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

Level IV Data Package for

Anchor QEA, LLC

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

Apex Laboratories Work Order #:

A9I0922

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

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APEX LABORATORIES, LLC
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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: 11/25/2019
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Apex Work Order Number: A9I0922

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

Tuesday, November 12, 2019

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

RE: A9I0922 - Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores - [none]

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

Enclosed are the results of analyses for work order A9I0922, which was received by the laboratory on 9/30/2019 at 11:20:00AM.

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

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

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler #1	2.8 degC	Cooler #2	2.1 degC
Cooler #3	4.8 degC	Cooler #4	1.4 degC

This Final Report is the official version of the data results for this sample submission, unless superseded by a subsequent, labeled amended report.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

Apex Laboratories

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

Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	Sediment	09/27/19 09:23	09/30/19 11:20
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	Sediment	09/27/19 09:45	09/30/19 11:20
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	Sediment	09/27/19 09:22	09/30/19 11:20
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	Sediment	09/27/19 09:22	09/30/19 11:20
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	Sediment	09/27/19 09:23	09/30/19 11:20
PDI-TB-1909271100	A9I0922-06	WQ	09/27/19 11:00	09/30/19 11:20
PDI-024SC-B-10-12.1-190927	A9I0922-07	Sediment	09/27/19 11:31	09/30/19 11:20
PDI-1024SC-B-10-12.1-190927	A9I0922-08	Sediment	09/27/19 11:31	09/30/19 11:20
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	Sediment	09/29/19 14:00	09/30/19 11:20
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	Sediment	09/29/19 14:01	09/30/19 11:20
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	Sediment	09/29/19 14:02	09/30/19 11:20
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	Sediment	09/29/19 12:41	09/30/19 11:20
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	Sediment	09/29/19 12:54	09/30/19 11:20
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	Sediment	09/29/19 12:37	09/30/19 11:20
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	Sediment	09/29/19 12:38	09/30/19 11:20
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	Sediment	09/29/19 12:44	09/30/19 11:20
PDI-064SC-B-08-10-190929	A9I0922-17	Sediment	09/29/19 08:19	09/30/19 11:20
PDI-064SC-B-10-12-190929	A9I0922-18	Sediment	09/29/19 08:19	09/30/19 11:20
PDI-064SC-B-12-14-190929	A9I0922-19	Sediment	09/29/19 08:19	09/30/19 11:20
PDI-064SC-B-14-15.8-190929	A9I0922-20	Sediment	09/29/19 08:19	09/30/19 11:20
PDI-1064SC-B-08-10-190929	A9I0922-21	Sediment	09/29/19 08:19	09/30/19 11:20

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

6700 S.W. Sandburg Street
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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL CASE NARRATIVE

Work Order: A9I0922

Amended Report Revision 2:

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.
Normally only the Surrogates from the lowest dilution are reported with the sample results for validation purposes.
The added surrogate compounds have been qualified with an "AMEND" flag in this report.

David Jack
Technical Manager
Apex Laboratories
November 11, 2019

Amended Report Revision 1:

Change to Sample Identification:

This report supersedes all previous reports.

Apex Sample ID A9I0922-17 was originally reported with the Client ID of "PDI-064SC-B-8-10-190929".
This has been changed to "'PDI-064SC-B-**0**8-10-190929', which matches the original COC.

David Jack
Technical Manager
November 6, 2019

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	6.46	12.9	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
Toluene	ND	32.3	64.6	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
Ethylbenzene	ND	16.2	32.3	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
m,p-Xylene	ND	32.3	64.6	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
o-Xylene	ND	32.3	32.3	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
Chlorobenzene	ND	16.2	32.3	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
1,1-Dichloroethene	ND	16.2	32.3	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
cis-1,2-Dichloroethene	ND	16.2	32.3	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
Tetrachloroethene (PCE)	ND	16.2	32.3	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
Trichloroethene (TCE)	ND	16.2	32.3	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
Vinyl chloride	ND	16.2	32.3	ug/kg dry	50	09/30/19 19:14	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*109 %*	*Limits: 80-120 %*	*1*	*09/30/19 19:14*	*5035A/8260C*	
Toluene-d8 (Surr)			*99 %*	*80-120 %*	*1*	*09/30/19 19:14*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*09/30/19 19:14*	*5035A/8260C*	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	6.13	12.3	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
Toluene	ND	30.7	61.3	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
Ethylbenzene	ND	15.3	30.7	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
m,p-Xylene	ND	30.7	61.3	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
o-Xylene	ND	15.3	30.7	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
Chlorobenzene	ND	15.3	30.7	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
1,1-Dichloroethene	ND	15.3	30.7	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
cis-1,2-Dichloroethene	ND	15.3	30.7	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
Tetrachloroethene (PCE)	ND	15.3	30.7	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
Trichloroethene (TCE)	ND	15.3	30.7	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
Vinyl chloride	ND	15.3	30.7	ug/kg dry	50	09/30/19 19:41	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*107 %*	*Limits: 80-120 %*	*1*	*09/30/19 19:41*	*5035A/8260C*	
Toluene-d8 (Surr)			*99 %*	*80-120 %*	*1*	*09/30/19 19:41*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*09/30/19 19:41*	*5035A/8260C*	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	**43.7**	8.42	16.8	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
Toluene	ND	42.1	84.2	ug/kg dry	50	09/30/19 20:08	5035A/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 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)				**Matrix: Sediment**		**Batch: 9091435**		
Ethylbenzene	ND	42.1	42.1	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
m,p-Xylene	ND	84.2	84.2	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
o-Xylene	**47.1**	21.0	42.1	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
Chlorobenzene	ND	21.0	42.1	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
1,1-Dichloroethene	ND	21.0	42.1	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
cis-1,2-Dichloroethene	ND	21.0	42.1	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
Tetrachloroethene (PCE)	ND	21.0	42.1	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
Trichloroethene (TCE)	ND	21.0	42.1	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
Vinyl chloride	ND	21.0	42.1	ug/kg dry	50	09/30/19 20:08	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*104 %*	*Limits:*	*80-120 %*	*1*	*09/30/19 20:08*	*5035A/8260C*	
Toluene-d8 (Surr)			*99 %*		*80-120 %*	*1*	*09/30/19 20:08*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*	*1*	*09/30/19 20:08*	*5035A/8260C*	
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	6.30	12.6	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
Toluene	ND	31.5	63.0	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
Ethylbenzene	ND	31.5	31.5	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
m,p-Xylene	ND	31.5	63.0	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
o-Xylene	ND	31.5	31.5	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
Chlorobenzene	ND	15.8	31.5	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
1,1-Dichloroethene	ND	15.8	31.5	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
cis-1,2-Dichloroethene	ND	15.8	31.5	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
Tetrachloroethene (PCE)	ND	15.8	31.5	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
Trichloroethene (TCE)	ND	15.8	31.5	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
Vinyl chloride	ND	15.8	31.5	ug/kg dry	50	09/30/19 20:35	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*108 %*	*Limits:*	*80-120 %*	*1*	*09/30/19 20:35*	*5035A/8260C*	
Toluene-d8 (Surr)			*99 %*		*80-120 %*	*1*	*09/30/19 20:35*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*98 %*		*80-120 %*	*1*	*09/30/19 20:35*	*5035A/8260C*	
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	6.35	12.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
Toluene	ND	31.7	63.5	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
Ethylbenzene	ND	15.9	31.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
m,p-Xylene	ND	31.7	63.5	ug/kg dry	50	09/30/19 21:01	5035A/8260C	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)				**Matrix: Sediment**		**Batch: 9091435**		
o-Xylene	ND	31.7	31.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
Chlorobenzene	ND	15.9	31.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
1,1-Dichloroethene	ND	15.9	31.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
cis-1,2-Dichloroethene	ND	15.9	31.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
Tetrachloroethene (PCE)	ND	15.9	31.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
Trichloroethene (TCE)	ND	15.9	31.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
Vinyl chloride	ND	15.9	31.7	ug/kg dry	50	09/30/19 21:01	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*108 %*	*Limits: 80-120 %*	*1*	*09/30/19 21:01*	*5035A/8260C*	
Toluene-d8 (Surr)			*97 %*	*80-120 %*	*1*	*09/30/19 21:01*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*09/30/19 21:01*	*5035A/8260C*	
PDI-TB-1909271100 (A9I0922-06)				**Matrix: WQ**		**Batch: 9100594**		
Benzene	ND	0.100	0.200	ug/L	1	10/04/19 16:35	EPA 8260C	
Toluene	ND	0.500	1.00	ug/L	1	10/04/19 16:35	EPA 8260C	
Ethylbenzene	ND	0.250	0.500	ug/L	1	10/04/19 16:35	EPA 8260C	
m,p-Xylene	ND	0.500	1.00	ug/L	1	10/04/19 16:35	EPA 8260C	
o-Xylene	ND	0.250	0.500	ug/L	1	10/04/19 16:35	EPA 8260C	
Chlorobenzene	ND	0.250	0.500	ug/L	1	10/04/19 16:35	EPA 8260C	
1,1-Dichloroethene	ND	0.200	0.400	ug/L	1	10/04/19 16:35	EPA 8260C	
cis-1,2-Dichloroethene	ND	0.200	0.400	ug/L	1	10/04/19 16:35	EPA 8260C	
Tetrachloroethene (PCE)	ND	0.200	0.400	ug/L	1	10/04/19 16:35	EPA 8260C	
Trichloroethene (TCE)	ND	0.200	0.400	ug/L	1	10/04/19 16:35	EPA 8260C	
Vinyl chloride	ND	0.200	0.400	ug/L	1	10/04/19 16:35	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*102 %*	*Limits: 80-120 %*	*1*	*10/04/19 16:35*	*EPA 8260C*	
Toluene-d8 (Surr)			*101 %*	*80-120 %*	*1*	*10/04/19 16:35*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*92 %*	*80-120 %*	*1*	*10/04/19 16:35*	*EPA 8260C*	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	7.53	15.1	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
Toluene	ND	37.7	75.3	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
Ethylbenzene	ND	18.8	37.7	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
m,p-Xylene	ND	37.7	75.3	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
o-Xylene	ND	18.8	37.7	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
Chlorobenzene	ND	18.8	37.7	ug/kg dry	50	09/30/19 21:28	5035A/8260C	

