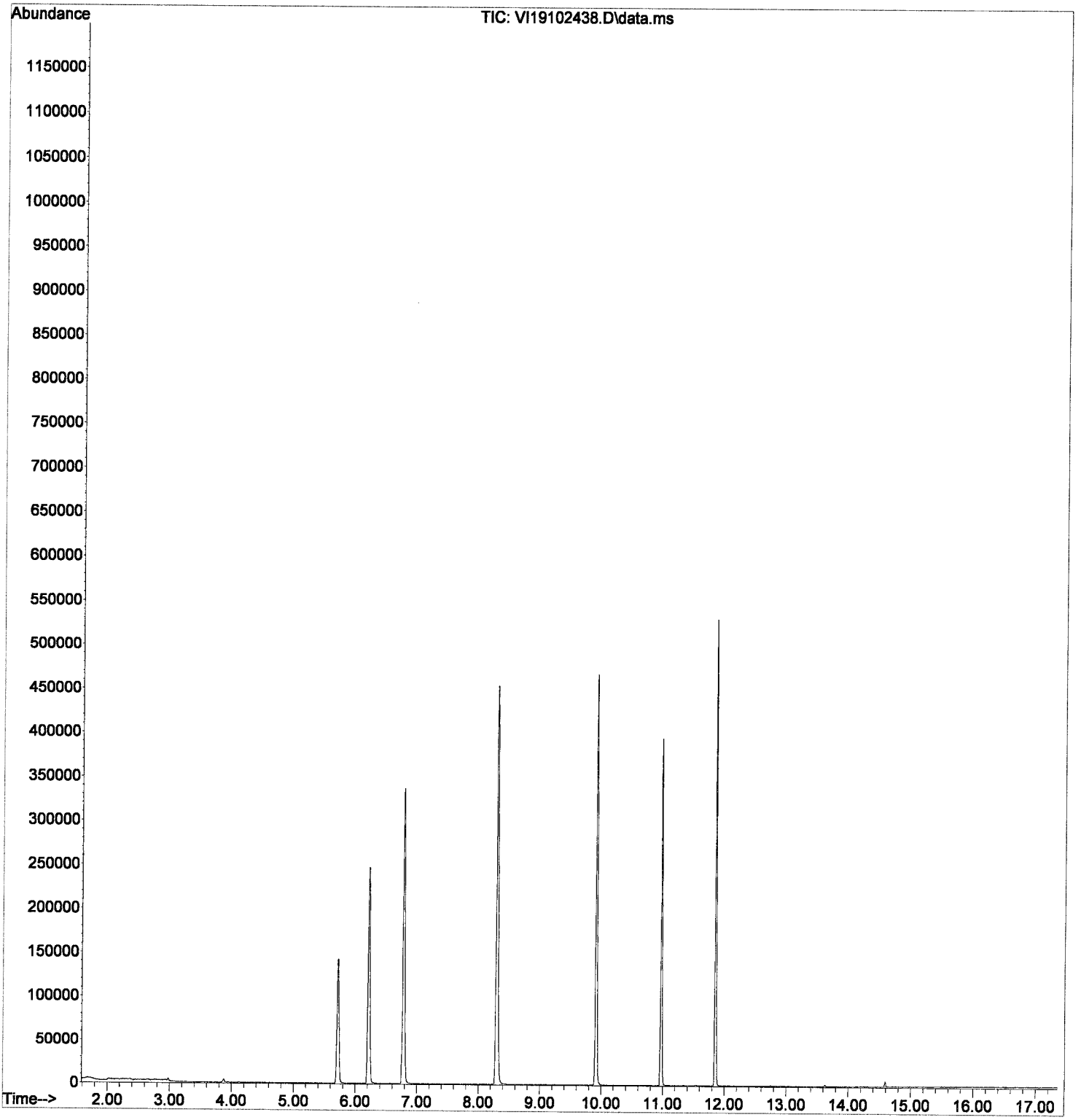
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	197519	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	324404	50.51	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	100113	46.69	ug/L	0.00
9) Toluene-d8 (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

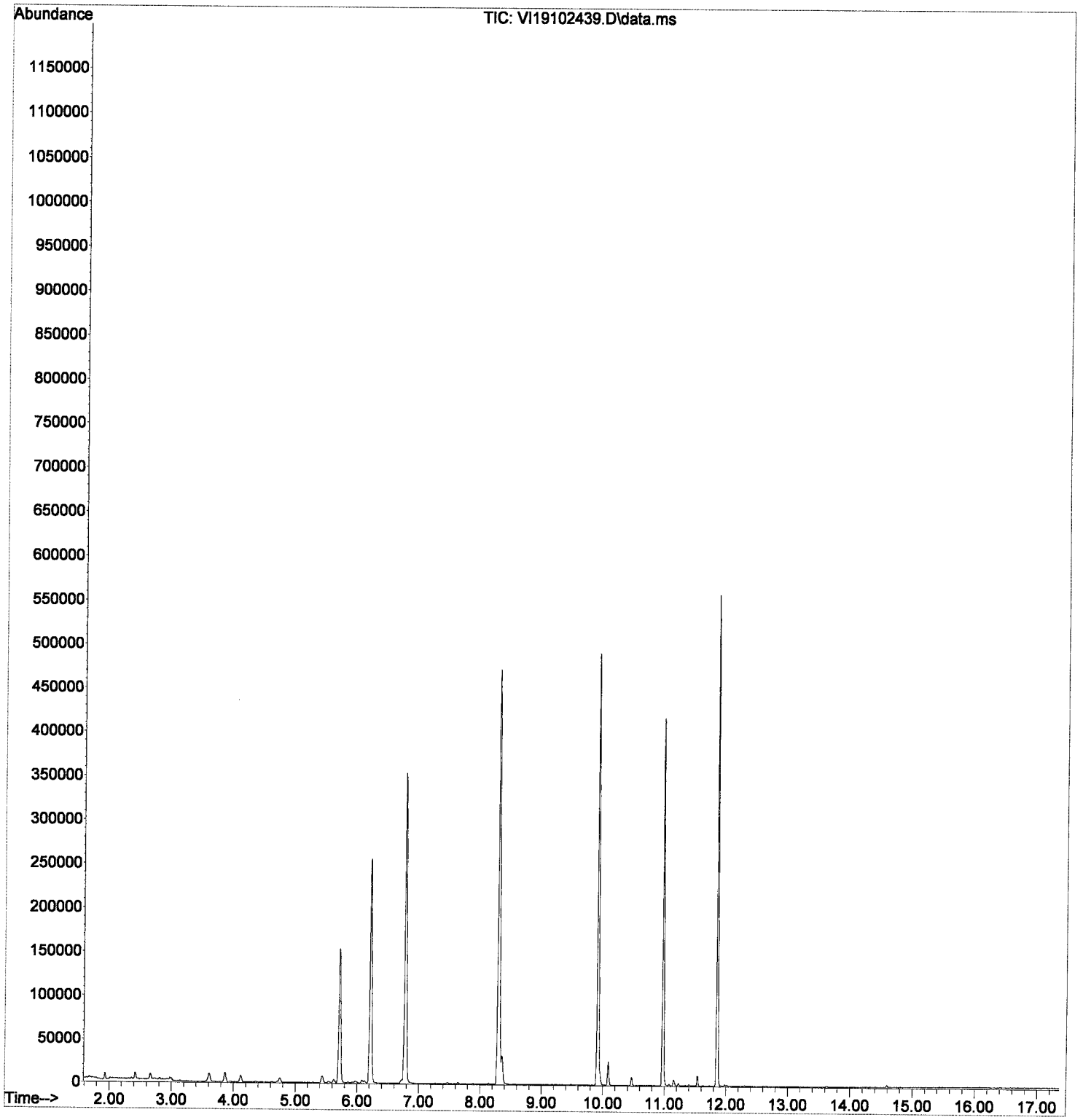
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	209290	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.777	114	341977	48.13	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.974	174	109139	43.97	ug/L	0.00
9) Toluene-d8 (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

VW 10/25/19

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

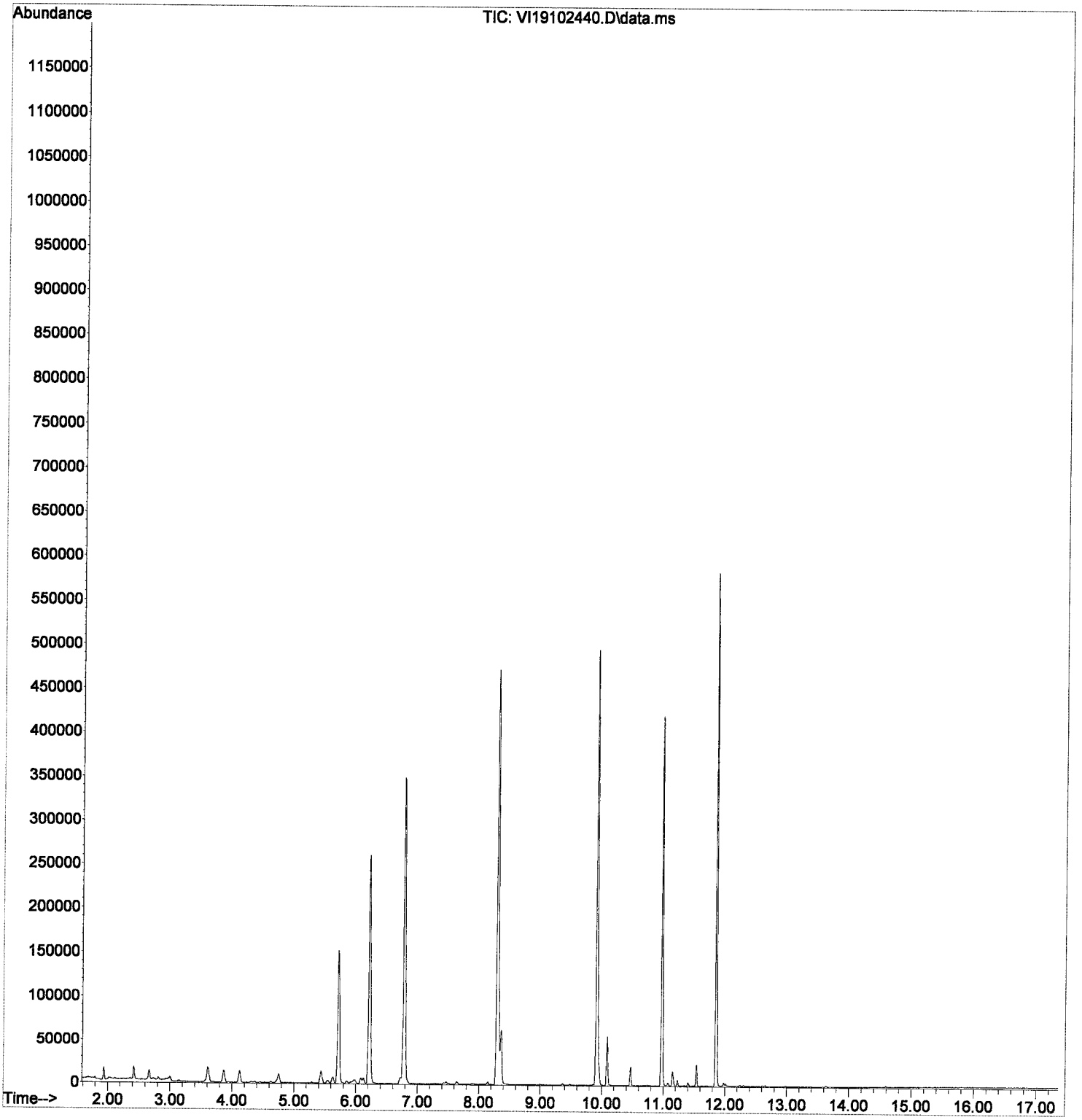
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	209478	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	342473	48.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	110020	44.29	ug/L	0.00
9) Toluene-d8 (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

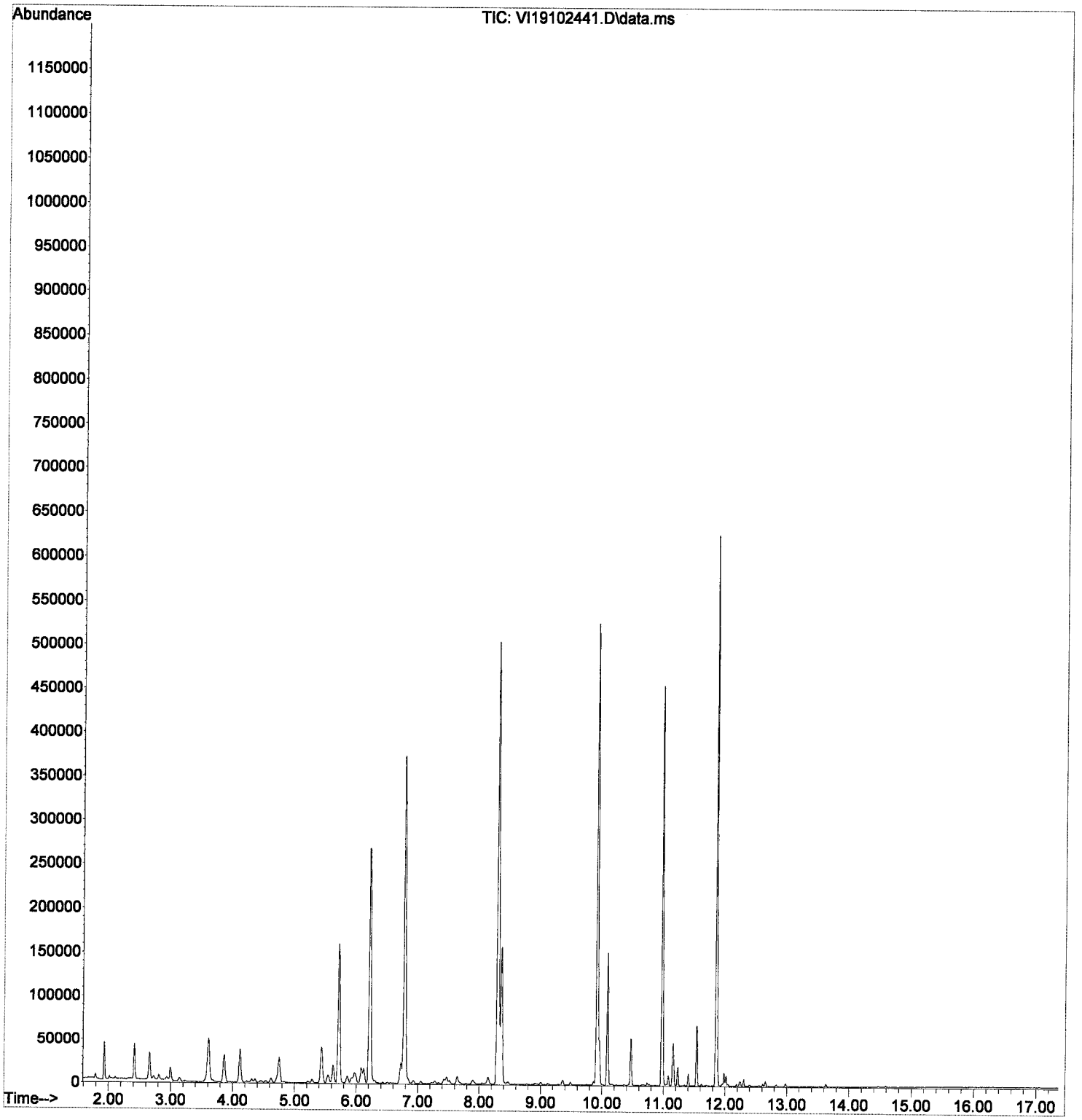
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220921	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.777	114	357958	47.73	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.974	174	116770	44.57	ug/L	0.00
9) Toluene-d8 (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

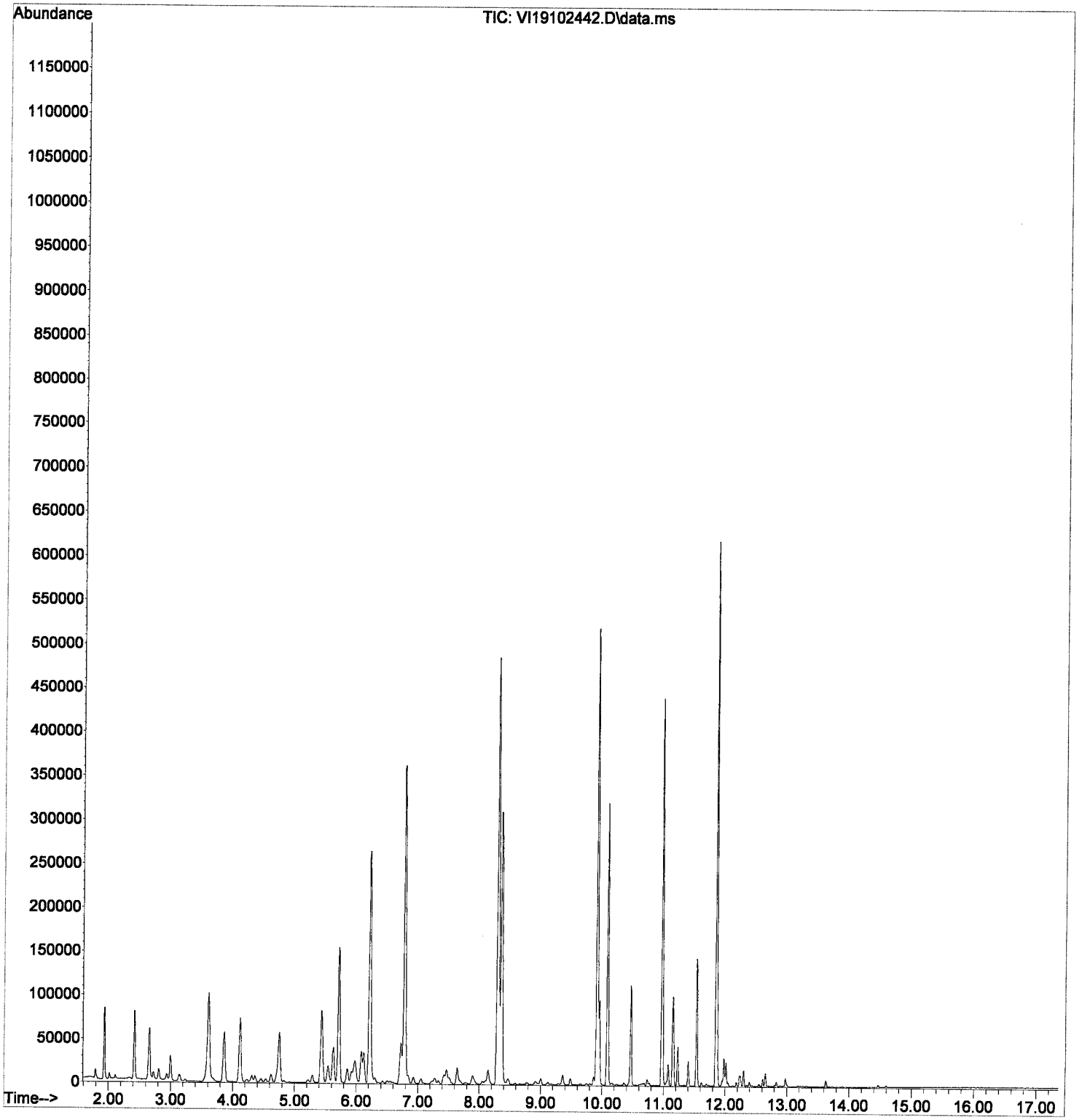
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	214780	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	347086	47.60	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	115043	45.16	ug/L	0.00
9) Toluene-d8 (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

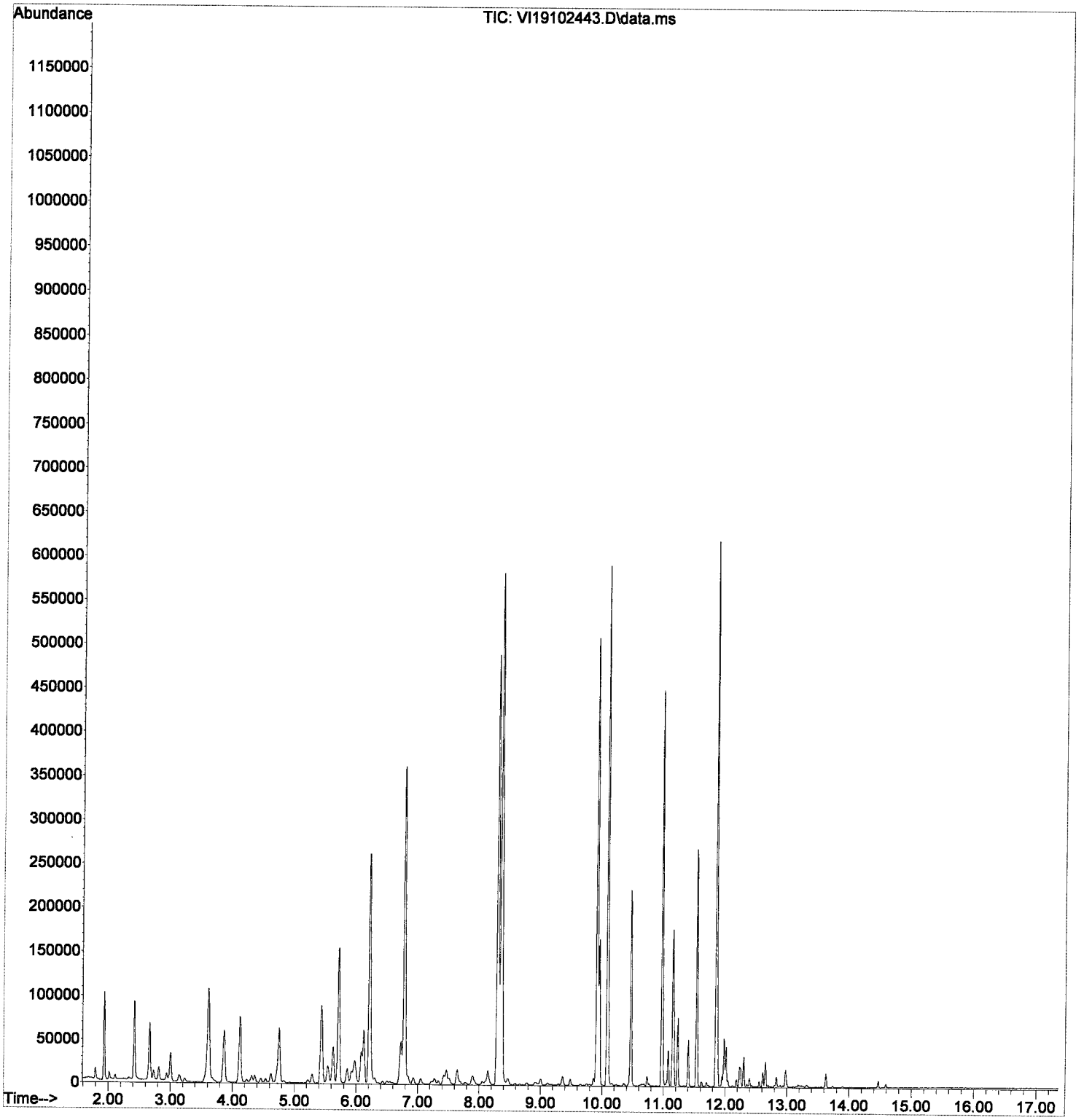
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	211453	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	348407	48.54	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	115114	45.90	ug/L	0.00
9) Toluene-d8 (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

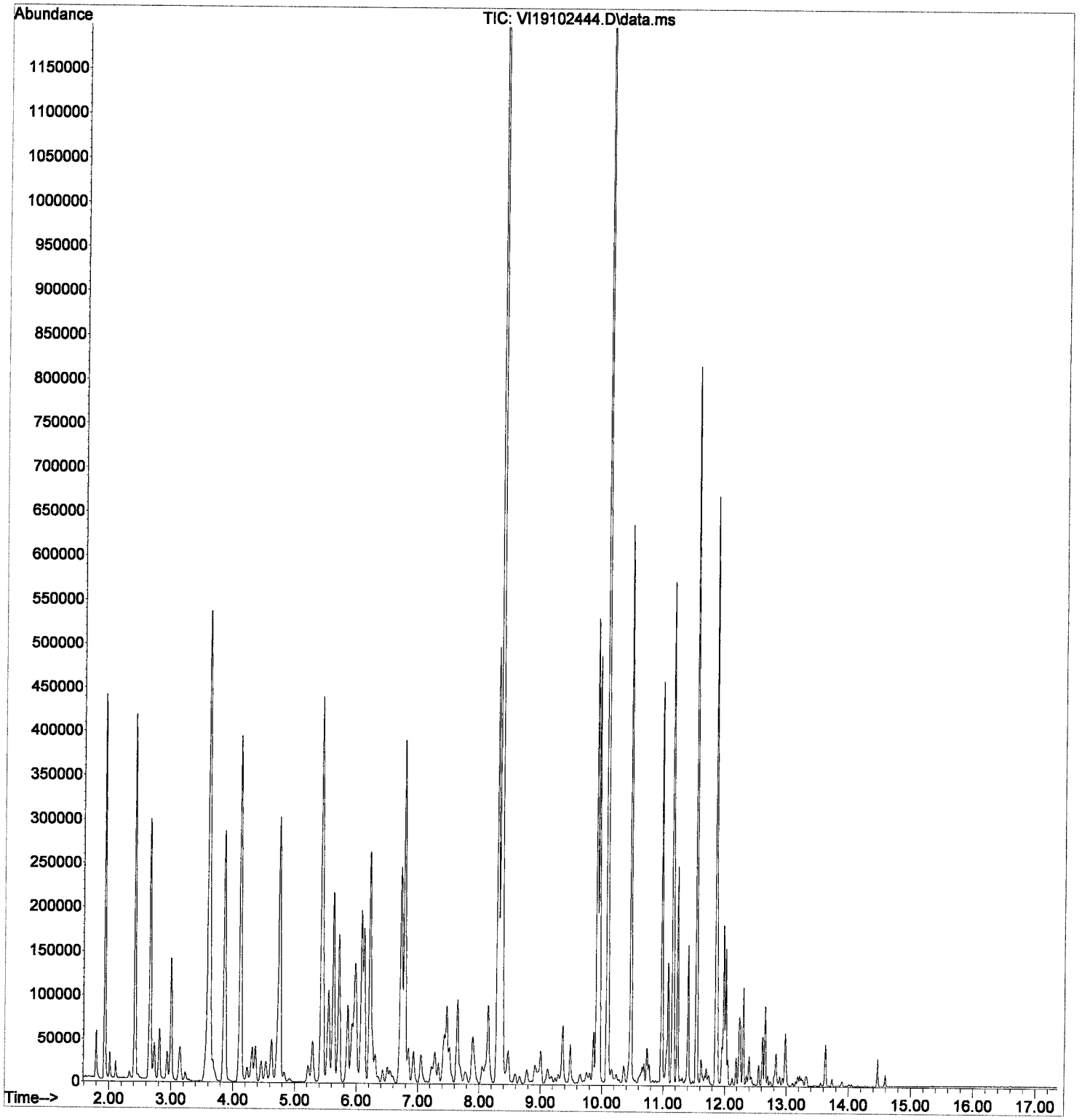
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	216435	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	352248	47.94	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	120135	46.80	ug/L	0.00
9) Toluene-d8 (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

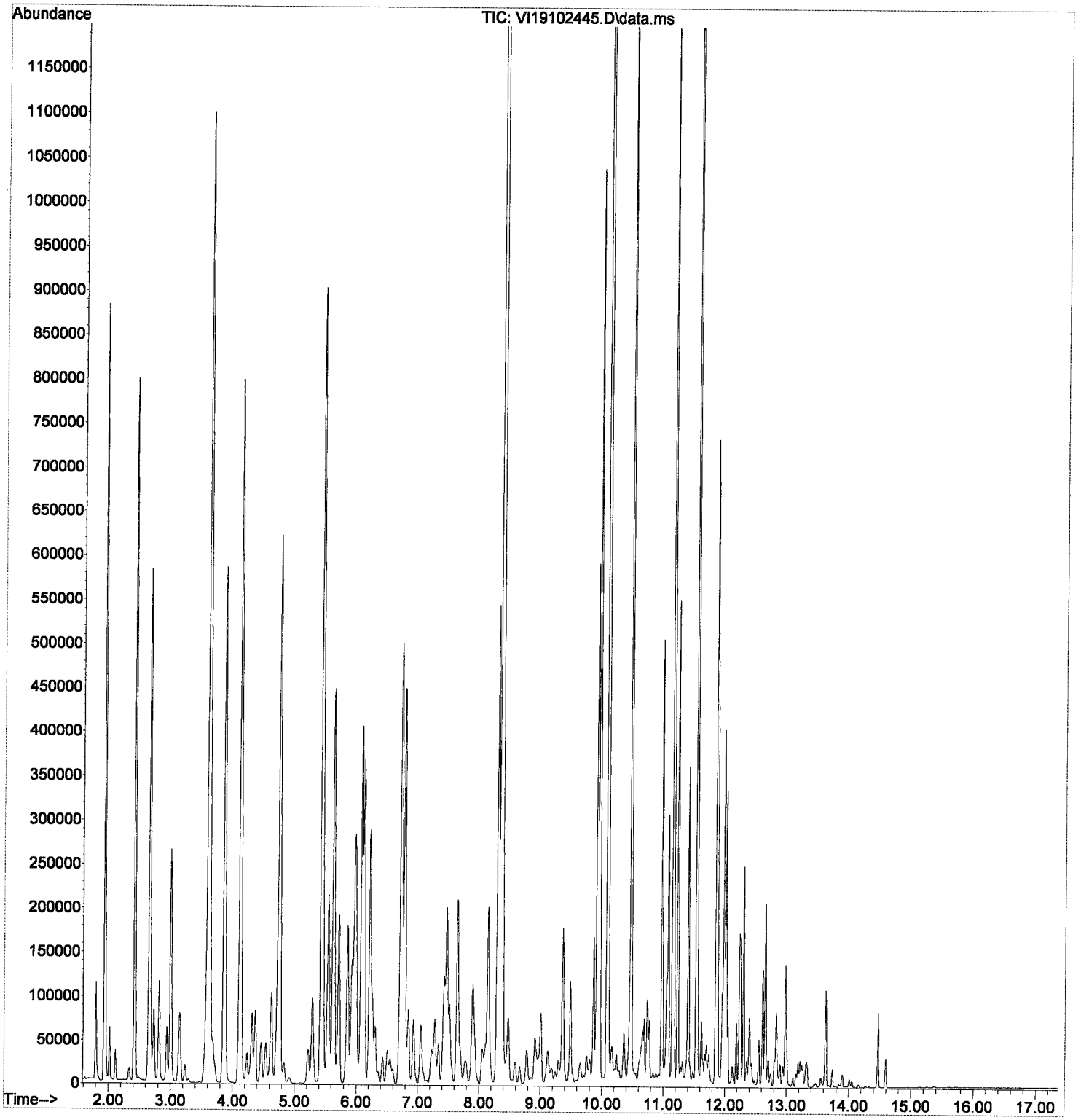
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	233849	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	379658	47.83	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	131653	47.47	ug/L	0.00
9) Toluene-d8 (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

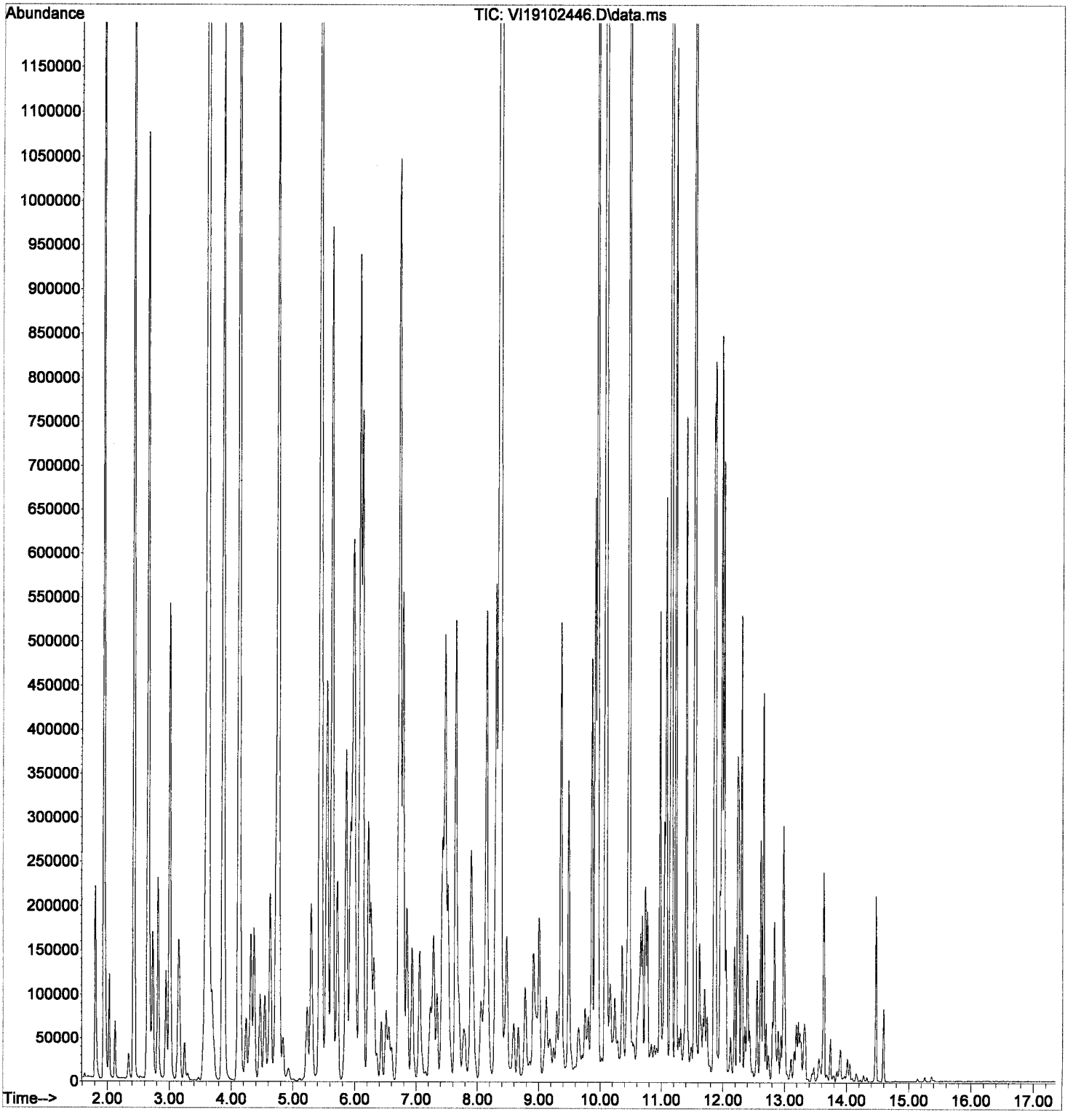
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	234183	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	384961	48.42	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	134509	48.43	ug/L	0.00
9) Toluene-d8 (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

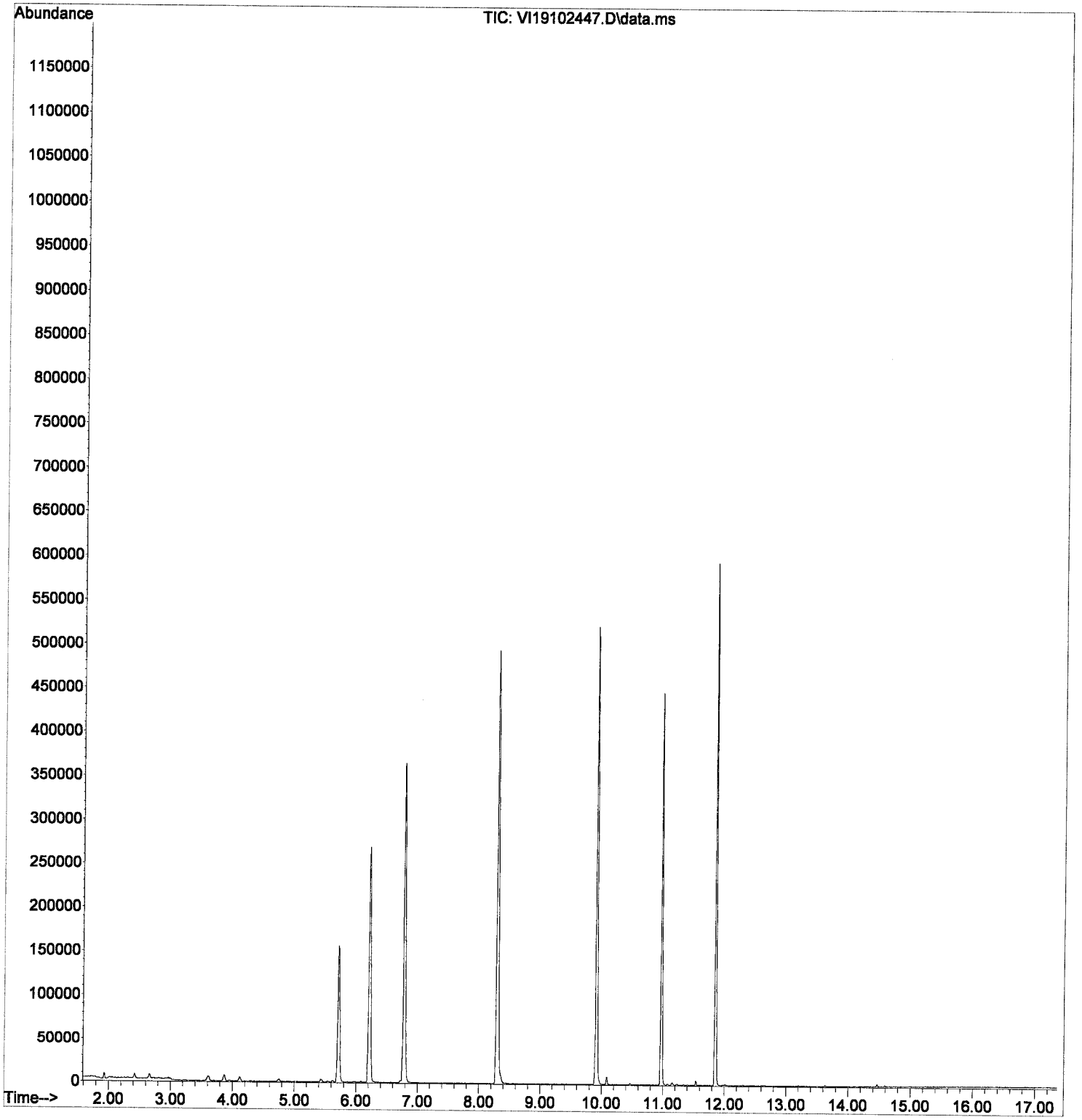
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220300	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	358131	50.00	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	115759	48.41	ug/L	0.00
9) Toluene-d8 (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

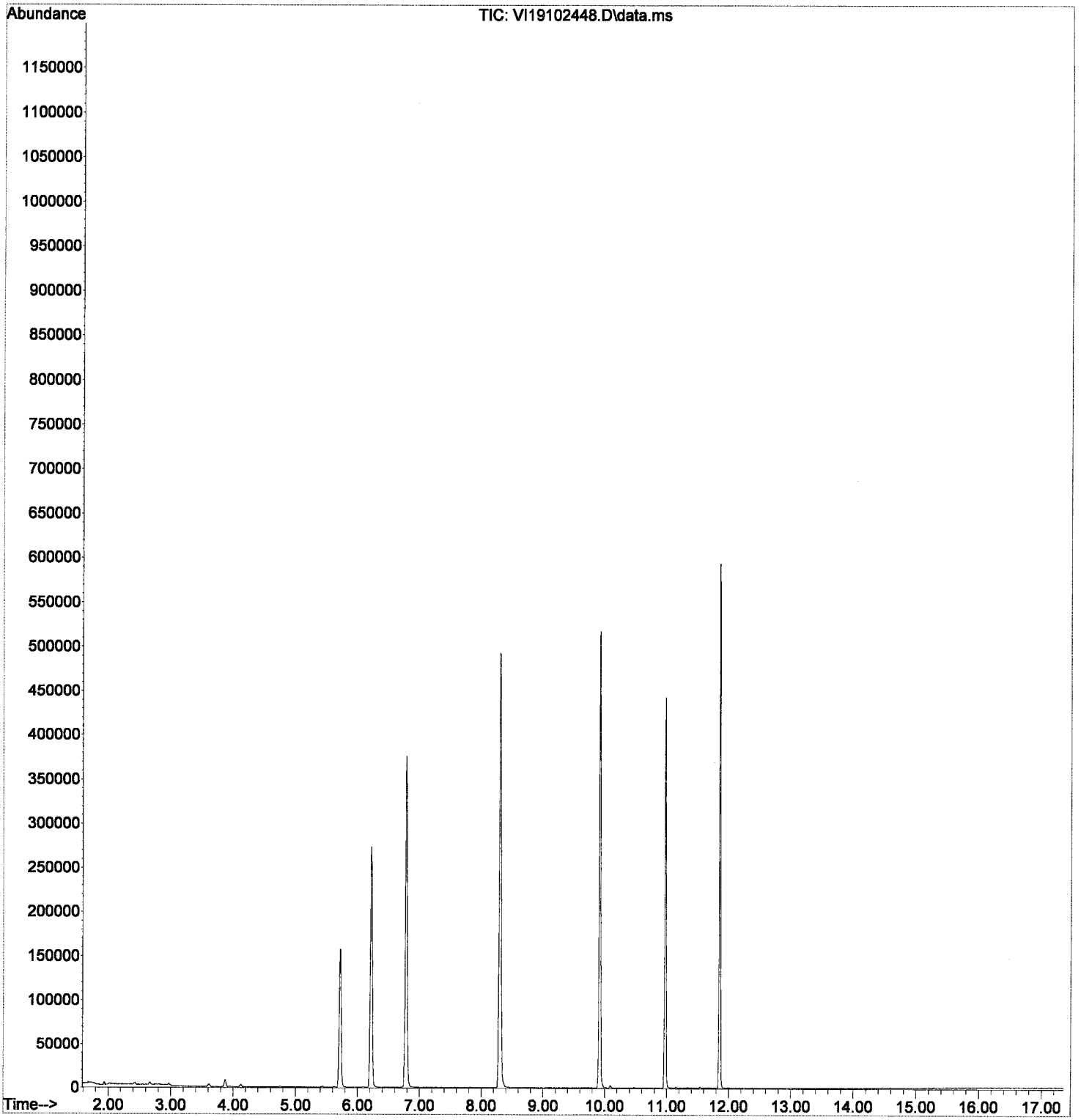
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	224165	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	364141	49.96	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	116148	47.73	ug/L	0.00
9) Toluene-d8 (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

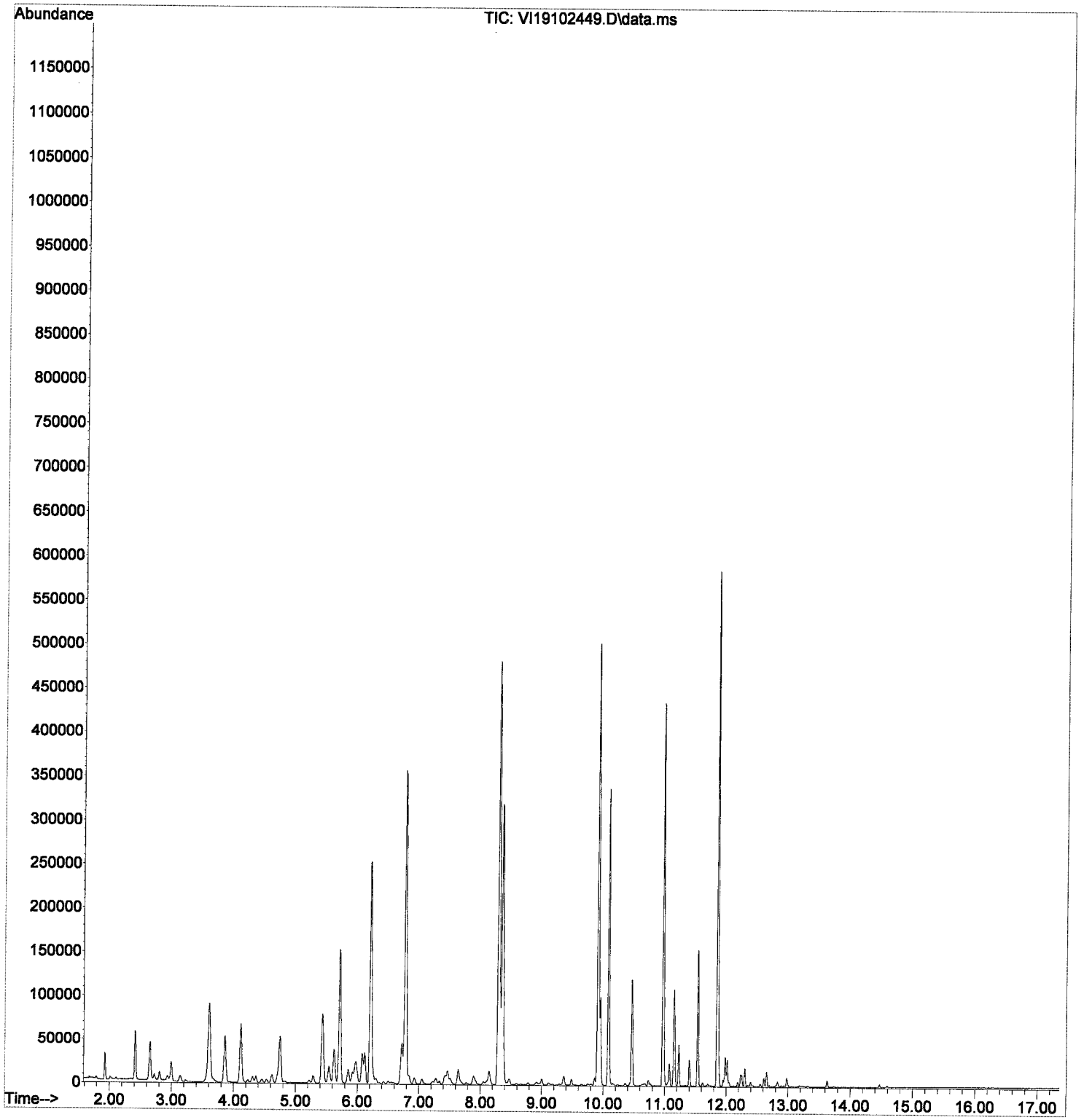
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	210169	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	342543	50.13	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	111447	48.85	ug/L	0.00
9) Toluene-d8 (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

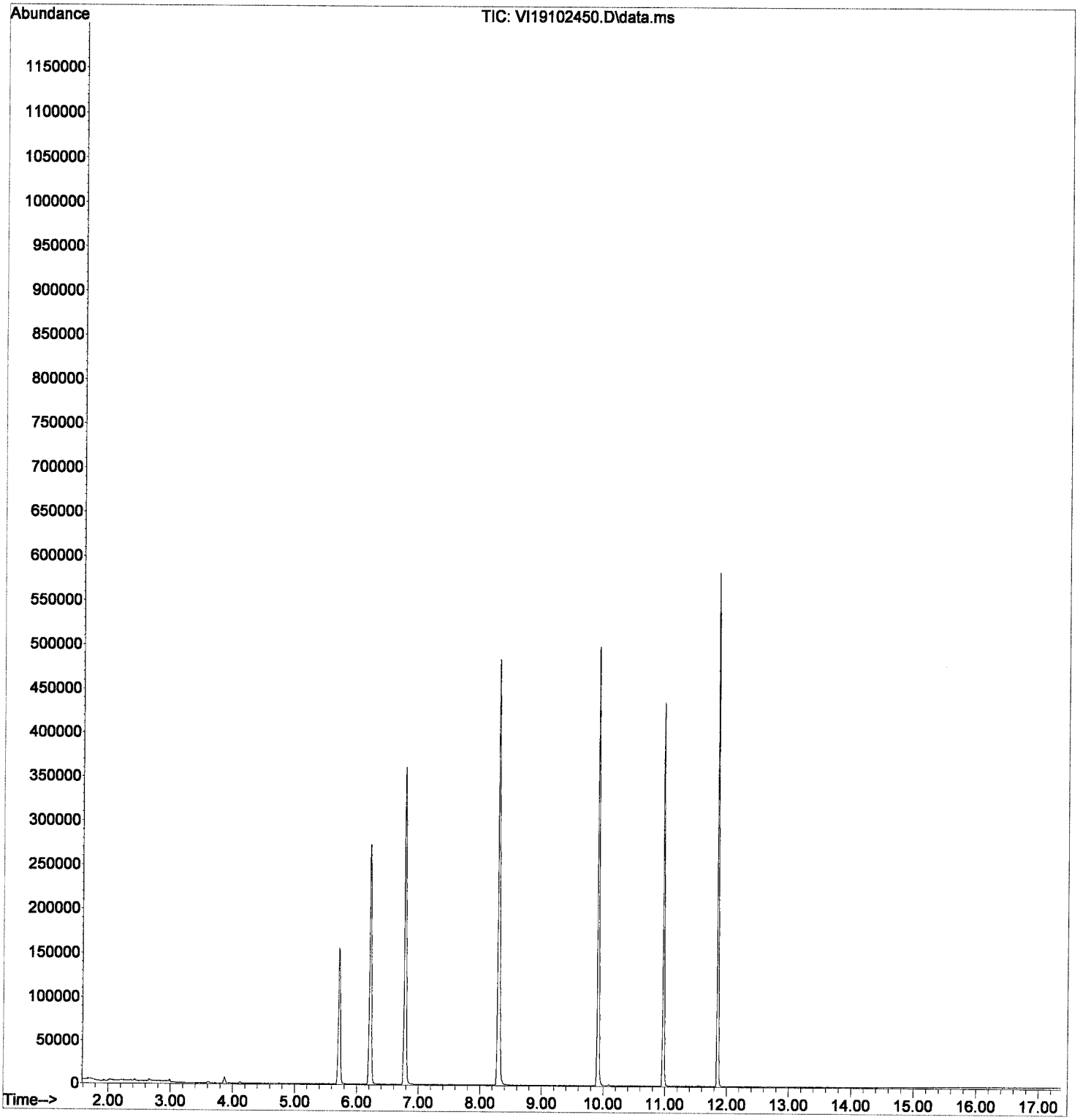
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220005	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	355641	49.72	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	113694	47.61	ug/L	0.00
9) Toluene-d8 (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

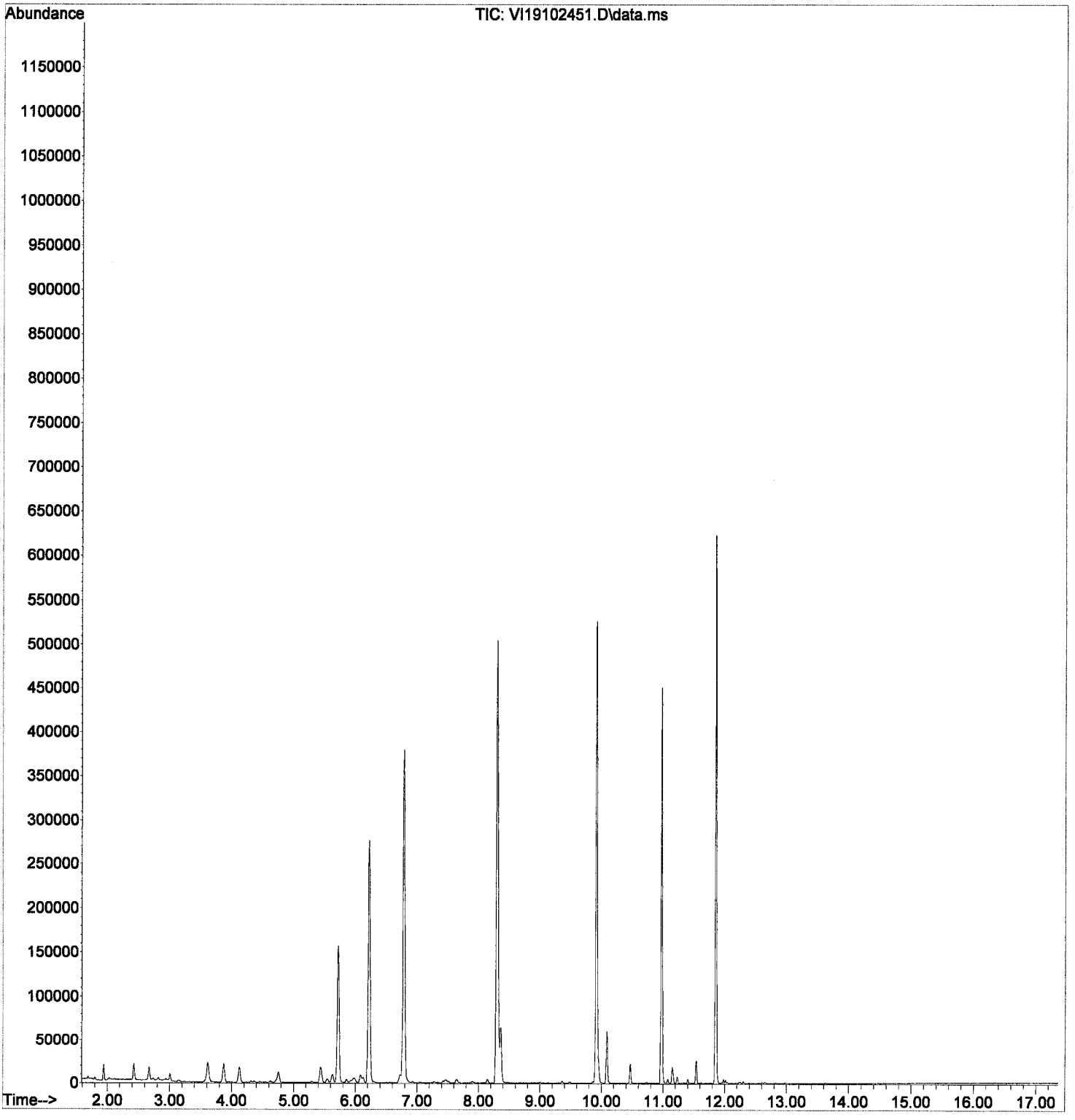
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	220874	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	362775	50.51	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	117808	49.14	ug/L	0.00
9) Toluene-d8 (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		

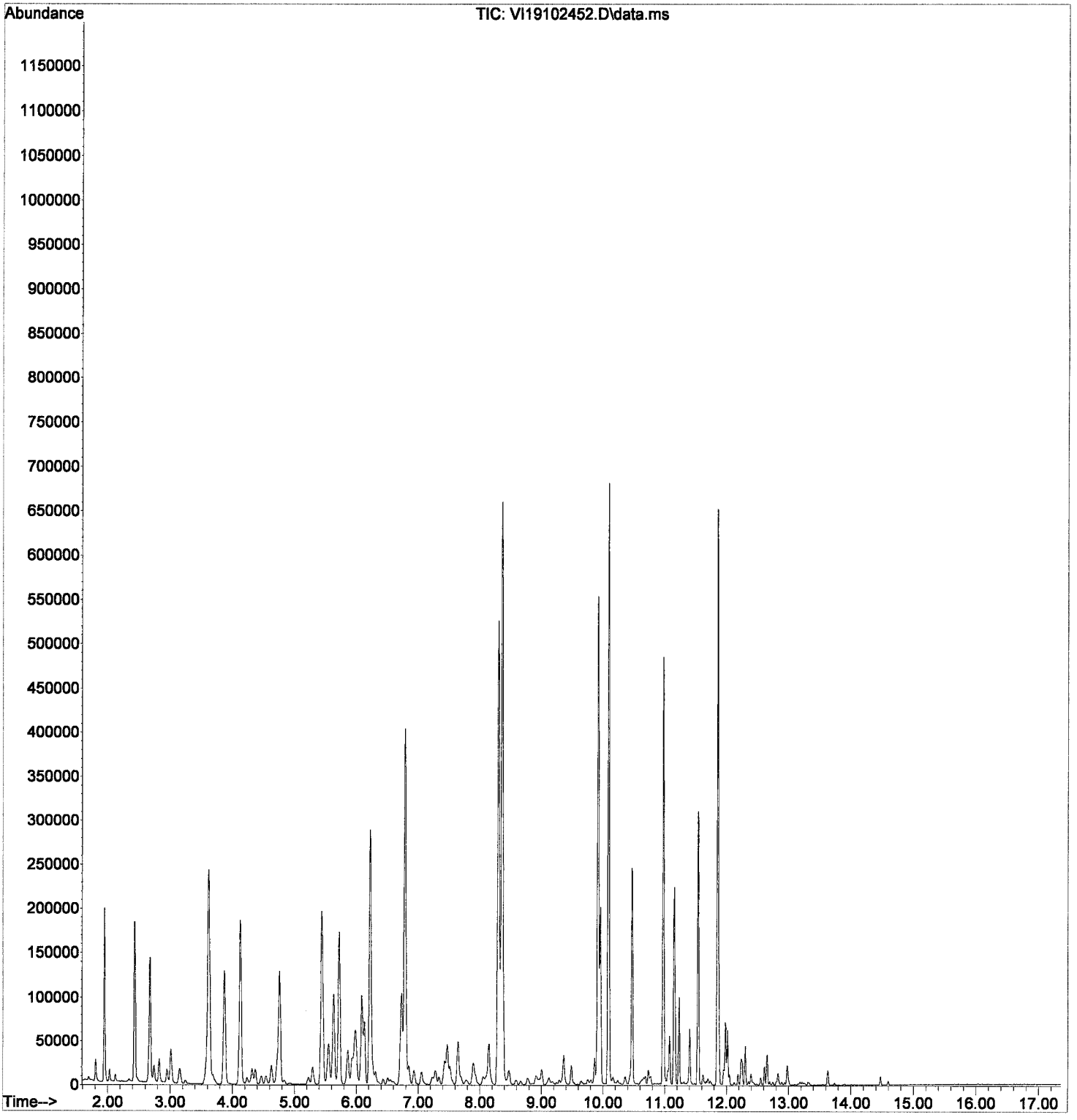
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

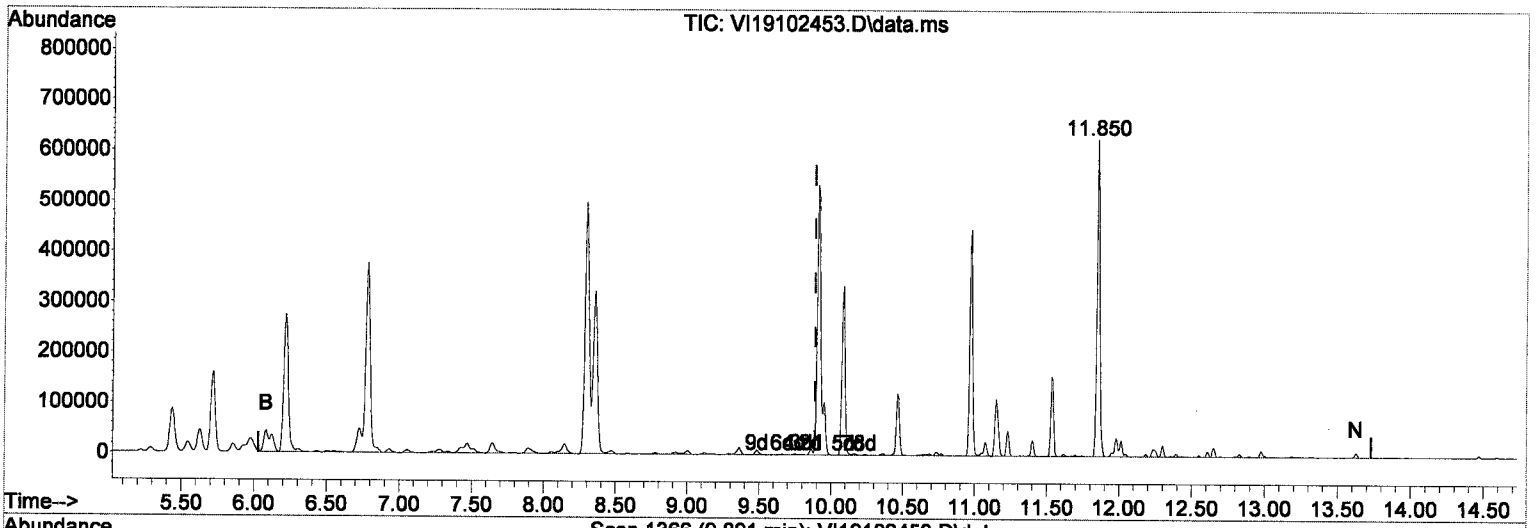
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	221958	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	358721	49.70	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	117543	48.79	ug/L	0.00
9) Toluene-d8 (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	

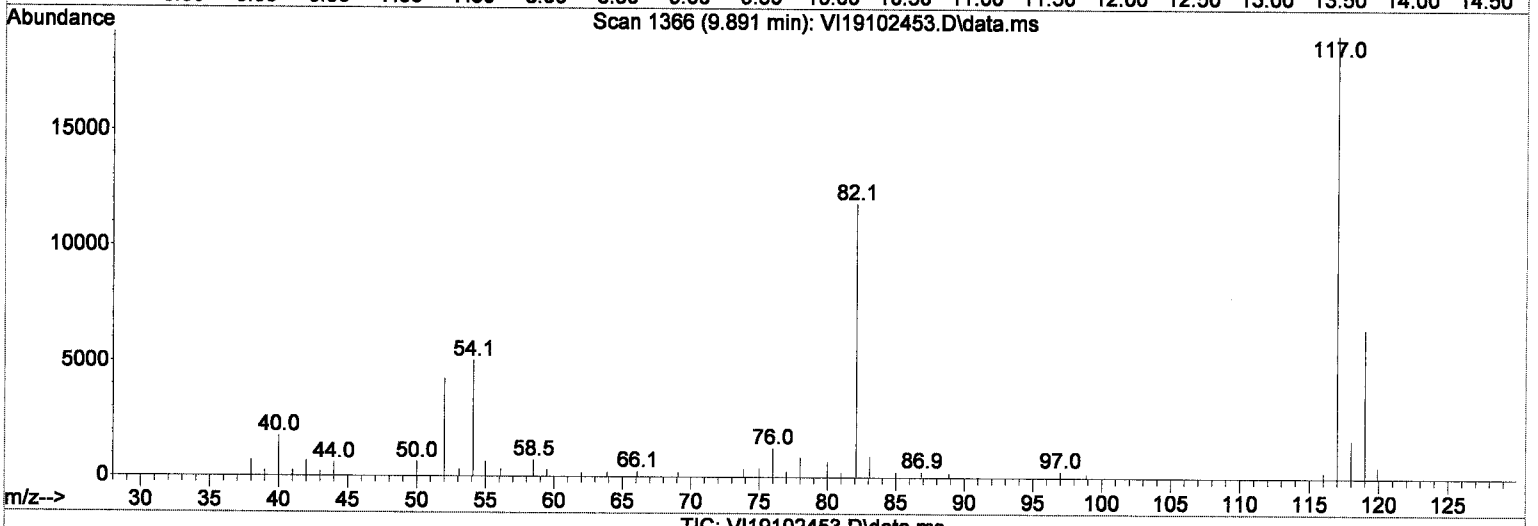
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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

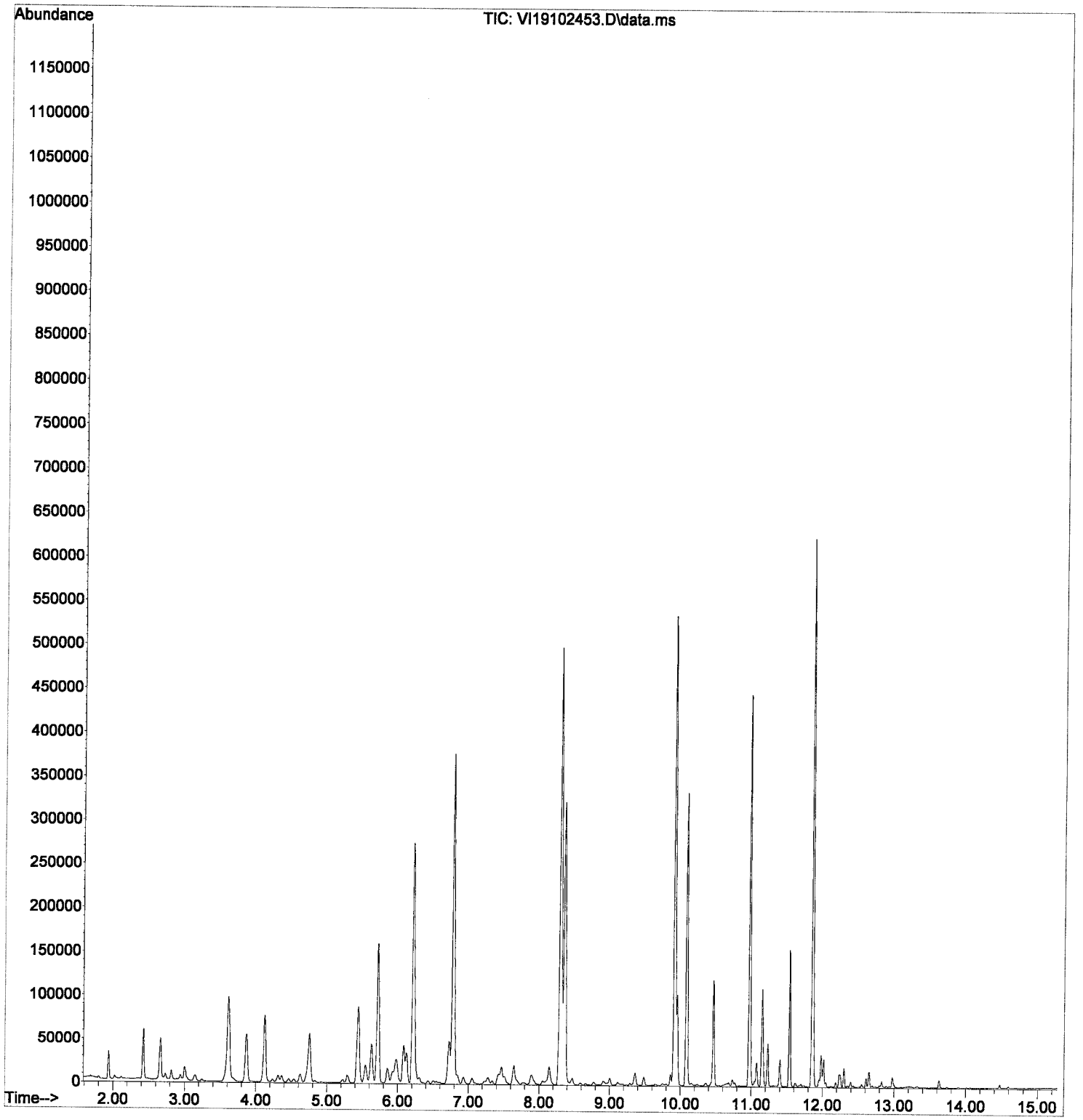
response 3205343

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 9110483
Sequence 9K05040 (A9K0039-01,03)

PREPARATION BENCH SHEET

BATCH #: 9110483 (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*
9110483-BLK1		QC	11/05/19 12:14	5	5							
9110483-BS1		QC	11/05/19 12:14	5	5	A19K007		0.05				
A9J1114-01	A	8260C SIM - VC Only	11/05/19 13:35	5	5					PDI-TB-1910300000	Needs 0.022ug/L RL	<2
A9J1114-02	A	8260C SIM - VC Only	11/05/19 13:35	5	5					PDI-028PW-9-11-191030	Needs 0.022ug/L RL	<2
A9J1114-04	C	8260C SIM - VC Only	11/05/19 13:35	5	5					PDI-038PW-9-11-191030	Needs 0.022ug/L RL	<2
A9J1114-05	B	8260C SIM - VC Only	11/05/19 13:35	5	5					PDI-045PW-04-06-191029	Needs 0.022ug/L RL	<2
9110483-DUP1		QC	11/05/19 13:35	5	5		A9J1114-05					<2
A9J1114-07	C	8260C SIM - VC Only	11/05/19 13:35	5	5					PDI-059PW-10-12-191030	Needs 0.022ug/L RL	<2
A9K0039-01	A	8260C SIM - VC Only	11/05/19 13:35	5	5					PDI-TB-1911010000	Needs 0.022ug/L RL	<2
A9K0039-03	B	8260C SIM - VC Only	11/05/19 13:35	5	5					PDI-064PW-10-12-191101	Needs 0.022ug/L RL	<2
9110483-MS1		QC	11/05/19 13:35	5	5	A19K007	A9K0039-03	0.05				<2

*pH <2 verified 11/6/19

Standards/Reagents

Reagent(s)			Analyte Spike(s)			Surrogate(s)		
Std ID	Exp. Date	Description	Std ID	Exp. Date	Description	Std ID	Exp. Date	Description
			A19K007	11/09/19	8260 Cal. Std. B VOCR+OXY Spike (20-40ug/r			

GCMS8 SIMW

Prepared By: 11/6/19 Date

Reviewed By: 11/6/19 Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9K05040**	Instrument:	**VOA-GCMS8**
Date:	**11/05/19 11:35**	Calibration:	**A9G1805**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9K05040-IBL1	Water	QC	QC			A19G296	
2	9K05040-TUN1	Water	QC	QC			A19G296	
3	9K05040-IBL2	Water	QC	QC			A19G296	
4	9K05040-CCV1	Water	QC	QC			A19G296	A19K089
5	9110483-BS1	Water	QC	QC		9110483	A19G296	
6	9110483-BLK1	Water	QC	QC		9110483	A19G296	
7	A9J1114-01	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/13/19	9110483	A19G296	
8	A9K0039-01	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/15/19	9110483	A19G296	
9	A9J1114-02	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/13/19	9110483	A19G296	
10	A9J1114-04	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/13/19	9110483	A19G296	
11	A9J1114-05	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/13/19	9110483	A19G296	
12	9110483-DUP1	Water	QC	QC		9110483	A19G296	
13	9K05040-IBL3	Water	QC	QC			A19G296	
14	A9J1114-07	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/13/19	9110483	A19G296	
15	A9K0039-03	Water	8260C SIM - VC Only	Anchor QEA, LLC	11/15/19	9110483	A19G296	
16	9110483-MS1	Water	QC	QC		9110483	A19G296	
17	9K05040-IBL4	Water	QC	QC			A19G296	
18	9110492-BLK1	Water	QC	QC		9110492	A19G296	
19	9110492-BS1	Water	QC	QC		9110492	A19G296	
20	9110492-BS2	Water	QC	QC		9110492	A19G296	
21	9110492-BS3	Water	QC	QC		9110492	A19G296	
22	9110492-BS4	Water	QC	QC		9110492	A19G296	
23	9K05040-IBL5	Water	QC	QC			A19G296	