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Darwin Thomas, Business Development Director

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-024SC-B-10-12.1-190927 (A9I0922-07)				**Matrix: Sediment**		**Batch: 9091435**		
1,1-Dichloroethene	ND	18.8	37.7	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
cis-1,2-Dichloroethene	ND	18.8	37.7	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
Tetrachloroethene (PCE)	ND	18.8	37.7	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
Trichloroethene (TCE)	ND	18.8	37.7	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
Vinyl chloride	ND	18.8	37.7	ug/kg dry	50	09/30/19 21:28	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*107 %*	*Limits: 80-120 %*	*1*	*09/30/19 21:28*	*5035A/8260C*	
Toluene-d8 (Surr)			*98 %*	*80-120 %*	*1*	*09/30/19 21:28*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*102 %*	*80-120 %*	*1*	*09/30/19 21:28*	*5035A/8260C*	
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	7.34	14.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
Toluene	ND	36.7	73.4	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
Ethylbenzene	ND	18.3	36.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
m,p-Xylene	ND	36.7	73.4	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
o-Xylene	ND	18.3	36.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
Chlorobenzene	ND	18.3	36.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
1,1-Dichloroethene	ND	18.3	36.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
cis-1,2-Dichloroethene	ND	18.3	36.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
Tetrachloroethene (PCE)	ND	18.3	36.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
Trichloroethene (TCE)	ND	18.3	36.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
Vinyl chloride	ND	18.3	36.7	ug/kg dry	50	09/30/19 21:55	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits: 80-120 %*	*1*	*09/30/19 21:55*	*5035A/8260C*	
Toluene-d8 (Surr)			*98 %*	*80-120 %*	*1*	*09/30/19 21:55*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*09/30/19 21:55*	*5035A/8260C*	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	5.89	11.8	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
Toluene	ND	29.5	58.9	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
Ethylbenzene	ND	14.7	29.5	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
m,p-Xylene	ND	29.5	58.9	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
o-Xylene	ND	14.7	29.5	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
Chlorobenzene	ND	14.7	29.5	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
1,1-Dichloroethene	ND	14.7	29.5	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
cis-1,2-Dichloroethene	ND	14.7	29.5	ug/kg dry	50	10/01/19 02:22	5035A/8260C	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)				**Matrix: Sediment**		**Batch: 9091435**		
Tetrachloroethene (PCE)	ND	14.7	29.5	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
Trichloroethene (TCE)	ND	14.7	29.5	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
Vinyl chloride	ND	14.7	29.5	ug/kg dry	50	10/01/19 02:22	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*90 %*	*Limits: 80-120 %*	*1*	*10/01/19 02:22*	*5035A/8260C*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*10/01/19 02:22*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*	*1*	*10/01/19 02:22*	*5035A/8260C*	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	6.65	13.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
Toluene	ND	33.3	66.5	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
Ethylbenzene	ND	16.6	33.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
m,p-Xylene	ND	33.3	66.5	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
o-Xylene	ND	33.3	33.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
Chlorobenzene	ND	16.6	33.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
1,1-Dichloroethene	ND	16.6	33.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
cis-1,2-Dichloroethene	ND	16.6	33.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
Tetrachloroethene (PCE)	ND	16.6	33.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
Trichloroethene (TCE)	ND	16.6	33.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
Vinyl chloride	ND	16.6	33.3	ug/kg dry	50	09/30/19 22:22	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*104 %*	*Limits: 80-120 %*	*1*	*09/30/19 22:22*	*5035A/8260C*	
Toluene-d8 (Surr)			*99 %*	*80-120 %*	*1*	*09/30/19 22:22*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*09/30/19 22:22*	*5035A/8260C*	
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	7.27	14.5	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
Toluene	ND	36.3	72.7	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
Ethylbenzene	ND	18.2	36.3	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
m,p-Xylene	ND	36.3	72.7	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
o-Xylene	ND	18.2	36.3	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
Chlorobenzene	ND	18.2	36.3	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
1,1-Dichloroethene	ND	18.2	36.3	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
cis-1,2-Dichloroethene	ND	18.2	36.3	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
Tetrachloroethene (PCE)	ND	18.2	36.3	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
Trichloroethene (TCE)	ND	18.2	36.3	ug/kg dry	50	09/30/19 22:48	5035A/8260C	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**		**Batch: 9091435**		
Vinyl chloride	ND	18.2	36.3	ug/kg dry	50	09/30/19 22:48	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery: 100 %*		*Limits: 80-120 %*	*1*	*09/30/19 22:48*	*5035A/8260C*	
Toluene-d8 (Surr)		*99 %*		*80-120 %*	*1*	*09/30/19 22:48*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)		*100 %*		*80-120 %*	*1*	*09/30/19 22:48*	*5035A/8260C*	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	6.40	12.8	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
Toluene	ND	32.0	64.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
Ethylbenzene	ND	16.0	32.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
m,p-Xylene	ND	32.0	64.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
o-Xylene	ND	16.0	32.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
Chlorobenzene	ND	16.0	32.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
1,1-Dichloroethene	ND	16.0	32.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
cis-1,2-Dichloroethene	ND	16.0	32.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
Tetrachloroethene (PCE)	ND	16.0	32.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
Trichloroethene (TCE)	ND	16.0	32.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
Vinyl chloride	ND	16.0	32.0	ug/kg dry	50	09/30/19 23:15	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery: 99 %*		*Limits: 80-120 %*	*1*	*09/30/19 23:15*	*5035A/8260C*	
Toluene-d8 (Surr)		*99 %*		*80-120 %*	*1*	*09/30/19 23:15*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)		*100 %*		*80-120 %*	*1*	*09/30/19 23:15*	*5035A/8260C*	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	8.72	17.4	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
Toluene	ND	43.6	87.2	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
Ethylbenzene	ND	21.8	43.6	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
m,p-Xylene	ND	43.6	87.2	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
o-Xylene	ND	43.6	43.6	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
Chlorobenzene	ND	21.8	43.6	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
1,1-Dichloroethene	ND	21.8	43.6	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
cis-1,2-Dichloroethene	ND	21.8	43.6	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
Tetrachloroethene (PCE)	ND	21.8	43.6	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
Trichloroethene (TCE)	ND	21.8	43.6	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
Vinyl chloride	ND	21.8	43.6	ug/kg dry	50	09/30/19 23:42	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery: 97 %*		*Limits: 80-120 %*	*1*	*09/30/19 23:42*	*5035A/8260C*	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)				**Matrix: Sediment**		**Batch: 9091435**		
Surrogate: Toluene-d8 (Surr)			*Recovery: 99 %*	*Limits: 80-120 %*	*1*	*09/30/19 23:42*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*	*1*	*09/30/19 23:42*	*5035A/8260C*	
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	5.91	11.8	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
Toluene	ND	29.6	59.1	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
Ethylbenzene	ND	14.8	29.6	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
m,p-Xylene	ND	29.6	59.1	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
o-Xylene	ND	29.6	29.6	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
Chlorobenzene	ND	14.8	29.6	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
1,1-Dichloroethene	ND	14.8	29.6	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
cis-1,2-Dichloroethene	ND	14.8	29.6	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
Tetrachloroethene (PCE)	ND	14.8	29.6	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
Trichloroethene (TCE)	ND	14.8	29.6	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
Vinyl chloride	ND	14.8	29.6	ug/kg dry	50	10/01/19 00:09	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 96 %*	*Limits: 80-120 %*	*1*	*10/01/19 00:09*	*5035A/8260C*	
Toluene-d8 (Surr)			*99 %*	*80-120 %*	*1*	*10/01/19 00:09*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*98 %*	*80-120 %*	*1*	*10/01/19 00:09*	*5035A/8260C*	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	6.97	13.9	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
Toluene	ND	34.8	69.7	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
Ethylbenzene	ND	17.4	34.8	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
m,p-Xylene	ND	34.8	69.7	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
o-Xylene	ND	34.8	34.8	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
Chlorobenzene	ND	17.4	34.8	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
1,1-Dichloroethene	ND	17.4	34.8	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
cis-1,2-Dichloroethene	ND	17.4	34.8	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
Tetrachloroethene (PCE)	ND	17.4	34.8	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
Trichloroethene (TCE)	ND	17.4	34.8	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
Vinyl chloride	ND	17.4	34.8	ug/kg dry	50	10/01/19 00:35	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 93 %*	*Limits: 80-120 %*	*1*	*10/01/19 00:35*	*5035A/8260C*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*10/01/19 00:35*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*	*1*	*10/01/19 00:35*	*5035A/8260C*	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	7.37	14.7	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
Toluene	ND	36.8	73.7	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
Ethylbenzene	ND	18.4	36.8	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
m,p-Xylene	ND	36.8	73.7	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
o-Xylene	ND	18.4	36.8	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
Chlorobenzene	ND	18.4	36.8	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
1,1-Dichloroethene	ND	18.4	36.8	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
cis-1,2-Dichloroethene	ND	18.4	36.8	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
Tetrachloroethene (PCE)	ND	18.4	36.8	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
Trichloroethene (TCE)	ND	18.4	36.8	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
Vinyl chloride	ND	18.4	36.8	ug/kg dry	50	10/01/19 01:02	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*92 %*	*Limits:*	*80-120 %*	*1*	*10/01/19 01:02*	*5035A/8260C*
Toluene-d8 (Surr)			*100 %*		*80-120 %*	*1*	*10/01/19 01:02*	*5035A/8260C*
4-Bromofluorobenzene (Surr)			*100 %*		*80-120 %*	*1*	*10/01/19 01:02*	*5035A/8260C*
PDI-064SC-B-08-10-190929 (A9I0922-17)				**Matrix: Sediment**		**Batch: 9091435**		
Benzene	ND	8.77	17.5	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
Toluene	ND	43.8	87.7	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
Ethylbenzene	ND	21.9	43.8	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
m,p-Xylene	ND	43.8	87.7	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
o-Xylene	ND	21.9	43.8	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
Chlorobenzene	ND	21.9	43.8	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
1,1-Dichloroethene	ND	21.9	43.8	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
cis-1,2-Dichloroethene	ND	21.9	43.8	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
Tetrachloroethene (PCE)	ND	21.9	43.8	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
Trichloroethene (TCE)	ND	21.9	43.8	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
Vinyl chloride	ND	21.9	43.8	ug/kg dry	50	10/01/19 01:29	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*92 %*	*Limits:*	*80-120 %*	*1*	*10/01/19 01:29*	*5035A/8260C*
Toluene-d8 (Surr)			*100 %*		*80-120 %*	*1*	*10/01/19 01:29*	*5035A/8260C*
4-Bromofluorobenzene (Surr)			*102 %*		*80-120 %*	*1*	*10/01/19 01:29*	*5035A/8260C*
PDI-064SC-B-10-12-190929 (A9I0922-18)				**Matrix: Sediment**		**Batch: 9100477**		
Benzene	ND	7.09	14.2	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
Toluene	ND	35.4	70.9	ug/kg dry	50	10/01/19 12:17	5035A/8260C	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064SC-B-10-12-190929 (A9I0922-18)				**Matrix: Sediment**		**Batch: 9100477**		
Ethylbenzene	ND	17.7	35.4	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
m,p-Xylene	ND	35.4	70.9	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
o-Xylene	ND	17.7	35.4	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
Chlorobenzene	ND	17.7	35.4	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
1,1-Dichloroethene	ND	17.7	35.4	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
cis-1,2-Dichloroethene	ND	17.7	35.4	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
Tetrachloroethene (PCE)	ND	17.7	35.4	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
Trichloroethene (TCE)	ND	17.7	35.4	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
Vinyl chloride	ND	17.7	35.4	ug/kg dry	50	10/01/19 12:17	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*90 %*	*Limits: 80-120 %*	*1*	*10/01/19 12:17*	*5035A/8260C*	
Toluene-d8 (Surr)			*99 %*	*80-120 %*	*1*	*10/01/19 12:17*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*100 %*	*80-120 %*	*1*	*10/01/19 12:17*	*5035A/8260C*	
PDI-064SC-B-12-14-190929 (A9I0922-19)				**Matrix: Sediment**		**Batch: 9100477**		
Benzene	**35.8**	7.74	15.5	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
Toluene	ND	38.7	77.4	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
Ethylbenzene	ND	19.3	38.7	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
m,p-Xylene	ND	38.7	77.4	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
o-Xylene	ND	19.3	38.7	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
Chlorobenzene	ND	19.3	38.7	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
1,1-Dichloroethene	ND	19.3	38.7	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
cis-1,2-Dichloroethene	ND	19.3	38.7	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
Tetrachloroethene (PCE)	ND	19.3	38.7	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
Trichloroethene (TCE)	ND	19.3	38.7	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
Vinyl chloride	ND	19.3	38.7	ug/kg dry	50	10/01/19 12:44	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*89 %*	*Limits: 80-120 %*	*1*	*10/01/19 12:44*	*5035A/8260C*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*10/01/19 12:44*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*10/01/19 12:44*	*5035A/8260C*	
PDI-064SC-B-14-15.8-190929 (A9I0922-20)				**Matrix: Sediment**		**Batch: 9100477**		
Benzene	**42.0**	7.37	14.7	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
Toluene	ND	36.9	73.7	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
Ethylbenzene	ND	18.4	36.9	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
m,p-Xylene	ND	36.9	73.7	ug/kg dry	50	10/01/19 13:11	5035A/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 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064SC-B-14-15.8-190929 (A9I0922-20)				**Matrix: Sediment**		**Batch: 9100477**		
o-Xylene	ND	36.9	36.9	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
Chlorobenzene	ND	18.4	36.9	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
1,1-Dichloroethene	ND	18.4	36.9	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
cis-1,2-Dichloroethene	ND	18.4	36.9	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
Tetrachloroethene (PCE)	ND	18.4	36.9	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
Trichloroethene (TCE)	ND	18.4	36.9	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
Vinyl chloride	ND	18.4	36.9	ug/kg dry	50	10/01/19 13:11	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 88 %*	*Limits: 80-120 %*	*1*	*10/01/19 13:11*	*5035A/8260C*	
Toluene-d8 (Surr)			*101 %*	*80-120 %*	*1*	*10/01/19 13:11*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*10/01/19 13:11*	*5035A/8260C*	
PDI-1064SC-B-08-10-190929 (A9I0922-21)				**Matrix: Sediment**		**Batch: 9100477**		
Benzene	ND	9.34	18.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
Toluene	ND	46.7	93.4	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
Ethylbenzene	ND	23.4	46.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
m,p-Xylene	ND	46.7	93.4	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
o-Xylene	ND	23.4	46.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
Chlorobenzene	ND	23.4	46.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
1,1-Dichloroethene	ND	23.4	46.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
cis-1,2-Dichloroethene	ND	23.4	46.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
Tetrachloroethene (PCE)	ND	23.4	46.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
Trichloroethene (TCE)	ND	23.4	46.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
Vinyl chloride	ND	23.4	46.7	ug/kg dry	50	10/01/19 13:38	5035A/8260C	
Surrogate: 1,4-Difluorobenzene (Surr)			*Recovery: 87 %*	*Limits: 80-120 %*	*1*	*10/01/19 13:38*	*5035A/8260C*	
Toluene-d8 (Surr)			*101 %*	*80-120 %*	*1*	*10/01/19 13:38*	*5035A/8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*10/01/19 13:38*	*5035A/8260C*	

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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 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**112**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Acenaphthylene	**39.1**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Anthracene	**81.4**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Benz(a)anthracene	**141**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Benzo(a)pyrene	**222**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Benzo(b)fluoranthene	**192**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Benzo(k)fluoranthene	**64.7**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**175**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Chrysene	**195**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Dibenz(a,h)anthracene	**18.2**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Fluoranthene	**465**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Fluorene	**51.4**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**151**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
2-Methylnaphthalene	**3.96**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	**J**
Naphthalene	**23.9**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Phenanthrene	**322**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Pyrene	**472**	3.77	7.55	ug/kg dry	4	10/03/19 20:56	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 91 %*	*Limits: 44-115 %*	*4*	*10/03/19 20:56*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*88 %*	*54-127 %*	*4*	*10/03/19 20:56*	*EPA 8270D*	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**74.0**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Acenaphthylene	**29.6**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Anthracene	**99.8**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Benz(a)anthracene	**102**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Benzo(a)pyrene	**156**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Benzo(b)fluoranthene	**140**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Benzo(k)fluoranthene	**42.5**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**120**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Chrysene	**166**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Dibenz(a,h)anthracene	**12.2**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Fluoranthene	**348**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Fluorene	**39.9**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)				**Matrix: Sediment**		**Batch: 9100583**		
Indeno(1,2,3-cd)pyrene	**101**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
2-Methylnaphthalene	ND	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Naphthalene	**27.7**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Phenanthrene	**301**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Pyrene	**338**	3.95	7.89	ug/kg dry	4	10/03/19 21:29	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*88 %*	*Limits: 44-115 %*	*4*	*10/03/19 21:29*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*77 %*	*54-127 %*	*4*	*10/03/19 21:29*	*EPA 8270D*	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**2680**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Acenaphthylene	**958**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Anthracene	**1830**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Benz(a)anthracene	**3320**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Benzo(a)pyrene	**5390**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Benzo(b)fluoranthene	**4740**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Benzo(k)fluoranthene	**1480**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**4160**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Chrysene	**5320**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Dibenz(a,h)anthracene	**424**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Fluoranthene	**10600**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Fluorene	**1030**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**3570**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
2-Methylnaphthalene	ND	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Naphthalene	**477**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Phenanthrene	**5640**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Pyrene	**11200**	105	210	ug/kg dry	100	10/03/19 22:01	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*100 %*	*Limits: 44-115 %*	*100*	*10/03/19 22:01*	*EPA 8270D*	*S-05*
p-Terphenyl-d14 (Surr)			*105 %*	*54-127 %*	*100*	*10/03/19 22:01*	*EPA 8270D*	*S-05*
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**89300**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Acenaphthylene	**17000**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Anthracene	**51700**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)				**Matrix: Sediment**		**Batch: 9100583**		
Benz(a)anthracene	**67100**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Benzo(a)pyrene	**97600**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Benzo(b)fluoranthene	**85400**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Benzo(k)fluoranthene	**28100**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**69900**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Chrysene	**84300**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Dibenz(a,h)anthracene	**7610**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Fluoranthene	**247000**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Fluorene	**40900**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**60700**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
2-Methylnaphthalene	**3460**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	**J**
Naphthalene	**15900**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Phenanthrene	**254000**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Pyrene	**262000**	1860	3730	ug/kg dry	1000	10/04/19 14:14	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*260 %*	*Limits: 44-115 %*	*1000*	*10/04/19 14:14*	*EPA 8270D*	*S-05*
p-Terphenyl-d14 (Surr)			*420 %*	*54-127 %*	*1000*	*10/04/19 14:14*	*EPA 8270D*	*S-05*
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**2640**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Acenaphthylene	**871**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Anthracene	**1890**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Benz(a)anthracene	**3180**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Benzo(a)pyrene	**5160**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Benzo(b)fluoranthene	**4580**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Benzo(k)fluoranthene	**1400**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**3900**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Chrysene	**5270**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Dibenz(a,h)anthracene	**409**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Fluoranthene	**10000**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Fluorene	**980**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**3370**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
2-Methylnaphthalene	ND	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Naphthalene	**535**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)				**Matrix: Sediment**		**Batch: 9100583**		
Phenanthrene	**5590**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Pyrene	**11300**	92.6	185	ug/kg dry	100	10/04/19 14:47	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery: 92 %*	*Limits: 44-115 %*		*100*	*10/04/19 14:47*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)		*95 %*	*54-127 %*		*100*	*10/04/19 14:47*	*EPA 8270D*	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**6.47**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Acenaphthylene	ND	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Anthracene	**2.46**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Benz(a)anthracene	**1.82**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	**J**
Benzo(a)pyrene	**2.20**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	**J**
Benzo(b)fluoranthene	**2.20**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	**J**
Benzo(k)fluoranthene	ND	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Benzo(g,h,i)perylene	**1.55**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	**J**
Chrysene	**2.63**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Dibenz(a,h)anthracene	ND	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Fluoranthene	**7.62**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Fluorene	**2.67**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**1.39**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	**J**
2-Methylnaphthalene	**5.05**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Naphthalene	**5.37**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Phenanthrene	**13.7**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Pyrene	**8.58**	1.10	2.21	ug/kg dry	1	10/04/19 09:57	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery: 84 %*	*Limits: 44-115 %*		*1*	*10/04/19 09:57*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)		*88 %*	*54-127 %*		*1*	*10/04/19 09:57*	*EPA 8270D*	
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**2.30**	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Acenaphthylene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Anthracene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Benz(a)anthracene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Benzo(a)pyrene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Benzo(b)fluoranthene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	