> DOC

Scan turned off

Comments: chloromethane EOS

Data Entered By: 11/6/19

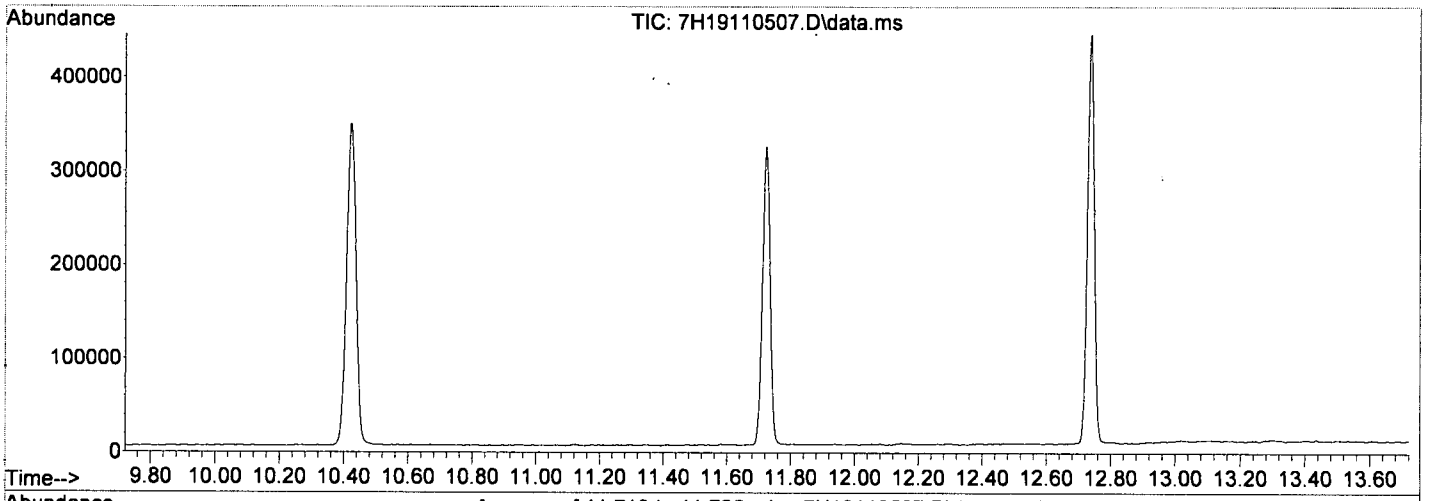
Data Reviewed By: 11/6/19

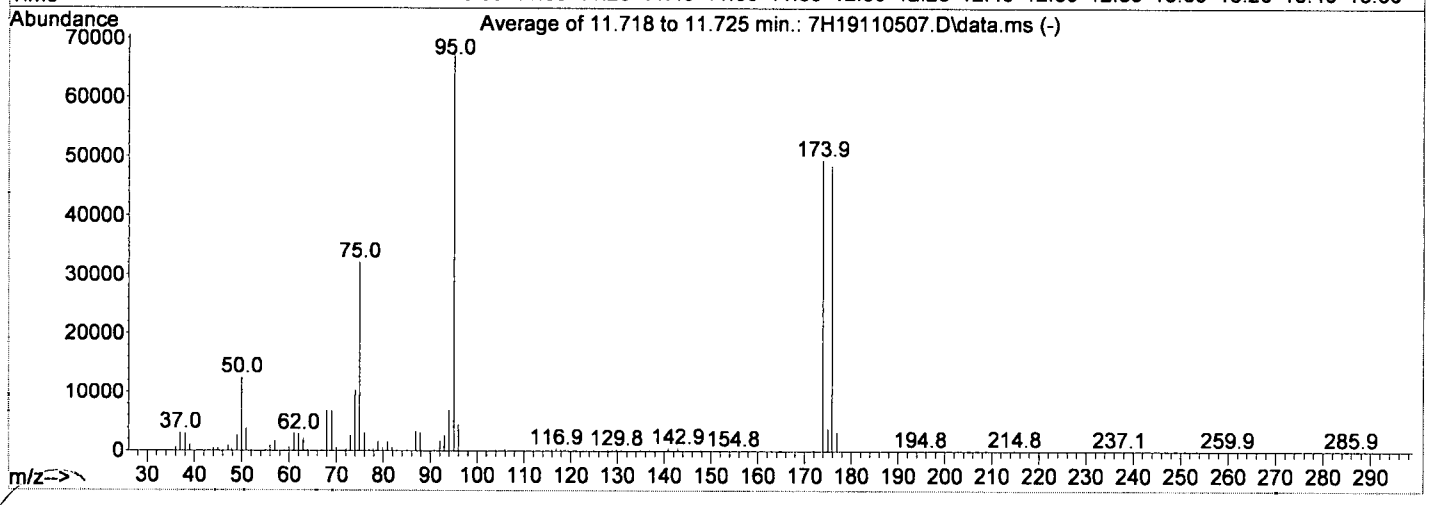
BFB

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110507.D
Acq On : 05 Nov 2019 12:14 pm
Operator : MM
Sample : 9K05040-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 3134

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	136.1	67251	PASS
96	95	5	9	6.7	4537	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	73.5	49408	PASS
175	174	5	9	7.8	3864	PASS
176	174	95	105	98.2	48504	PASS
177	176	5	10	6.7	3226	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110507.D
Acq On : 05 Nov 2019 12:14 pm
Operator : MM
Sample : 9K05040-TUN1
Misc : 1X 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 05 16:37:27 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

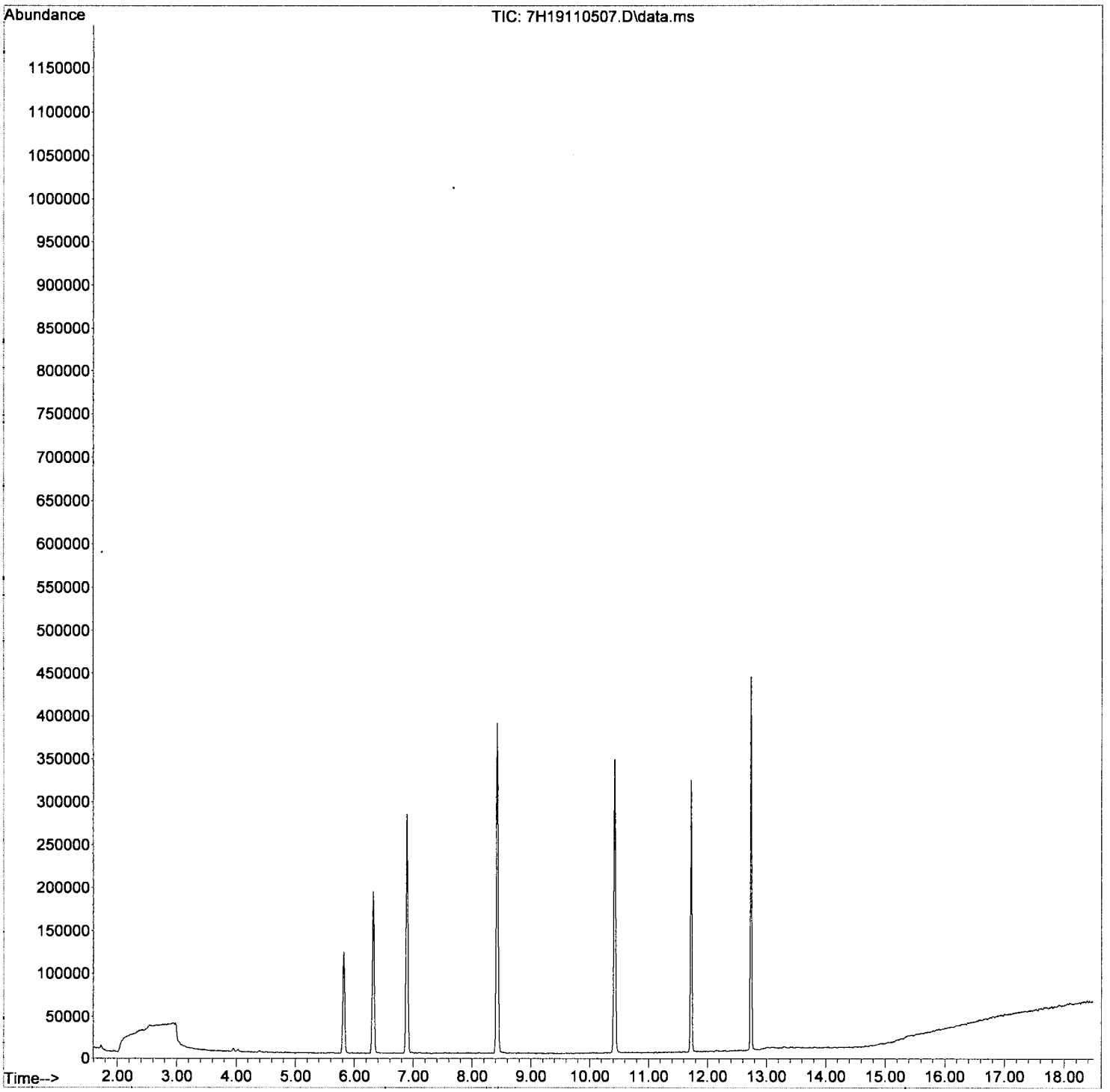
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.317	168	145471	50.00	ug/L		0.00
39) Chlorobenzene-d5 (I)	10.423	117	231779	50.00	ug/L		0.00
60) 1,4-Dichlorobenzene-d4...	12.738	152	104556	50.00	ug/L		0.00
System Monitoring Compounds							
28) Dibromofluoromethane (S)	5.815	111	85746	44.61	ug/L		0.00
34) 1,4-Difluorobenzene (S)	6.889	114	257812	53.05	ug/L		0.00
42) Toluene-d8 (S)	8.423	98	321213	55.69	ug/L		0.00
61) 4-Bromofluorobenzene (S)	11.722	174	85203	59.20	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.896	50	187	0.09	ug/L	#	50
5) Bromomethane	2.378	96	238	Below Cal		#	9
6) Chloroethane	2.539	64	28	Below Cal		#	1
11) Iodomethane	3.410	142	20	2.16	ug/L	#	1
12) Acrolein	3.690	56	53	0.22	ug/L	#	13
13) Methylene Chloride	3.957	84	1877	1.11	ug/L		90
14) Acetone	4.027	43	2877	4.81	ug/L		87
19) Acrylonitrile	4.828	53	150	0.26	ug/L	#	63
20) Vinyl Acetate	5.056	43	57	0.18	ug/L		82
26) Tetrahydrofuran	5.793	42	48	0.11	ug/L	#	46
30) 2-Butanone (MEK)	5.953	43	151	0.18	ug/L		52
33) iso-Butyl Alcohol	6.487	43	382	4.90	ug/L	#	22
46) t-1,3-Dichloropropene	9.008	75	129	0.49	ug/L		48
51) 2-Hexanone	10.088	43	195	0.51	ug/L	#	42
55) m,p-Xylenes (2)	10.484	91	60	0.16	ug/L	#	33
56) o-Xylene	10.654	91	293	0.13	ug/L		67
57) Styrene	11.172	104	81	0.36	ug/L	#	55
71) 1,2,4-Trimethylbenzene	12.407	105	35	0.20	ug/L	#	29
72) sec-Butylbenzene	12.448	105	10	0.15	ug/L	#	1
73) 4-Isopropyltoluene	12.609	119	99	0.21	ug/L		51
81) Naphthalene	14.661	128	652	0.32	ug/L		78

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110507.D
Acq On : 05 Nov 2019 12:14 pm
Operator : MM
Sample : 9K05040-TUN1
Misc : 1X 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 05 16:37:27 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\9K05040\
Data File : 7H19110509.D
Acq On : 05 Nov 2019 01:08 pm
Operator : MM
Sample : 9110483-BS1
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 05 16:37:56 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

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	119	-0.01
2		Chloromethane	200.000	228.844	-14.4	122	0.00
3		Vinyl Chloride	200.000	199.269	0.4	106	-0.01
4		1,1-Dichloroethene	200.000	164.832	17.6	100	0.00
5		Carbon Disulfide	200.000	188.858	5.6	108	0.00
6		t-1,2-Dichloroethene	200.000	195.279	2.4	114	0.00
7		Methyl-tert-butyl-ether	200.000	194.324	2.8	111	-0.02
8		1,1-Dichloroethane	200.000	193.937	3.0	114	-0.01
9		c-1,2-Dichloroethene	200.000	190.197	4.9	111	-0.01
10		Chloroform	200.000	192.372	3.8	112	0.00
11	S	Dibromofluoromethane (S)	2330.000	2228.911	4.3	113	-0.01
12		Benzene	200.000	201.656	-0.8	117	-0.01
13		1,2-Dichloroethane (EDC)	200.000	202.063	-1.0	118	-0.01
14	S	1,4-Difluorobenzene (S)	2330.000	2326.723	0.1	119	-0.01
15		Trichloroethene (TCE)	200.000	194.253	2.9	113	-0.01
16		1,2-Dichloropropane	200.000	196.900	1.5	118	-0.01
17		Chlorobenzene-d5 (I)	2330.000	2330.000	0.0	123	-0.01
18		c-1,3-Dichloropropene	200.000	195.639	2.2	121	-0.01
19	S	Toluene-d8 (S)	2330.000	2257.190	3.1	121	-0.02
20		Toluene	200.000	192.993	3.5	126	-0.01
21		Tetrachloroethene (PCE)	200.000	195.756	2.1	121	0.00
22		t-1,3-Dichloropropene	200.000	197.033	1.5	121	0.00
23		1,1,2-Trichloroethane	200.000	191.730	4.1	119	-0.01
24		1,2-Dibromoethane (EDB)	200.000	183.245	8.4	114	-0.01
25		Ethylbenzene	200.000	195.359	2.3	126	-0.01
26		m,p-Xylenes (2)	400.000	398.807	0.3	127	-0.01
27		o-Xylene	200.000	182.882	8.6	121	-0.01
28	I	1,4-Dichlorobenzene-d4 (I)	2330.000	2330.000	0.0	134	-0.01
29	S	4-Bromofluorobenzene (S)	2330.000	2219.530	4.7	127	-0.01
30		1,1,2,2-Tetrachloroethane	200.000	178.542	10.7	106	-0.01
31		1,3.5-Trimethylbenzene	200.000	181.749	9.1	124	-0.02
32		1,2,3-Trichloropropane	200.000	173.991	13.0	107	-0.01
33		1,2,4-Trimethylbenzene	200.000	173.494	13.3	121	-0.01
34		1,2-Dibromo-3-chloropropane	200.000	161.257	19.4	90	-0.01
35		Naphthalene	200.000	190.584	4.7	114	-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\9K05040\
Data File : 7H19110509.D
Acq On : 05 Nov 2019 01:08 pm
Operator : MM
Sample : 9110483-BS1
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 05 16:37:56 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

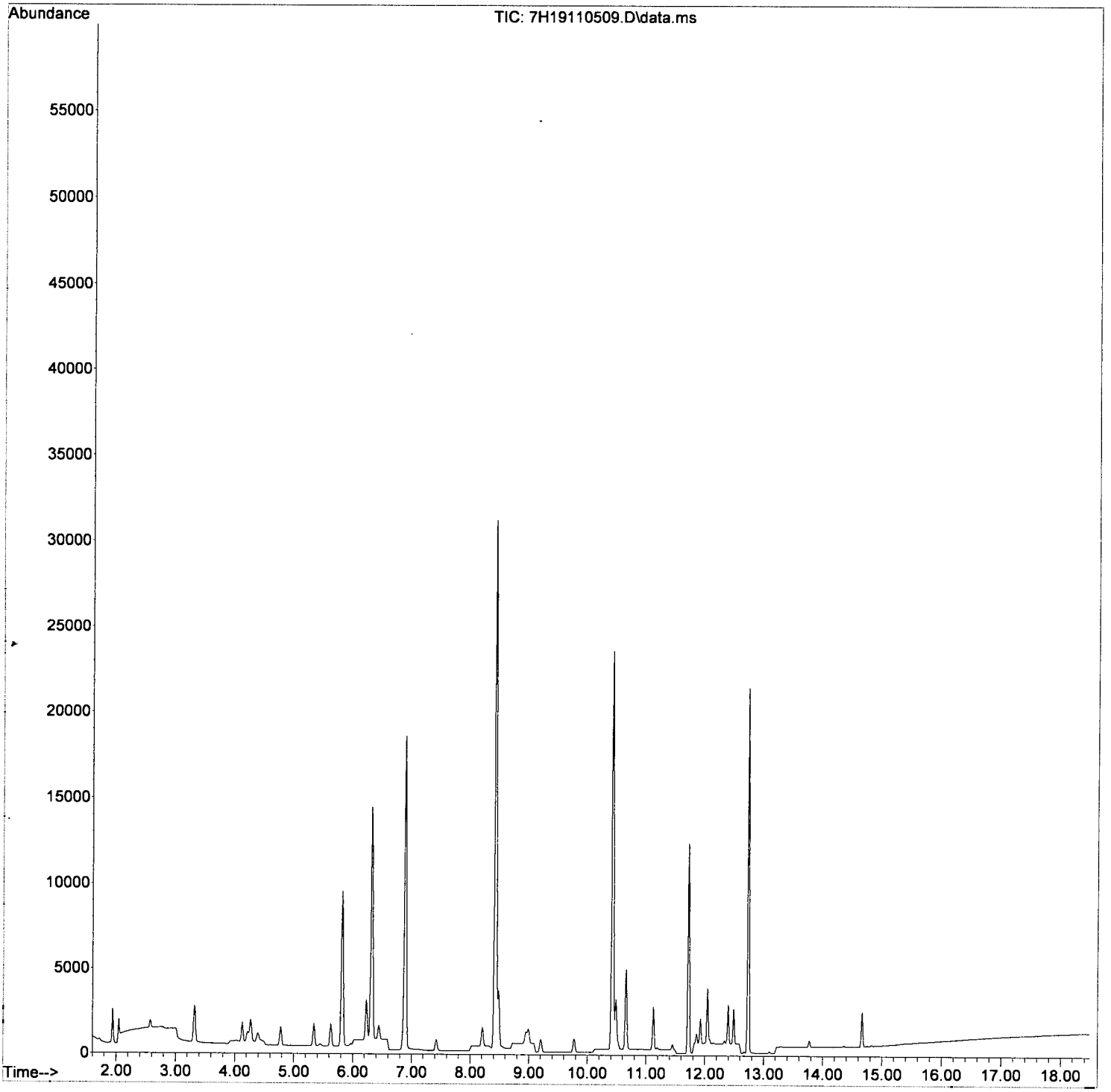
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.316	168	21016	2330.00	ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	32497	2330.00	ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	13984	2330.00	ng/L	-0.01
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.814	111	11135	2228.91	ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	36436	2326.72	ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	49837	2257.19	ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	11726	2219.53	ng/L	-0.01
Target Compounds						Qvalue
2) Chloromethane	1.936	50	2601	228.84	ng/L	98
3) Vinyl Chloride	2.039	62	1403	199.27	ng/L	99
4) 1,1-Dichloroethene	3.307	61	1396	164.83	ng/L	89
5) Carbon Disulfide	3.327	76	2819	188.86	ng/L	97
6) t-1,2-Dichloroethene	4.125	61	1478	195.28	ng/L	86
7) Methyl-tert-butyl-ether	4.266	73	3013	194.32	ng/L	75
8) 1,1-Dichloroethane	4.776	63	1882	193.94	ng/L	100
9) c-1,2-Dichloroethene	5.336	61	1483	190.20	ng/L	89
10) Chloroform	5.626	83	1874	192.37	ng/L	100
12) Benzene	6.230	78	4546	201.66	ng/L	97
13) 1,2-Dichloroethane (EDC)	6.441	62	1526	202.06	ng/L	99
15) Trichloroethene (TCE)	6.851	130	996	194.25	ng/L	98
16) 1,2-Dichloropropane	7.421	63	1196	196.90	ng/L	88
18) c-1,3-Dichloropropene	8.207	75	1799	195.64	ng/L	86
20) Toluene	8.481	91	4540	192.99	ng/L	96
21) Tetrachloroethene (PCE)	8.949	166	934	195.76	ng/L	84
22) t-1,3-Dichloropropene	8.992	75	1595	197.03	ng/L	98
23) 1,1,2-Trichloroethane	9.207	97	1043	191.73	ug/L	98
24) 1,2-Dibromoethane (EDB)	9.774	107	1082	183.25	ng/L	94
25) Ethylbenzene	10.482	91	4484	195.36	ng/L	96
26) m,p-Xylenes (2)	10.654	91	6618	398.81	ng/L	88
27) o-Xylene	11.123	91	3383	182.88	ng/L	94
30) 1,1,2,2-Tetrachloroeth...	11.923	83	1701	178.54	ug/L	96
31) 1,3.5-Trimethylbenzene	12.042	105	2733	181.75	ng/L	91
32) 1,2,3-Trichloropropane	12.047	110	443	173.99	ng/L	87
33) 1,2,4-Trimethylbenzene	12.394	105	2681	173.49	ng/L	90
34) 1,2-Dibromo-3-chloropr...	13.775	157	348	161.26	ng/L #	71
35) Naphthalene	14.664	128	3236	190.58	ng/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110509.D
Acq On : 05 Nov 2019 01:08 pm
Operator : MM
Sample : 9110483-BS1
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 05 16:37:56 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\9K05040\
Data File : 7H19110510.D
Acq On : 05 Nov 2019 01:35 pm
Operator : MM
Sample : 9110483-BLK1
Misc : 1X 5mL DI
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 05 16:38:21 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

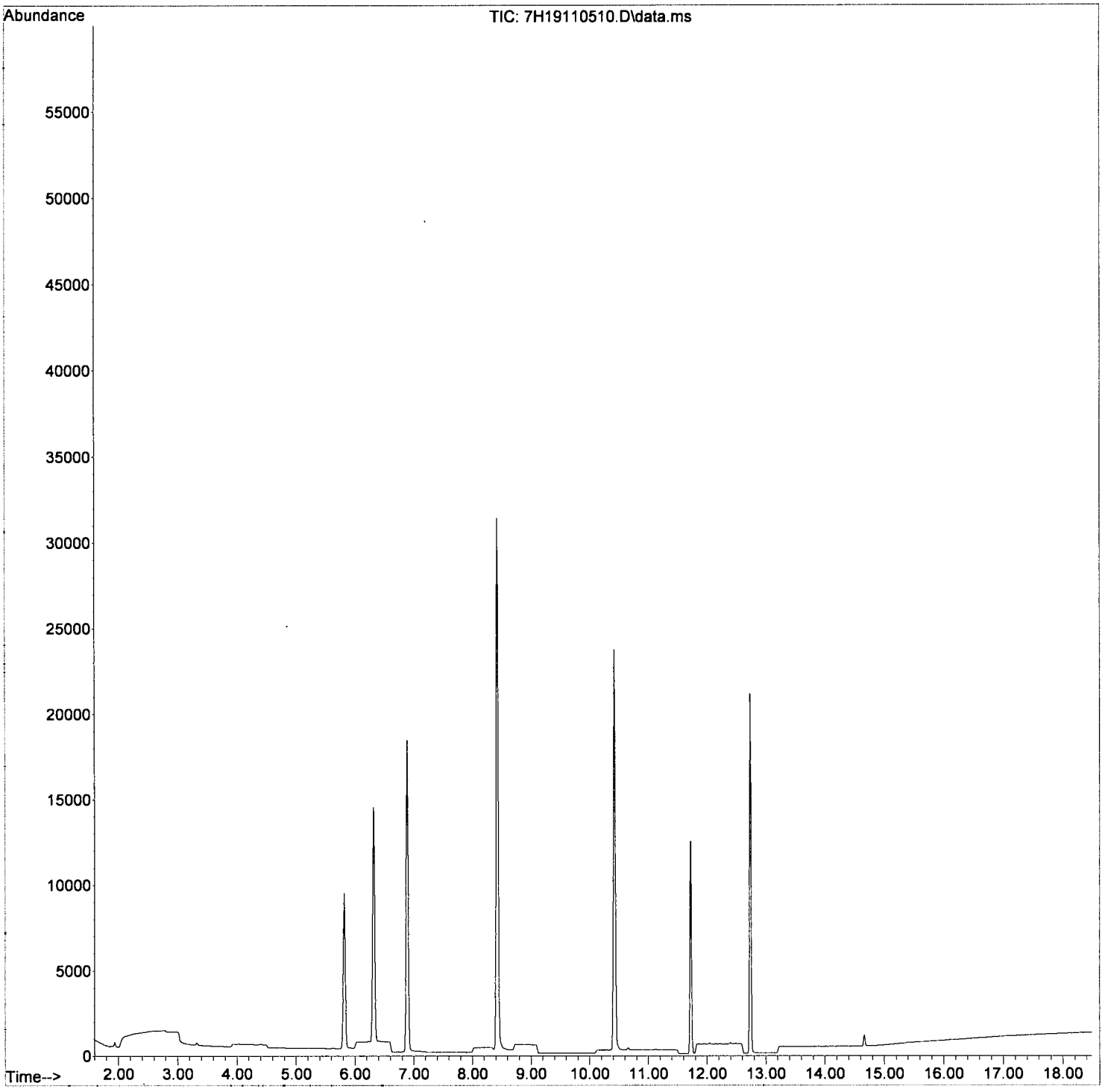
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.317	168	20981	2330.00 ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	32773	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	14034	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	11153	2236.24 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	36439	2330.80 ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	50153	2252.37 ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.718	174	11827	2230.67 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.936	50	378	Below Cal	98
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	0.000		0	N.D.	
5) Carbon Disulfide	3.322	76	256	17.18 ng/L	79
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	0.000		0	N.D.	
10) Chloroform	5.626	83	40	4.11 ng/L	91
12) Benzene	6.224	78	124	5.51 ng/L	85
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	242	10.20 ng/L	99
21) Tetrachloroethene (PCE)	8.949	166	31	6.44 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	10.482	91	84	3.63 ng/L	91
26) m,p-Xylenes (2)	10.654	91	169	10.10 ng/L	89
27) o-Xylene	11.123	91	75	4.02 ng/L	100
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.	
31) 1,3.5-Trimethylbenzene	12.042	105	65	4.31 ng/L	80
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.394	105	108	6.96 ng/L	93
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.664	128	1094	64.20 ng/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110510.D
Acq On : 05 Nov 2019 01:35 pm
Operator : MM
Sample : 9110483-BLK1
Misc : 1X 5mL DI
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 05 16:38:21 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\9K05040\
Data File : 7H19110512.D
Acq On : 05 Nov 2019 02:31 pm
Operator : MM
Sample : A9K0039-01
Misc : 1X 5mL SIM VC TB
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 05 16:38:34 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

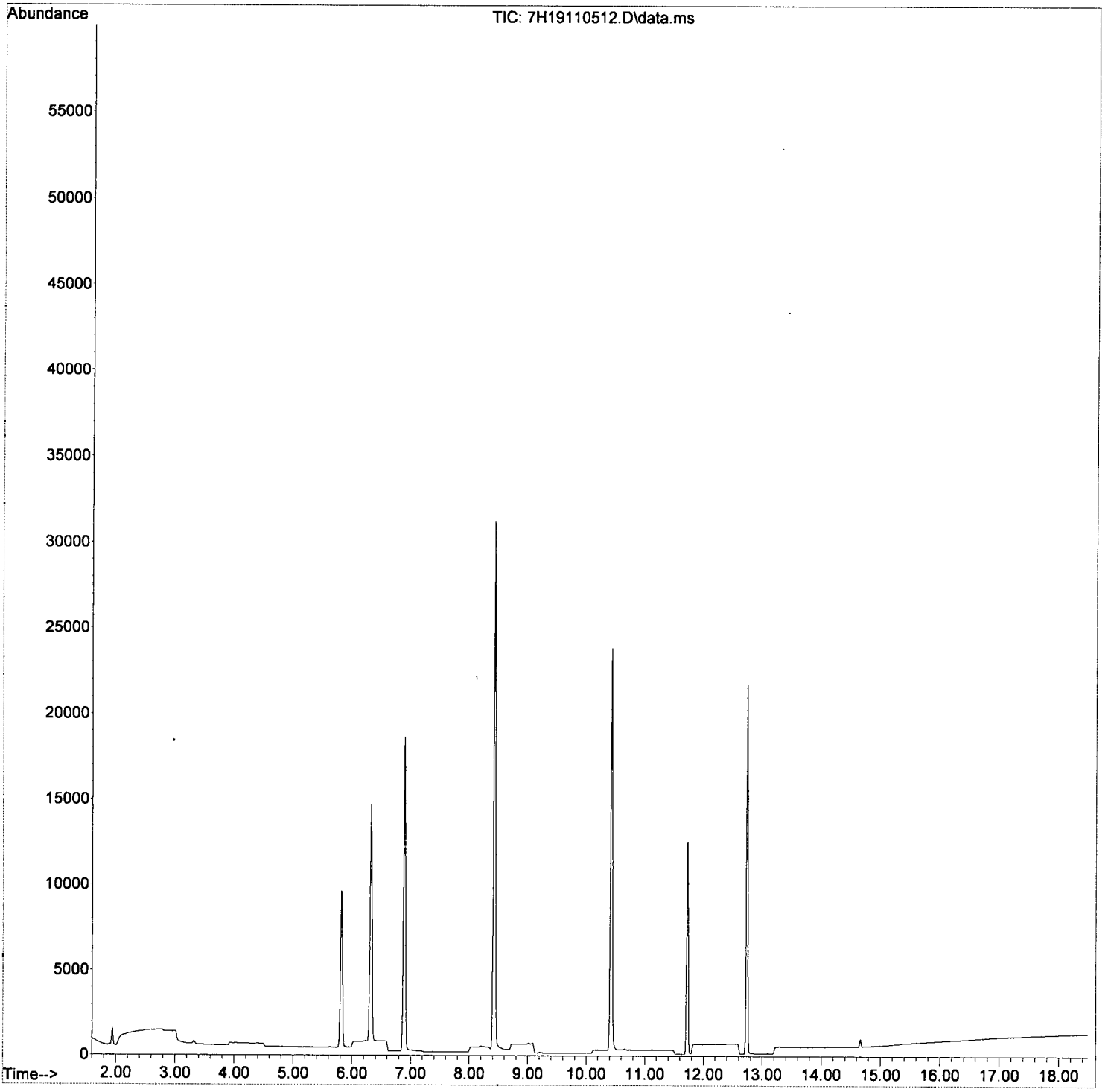
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.317	168	21210	2330.00	ng/L		-0.01
17) Chlorobenzene-d5 (I)	10.423	117	32770	2330.00	ng/L		-0.01
28) 1,4-Dichlorobenzene-d4...	12.739	152	14076	2330.00	ng/L		-0.01
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.814	111	11253	2231.93	ng/L		-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	36578	2314.43	ng/L		-0.01
19) Toluene-d8 (S)	8.422	98	50140	2251.99	ng/L		-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	11820	2222.70	ng/L		-0.01
Target Compounds							Qvalue
2) Chloromethane	1.936	50	1433	82.21	ng/L		98
3) Vinyl Chloride	0.000		0	N.D.			
4) 1,1-Dichloroethene	3.312	61	31	3.63	ng/L	#	66
5) Carbon Disulfide	3.327	76	234	15.53	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	0.000		0	N.D.			
10) Chloroform	5.626	83	61	6.20	ng/L		87
12) Benzene	6.230	78	90	3.96	ng/L		64
13) 1,2-Dichloroethane (EDC)	0.000		0	N.D.			
15) Trichloroethene (TCE)	6.846	130	26	5.02	ng/L		77
16) 1,2-Dichloropropane	0.000		0	N.D.			
18) c-1,3-Dichloropropene	0.000		0	N.D.			
20) Toluene	8.481	91	145	6.11	ng/L		90
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	34	1.47	ng/L		92
26) m,p-Xylenes (2)	10.655	91	103	6.16	ng/L		90
27) o-Xylene	11.123	91	38	2.04	ng/L		94
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.			
31) 1,3.5-Trimethylbenzene	0.000		0	N.D.			
32) 1,2,3-Trichloropropane	0.000		0	N.D.			
33) 1,2,4-Trimethylbenzene	12.394	105	40	2.57	ng/L		84
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.			
35) Naphthalene	14.664	128	805	47.10	ng/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110512.D
Acq On : 05 Nov 2019 02:31 pm
Operator : MM
Sample : A9K0039-01
Misc : 1X 5mL SIM VC TB
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 05 16:38:34 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\9K05040\
Data File : 7H19110519.D
Acq On : 05 Nov 2019 05:39 pm
Operator : MM
Sample : A9K0039-03
Misc : 1X 5mL SIM VC
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 06 09:24:13 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

11/6/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.316	168	21469	2330.00 ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	34553	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	16356	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	11706	2293.77 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	37572	2348.64 ng/L	-0.01
19) Toluene-d8 (S)	8.421	98	51962	2213.40 ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.718	174	13136	2125.83 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.936	50	704	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	93	6.10 ng/L #	1
6) t-1,2-Dichloroethene	0.000		0	N.D.	
7) Methyl-tert-butyl-ether	4.251	73	25	1.58 ng/L #	50
8) 1,1-Dichloroethane	4.781	63	35	3.53 ng/L	94
9) c-1,2-Dichloroethene	5.336	61	57	7.16 ng/L	81
10) Chloroform	0.000		0	N.D.	
12) Benzene	6.230	78	1672	72.60 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	7.458	63	84	13.54 ng/L #	47
18) c-1,3-Dichloropropene	0.000		0	N.D.	
20) Toluene	8.481	91	801	32.02 ng/L	98
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)	9.726	107	35	5.57 ng/L #	46
25) Ethylbenzene	10.482	91	1831	75.03 ng/L	96
26) m,p-Xylenes (2)	10.654	91	1671	94.70 ng/L	89
27) o-Xylene	11.122	91	4877	247.96 ng/L	95
30) 1,1,2,2-Tetrachloroeth...	11.950	83	97	8.70 ug/L #	63
31) 1,3.5-Trimethylbenzene	12.042	105	830	47.19 ng/L	89
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.394	105	2220	122.83 ng/L	92
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.664	128	342003	17221.11 ng/L	96

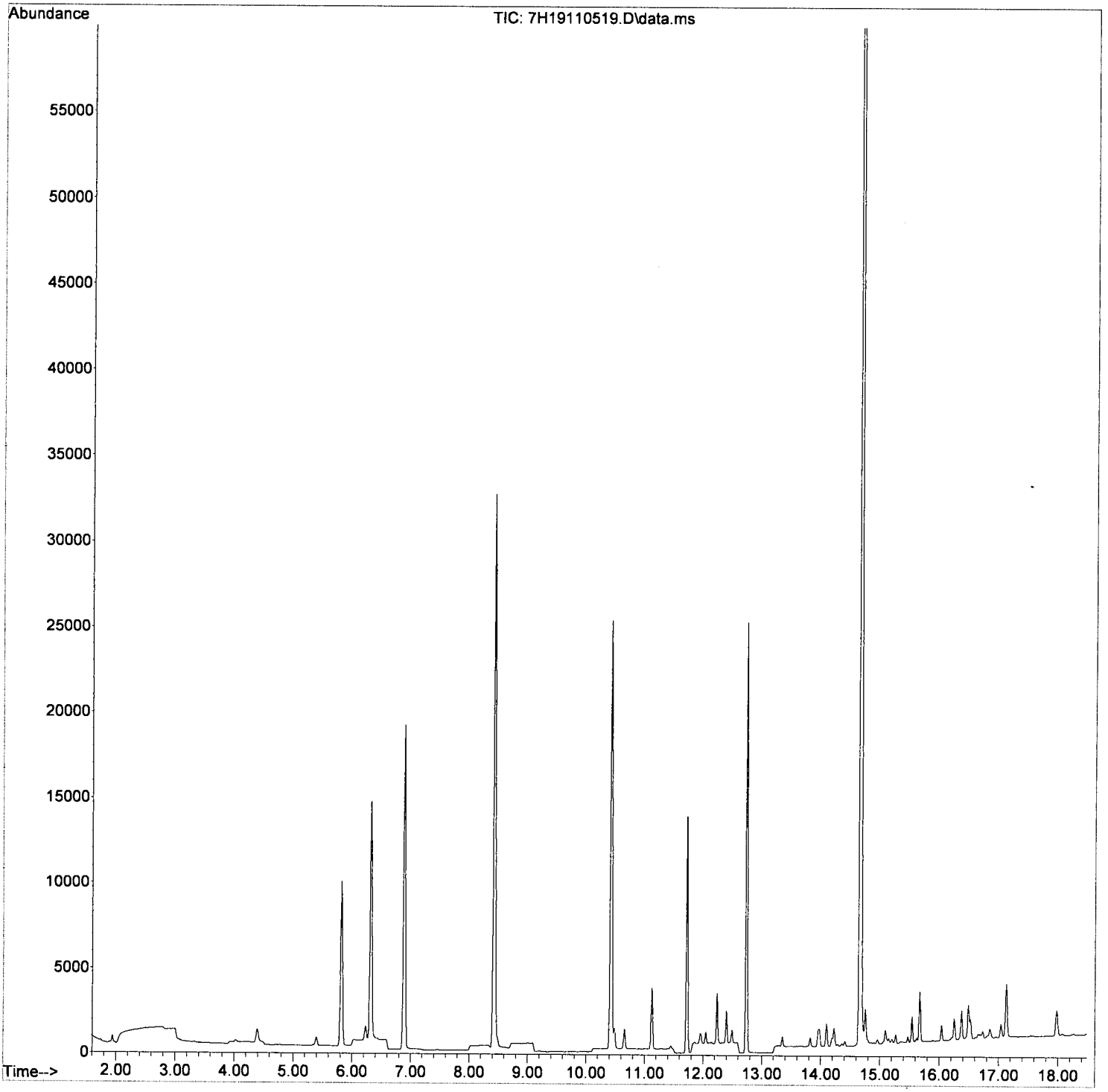
<MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110519.D
Acq On : 05 Nov 2019 05:39 pm
Operator : MM
Sample : A9K0039-03
Misc : 1X 5mL SIM VC
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 06 09:24:13 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\9K05040\
Data File : 7H19110520.D
Acq On : 05 Nov 2019 06:06 pm
Operator : MM
Sample : 9110483-MS1
Misc : 1X 5mL (K0039-03)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 06 09:24:17 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

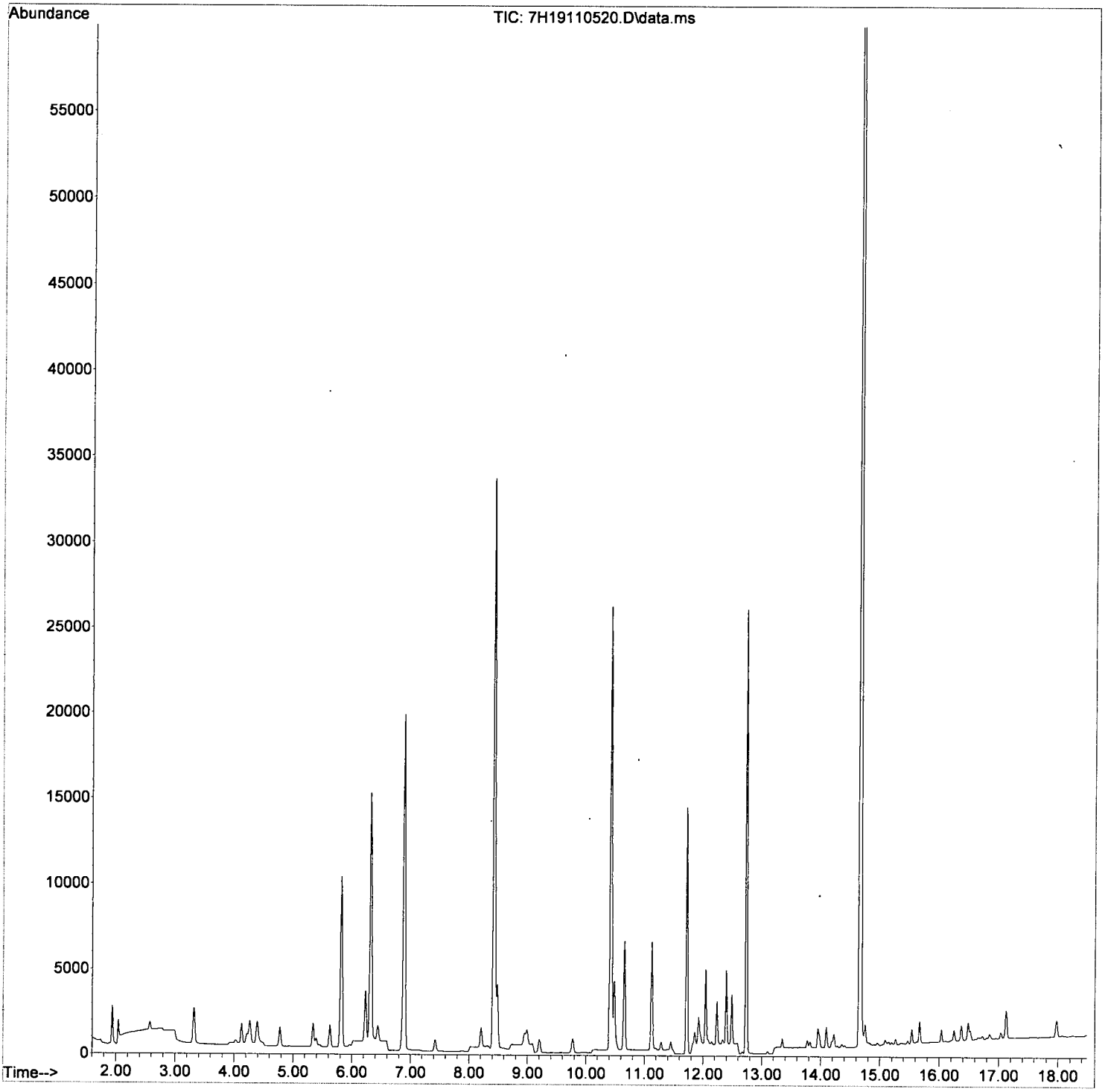
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.316	168	22192	2330.00	ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	35696	2330.00	ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	16791	2330.00	ng/L	-0.01
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.814	111	12152	2303.58	ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	38736	2342.51	ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	53250	2195.63	ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.718	174	13458	2121.52	ng/L	-0.01
Target Compounds						Qvalue
2) Chloromethane	1.936	50	3081	266.71	ng/L	98
3) Vinyl Chloride	2.044	62	1414	190.19	ng/L	95
4) 1,1-Dichloroethene	3.307	61	1452	162.36	ng/L	87
5) Carbon Disulfide	3.327	76	2743	174.03	ng/L	96
6) t-1,2-Dichloroethene	4.125	61	1540	192.69	ng/L	86
7) Methyl-tert-butyl-ether	4.266	73	3143	191.97	ng/L	62
8) 1,1-Dichloroethane	4.776	63	2004	195.57	ng/L	100
9) c-1,2-Dichloroethene	5.336	61	1643	199.55	ng/L	89
10) Chloroform	5.626	83	1933	187.91	ng/L	99
12) Benzene	6.230	78	5642	237.01	ng/L	98
13) 1,2-Dichloroethane (EDC)	6.441	62	1577	197.75	ng/L	99
15) Trichloroethene (TCE)	6.851	130	1042	192.46	ng/L	99
16) 1,2-Dichloropropane	7.420	63	1335	208.14	ng/L	89
18) c-1,3-Dichloropropene	8.207	75	1847	182.86	ng/L	94
20) Toluene	8.481	91	5166	199.92	ng/L	97
21) Tetrachloroethene (PCE)	8.949	166	993	189.47	ng/L	87
22) t-1,3-Dichloropropene	8.992	75	1643	184.77	ng/L	93
23) 1,1,2-Trichloroethane	9.207	97	1062	177.73	ug/L	91
24) 1,2-Dibromoethane (EDB)	9.769	107	1145	176.54	ng/L	97
25) Ethylbenzene	10.482	91	6387	253.33	ng/L	96
26) m,p-Xylenes (2)	10.654	91	8789	482.17	ng/L	88
27) o-Xylene	11.122	91	8577	422.11	ng/L	94
30) 1,1,2,2-Tetrachloroeth...	11.923	83	1846	161.37	ug/L	97
31) 1,3.5-Trimethylbenzene	12.042	105	3916	216.89	ng/L	91
32) 1,2,3-Trichloropropane	12.047	110	466	152.43	ng/L #	83
33) 1,2,4-Trimethylbenzene	12.394	105	4938	266.13	ng/L	93
34) 1,2-Dibromo-3-chloropr...	13.775	157	387	149.35	ng/L #	69
35) Naphthalene	14.664	128	286875	14070.98	ng/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110520.D
Acq On : 05 Nov 2019 06:06 pm
Operator : MM
Sample : 9110483-MS1
Misc : 1X 5mL (K0039-03)
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 06 09:24:17 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\9K05040\
Data File : 7H19110522.D
Acq On : 05 Nov 2019 07:00 pm
Operator : MM
Sample : 9110492-BLK1
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 06 09:24:25 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

11/6/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.317	168	21343	2330.00 ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	33476	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	14983	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	11586	2283.66 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	37193	2338.67 ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	50696	2228.95 ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	12265	2166.76 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.936	50	459	Below Cal	97
3) Vinyl Chloride	0.000		0	N.D.	
4) 1,1-Dichloroethene	0.000		0	N.D.	
5) Carbon Disulfide	3.327	76	270	17.81 ng/L	99
6) t-1,2-Dichloroethene	0.000		0	N.D.	
7) Methyl-tert-butyl-ether	4.226	73	50	3.18 ng/L #	1
8) 1,1-Dichloroethane	0.000		0	N.D.	
9) c-1,2-Dichloroethene	0.000		0	N.D.	
10) Chloroform	5.621	83	39	3.94 ng/L	87
12) Benzene	6.230	78	287	12.54 ng/L	90
13) 1,2-Dichloroethane (EDC)	6.436	62	26	3.39 ng/L	97
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	239	9.86 ng/L	97
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	131	5.54 ng/L	96
26) m,p-Xylenes (2)	10.654	91	182	10.65 ng/L	88
27) o-Xylene	11.123	91	112	5.88 ng/L	87
30) 1,1,2,2-Tetrachloroeth...	0.000		0	N.D.	
31) 1,3.5-Trimethylbenzene	12.042	105	65	4.03 ng/L	83
32) 1,2,3-Trichloropropane	0.000		0	N.D.	
33) 1,2,4-Trimethylbenzene	12.394	105	166	10.03 ng/L	94
34) 1,2-Dibromo-3-chloropr...	0.000		0	N.D.	
35) Naphthalene	14.664	128	12700	698.09 ng/L	97

<LMDL

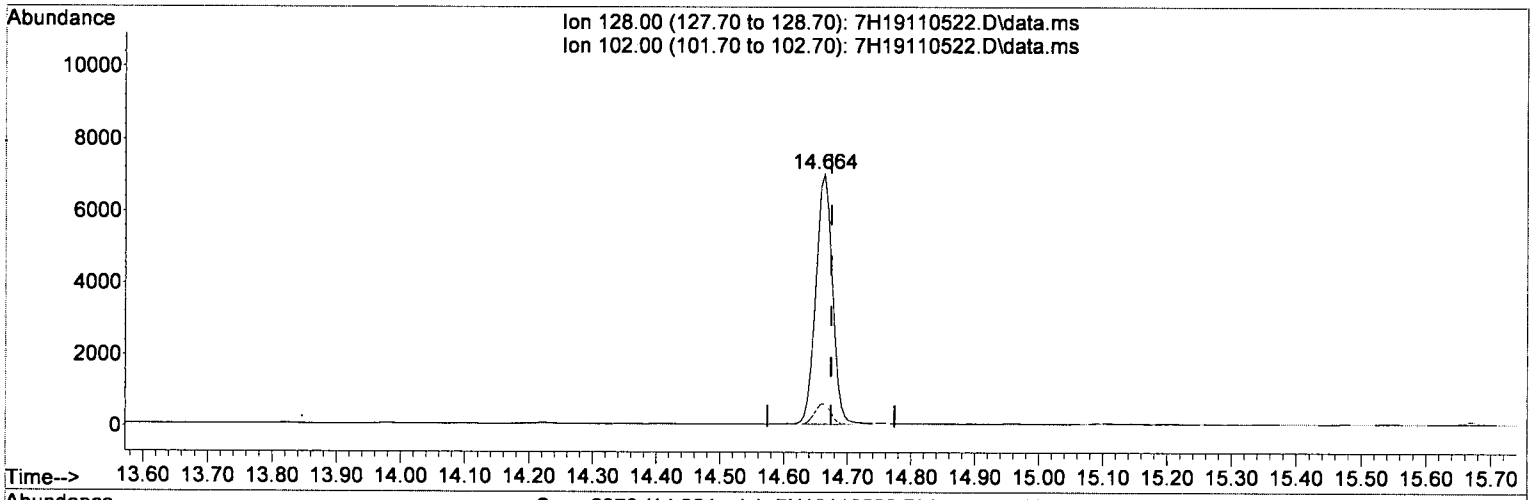
C.O.B

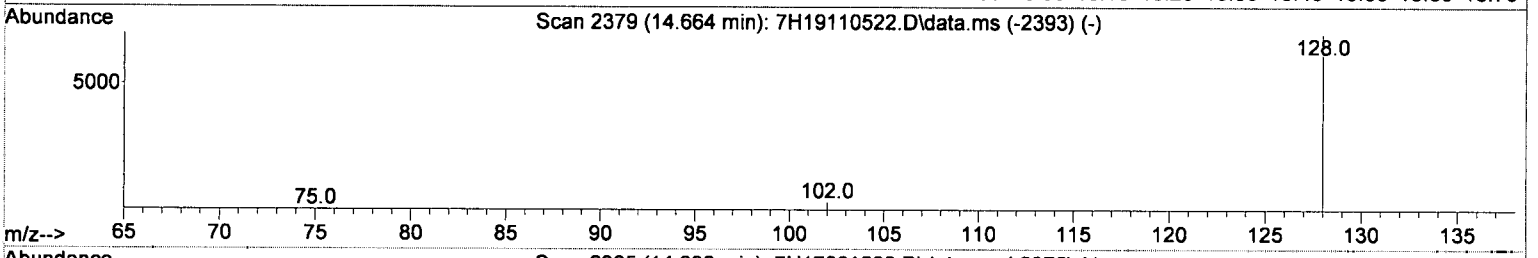
(#) = qualifier out of range (m) = manual integration (+) = signals summed

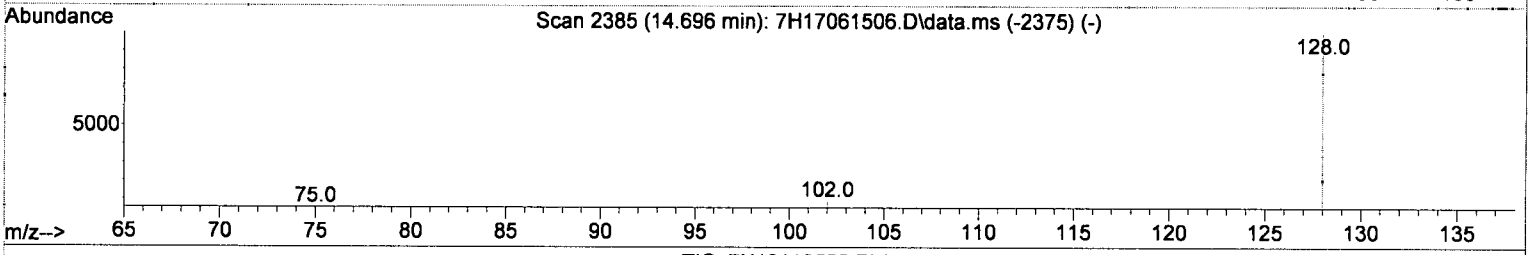
Quantitation Report (Qedit)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110522.D
Acq On : 05 Nov 2019 07:00 pm
Operator : MM
Sample : 9110492-BLK1
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 06 09:24:25 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: 7H19110522.D\data.ms

(35) Naphthalene

14.664min (-0.010) 698.09 ng/L

response 12700

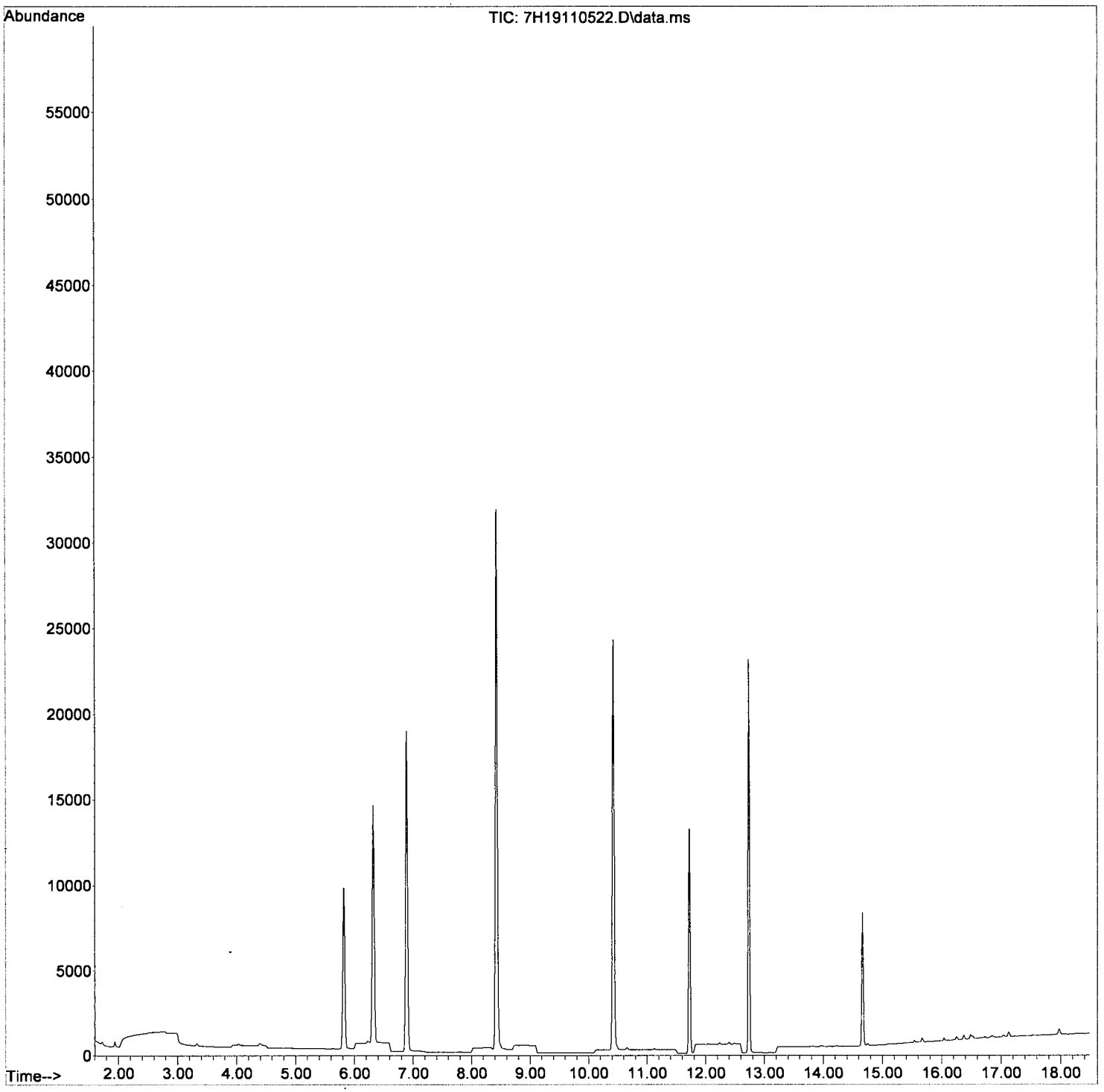
Ion	Exp%	Act%
128.00	100.00	100.00
102.00	9.40	8.30
0.00	0.00	0.00
0.00	0.00	0.00

B

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110522.D
Acq On : 05 Nov 2019 07:00 pm
Operator : MM
Sample : 9110492-BLK1
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 06 09:24:25 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\9K05040\
Data File : 7H19110523.D
Acq On : 05 Nov 2019 07:26 pm
Operator : MM
Sample : 9110492-BS1
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 06 09:24:29 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

11/6/19

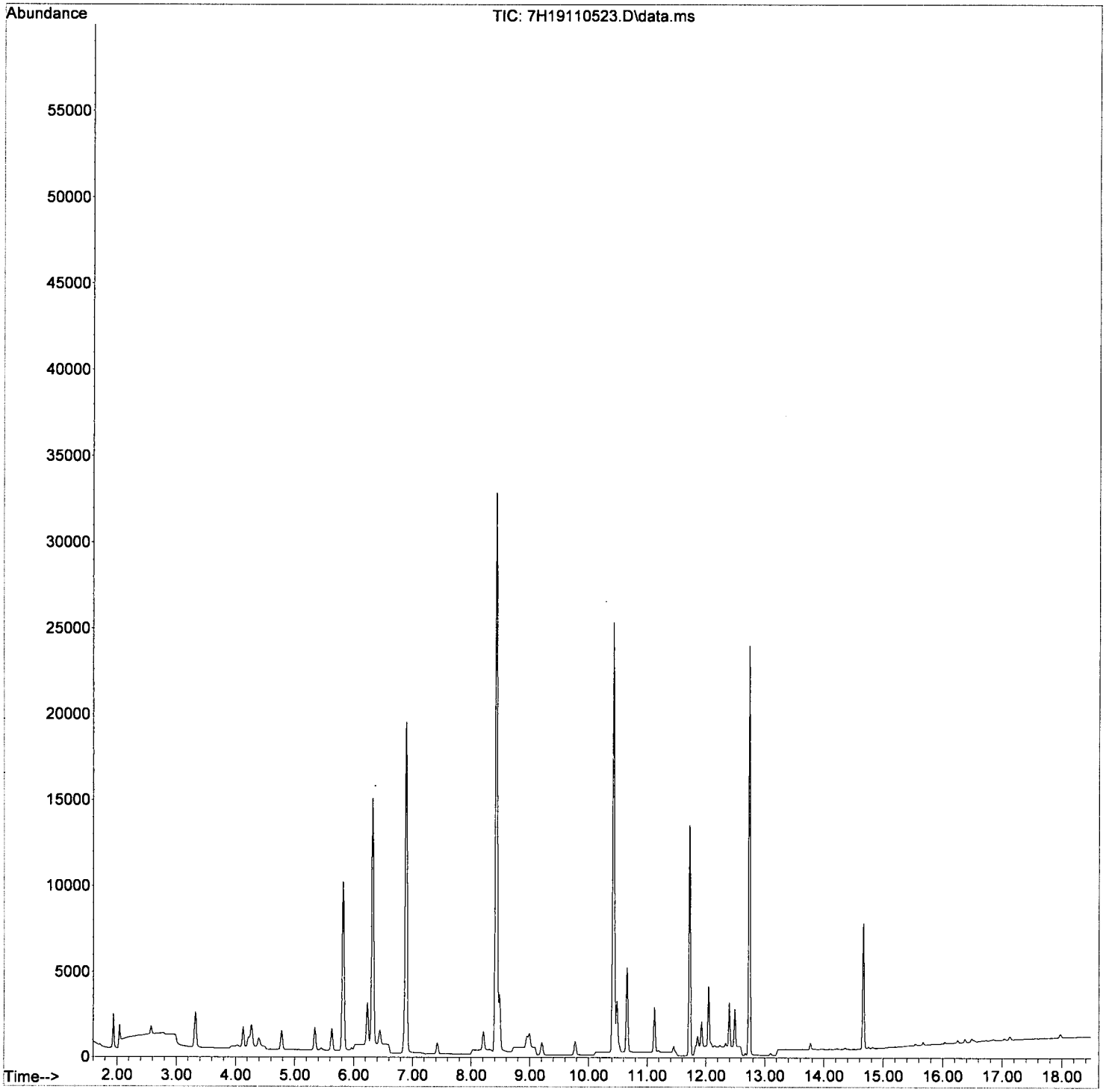
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.317	168	22046	2330.00	ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	34502	2330.00	ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.739	152	15519	2330.00	ng/L	-0.01
System Monitoring Compounds						
11) Dibromofluoromethane (S)	5.814	111	11985	2286.97	ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	38277	2330.09	ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	52195	2226.61	ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	12732	2171.58	ng/L	-0.01
Target Compounds						Qvalue
2) Chloromethane	1.937	50	2573	210.92	ng/L	99
3) Vinyl Chloride	2.039	62	1380	186.84	ng/L	100
4) 1,1-Dichloroethene	3.307	61	1397	157.24	ng/L	87
5) Carbon Disulfide	3.328	76	2648	169.11	ng/L	98
6) t-1,2-Dichloroethene	4.125	61	1497	188.55	ng/L	87
7) Methyl-tert-butyl-ether	4.267	73	2946	181.13	ng/L	57
8) 1,1-Dichloroethane	4.776	63	1923	188.90	ng/L	100
9) c-1,2-Dichloroethene	5.337	61	1528	186.81	ng/L	89
10) Chloroform	5.626	83	1879	183.87	ng/L	100
12) Benzene	6.230	78	4648	196.55	ng/L	97
13) 1,2-Dichloroethane (EDC)	6.441	62	1563	197.29	ng/L	100
15) Trichloroethene (TCE)	6.852	130	1002	186.29	ng/L	96
16) 1,2-Dichloropropane	7.421	63	1204	188.96	ng/L	89
18) c-1,3-Dichloropropene	8.207	75	1775	181.81	ng/L	88
20) Toluene	8.481	91	4571	183.02	ng/L	96
21) Tetrachloroethene (PCE)	8.949	166	925	182.60	ng/L	85
22) t-1,3-Dichloropropene	8.992	75	1558	181.28	ng/L	100
23) 1,1,2-Trichloroethane	9.207	97	1044	180.76	ug/L	98
24) 1,2-Dibromoethane (EDB)	9.769	107	1098	175.15	ng/L	99
25) Ethylbenzene	10.482	91	4648	190.74	ng/L	95
26) m,p-Xylenes (2)	10.655	91	6879	390.45	ng/L	88
27) o-Xylene	11.123	91	3538	180.15	ng/L	94
30) 1,1,2,2-Tetrachloroeth...	11.923	83	1677	158.61	ug/L	98
31) 1,3.5-Trimethylbenzene	12.042	105	3030	181.57	ng/L	90
32) 1,2,3-Trichloropropane	12.048	110	442	156.43	ng/L	84
33) 1,2,4-Trimethylbenzene	12.394	105	3066	178.78	ng/L	91
34) 1,2-Dibromo-3-chloropr...	13.775	157	357	149.06	ng/L	79
35) Naphthalene	14.664	128	11662	618.90	ng/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110523.D
Acq On : 05 Nov 2019 07:26 pm
Operator : MM
Sample : 9110492-BS1
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 06 09:24:29 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\9K05040\
Data File : 7H19110524.D
Acq On : 05 Nov 2019 07:53 pm
Operator : MM
Sample : 9110492-BS2
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Nov 06 09:24:33 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

11/6/19

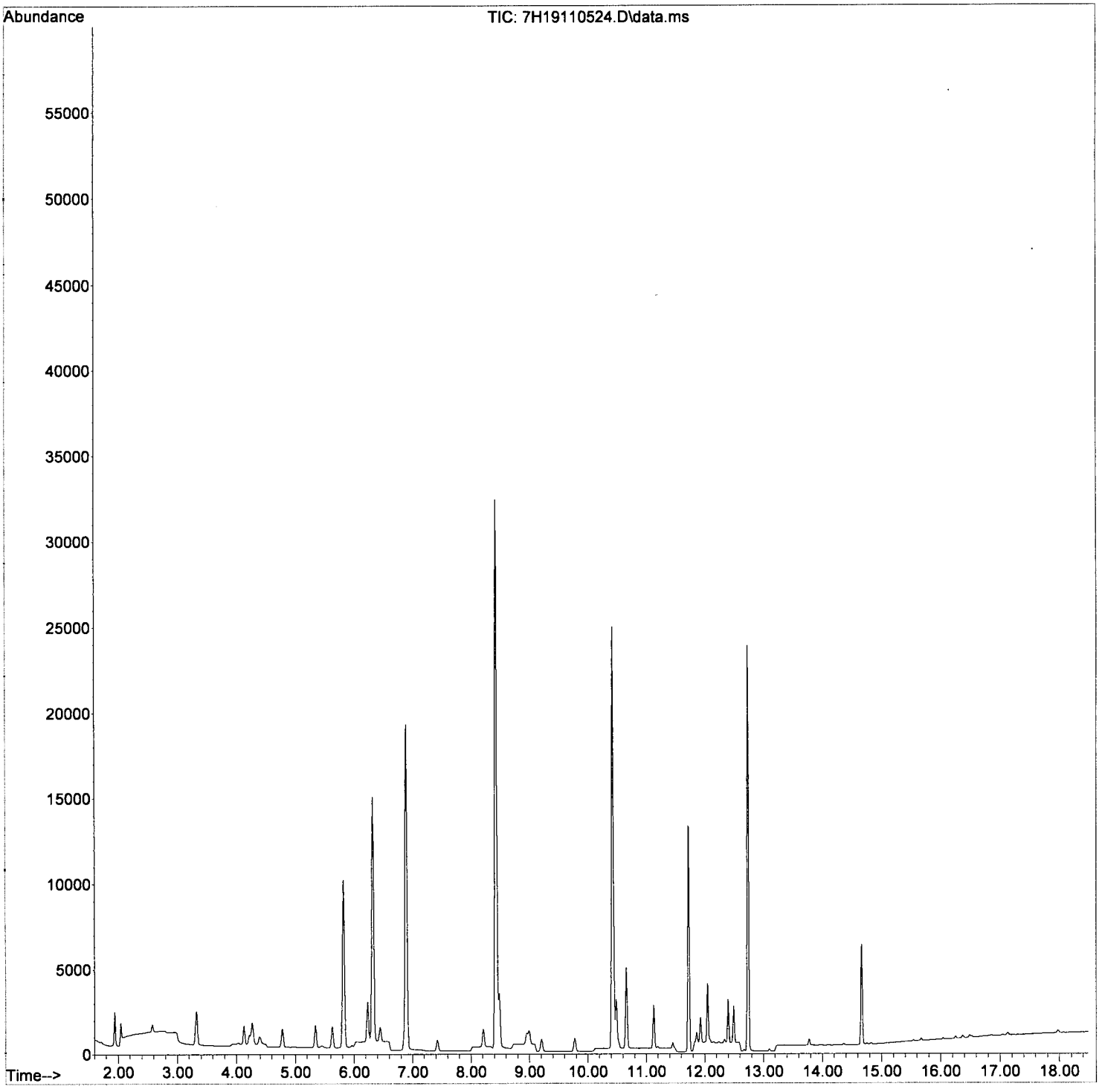
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.317	168	21871	2330.00	ng/L		-0.01
17) Chlorobenzene-d5 (I)	10.423	117	34352	2330.00	ng/L		-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	15292	2330.00	ng/L		-0.01
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.814	111	11917	2292.19	ng/L		-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	37912	2326.33	ng/L		-0.01
19) Toluene-d8 (S)	8.422	98	51974	2226.86	ng/L		-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	12604	2181.66	ng/L		-0.01
Target Compounds							Qvalue
2) Chloromethane	1.937	50	2480	202.45	ng/L		99
3) Vinyl Chloride	2.039	62	1299	177.29	ng/L		99
4) 1,1-Dichloroethene	3.307	61	1350	153.17	ng/L		86
5) Carbon Disulfide	3.328	76	2534	163.13	ng/L		98
6) t-1,2-Dichloroethene	4.125	61	1456	184.85	ng/L		87
7) Methyl-tert-butyl-ether	4.266	73	2903	179.91	ng/L	#	56
8) 1,1-Dichloroethane	4.776	63	1866	184.77	ng/L		98
9) c-1,2-Dichloroethene	5.336	61	1492	183.87	ng/L		88
10) Chloroform	5.626	83	1822	179.72	ng/L		100
12) Benzene	6.230	78	4524	192.83	ng/L		97
13) 1,2-Dichloroethane (EDC)	6.441	62	1531	194.80	ng/L		99
15) Trichloroethene (TCE)	6.851	130	978	183.29	ng/L		100
16) 1,2-Dichloropropane	7.421	63	1160	183.51	ng/L		89
18) c-1,3-Dichloropropene	8.207	75	1715	176.43	ng/L		87
20) Toluene	8.481	91	4426	177.99	ng/L		97
21) Tetrachloroethene (PCE)	8.949	166	912	180.82	ng/L		83
22) t-1,3-Dichloropropene	8.992	75	1534	179.26	ng/L		99
23) 1,1,2-Trichloroethane	9.207	97	1016	176.68	ug/L		99
24) 1,2-Dibromoethane (EDB)	9.774	107	1093	175.11	ng/L		94
25) Ethylbenzene	10.482	91	4481	184.69	ng/L		95
26) m,p-Xylenes (2)	10.655	91	6659	379.61	ng/L		88
27) o-Xylene	11.123	91	3422	175.00	ng/L		95
30) 1,1,2,2-Tetrachloroeth...	11.923	83	1709	164.04	ug/L		95
31) 1,3.5-Trimethylbenzene	12.042	105	2931	178.24	ng/L		92
32) 1,2,3-Trichloropropane	12.048	110	446	160.19	ng/L		88
33) 1,2,4-Trimethylbenzene	12.394	105	2955	174.87	ng/L		91
34) 1,2-Dibromo-3-chloropr...	13.775	157	342	144.92	ng/L		78
35) Naphthalene	14.664	128	9528	513.15	ng/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110524.D
Acq On : 05 Nov 2019 07:53 pm
Operator : MM
Sample : 9110492-BS2
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Nov 06 09:24:33 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\9K05040\
Data File : 7H19110525.D
Acq On : 05 Nov 2019 08:20 pm
Operator : MM
Sample : 9110492-BS3
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Nov 06 09:24:37 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

11/6/19

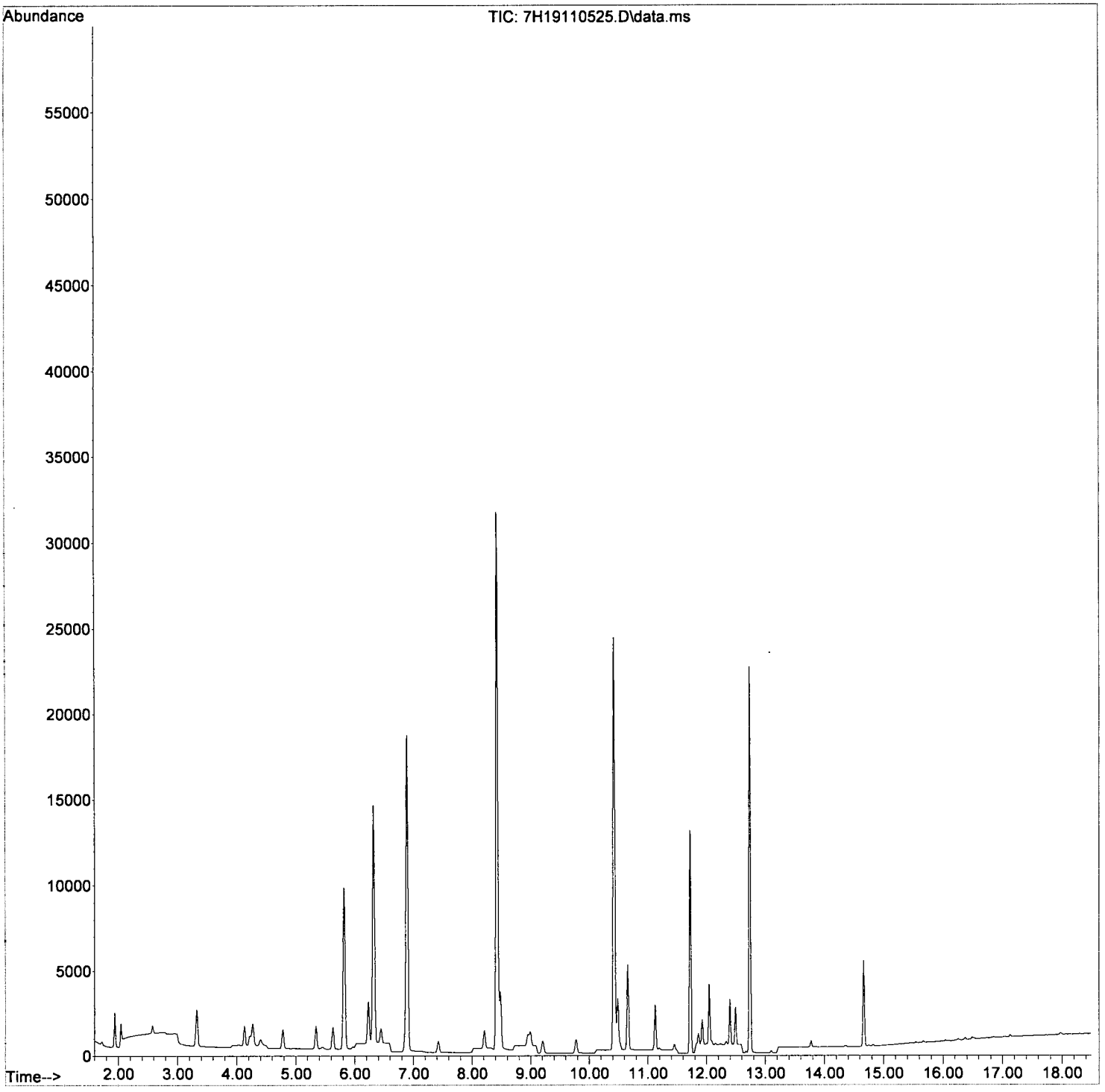
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.317	168	21345	2330.00	ng/L		-0.01
17) Chlorobenzene-d5 (I)	10.423	117	33302	2330.00	ng/L		-0.01
28) 1,4-Dichlorobenzene-d4...	12.738	152	14856	2330.00	ng/L		-0.01
System Monitoring Compounds							
11) Dibromofluoromethane (S)	5.814	111	11541	2274.57	ng/L		-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	36896	2319.78	ng/L		-0.01
19) Toluene-d8 (S)	8.422	98	50589	2235.86	ng/L		-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	12199	2173.53	ng/L		-0.01
Target Compounds							Qvalue
2) Chloromethane	1.936	50	2572	220.56	ng/L		98
3) Vinyl Chloride	2.039	62	1406	196.62	ng/L		99
4) 1,1-Dichloroethene	3.307	61	1435	166.82	ng/L		85
5) Carbon Disulfide	3.327	76	2839	187.27	ng/L		99
6) t-1,2-Dichloroethene	4.125	61	1526	198.51	ng/L		85
7) Methyl-tert-butyl-ether	4.266	73	2963	188.15	ng/L	#	55
8) 1,1-Dichloroethane	4.776	63	1952	198.05	ng/L		99
9) c-1,2-Dichloroethene	5.336	61	1557	196.61	ng/L		87
10) Chloroform	5.626	83	1930	195.07	ng/L		100
12) Benzene	6.230	78	4747	207.33	ng/L		97
13) 1,2-Dichloroethane (EDC)	6.441	62	1590	207.29	ng/L		97
15) Trichloroethene (TCE)	6.852	130	1024	196.64	ng/L		99
16) 1,2-Dichloropropane	7.421	63	1228	199.05	ng/L		88
18) c-1,3-Dichloropropene	8.207	75	1781	189.00	ng/L		86
20) Toluene	8.481	91	4788	198.62	ng/L		96
21) Tetrachloroethene (PCE)	8.949	166	945	193.27	ng/L		83
22) t-1,3-Dichloropropene	8.992	75	1609	193.96	ng/L		99
23) 1,1,2-Trichloroethane	9.207	97	1059	189.97	ug/L		98
24) 1,2-Dibromoethane (EDB)	9.769	107	1110	183.44	ng/L		99
25) Ethylbenzene	10.482	91	4673	198.67	ng/L		95
26) m,p-Xylenes (2)	10.655	91	6994	411.28	ng/L		89
27) o-Xylene	11.123	91	3575	188.59	ng/L		95
30) 1,1,2,2-Tetrachloroeth...	11.923	83	1701	168.06	ug/L		96
31) 1,3.5-Trimethylbenzene	12.042	105	3067	191.99	ng/L		91
32) 1,2,3-Trichloropropane	12.048	110	445	164.52	ng/L		87
33) 1,2,4-Trimethylbenzene	12.394	105	3083	187.80	ng/L		91
34) 1,2-Dibromo-3-chloropr...	13.775	157	345	150.48	ng/L	#	76
35) Naphthalene	14.664	128	8142	451.38	ng/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110525.D
Acq On : 05 Nov 2019 08:20 pm
Operator : MM
Sample : 9110492-BS3
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Nov 06 09:24:37 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\9K05040\
Data File : 7H19110526.D
Acq On : 05 Nov 2019 08:47 pm
Operator : MM
Sample : 9110492-BS4
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 06 09:24:41 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