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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 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)				**Matrix: Sediment**		**Batch: 9100583**		
Benzo(k)fluoranthene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Benzo(g,h,i)perylene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Chrysene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Dibenz(a,h)anthracene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Fluoranthene	**1.41**	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	**J**
Fluorene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
2-Methylnaphthalene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Naphthalene	**1.90**	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	**J**
Phenanthrene	ND	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	
Pyrene	**1.99**	1.14	2.28	ug/kg dry	1	10/04/19 10:29	EPA 8270D	**J**
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*75 %*	*Limits: 44-115 %*	*1*	*10/04/19 10:29*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*81 %*	*54-127 %*	*1*	*10/04/19 10:29*	*EPA 8270D*	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**5.33**	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Acenaphthylene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Anthracene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Benz(a)anthracene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Benzo(a)pyrene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Benzo(b)fluoranthene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Benzo(k)fluoranthene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Benzo(g,h,i)perylene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Chrysene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Fluoranthene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Fluorene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
2-Methylnaphthalene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Naphthalene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Phenanthrene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Pyrene	ND	0.965	1.93	ug/kg dry	1	10/03/19 12:53	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*86 %*	*Limits: 44-115 %*	*1*	*10/03/19 12:53*	*EPA 8270D*	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)				**Matrix: Sediment**		**Batch: 9100583**		
Surrogate: p-Terphenyl-d14 (Surr)			*Recovery: 91 %*	*Limits: 54-127 %*	*1*	*10/03/19 12:53*	*EPA 8270D*	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**11.6**	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Acenaphthylene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Anthracene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Benz(a)anthracene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Benzo(a)pyrene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Benzo(b)fluoranthene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Benzo(k)fluoranthene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Benzo(g,h,i)perylene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Chrysene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Fluoranthene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Fluorene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
2-Methylnaphthalene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Naphthalene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Phenanthrene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Pyrene	ND	0.937	1.87	ug/kg dry	1	10/04/19 11:02	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 85 %*	*Limits: 44-115 %*	*1*	*10/04/19 11:02*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*89 %*	*54-127 %*	*1*	*10/04/19 11:02*	*EPA 8270D*	
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**4.93**	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Acenaphthylene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Anthracene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Benz(a)anthracene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Benzo(a)pyrene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Benzo(b)fluoranthene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Benzo(k)fluoranthene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Benzo(g,h,i)perylene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Chrysene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Dibenz(a,h)anthracene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	

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Darwin Thomas, Business Development Director

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**		**Batch: 9100583**		
Fluoranthene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Fluorene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
2-Methylnaphthalene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Naphthalene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Phenanthrene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Pyrene	ND	1.05	2.11	ug/kg dry	1	10/04/19 11:34	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*84 %*	*Limits: 44-115 %*	*1*	*10/04/19 11:34*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*91 %*	*54-127 %*	*1*	*10/04/19 11:34*	*EPA 8270D*	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**9.97**	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Acenaphthylene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Anthracene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Benz(a)anthracene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Benzo(a)pyrene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Benzo(b)fluoranthene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Benzo(k)fluoranthene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Benzo(g,h,i)perylene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Chrysene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Fluoranthene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Fluorene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
2-Methylnaphthalene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Naphthalene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Phenanthrene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Pyrene	ND	0.999	2.00	ug/kg dry	1	10/04/19 12:06	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*88 %*	*Limits: 44-115 %*	*1*	*10/04/19 12:06*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*92 %*	*54-127 %*	*1*	*10/04/19 12:06*	*EPA 8270D*	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthylene	**2.79**	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Anthracene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)				**Matrix: Sediment**		**Batch: 9100583**		
Benz(a)anthracene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Benzo(a)pyrene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Benzo(b)fluoranthene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Benzo(k)fluoranthene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Benzo(g,h,i)perylene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Chrysene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Dibenz(a,h)anthracene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Fluoranthene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Fluorene	**35.0**	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
2-Methylnaphthalene	**12.1**	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Naphthalene	**31.5**	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Phenanthrene	**9.32**	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Pyrene	ND	1.12	2.25	ug/kg dry	1	10/04/19 12:38	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*85 %*	*Limits: 44-115 %*	*1*	*10/04/19 12:38*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*87 %*	*54-127 %*	*1*	*10/04/19 12:38*	*EPA 8270D*	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13RE1)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**319**	11.2	22.5	ug/kg dry	10	10/04/19 15:19	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*93 %*	*Limits: 44-115 %*	*10*	*10/04/19 15:19*	*EPA 8270D*	*AMEND*
p-Terphenyl-d14 (Surr)			*95 %*	*54-127 %*	*10*	*10/04/19 15:19*	*EPA 8270D*	*AMEND*
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**2.73**	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Acenaphthylene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Anthracene	**2.30**	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Benz(a)anthracene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Benzo(a)pyrene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Benzo(b)fluoranthene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Benzo(k)fluoranthene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Benzo(g,h,i)perylene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Chrysene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Fluoranthene	**2.00**	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)				**Matrix: Sediment**		**Batch: 9100583**		
Fluorene	**3.09**	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
2-Methylnaphthalene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Naphthalene	ND	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Phenanthrene	**21.2**	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	
Pyrene	**1.81**	0.926	1.85	ug/kg dry	1	10/04/19 13:10	EPA 8270D	**J**
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*87 %*	*Limits: 44-115 %*	*1*	*10/04/19 13:10*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*97 %*	*54-127 %*	*1*	*10/04/19 13:10*	*EPA 8270D*	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15)				**Matrix: Sediment**		**Batch: 9100583**		
Acenaphthene	**33.5**	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Acenaphthylene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Anthracene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Benz(a)anthracene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Benzo(a)pyrene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Benzo(b)fluoranthene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Benzo(k)fluoranthene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Benzo(g,h,i)perylene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Chrysene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Dibenz(a,h)anthracene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Fluoranthene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Fluorene	**5.03**	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
2-Methylnaphthalene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Naphthalene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Phenanthrene	**11.8**	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Pyrene	ND	0.979	1.96	ug/kg dry	1	10/04/19 13:42	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery:*	*68 %*	*Limits: 44-115 %*	*1*	*10/04/19 13:42*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*84 %*	*54-127 %*	*1*	*10/04/19 13:42*	*EPA 8270D*	
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)				**Matrix: Sediment**		**Batch: 9100706**		
Acenaphthene	**24.6**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Acenaphthylene	**2.88**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	**J**
Anthracene	**3.32**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	

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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 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)				**Matrix: Sediment**		**Batch: 9100706**		
Benz(a)anthracene	**3.54**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Benzo(a)pyrene	**4.70**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Benzo(b)fluoranthene	**4.42**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Benzo(k)fluoranthene	ND	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Benzo(g,h,i)perylene	**3.98**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Chrysene	**4.70**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Dibenz(a,h)anthracene	ND	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Fluoranthene	**14.8**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Fluorene	**2.40**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	**J**
Indeno(1,2,3-cd)pyrene	**3.44**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
2-Methylnaphthalene	ND	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Naphthalene	**3.00**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	**J**
Phenanthrene	**20.0**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Pyrene	**17.4**	1.59	3.17	ug/kg dry	1	10/07/19 18:09	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)		*Recovery: 78 %*		*Limits: 44-115 %*	*1*	*10/07/19 18:09*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*85 %*	*54-127 %*	*1*	*10/07/19 18:09*	*EPA 8270D*	
PDI-064SC-B-08-10-190929 (A9I0922-17)				**Matrix: Sediment**		**Batch: 9100706**		
Acenaphthene	**692**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Acenaphthylene	ND	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Anthracene	**573**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Benz(a)anthracene	**1170**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Benzo(a)pyrene	**1890**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Benzo(b)fluoranthene	**1690**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Benzo(k)fluoranthene	**530**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**1970**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Chrysene	**1510**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Dibenz(a,h)anthracene	ND	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Fluoranthene	**5020**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Fluorene	**420**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**1450**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
2-Methylnaphthalene	ND	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Naphthalene	**534**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064SC-B-08-10-190929 (A9I0922-17)				**Matrix: Sediment**		**Batch: 9100706**		
Phenanthrene	**3940**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Pyrene	**6200**	177	353	ug/kg dry	100	10/07/19 16:02	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 81 %*	*Limits: 44-115 %*	*100*	*10/07/19 16:02*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*90 %*	*54-127 %*	*100*	*10/07/19 16:02*	*EPA 8270D*	
PDI-064SC-B-10-12-190929 (A9I0922-18)				**Matrix: Sediment**		**Batch: 9100706**		
Acenaphthene	**3.95**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Acenaphthylene	**2.36**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	**J**
Anthracene	**1.69**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	**J**
Benz(a)anthracene	**4.18**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Benzo(a)pyrene	**6.58**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Benzo(b)fluoranthene	**6.20**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Benzo(k)fluoranthene	**2.03**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	**J**
Benzo(g,h,i)perylene	**5.91**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Chrysene	**5.61**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Dibenz(a,h)anthracene	ND	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Fluoranthene	**10.3**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Fluorene	ND	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Indeno(1,2,3-cd)pyrene	**5.01**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
2-Methylnaphthalene	ND	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Naphthalene	**3.54**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Phenanthrene	**7.62**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Pyrene	**12.3**	1.54	3.08	ug/kg dry	1	10/07/19 18:41	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 70 %*	*Limits: 44-115 %*	*1*	*10/07/19 18:41*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*85 %*	*54-127 %*	*1*	*10/07/19 18:41*	*EPA 8270D*	
PDI-064SC-B-12-14-190929 (A9I0922-19RE1)				**Matrix: Sediment**		**Batch: 9100706**		
Acenaphthene	**2.95**	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	**J**
Acenaphthylene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Anthracene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Benz(a)anthracene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Benzo(a)pyrene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Benzo(b)fluoranthene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064SC-B-12-14-190929 (A9I0922-19RE1)				**Matrix: Sediment**		**Batch: 9100706**		
Benzo(k)fluoranthene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Benzo(g,h,i)perylene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Chrysene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Dibenz(a,h)anthracene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Fluoranthene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Fluorene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
2-Methylnaphthalene	ND	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Naphthalene	**4.00**	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	
Phenanthrene	**2.75**	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	**J**
Pyrene	**2.04**	1.56	3.12	ug/kg dry	1	10/09/19 21:45	EPA 8270D	**J**
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 86 %*	*Limits: 44-115 %*	*1*	*10/09/19 21:45*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*88 %*	*54-127 %*	*1*	*10/09/19 21:45*	*EPA 8270D*	
PDI-064SC-B-14-15.8-190929 (A9I0922-20RE1)				**Matrix: Sediment**		**Batch: 9100706**		
Acenaphthene	**5.76**	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Acenaphthylene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Anthracene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Benz(a)anthracene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Benzo(a)pyrene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Benzo(b)fluoranthene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Benzo(k)fluoranthene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Benzo(g,h,i)perylene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Chrysene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Dibenz(a,h)anthracene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Fluoranthene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Fluorene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
2-Methylnaphthalene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Naphthalene	**3.97**	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Phenanthrene	**1.74**	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	**J**
Pyrene	ND	1.55	3.09	ug/kg dry	1	10/08/19 15:54	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 79 %*	*Limits: 44-115 %*	*1*	*10/08/19 15:54*	*EPA 8270D*	

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064SC-B-14-15.8-190929 (A9I0922-20RE1)				**Matrix: Sediment**		**Batch: 9100706**		
Surrogate: p-Terphenyl-d14 (Surr)			*Recovery: 86 %*	*Limits: 54-127 %*	*1*	*10/08/19 15:54*	*EPA 8270D*	
PDI-1064SC-B-08-10-190929 (A9I0922-21)				**Matrix: Sediment**		**Batch: 9100706**		
Acenaphthene	**511**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Acenaphthylene	ND	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Anthracene	**376**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Benz(a)anthracene	**831**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Benzo(a)pyrene	**1470**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Benzo(b)fluoranthene	**1310**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Benzo(k)fluoranthene	**373**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	**M-05**
Benzo(g,h,i)perylene	**1520**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Chrysene	**1120**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Dibenz(a,h)anthracene	ND	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Fluoranthene	**3600**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Fluorene	**299**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	**J**
Indeno(1,2,3-cd)pyrene	**1150**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
2-Methylnaphthalene	ND	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Naphthalene	**489**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Phenanthrene	**2860**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Pyrene	**4670**	186	372	ug/kg dry	100	10/07/19 16:34	EPA 8270D	
Surrogate: 2-Fluorobiphenyl (Surr)			*Recovery: 97 %*	*Limits: 44-115 %*	*100*	*10/07/19 16:34*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*95 %*	*54-127 %*	*100*	*10/07/19 16:34*	*EPA 8270D*	

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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 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**2.41**	0.293	0.587	mg/kg dry	5	10/07/19 20:57	EPA 6020A	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.16**	0.285	0.571	mg/kg dry	5	10/07/19 21:01	EPA 6020A	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**2.43**	0.328	0.656	mg/kg dry	5	10/07/19 21:06	EPA 6020A	
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.09**	0.287	0.575	mg/kg dry	5	10/07/19 21:10	EPA 6020A	
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.68**	0.288	0.576	mg/kg dry	5	10/07/19 21:15	EPA 6020A	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**2.20**	0.339	0.678	mg/kg dry	5	10/07/19 21:19	EPA 6020A	
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**2.14**	0.339	0.678	mg/kg dry	5	10/07/19 21:24	EPA 6020A	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.06**	0.289	0.578	mg/kg dry	5	10/07/19 21:38	EPA 6020A	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.53**	0.286	0.573	mg/kg dry	5	10/07/19 21:52	EPA 6020A	
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**				
Batch: 9100531								

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**				
Arsenic	**1.32**	0.335	0.670	mg/kg dry	5	10/07/19 21:56	EPA 6020A	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.39**	0.294	0.588	mg/kg dry	5	10/07/19 22:01	EPA 6020A	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.73**	0.347	0.693	mg/kg dry	5	10/07/19 22:05	EPA 6020A	
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.23**	0.282	0.564	mg/kg dry	5	10/07/19 22:10	EPA 6020A	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15)				**Matrix: Sediment**				
Batch: 9100531								
Arsenic	**1.30**	0.300	0.600	mg/kg dry	5	10/07/19 22:15	EPA 6020A	
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)				**Matrix: Sediment**				
Batch: 9100666								
Arsenic	**1.83**	0.330	0.660	mg/kg dry	5	10/07/19 22:38	EPA 6020A	
PDI-064SC-B-08-10-190929 (A9I0922-17)				**Matrix: Sediment**				
Batch: 9100666								
Arsenic	**4.11**	0.372	0.743	mg/kg dry	5	10/07/19 22:42	EPA 6020A	
PDI-064SC-B-10-12-190929 (A9I0922-18)				**Matrix: Sediment**				
Batch: 9100666								
Arsenic	**2.69**	0.325	0.650	mg/kg dry	5	10/07/19 22:47	EPA 6020A	
PDI-064SC-B-12-14-190929 (A9I0922-19)				**Matrix: Sediment**				
Batch: 9100666								
Arsenic	**3.53**	0.333	0.666	mg/kg dry	5	10/07/19 22:51	EPA 6020A	
PDI-064SC-B-14-15.8-190929 (A9I0922-20)				**Matrix: Sediment**				
Batch: 9100666								