11/6/19

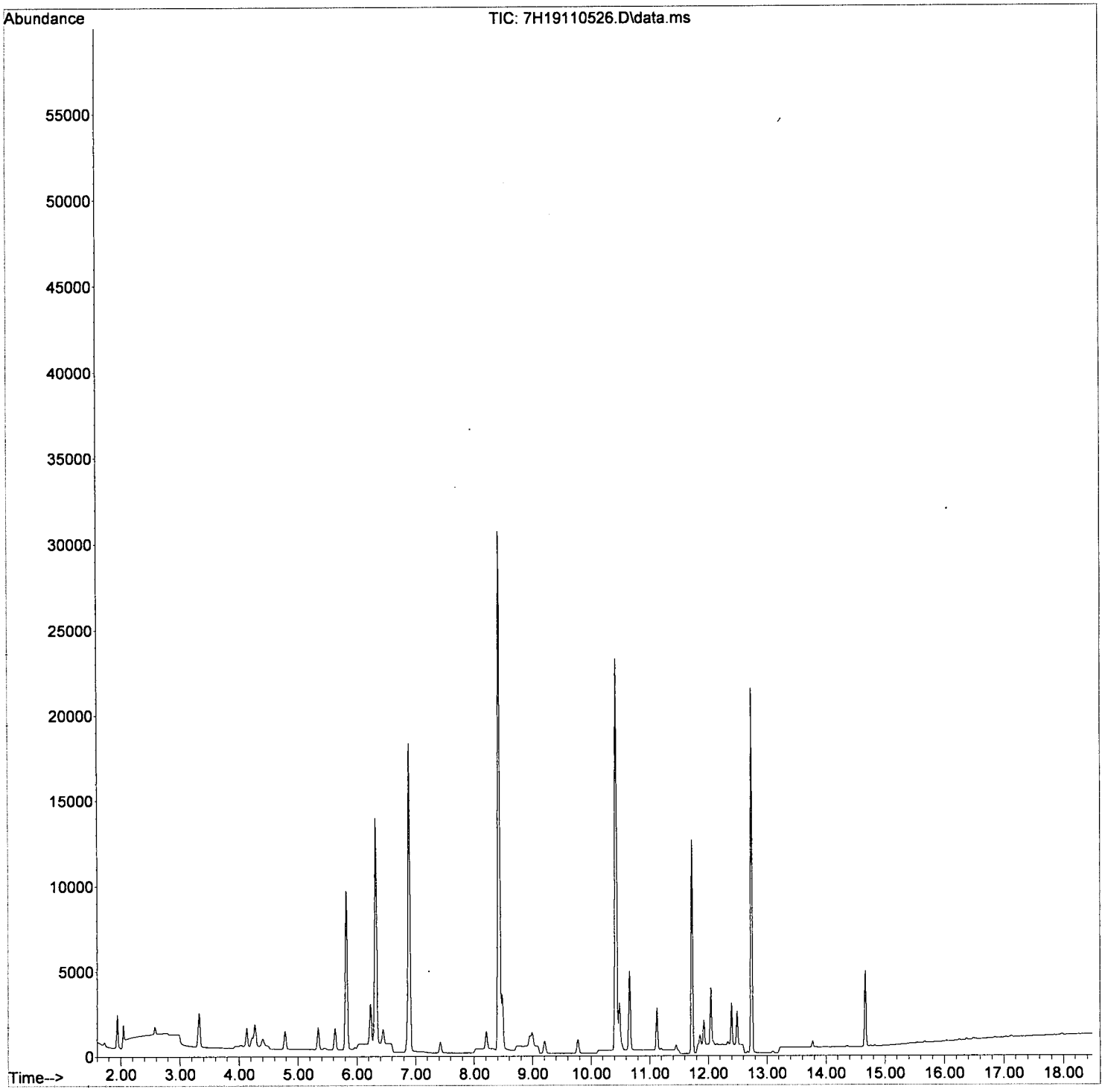
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.317	168	20183	2330.00 ng/L	-0.01
17) Chlorobenzene-d5 (I)	10.423	117	31907	2330.00 ng/L	-0.01
28) 1,4-Dichlorobenzene-d4...	12.739	152	13858	2330.00 ng/L	-0.01
System Monitoring Compounds					
11) Dibromofluoromethane (S)	5.814	111	11383	2372.59 ng/L	-0.01
14) 1,4-Difluorobenzene (S)	6.889	114	35853	2383.99 ng/L	-0.01
19) Toluene-d8 (S)	8.422	98	48656	2244.45 ng/L	-0.02
29) 4-Bromofluorobenzene (S)	11.719	174	11596	2214.88 ng/L	-0.01
Target Compounds					Qvalue
2) Chloromethane	1.936	50	2487	227.48 ng/L	99
3) Vinyl Chloride	2.039	62	1334	197.29 ng/L	100
4) 1,1-Dichloroethene	3.307	61	1316	161.80 ng/L	86
5) Carbon Disulfide	3.327	76	2631	183.54 ng/L	98
6) t-1,2-Dichloroethene	4.125	61	1433	197.15 ng/L	86
7) Methyl-tert-butyl-ether	4.266	73	2961	198.85 ng/L	57
8) 1,1-Dichloroethane	4.776	63	1885	202.26 ng/L	99
9) c-1,2-Dichloroethene	5.336	61	1510	201.65 ng/L	87
10) Chloroform	5.626	83	1869	199.78 ng/L	100
12) Benzene	6.230	78	4512	208.41 ng/L	97
13) 1,2-Dichloroethane (EDC)	6.441	62	1539	212.20 ng/L	100
15) Trichloroethene (TCE)	6.852	130	958	194.55 ng/L	98
16) 1,2-Dichloropropane	7.421	63	1188	203.66 ng/L	90
18) c-1,3-Dichloropropene	8.207	75	1725	191.06 ng/L	87
20) Toluene	8.481	91	4490	194.40 ng/L	96
21) Tetrachloroethene (PCE)	8.949	166	866	184.86 ng/L	86
22) t-1,3-Dichloropropene	8.992	75	1524	191.74 ng/L	100
23) 1,1,2-Trichloroethane	9.207	97	1053	197.15 ug/L	97
24) 1,2-Dibromoethane (EDB)	9.769	107	1082	186.63 ng/L	98
25) Ethylbenzene	10.483	91	4326	191.96 ng/L	95
26) m,p-Xylenes (2)	10.655	91	6453	396.05 ng/L	88
27) o-Xylene	11.123	91	3377	185.93 ng/L	94
30) 1,1,2,2-Tetrachloroeth...	11.923	83	1677	177.62 ug/L	96
31) 1,3.5-Trimethylbenzene	12.042	105	2792	187.36 ng/L	92
32) 1,2,3-Trichloropropane	12.048	110	439	173.99 ng/L	86
33) 1,2,4-Trimethylbenzene	12.394	105	2797	182.65 ng/L	93
34) 1,2-Dibromo-3-chloropr...	13.775	157	342	159.92 ng/L	80
35) Naphthalene	14.664	128	7126	423.50 ng/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\GCMS\1\data\2019-11\9K05040\
Data File : 7H19110526.D
Acq On : 05 Nov 2019 08:47 pm
Operator : MM
Sample : 9110492-BS4
Misc : 1X 5mL 200PPT VOC A19K007
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 06 09:24:41 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:

Calibration Status 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

#	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

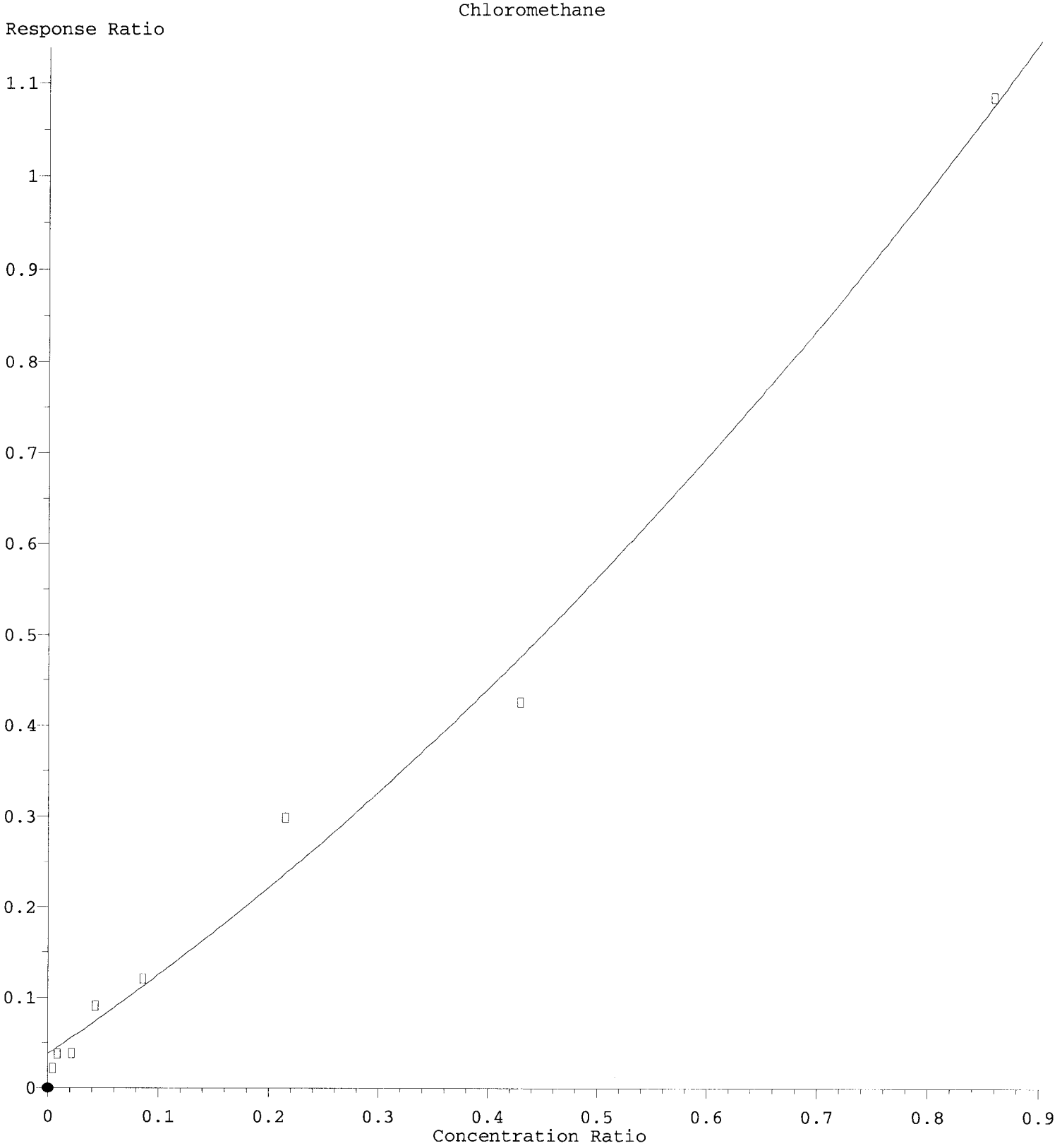
Method Path : C:\GCMS\1\methods\
Method File : VH190716SIMw.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Tue Jul 16 11:10:39 2019
Response Via : Initial Calibration

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

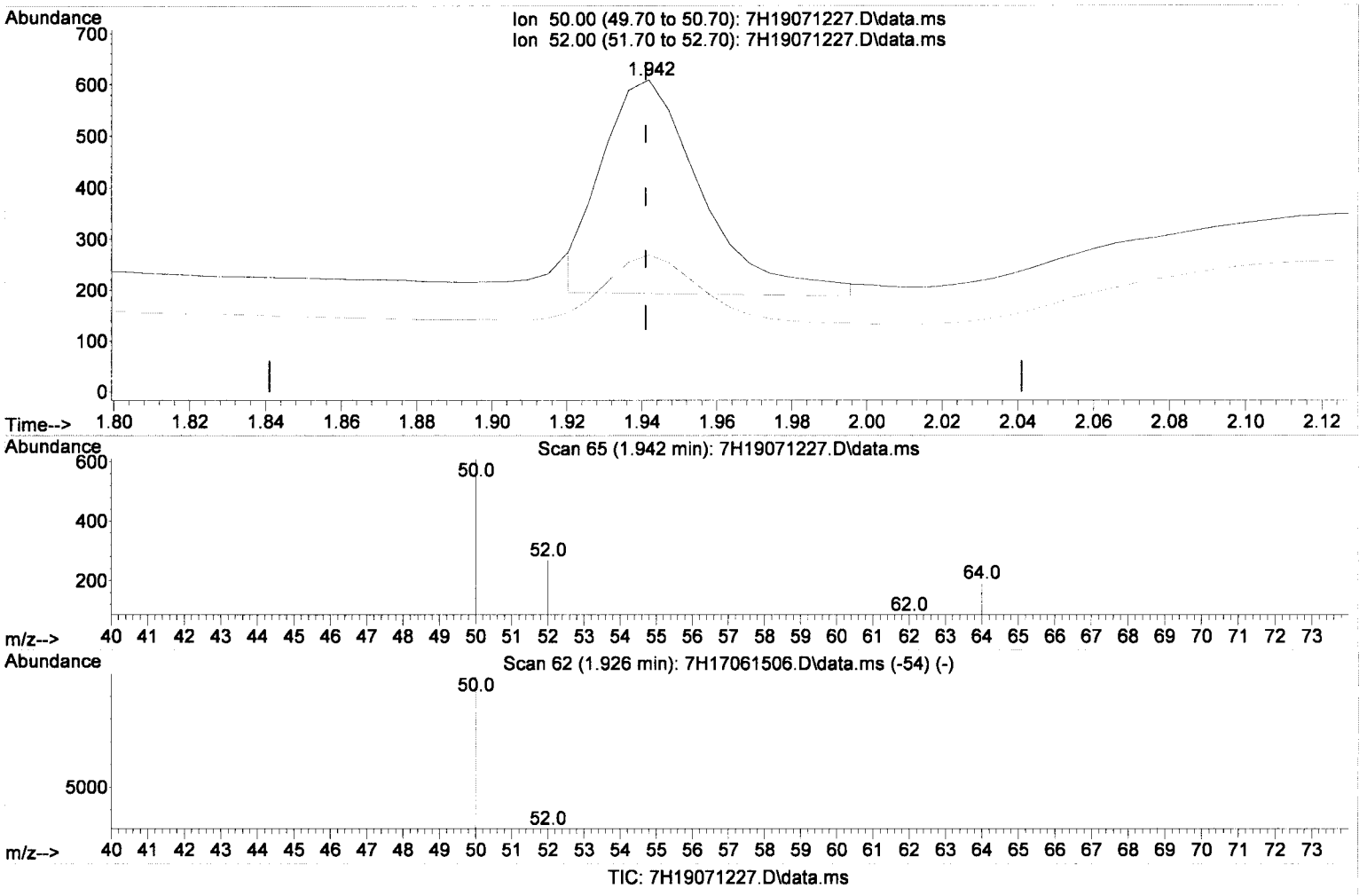


R = 4.34e-001 A*A + 8.35e-001 A + 3.76e-002
Coef of Det (r^2) = 0.991649 Curve Fit: Quadratic
Method Name: C:\GCMS\1\methods\VH190716S1MW.M
Calibration Table Last Updated: Tue Jul 16 11:10:39 2019

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

CH3Cl

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

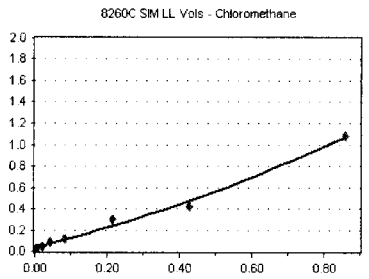
Element Calibration Review Sheet

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**

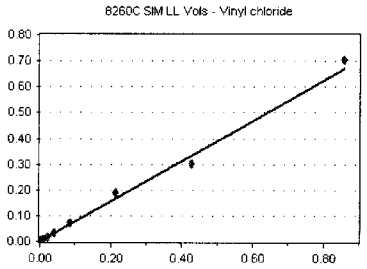


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	360	4.901	0.00
9G12037-CAL2	20	624	4.332	0.00
9G12037-CAL3	50	754	1.769	0.00
9G12037-CAL4	100	1558	2.117	1.94
9G12037-CAL5	200	2132	1.407	1.94
9G12037-CAL6	500	4906	1.393	1.94
9G12037-CAL7	1000	9213	0.992	1.94
9G12037-CAL8	2000	18748	1.262	1.94

AVE RF **2.271** RF RSD **65.74** AVE RT **1.21**

Vinyl chloride

Curve Fit: **AVERAGE RF**

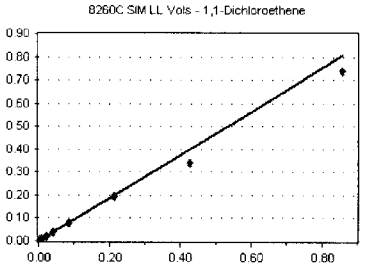


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	47	0.640	2.05
9G12037-CAL2	20	109	0.757	2.05
9G12037-CAL3	50	327	0.767	2.05
9G12037-CAL4	100	582	0.791	2.05
9G12037-CAL5	200	1324	0.874	2.05
9G12037-CAL6	500	3132	0.889	2.05
9G12037-CAL7	1000	6549	0.705	2.04
9G12037-CAL8	2000	12216	0.822	2.05

AVE RF **0.781** RF RSD **10.68** AVE RT **2.05**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

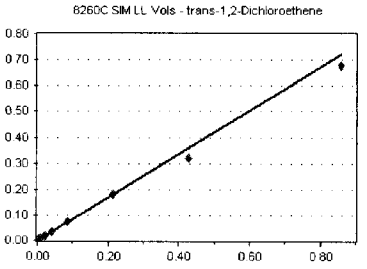


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	91	1.239	3.31
9G12037-CAL2	20	139	0.965	3.31
9G12037-CAL3	50	402	0.943	3.31
9G12037-CAL4	100	650	0.883	3.31
9G12037-CAL5	200	1394	0.920	3.31
9G12037-CAL6	500	3167	0.899	3.31
9G12037-CAL7	1000	7422	0.799	3.31
9G12037-CAL8	2000	12830	0.863	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**

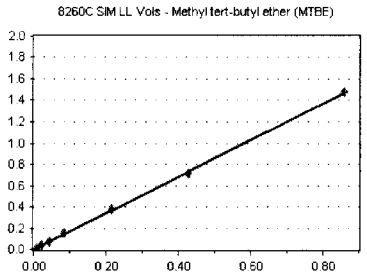
Element Calibration Review Sheet

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**

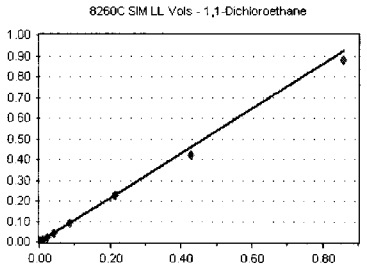


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
9G12037-CAL2	20	232	1.610	4.28
9G12037-CAL3	50	773	1.814	4.28
9G12037-CAL4	100	1227	1.667	4.28
9G12037-CAL5	200	2708	1.788	4.28
9G12037-CAL6	500	6188	1.757	4.28
9G12037-CAL7	1000	15477	1.666	4.28
9G12037-CAL8	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**

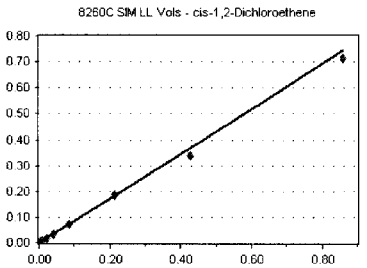


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	93	1.266	4.78
9G12037-CAL2	20	157	1.090	4.79
9G12037-CAL3	50	453	1.063	4.78
9G12037-CAL4	100	761	1.034	4.78
9G12037-CAL5	200	1647	1.087	4.79
9G12037-CAL6	500	3712	1.054	4.79
9G12037-CAL7	1000	9171	0.987	4.78
9G12037-CAL8	2000	15247	1.026	4.78

AVE RF **1.076** RF RSD **7.80** AVE RT **4.78**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

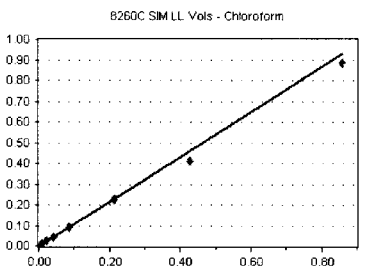


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	75	1.021	5.35
9G12037-CAL2	20	119	0.826	5.35
9G12037-CAL3	50	365	0.856	5.35
9G12037-CAL4	100	626	0.850	5.35
9G12037-CAL5	200	1335	0.881	5.35
9G12037-CAL6	500	3028	0.860	5.35
9G12037-CAL7	1000	7341	0.790	5.35
9G12037-CAL8	2000	12341	0.831	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**

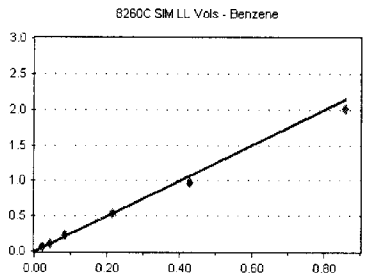
Element Calibration Review Sheet

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**

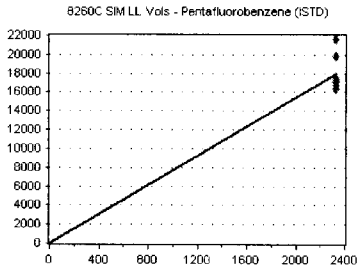


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
~~9G12037-CAL2~~	~~20~~	~~0~~	~~0.000~~	~~0.00~~
9G12037-CAL3	50	1166	2.736	6.24
9G12037-CAL4	100	1933	2.626	6.24
9G12037-CAL5	200	3890	2.568	6.24
9G12037-CAL6	500	8661	2.459	6.24
9G12037-CAL7	1000	21117	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**

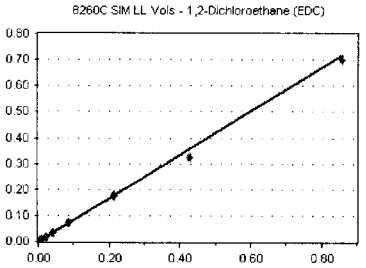


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	17116	7.346	6.33
9G12037-CAL2	2330	16783	7.203	6.33
9G12037-CAL3	2330	19860	8.524	6.33
9G12037-CAL4	2330	17151	7.361	6.33
9G12037-CAL5	2330	17647	7.574	6.33
9G12037-CAL6	2330	16412	7.044	6.33
9G12037-CAL7	2330	21648	9.291	6.33
9G12037-CAL8	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**

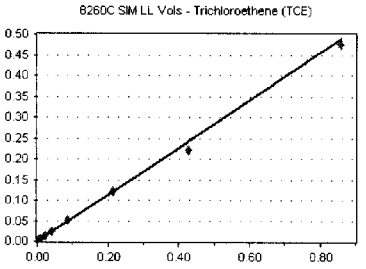


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	72	0.980	6.45
9G12037-CAL2	20	116	0.805	6.45
9G12037-CAL3	50	355	0.833	6.45
9G12037-CAL4	100	605	0.822	6.45
9G12037-CAL5	200	1293	0.854	6.45
9G12037-CAL6	500	2943	0.836	6.45
9G12037-CAL7	1000	6985	0.752	6.45
9G12037-CAL8	2000	12140	0.817	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**

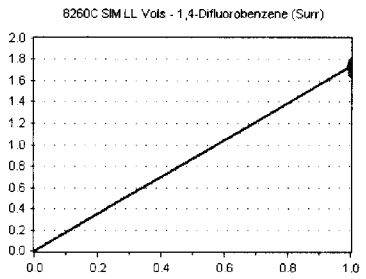
Element Calibration Review Sheet

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**

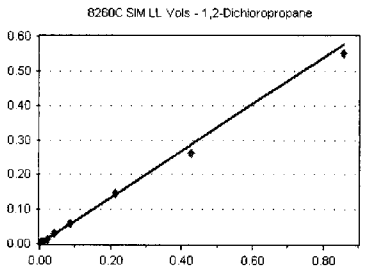


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	29875	1.745	6.90
9G12037-CAL2	2330	29288	1.745	6.90
9G12037-CAL3	2330	34319	1.728	6.89
9G12037-CAL4	2330	29698	1.732	6.90
9G12037-CAL5	2330	30742	1.742	6.90
9G12037-CAL6	2330	28778	1.753	6.90
9G12037-CAL7	2330	36161	1.670	6.90
9G12037-CAL8	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**

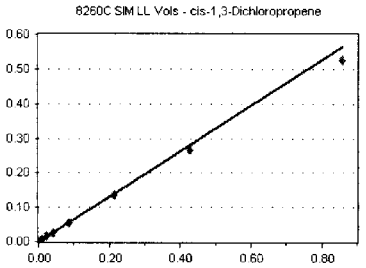


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	57	0.776	7.43
9G12037-CAL2	20	100	0.694	7.43
9G12037-CAL3	50	283	0.664	7.43
9G12037-CAL4	100	478	0.649	7.43
9G12037-CAL5	200	1015	0.670	7.43
9G12037-CAL6	500	2376	0.675	7.43
9G12037-CAL7	1000	5721	0.616	7.43
9G12037-CAL8	2000	9561	0.643	7.43

AVE RF **0.673** RF RSD **7.06** AVE RT **7.43**

cis-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

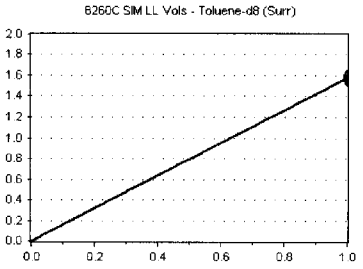


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	68	0.632	8.22
9G12037-CAL2	20	172	0.792	8.22
9G12037-CAL3	50	430	0.701	8.22
9G12037-CAL4	100	684	0.625	8.22
9G12037-CAL5	200	1481	0.653	8.22
9G12037-CAL6	500	3435	0.642	8.22
9G12037-CAL7	1000	8477	0.617	8.22
9G12037-CAL8	2000	13895	0.611	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**

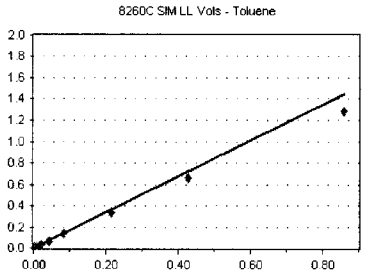
Element Calibration Review Sheet

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**

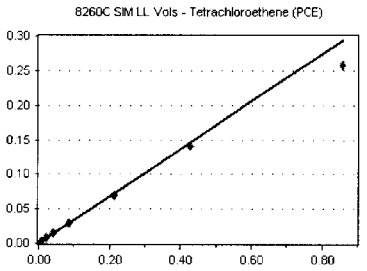


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	228	2.120	8.49
9G12037-CAL2	20	398	1.833	8.49
9G12037-CAL3	50	1061	1.730	8.49
9G12037-CAL4	100	1759	1.608	8.49
9G12037-CAL5	200	3602	1.588	8.49
9G12037-CAL6	500	8426	1.575	8.49
9G12037-CAL7	1000	21218	1.545	8.49
9G12037-CAL8	2000	33962	1.493	8.49

AVE RF **1.687** RF RSD **12.22** AVE RT **8.49**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

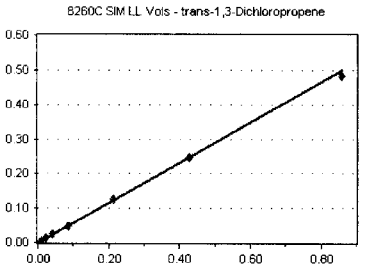


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~65~~	~~0.604~~	~~8.96~~
9G12037-CAL2	20	85	0.392	8.96
9G12037-CAL3	50	232	0.378	8.96
9G12037-CAL4	100	362	0.331	8.96
9G12037-CAL5	200	775	0.342	8.96
9G12037-CAL6	500	1730	0.323	8.96
9G12037-CAL7	1000	4518	0.329	8.96
9G12037-CAL8	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**

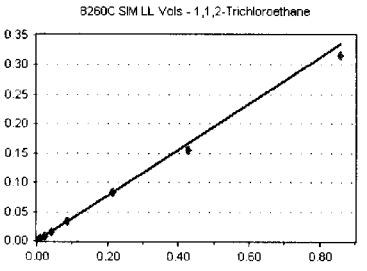


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~92~~	~~0.855~~	~~9.00~~
9G12037-CAL2	20	117	0.539	9.00
9G12037-CAL3	50	389	0.634	9.00
9G12037-CAL4	100	641	0.586	9.00
9G12037-CAL5	200	1320	0.582	9.00
9G12037-CAL6	500	3131	0.585	9.00
9G12037-CAL7	1000	7862	0.573	9.00
9G12037-CAL8	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**

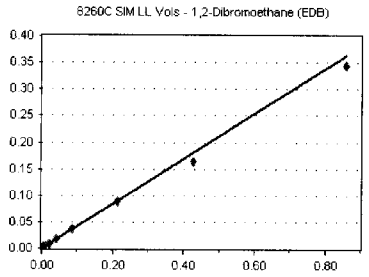
Element Calibration Review Sheet

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**

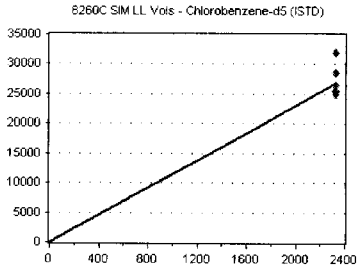


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	59	0.549	9.79
9G12037-CAL2	20	87	0.401	9.79
9G12037-CAL3	50	257	0.419	9.78
9G12037-CAL4	100	444	0.406	9.79
9G12037-CAL5	200	946	0.417	9.79
9G12037-CAL6	500	2222	0.415	9.79
9G12037-CAL7	1000	5227	0.381	9.78
9G12037-CAL8	2000	9084	0.399	9.79

AVE RF **0.423** RF RSD **12.31** AVE RT **9.78**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

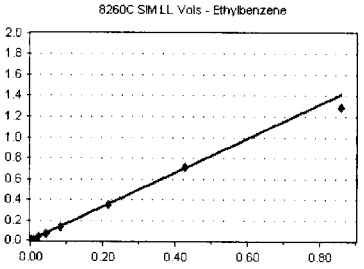


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	25058	10.755	10.43
9G12037-CAL2	2330	25290	10.854	10.43
9G12037-CAL3	2330	28572	12.263	10.43
9G12037-CAL4	2330	25484	10.937	10.43
9G12037-CAL5	2330	26428	11.342	10.43
9G12037-CAL6	2330	24926	10.698	10.43
9G12037-CAL7	2330	31997	13.733	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**

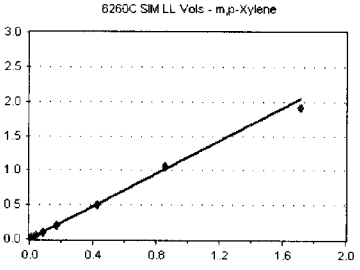


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	209	1.943	10.49
9G12037-CAL2	20	376	1.732	10.50
9G12037-CAL3	50	990	1.615	10.49
9G12037-CAL4	100	1708	1.562	10.49
9G12037-CAL5	200	3559	1.569	10.49
9G12037-CAL6	500	8538	1.596	10.49
9G12037-CAL7	1000	22694	1.653	10.49
9G12037-CAL8	2000	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**

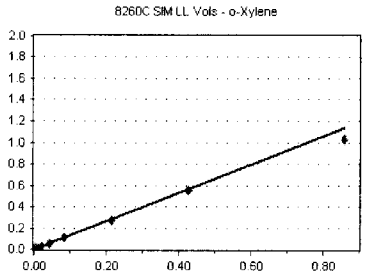
Element Calibration Review Sheet

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**

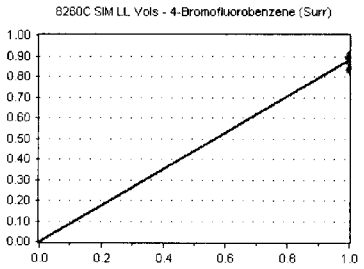


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	189	1.757	11.13
9G12037-CAL2	20	314	1.446	11.13
9G12037-CAL3	50	764	1.246	11.13
9G12037-CAL4	100	1323	1.210	11.13
9G12037-CAL5	200	2788	1.229	11.13
9G12037-CAL6	500	6686	1.250	11.13
9G12037-CAL7	1000	17546	1.278	11.13
9G12037-CAL8	2000	27167	1.194	11.13

AVE RF **1.326** RF RSD **14.40** AVE RT **11.13**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

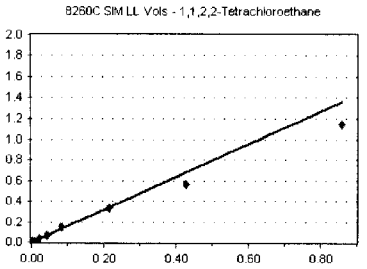


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	8813	0.894	11.73
9G12037-CAL2	2330	9046	0.899	11.73
9G12037-CAL3	2330	9861	0.891	11.73
9G12037-CAL4	2330	8907	0.901	11.73
9G12037-CAL5	2330	9218	0.885	11.73
9G12037-CAL6	2330	9000	0.873	11.73
9G12037-CAL7	2330	12009	0.830	11.73
9G12037-CAL8	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**

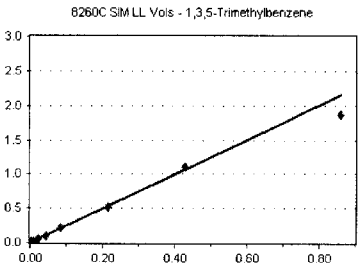


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	77	1.821	11.93
9G12037-CAL2	20	146	1.691	11.93
9G12037-CAL3	50	366	1.541	11.93
9G12037-CAL4	100	692	1.631	11.93
9G12037-CAL5	200	1611	1.802	11.93
9G12037-CAL6	500	3481	1.574	11.93
9G12037-CAL7	1000	8074	1.301	11.93
9G12037-CAL8	2000	12811	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**

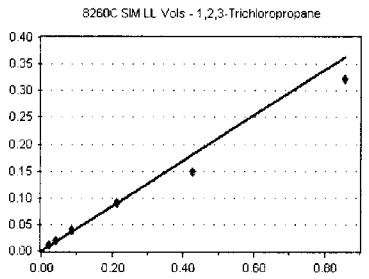
Element Calibration Review Sheet

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**

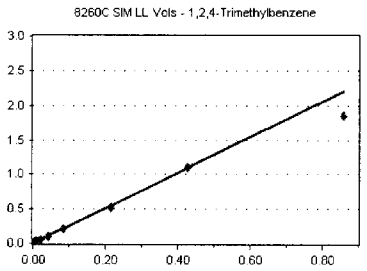


Standard	Concentration	Response	Response Factor	RT
~~9G12037-CAL1~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
~~9G12037-CAL2~~	~~20~~	~~48~~	~~0.556~~	~~12.06~~
9G12037-CAL3	50	117	0.492	12.06
9G12037-CAL4	100	185	0.436	12.06
9G12037-CAL5	200	414	0.463	12.06
9G12037-CAL6	500	946	0.428	12.06
9G12037-CAL7	1000	2171	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**

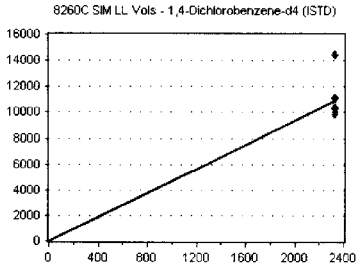


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	10	130	3.074	12.40
9G12037-CAL2	20	250	2.896	12.40
9G12037-CAL3	50	618	2.601	12.40
9G12037-CAL4	100	1031	2.430	12.41
9G12037-CAL5	200	2212	2.474	12.40
9G12037-CAL6	500	5332	2.411	12.40
9G12037-CAL7	1000	15898	2.562	12.41
9G12037-CAL8	2000	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**

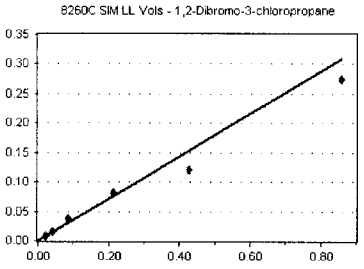


Standard	Concentration	Response	Response Factor	RT
9G12037-CAL1	2330	9854	4.229	12.75
9G12037-CAL2	2330	10057	4.316	12.75
9G12037-CAL3	2330	11071	4.752	12.75
9G12037-CAL4	2330	9886	4.243	12.75
9G12037-CAL5	2330	10417	4.471	12.75
9G12037-CAL6	2330	10307	4.424	12.75
9G12037-CAL7	2330	14461	6.206	12.74
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**

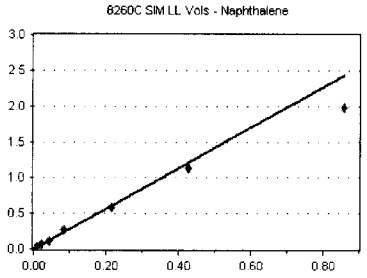
Element Calibration Review Sheet

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		

7/10/19

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

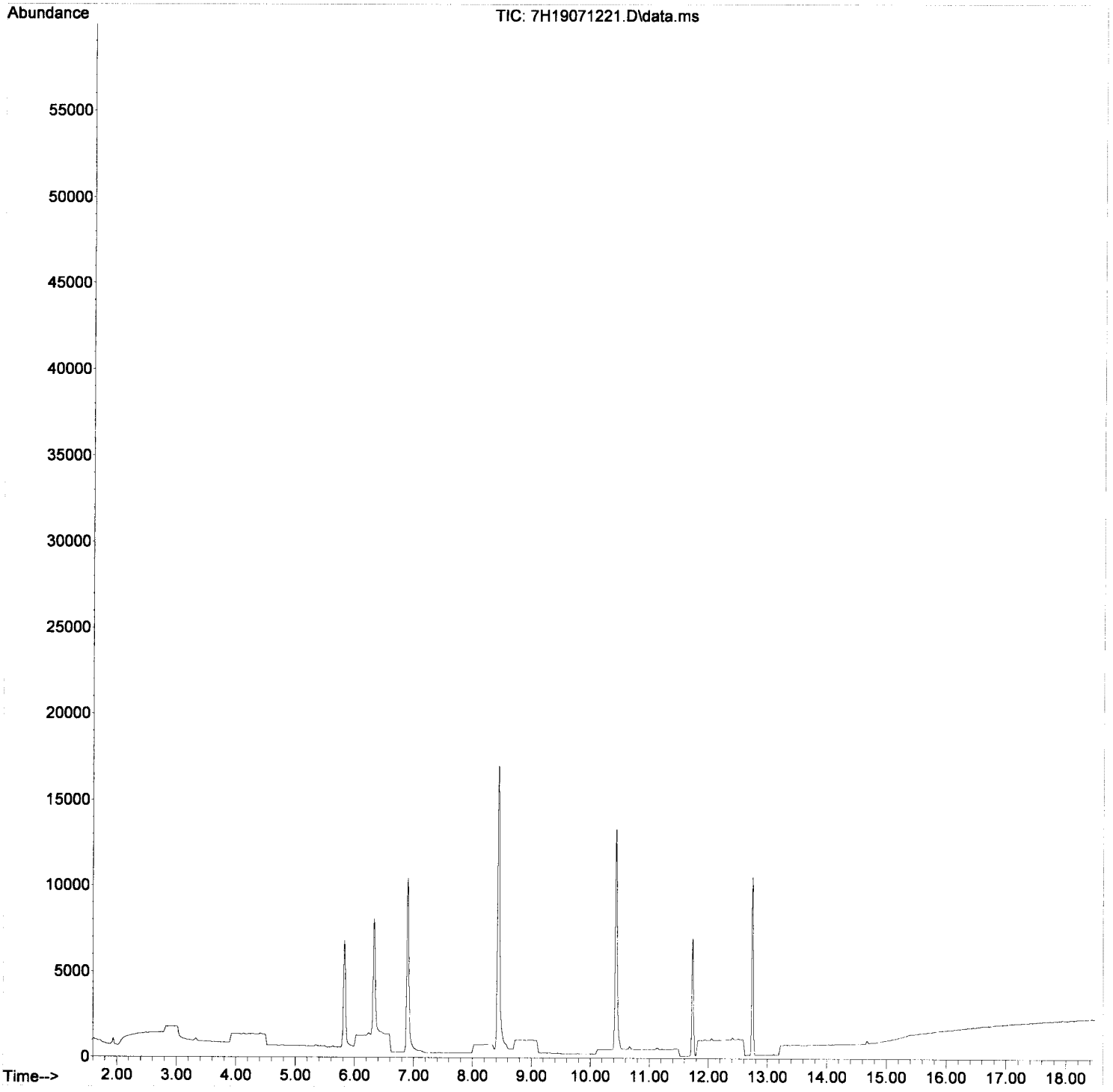
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.327	168	11897	2330.00	ng/L		0.00
17) Chlorobenzene-d5 (I)	10.434	117	19468	2330.00	ng/L		0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	6922	2330.00	ng/L		0.00
System Monitoring Compounds							
11) 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

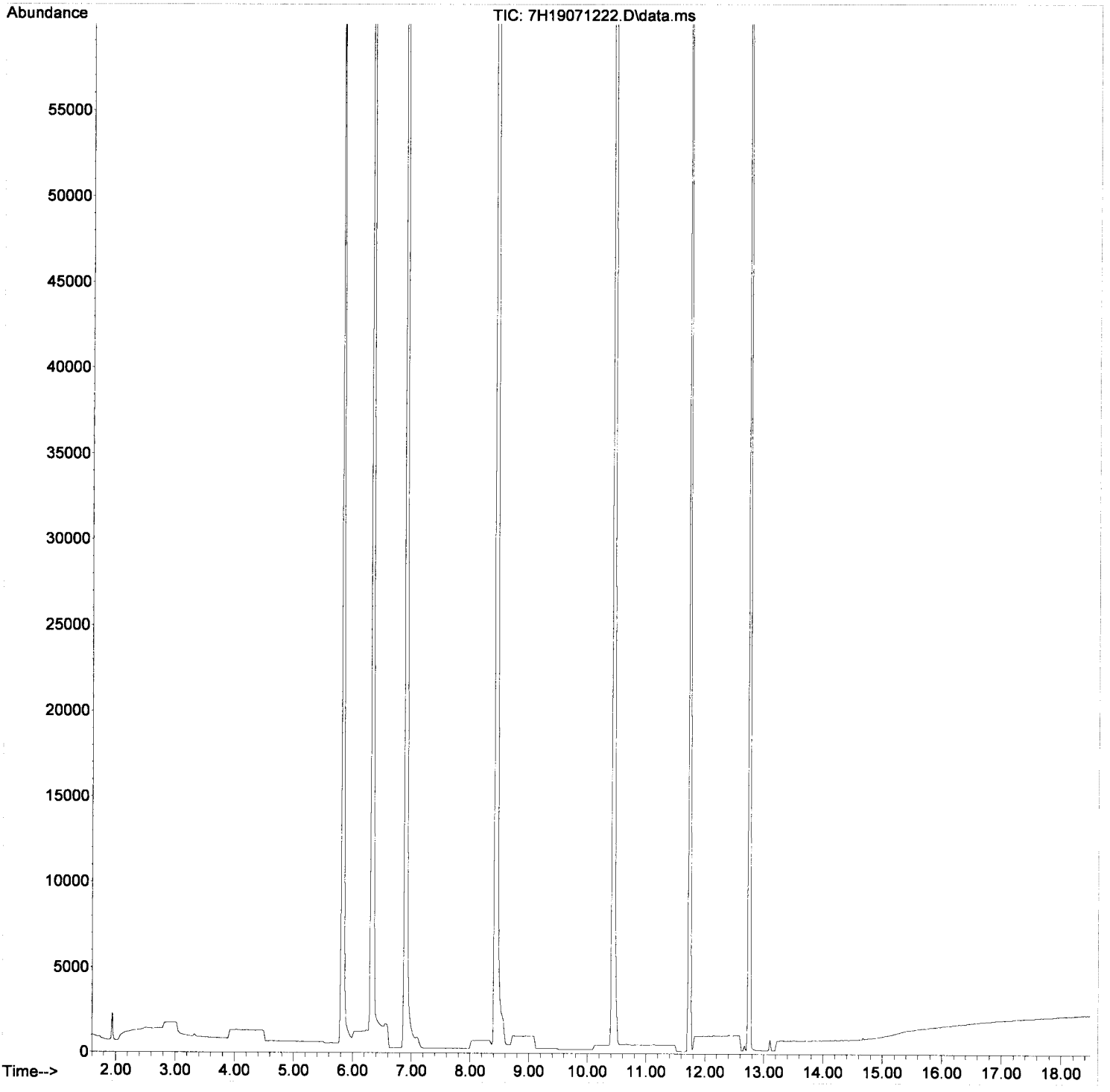
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	153379	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	224568	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	89507	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (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

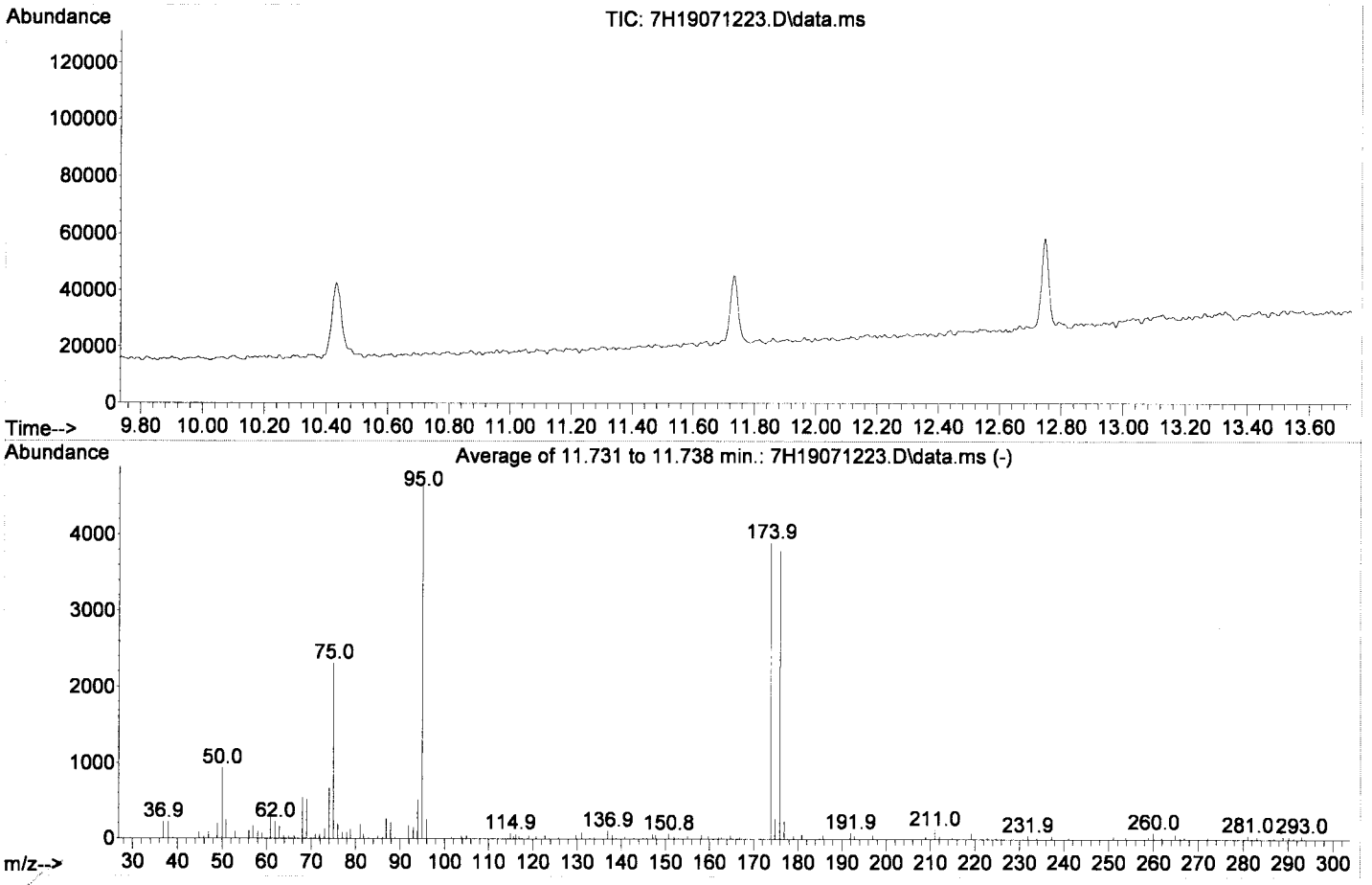


BFB

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

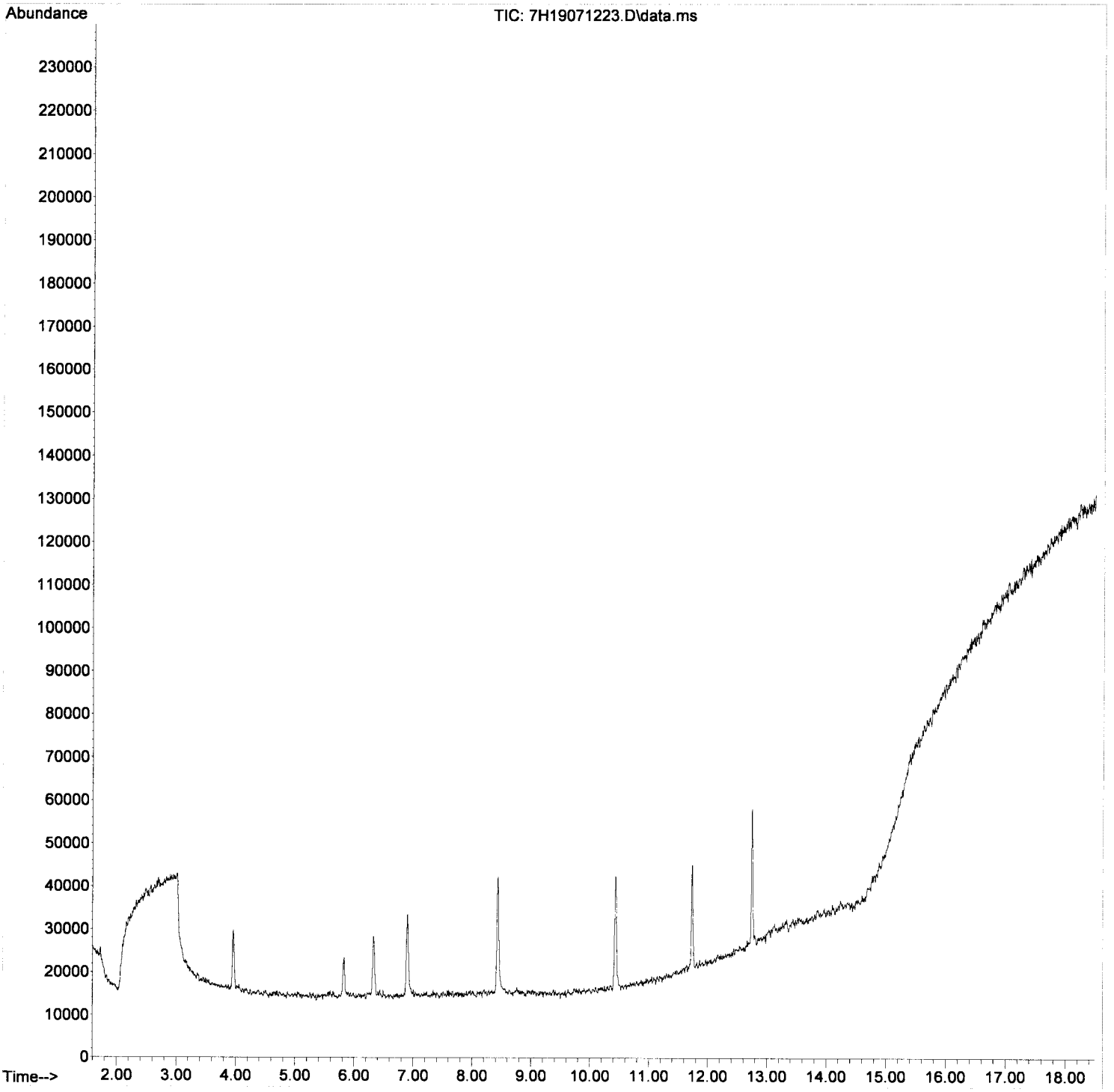
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) 1,3-Dichloropropane	9.609	76	80	0.41 ug/L #	1
50) 1,2-Dibromoethane (EDB)	9.783	107	31	0.24 ug/L #	60
51) 2-Hexanone	10.117	43	157	2.24 ug/L	89
53) Ethylbenzene	10.487	91	91	0.23 ug/L #	32
54) 1,1,1,2-Tetrachloroethane	10.545	131	20	0.13 ug/L #	37
55) 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

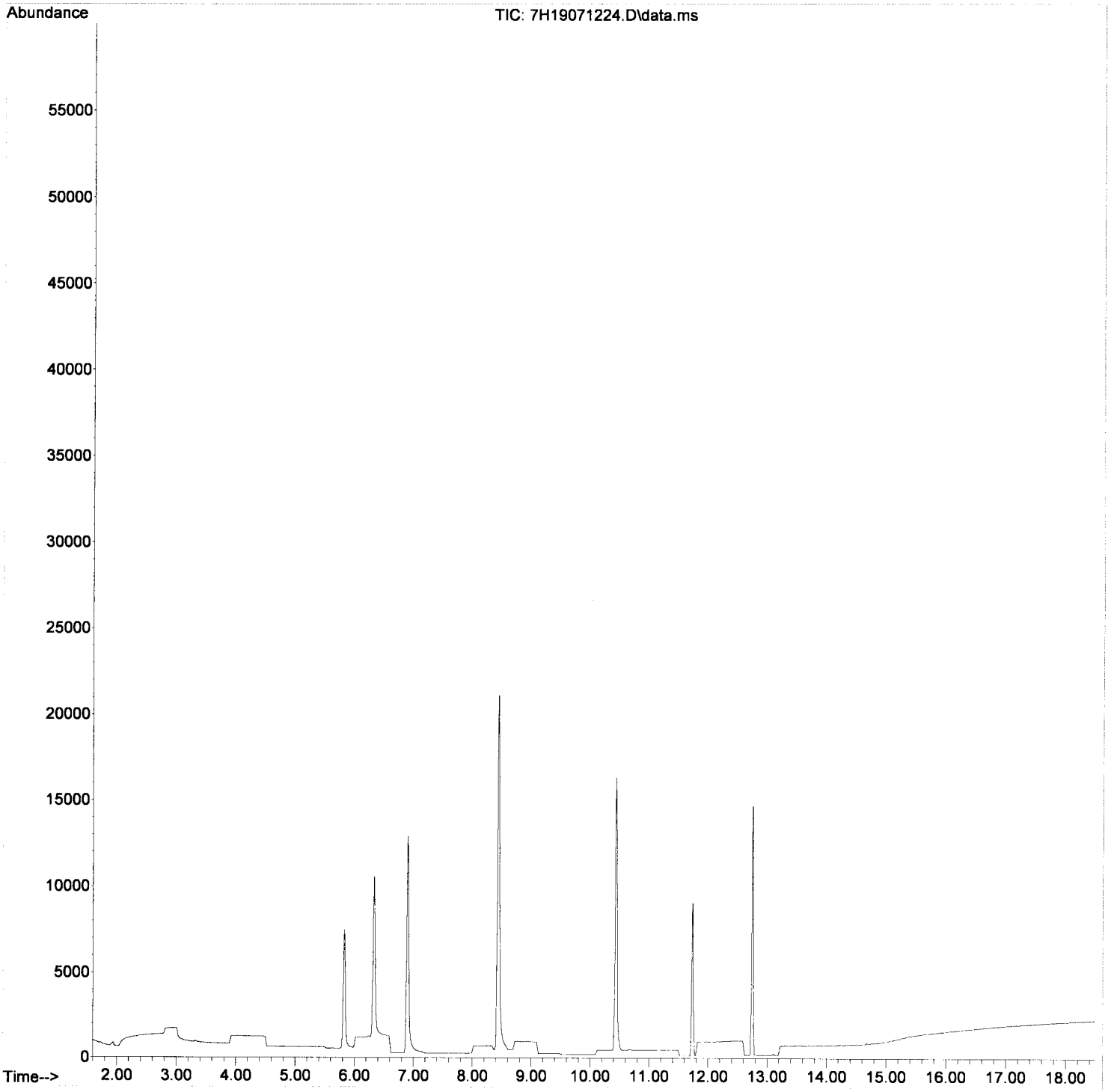
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.327	168	16371	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	24143	2330.00 ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9784	2330.00 ng/L	0.00
System Monitoring Compounds					
11) Dibromofluoromethane (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

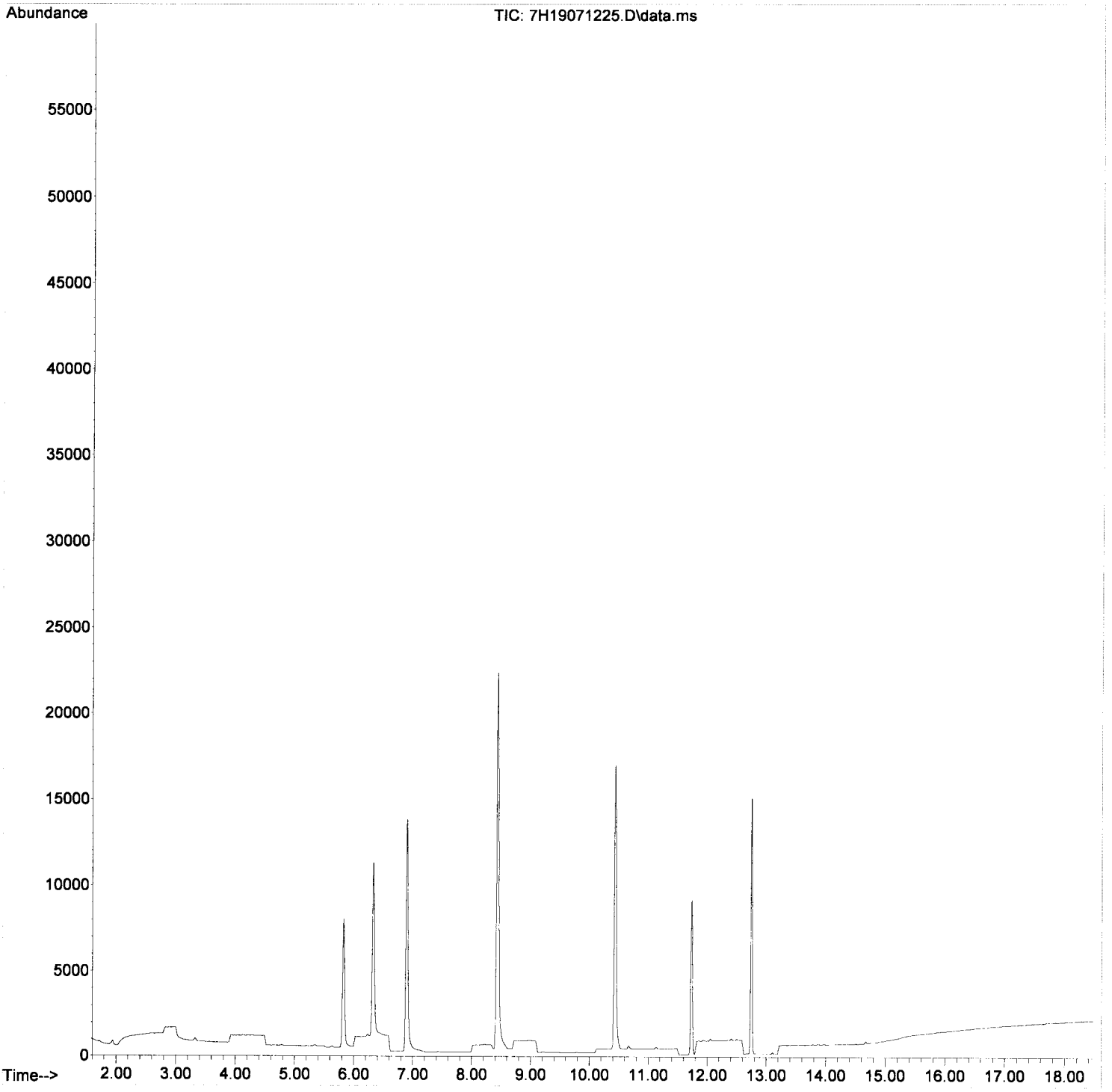
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	17116	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	25058	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9854	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (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

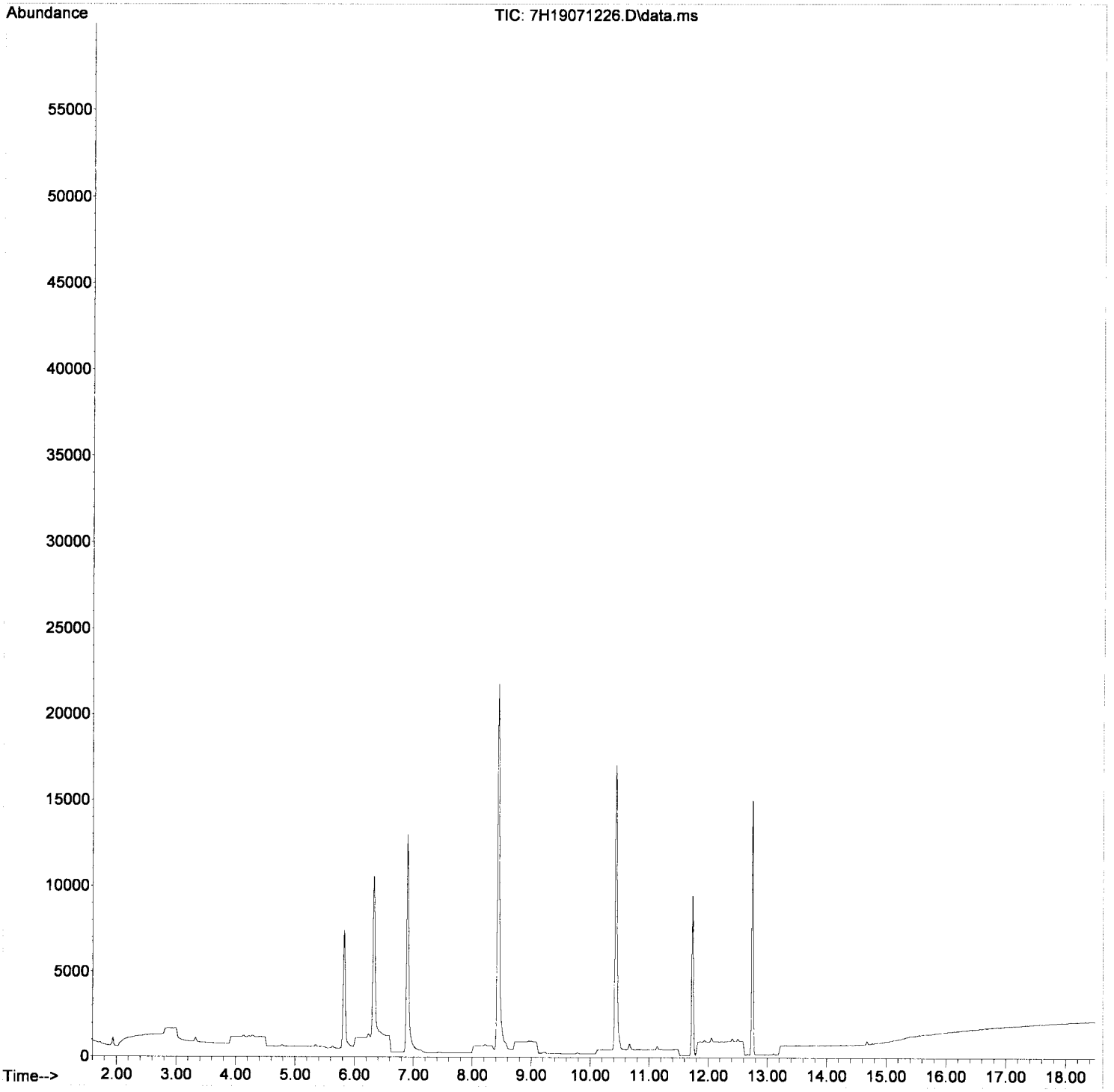
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	16783	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	25290	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	10057	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (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

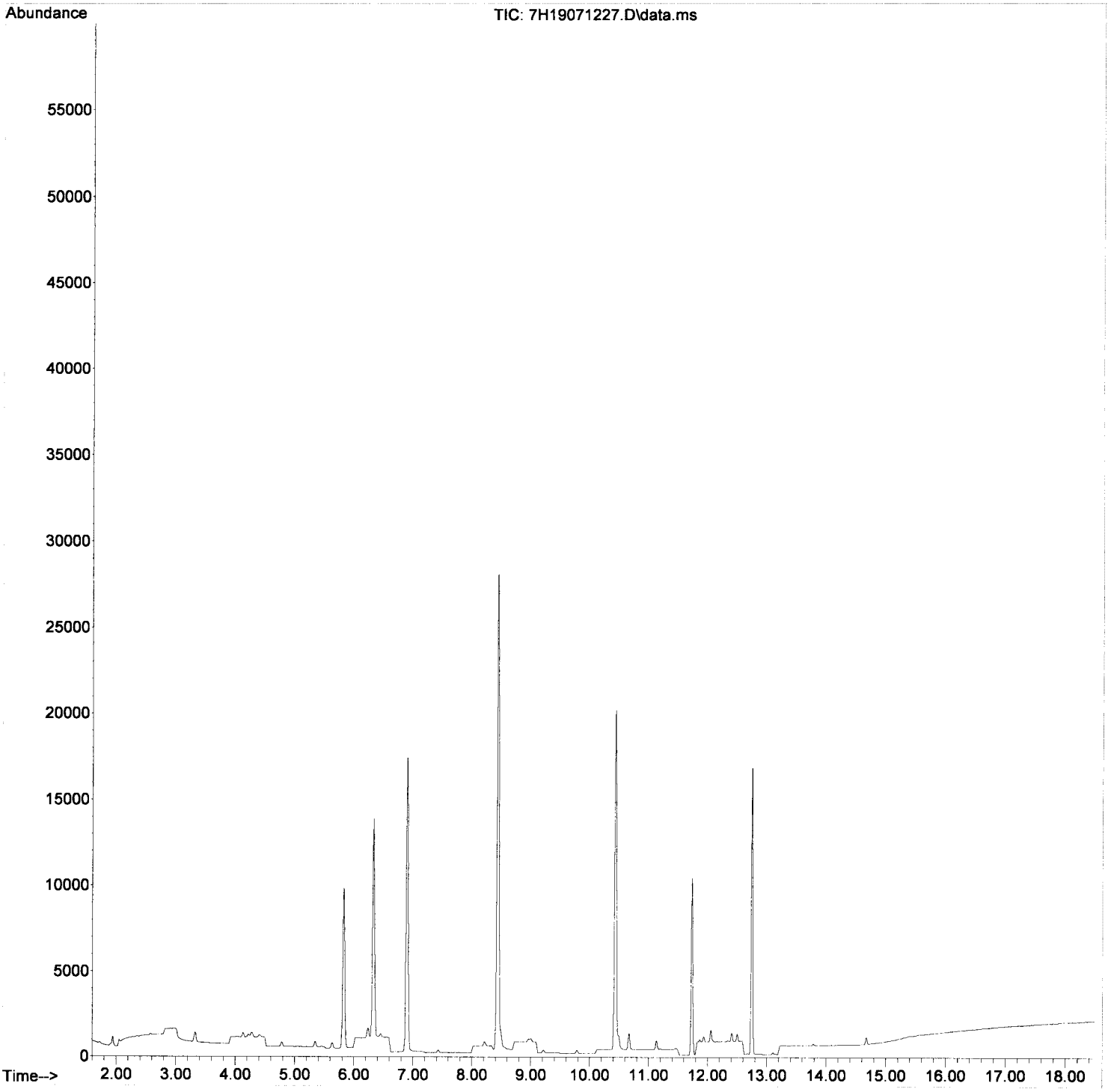
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.327	168	19860	2330.00	ng/L		0.00
17) Chlorobenzene-d5 (I)	10.434	117	28572	2330.00	ng/L		0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	11071	2330.00	ng/L		0.00
System Monitoring Compounds							
11) 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

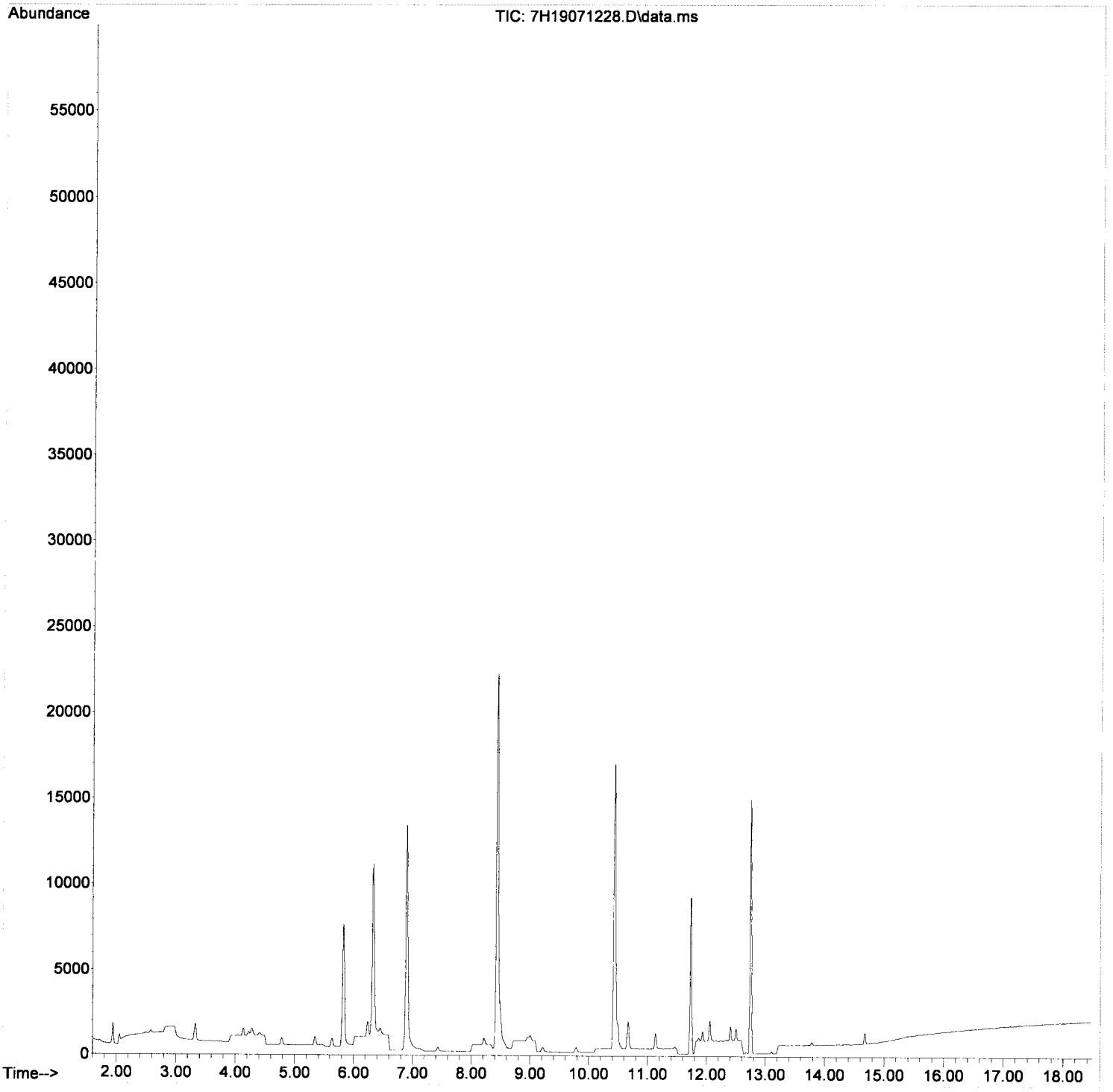
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.328	168	17151	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	25484	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9886	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (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