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064SC-B-14-15.8-190929 (A9I0922-20)				**Matrix: Sediment**				
Arsenic	**3.35**	0.345	0.690	mg/kg dry	5	10/07/19 22:56	EPA 6020A	
PDI-1064SC-B-08-10-190929 (A9I0922-21)				**Matrix: Sediment**				
Batch: 9100666								
Arsenic	**3.94**	0.381	0.762	mg/kg dry	5	10/07/19 23:01	EPA 6020A	

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ANALYTICAL SAMPLE RESULTS

Demand Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**0.023**	0.020	0.020	% by Weight	1	10/10/19 09:22	SM 5310 B MOD	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**0.023**	0.020	0.020	% by Weight	1	10/10/19 10:57	SM 5310 B MOD	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**1.0**	0.020	0.020	% by Weight	1	10/10/19 11:13	SM 5310 B MOD	
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**0.052**	0.020	0.020	% by Weight	1	10/10/19 12:00	SM 5310 B MOD	
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**0.13**	0.020	0.020	% by Weight	1	10/10/19 12:24	SM 5310 B MOD	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**0.046**	0.020	0.020	% by Weight	1	10/10/19 13:01	SM 5310 B MOD	
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**0.044**	0.020	0.020	% by Weight	1	10/10/19 14:40	SM 5310 B MOD	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	**0.027**	0.020	0.020	% by Weight	1	10/15/19 18:08	SM 5310 B MOD	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**0.020**	0.020	0.020	% by Weight	1	10/10/19 15:07	SM 5310 B MOD	
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**				
Batch: 9100600								

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ANALYTICAL SAMPLE RESULTS

Demand Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**				
Total Organic Carbon	**0.024**	0.020	0.020	% by Weight	1	10/10/19 15:30	SM 5310 B MOD	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)				**Matrix: Sediment**				
Batch: 9100600								
Total Organic Carbon	**0.025**	0.020	0.020	% by Weight	1	10/10/19 16:23	SM 5310 B MOD	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	**0.19**	0.020	0.020	% by Weight	1	10/15/19 18:40	SM 5310 B MOD	
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	ND	0.020	0.020	% by Weight	1	10/15/19 18:51	SM 5310 B MOD	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	**0.043**	0.020	0.020	% by Weight	1	10/15/19 19:02	SM 5310 B MOD	
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	**0.048**	0.020	0.020	% by Weight	1	10/15/19 19:13	SM 5310 B MOD	
PDI-064SC-B-08-10-190929 (A9I0922-17RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	**1.0**	0.020	0.020	% by Weight	1	10/15/19 19:24	SM 5310 B MOD	
PDI-064SC-B-10-12-190929 (A9I0922-18RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	**0.15**	0.020	0.020	% by Weight	1	10/15/19 19:56	SM 5310 B MOD	
PDI-064SC-B-12-14-190929 (A9I0922-19RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	**0.19**	0.020	0.020	% by Weight	1	10/15/19 20:07	SM 5310 B MOD	
PDI-064SC-B-14-15.8-190929 (A9I0922-20RE1)				**Matrix: Sediment**				
Batch: 9100601								

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6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Demand Parameters

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064SC-B-14-15.8-190929 (A9I0922-20RE1)				**Matrix: Sediment**				
Total Organic Carbon	**0.31**	0.020	0.020	% by Weight	1	10/15/19 20:18	SM 5310 B MOD	
PDI-1064SC-B-08-10-190929 (A9I0922-21RE1)				**Matrix: Sediment**				
Batch: 9100601								
Total Organic Carbon	**0.93**	0.020	0.020	% by Weight	1	10/15/19 20:28	SM 5310 B MOD	

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ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**87.7**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**84.3**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**78.1**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**89.1**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**87.0**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**73.3**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**72.7**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**84.7**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**87.6**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**				
Batch: 9091471								

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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**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)				**Matrix: Sediment**				
Total Solids	**75.9**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**82.8**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**71.0**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**88.7**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**84.7**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**76.3**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-064SC-B-08-10-190929 (A9I0922-17)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**66.1**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-064SC-B-10-12-190929 (A9I0922-18)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**74.8**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-064SC-B-12-14-190929 (A9I0922-19)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**76.0**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-064SC-B-14-15.8-190929 (A9I0922-20)				**Matrix: Sediment**				
Batch: 9091471								

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

ANALYTICAL SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
PDI-064SC-B-14-15.8-190929 (A9I0922-20)				**Matrix: Sediment**				
Total Solids	**73.9**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	
PDI-1064SC-B-08-10-190929 (A9I0922-21)				**Matrix: Sediment**				
Batch: 9091471								
Total Solids	**66.4**	1.00	1.00	% by Weight	1	10/01/19 14:10	SM 2540 G	

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

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

Report ID:
A9I0922 - 11 12 19 0752

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091435 - EPA 5035A							**Soil**					
Blank (9091435-BLK1)			Prepared: 09/30/19 15:00 Analyzed: 09/30/19 16:34									
5035A/8260C												
Benzene	ND	3.33	6.67	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 95 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*103 %*		*80-120 %*			*"*				
LCS (9091435-BS1)			Prepared: 09/30/19 15:00 Analyzed: 09/30/19 15:40									
5035A/8260C												
Benzene	850	5.00	10.0	ug/kg wet	50	1000	---	85	80-120%	---	---	
Toluene	882	25.0	50.0	ug/kg wet	50	1000	---	88	80-120%	---	---	
Ethylbenzene	916	12.5	25.0	ug/kg wet	50	1000	---	92	80-120%	---	---	
m,p-Xylene	1840	25.0	50.0	ug/kg wet	50	2000	---	92	80-120%	---	---	
o-Xylene	907	12.5	25.0	ug/kg wet	50	1000	---	91	80-120%	---	---	
Chlorobenzene	945	12.5	25.0	ug/kg wet	50	1000	---	95	80-120%	---	---	
1,1-Dichloroethene	899	12.5	25.0	ug/kg wet	50	1000	---	90	80-120%	---	---	
cis-1,2-Dichloroethene	902	12.5	25.0	ug/kg wet	50	1000	---	90	80-120%	---	---	
Tetrachloroethene (PCE)	977	12.5	25.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Trichloroethene (TCE)	953	12.5	25.0	ug/kg wet	50	1000	---	95	80-120%	---	---	
Vinyl chloride	876	12.5	25.0	ug/kg wet	50	1000	---	88	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 96 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*101 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*99 %*		*80-120 %*			*"*				
Duplicate (9091435-DUP1)			Prepared: 09/29/19 08:19 Analyzed: 10/01/19 01:55									

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091435 - EPA 5035A							**Soil**					
Duplicate (9091435-DUP1)			Prepared: 09/29/19 08:19 Analyzed: 10/01/19 01:55									
QC Source Sample: PDI-064SC-B-08-10-190929 (A9I0922-17)												
5035A/8260C												
Benzene	ND	9.11	18.2	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	45.6	91.1	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	22.8	45.6	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	45.6	91.1	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	ND	22.8	45.6	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	22.8	45.6	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	22.8	45.6	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	22.8	45.6	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	22.8	45.6	ug/kg dry	50	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	22.8	45.6	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	22.8	45.6	ug/kg dry	50	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 91 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*97 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*100 %*		*80-120 %*			*"*				
Matrix Spike (9091435-MS1)			Prepared: 09/29/19 14:00 Analyzed: 10/01/19 02:49									
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)												
5035A/8260C												
Benzene	1130	6.25	12.5	ug/kg dry	50	1250	ND	90	77-121%	---	---	
Toluene	1230	31.3	62.5	ug/kg dry	50	1250	ND	99	77-121%	---	---	
Ethylbenzene	1310	15.6	31.3	ug/kg dry	50	1250	ND	105	76-122%	---	---	
m,p-Xylene	2670	31.3	62.5	ug/kg dry	50	2500	ND	107	77-124%	---	---	
o-Xylene	1310	15.6	31.3	ug/kg dry	50	1250	ND	104	77-123%	---	---	
Chlorobenzene	1340	15.6	31.3	ug/kg dry	50	1250	ND	107	79-120%	---	---	
1,1-Dichloroethene	1290	15.6	31.3	ug/kg dry	50	1250	ND	103	70-131%	---	---	
cis-1,2-Dichloroethene	1280	15.6	31.3	ug/kg dry	50	1250	ND	103	77-123%	---	---	
Tetrachloroethene (PCE)	1290	15.6	31.3	ug/kg dry	50	1250	ND	103	73-128%	---	---	
Trichloroethene (TCE)	1230	15.6	31.3	ug/kg dry	50	1250	ND	98	77-123%	---	---	
Vinyl chloride	1340	15.6	31.3	ug/kg dry	50	1250	ND	107	56-135%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 90 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091435 - EPA 5035A							**Soil**					
Matrix Spike (9091435-MS1)				Prepared: 09/29/19 14:00		Analyzed: 10/01/19 02:49						
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)												
Surr: 4-Bromofluorobenzene (Surr)			*Recovery: 98 %*	*Limits: 80-120 %*		*Dilution: 1x*						
Matrix Spike Dup (9091435-MSD1)				Prepared: 09/29/19 14:00		Analyzed: 10/01/19 03:15						**T-02**
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)												
5035A/8260C												
Benzene	1140	6.25	12.5	ug/kg dry	50	1250	ND	91	77-121%	1	35%	
Toluene	1230	31.3	62.5	ug/kg dry	50	1250	ND	99	77-121%	0.2	35%	
Ethylbenzene	1300	15.6	31.3	ug/kg dry	50	1250	ND	104	76-122%	0.2	35%	
m,p-Xylene	2630	31.3	62.5	ug/kg dry	50	2500	ND	105	77-124%	1	35%	
o-Xylene	1300	15.6	31.3	ug/kg dry	50	1250	ND	104	77-123%	0.3	35%	
Chlorobenzene	1330	15.6	31.3	ug/kg dry	50	1250	ND	106	79-120%	0.8	35%	
1,1-Dichloroethene	1280	15.6	31.3	ug/kg dry	50	1250	ND	103	70-131%	0.5	35%	
cis-1,2-Dichloroethene	1290	15.6	31.3	ug/kg dry	50	1250	ND	103	77-123%	0.3	35%	
Tetrachloroethene (PCE)	1280	15.6	31.3	ug/kg dry	50	1250	ND	102	73-128%	1	35%	
Trichloroethene (TCE)	1270	15.6	31.3	ug/kg dry	50	1250	ND	101	77-123%	3	35%	
Vinyl chloride	1330	15.6	31.3	ug/kg dry	50	1250	ND	106	56-135%	1	35%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 92 %*	*Limits: 80-120 %*		*Dilution: 1x*						
Toluene-d8 (Surr)			*100 %*	*80-120 %*		*"*						
4-Bromofluorobenzene (Surr)			*95 %*	*80-120 %*		*"*						