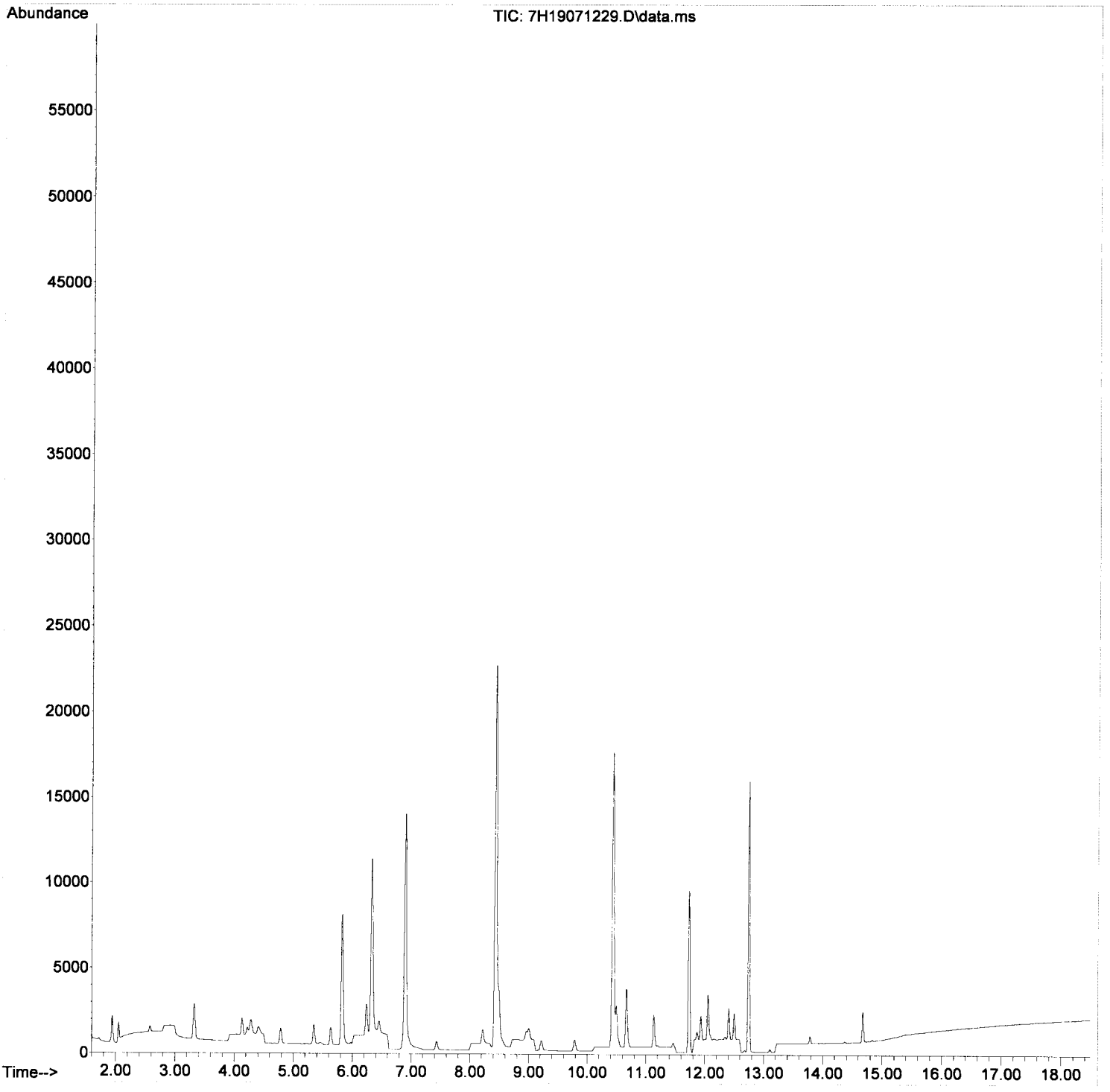
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	17647	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	26428	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	10417	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (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

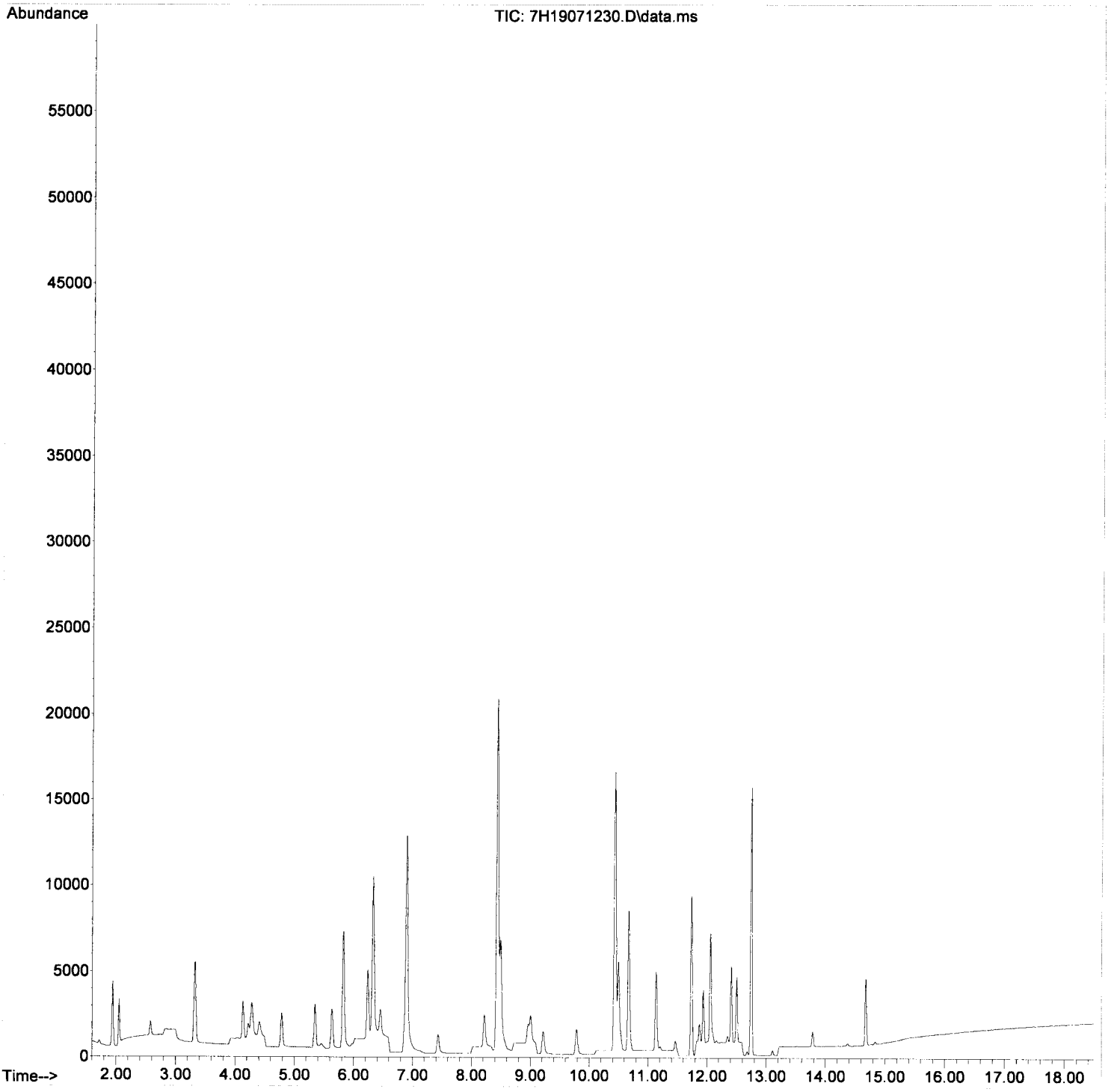
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.327	168	16412	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	24926	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	10307	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (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

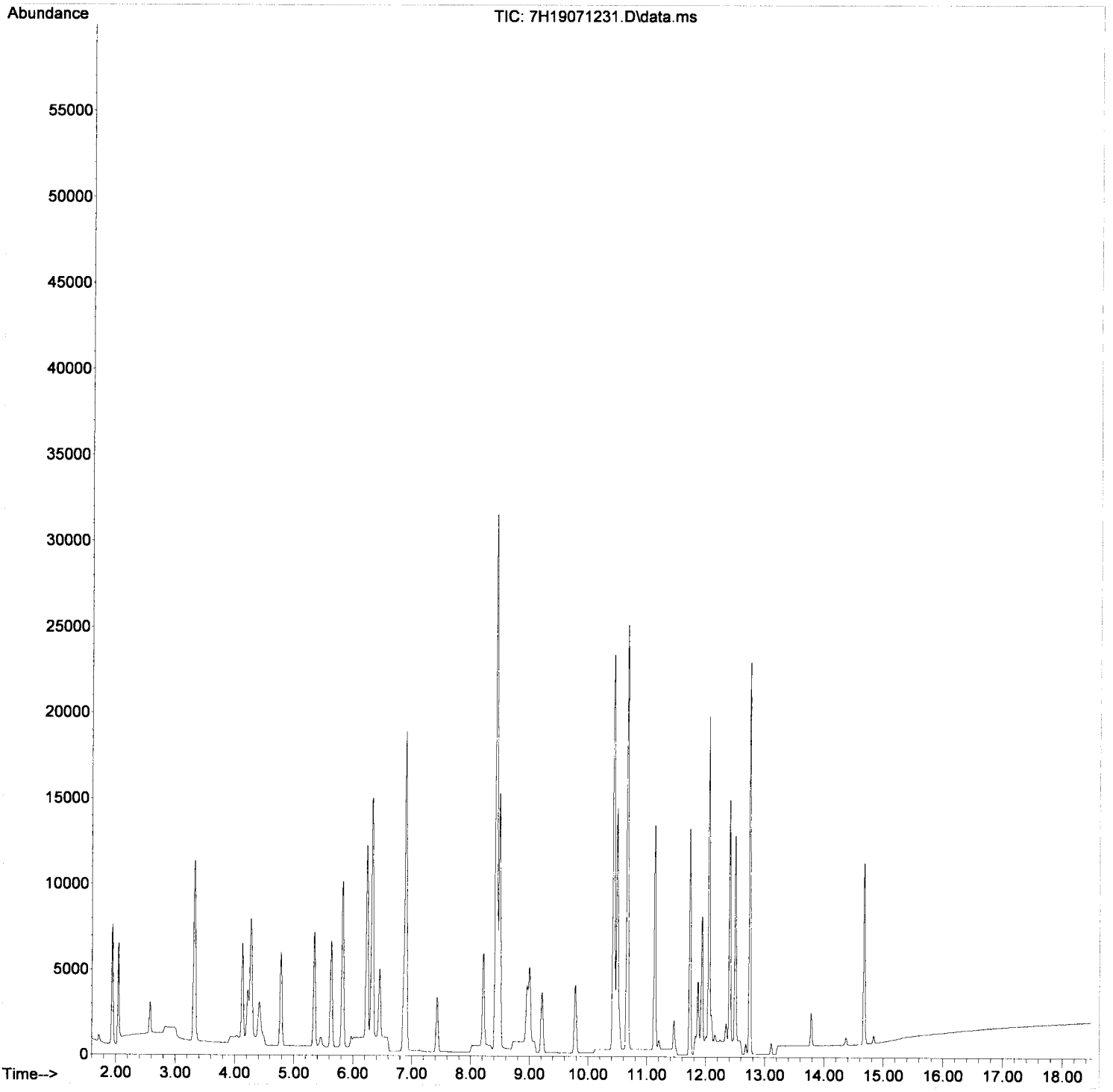
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.328	168	21648	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	31997	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.744	152	14461	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (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

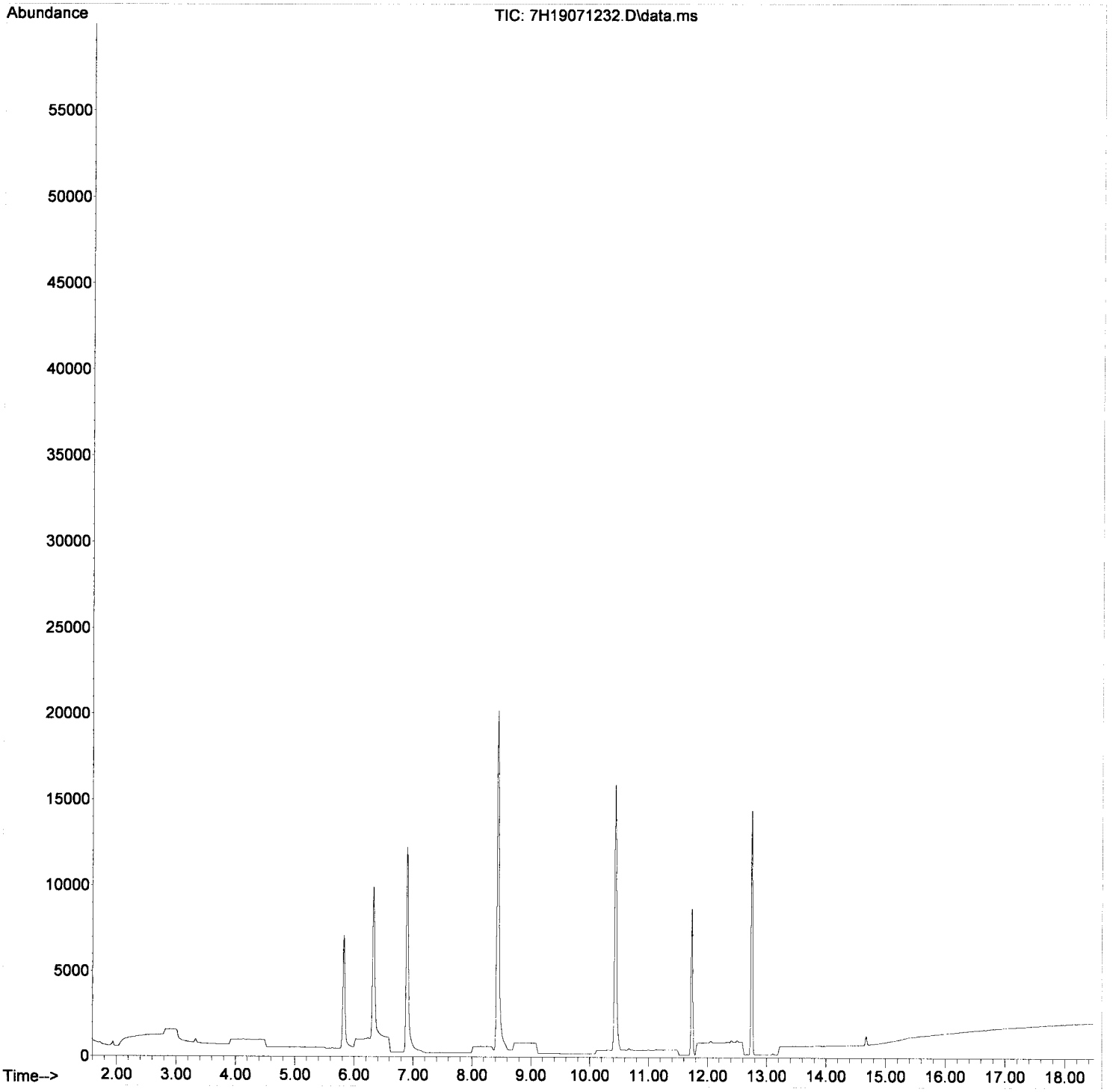
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.327	168	15943	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	23909	2330.00 ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9323	2330.00 ng/L	0.00
System Monitoring Compounds					
11) Dibromofluoromethane (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

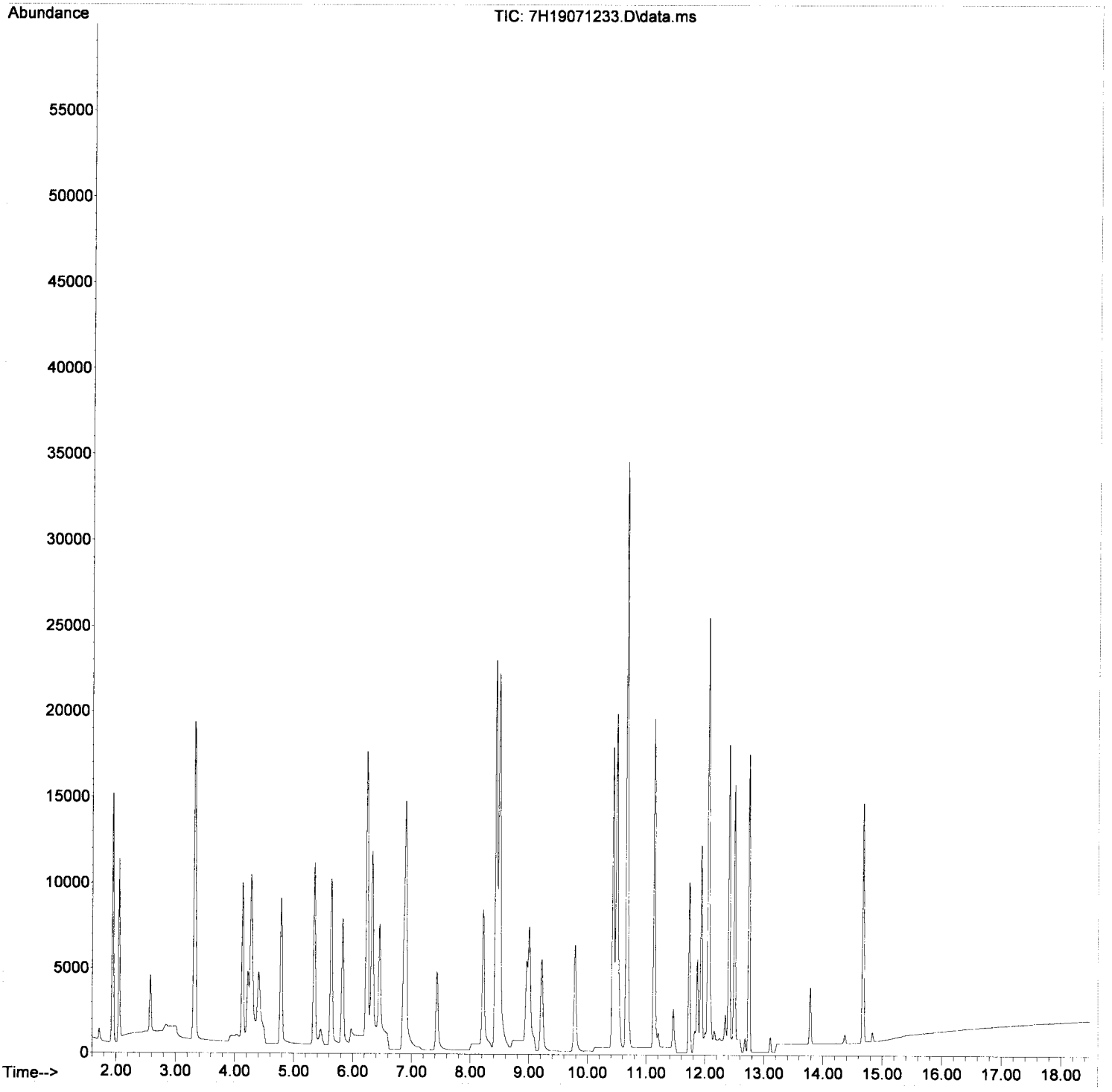
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.328	168	17311	2330.00	ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	26502	2330.00	ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	11143	2330.00	ng/L	0.00
System Monitoring Compounds						
11) Dibromofluoromethane (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

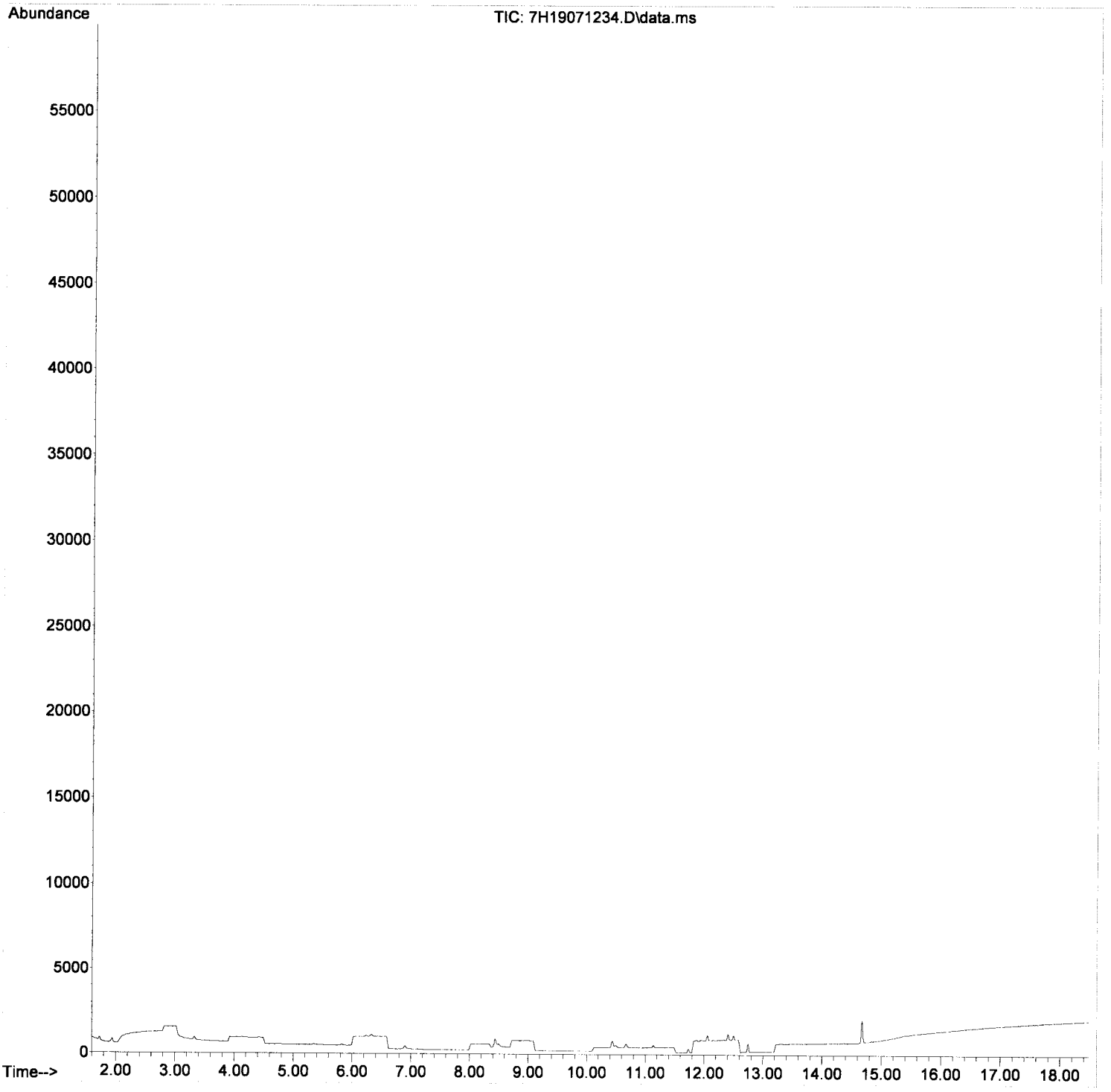
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.327	168	259	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.439	117	650	2330.00 ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	343	2330.00 ng/L	0.00
System Monitoring Compounds					
11) Dibromofluoromethane (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

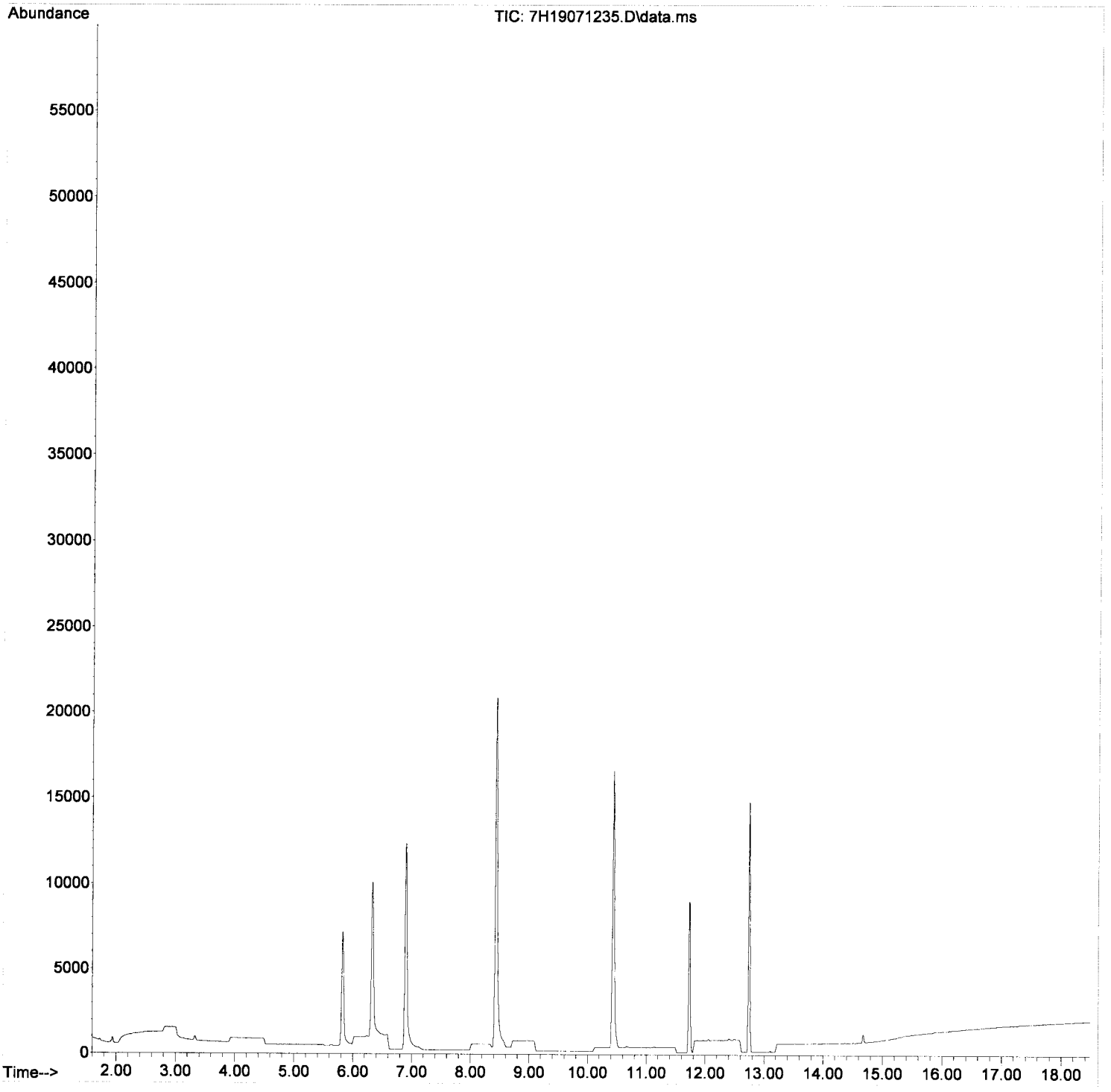
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.328	168	16247	2330.00 ng/L	0.00
17) Chlorobenzene-d5 (I)	10.434	117	24766	2330.00 ng/L	0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9576	2330.00 ng/L	0.00
System Monitoring Compounds					
11) Dibromofluoromethane (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

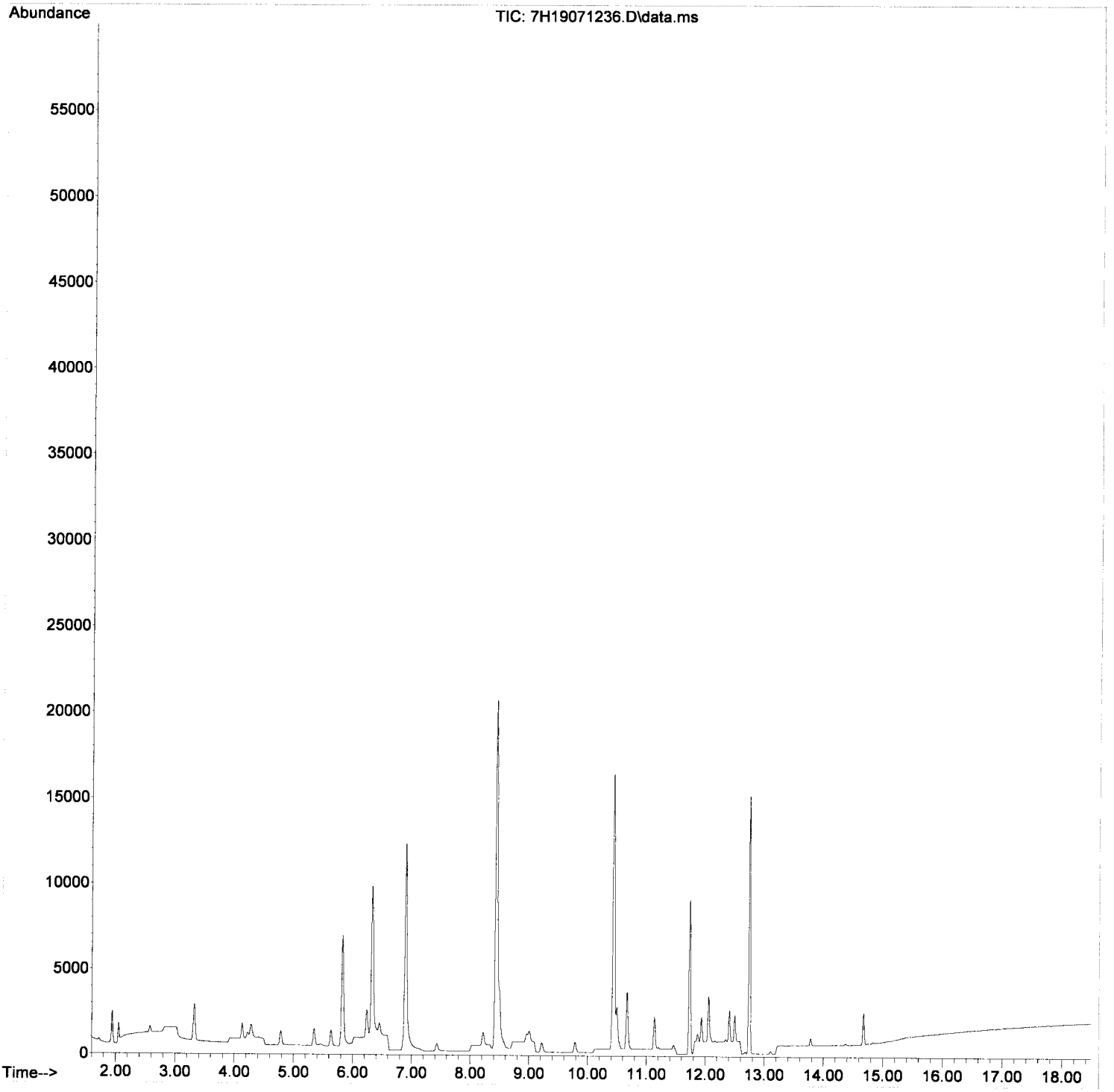
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.327	168	15927	2330.00	ng/L		0.00
17) Chlorobenzene-d5 (I)	10.434	117	25004	2330.00	ng/L		0.00
28) 1,4-Dichlorobenzene-d4...	12.749	152	9872	2330.00	ng/L		0.00
System Monitoring Compounds							
11) 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 (Large Volume Injection)
Benchsheet & Analysis Sequence Data

Batch 9110429
Sequence 9K04032 (A9K0039-05,06,06RE1)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9110429 (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
	9110429-BLK1		QC	11/04/19 10:15	125	5				50					
	9110429-BSD1		QC	11/04/19 10:15	125	5	A19H078		100	50					
	9110429-BS1		QC	11/04/19 10:15	125	5	A19H078		100	50					
	A9K0039-05	D	8270D PAH (125ml) LL	11/04/19 10:15	87.86	5				50	PDI-069PW-07-09-191031				
	A9K0039-06	D	8270D PAH (125ml) LL	11/04/19 10:15	101.01	5				50	PDI-1069PW-07-09-191031				
	A9K0039-06RE1	D	8270D PAH (125ml) LL	11/04/19 10:15	101.01	5				50	PDI-1069PW-07-09-191031	Added 11/5/2019 by ams			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13F187	09/21/20	Sodium Sulfate Lot #121760
A13L219	11/30/23	Extractions Balance
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: AMS 11/5/19 Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9110429 (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		pH <2	pH Other	pH >11
	9110429-BLK1		QC	11/04/19 10:15	125	5				50						
	9110429-BSD1		QC	11/04/19 10:15	125	5	A19H078		100	50						
	9110429-BS1		QC	11/04/19 10:15	125	5	A19H078		100	50						
	A9K0039-05	D	8270D PAH (125ml) LL	11/04/19 10:15	125	5				50	PDI-069PW-07-09-191031 D	205,58	N7,72			
	A9K0039-06	D	8270D PAH (125ml) LL	11/04/19 10:15	125	5				50	PDI-069PW-07-09-191031 D	217,80	116,79			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13F187	09/21/20	Sodium Sulfate Lot #121760
A13L219	11/30/23	Extractions Balance
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: cas 11/04/19

Bottle check: cas 11/04/19

D = Decanted,
E = Emulsion
O = Odor

Prepared By: _____ Date: 11/4/19

Reviewed By: AMS Date: 11/4/19

3511 Micro-extraction Prep Worksheet

Sample ID	Container	Container Weight (g)	Tare Weight (g).	Net Sample Weight (g)
9110429-BLK1				125
9110429-BS1				125
9110429-BSD1				125
A9K0039-05	D	205.58	117.72	87.86
A9K0039-06	D	217.80	116.79	101.01

11/14/19

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9K04032**	Instrument:	**SV-GCMS8**
Date:	**11/04/19 09:35**	Calibration:	**A9G0205**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9K04032-IBL1	Water	QC	QC			A19K046	
2	9K04032-TUN1	Water	QC	QC			A19K046	A19J292
3	9K04032-CCV1	Water	QC	QC			A19K046	A19F400
4	9K04032-CCB1	Water	QC	QC			A19K046	
5	9K04032-TUN2	Water	QC	QC			A19K046	A19J292
6	9K04032-CCV2	Water	QC	QC			A19K046	A19F400
7	9K04032-CCB2	Water	QC	QC			A19K046	
8	9K04032-IBL2	Water	QC	QC			A19K046	
9	9110429-BLK1	Water	QC	QC		9110429	A19K046	
10	9110429-BS1	Water	QC	QC		9110429	A19K046	
11	9110429-BSD1	Water	QC	QC		9110429	A19K046	
12	A9K0039-05	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/15/19	9110429	A19K046	
13	A9K0039-06	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/15/19	9110429	A19K046	
14	A9K0039-06RE1	Water	8270D PAH (125ml) LL	Anchor QEA, LLC	11/15/19	9110429	A19K046	
15	9K04032-IBL3	Water	QC	QC			A19K046	

Data Entered By: AMS 11/5/19

Data Reviewed By: QA 11/5/19

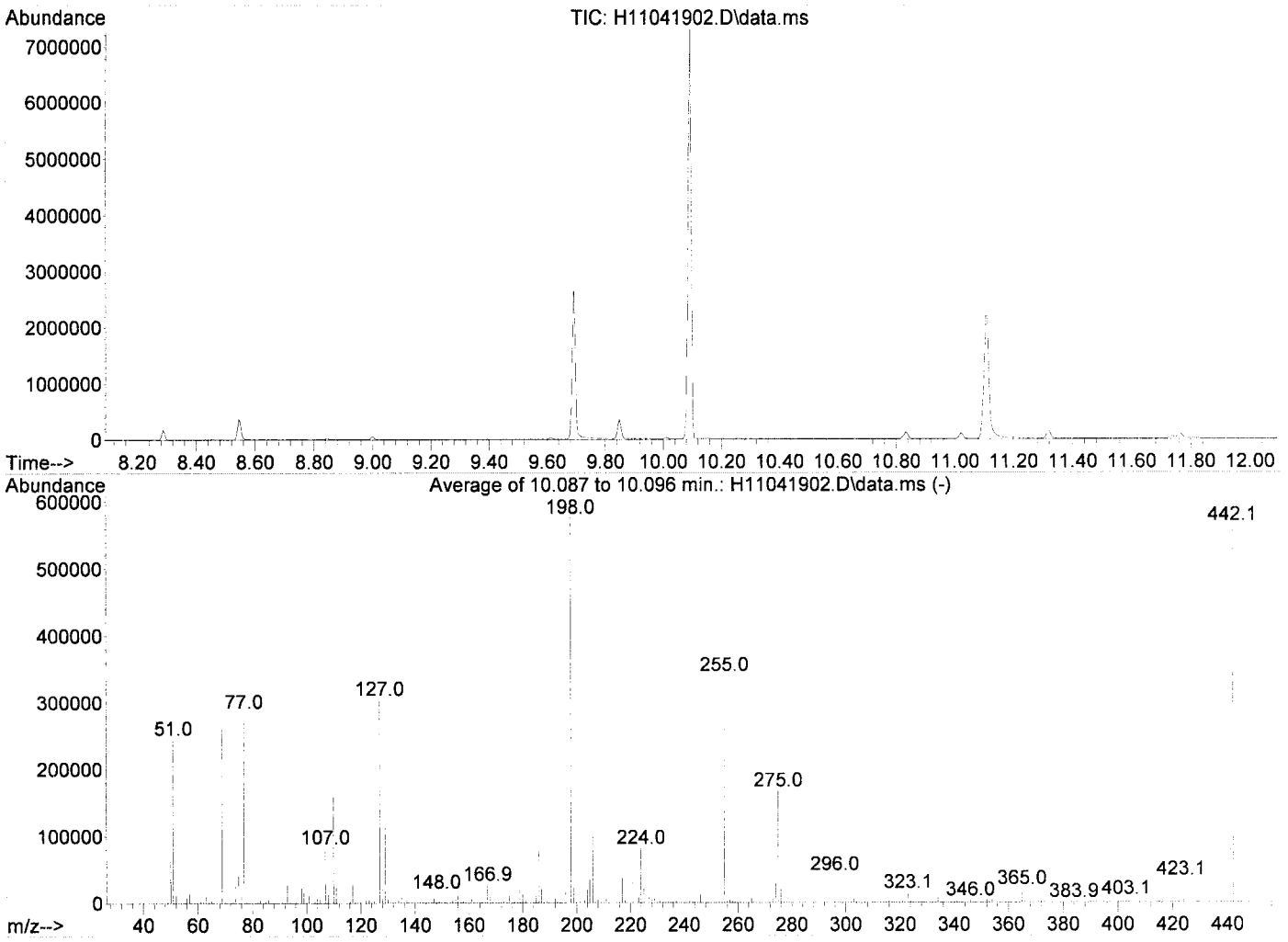
Comments:

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041902.D
Acq On : 4 Nov 2019 10:12 am
Operator : JK /AMS /DTH
Sample : 9K04032-TUN1
Misc : 1x, A19J292 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Q-14
AMS
11/5/19

Integration File: rteint.p

Method : V:\METHODS\DFTPP-LVI.M
Title : DFTPP Tune Methodug/mL
Last Update : Thu Oct 10 08:41:39 2019



AutoFind: Scans 1239, 1240, 1241; Background Corrected with Scan 1232

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	265003	PASS
70	69	0.00	2	0.5	1273	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	579520	PASS
199	198	5	9	6.5	37739	PASS
365	198	1	100	3.5	20296	PASS
441	443	0.01	150	87.5	93824	PASS
442	198	0.10	200	97.1	562880	PASS
443	442	15	24	19.1	107285	PASS

✓

No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041902.D
Acq On : 4 Nov 2019 10:12 am
Operator : JK /AMS /DTH
Sample : 9K04032-TUN1
Misc : 1x, A19J292 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 05 09:00:56 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

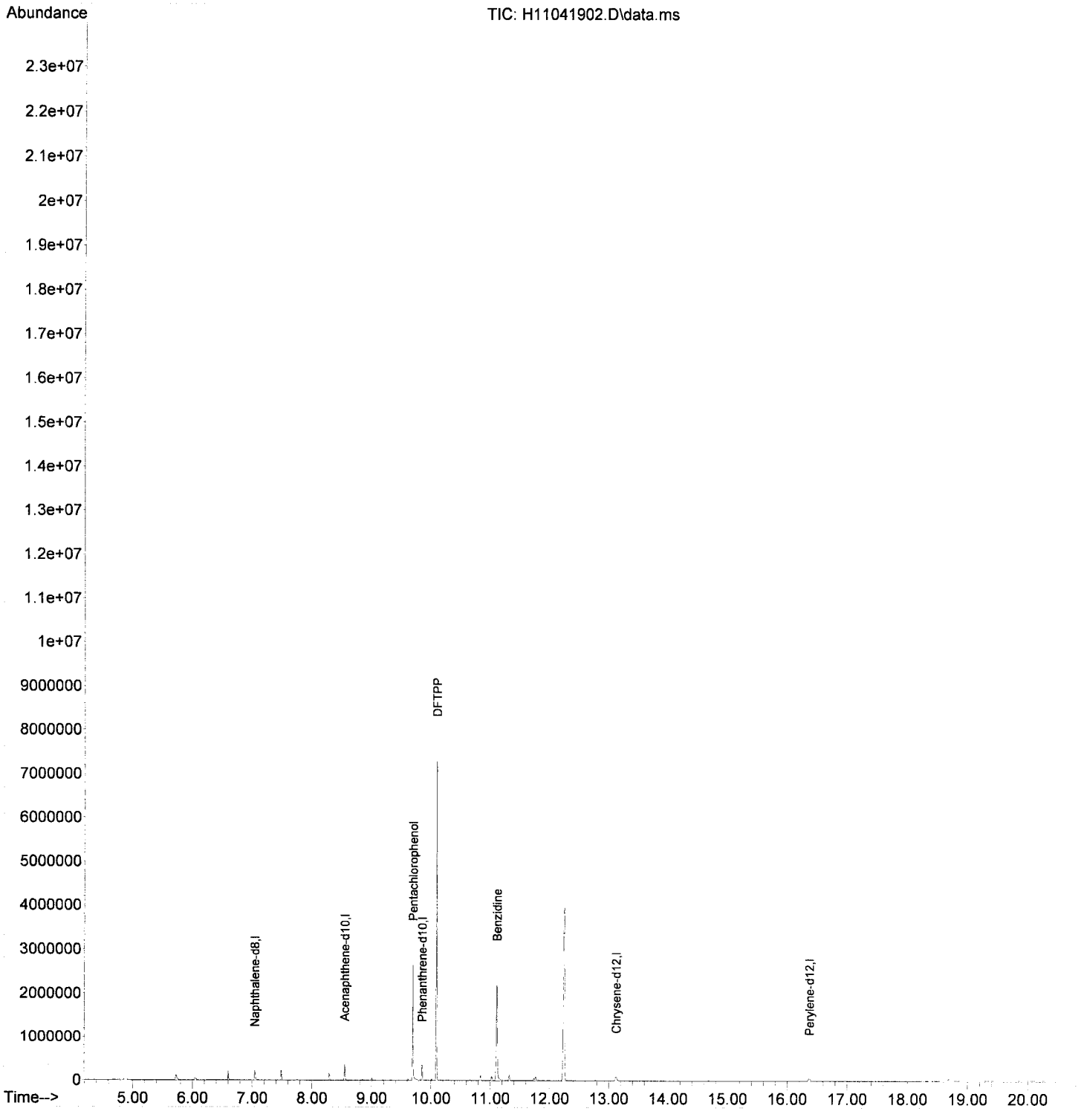
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Naphthalene-d8	7.039	136	114393	2.00	ug/mL		0.00
2) Acenaphthene-d10	8.544	162	63681	2.00	ug/mL		0.00
4) Phenanthrene-d10	9.849	188	101476	2.00	ug/mL		0.00
10) Chrysene-d12	13.120	240	63037	2.00	ug/mL		0.00
11) Perylene-d12	16.368	264	49670	2.00	ug/mL		0.00
Target Compounds							Qvalue
3) Pentachlorophenol	9.692	266	228717	16.23	ug/mL	#	88
5) DFTPP	10.092	442	536432	20.13	ug/mL	#	50
6) Benzidine	11.111	184	1015433	18.85	ug/mL		87
7) 4,4-DDE	11.320	TIC	132714	No Calib		#	
8) 4,4-DDD	11.763	TIC	101107	No Calib		#	
9) 4,4-DDT	12.244	TIC	5345057	No Calib		#	

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

✓

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041902.D
Acq On : 4 Nov 2019 10:12 am
Operator : JK /AMS /DTH
Sample : 9K04032-TUN1
Misc : 1x, A19J292 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 05 09:00:56 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



No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041903.D
Acq On : 4 Nov 2019 10:41 am
Operator : JK /AMS /DTH
Sample : 9K04032-CCV1
Misc : 1x, A19F400@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

AMS 11/5/19 Q-14

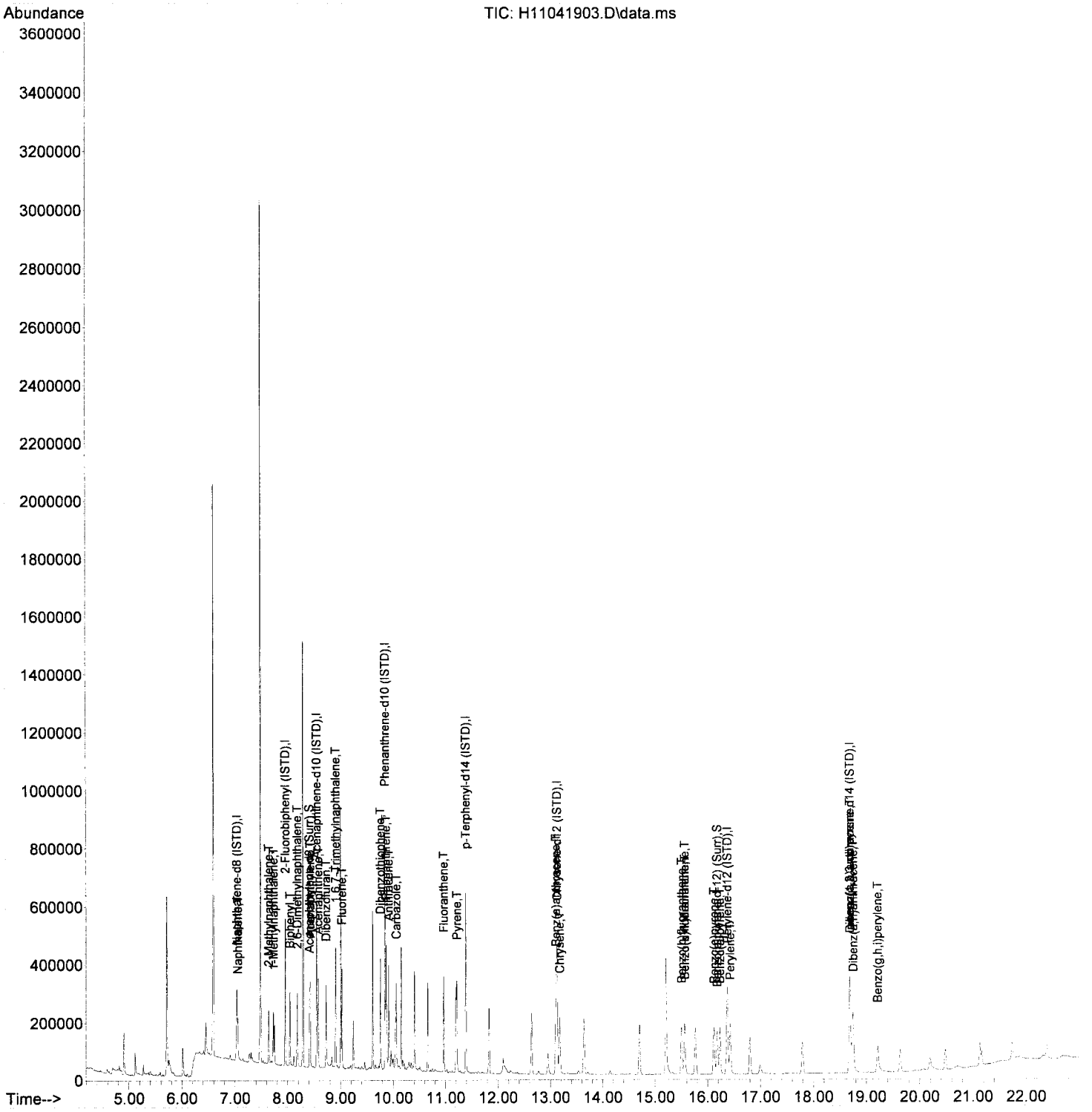
Quant Time: Nov 05 09:01:04 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.039	136	110165	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	97491	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	230448	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.125	240	217010	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.368	264	200649	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	167804	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	123084	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	207603	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	86162	49.39	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.177	264	87081	55.65	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.054	128	60141	47.05	ng/ml	98
3) 2-Methylnaphthalene	7.639	142	49547	50.19	ng/ml	95
4) 1-Methylnaphthalene	7.730	142	47152	50.46	ng/ml	90
6) Biphenyl	8.039	154	73333	44.98	ng/ml	95
7) 2,6-Dimethylnaphthalene	8.177	156	55521	48.58	ng/ml	90
9) Acenaphthylene	8.425	152	98997	51.09	ng/ml	98
10) Acenaphthene	8.573	153	68178	47.17	ng/ml	97
11) Dibenzofuran	8.725	168	97952	47.43	ng/ml	85
12) 1,6,7-Trimethylnaphtha...	8.906	170	65772	47.73	ng/ml	85
13) Fluorene	9.025	166	85664	47.88	ng/ml	100
15) Dibenzothiophene	9.758	184	114713	48.29	ng/ml	97
16) Phenanthrene	9.868	178	130944	47.37	ng/ml	100
17) Anthracene	9.915	178	124574	50.75	ng/ml	98
18) Carbazole	10.058	167	108993	45.78	ng/ml	96
19) Fluoranthene	10.963	202	132844	48.30	ng/ml	96
20) Pyrene	11.216	202	141623	47.48	ng/ml	100
22) Benz(a)anthracene	13.106	228	120278	52.75	ng/ml	99
23) Chrysene	13.177	228	116806	48.59	ng/ml	99
25) Benzo(b)fluoranthene	15.501	252	118538	53.84	ng/ml	93
26) Benzo(k)fluoranthene	15.558	252	121265	54.70	ng/ml	91
27) Benzo(b+k)fluoranthene	15.558	252	240833	108.40	ng/ml	94
28) Benzo(e)pyrene	16.116	252	112421	52.70	ng/ml	96
30) Benzo(a)pyrene	16.230	252	108354	55.66	ng/ml	99
31) Perylene	16.425	252	109128	50.94	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.687	276	94272	47.48	ng/ml	79
34) Dibenz(a,h)anthracene	18.749	278	101568	51.31	ng/ml	87
35) Benzo(g,h,i)perylene	19.206	276	91443	51.97	ng/ml	85

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

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041903.D
Acq On : 4 Nov 2019 10:41 am
Operator : JK /AMS /DTH
Sample : 9K04032-CCV1
Misc : 1x, A19F400@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:01:04 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



No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041904.D
Acq On : 4 Nov 2019 11:13 am
Operator : JK /AMS /DTH
Sample : 9K04032-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Q-1 AMS 11/5/19

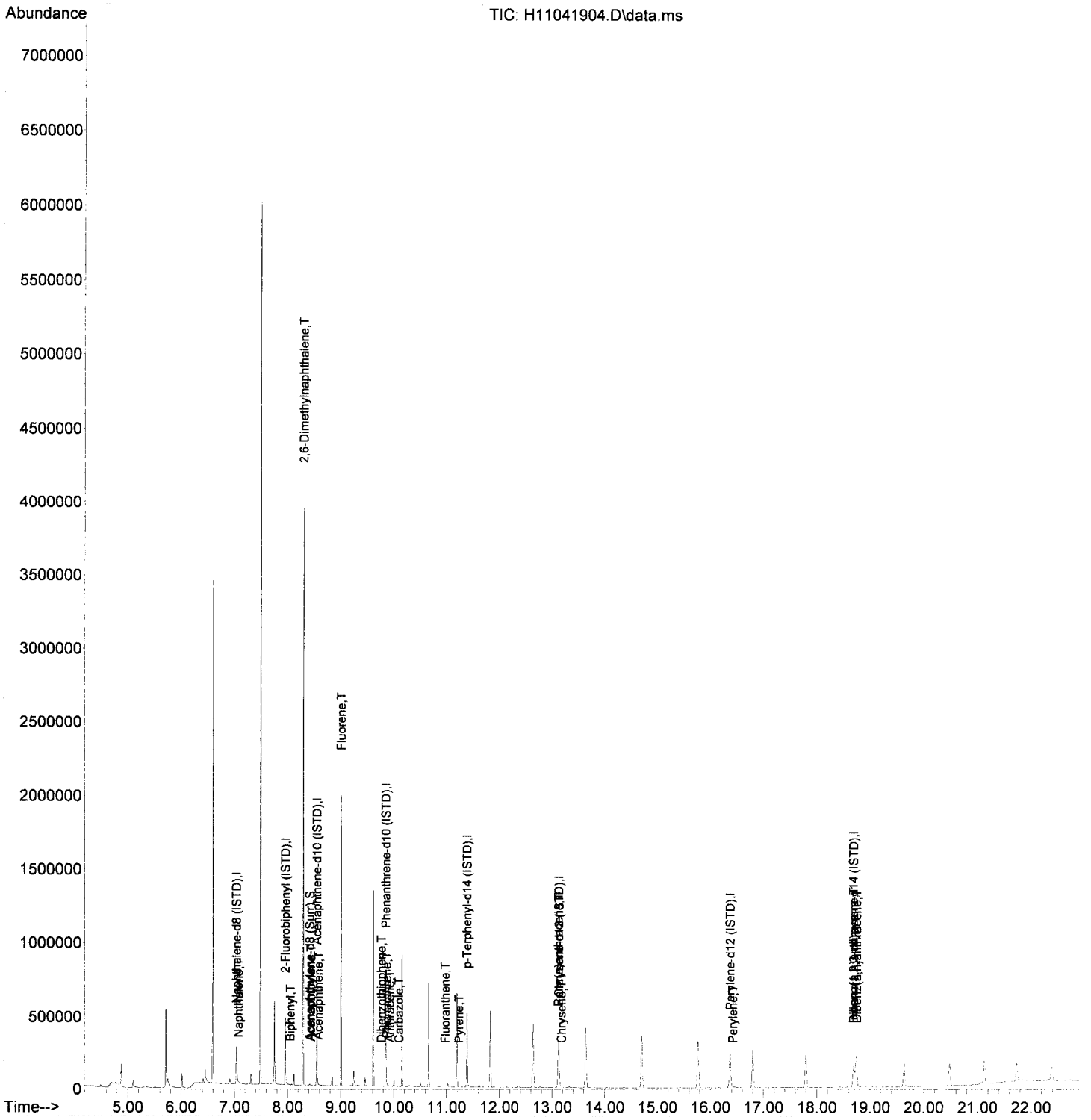
Quant Time: Nov 05 09:01:16 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.039	136	122577	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	115220	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	237690	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.125	240	193732	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.368	264	166059	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	140476	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.953	172	129008	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	181525	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.415	160	3381	0.73	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
2) Naphthalene	7.073	128	116	0.08	ng/ml	70
3) 2-Methylnaphthalene	0.000		0	N.D.		
4) 1-Methylnaphthalene	0.000		0	N.D.		
6) Biphenyl	8.049	154	226	0.12	ng/ml	95
7) 2,6-Dimethylnaphthalene	8.292	156	497	0.37	ng/ml#	1
9) Acenaphthylene	8.434	152	62	0.03	ng/ml	68
10) Acenaphthene	8.573	153	119	0.07	ng/ml	82
11) Dibenzofuran	0.000		0	N.D.		
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
13) Fluorene	9.001	166	48	0.02	ng/ml#	1
15) Dibenzothiophene	9.763	184	103	0.04	ng/ml	75
16) Phenanthrene	9.868	178	518	0.18	ng/ml	96
17) Anthracene	9.925	178	74	0.03	ng/ml	63
18) Carbazole	10.096	167	348	0.14	ng/ml	93
19) Fluoranthene	10.973	202	120	0.04	ng/ml	65
20) Pyrene	11.234	202	122	0.04	ng/ml	59
22) Benz(a)anthracene	13.115	228	549	0.05	ng/ml	61
23) Chrysene	13.177	228	77	0.04	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	0.000		0	N.D.		
30) Benzo(a)pyrene	0.000		0	N.D.		
31) Perylene	16.420	252	79	0.04	ng/ml	55
33) Indeno(1,2,3-cd)pyrene	18.687	276	99	0.06	ng/ml#	1
34) Dibenz(a,h)anthracene	18.749	278	137	0.08	ng/ml	52
35) Benzo(g,h,i)perylene	0.000		0	N.D.		

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

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041904.D
Acq On : 4 Nov 2019 11:13 am
Operator : JK /AMS /DTH
Sample : 9K04032-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:01:16 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



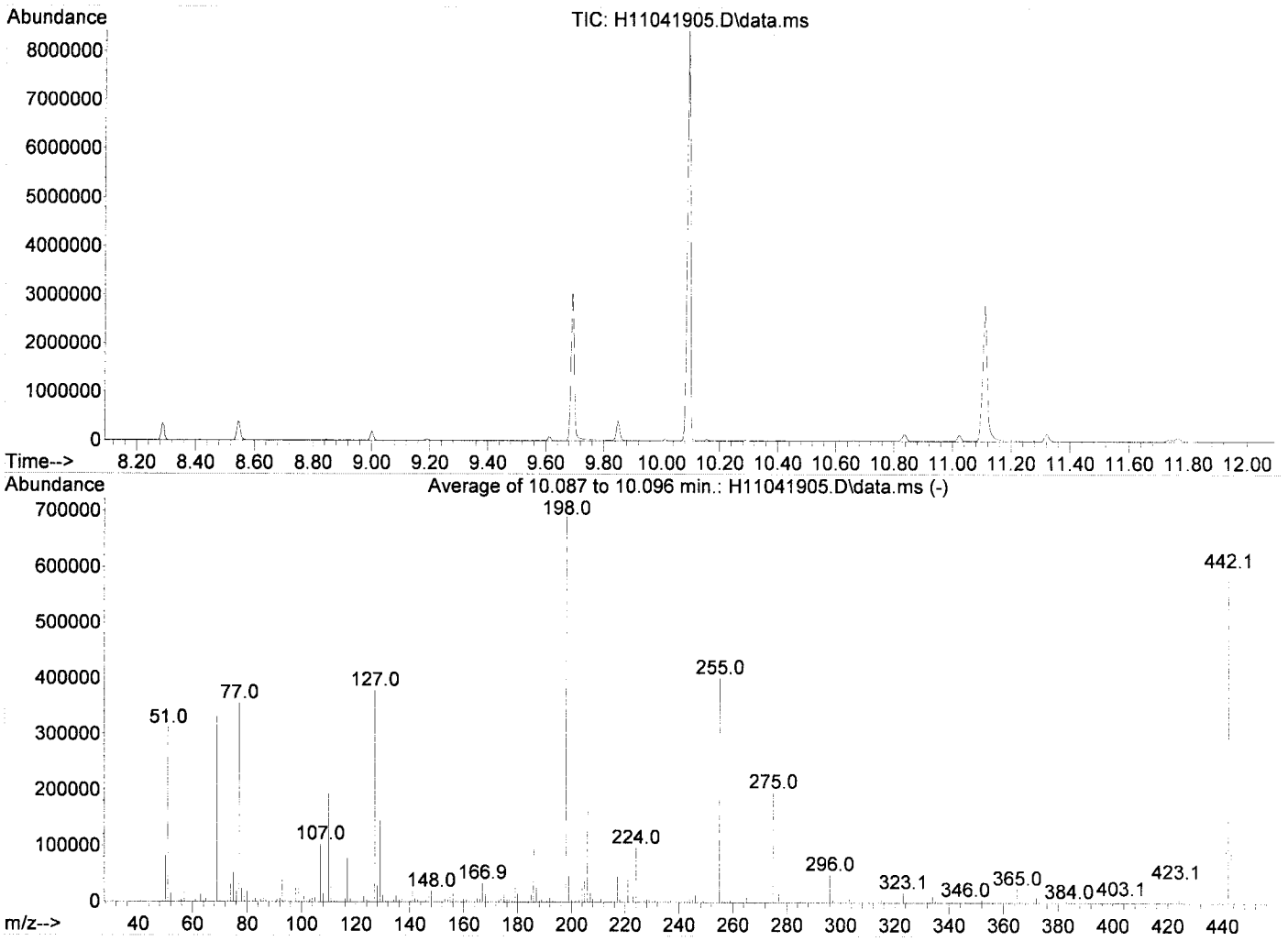
Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041905.D
Acq On : 4 Nov 2019 12:02 pm
Operator : JK /AMS /DTH
Sample : 9K04032-TUN2
Misc : 1x, A19J292 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Raised EMVolts

AMS
11/5/19

Integration File: rteint.p

Method : V:\METHODS\DFTPP-LVI.M
Title : DFTPP Tune Methodug/mL
Last Update : Thu Oct 10 08:41:39 2019



AutoFind: Scans 1239, 1240, 1241; Background Corrected with Scan 1232

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	0.0	0	PASS
69	69	100	100	100.0	332183	PASS
70	69	0.00	2	0.5	1605	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	691115	PASS
199	198	5	9	6.8	47296	PASS
365	198	1	100	3.5	24171	PASS
441	443	0.01	150	86.4	97309	PASS
442	198	0.10	200	85.8	592811	PASS
443	442	15	24	19.0	112616	PASS

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041905.D
Acq On : 4 Nov 2019 12:02 pm
Operator : JK /AMS /DTH
Sample : 9K04032-TUN2
Misc : 1x, A19J292 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 05 09:02:01 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

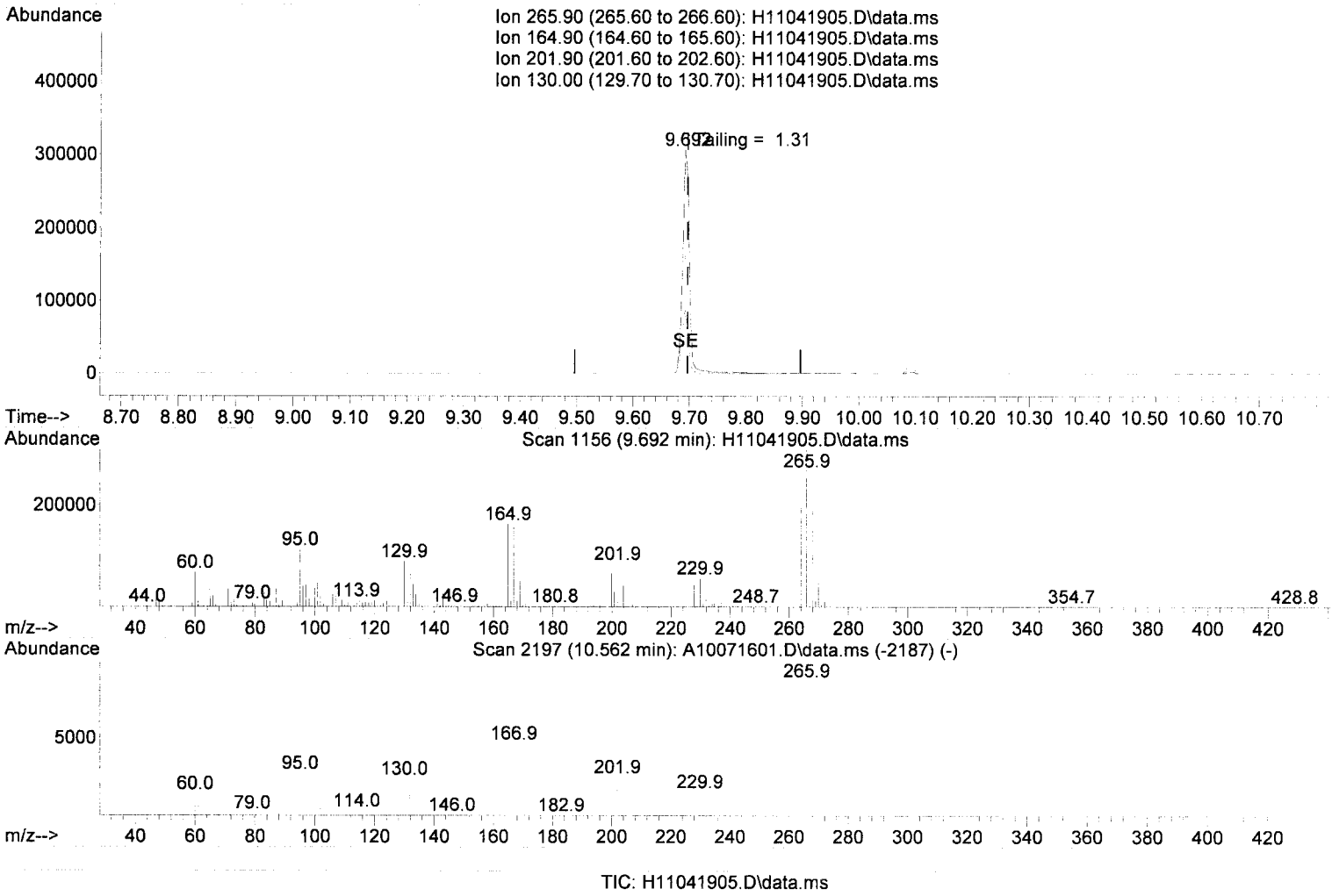
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Naphthalene-d8	7.039	136	127410	2.00	ug/mL		0.00
2) Acenaphthene-d10	8.544	162	69354	2.00	ug/mL		0.00
4) Phenanthrene-d10	9.849	188	112947	2.00	ug/mL		0.00
10) Chrysene-d12	13.125	240	73179	2.00	ug/mL		0.00
11) Perylene-d12	16.373	264	54449	2.00	ug/mL		0.00
Target Compounds							Qvalue
3) Pentachlorophenol	9.692	266	258302	16.83	ug/mL	#	86
5) DFTPP	10.096	442	595643	20.08	ug/mL	#	46
6) Benzidine	11.111	184	1157677	19.31	ug/mL		87
7) 4,4-DDE	11.320	TIC	159407	No Calib		#	
8) 4,4-DDD	11.768	TIC	100330	No Calib		#	
9) 4,4-DDT	12.244	TIC	6191548	No Calib		#	

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

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041905.D
Acq On : 4 Nov 2019 12:02 pm
Operator : JK /AMS /DTH
Sample : 9K04032-TUN2
Misc : 1x, A19J292 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 05 09:02:01 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



TIC: H11041905.D\data.ms

(3) Pentachlorophenol

9.692min (-0.005) 16.83 ug/mL

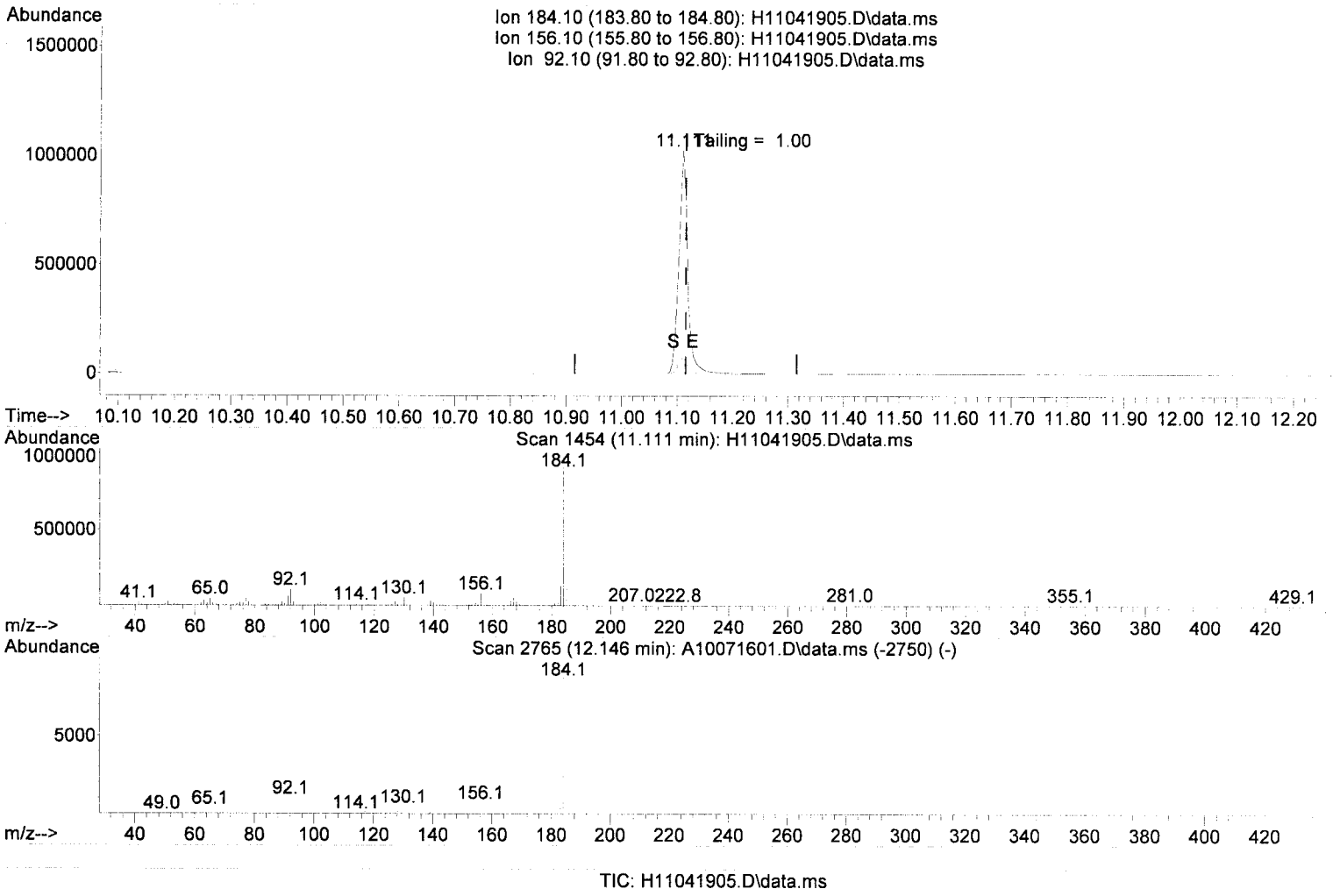
response 258302

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	40.50	51.18
201.90	23.90	25.55
130.00	19.70	28.65#

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041905.D
Acq On : 4 Nov 2019 12:02 pm
Operator : JK /AMS /DTH
Sample : 9K04032-TUN2
Misc : 1x, A19J292 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 05 09:02:01 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



TIC: H11041905.D\data.ms

(6) Benzidine

11.111min (-0.005) 19.31 ug/mL

response 1157677

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	10.40	7.63
92.10	17.30	9.97
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

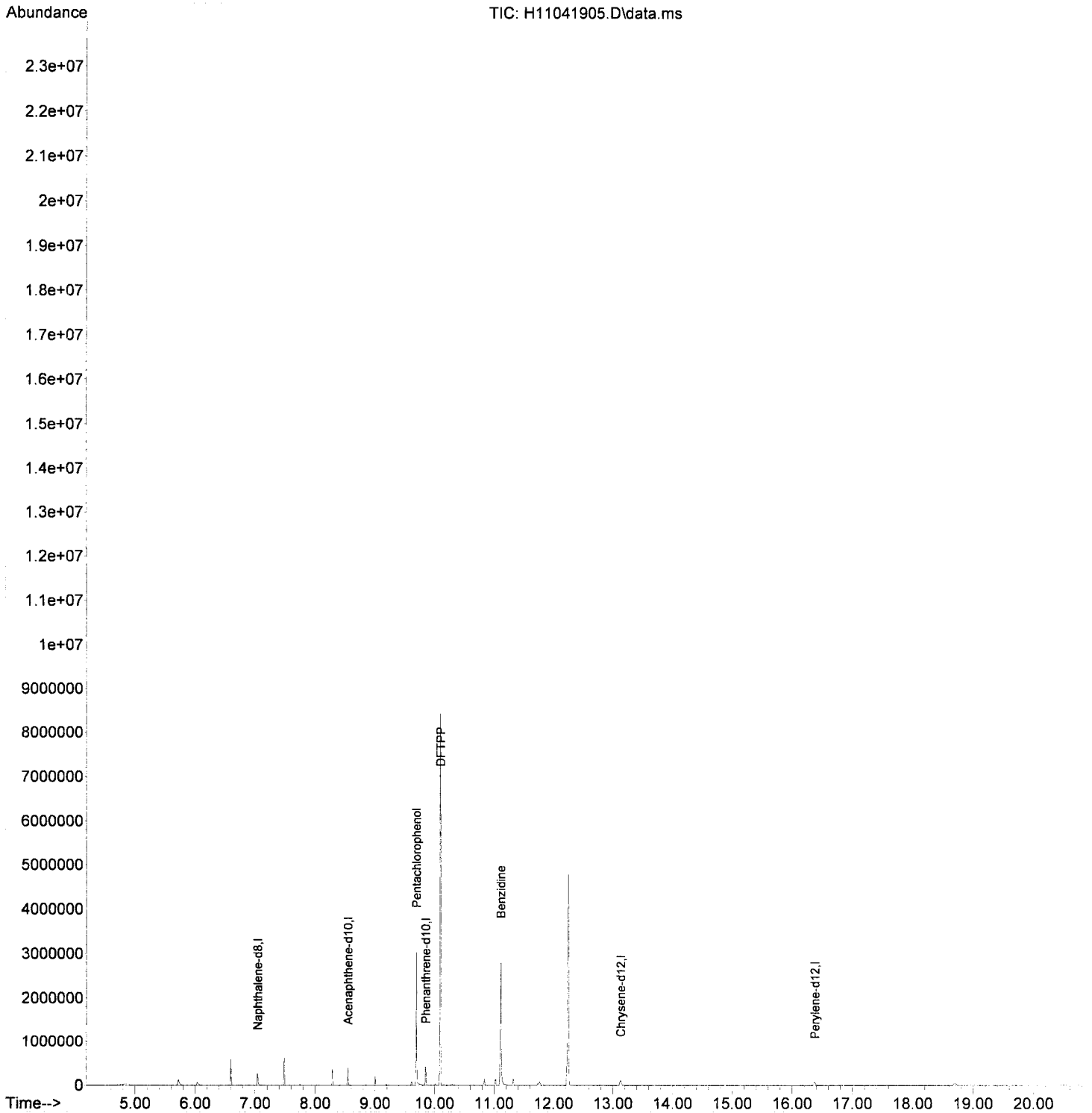
From:
9K04032-TUN1 a 11/5/19
SV-GCMS8

First Column	Area Counts	Percent Breakdown	
DDE	159407		
DDD	100330		
DDT	6191548	**4.03**	**PASS**

Breakdown must be less than 20% to accept sample data.