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Darwin Thomas, Business Development Director

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AMENDED REPORT

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

Report ID:
A9I0922 - 11 12 19 0752

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100477 - EPA 5035A							**Soil**					
Blank (9100477-BLK1)			Prepared: 10/01/19 10:00 Analyzed: 10/01/19 11:50									
5035A/8260C												
Benzene	ND	3.33	6.67	ug/kg wet	50	---	---	---	---	---	---	
Toluene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
Ethylbenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
m,p-Xylene	ND	16.7	33.3	ug/kg wet	50	---	---	---	---	---	---	
o-Xylene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Chlorobenzene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
1,1-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Vinyl chloride	ND	8.33	16.7	ug/kg wet	50	---	---	---	---	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 91 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*102 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*98 %*	*80-120 %*			*"*					
LCS (9100477-BS1)			Prepared: 10/01/19 10:00 Analyzed: 10/01/19 10:57									
5035A/8260C												
Benzene	878	5.00	10.0	ug/kg wet	50	1000	---	88	80-120%	---	---	
Toluene	992	25.0	50.0	ug/kg wet	50	1000	---	99	80-120%	---	---	
Ethylbenzene	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
m,p-Xylene	2150	25.0	50.0	ug/kg wet	50	2000	---	107	80-120%	---	---	
o-Xylene	1050	12.5	25.0	ug/kg wet	50	1000	---	105	80-120%	---	---	
Chlorobenzene	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
1,1-Dichloroethene	1000	12.5	25.0	ug/kg wet	50	1000	---	100	80-120%	---	---	
cis-1,2-Dichloroethene	975	12.5	25.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Tetrachloroethene (PCE)	1060	12.5	25.0	ug/kg wet	50	1000	---	106	80-120%	---	---	
Trichloroethene (TCE)	985	12.5	25.0	ug/kg wet	50	1000	---	98	80-120%	---	---	
Vinyl chloride	973	12.5	25.0	ug/kg wet	50	1000	---	97	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 88 %*	*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)			*102 %*	*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)			*97 %*	*80-120 %*			*"*					
Duplicate (9100477-DUP1)			Prepared: 09/27/19 17:06 Analyzed: 10/01/19 15:52									

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100477 - EPA 5035A							**Soil**					
Duplicate (9100477-DUP1)			Prepared: 09/27/19 17:06 Analyzed: 10/01/19 15:52									
QC Source Sample: Non-SDG (A9I0948-03)												
Benzene	ND	6.57	13.1	ug/kg dry	50	---	ND	---	---	---	30%	
Toluene	ND	32.8	65.7	ug/kg dry	50	---	ND	---	---	---	30%	
Ethylbenzene	ND	16.4	32.8	ug/kg dry	50	---	ND	---	---	---	30%	
m,p-Xylene	ND	32.8	65.7	ug/kg dry	50	---	ND	---	---	---	30%	
o-Xylene	ND	16.4	32.8	ug/kg dry	50	---	ND	---	---	---	30%	
Chlorobenzene	ND	16.4	32.8	ug/kg dry	50	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	16.4	32.8	ug/kg dry	50	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	16.4	32.8	ug/kg dry	50	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	16.4	32.8	ug/kg dry	50	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	16.4	32.8	ug/kg dry	50	---	ND	---	---	---	30%	
Vinyl chloride	ND	16.4	32.8	ug/kg dry	50	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 97 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*101 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*102 %*		*80-120 %*			*"*				
Matrix Spike (9100477-MS1)			Prepared: 09/29/19 08:19 Analyzed: 10/01/19 17:12									
QC Source Sample: Non-SDG (A9I0936-22)												
5035A/8260C												
Benzene	2090	10.7	21.5	ug/kg dry	50	2150	ND	97	77-121%	---	---	
Toluene	2100	53.7	107	ug/kg dry	50	2150	ND	98	77-121%	---	---	
Ethylbenzene	2200	26.9	53.7	ug/kg dry	50	2150	ND	101	76-122%	---	---	
m,p-Xylene	4460	53.7	107	ug/kg dry	50	4300	ND	104	77-124%	---	---	
o-Xylene	2210	26.9	53.7	ug/kg dry	50	2150	ND	101	77-123%	---	---	
Chlorobenzene	2250	26.9	53.7	ug/kg dry	50	2150	ND	105	79-120%	---	---	
1,1-Dichloroethene	2150	26.9	53.7	ug/kg dry	50	2150	ND	100	70-131%	---	---	
cis-1,2-Dichloroethene	2280	26.9	53.7	ug/kg dry	50	2150	ND	106	77-123%	---	---	
Tetrachloroethene (PCE)	2240	26.9	53.7	ug/kg dry	50	2150	ND	104	73-128%	---	---	
Trichloroethene (TCE)	2300	26.9	53.7	ug/kg dry	50	2150	ND	107	77-123%	---	---	
Vinyl chloride	2310	26.9	53.7	ug/kg dry	50	2150	ND	107	56-135%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 99 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*98 %*		*80-120 %*			*"*				

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Darwin Thomas, Business Development Director

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100477 - EPA 5035A							**Soil**					
Matrix Spike Dup (9100477-MSD1)			Prepared: 09/29/19 08:19		Analyzed: 10/01/19 17:39							
QC Source Sample: Non-SDG (A9I0936-22)												
Benzene	2120	10.7	21.5	ug/kg dry	50	2150	ND	99	77-121%	2	35%	
Toluene	2050	53.7	107	ug/kg dry	50	2150	ND	95	77-121%	3	35%	
Ethylbenzene	2090	26.9	53.7	ug/kg dry	50	2150	ND	96	76-122%	5	35%	
m,p-Xylene	4170	53.7	107	ug/kg dry	50	4300	ND	97	77-124%	7	35%	
o-Xylene	2040	26.9	53.7	ug/kg dry	50	2150	ND	94	77-123%	8	35%	
Chlorobenzene	2180	26.9	53.7	ug/kg dry	50	2150	ND	101	79-120%	3	35%	
1,1-Dichloroethene	2220	26.9	53.7	ug/kg dry	50	2150	ND	103	70-131%	3	35%	
cis-1,2-Dichloroethene	2250	26.9	53.7	ug/kg dry	50	2150	ND	105	77-123%	2	35%	
Tetrachloroethene (PCE)	2200	26.9	53.7	ug/kg dry	50	2150	ND	102	73-128%	2	35%	
Trichloroethene (TCE)	2390	26.9	53.7	ug/kg dry	50	2150	ND	111	77-123%	4	35%	
Vinyl chloride	2260	26.9	53.7	ug/kg dry	50	2150	ND	105	56-135%	2	35%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 104 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*101 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*100 %*		*80-120 %*			*"*				

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Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

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

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Darwin Thomas, Business Development Director

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503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

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

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Darwin Thomas, Business Development Director

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Selected Volatile Organic Compounds by EPA 8260C