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041905.D
Acq On : 4 Nov 2019 12:02 pm
Operator : JK /AMS /DTH
Sample : 9K04032-TUN2
Misc : 1x, A19J292 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-LVI.M

Quant Time: Nov 05 09:02:01 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\9K04032\
Data File : H11041906.D
Acq On : 4 Nov 2019 12:31 pm
Operator : JK /AMS /DTH
Sample : 9K04032-CCV2
Misc : 1x, A19F400@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

AMS 11/5/19

Quant Time: Nov 04 13:02:21 2019
Quant Method : C:\msdchem\1\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

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	63	0.00
2	T	Naphthalene	50.000	47.437	5.1	64	0.00
3	T	2-Methylnaphthalene	50.000	51.532	-3.1	67	0.00
4	T	1-Methylnaphthalene	50.000	53.188	-6.4	68	0.00
5	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	69	0.00
6	T	Biphenyl	50.000	46.532	6.9	69	0.00
7	T	2,6-Dimethylnaphthalene	50.000	49.567	0.9	69	0.00
8	S	Acenaphthylene-d8 (Surr)	50.000	48.817	2.4	68	0.00
9	T	Acenaphthylene	50.000	51.671	-3.3	69	0.00
10	T	Acenaphthene	50.000	47.372	5.3	69	0.00
11	T	Dibenzofuran	50.000	45.643	8.7	65	0.00
12	T	1,6,7-Trimethylnaphthalene	50.000	45.705	8.6	63	0.00
13	T	Fluorene	50.000	45.548	8.9	63	0.00
14	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	59	0.00
15	T	Dibenzothiophene	50.000	48.622	2.8	58	0.00
16	T	Phenanthrene	50.000	46.286	7.4	57	0.00
17	T	Anthracene	50.000	50.888	-1.8	58	0.00
18	T	Carbazole	50.000	43.764	12.5	50	0.00
19	T	Fluoranthene	50.000	46.683	6.6	54	0.00
20	T	Pyrene	50.000	47.934	4.1	57	0.00
21	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	54	0.00
22	T	Benz(a)anthracene	50.000	52.732	-5.5	54	0.00
23	T	Chrysene	50.000	48.629	2.7	54	0.00
24	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	56	-0.01
25	T	Benzo(b)fluoranthene	50.000	54.745	-9.5	57	0.00
26	T	Benzo(k)fluoranthene	50.000	55.019	-10.0	57	-0.01
27	T	Benzo(b+k)fluoranthene	100.000	109.679	-9.7	57	-0.01
28	T	Benzo(e)pyrene	50.000	53.305	-6.6	56	0.00
29	S	Benzo(a)pyrene(d-12) (Surr)	50.000	55.484	-11.0	57	0.00
30	T	Benzo(a)pyrene	50.000	55.349	-10.7	56	0.00
31	T	Perylene	50.000	50.851	-1.7	54	0.00
32	I	Dibenz(a,h)anthracene-d14 (	100.000	100.000	0.0	52	0.00
33	T	Indeno(1,2,3-cd)pyrene	50.000	46.324	7.4	49	0.00
34	T	Dibenz(a,h)anthracene	50.000	53.558	-7.1	54	0.00
35	T	Benzo(g,h,i)perylene	50.000	51.848	-3.7	48	0.00
36	I	2-Fluorobiphenyl (ISTD)	100.000	100.000	0.0	70	0.00
37	I	p-Terphenyl-d14 (ISTD)	100.000	100.000	0.0	54	0.00

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-11\9K04032\
Data File : H11041906.D
Acq On : 4 Nov 2019 12:31 pm
Operator : JK /AMS /DTH
Sample : 9K04032-CCV2
Misc : 1x, A19F400@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 04 13:02:21 2019
Quant Method : C:\msdchem\1\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

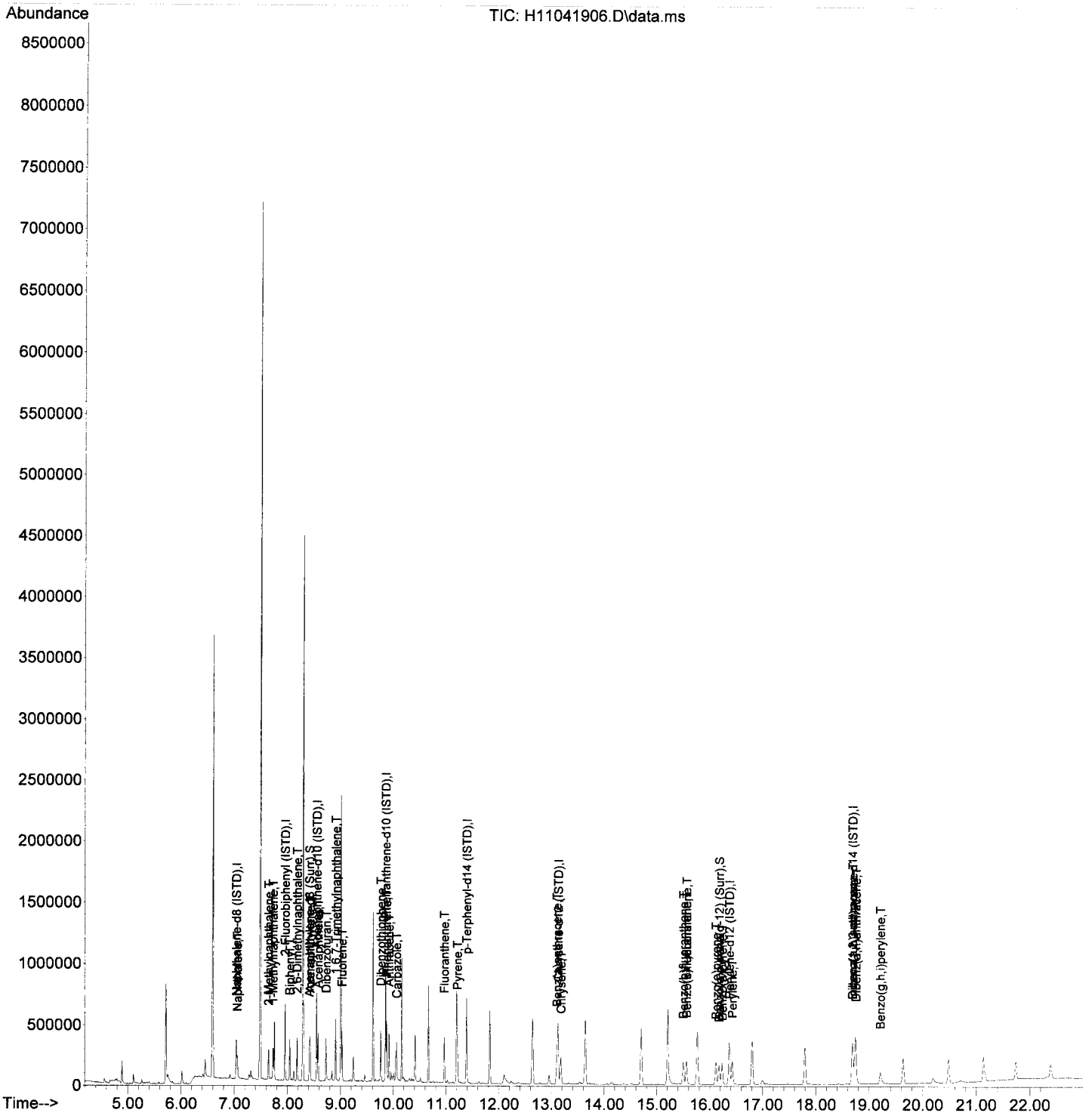
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.035	136	141035	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	123174	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	266529	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.125	240	241406	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.368	264	219504	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.682	292	178902	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	165067	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	235920	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	107591	48.82	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.177	264	94946	55.48	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.054	128	77633	47.44	ng/ml	95
3) 2-Methylnaphthalene	7.639	142	65126	51.53	ng/ml	96
4) 1-Methylnaphthalene	7.725	142	63628	53.19	ng/ml	90
6) Biphenyl	8.039	154	95845	46.53	ng/ml	91
7) 2,6-Dimethylnaphthalene	8.177	156	71567	49.57	ng/ml	90
9) Acenaphthylene	8.425	152	126504	51.67	ng/ml	97
10) Acenaphthene	8.573	153	86506	47.37	ng/ml	98
11) Dibenzofuran	8.725	168	119090	45.64	ng/ml	85
12) 1,6,7-Trimethylnaphtha...	8.906	170	79577	45.71	ng/ml	87
13) Fluorene	9.025	166	102951	45.55	ng/ml	99
15) Dibenzothiophene	9.758	184	133580	48.62	ng/ml	97
16) Phenanthrene	9.868	178	147966	46.29	ng/ml	100
17) Anthracene	9.915	178	144469	50.89	ng/ml	99
18) Carbazole	10.058	167	120494	43.76	ng/ml	95
19) Fluoranthene	10.963	202	148511	46.68	ng/ml	95
20) Pyrene	11.211	202	165359	47.93	ng/ml	99
22) Benz(a)anthracene	13.101	228	133746	52.73	ng/ml	99
23) Chrysene	13.177	228	130036	48.63	ng/ml	99
25) Benzo(b)fluoranthene	15.497	252	132012	54.75	ng/ml	92
26) Benzo(k)fluoranthene	15.558	252	133502	55.02	ng/ml	91
27) Benzo(b+k)fluoranthene	15.558	252	266821	109.68	ng/ml	94
28) Benzo(e)pyrene	16.116	252	124395	53.31	ng/ml	98
30) Benzo(a)pyrene	16.235	252	117788	55.35	ng/ml	98
31) Perylene	16.425	252	119166	50.85	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.687	276	98067	46.32	ng/ml	79
34) Dibenz(a,h)anthracene	18.749	278	113026	53.56	ng/ml	90
35) Benzo(g,h,i)perylene	19.206	276	97267	51.85	ng/ml	86

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\2019-11\9K04032\
Data File : H11041906.D
Acq On : 4 Nov 2019 12:31 pm
Operator : JK /AMS /DTH
Sample : 9K04032-CCV2
Misc : 1x, A19F400@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 04 13:02:21 2019
Quant Method : C:\msdchem\1\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



No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041907.D
Acq On : 4 Nov 2019 1:03 pm
Operator : JK /AMS /DTH
Sample : 9K04032-CCB2
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

AMS 11/5/19

Quant Time: Nov 05 09:09:37 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

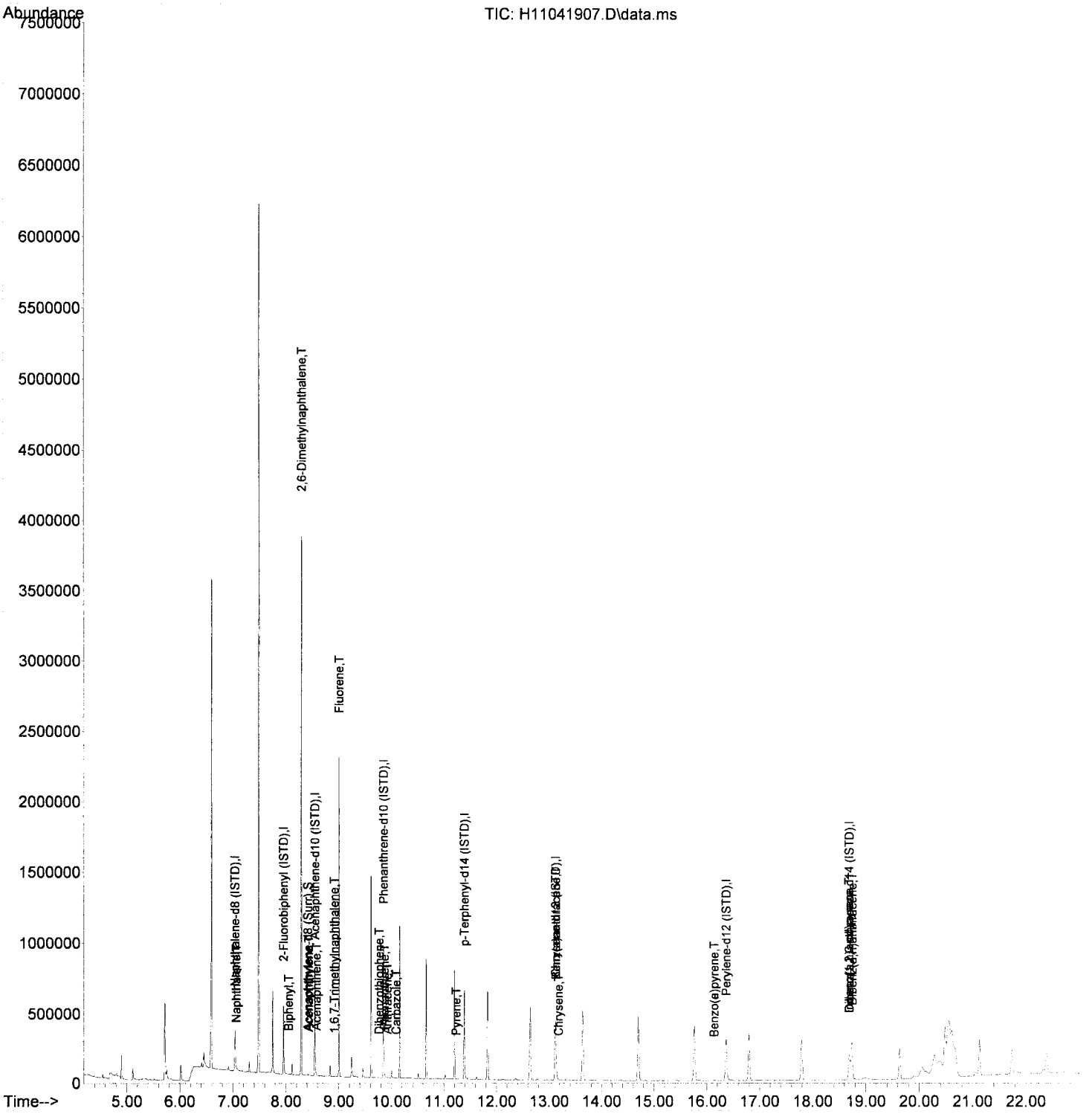
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.039	136	136415	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	120490	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	285385	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	243713	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.363	264	206202	100.00	ng/ml	-0.02
32) Dibenz(a,h)anthracene-...	18.687	292	174430	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	136103	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	227923	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.415	160	3478	0.70	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
2) Naphthalene	7.058	128	283	0.18	ng/ml	70
3) 2-Methylnaphthalene	0.000		0	N.D.		
4) 1-Methylnaphthalene	0.000		0	N.D.		
6) Biphenyl	8.049	154	291	0.14	ng/ml#	53
7) 2,6-Dimethylnaphthalene	8.292	156	513	0.36	ng/ml#	19
9) Acenaphthylene	8.430	152	87	0.04	ng/ml	60
10) Acenaphthene	8.577	153	137	0.08	ng/ml#	52
11) Dibenzofuran	0.000		0	N.D.		
12) 1,6,7-Trimethylnaphtha...	8.911	170	45	0.03	ng/ml#	25
13) Fluorene	9.001	166	66	0.03	ng/ml#	1
15) Dibenzothiophene	9.763	184	43	0.01	ng/ml#	32
16) Phenanthrene	9.868	178	302	0.09	ng/ml	83
17) Anthracene	9.920	178	79	0.03	ng/ml	78
18) Carbazole	10.087	167	123	0.04	ng/ml	62
19) Fluoranthene	0.000		0	N.D.		
20) Pyrene	11.230	202	133	0.04	ng/ml	59
22) Benz(a)anthracene	13.125	228	650	0.03	ng/ml	64
23) Chrysene	13.177	228	127	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	16.135	252	92	0.04	ng/ml	53
30) Benzo(a)pyrene	16.135	252	92	0.11	ng/ml	61
31) Perylene	0.000		0	N.D.		
33) Indeno(1,2,3-cd)pyrene	18.682	276	82	0.04	ng/ml#	1
34) Dibenz(a,h)anthracene	18.744	278	127	0.06	ng/ml	52
35) Benzo(g,h,i)perylene	0.000		0	N.D.		

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

J

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041907.D
Acq On : 4 Nov 2019 1:03 pm
Operator : JK /AMS /DTH
Sample : 9K04032-CCB2
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:09:37 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



No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041909.D
Acq On : 4 Nov 2019 2:22 pm
Operator : JK /AMS /DTH
Sample : 9110429-BLK1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

AMS 11/5/19

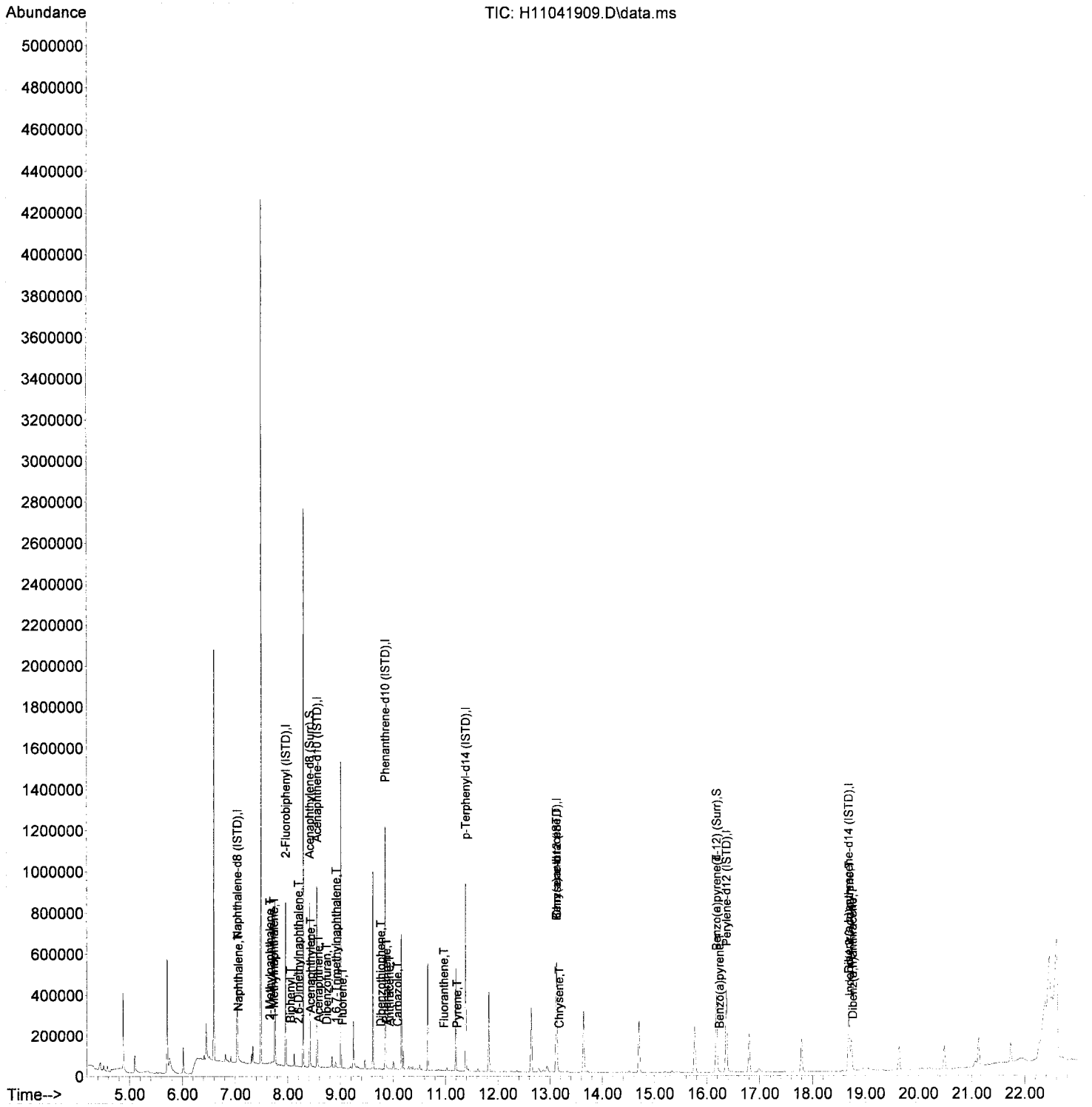
Quant Time: Nov 05 09:04:39 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.035	136	169166	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	150356	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	342550	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.125	240	300108	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.368	264	264597	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	224631	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	200021	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	303135	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	280908	102.91	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.182	264	240252	105.77	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.054	128	542	0.28	ng/ml	70
3) 2-Methylnaphthalene	7.654	142	169	0.11	ng/ml#	63
4) 1-Methylnaphthalene	7.730	142	195	0.14	ng/ml#	65
6) Biphenyl	8.044	154	477	0.19	ng/ml	72
7) 2,6-Dimethylnaphthalene	8.196	156	104	0.06	ng/ml#	74
9) Acenaphthylene	8.425	152	202	0.07	ng/ml	84
10) Acenaphthene	8.573	153	154	0.07	ng/ml	78
11) Dibenzofuran	8.735	168	169	0.05	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	8.911	170	58	0.03	ng/ml#	1
13) Fluorene	9.030	166	132	0.05	ng/ml#	62
15) Dibenzothiophene	9.763	184	104	0.03	ng/ml#	50
16) Phenanthrene	9.873	178	519	0.13	ng/ml	87
17) Anthracene	9.925	178	274	0.08	ng/ml	79
18) Carbazole	10.082	167	231	0.07	ng/ml	62
19) Fluoranthene	10.968	202	187	0.05	ng/ml	58
20) Pyrene	11.220	202	293	0.07	ng/ml	82
22) Benz(a)anthracene	13.120	228	926	0.07	ng/ml	64
23) Chrysene	13.173	228	116	0.03	ng/ml	49
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	16.182	252	871	0.31	ng/ml#	1
30) Benzo(a)pyrene	16.235	252	58	0.09	ng/ml	61
31) Perylene	0.000		0	N.D.		
33) Indeno(1,2,3-cd)pyrene	18.701	276	89	0.03	ng/ml#	1
34) Dibenz(a,h)anthracene	18.759	278	58	0.02	ng/ml	52
35) Benzo(g,h,i)perylene	0.000		0	N.D.		

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

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041909.D
Acq On : 4 Nov 2019 2:22 pm
Operator : JK /AMS /DTH
Sample : 9110429-BLK1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:39 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



No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041910.D
Acq On : 4 Nov 2019 2:54 pm
Operator : JK /AMS /DTH
Sample : 9110429-BS1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

AMS 11/5/19

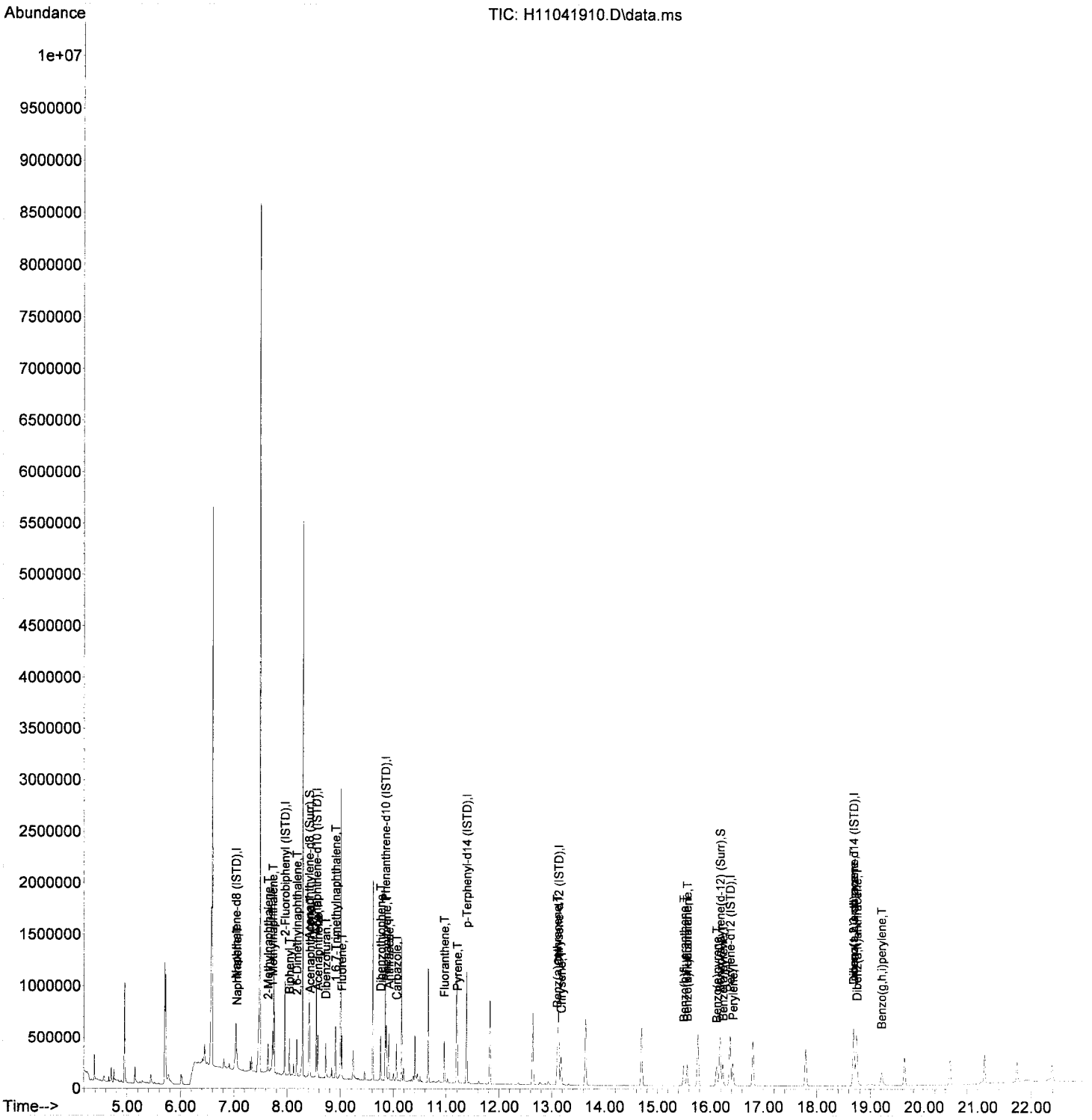
Quant Time: Nov 05 09:04:42 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.034	136	208527	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	163649	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	367884	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.125	240	366121	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.368	264	335492	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	299122	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	230005	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	358367	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	305886	102.96	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.182	264	307505	106.61	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.054	128	90103	37.24	ng/ml	97
3) 2-Methylnaphthalene	7.639	142	69789	37.35	ng/ml	97
4) 1-Methylnaphthalene	7.725	142	70556	39.89	ng/ml	94
6) Biphenyl	8.039	154	100487	36.72	ng/ml	92
7) 2,6-Dimethylnaphthalene	8.177	156	70658	36.83	ng/ml	91
9) Acenaphthylene	8.425	152	130278	40.05	ng/ml	97
10) Acenaphthene	8.573	153	89786	37.01	ng/ml	98
11) Dibenzofuran	8.725	168	119212	34.39	ng/ml	81
12) 1,6,7-Trimethylnaphtha...	8.906	170	77870	33.66	ng/ml	85
13) Fluorene	9.025	166	102282	34.06	ng/ml	99
15) Dibenzothiophene	9.758	184	134917	35.58	ng/ml	97
16) Phenanthrene	9.868	178	156905	35.56	ng/ml	100
17) Anthracene	9.915	178	152001	38.79	ng/ml	98
18) Carbazole	10.058	167	137738	36.24	ng/ml	96
19) Fluoranthene	10.963	202	166555	37.93	ng/ml	95
20) Pyrene	11.211	202	180573	37.92	ng/ml	99
22) Benz(a)anthracene	13.101	228	150752	39.71	ng/ml	99
23) Chrysene	13.177	228	152041	37.49	ng/ml	100
25) Benzo(b)fluoranthene	15.497	252	138255	38.38	ng/ml	93
26) Benzo(k)fluoranthene	15.558	252	144719	40.00	ng/ml	91
27) Benzo(b+k)fluoranthene	15.558	252	284764	78.38	ng/ml	94
28) Benzo(e)pyrene	16.116	252	136584	38.29	ng/ml	98
30) Benzo(a)pyrene	16.235	252	128556	40.79	ng/ml	99
31) Perylene	16.425	252	130752	36.51	ng/ml	97
33) Indeno(1,2,3-cd)pyrene	18.687	276	127570	36.04	ng/ml	79
34) Dibenz(a,h)anthracene	18.749	278	139281	39.47	ng/ml	86
35) Benzo(g,h,i)perylene	19.206	276	124570	39.71	ng/ml	86

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

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041910.D
Acq On : 4 Nov 2019 2:54 pm
Operator : JK /AMS /DTH
Sample : 9110429-BS1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:42 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



No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041911.D
Acq On : 4 Nov 2019 3:27 pm
Operator : JK /AMS /DTH
Sample : 9110429-BSD1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Q-19
AMS
11/5/19

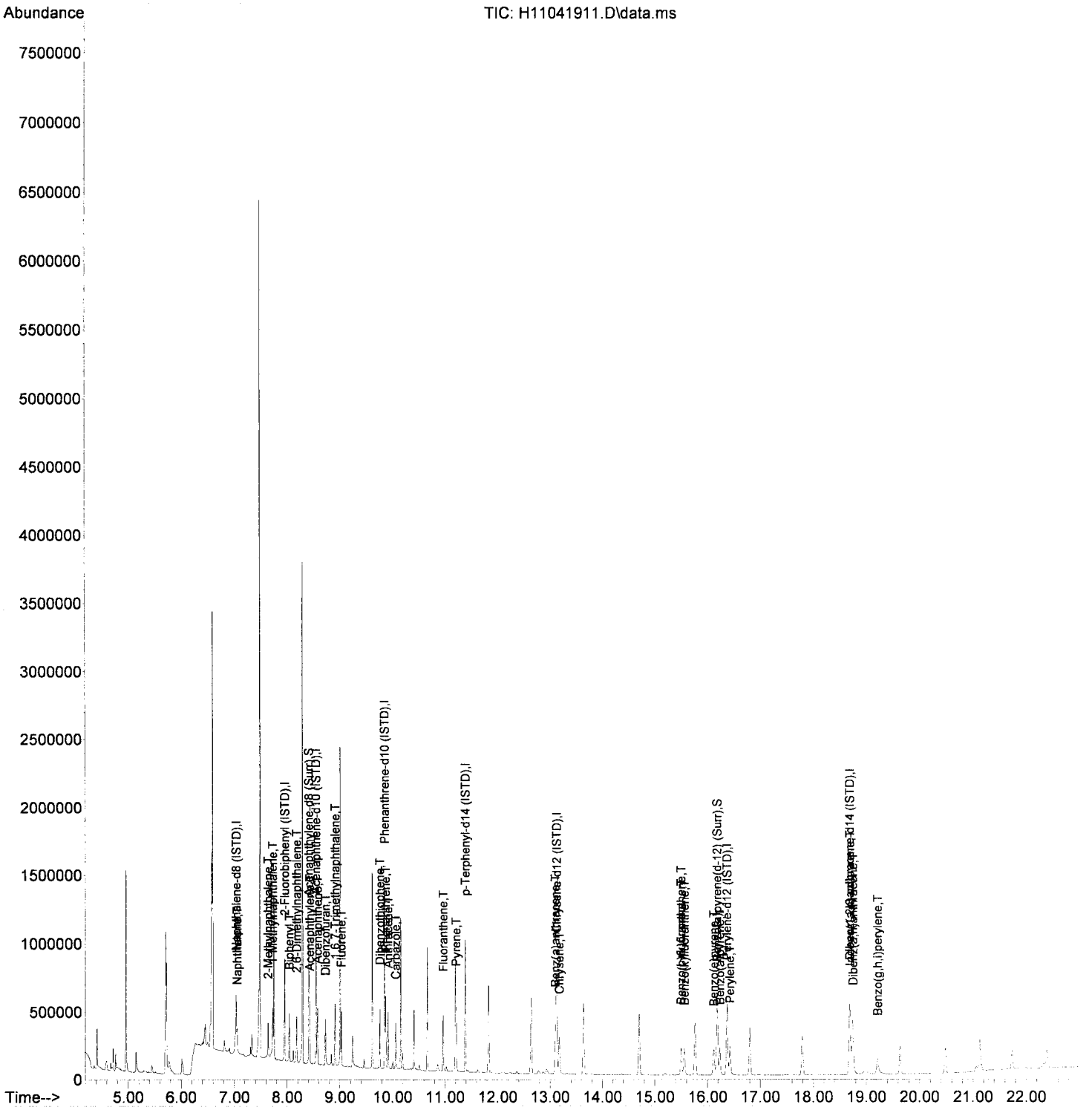
Quant Time: Nov 05 09:04:45 2019
Quant Method : V:\METHODS\LVI8_070119R2.M
Quant Title : LVI PAH/PCP Acquisition and Analysis
QLast Update : Mon Oct 07 17:09:14 2019
Response via : Initial Calibration
InstName : SV-GCMS8

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.035	136	213658	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.544	164	161122	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	364562	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.125	240	366948	100.00	ng/ml	0.00
24) Perylene-d12 (ISTD)	16.368	264	335798	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	296314	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	211338	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	330697	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.411	160	302540	103.41	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.182	264	308135	106.71	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.054	128	92067	37.14	ng/ml	96
3) 2-Methylnaphthalene	7.639	142	71058	37.11	ng/ml	96
4) 1-Methylnaphthalene	7.725	142	68942	38.04	ng/ml	90
6) Biphenyl	8.039	154	99877	37.07	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.177	156	70727	37.45	ng/ml	91
9) Acenaphthylene	8.425	152	130161	40.64	ng/ml	98
10) Acenaphthene	8.573	153	87834	36.77	ng/ml	97
11) Dibenzofuran	8.725	168	118621	34.76	ng/ml	83
12) 1,6,7-Trimethylnaphtha...	8.906	170	76291	33.50	ng/ml	87
13) Fluorene	9.025	166	103065	34.86	ng/ml	99
15) Dibenzothiophene	9.758	184	135078	35.95	ng/ml	97
16) Phenanthrene	9.868	178	156330	35.75	ng/ml	99
17) Anthracene	9.915	178	150051	38.64	ng/ml	98
18) Carbazole	10.058	167	136780	36.32	ng/ml	95
19) Fluoranthene	10.963	202	168175	38.65	ng/ml	96
20) Pyrene	11.211	202	182113	38.59	ng/ml	99
22) Benz(a)anthracene	13.101	228	153870	40.41	ng/ml	99
23) Chrysene	13.177	228	153232	37.70	ng/ml	99
25) Benzo(b)fluoranthene	15.497	252	139146	38.58	ng/ml	92
26) Benzo(k)fluoranthene	15.558	252	146450	40.42	ng/ml	91
27) Benzo(b+k)fluoranthene	15.497	252	286740	78.83	ng/ml	92
28) Benzo(e)pyrene	16.116	252	138053	38.67	ng/ml	97
30) Benzo(a)pyrene	16.235	252	130847	41.43	ng/ml	97
31) Perylene	16.425	252	129233	36.05	ng/ml	98
33) Indeno(1,2,3-cd)pyrene	18.692	276	126427	36.06	ng/ml	77
34) Dibenz(a,h)anthracene	18.749	278	136562	39.07	ng/ml	89
35) Benzo(g,h,i)perylene	19.211	276	120942	38.92	ng/ml	85

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

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041911.D
Acq On : 4 Nov 2019 3:27 pm
Operator : JK /AMS /DTH
Sample : 9110429-BSD1
Misc : 1x, 8270D PAH (125mL) LL
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:45 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



No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

AMS 11/5/19

Quant Time: Nov 05 09:04:48 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

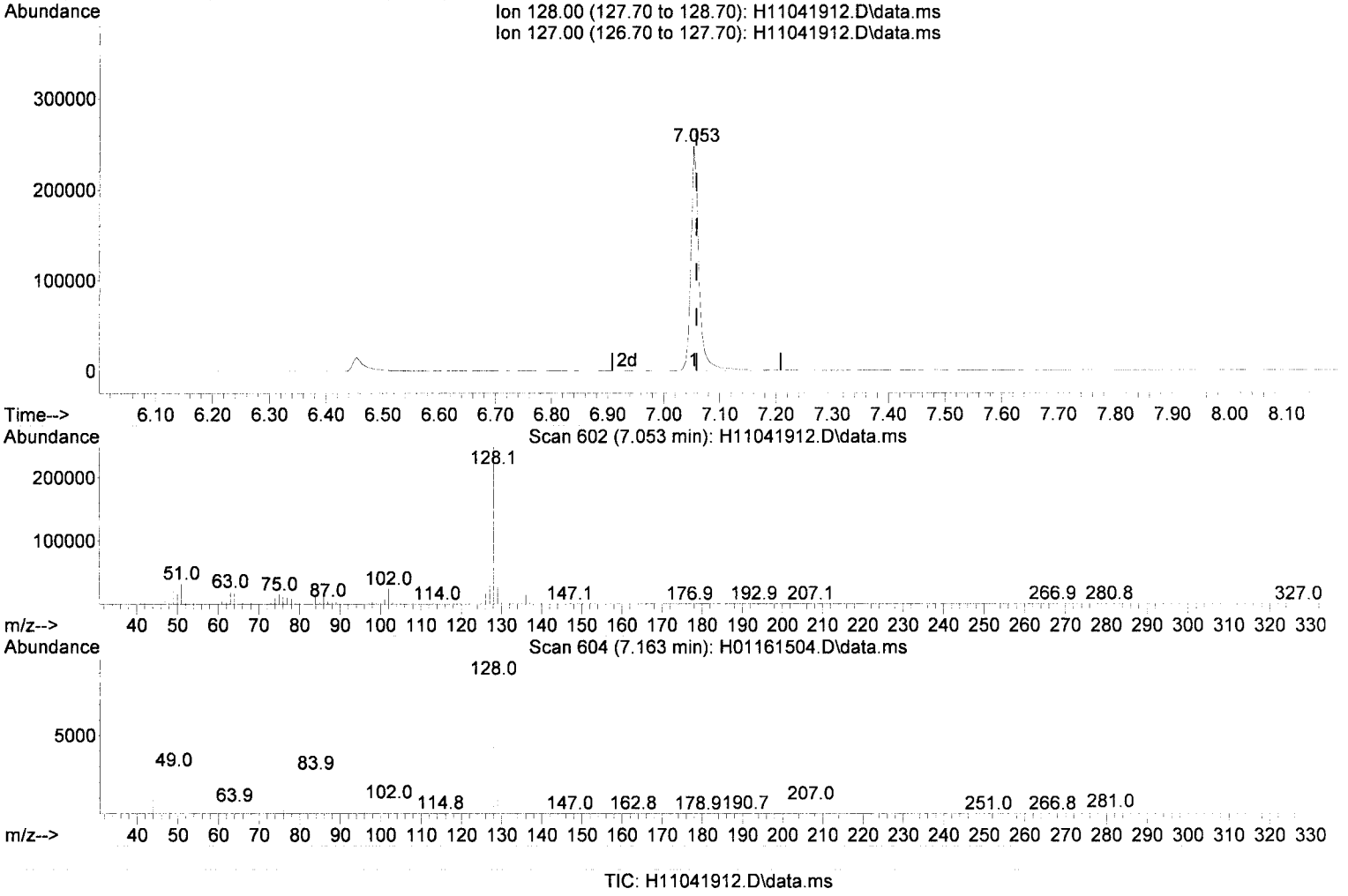
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.039	136	148997	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	130469	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	295250	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	236882	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.368	264	197815	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	167870	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.953	172	167216	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	261886	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.415	160	4132	0.86	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.187	264	144	0.24	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.053	128	252001	145.76	ng/ml	97
3) 2-Methylnaphthalene	7.644	142	9576	7.17	ng/ml	95
4) 1-Methylnaphthalene	7.730	142	6086	4.82	ng/ml	89
6) Biphenyl	8.049	154	3424	1.57	ng/ml	89
7) 2,6-Dimethylnaphthalene	8.201	156	542	0.35	ng/ml	88
9) Acenaphthylene	8.430	152	1958	0.76	ng/ml	88
10) Acenaphthene	8.577	153	5535	2.86	ng/ml	98
11) Dibenzofuran	8.739	168	657	0.24	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	8.911	170	122	0.07	ng/ml#	70
13) Fluorene	9.030	166	2073	0.87	ng/ml	91
15) Dibenzothiophene	9.763	184	671	0.22	ng/ml	83
16) Phenanthrene	9.868	178	4520	1.28	ng/ml	94
17) Anthracene	9.920	178	667	0.21	ng/ml#	28
18) Carbazole	10.073	167	5381	1.76	ng/ml	95
19) Fluoranthene	10.973	202	275	0.08	ng/ml	81
20) Pyrene	11.225	202	335	0.09	ng/ml	59
22) Benz(a)anthracene	13.120	228	717	0.07	ng/ml	60
23) Chrysene	13.173	228	144	0.05	ng/ml	51
25) Benzo(b)fluoranthene	15.534	252	70	0.04	ng/ml	53
26) Benzo(k)fluoranthene	15.534	252	70	0.06	ng/ml	52
27) Benzo(b+k)fluoranthene	15.534	252	70	0.06	ng/ml	53
28) Benzo(e)pyrene	16.134	252	109	0.05	ng/ml	53
30) Benzo(a)pyrene	16.134	252	109	0.12	ng/ml	61
31) Perylene	16.406	252	75	0.04	ng/ml	49
33) Indeno(1,2,3-cd)pyrene	18.692	276	164	0.08	ng/ml#	1
34) Dibenz(a,h)anthracene	18.735	278	208	0.11	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 (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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: H11041912.D\data.ms

(2) Naphthalene (T)

7.053min (-0.005) 145.76 ng/ml

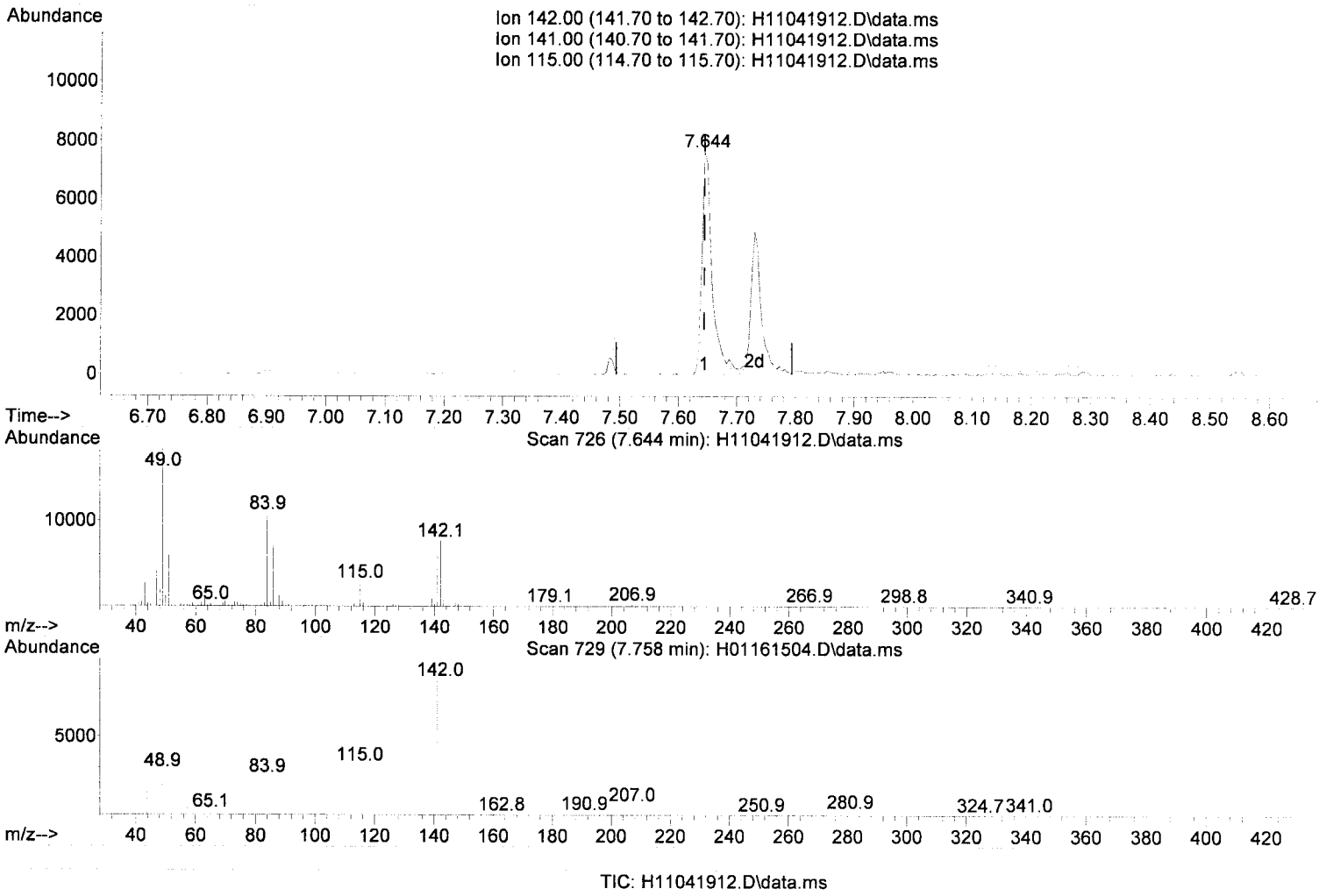
response 252001

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	11.50	12.82
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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: H11041912.D\data.ms

(3) 2-Methylnaphthalene (T)

7.644min (-0.000) 7.17 ng/ml

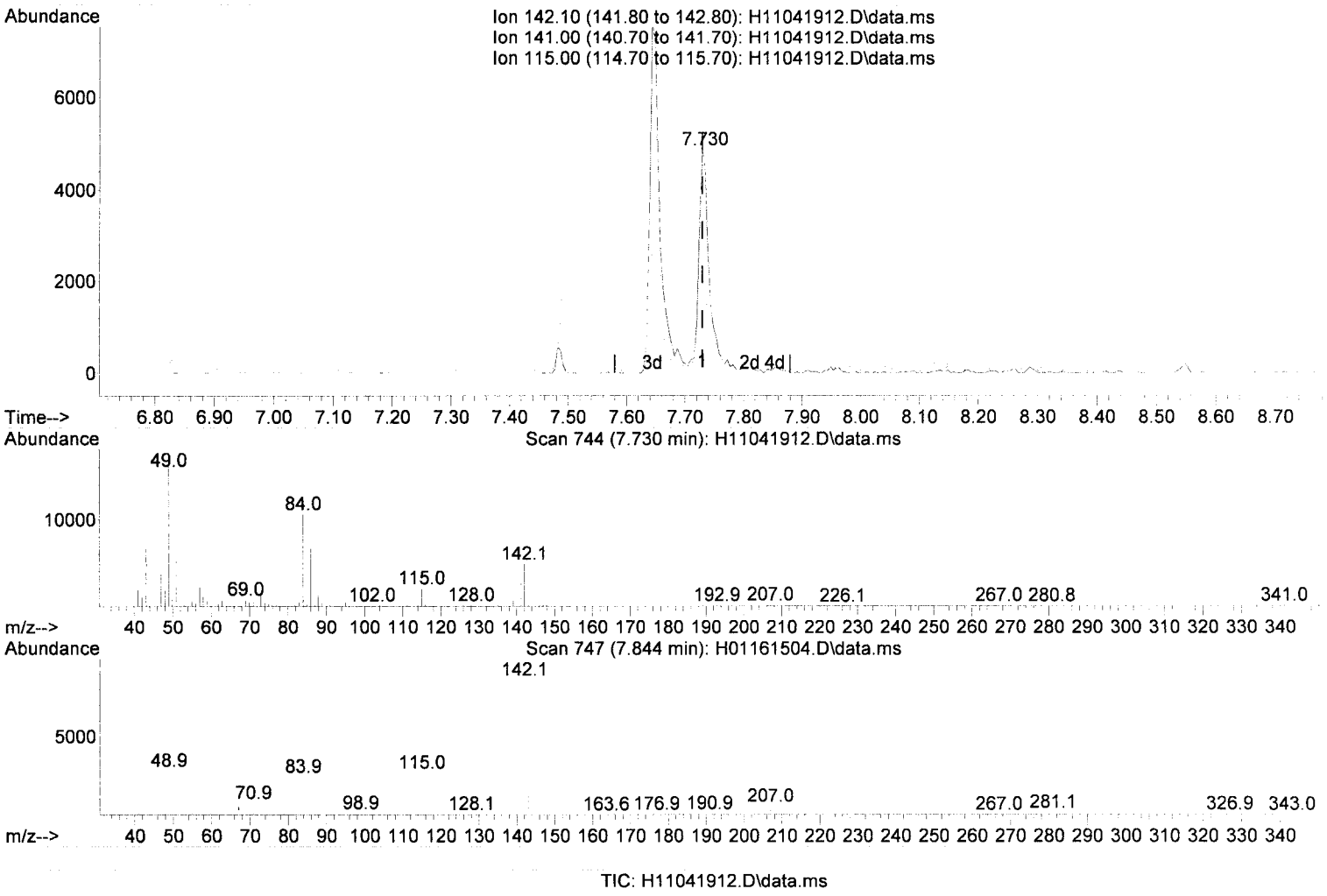
response 9576

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	87.50	84.28
115.00	32.00	37.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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: H11041912.D\data.ms

(4) 1-Methylnaphthalene (T)

7.730min (-0.000) 4.82 ng/ml

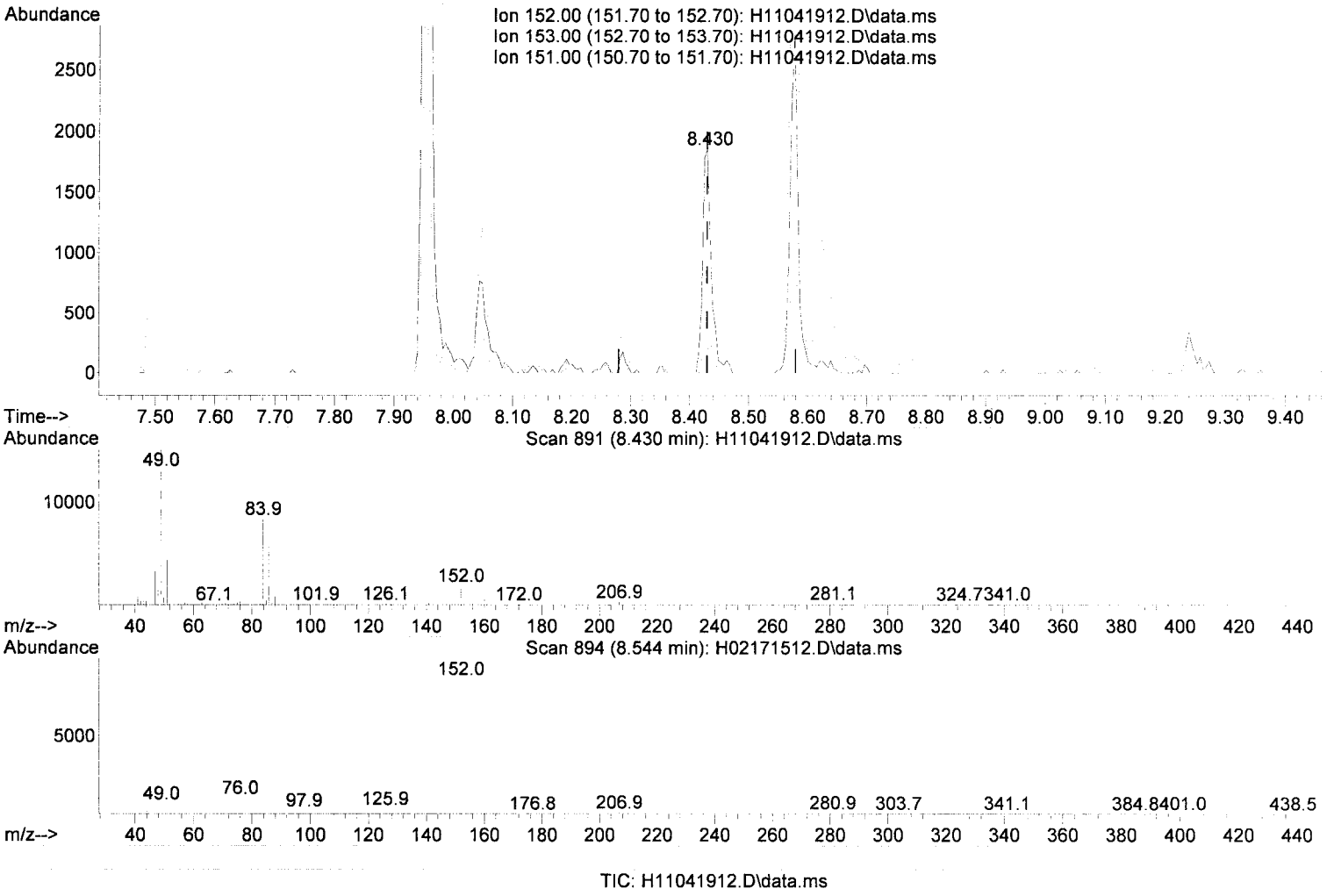
response 6086

Ion	Exp%	Act%
142.10	100.00	100.00
141.00	88.10	93.72
115.00	26.90	41.70
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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: H11041912.D\data.ms

(9) Acenaphthylene (T)

8.430min (-0.000) 0.76 ng/ml

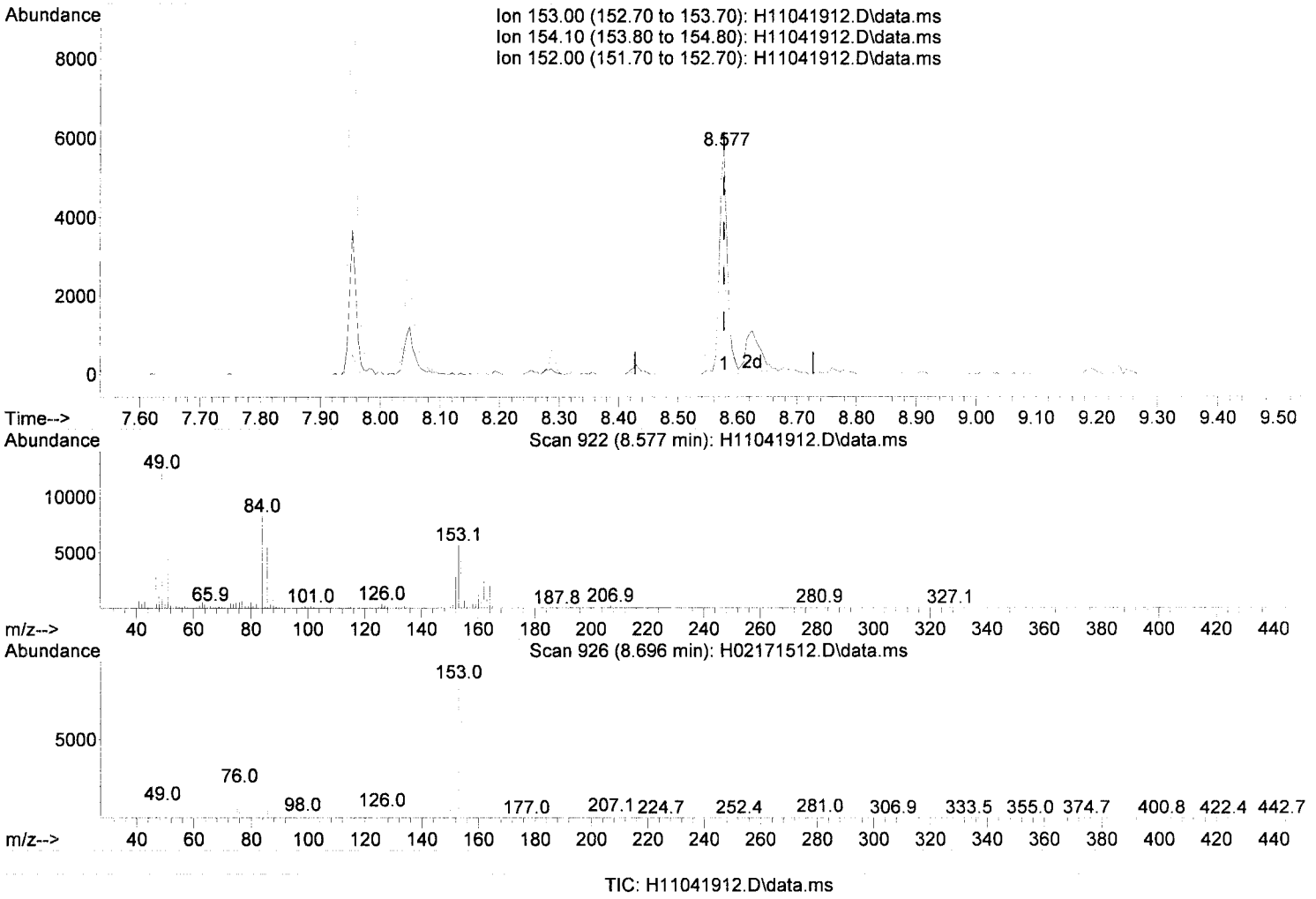
response 1958

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	13.00	13.26
151.00	18.40	27.33
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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: H11041912.D\data.ms

(10) Acenaphthene (T)

8.577min (-0.000) 2.86 ng/ml

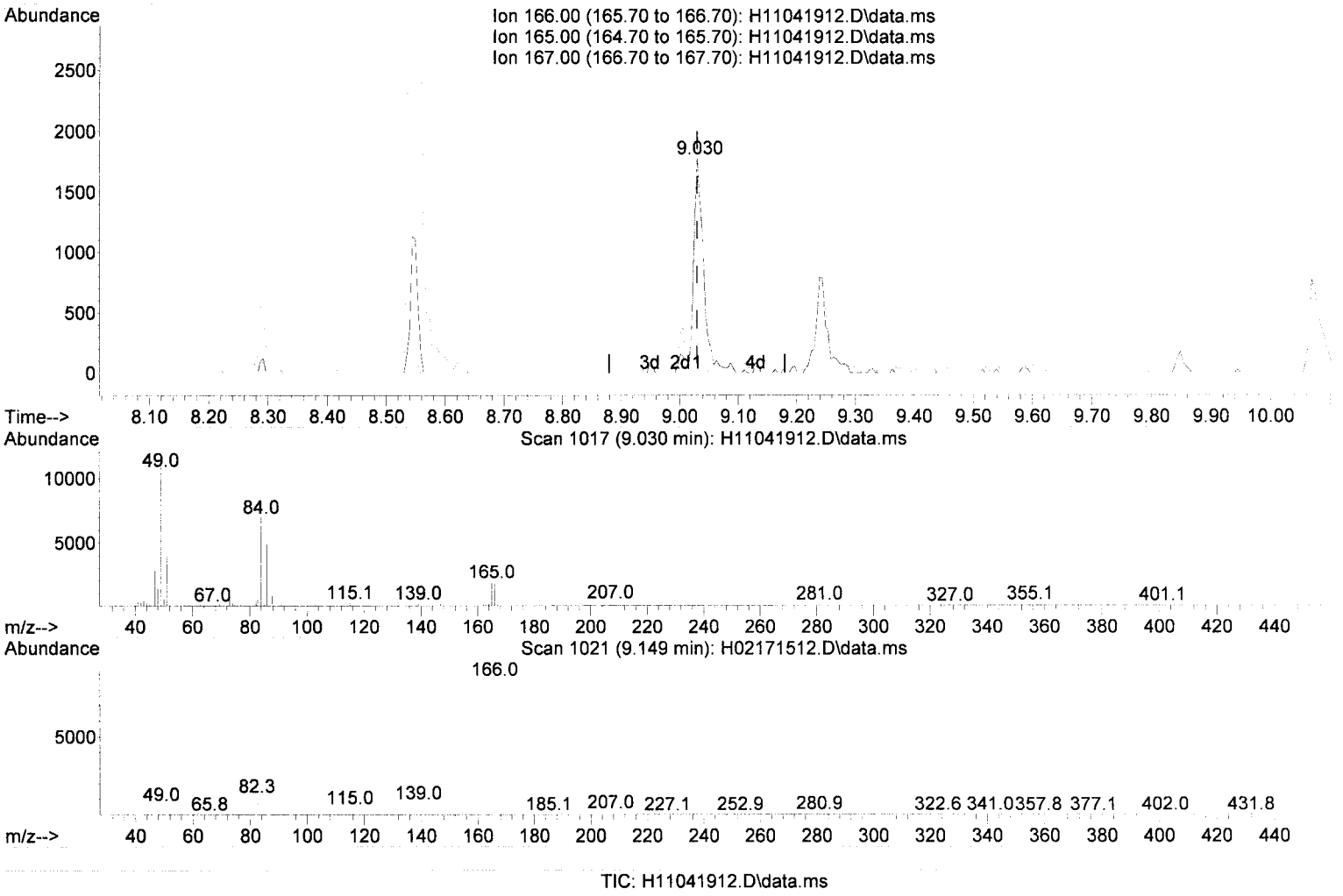
response 5535

Ion	Exp%	Act%
153.00	100.00	100.00
154.10	88.60	89.34
152.00	46.00	48.93
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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: H11041912.D\data.ms

(13) Fluorene (T)

9.030min (-0.000) 0.87 ng/ml

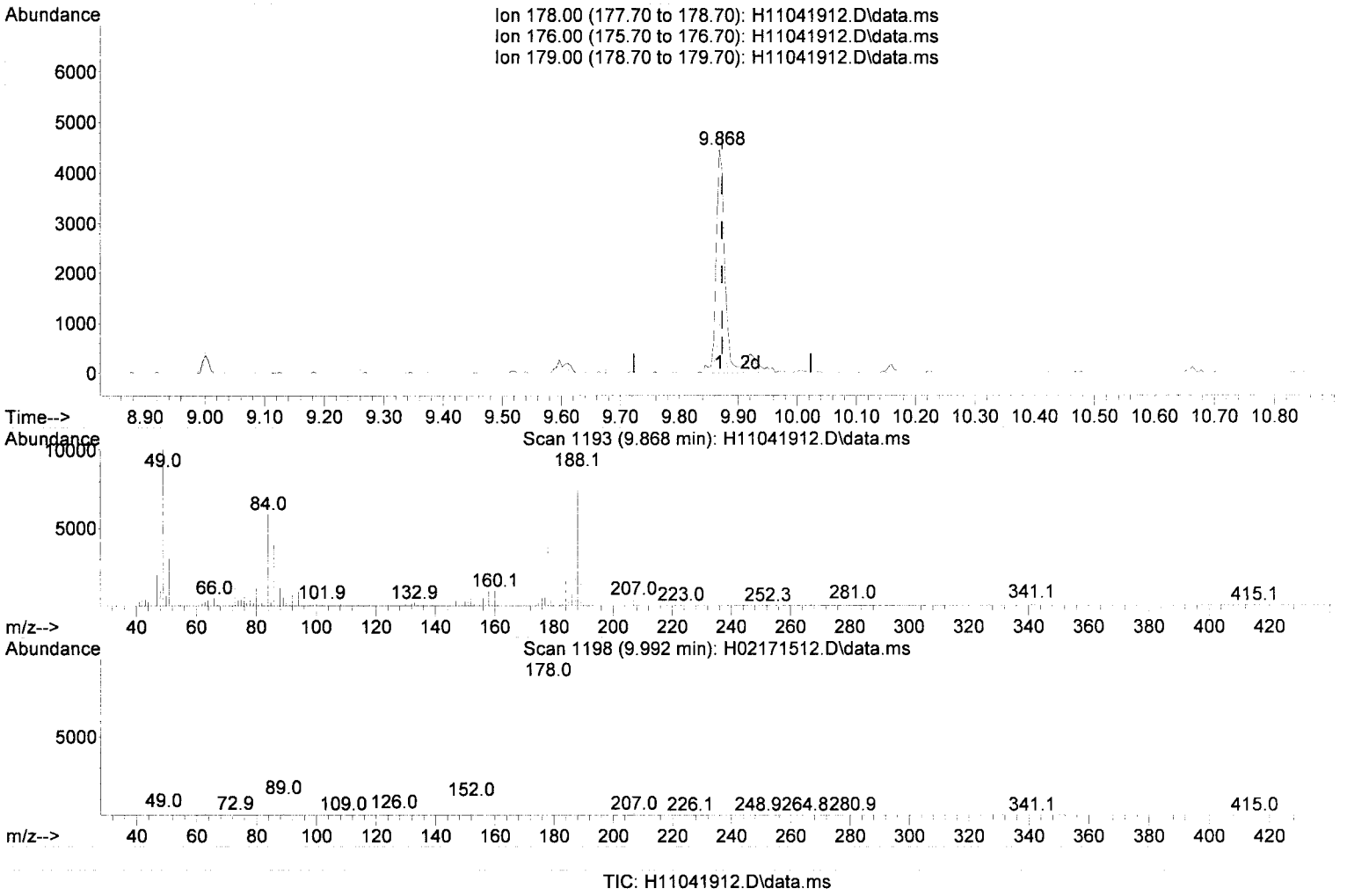
response 2073

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	94.50	104.45
167.00	13.50	14.82
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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: H11041912.D\data.ms

(16) Phenanthrene (T)

9.868min (-0.005) 1.28 ng/ml

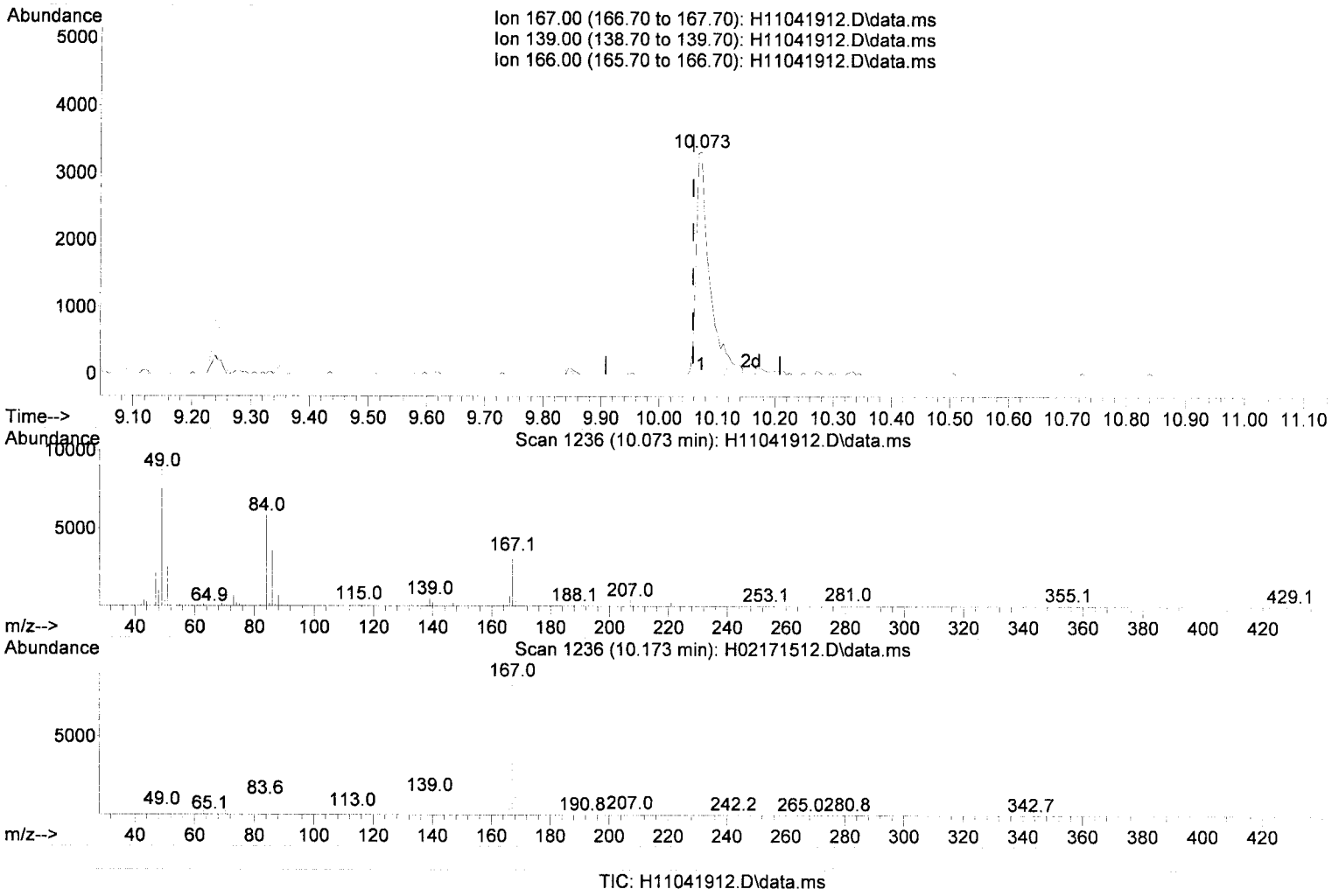
response 4520

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	22.14
179.00	15.00	17.04
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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: H11041912.D\data.ms

(18) Carbazole (T)

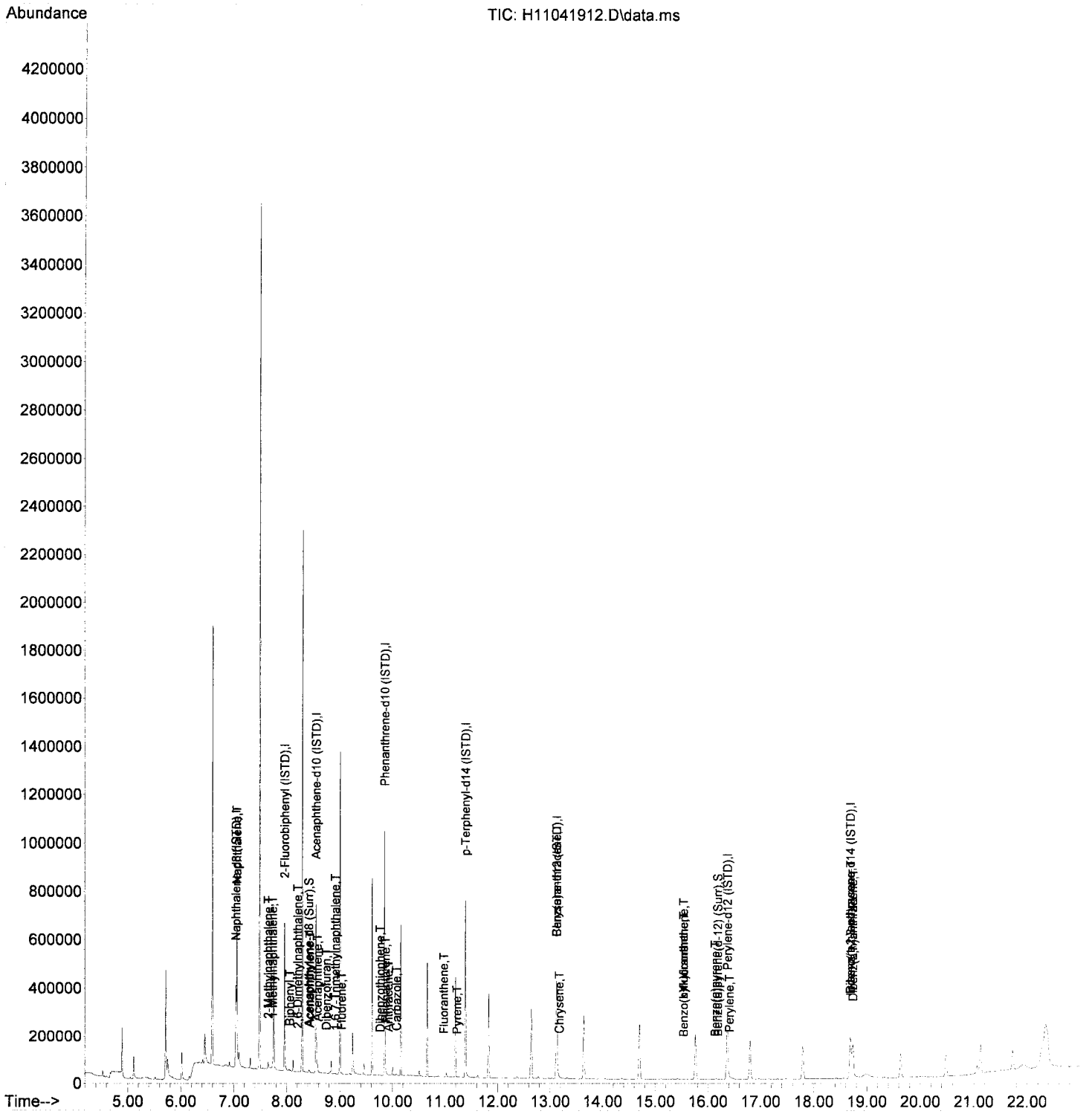
10.073min (+ 0.014) 1.76 ng/ml

response 5381

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	11.20	15.86
166.00	19.90	20.39
0.00	0.00	0.00

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041912.D
Acq On : 4 Nov 2019 3:59 pm
Operator : JK /AMS /DTH
Sample : A9K0039-05@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:48 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



No Name Entered Quantitation Report (Not Reviewed)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

RR2

AMS 11/5/19

Quant Time: Nov 05 09:04:51 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

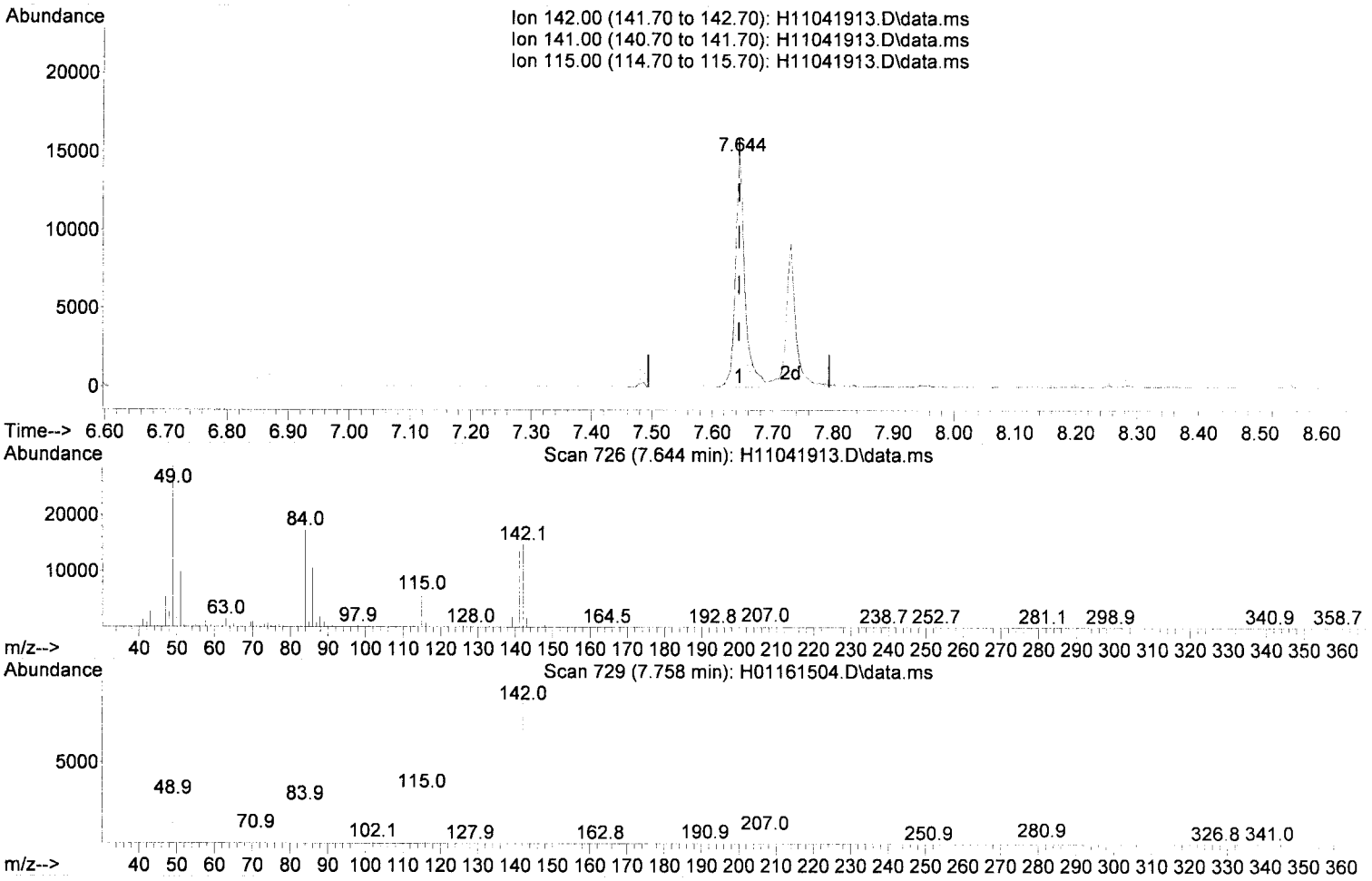
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.035	136	160334	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	135386	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	301495	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	262239	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.368	264	225207	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	184433	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	177847	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	269681	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.416	160	3591	0.56	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	16.178	264	147	0.23	ng/ml	0.00
Target Compounds						Qvalue
2) Naphthalene	7.054	128	414776	222.94	ng/ml	95 RR2
3) 2-Methylnaphthalene	7.644	142	16558	11.52	ng/ml	92
4) 1-Methylnaphthalene	7.730	142	10331	7.60	ng/ml	92
6) Biphenyl	8.044	154	5620	2.48	ng/ml	96
7) 2,6-Dimethylnaphthalene	8.197	156	857	0.54	ng/ml	88
9) Acenaphthylene	8.425	152	2433	0.90	ng/ml	95
10) Acenaphthene	8.573	153	8719	4.34	ng/ml	93
11) Dibenzofuran	8.735	168	1001	0.35	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	8.911	170	117	0.06	ng/ml	82
13) Fluorene	9.030	166	3286	1.32	ng/ml	92
15) Dibenzothiophene	9.763	184	1081	0.35	ng/ml	90
16) Phenanthrene	9.868	178	7281	2.01	ng/ml	97
17) Anthracene	9.920	178	895	0.28	ng/ml	69
18) Carbazole	10.068	167	8037	2.58	ng/ml	93
19) Fluoranthene	10.973	202	298	0.08	ng/ml	73
20) Pyrene	11.225	202	255	0.07	ng/ml	75
22) Benz(a)anthracene	13.120	228	751	0.05	ng/ml	73
23) Chrysene	13.163	228	105	0.04	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	16.120	252	37	0.02	ng/ml	53
30) Benzo(a)pyrene	16.120	252	37	0.08	ng/ml	61
31) Perylene	0.000		0	N.D.		
33) Indeno(1,2,3-cd)pyrene	18.682	276	62	0.03	ng/ml#	1
34) Dibenz(a,h)anthracene	18.744	278	69	0.03	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 (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:51 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: H11041913.D\data.ms

(3) 2-Methylnaphthalene (T)

7.644min (+ 0.000) 11.52 ng/ml

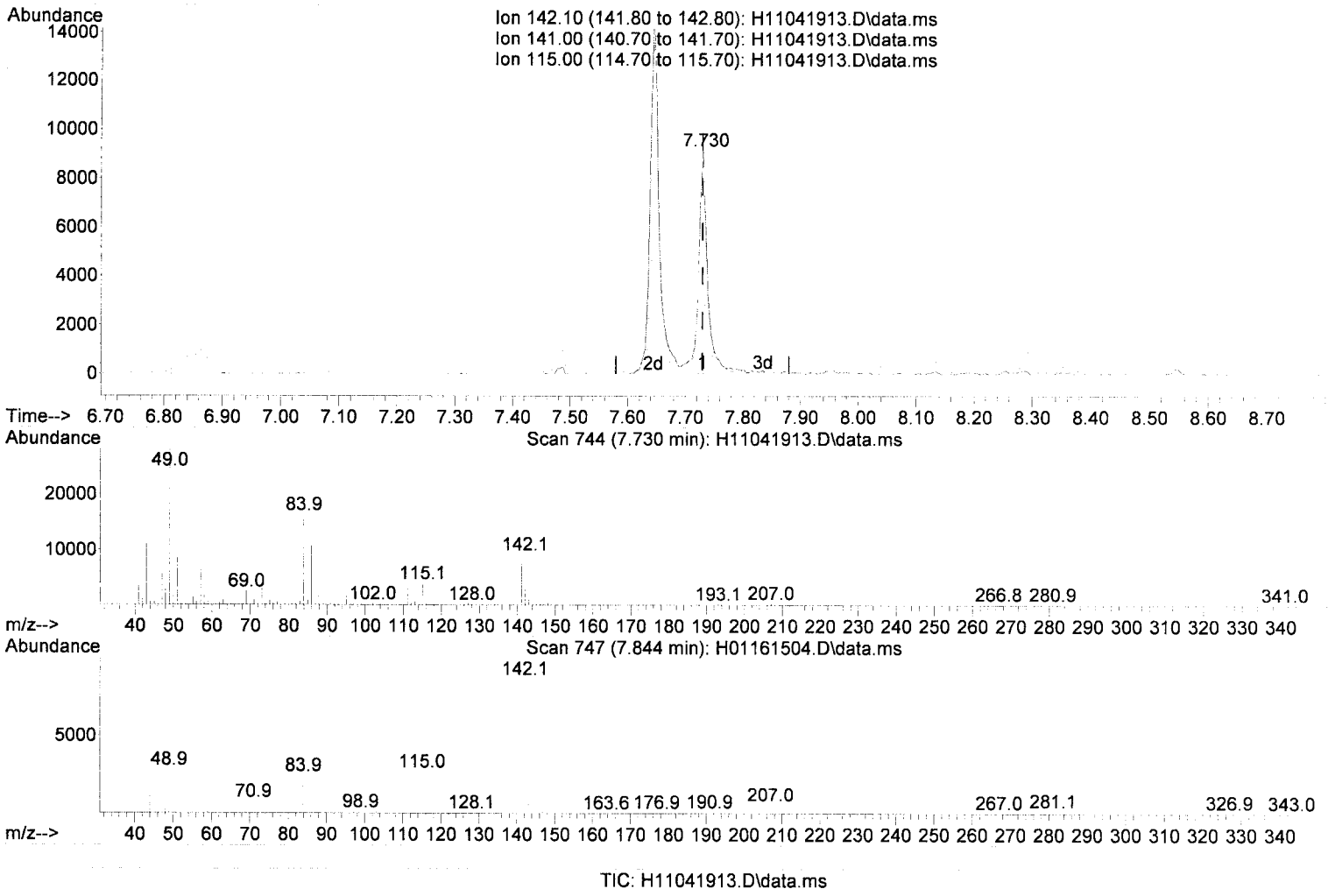
response 16558

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	87.50	91.89
115.00	32.00	40.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:51 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)

7.730min (+ 0.000) 7.60 ng/ml

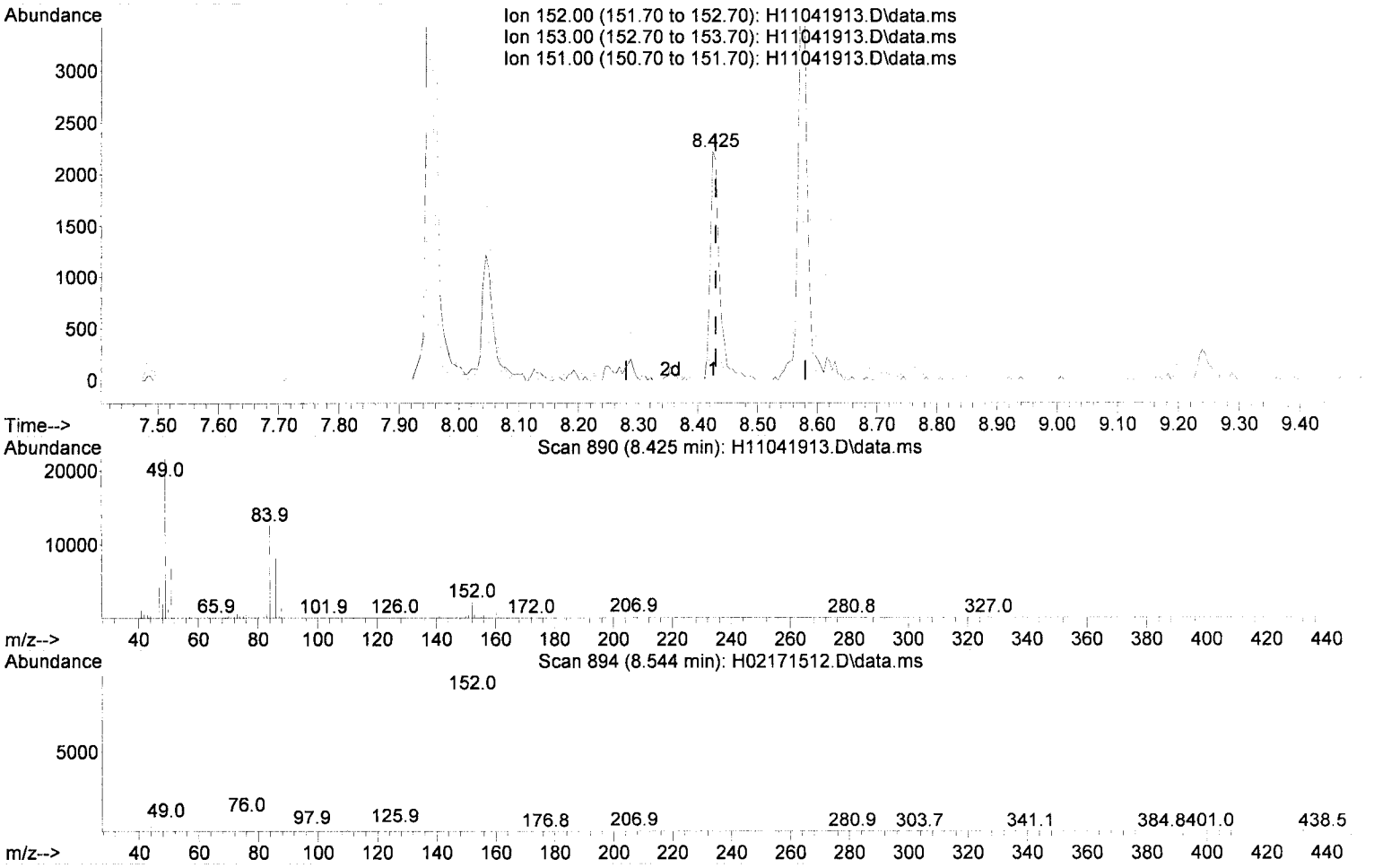
response 10331

Ion	Exp%	Act%
142.10	100.00	100.00
141.00	88.10	88.93
115.00	26.90	42.65
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:51 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: H11041913.D\data.ms

(9) Acenaphthylene (T)

8.425min (-0.005) 0.90 ng/ml

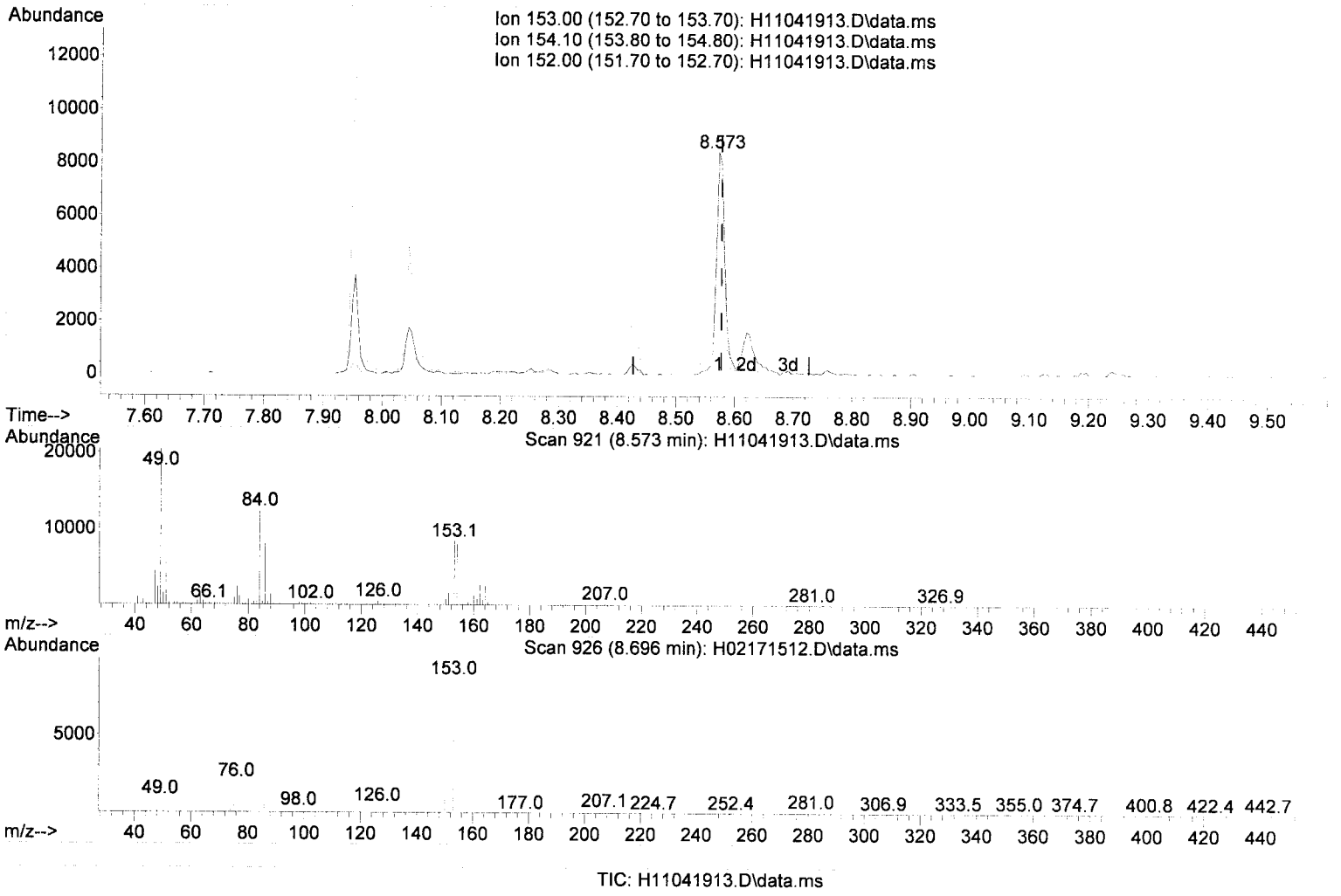
response 2433

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	13.00	17.19
151.00	18.40	19.22
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:51 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: H11041913.D\data.ms

(10) Acenaphthene (T)

8.573min (-0.005) 4.34 ng/ml

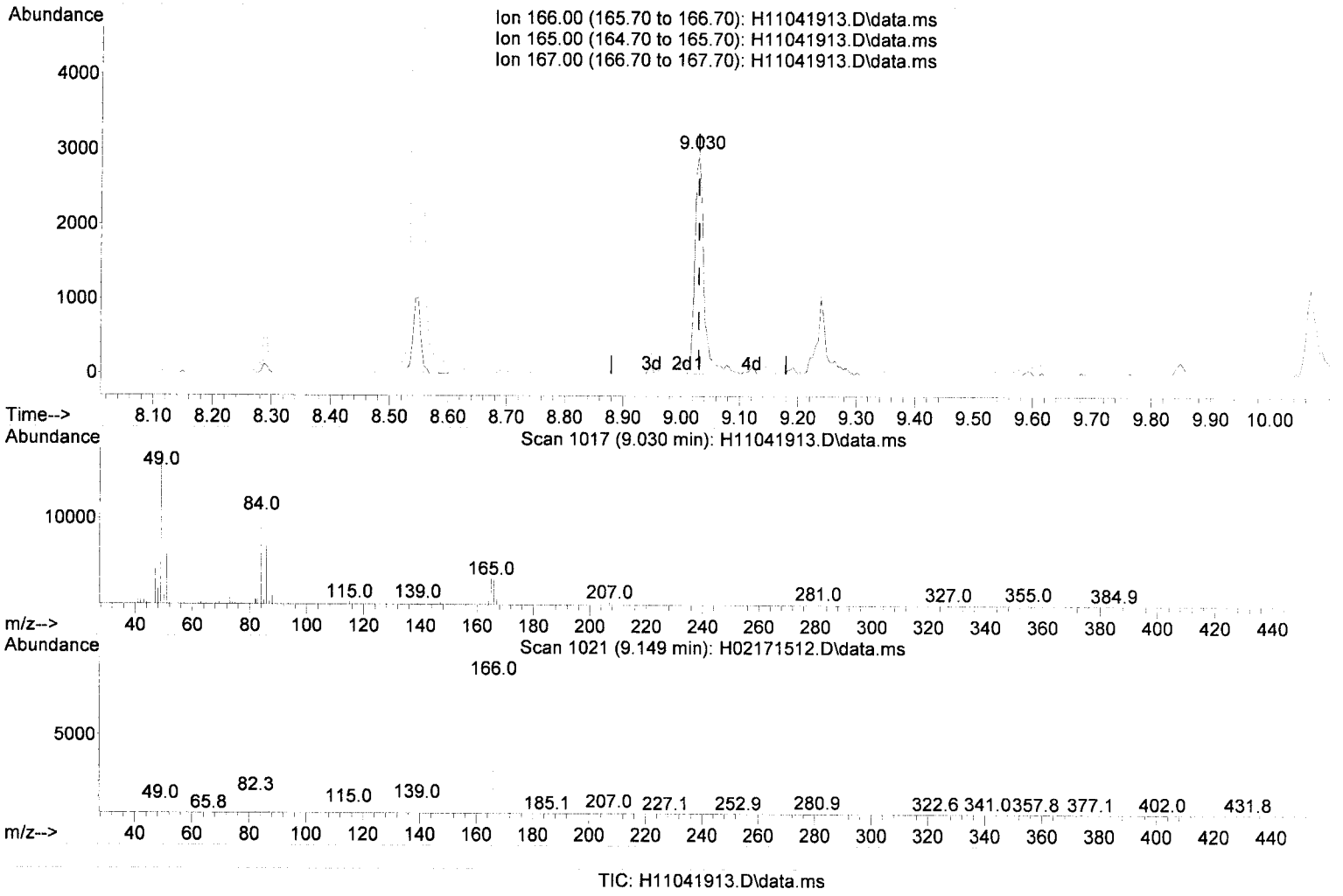
response 8719

Ion	Exp%	Act%
153.00	100.00	100.00
154.10	88.60	95.20
152.00	46.00	51.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:51 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: H11041913.D\data.ms

(13) Fluorene (T)

9.030min (+ 0.000) 1.32 ng/ml

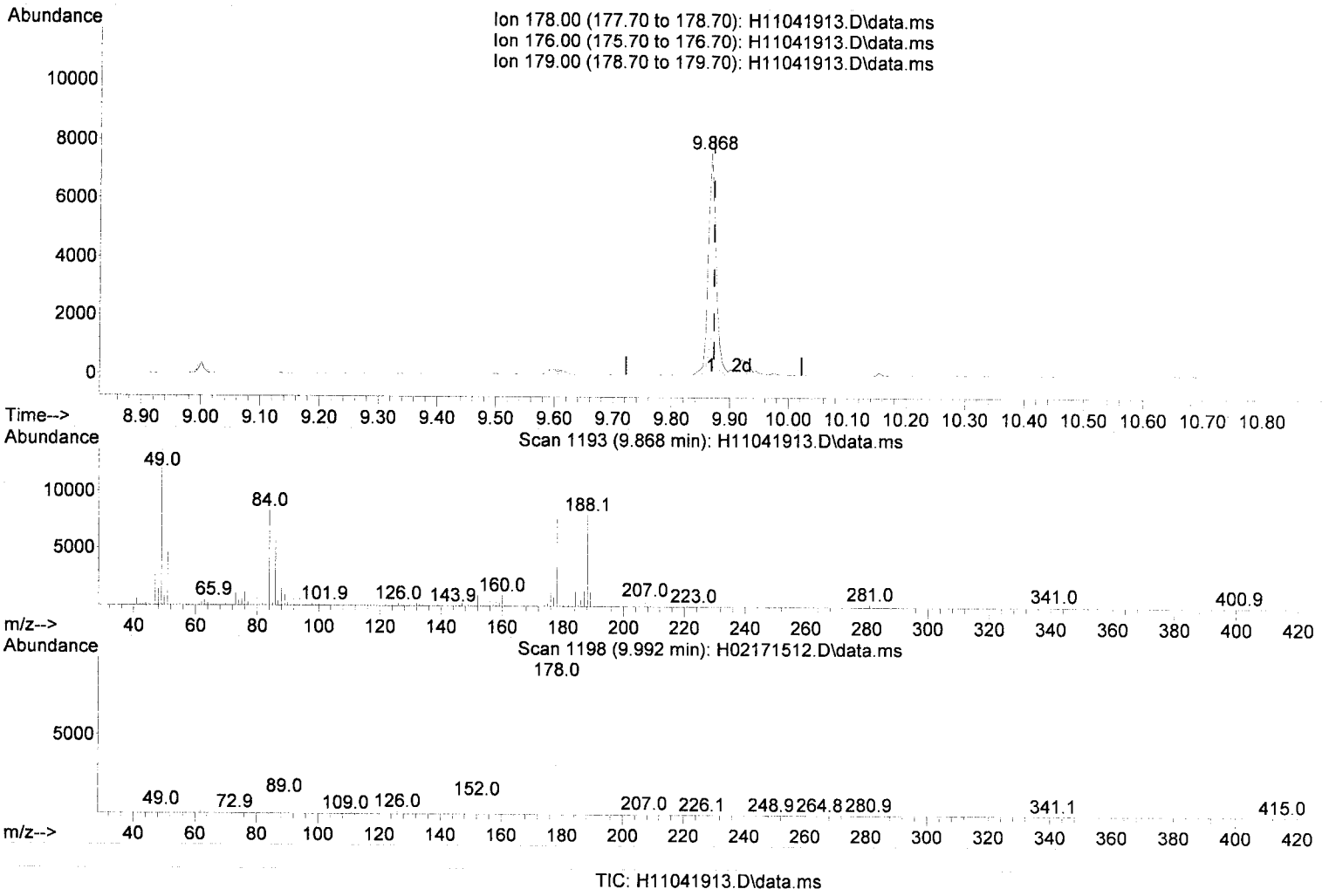
response 3286

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	94.50	100.91
167.00	13.50	19.60
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:51 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: H11041913.D\data.ms

(16) Phenanthrene (T)

9.868min (-0.005) 2.01 ng/ml

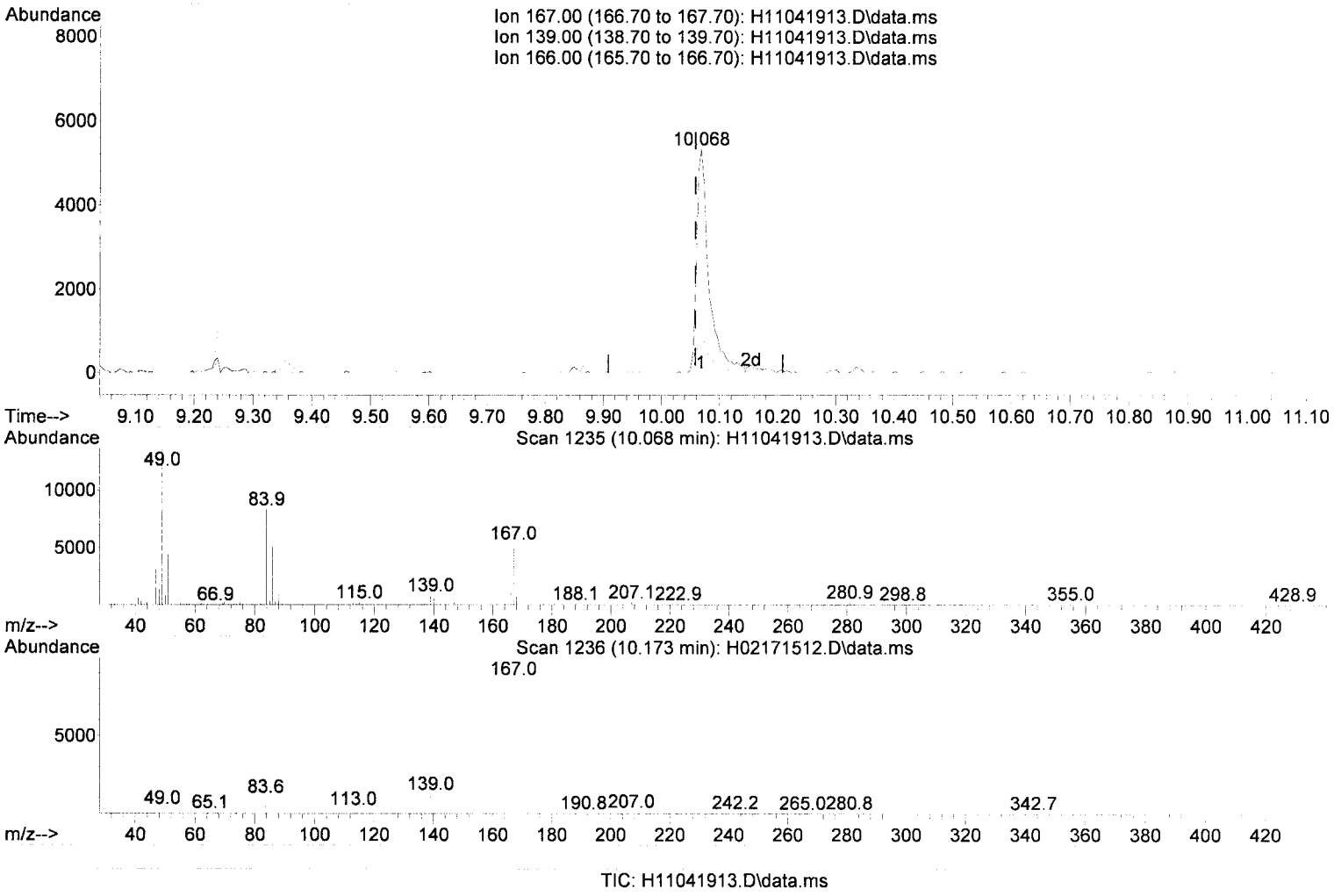
response 7281

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	17.90
179.00	15.00	16.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:51 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: H11041913.D\data.ms

(18) Carbazole (T)

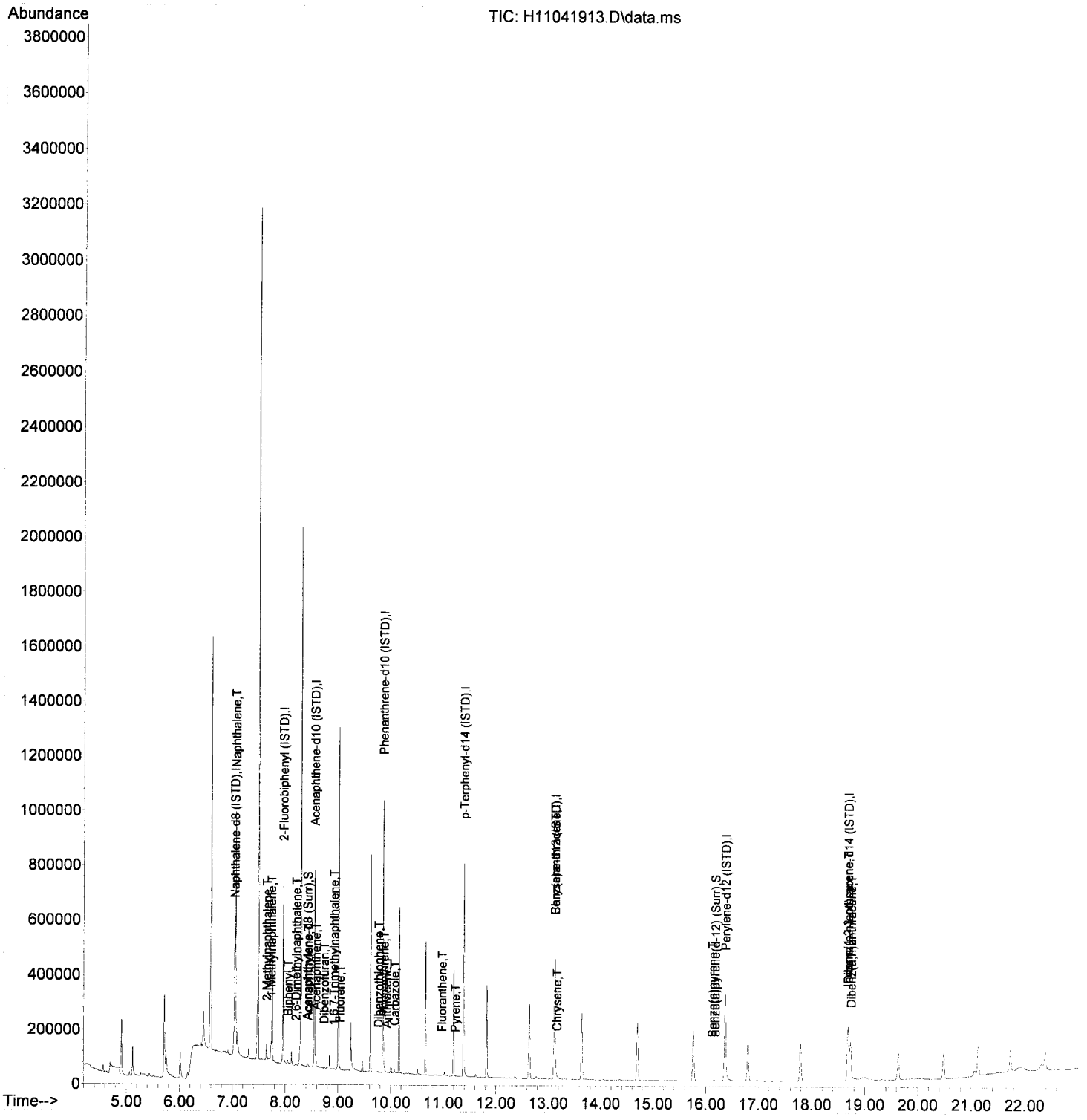
10.068min (+ 0.010) 2.58 ng/ml

response 8037

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	11.20	15.88
166.00	19.90	21.54
0.00	0.00	0.00

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041913.D
Acq On : 4 Nov 2019 4:31 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06@1000
Misc : 1000x, 8270D PAH (125mL) LL
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:51 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



Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041914.D
Acq On : 4 Nov 2019 5:03 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06RE1@10000
Misc : 10000x, #2
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

AMS 11/5/19

Quant Time: Nov 05 09:04:54 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	167428	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.549	164	136940	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.849	188	277474	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.120	240	228917	100.00	ng/ml	-0.01
24) Perylene-d12 (ISTD)	16.368	264	193699	100.00	ng/ml	-0.01
32) Dibenz(a,h)anthracene-...	18.687	292	161576	100.00	ng/ml	0.00
36) 2-Fluorobiphenyl (ISTD)	7.954	172	185833	100.00	ng/ml	0.00
37) p-Terphenyl-d14 (ISTD)	11.387	244	242113	100.00	ng/ml	0.00
System Monitoring Compounds						
8) Acenaphthylene-d8 (Surr)	8.420	160	3724	0.60	ng/ml	0.00
29) Benzo(a)pyrene(d-12) (...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
2) Naphthalene	7.054	128	41468	21.34	ng/ml	97
3) 2-Methylnaphthalene	7.658	142	1794	1.20	ng/ml	83
4) 1-Methylnaphthalene	7.734	142	1408	0.99	ng/ml	93
6) Biphenyl	8.049	154	788	0.34	ng/ml	98
7) 2,6-Dimethylnaphthalene	8.201	156	84	0.05	ng/ml#	76
9) Acenaphthylene	8.430	152	290	0.11	ng/ml	78
10) Acenaphthene	8.577	153	1014	0.50	ng/ml	93
11) Dibenzofuran	8.754	168	83	0.03	ng/ml#	1
12) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
13) Fluorene	9.039	166	306	0.12	ng/ml	87
15) Dibenzothiophene	9.763	184	145	0.05	ng/ml	68
16) Phenanthrene	9.868	178	994	0.30	ng/ml	95
17) Anthracene	9.925	178	186	0.06	ng/ml#	43
18) Carbazole	10.092	167	497	0.17	ng/ml	93
19) Fluoranthene	0.000		0	N.D.		
20) Pyrene	11.225	202	61	0.02	ng/ml	65
22) Benz(a)anthracene	13.120	228	595	0.02	ng/ml	52
23) Chrysene	13.173	228	46	0.02	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	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.		

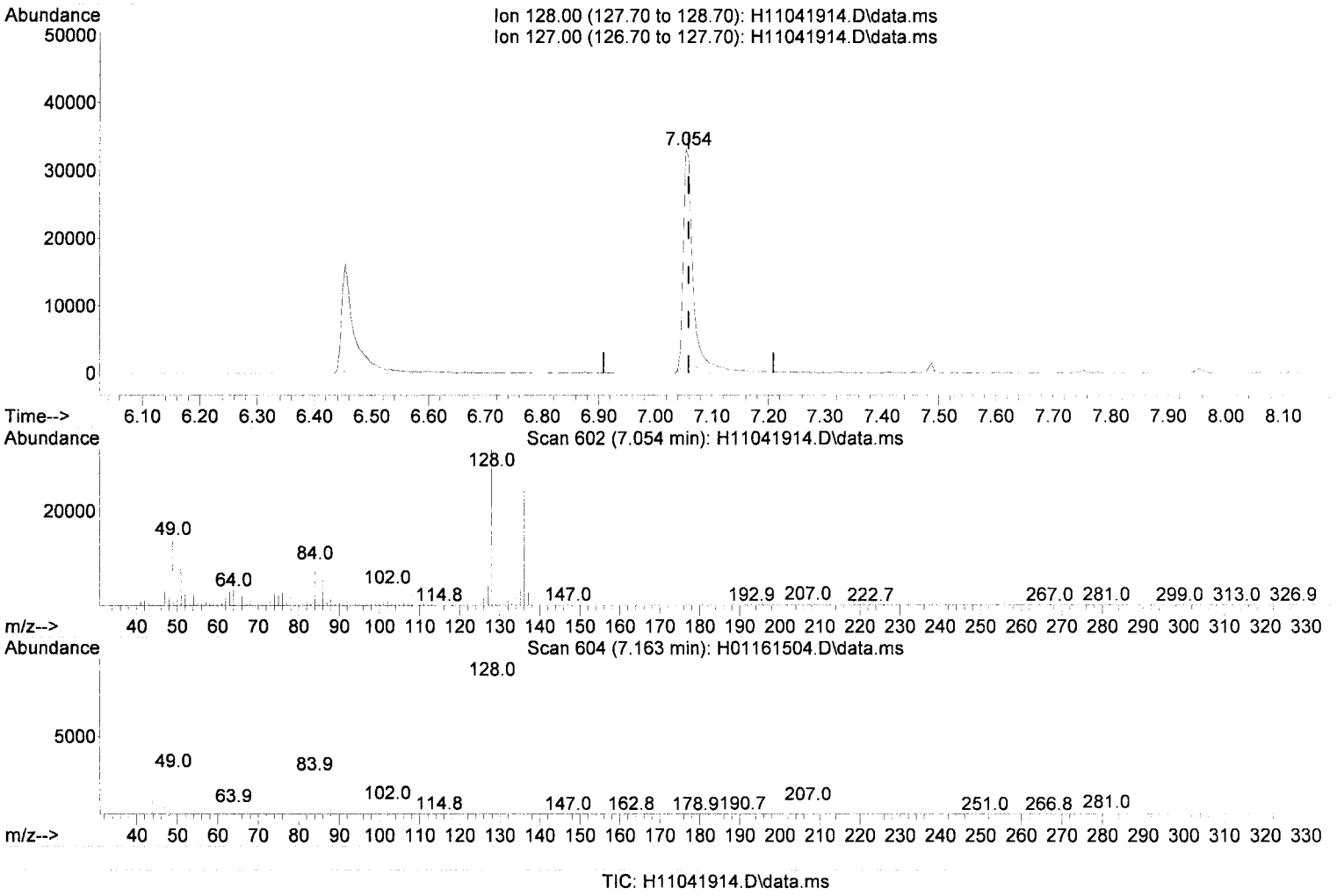
(#) = qualifier out of range (m) = manual integration (+) = signals summed

J

Quantitation Report (Qedit)

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041914.D
Acq On : 4 Nov 2019 5:03 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06RE1@10000
Misc : 10000x, #2
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:54 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: H11041914.D\data.ms

(2) Naphthalene (T)

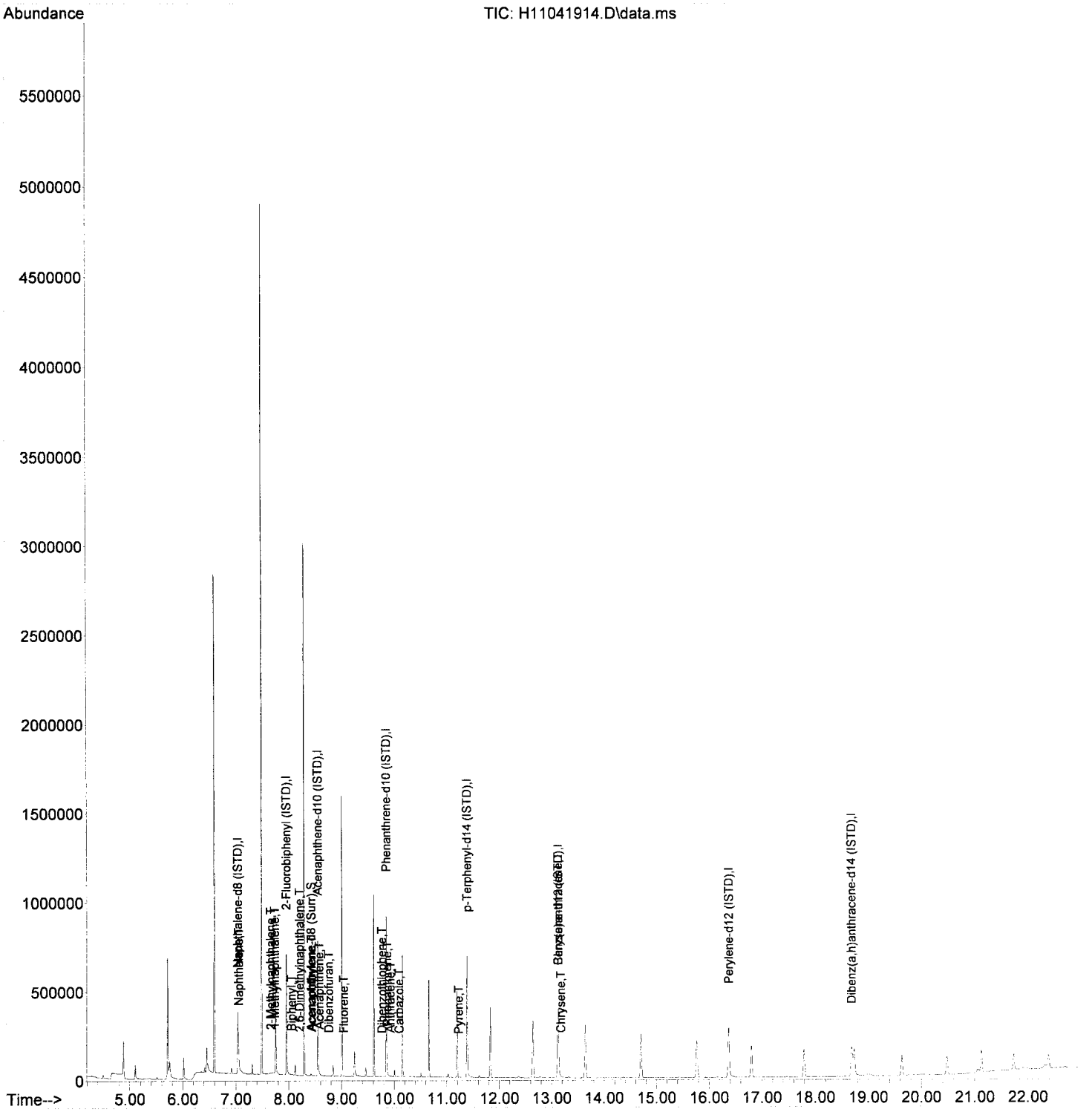
7.054min (-0.005) 21.34 ng/ml

response 41468

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	11.50	12.66
0.00	0.00	0.00
0.00	0.00	0.00

Data Path : V:\DATA\2019-11\9K04032\
Data File : H11041914.D
Acq On : 4 Nov 2019 5:03 pm
Operator : JK /AMS /DTH
Sample : A9K0039-06RE1@10000
Misc : 10000x, #2
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI8_ACQUISITION.M

Quant Time: Nov 05 09:04:54 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 (Large Volume Injection)
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	

Data Entered By: AMS 7/2/19 GA 7/2/19

Data Reviewed By: MK 7/2/19

Comments: Benzo(a)pyrene is quadratic w/ r^2=0.98
All reqmnts 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

DG 7/2/19

Total Cpnds : 37

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
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

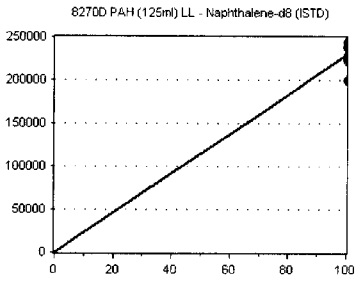
Element Calibration Review Sheet

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**

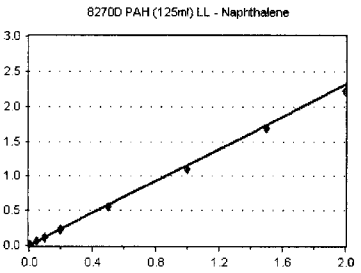


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	226171	2261.710	7.10
9G01051-CAL2	100	237437	2374.370	7.10
9G01051-CAL3	100	200447	2004.470	7.10
9G01051-CAL4	100	245257	2452.570	7.10
9G01051-CAL5	100	237364	2373.640	7.10
9G01051-CAL6	100	237164	2371.640	7.10
9G01051-CAL7	100	222732	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**

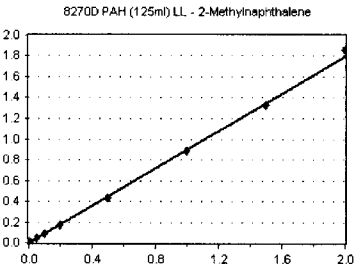


Standard	Concentration	Response	Response Factor	RT
~~9G01051-CAL1~~	~~0.2~~	~~783~~	~~1.731~~	~~7.12~~
9G01051-CAL2	0.4	1258	1.325	7.12
9G01051-CAL3	1	2534	1.264	7.12
9G01051-CAL4	5	14208	1.159	7.12
9G01051-CAL5	10	26697	1.125	7.12
9G01051-CAL6	20	53579	1.130	7.12
9G01051-CAL7	50	122253	1.098	7.12
9G01051-CAL8	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**

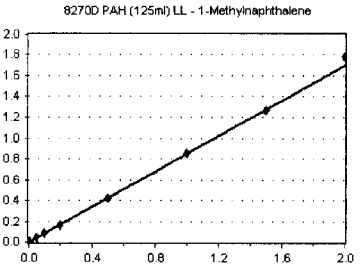


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	429	0.948	7.71
9G01051-CAL2	0.4	902	0.950	7.71
9G01051-CAL3	1	1881	0.938	7.71
9G01051-CAL4	5	10730	0.875	7.71
9G01051-CAL5	10	19906	0.839	7.71
9G01051-CAL6	20	39853	0.840	7.71
9G01051-CAL7	50	96882	0.870	7.71
9G01051-CAL8	100	198999	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**

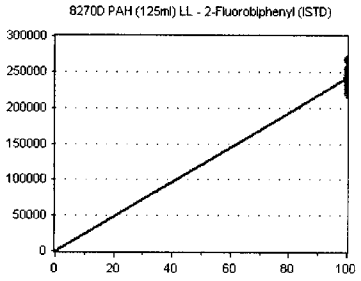
Element Calibration Review Sheet

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**

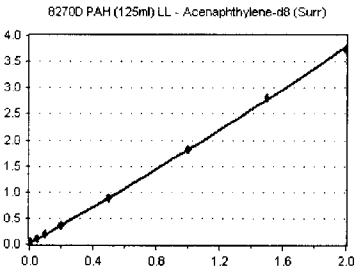


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	227562	2275.620	8.02
9G01051-CAL2	100	246901	2469.010	8.02
9G01051-CAL3	100	220227	2202.270	8.02
9G01051-CAL4	100	254896	2548.960	8.02
9G01051-CAL5	100	241032	2410.320	8.02
9G01051-CAL6	100	231104	2311.040	8.02
9G01051-CAL7	100	237200	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**

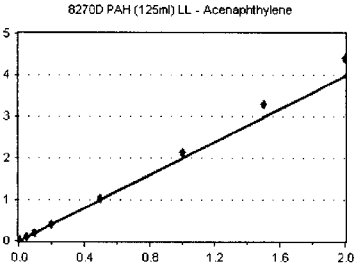


Standard	Concentration	Response	Response Factor	RT
~~9G01051-CAL1~~	~~0.2~~	~~6147~~	~~18.056~~	~~8.48~~
~~9G01051-CAL2~~	~~0.4~~	~~6161~~	~~8.055~~	~~8.48~~
9G01051-CAL3	1	5745	3.403	8.48
9G01051-CAL4	5	19755	2.053	8.48
9G01051-CAL5	10	34491	1.852	8.48
9G01051-CAL6	20	63570	1.848	8.48
9G01051-CAL7	50	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**

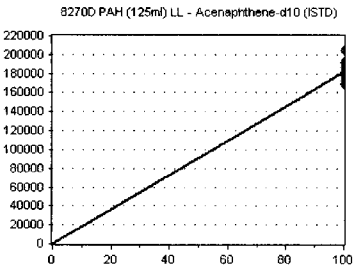


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	642	1.886	8.49
9G01051-CAL2	0.4	1372	1.794	8.49
9G01051-CAL3	1	2915	1.726	8.49
9G01051-CAL4	5	18304	1.902	8.49
9G01051-CAL5	10	36078	1.938	8.49
9G01051-CAL6	20	70272	2.043	8.49
9G01051-CAL7	50	183466	2.063	8.49
9G01051-CAL8	100	387885	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

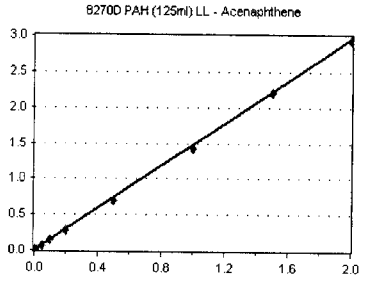
AVE RF **1823.547** RF RSD **6.23** AVE RT **8.61**

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

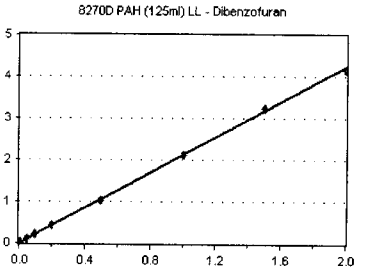


Curve Fit: **AVERAGE RF**

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

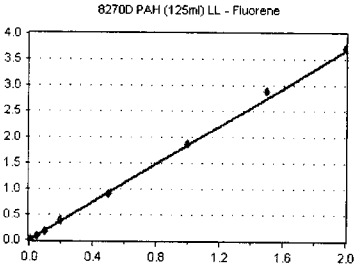


Curve Fit: **AVERAGE RF**

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

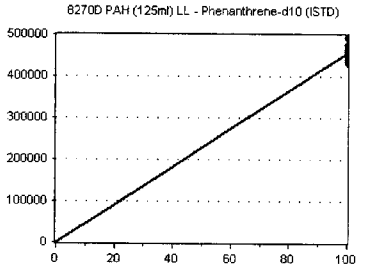


Curve Fit: **AVERAGE RF**

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**

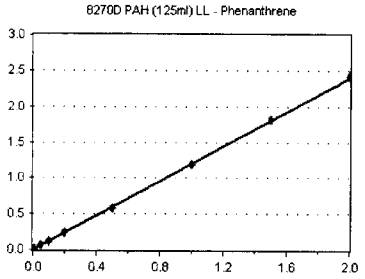
Element Calibration Review Sheet

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**

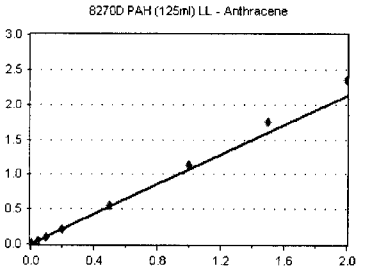


Standard	Concentration	Response	Response Factor	RT
~~9G01051-CAL1~~	~~0.2~~	~~1477~~	~~1.674~~	~~9.94~~
9G01051-CAL2	0.4	2410	1.342	9.94
9G01051-CAL3	1	5203	1.198	9.93
9G01051-CAL4	5	26479	1.155	9.93
9G01051-CAL5	10	52493	1.154	9.93
9G01051-CAL6	20	108414	1.195	9.93
9G01051-CAL7	50	260092	1.157	9.93
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**

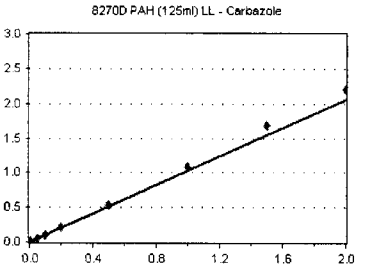


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	924	1.047	9.98
9G01051-CAL2	0.4	1748	0.973	9.98
9G01051-CAL3	1	3985	0.917	9.98
9G01051-CAL4	5	22858	0.997	9.98
9G01051-CAL5	10	46769	1.028	9.98
9G01051-CAL6	20	99029	1.091	9.98
9G01051-CAL7	50	250861	1.116	9.98
9G01051-CAL8	100	526935	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**

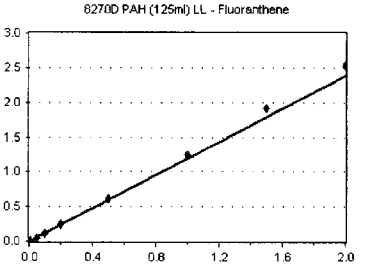


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	922	1.045	10.12
9G01051-CAL2	0.4	1682	0.936	10.12
9G01051-CAL3	1	4222	0.972	10.12
9G01051-CAL4	5	21769	0.950	10.12
9G01051-CAL5	10	45411	0.998	10.12
9G01051-CAL6	20	94428	1.041	10.12
9G01051-CAL7	50	241951	1.076	10.12
9G01051-CAL8	100	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**

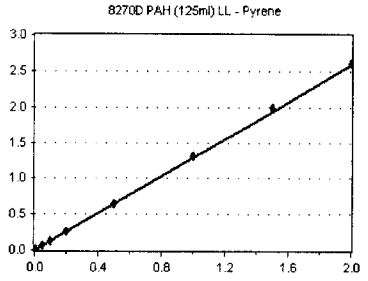
Element Calibration Review Sheet

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**

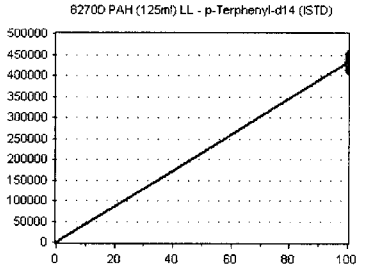


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	1319	1.495	11.30
9G01051-CAL2	0.4	2251	1.253	11.30
9G01051-CAL3	1	5488	1.263	11.30
9G01051-CAL4	5	27834	1.214	11.30
9G01051-CAL5	10	55553	1.221	11.30
9G01051-CAL6	20	114772	1.265	11.30
9G01051-CAL7	50	288704	1.284	11.30
9G01051-CAL8	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**

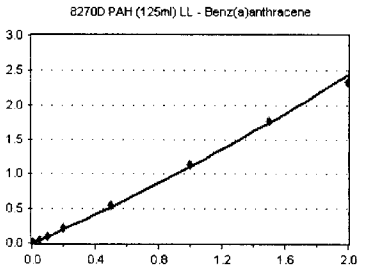


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	413880	4138.800	11.48
9G01051-CAL2	100	412625	4126.250	11.48
9G01051-CAL3	100	424512	4245.120	11.48
9G01051-CAL4	100	430869	4308.690	11.48
9G01051-CAL5	100	432080	4320.800	11.48
9G01051-CAL6	100	433689	4336.890	11.48
9G01051-CAL7	100	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**

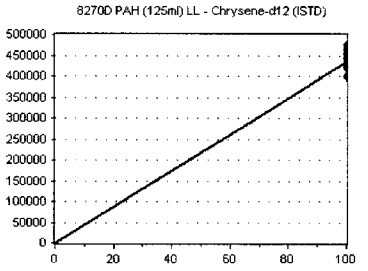


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	1777	2.222	13.25
9G01051-CAL2	0.4	2448	1.526	13.24
9G01051-CAL3	1	4814	1.138	13.24
9G01051-CAL4	5	21489	1.007	13.24
9G01051-CAL5	10	42737	1.002	13.24
9G01051-CAL6	20	97344	1.099	13.24
9G01051-CAL7	50	247094	1.115	13.24
9G01051-CAL8	100	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**

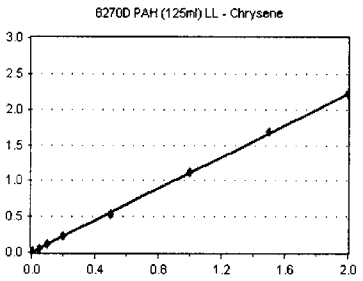
Element Calibration Review Sheet

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**

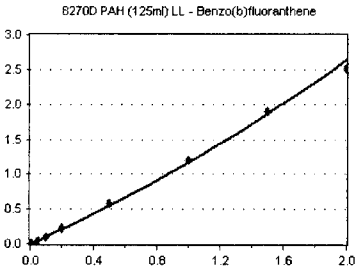


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	964	1.206	13.31
9G01051-CAL2	0.4	1776	1.107	13.31
9G01051-CAL3	1	4368	1.033	13.31
9G01051-CAL4	5	23698	1.111	13.31
9G01051-CAL5	10	46002	1.079	13.31
9G01051-CAL6	20	98622	1.114	13.31
9G01051-CAL7	50	239451	1.080	13.32
9G01051-CAL8	100	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**

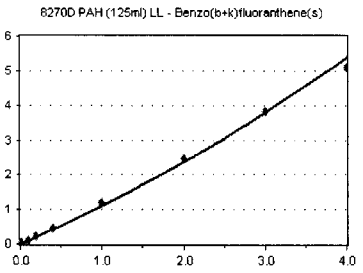


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	739	1.064	15.64
9G01051-CAL2	0.4	1236	0.897	15.65
9G01051-CAL3	1	3521	0.923	15.65
9G01051-CAL4	5	18004	0.952	15.64
9G01051-CAL5	10	38876	1.042	15.64
9G01051-CAL6	20	92479	1.149	15.64
9G01051-CAL7	50	232462	1.180	15.65
9G01051-CAL8	100	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**

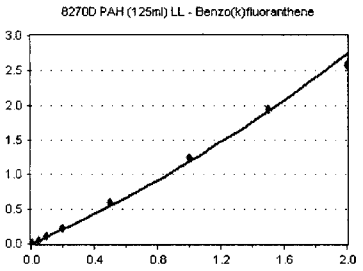


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.4	1437	1.035	15.64
9G01051-CAL2	0.8	2352	0.854	15.65
9G01051-CAL3	2	6695	0.877	15.65
9G01051-CAL4	10	36706	0.970	15.64
9G01051-CAL5	20	79081	1.060	15.71
9G01051-CAL6	40	187520	1.165	15.64
9G01051-CAL7	100	469282	1.191	15.71
9G01051-CAL8	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**

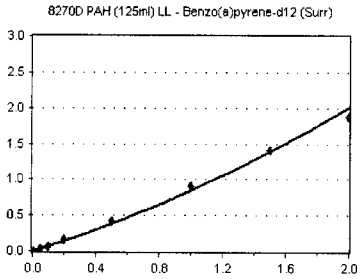
Element Calibration Review Sheet

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**

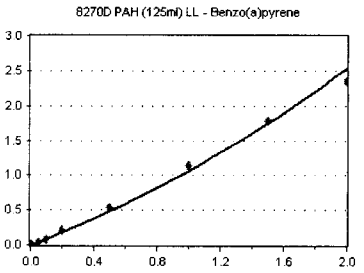


Standard	Concentration	Response	Response Factor	RT
~~9G01051-CAL1~~	~~0.2~~	~~411~~	~~0.592~~	~~16.32~~
9G01051-CAL2	0.4	703	0.510	16.33
9G01051-CAL3	1	1857	0.487	16.32
9G01051-CAL4	5	11870	0.627	16.33
9G01051-CAL5	10	24957	0.669	16.33
9G01051-CAL6	20	63553	0.790	16.33
9G01051-CAL7	50	166645	0.846	16.33
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**

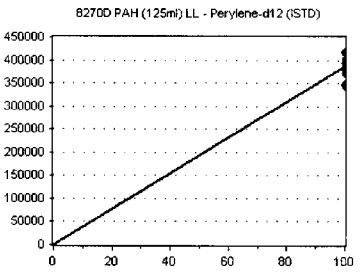


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	479	0.690	16.38
9G01051-CAL2	0.4	830	0.603	16.37
9G01051-CAL3	1	2569	0.673	16.38
9G01051-CAL4	5	14702	0.777	16.38
9G01051-CAL5	10	32764	0.878	16.38
9G01051-CAL6	20	81687	1.015	16.38
9G01051-CAL7	50	211927	1.076	16.39
9G01051-CAL8	100	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**

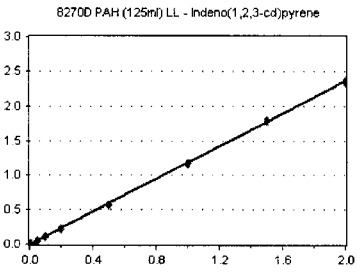


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	347189	3471.890	16.52
9G01051-CAL2	100	344338	3443.380	16.52
9G01051-CAL3	100	381661	3816.610	16.52
9G01051-CAL4	100	378340	3783.400	16.52
9G01051-CAL5	100	373007	3730.070	16.52
9G01051-CAL6	100	402383	4023.830	16.52
9G01051-CAL7	100	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**

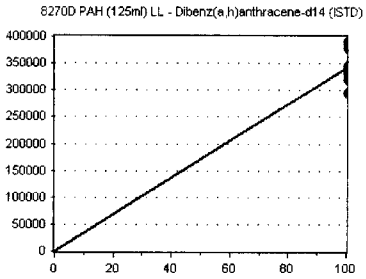
Element Calibration Review Sheet

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**

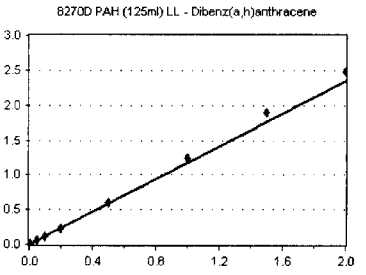


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	100	296516	2965.160	18.84
9G01051-CAL2	100	295116	2951.160	18.84
9G01051-CAL3	100	341309	3413.090	18.84
9G01051-CAL4	100	329943	3299.430	18.84
9G01051-CAL5	100	318957	3189.570	18.84
9G01051-CAL6	100	339347	3393.470	18.84
9G01051-CAL7	100	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**

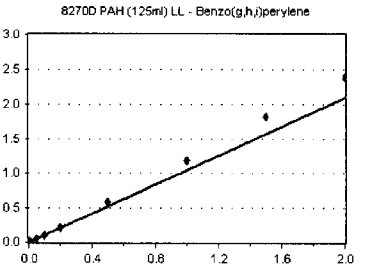


Standard	Concentration	Response	Response Factor	RT
9G01051-CAL1	0.2	720	1.214	18.89
9G01051-CAL2	0.4	1353	1.146	18.90
9G01051-CAL3	1	3547	1.039	18.90
9G01051-CAL4	5	18877	1.144	18.90
9G01051-CAL5	10	35647	1.118	18.90
9G01051-CAL6	20	79659	1.174	18.90
9G01051-CAL7	50	209258	1.210	18.91
9G01051-CAL8	100	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**

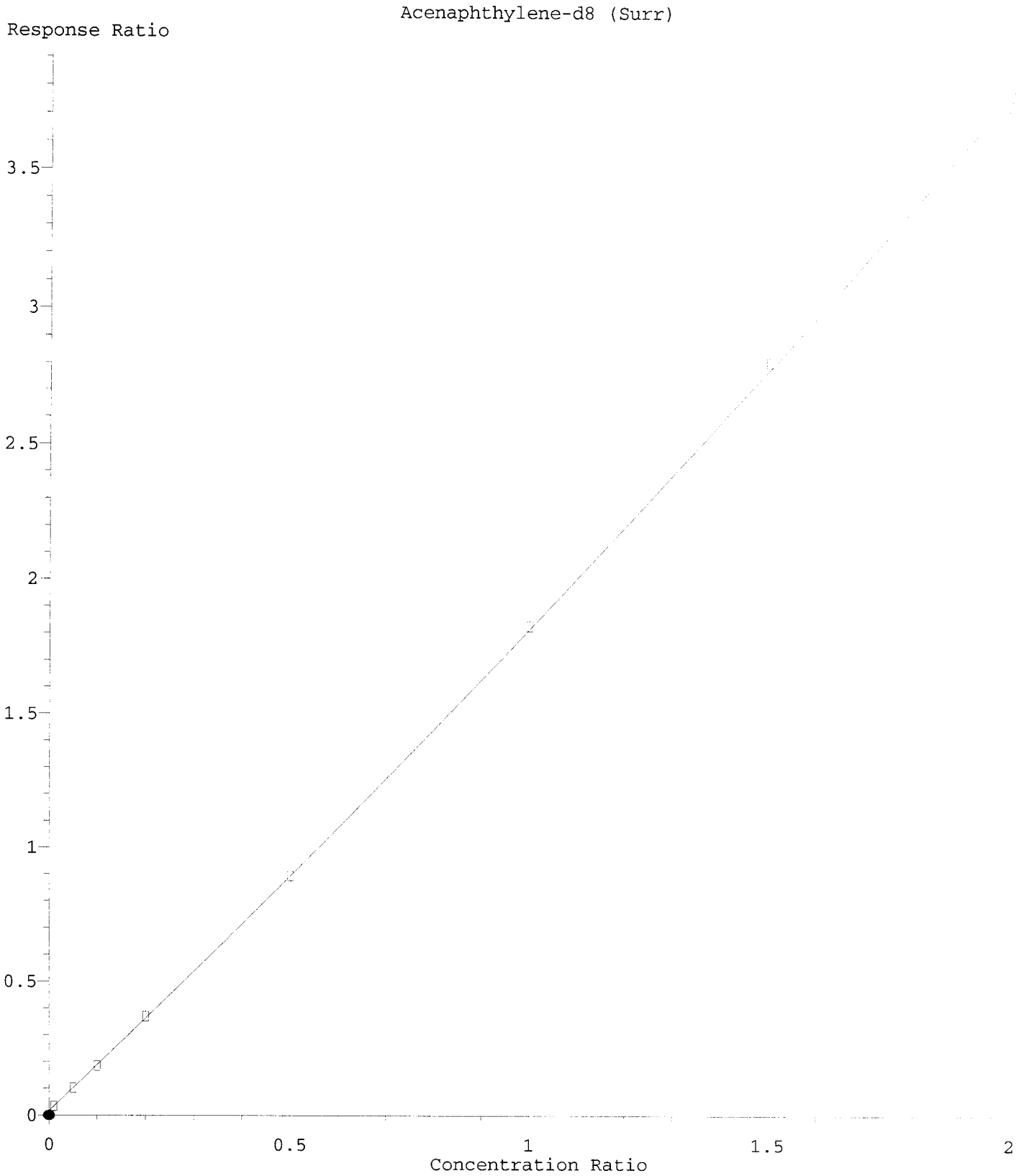
Benzo(g,h,i)perylene

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**

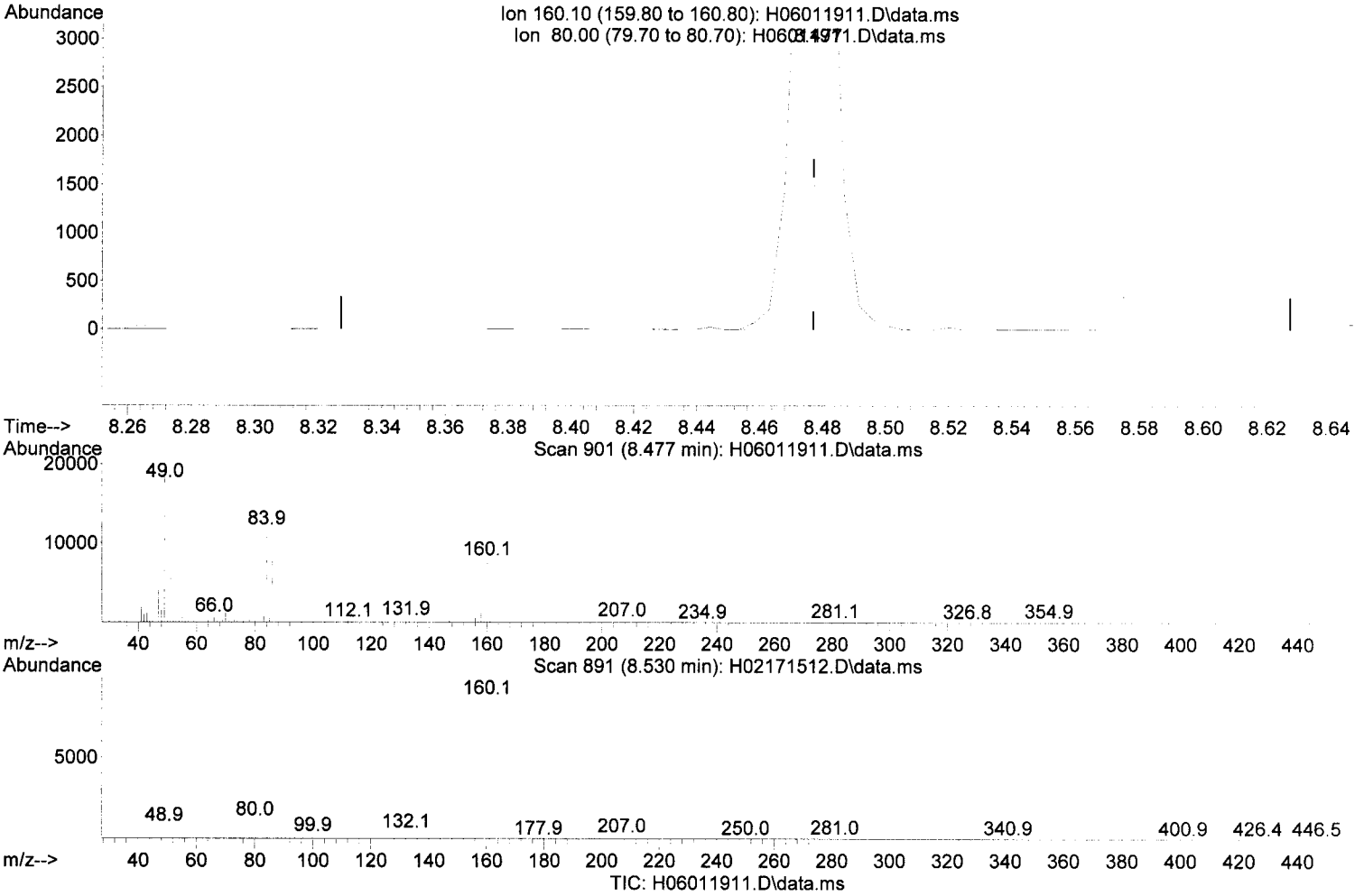


R = 8.18e-002 A*A + 1.71e+000 A + 1.68e-002
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

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

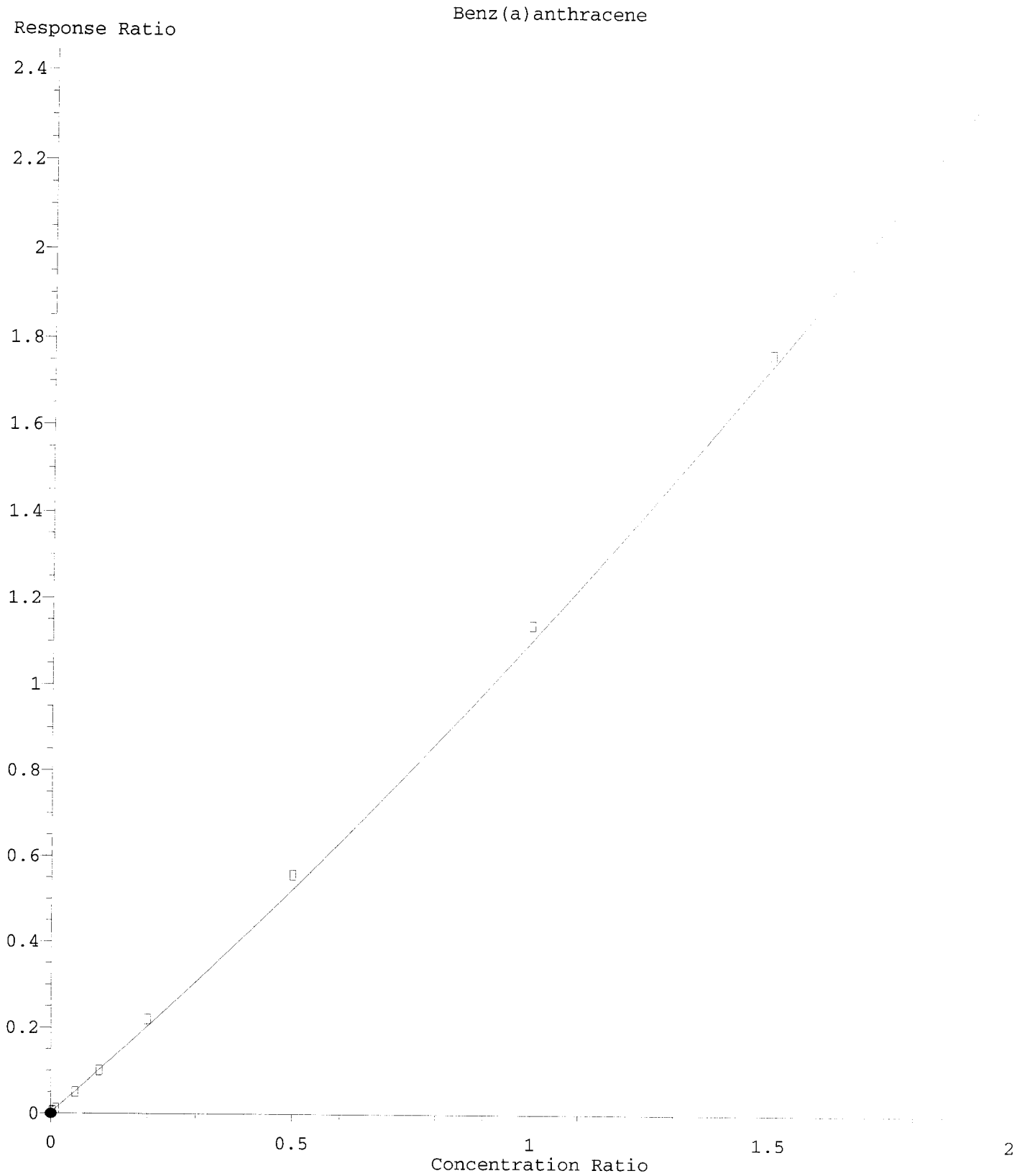


(8) Acenaphthylene-d8 (Surr) (S)

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

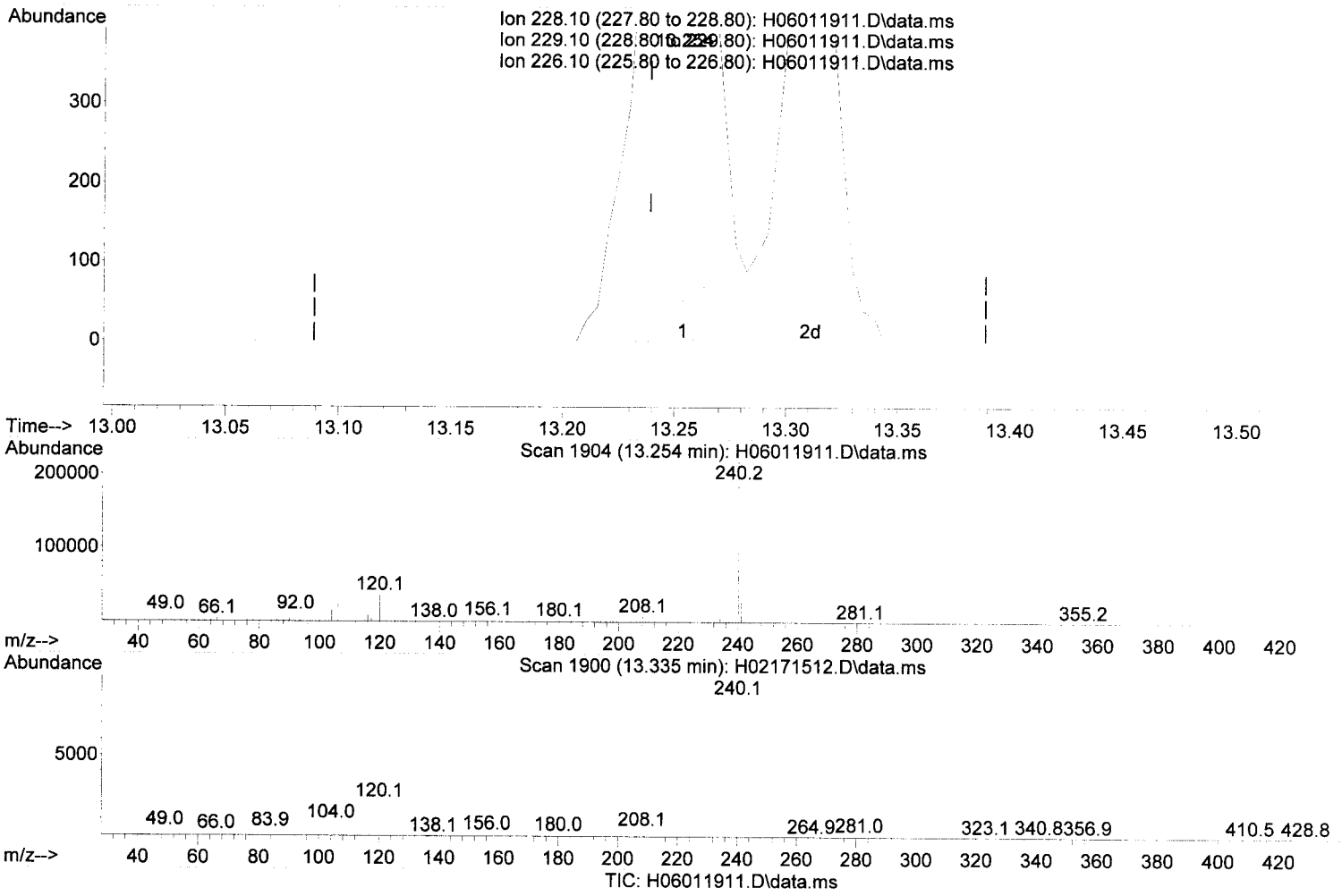


R = 1.16e-001 A*A + 9.85e-001 A + 2.38e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

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

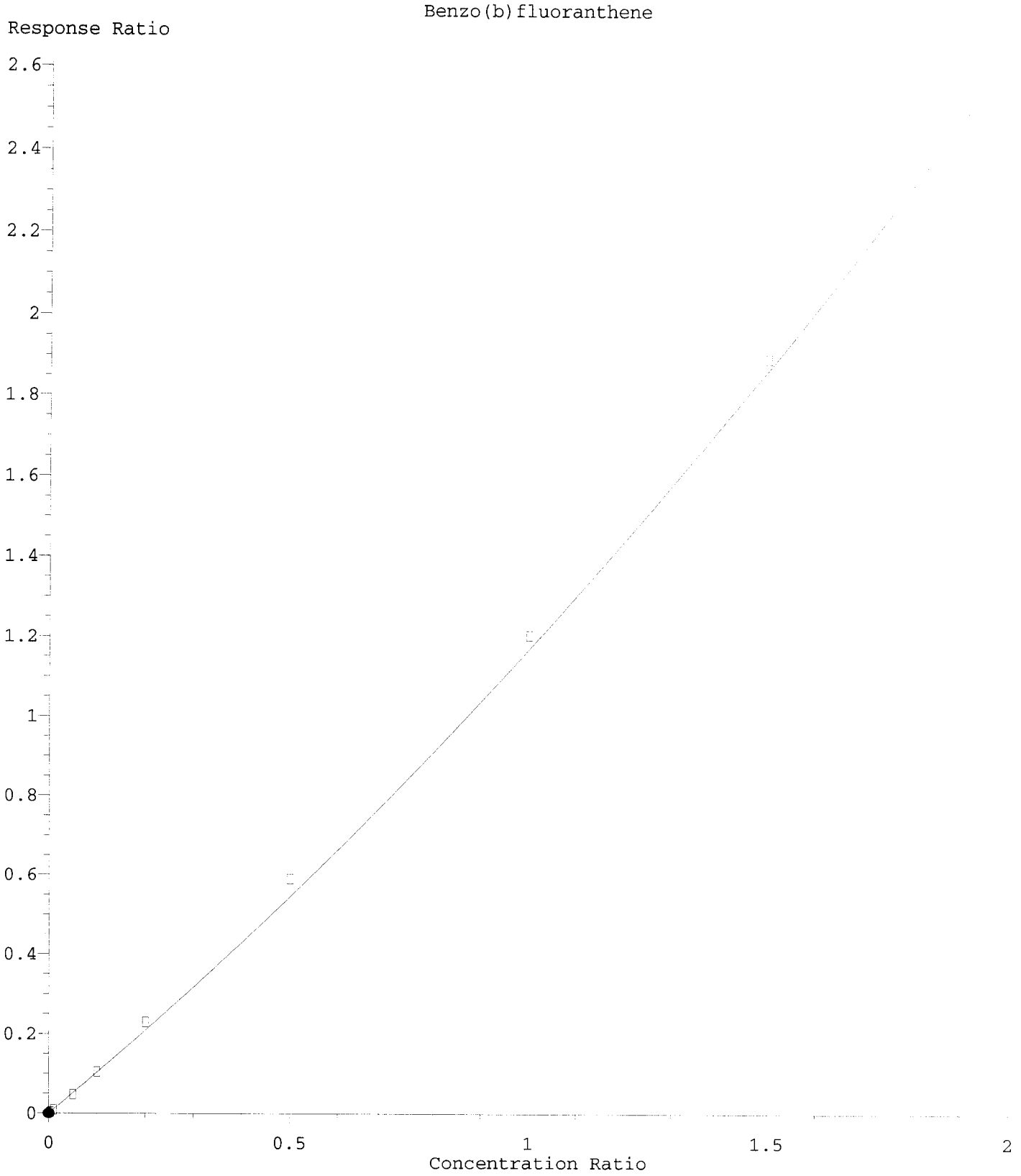


(22) Benz(a)anthracene (T)

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

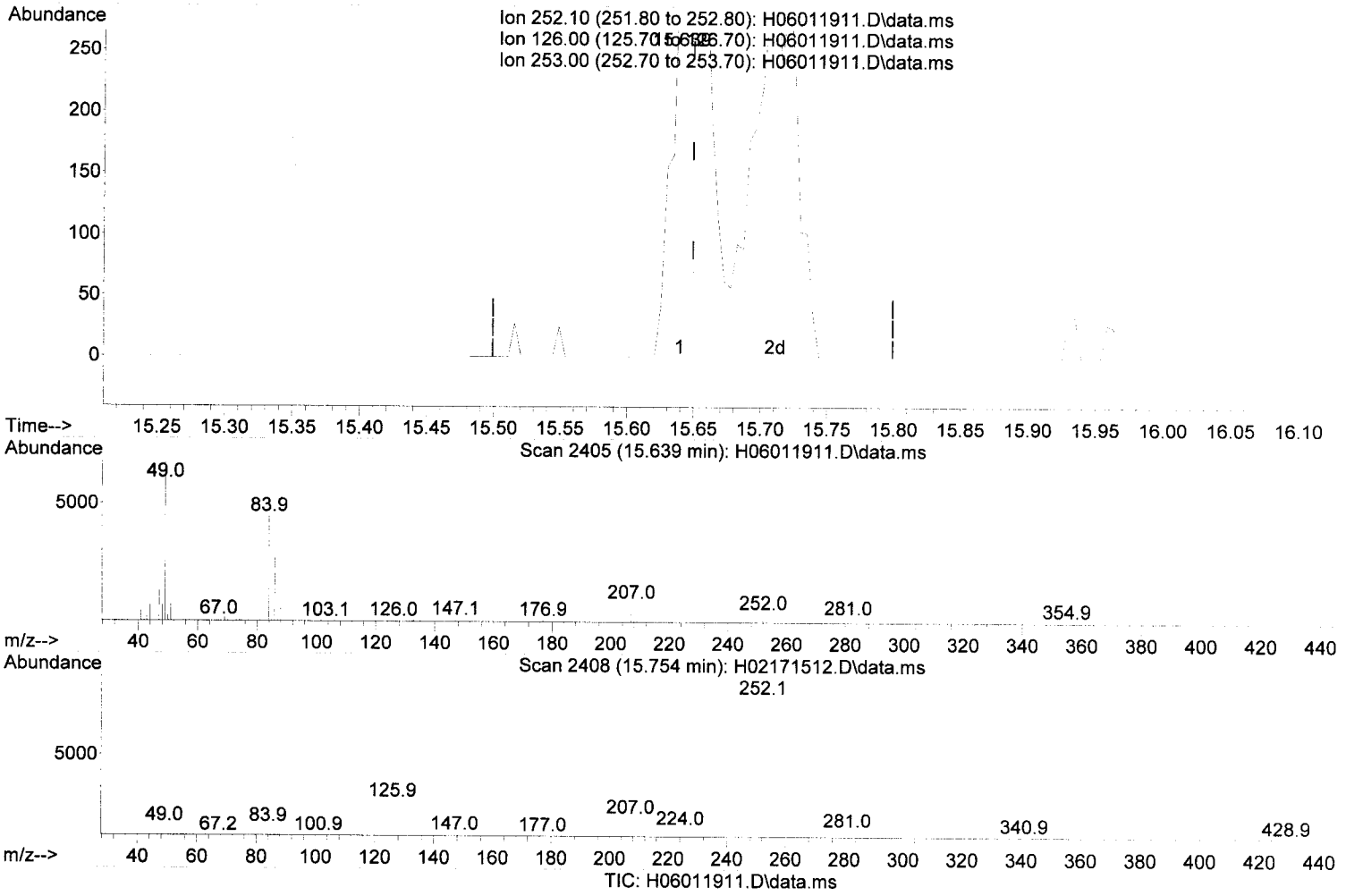


R = 1.51e-001 A*A + 1.02e+000 A - 4.88e-005
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

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

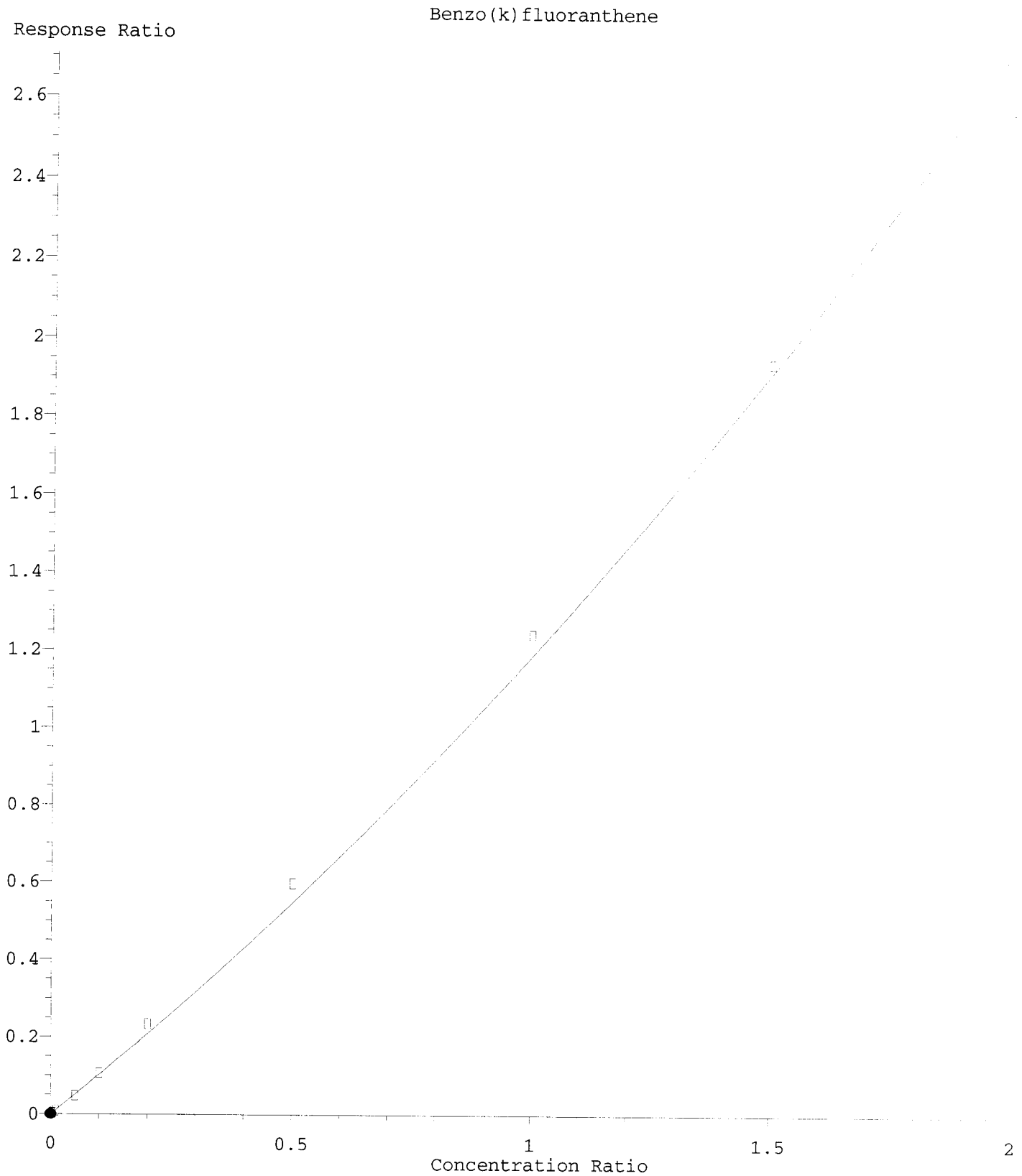


(25) Benzo(b)fluoranthene (T)

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

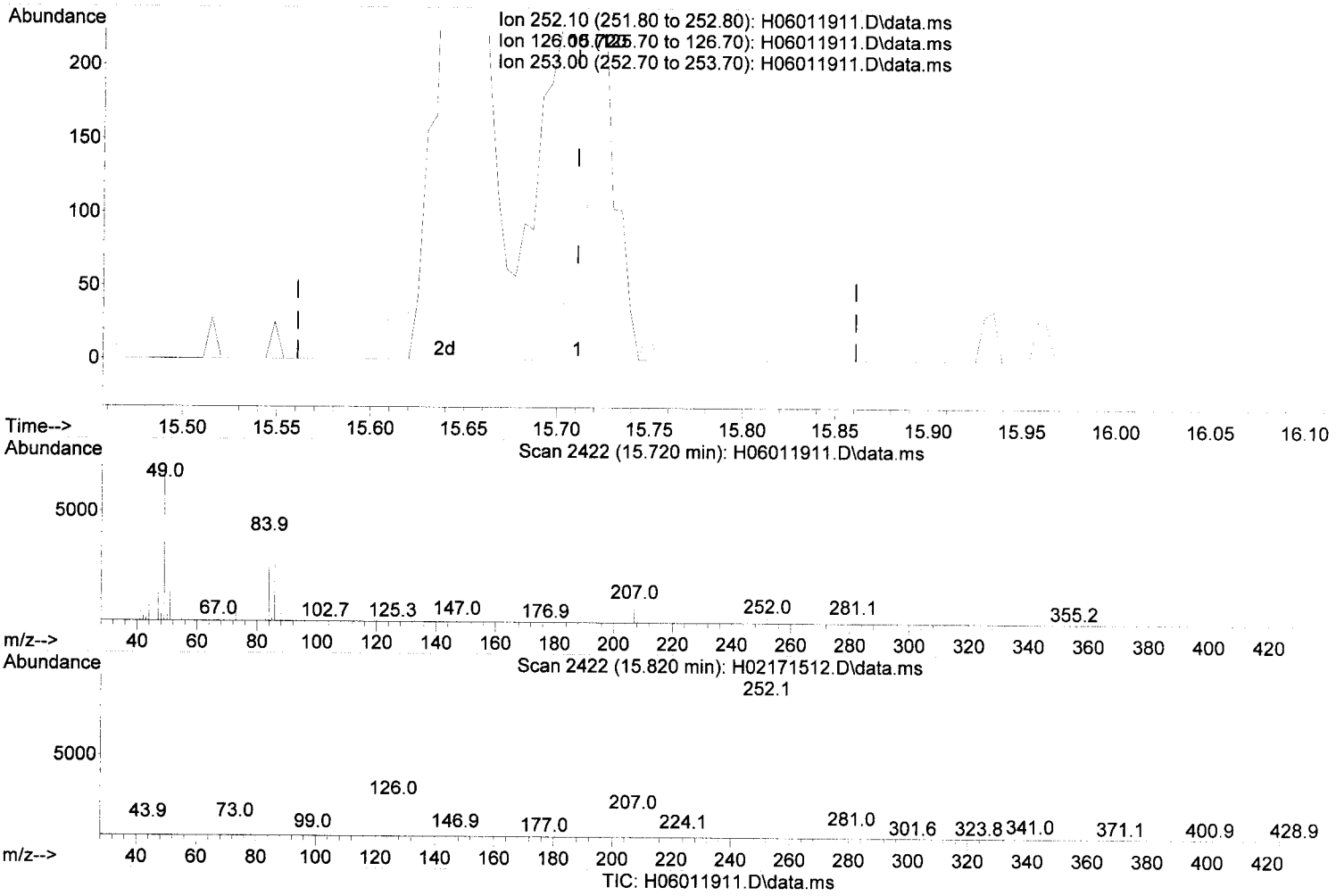


R = 1.80e-001 A*A + 1.01e+000 A - 2.11e-004
Coef of Det (r^2) = 0.990 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

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

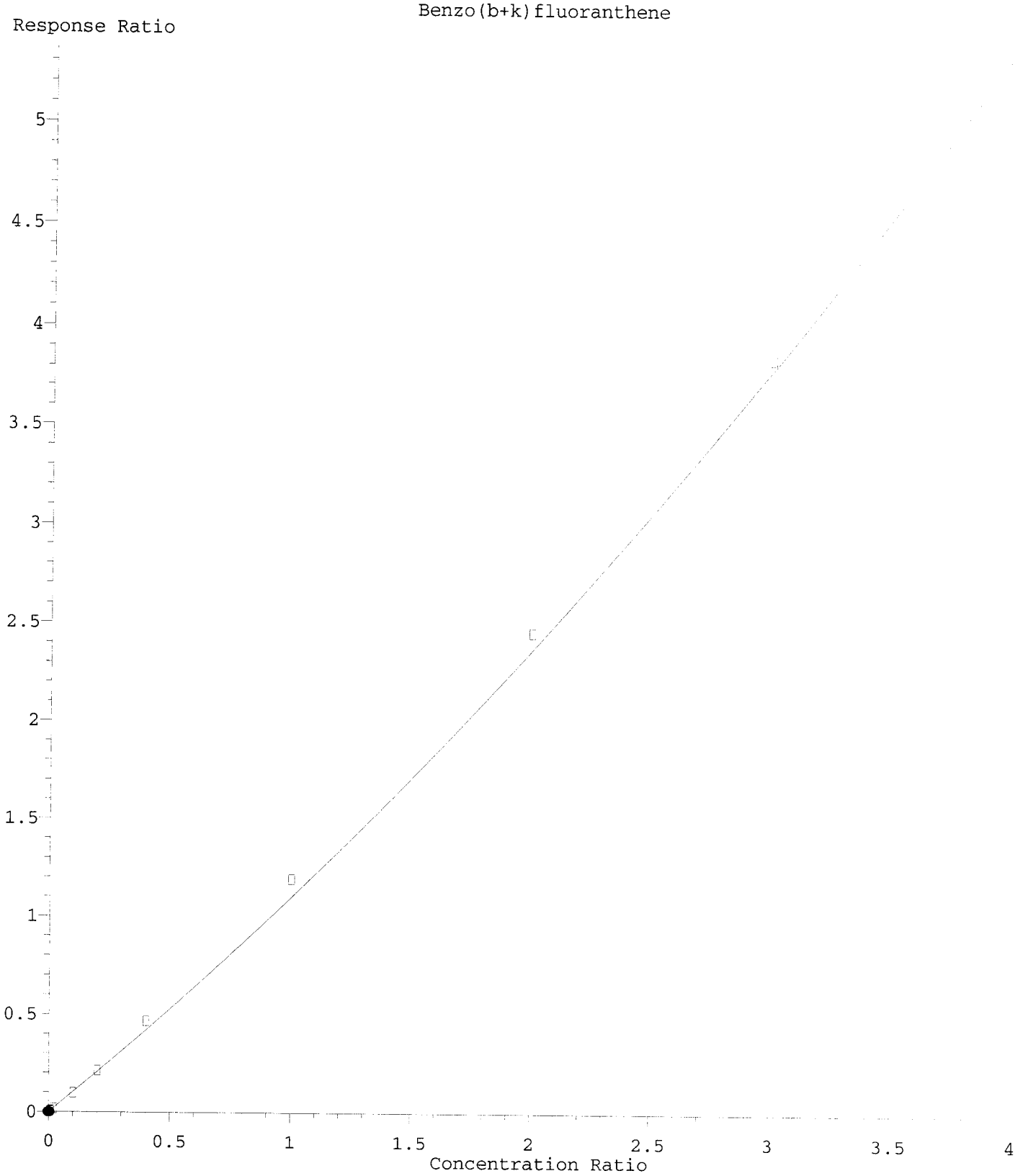


(26) Benzo(k)fluoranthene (T)

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

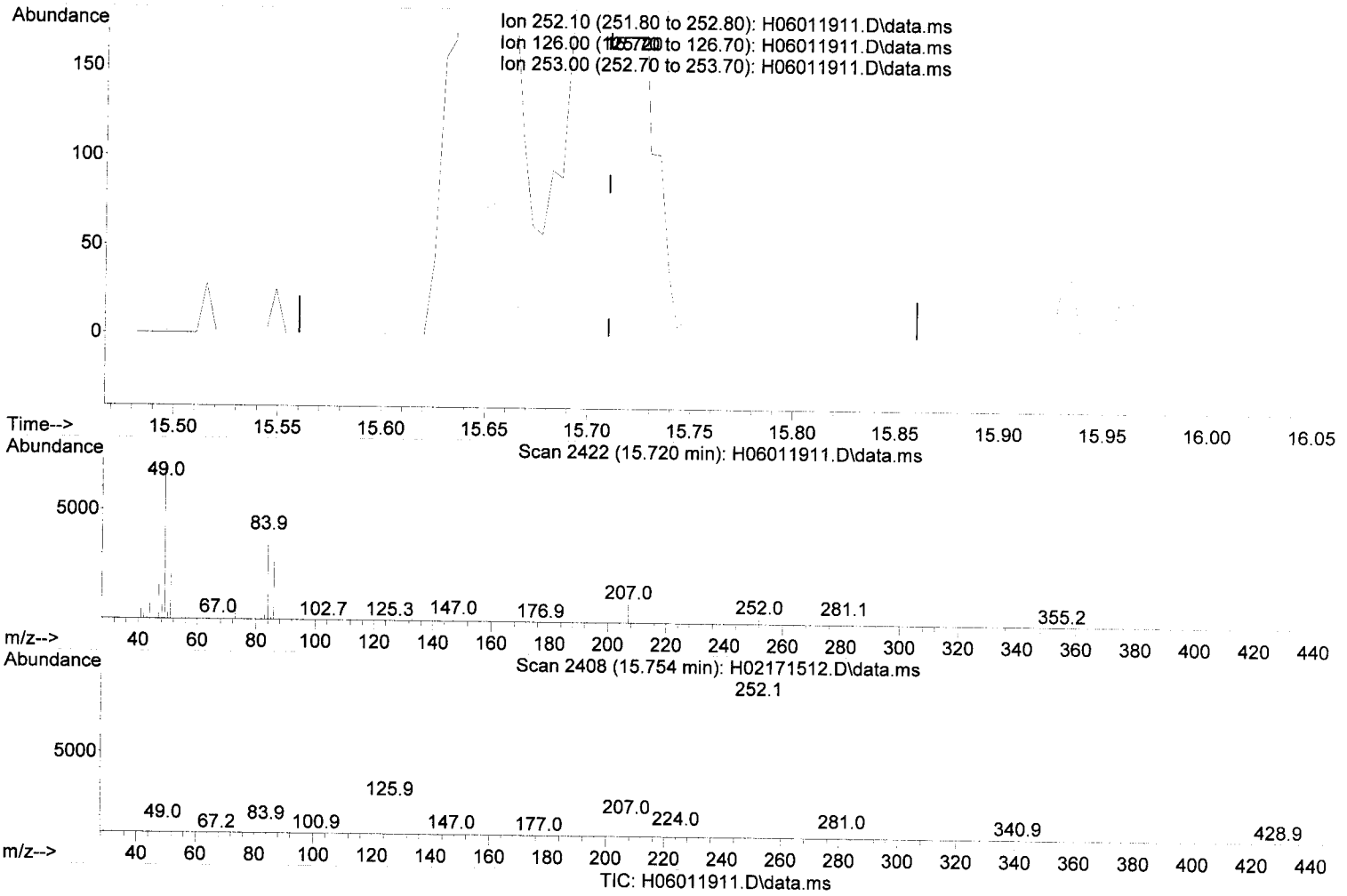


R = 8.09e-002 A*A + 1.02e+000 A - 3.03e-004
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

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

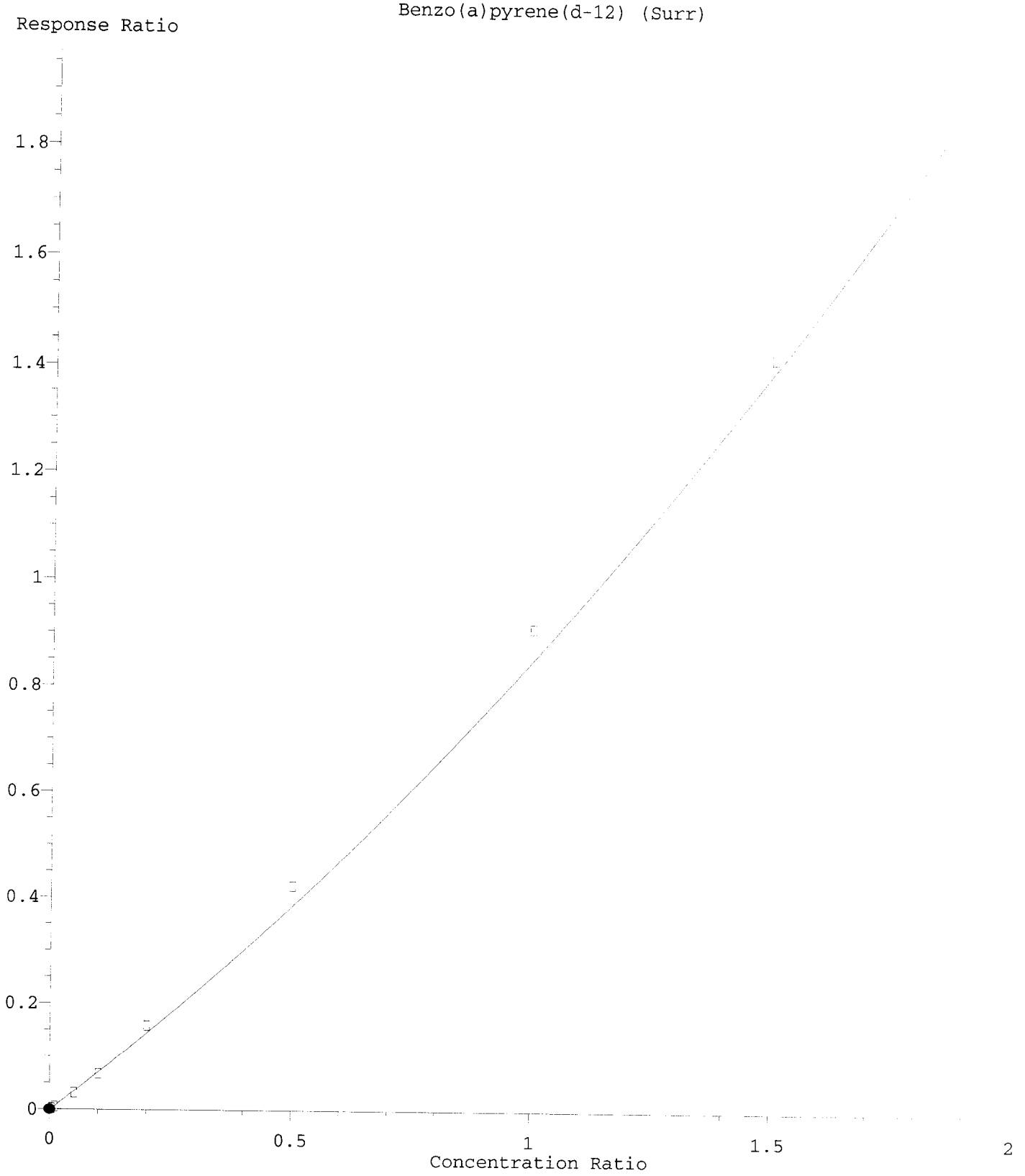


(27) Benzo(b+k)fluoranthene (T)

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

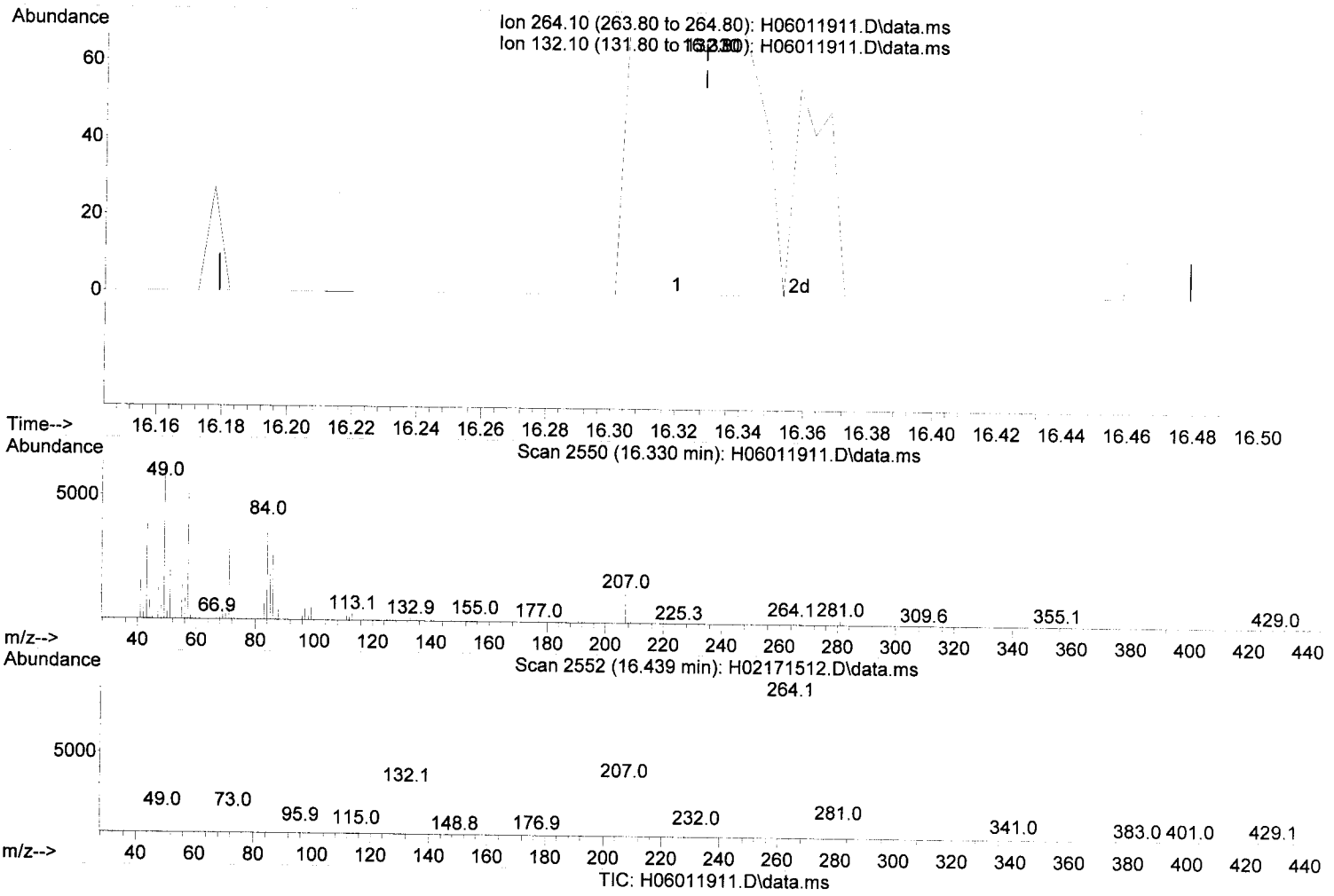


R = 1.55e-001 A*A + 6.95e-001 A - 9.42e-004
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

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

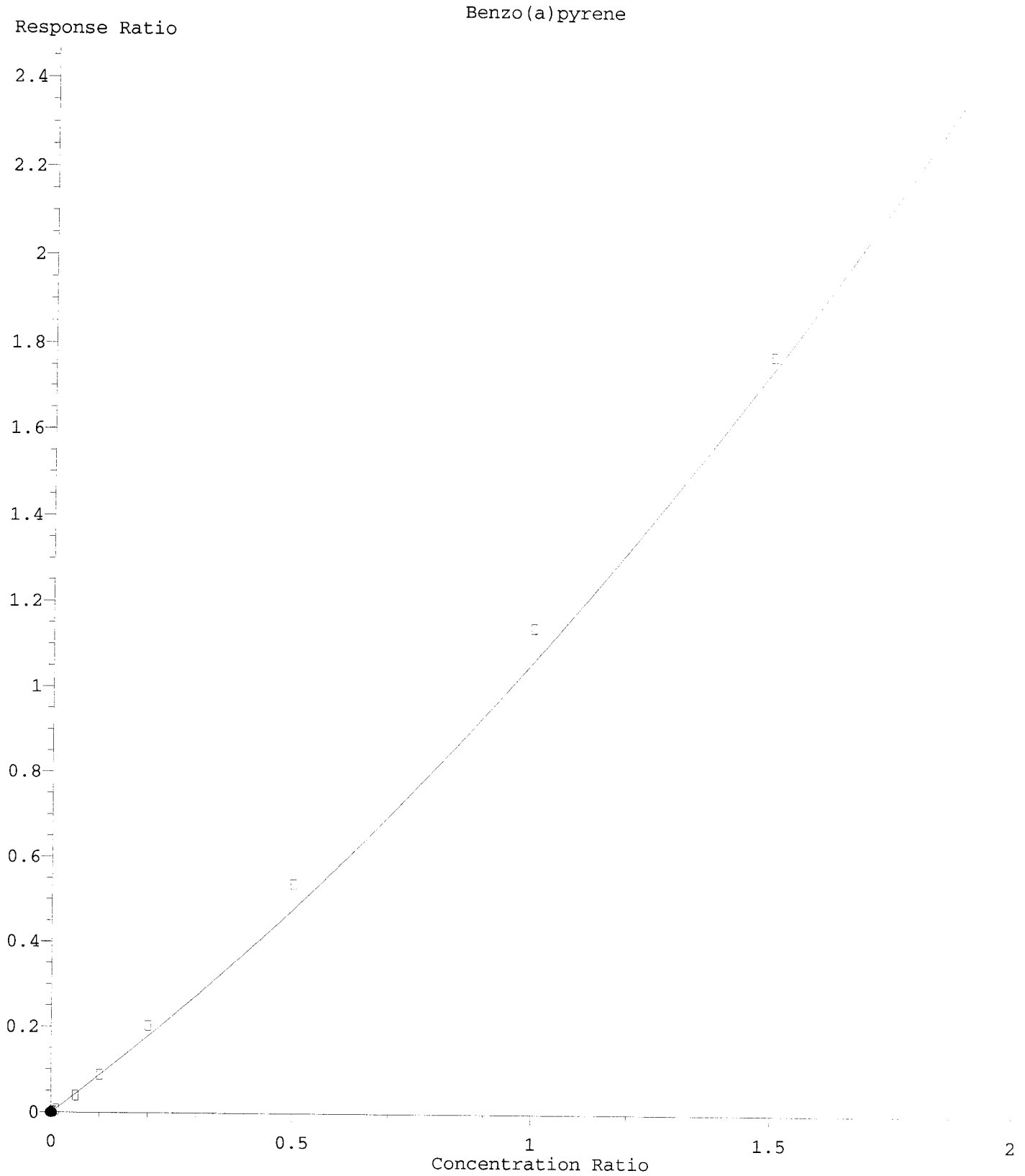


(29) Benzo(a)pyrene(d-12) (Surr) (S)

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

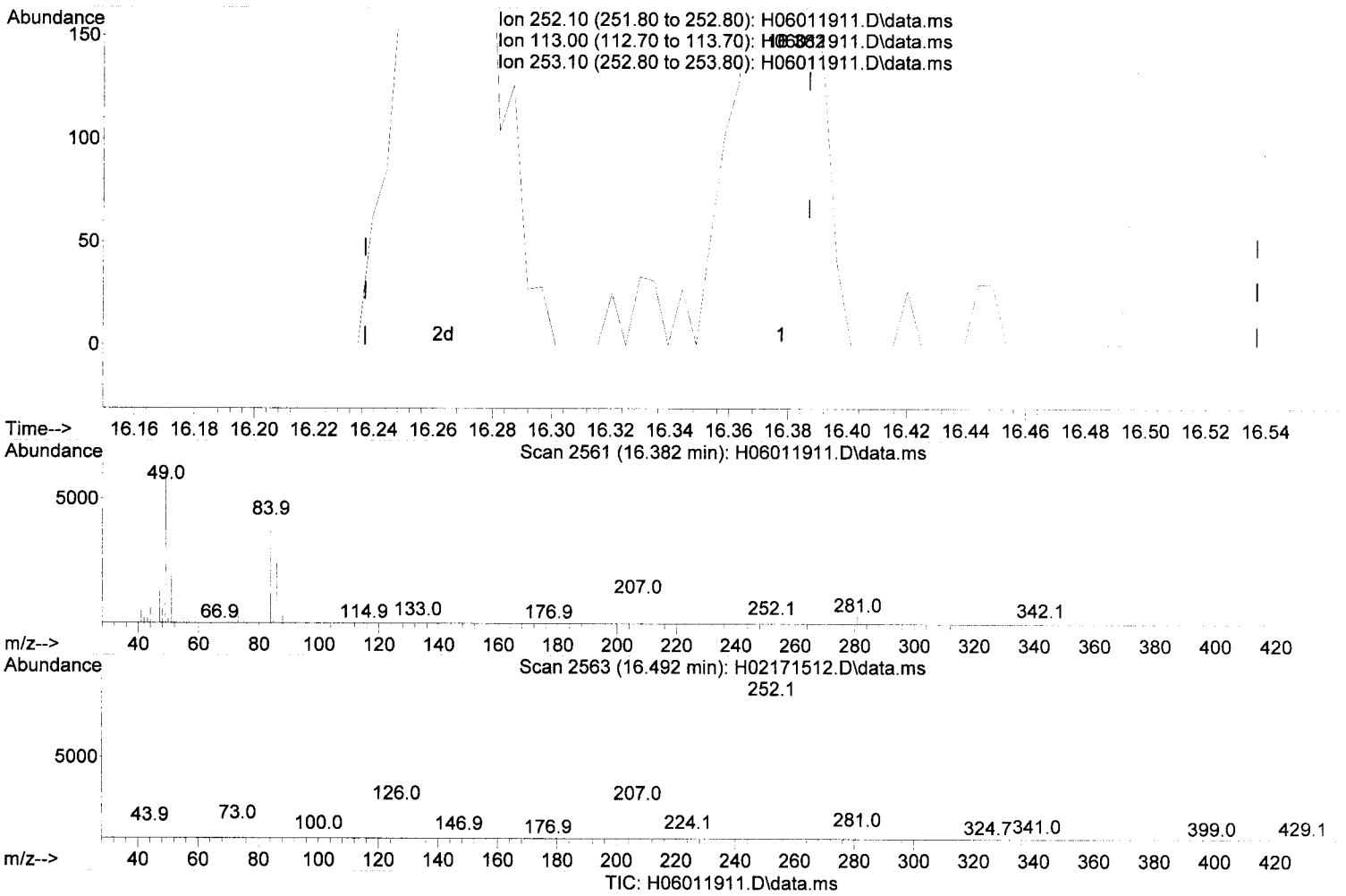


R = 2.05e-001 A*A + 8.57e-001 A - 5.17e-004
Coef of Det (r^2) = 0.988 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\LV18_070119.M
Calibration Table Last Updated: Tue Jul 02 08:58:54 2019

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
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

< 20%

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	#	

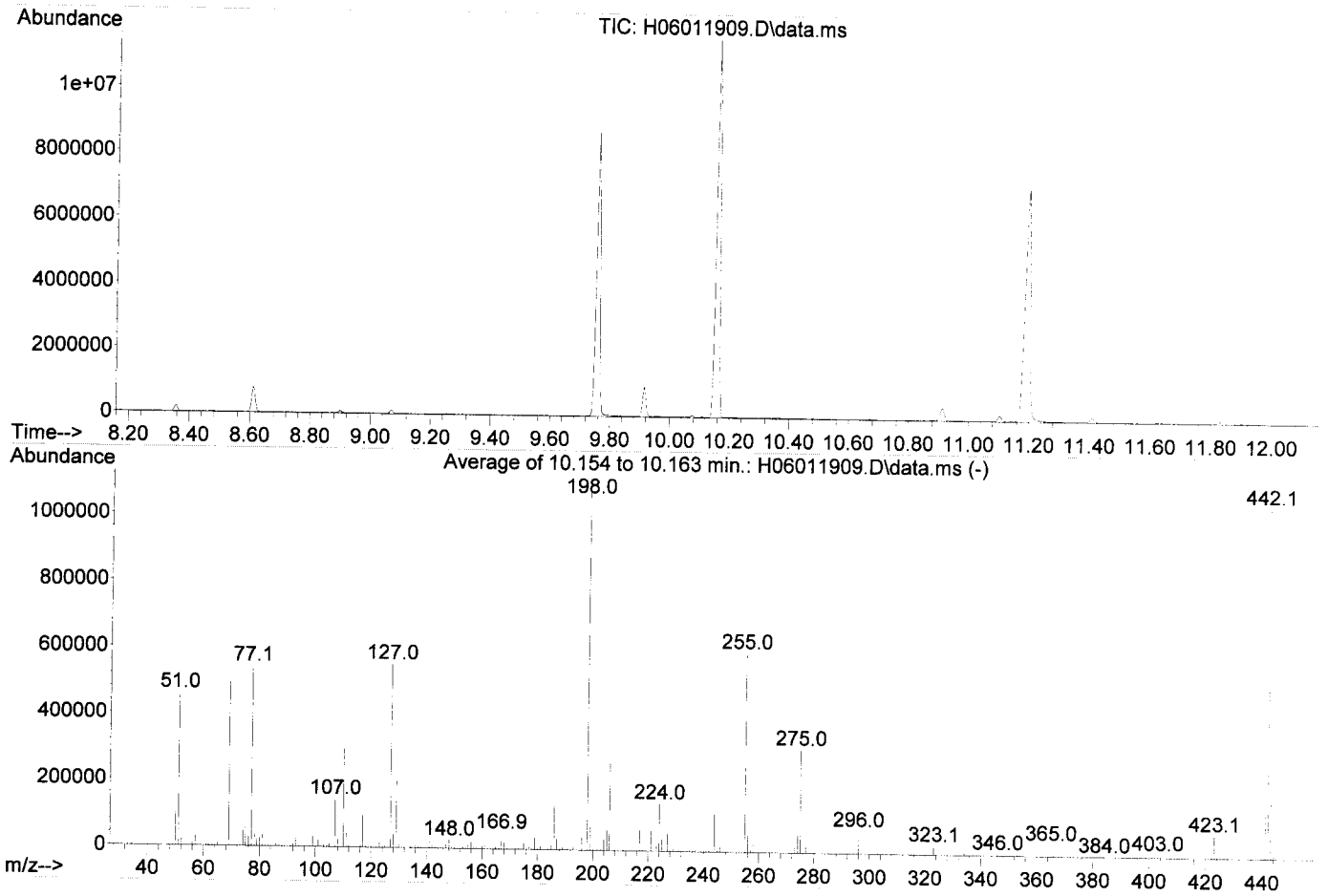
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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



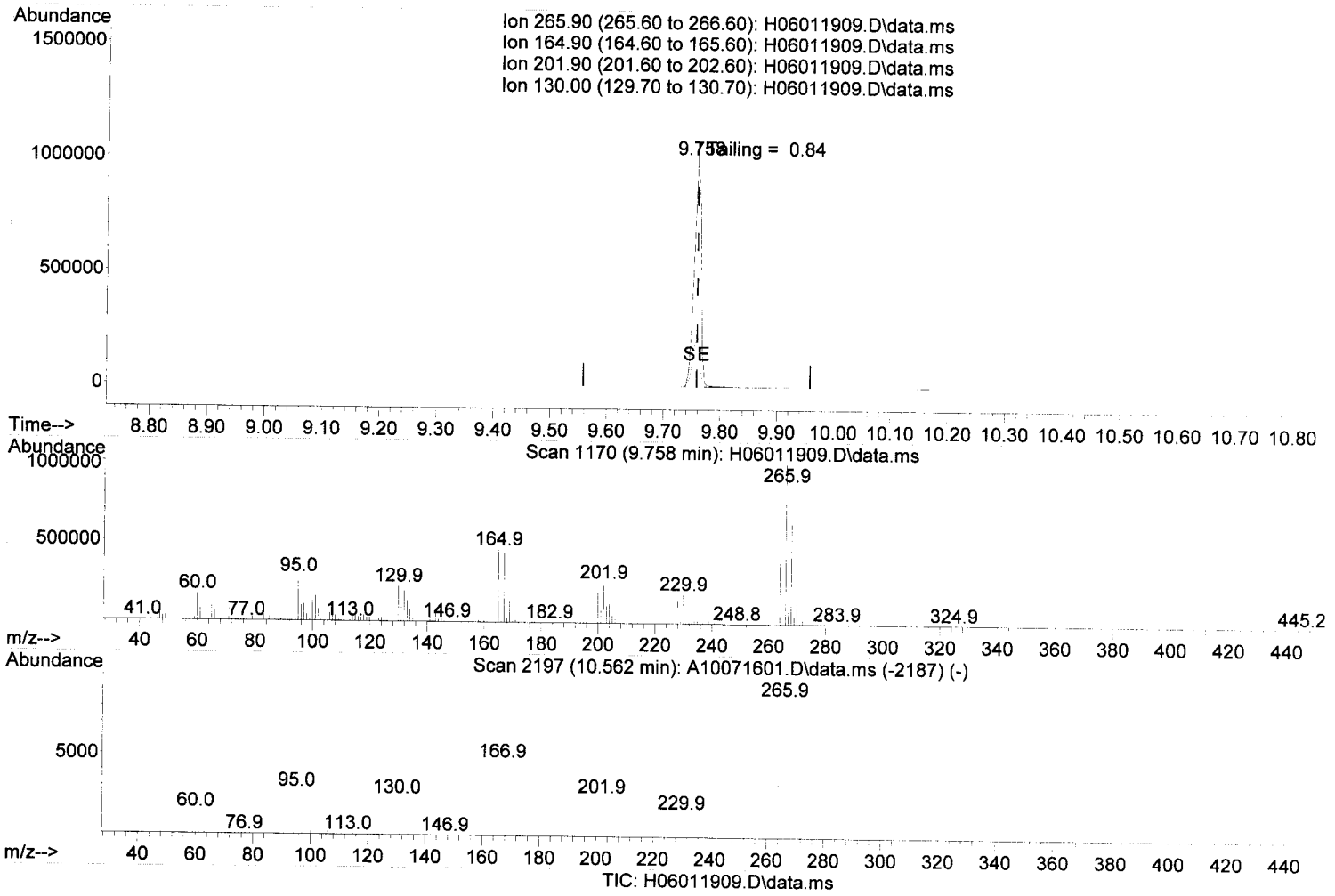
AutoFind: Scans 1253, 1254, 1255; Background Corrected with Scan 1246

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

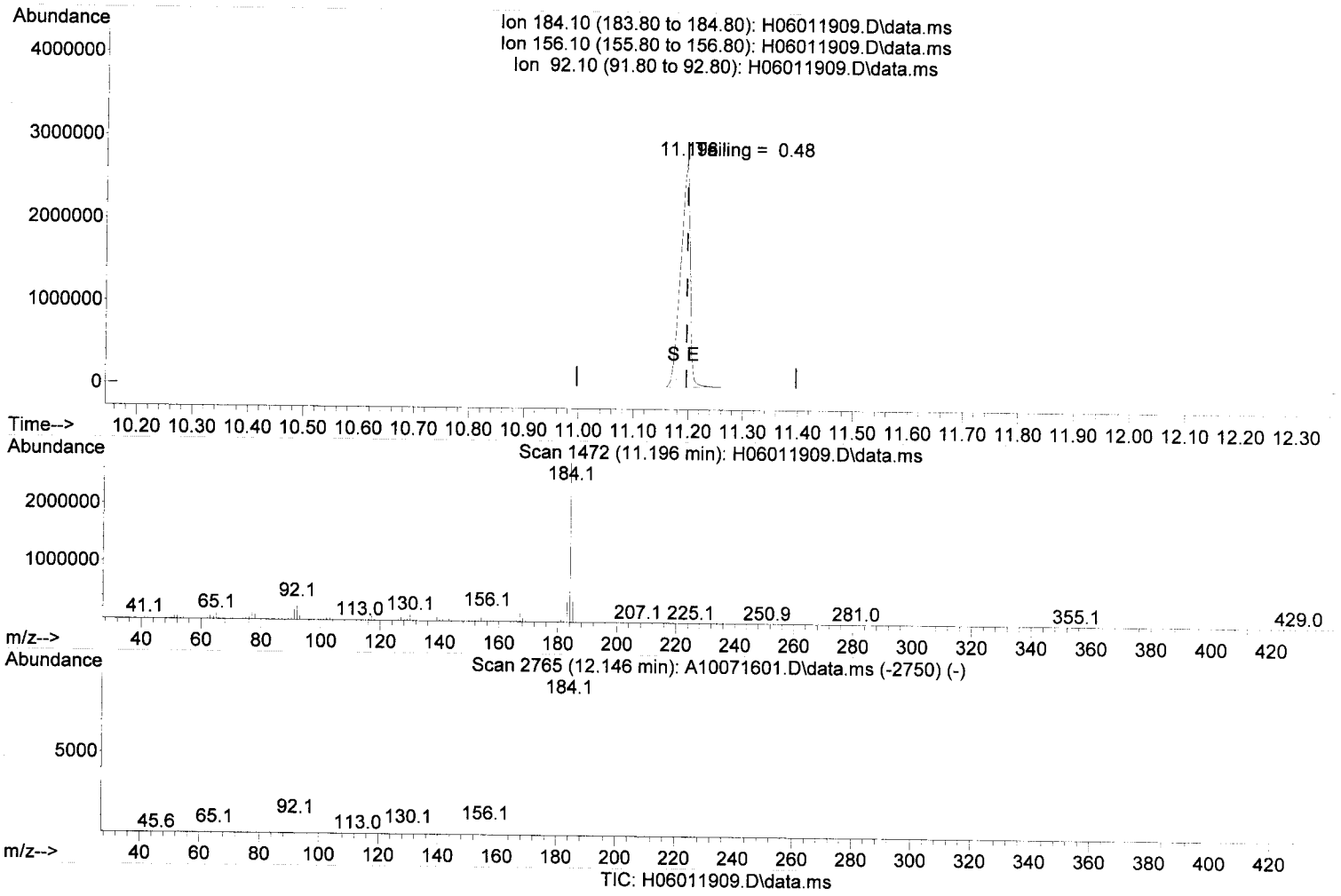
Ion	Exp%	Act%
265.90	100.00	100.00
164.90	40.50	44.96
201.90	23.90	24.28
130.00	19.70	22.40

JK 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

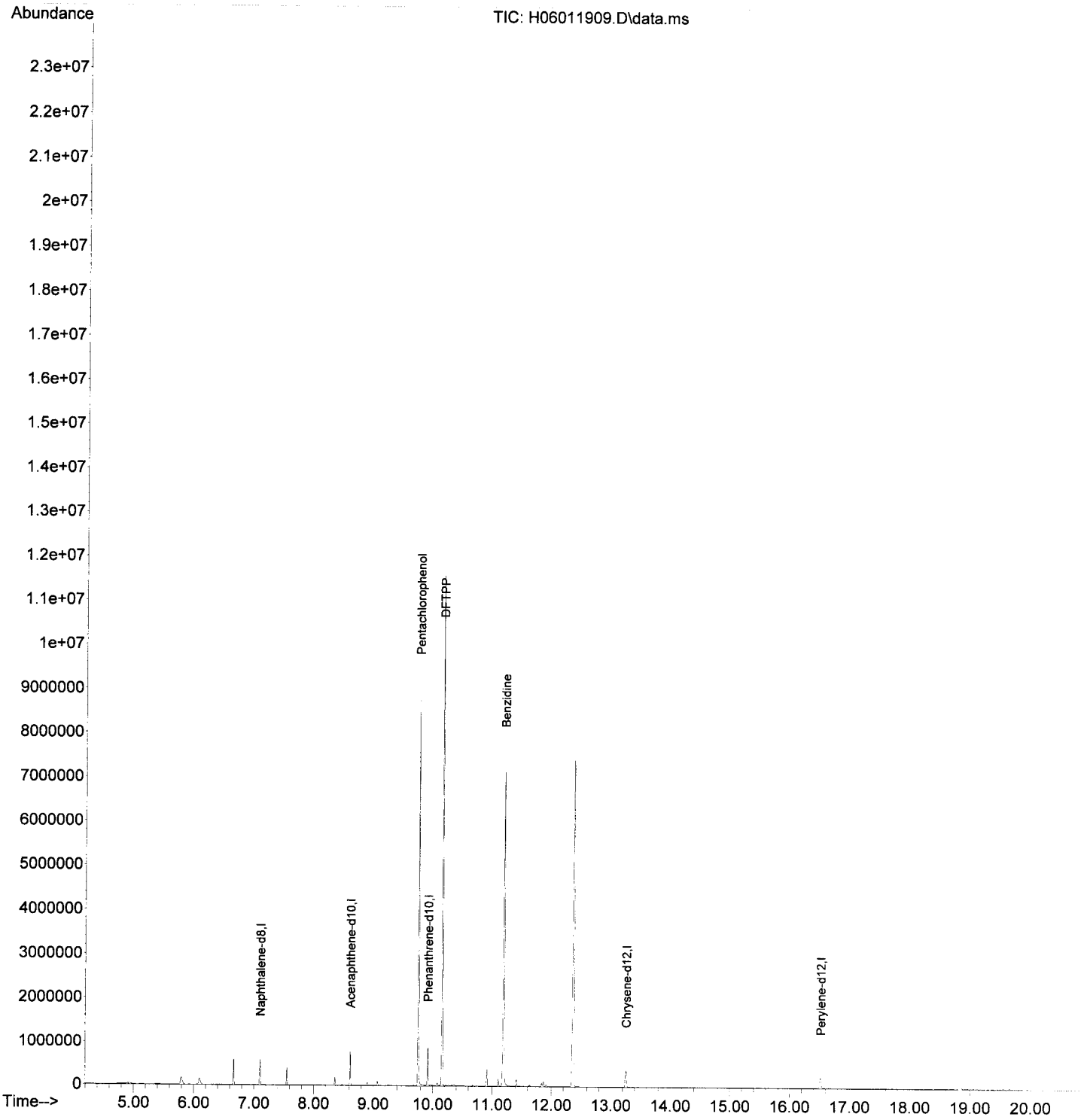
First Column Area Counts		Percent Breakdown	
DDE	151675		
DDD	125351		
DDT	11518263	2.35	PASS

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

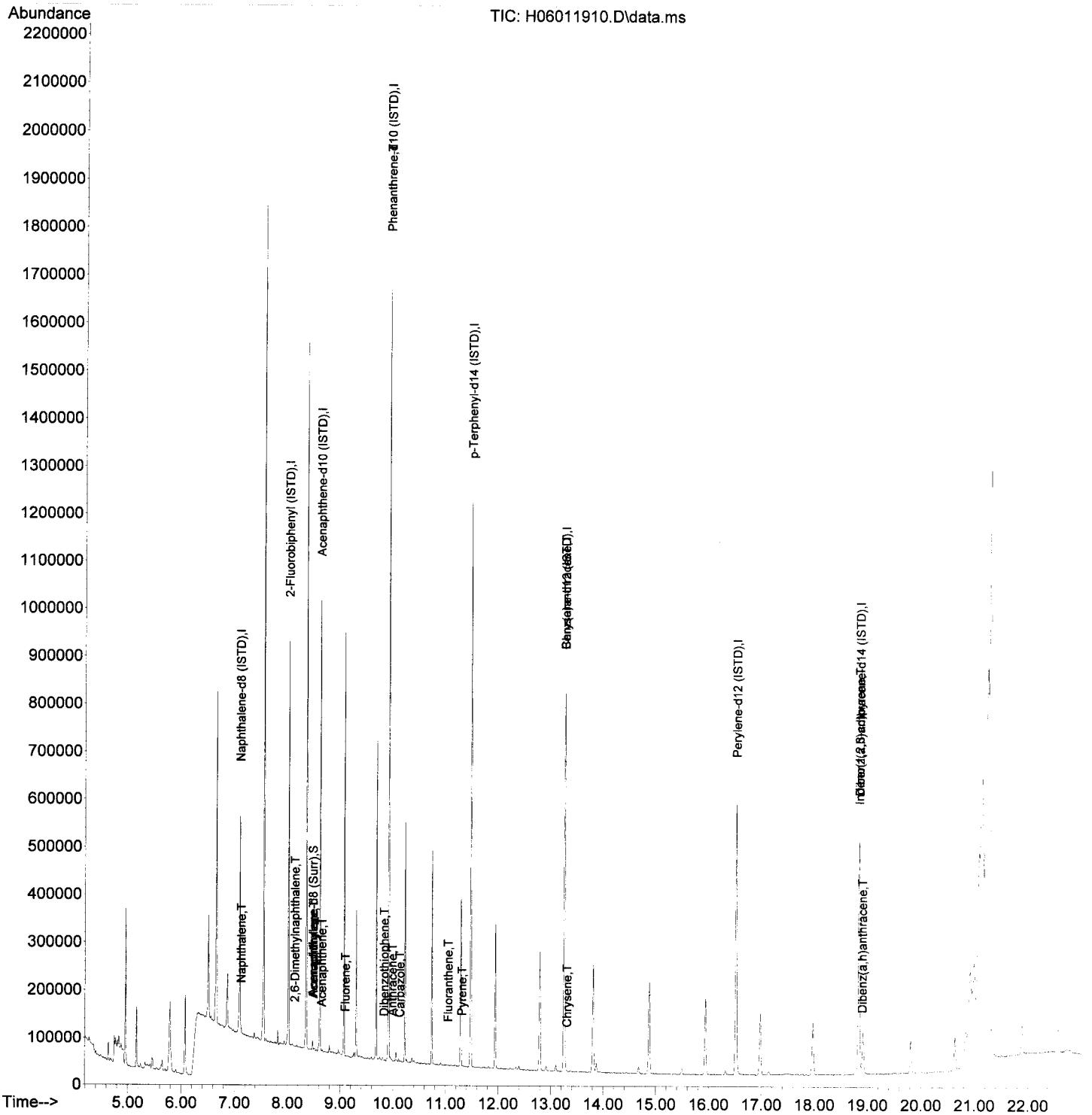
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	209215	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.615	164	170869	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	468424	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	422572	100.00	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

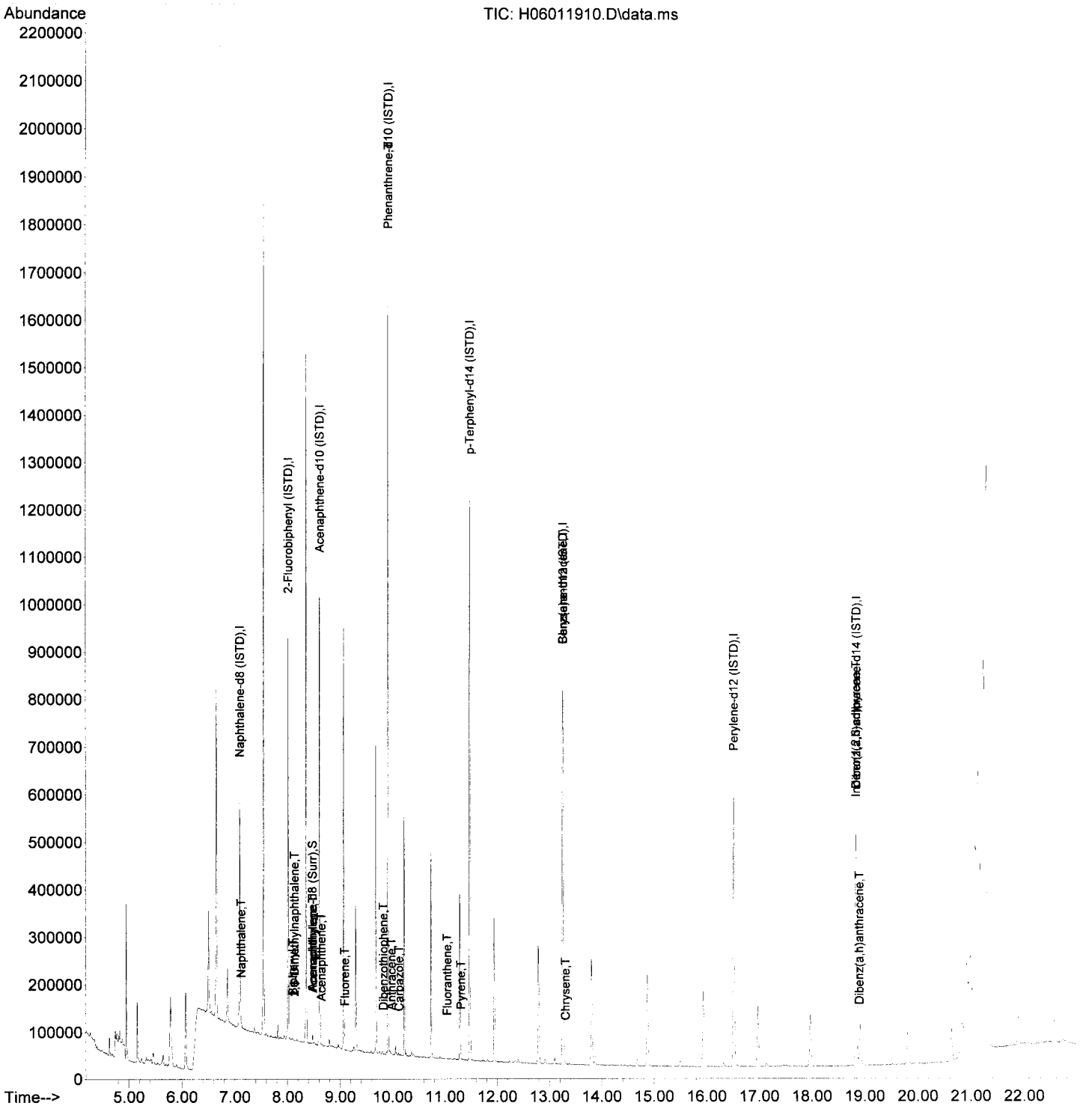
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	209215	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.615	164	170869	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	468424	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	422572	100.00	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

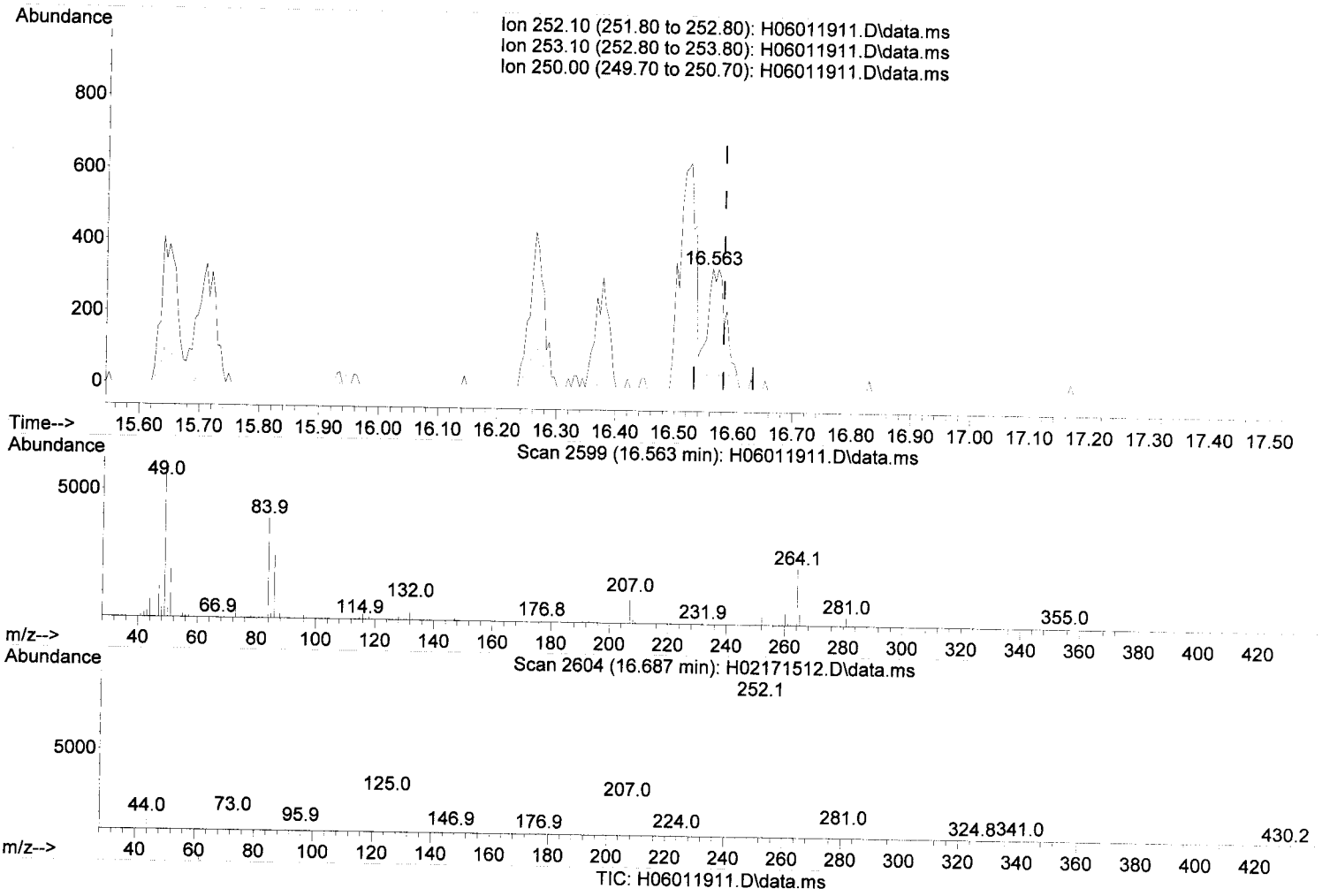
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	226171	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	170224	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.916	188	441148	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	399823	100.00	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

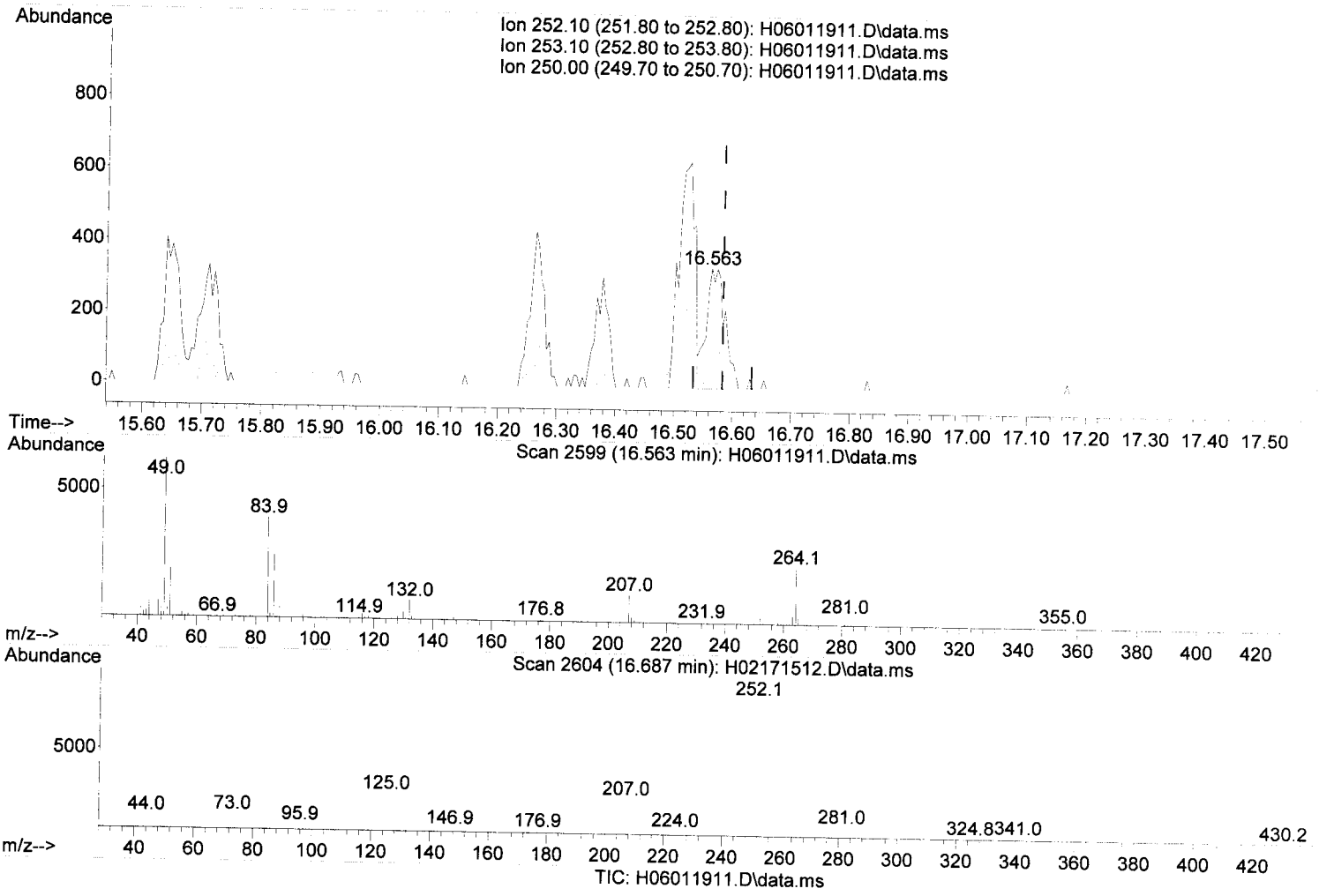
response 577

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

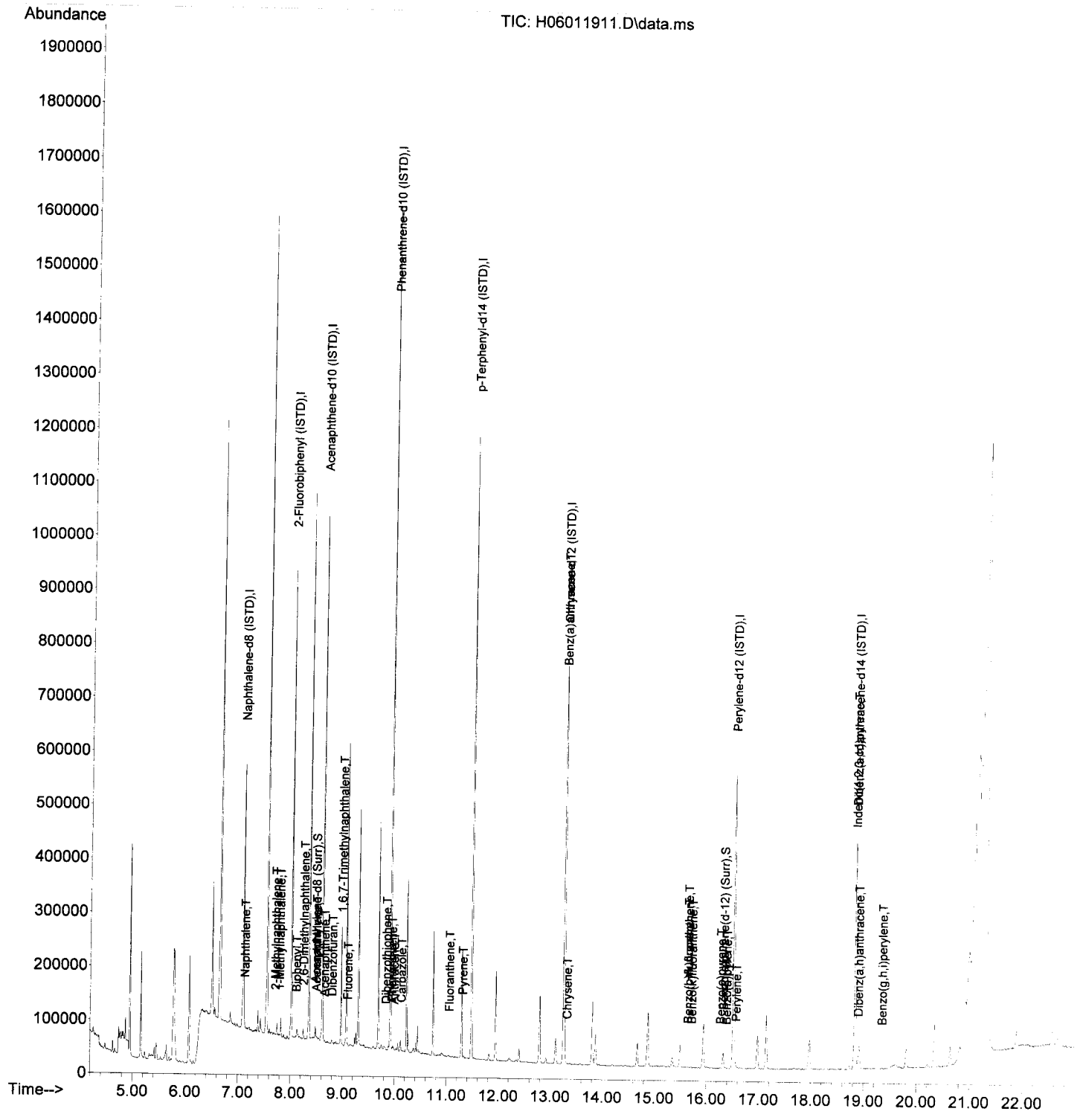
Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	28.99
250.00	27.60	33.43
0.00	0.00	0.00

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

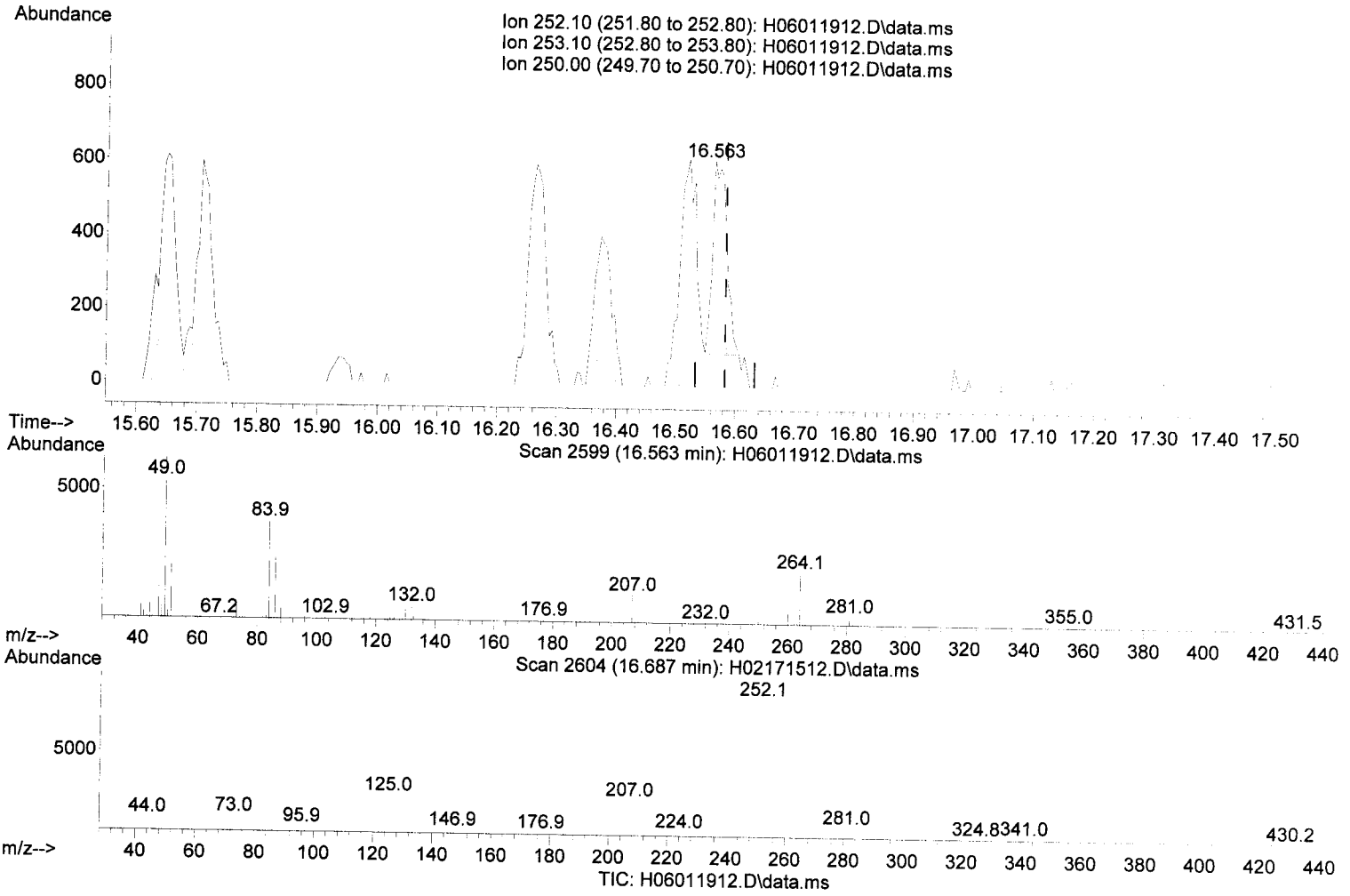
See MI

(#) = 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

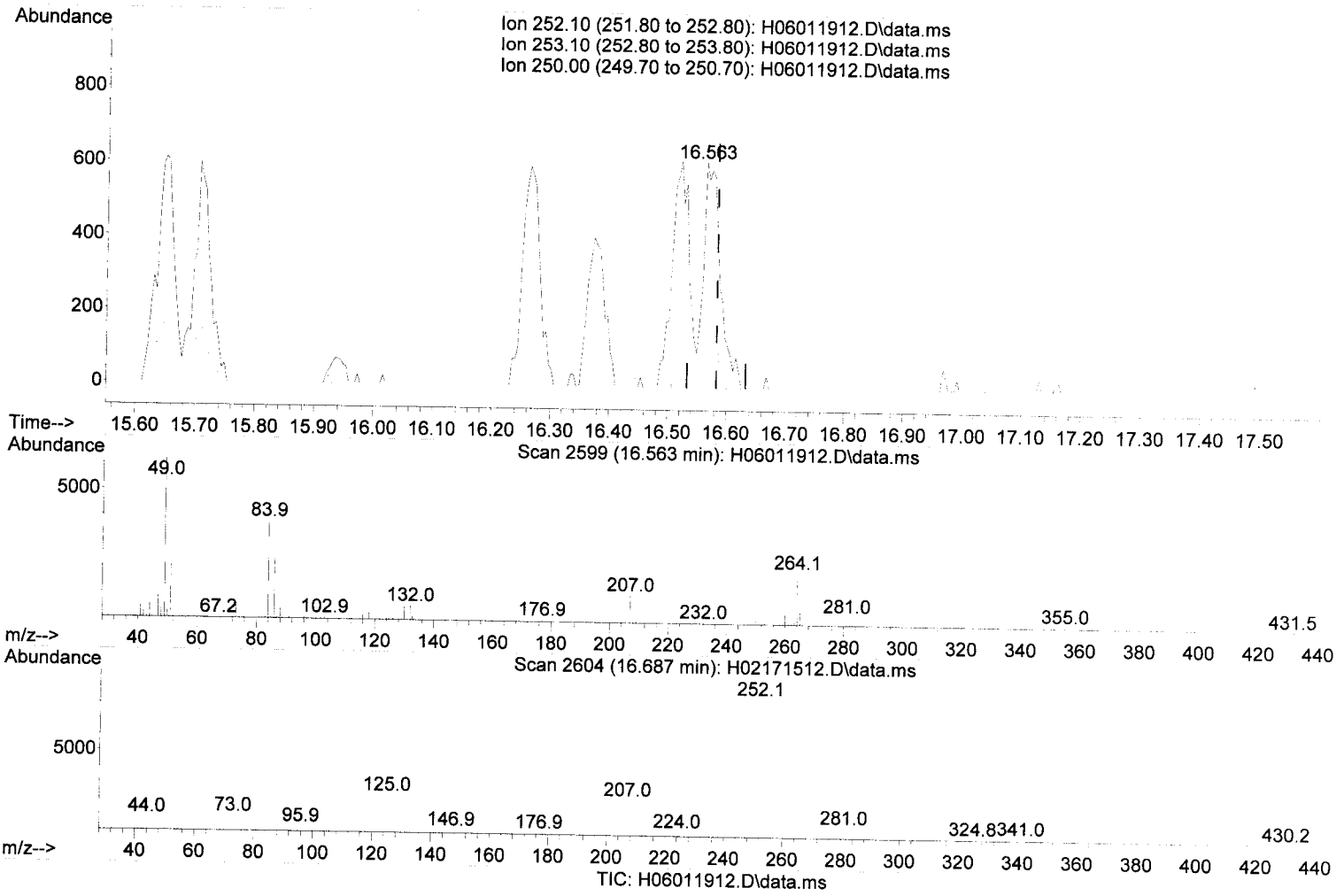
response 864

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

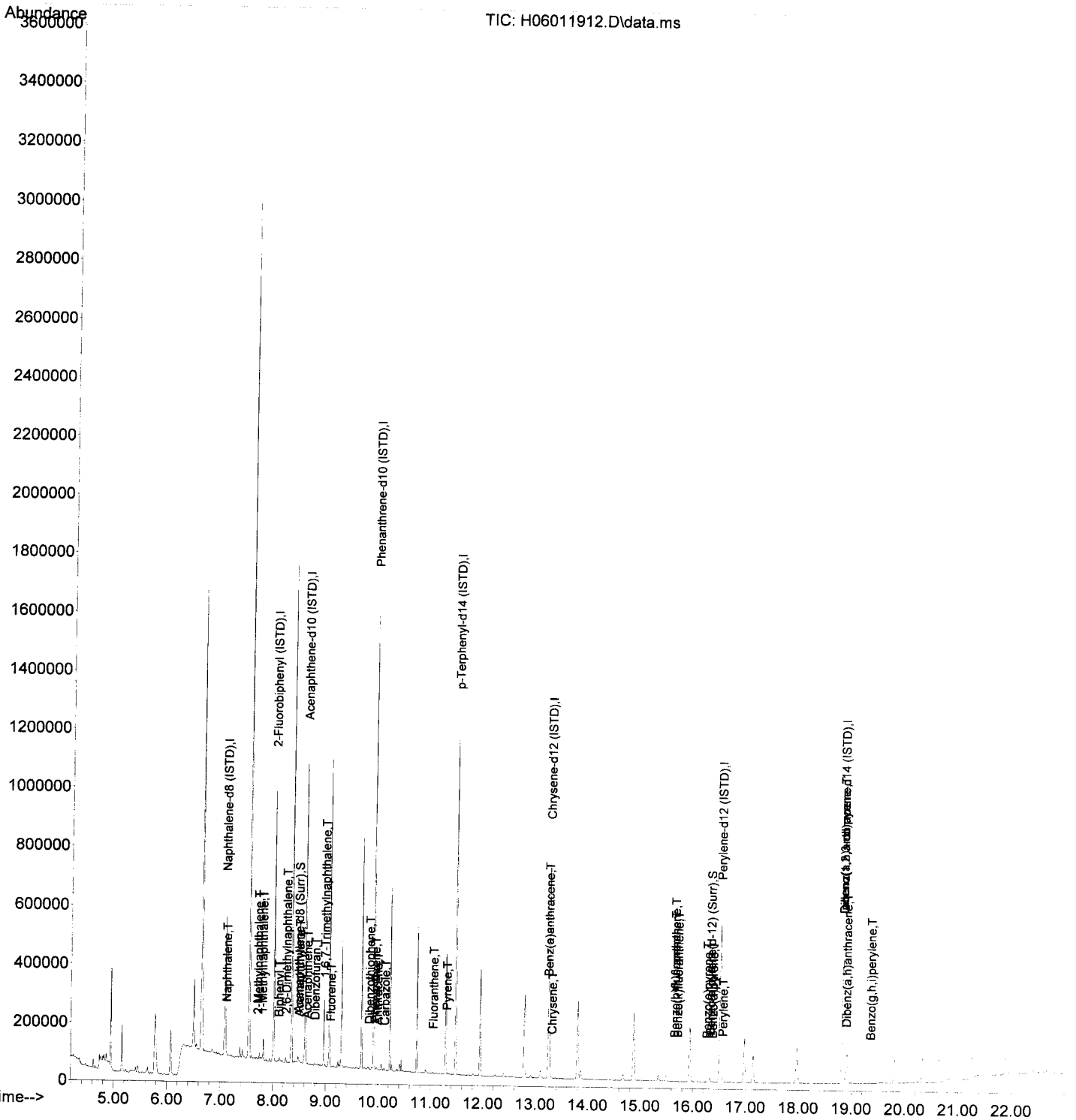
Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	16.83
250.00	27.60	33.01
0.00	0.00	0.00

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

JK 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

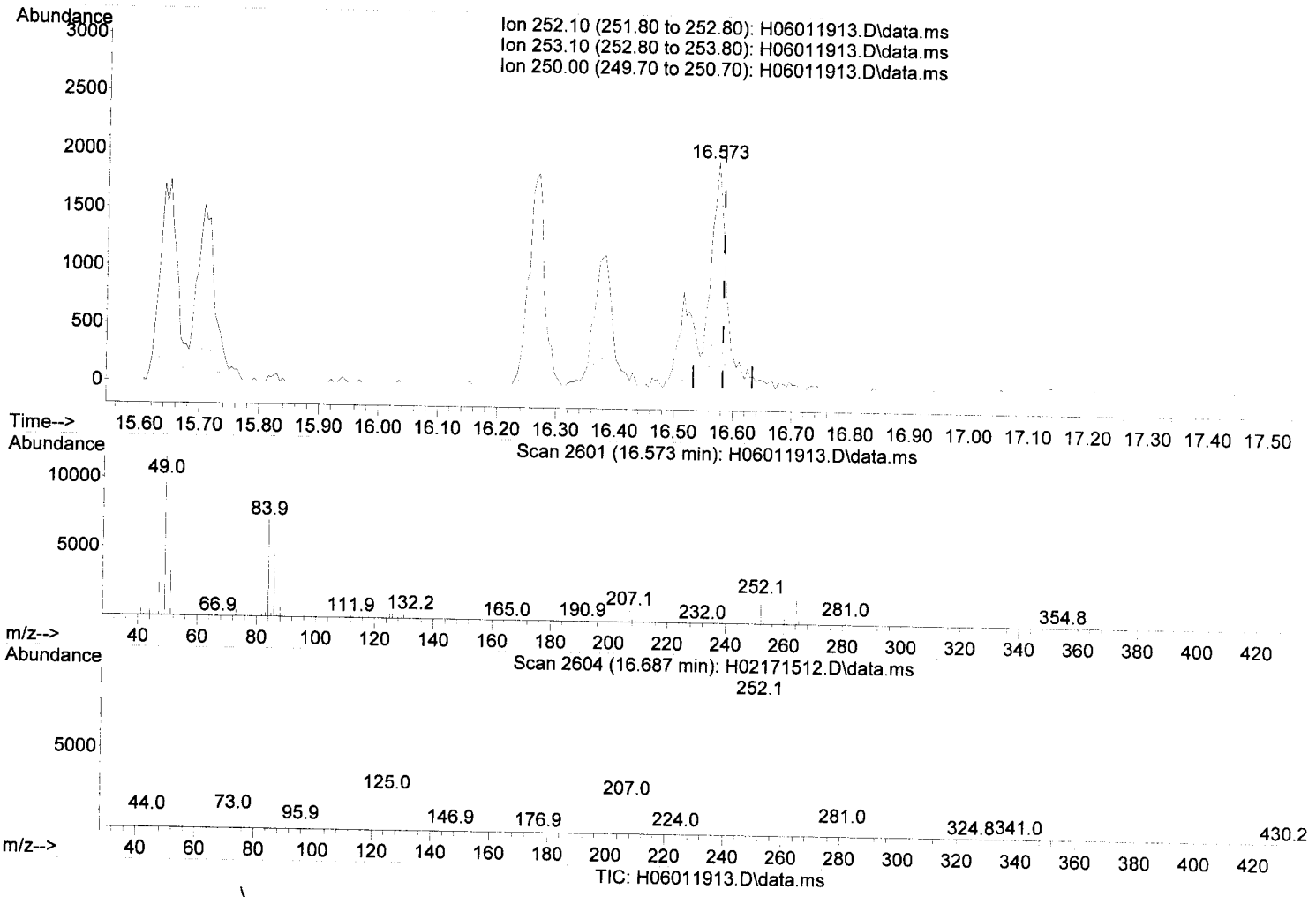
See NJ

(#) = 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



TIC: H06011913.D\data.ms

(31) Perylene (T)

16.573min (-0.010) 0.80 ng/ml

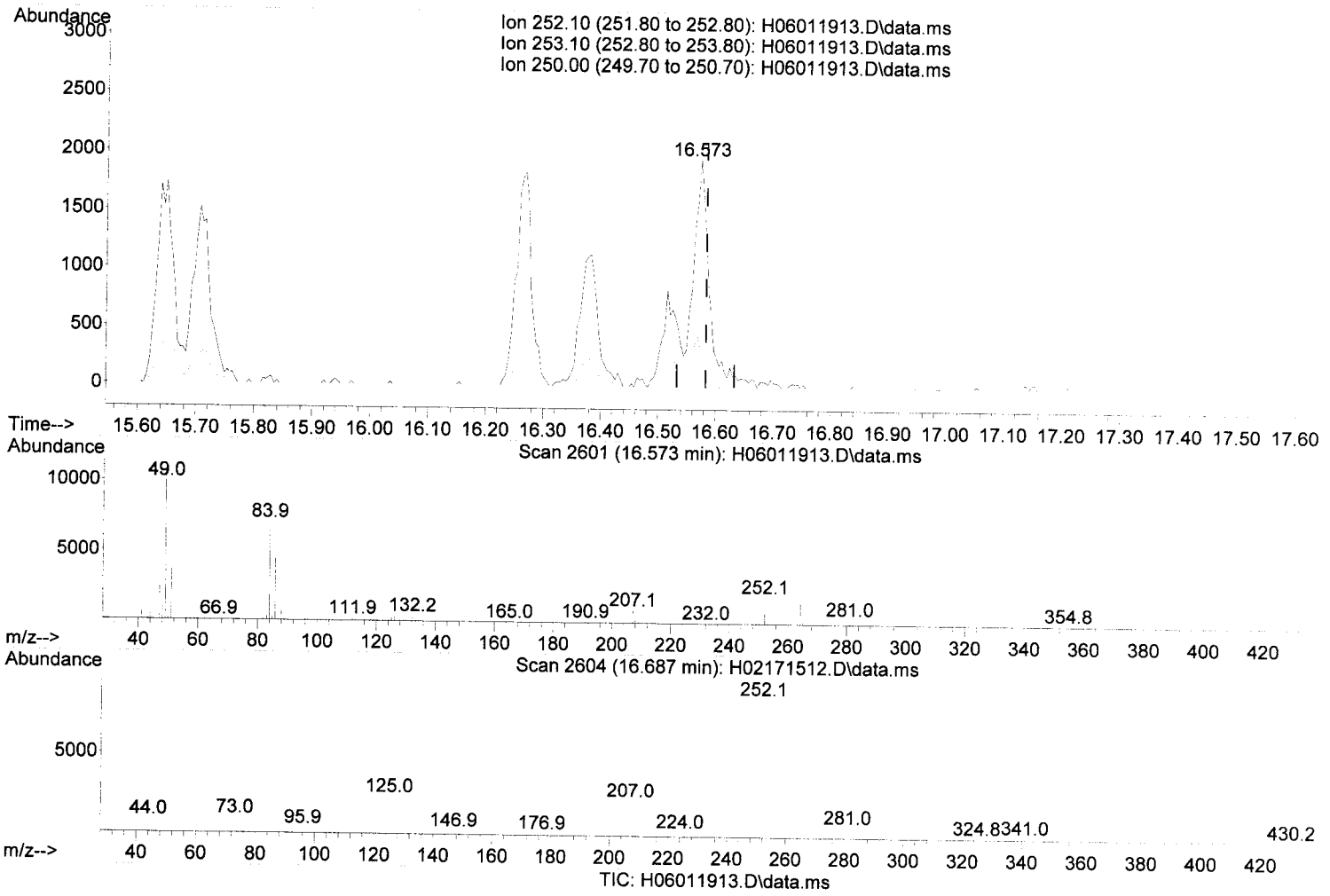
response 2704

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

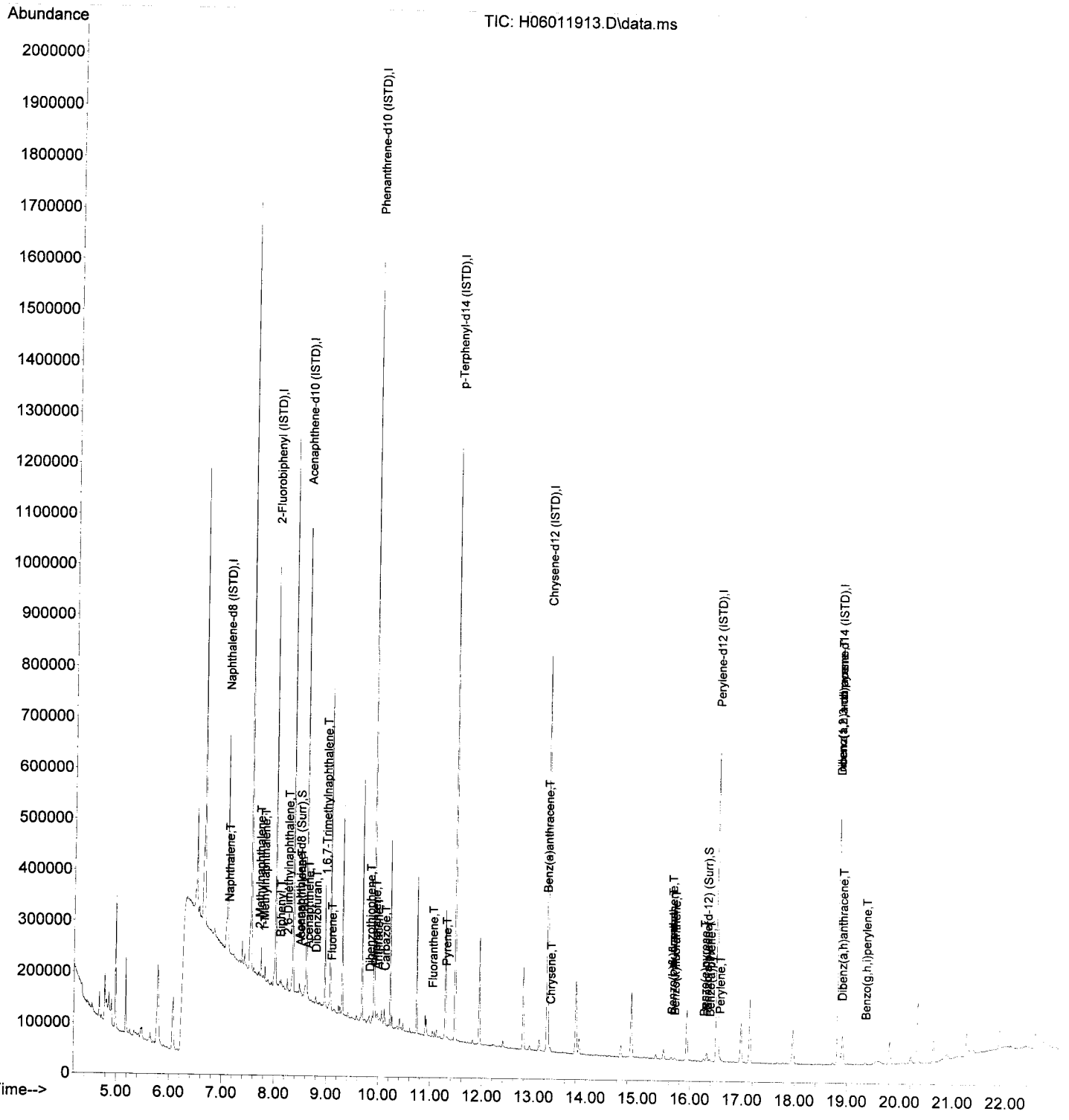
Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	17.15
250.00	27.60	15.31
0.00	0.00	0.00

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

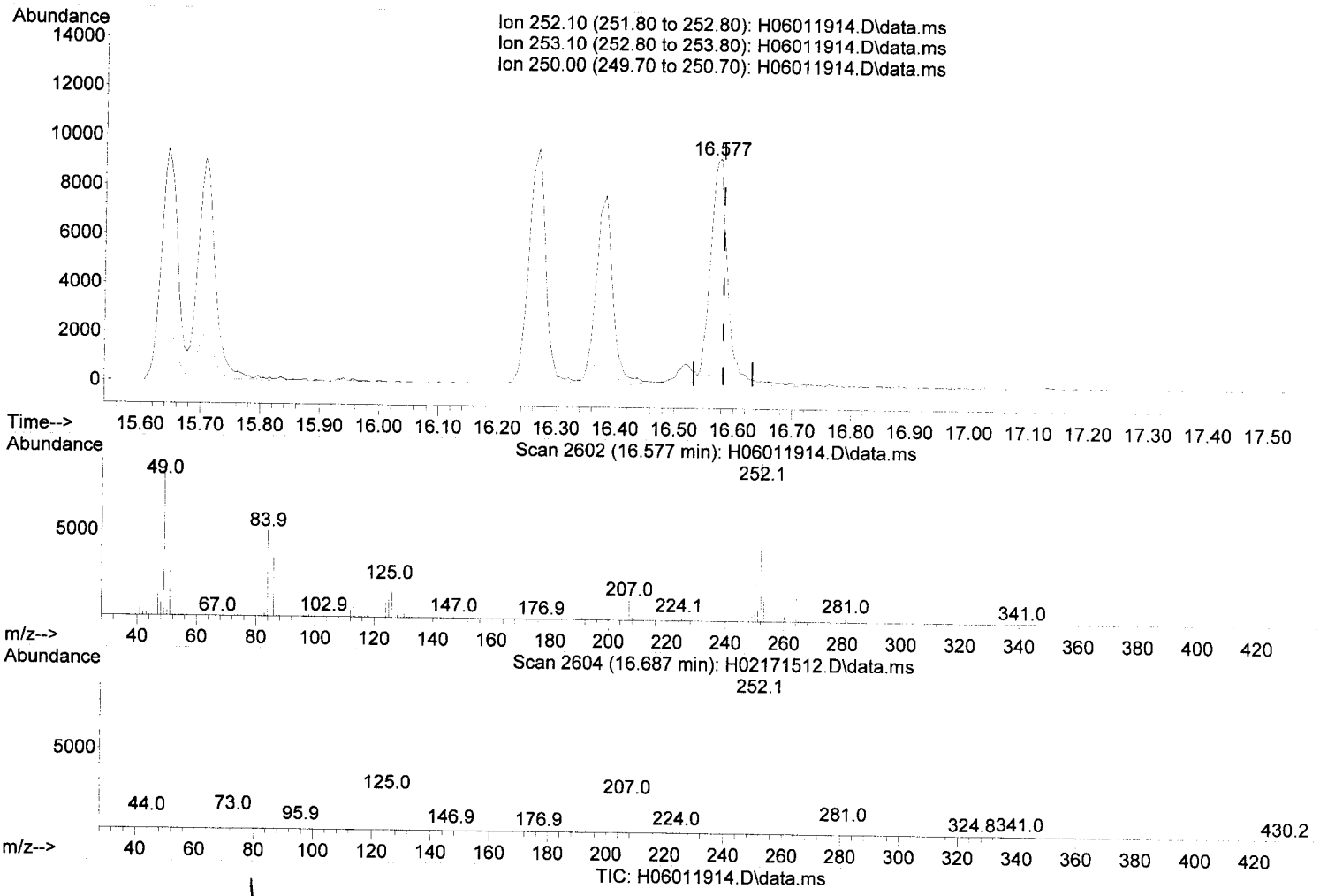
Re MJ

(#) = 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

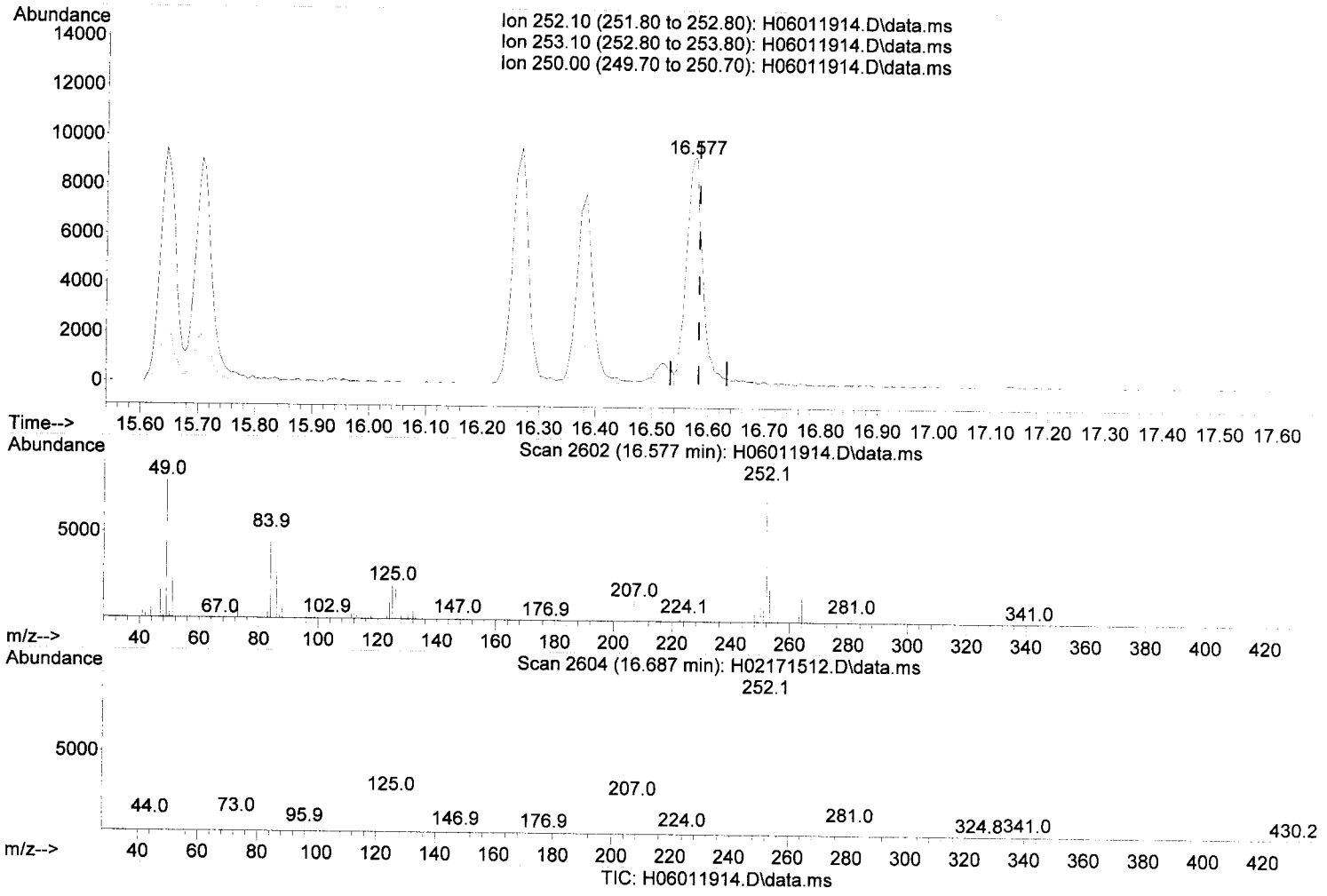
response 16355

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

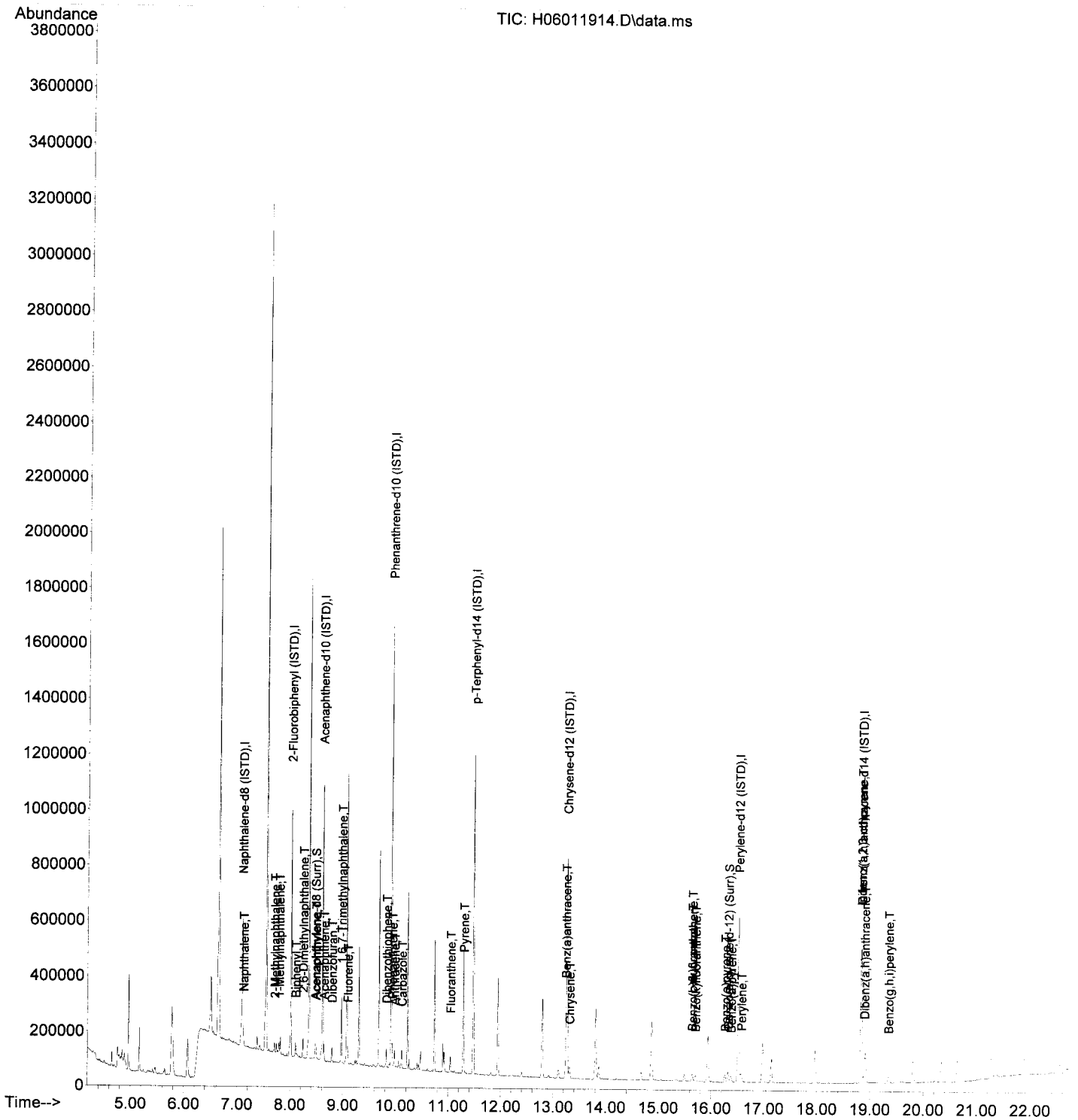
Ion	Exp%	Act%
252.10	100.00	100.00
253.10	23.40	20.79
250.00	27.60	24.95
0.00	0.00	0.00

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

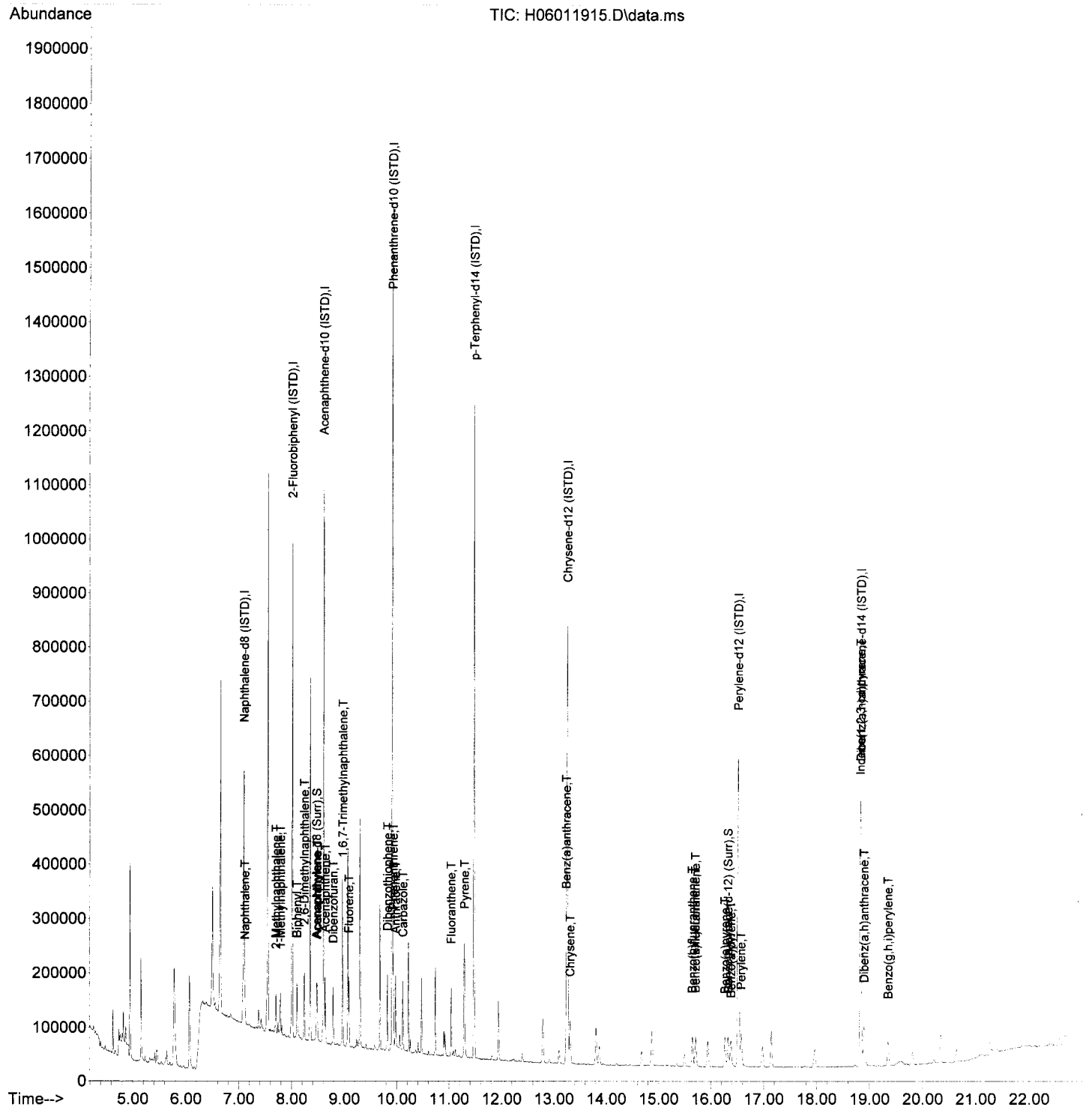
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	237364	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	186187	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	454809	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	426442	100.00	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

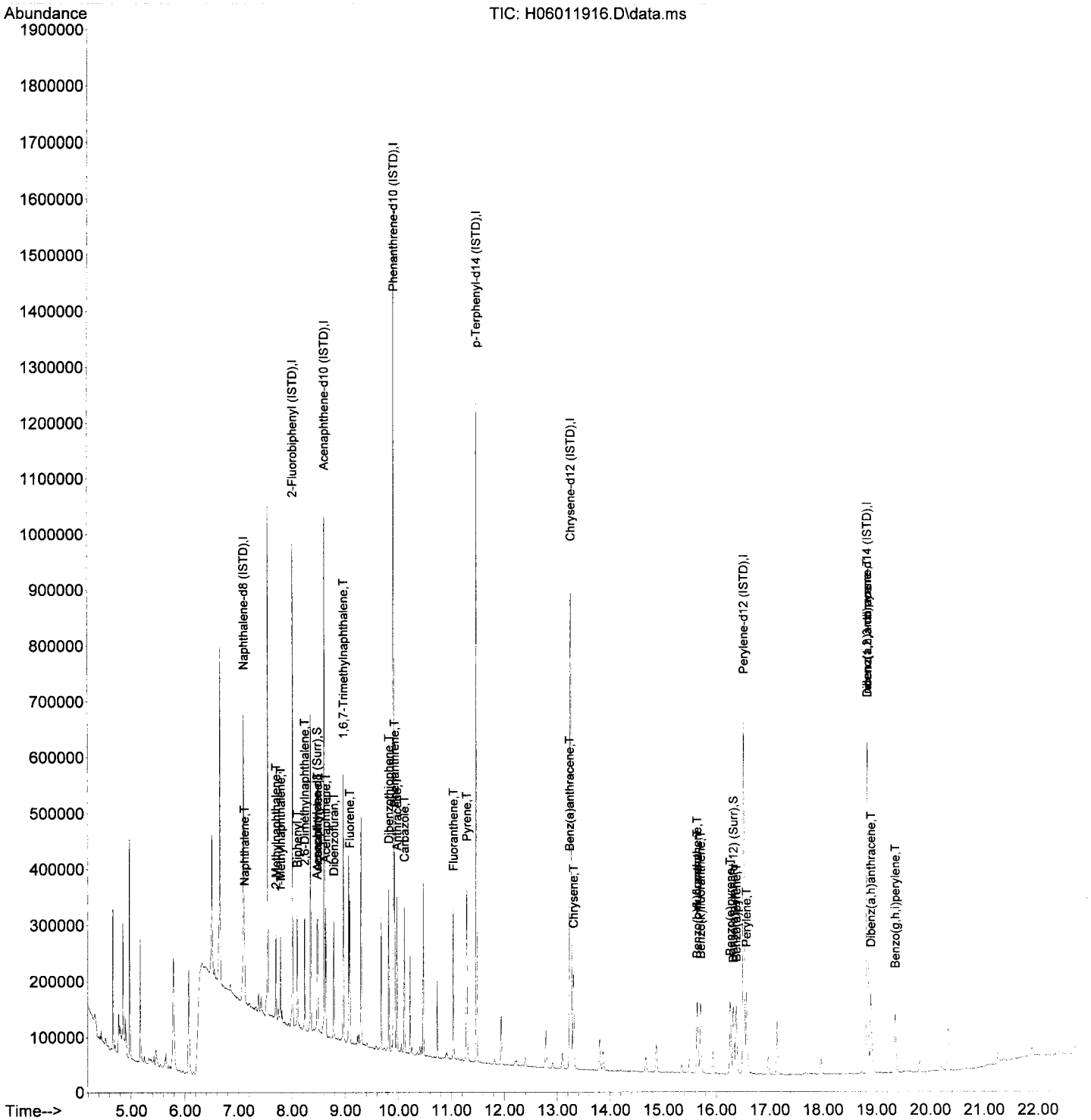
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	237164	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	172012	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	453703	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	442821	100.00	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

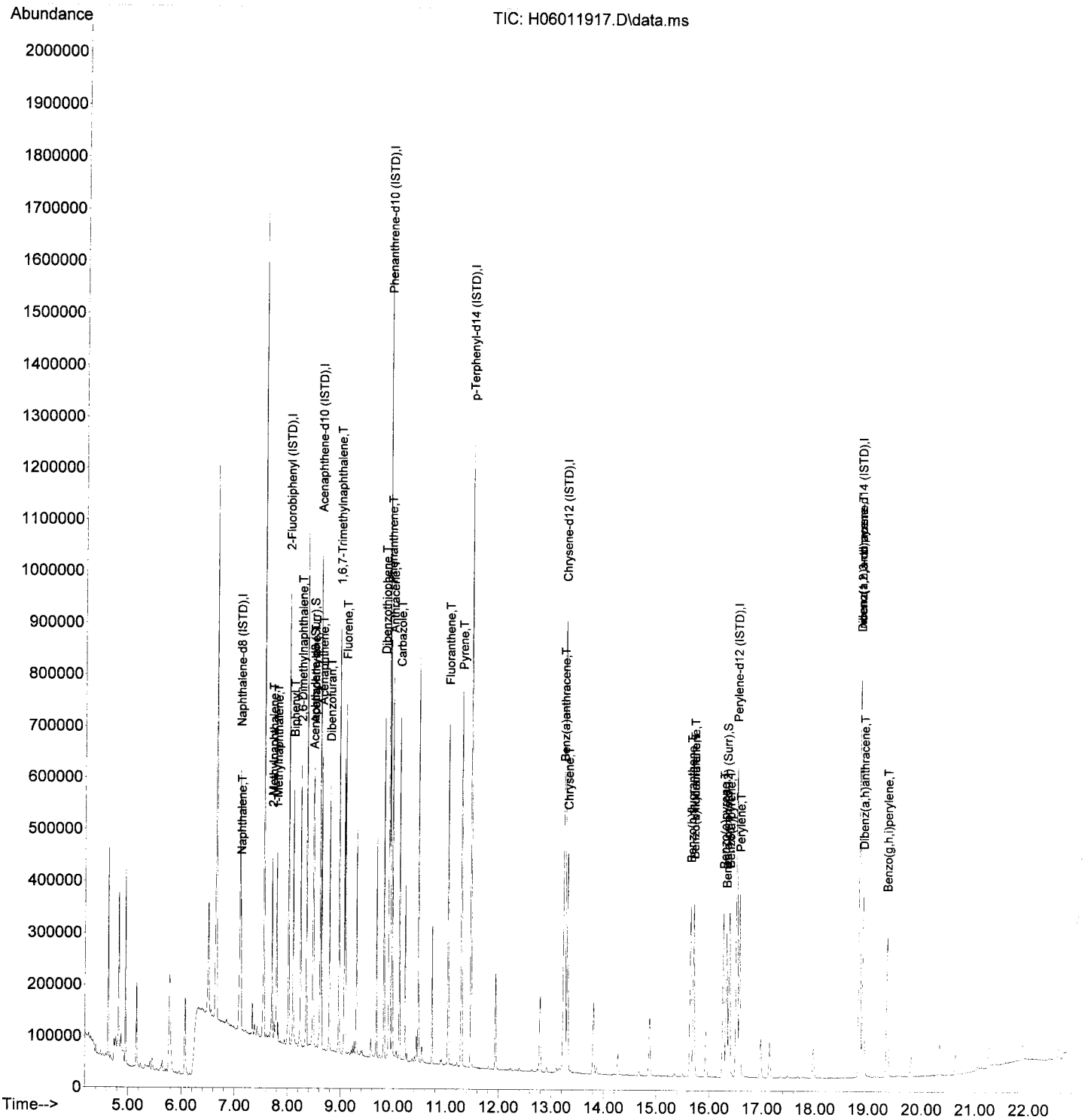
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	222732	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.615	164	177842	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	449650	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.263	240	443314	100.00	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

GD 7/2/19

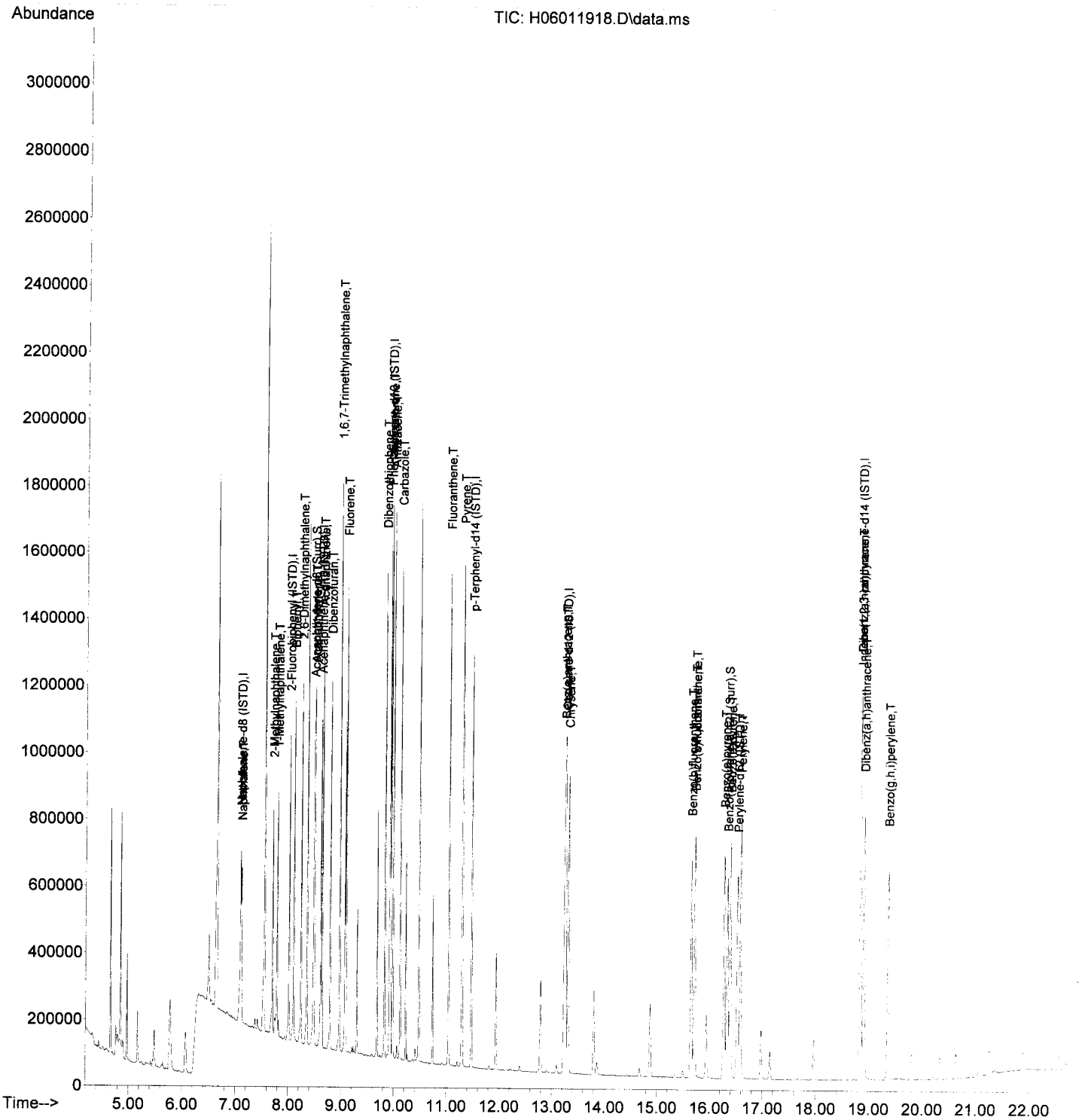
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	224200	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	182494	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.916	188	464459	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.263	240	454246	100.00	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

GH 7/2/19

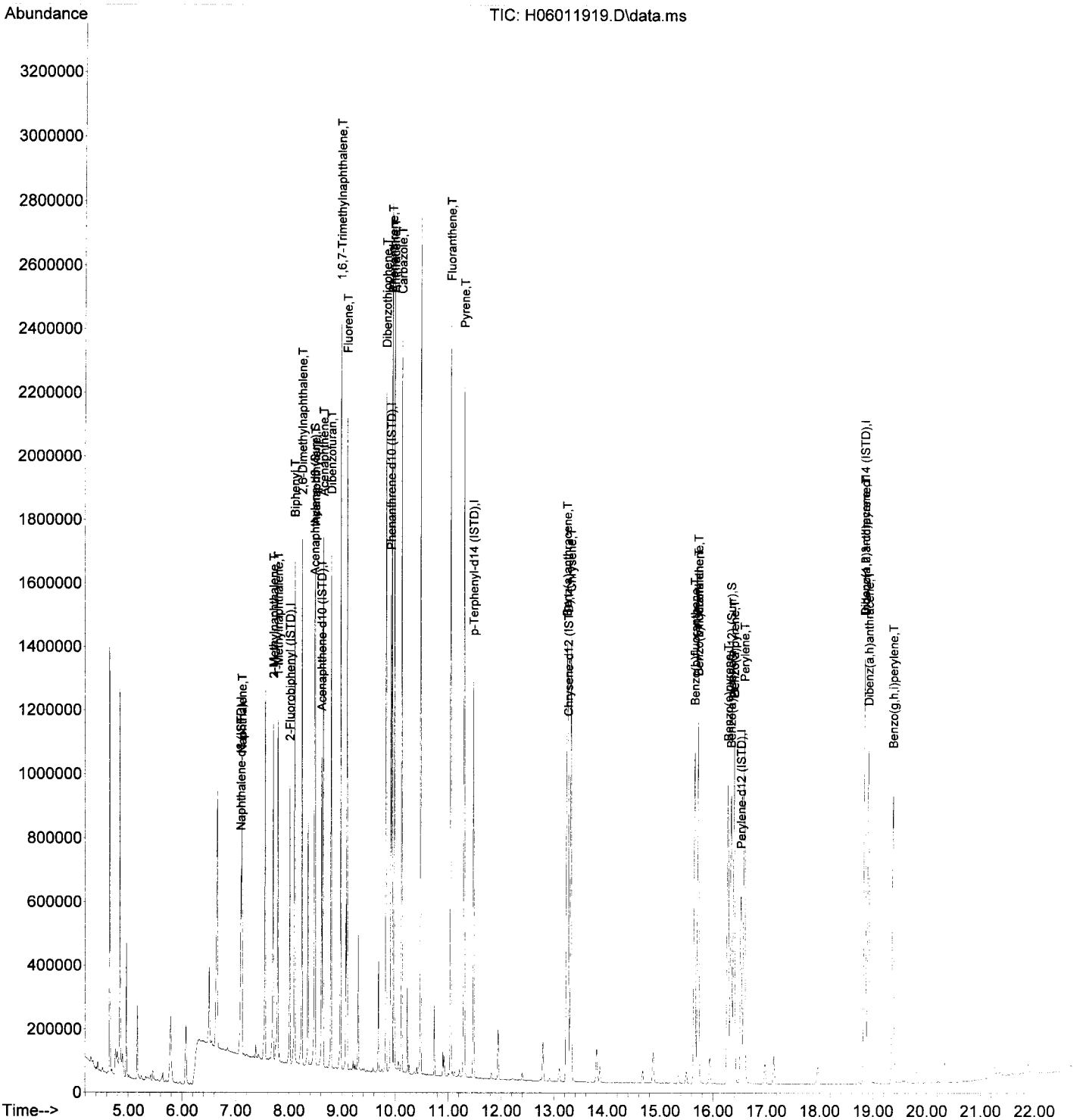
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.096	136	228839	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	177847	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	474967	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.268	240	464736	100.00	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

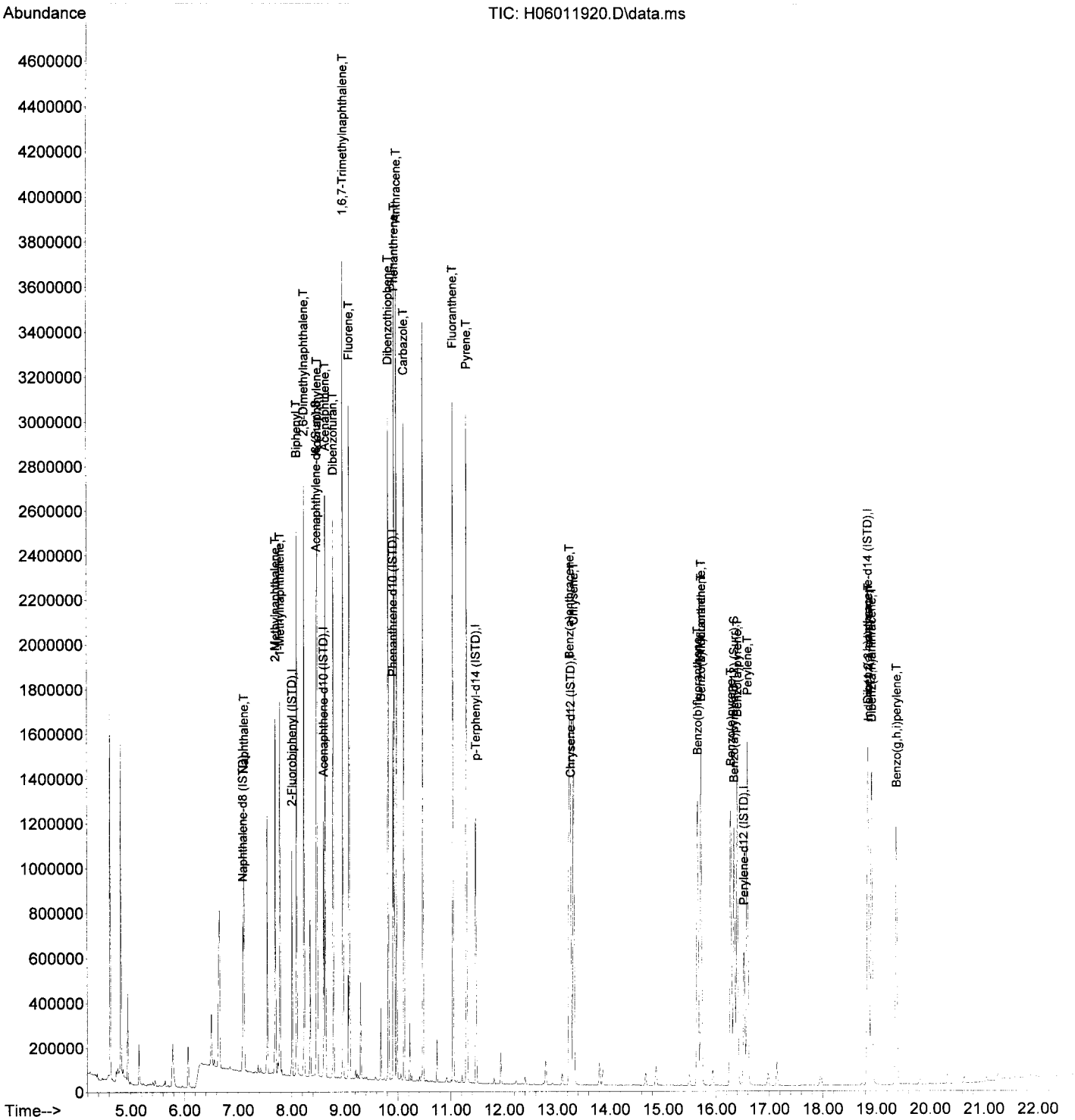
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.097	136	238727	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	204462	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.916	188	493691	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.268	240	474804	100.00	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

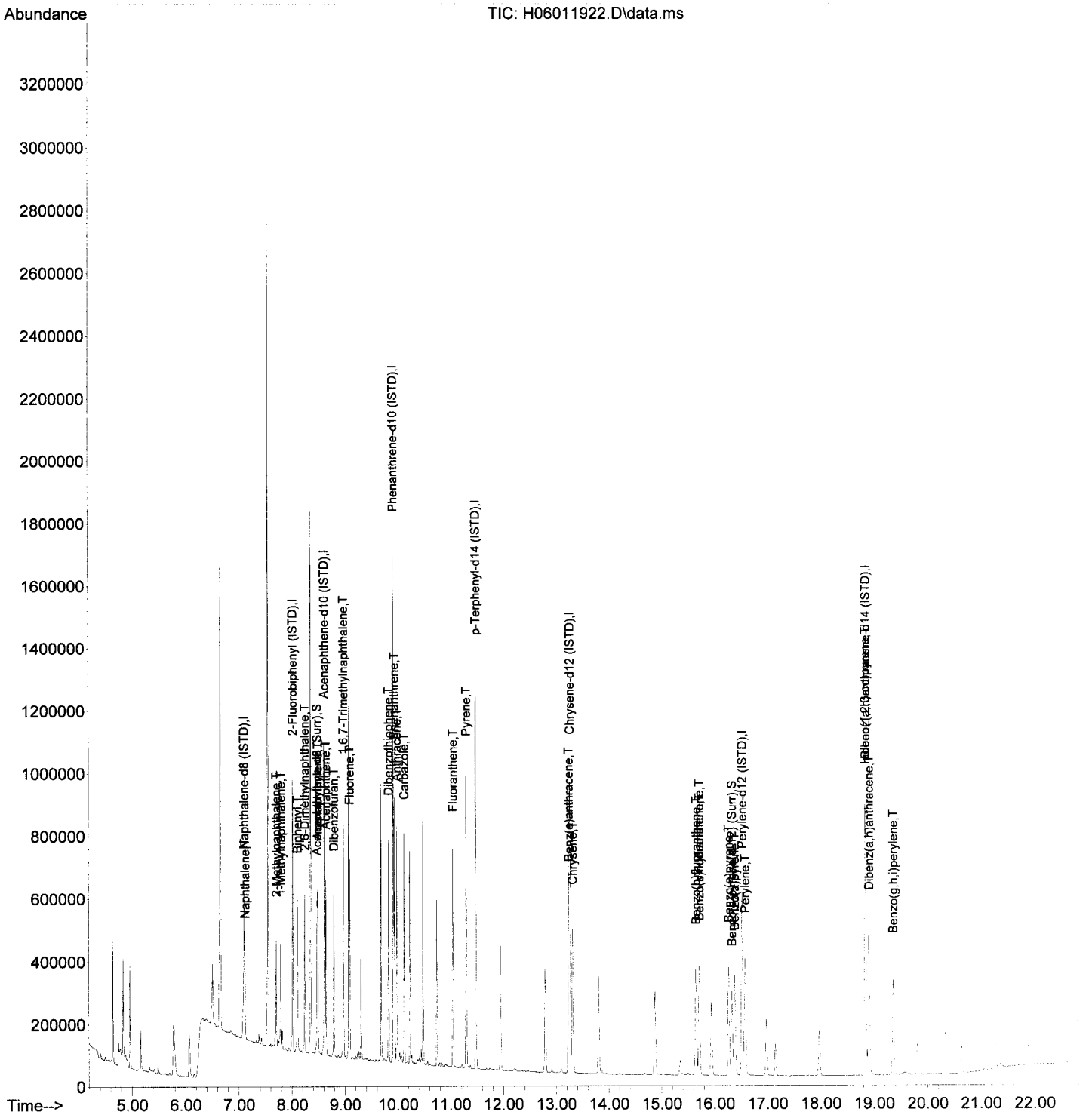
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.101	136	221361	100.00	ng/ml	0.00
5) Acenaphthene-d10 (ISTD)	8.611	164	182926	100.00	ng/ml	0.00
14) Phenanthrene-d10 (ISTD)	9.915	188	475962	100.00	ng/ml	0.00
21) Chrysene-d12 (ISTD)	13.258	240	455684	100.00	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
4) 1-Methylnaphthalene	7.792	142	94964	50.58	ng/ml	96
6) Biphenyl	8.106	154	143967	47.06	ng/ml	93
7) 2,6-Dimethylnaphthalene	8.244	156	102758	47.92	ng/ml	95
9) Acenaphthylene	8.487	152	189329	52.07	ng/ml	98
10) Acenaphthene	8.639	153	125121	46.14	ng/ml	96
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
13) Fluorene	9.092	166	163870	48.82	ng/ml	100
15) Dibenzothiophene	9.825	184	234736	47.85	ng/ml	99
16) Phenanthrene	9.934	178	271794	47.61	ng/ml	99
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
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