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

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

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

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100583 - EPA 3546							**Sediment**					
LCS (9100583-BS1)			Prepared: 10/03/19 06:49		Analyzed: 10/03/19 12:21							
Fluorene	13.2	0.833	1.67	ug/kg wet	1	13.3	---	99	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	12.7	0.833	1.67	ug/kg wet	1	13.3	---	95	45-133%	---	---	
2-Methylnaphthalene	11.4	0.833	1.67	ug/kg wet	1	13.3	---	85	38-122%	---	---	
Naphthalene	12.2	0.833	1.67	ug/kg wet	1	13.3	---	92	35-123%	---	---	
Phenanthrene	12.7	0.833	1.67	ug/kg wet	1	13.3	---	95	50-121%	---	---	
Pyrene	12.6	0.833	1.67	ug/kg wet	1	13.3	---	94	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 93 %*		*Limits: 44-115 %*			*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*98 %*		*54-127 %*			*"*				
Matrix Spike (9100583-MS1)			Prepared: 10/03/19 06:49		Analyzed: 10/03/19 13:26							
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)												
EPA 8270D												
Acenaphthene	16.3	0.964	1.93	ug/kg dry	1	15.4	5.33	71	40-122%	---	---	
Acenaphthylene	13.4	0.964	1.93	ug/kg dry	1	15.4	ND	87	32-132%	---	---	
Anthracene	14.1	0.964	1.93	ug/kg dry	1	15.4	ND	92	47-123%	---	---	
Benz(a)anthracene	13.5	0.964	1.93	ug/kg dry	1	15.4	ND	88	49-126%	---	---	
Benzo(a)pyrene	13.9	0.964	1.93	ug/kg dry	1	15.4	ND	90	45-129%	---	---	
Benzo(b)fluoranthene	14.3	0.964	1.93	ug/kg dry	1	15.4	ND	92	45-132%	---	---	
Benzo(k)fluoranthene	14.1	0.964	1.93	ug/kg dry	1	15.4	ND	91	47-132%	---	---	
Benzo(g,h,i)perylene	13.0	0.964	1.93	ug/kg dry	1	15.4	ND	85	43-134%	---	---	
Chrysene	14.2	0.964	1.93	ug/kg dry	1	15.4	ND	92	50-124%	---	---	
Dibenz(a,h)anthracene	13.1	0.964	1.93	ug/kg dry	1	15.4	ND	85	45-134%	---	---	
Fluoranthene	14.8	0.964	1.93	ug/kg dry	1	15.4	ND	96	50-127%	---	---	
Fluorene	15.0	0.964	1.93	ug/kg dry	1	15.4	ND	97	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	13.2	0.964	1.93	ug/kg dry	1	15.4	ND	85	45-133%	---	---	
2-Methylnaphthalene	12.7	0.964	1.93	ug/kg dry	1	15.4	ND	82	38-122%	---	---	
Naphthalene	13.5	0.964	1.93	ug/kg dry	1	15.4	ND	88	35-123%	---	---	
Phenanthrene	14.0	0.964	1.93	ug/kg dry	1	15.4	ND	91	50-121%	---	---	
Pyrene	12.9	0.964	1.93	ug/kg dry	1	15.4	ND	84	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 87 %*		*Limits: 44-115 %*			*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*86 %*		*54-127 %*			*"*				
Matrix Spike Dup (9100583-MSD1)			Prepared: 10/03/19 06:49		Analyzed: 10/03/19 13:58							

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Darwin Thomas, Business Development Director

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100583 - EPA 3546							**Sediment**					
Matrix Spike Dup (9100583-MSD1)			Prepared: 10/03/19 06:49		Analyzed: 10/03/19 13:58							
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)												
EPA 8270D												
Acenaphthene	18.3	0.934	1.87	ug/kg dry	1	14.9	5.33	87	40-122%	11	30%	
Acenaphthylene	12.5	0.934	1.87	ug/kg dry	1	14.9	ND	84	32-132%	7	30%	
Anthracene	13.5	0.934	1.87	ug/kg dry	1	14.9	ND	90	47-123%	5	30%	
Benz(a)anthracene	13.3	0.934	1.87	ug/kg dry	1	14.9	ND	89	49-126%	2	30%	
Benzo(a)pyrene	13.8	0.934	1.87	ug/kg dry	1	14.9	ND	92	45-129%	0.4	30%	
Benzo(b)fluoranthene	14.3	0.934	1.87	ug/kg dry	1	14.9	ND	96	45-132%	0.3	30%	
Benzo(k)fluoranthene	13.9	0.934	1.87	ug/kg dry	1	14.9	ND	93	47-132%	1	30%	
Benzo(g,h,i)perylene	13.6	0.934	1.87	ug/kg dry	1	14.9	ND	91	43-134%	4	30%	
Chrysene	14.3	0.934	1.87	ug/kg dry	1	14.9	ND	95	50-124%	0.7	30%	
Dibenz(a,h)anthracene	13.2	0.934	1.87	ug/kg dry	1	14.9	ND	89	45-134%	1	30%	
Fluoranthene	14.5	0.934	1.87	ug/kg dry	1	14.9	ND	97	50-127%	2	30%	
Fluorene	14.4	0.934	1.87	ug/kg dry	1	14.9	ND	97	43-125%	4	30%	
Indeno(1,2,3-cd)pyrene	13.3	0.934	1.87	ug/kg dry	1	14.9	ND	89	45-133%	1	30%	
2-Methylnaphthalene	11.9	0.934	1.87	ug/kg dry	1	14.9	ND	79	38-122%	6	30%	
Naphthalene	13.1	0.934	1.87	ug/kg dry	1	14.9	ND	88	35-123%	3	30%	
Phenanthrene	13.5	0.934	1.87	ug/kg dry	1	14.9	ND	91	50-121%	3	30%	
Pyrene	14.1	0.934	1.87	ug/kg dry	1	14.9	ND	94	47-127%	9	30%	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 84 %*		*Limits: 44-115 %*			*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*92 %*		*54-127 %*			*"*				

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC
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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100706 - EPA 3546							**Sediment**					
Blank (9100706-BLK1)			Prepared: 10/06/19 07:51		Analyzed: 10/07/19 13:22							
EPA 8270D												
Acenaphthene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Acenaphthylene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Anthracene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Chrysene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Fluoranthene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Fluorene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Naphthalene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Phenanthrene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Pyrene	ND	1.14	2.27	ug/kg wet	1	---	---	---	---	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 86 %*		*Limits: 44-115 %*				*Dilution: 1x*			
p-Terphenyl-d14 (Surr)			*96 %*		*54-127 %*				*"*			
LCS (9100706-BS1)			Prepared: 10/06/19 07:51		Analyzed: 10/07/19 13:54							
EPA 8270D												
Acenaphthene	17.9	1.25	2.50	ug/kg wet	1	20.0	---	89	40-122%	---	---	
Acenaphthylene	17.0	1.25	2.50	ug/kg wet	1	20.0	---	85	32-132%	---	---	
Anthracene	17.4	1.25	2.50	ug/kg wet	1	20.0	---	87	47-123%	---	---	
Benz(a)anthracene	16.5	1.25	2.50	ug/kg wet	1	20.0	---	82	49-126%	---	---	
Benzo(a)pyrene	17.7	1.25	2.50	ug/kg wet	1	20.0	---	89	45-129%	---	---	
Benzo(b)fluoranthene	18.1	1.25	2.50	ug/kg wet	1	20.0	---	90	45-132%	---	---	
Benzo(k)fluoranthene	18.0	1.25	2.50	ug/kg wet	1	20.0	---	90	47-132%	---	---	
Benzo(g,h,i)perylene	16.8	1.25	2.50	ug/kg wet	1	20.0	---	84	43-134%	---	---	
Chrysene	18.0	1.25	2.50	ug/kg wet	1	20.0	---	90	50-124%	---	---	
Dibenz(a,h)anthracene	16.9	1.25	2.50	ug/kg wet	1	20.0	---	85	45-134%	---	---	
Fluoranthene	17.0	1.25	2.50	ug/kg wet	1	20.0	---	85	50-127%	---	---	

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100706 - EPA 3546							**Sediment**					
LCS (9100706-BS1)			Prepared: 10/06/19 07:51		Analyzed: 10/07/19 13:54							
Fluorene	17.9	1.25	2.50	ug/kg wet	1	20.0	---	90	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	16.9	1.25	2.50	ug/kg wet	1	20.0	---	84	45-133%	---	---	
2-Methylnaphthalene	15.5	1.25	2.50	ug/kg wet	1	20.0	---	78	38-122%	---	---	
Naphthalene	18.0	1.25	2.50	ug/kg wet	1	20.0	---	90	35-123%	---	---	
Phenanthrene	17.7	1.25	2.50	ug/kg wet	1	20.0	---	89	50-121%	---	---	
Pyrene	18.1	1.25	2.50	ug/kg wet	1	20.0	---	91	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 89 %*		*Limits: 44-115 %*			*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*93 %*		*54-127 %*			*"*				
Matrix Spike (9100706-MS1)			Prepared: 10/06/19 07:51		Analyzed: 10/07/19 14:58							
QC Source Sample: Non-SDG (A9J0058-12)												
EPA 8270D												
Acenaphthene	19.9	1.38	2.76	ug/kg dry	1	22.1	3.08	76	40-122%	---	---	
Acenaphthylene	18.0	1.38	2.76	ug/kg dry	1	22.1	ND	81	32-132%	---	---	
Anthracene	19.3	1.38	2.76	ug/kg dry	1	22.1	ND	87	47-123%	---	---	
Benz(a)anthracene	18.1	1.38	2.76	ug/kg dry	1	22.1	ND	82	49-126%	---	---	
Benzo(a)pyrene	19.2	1.38	2.76	ug/kg dry	1	22.1	ND	87	45-129%	---	---	
Benzo(b)fluoranthene	19.2	1.38	2.76	ug/kg dry	1	22.1	ND	87	45-132%	---	---	
Benzo(k)fluoranthene	18.8	1.38	2.76	ug/kg dry	1	22.1	ND	85	47-132%	---	---	
Benzo(g,h,i)perylene	18.1	1.38	2.76	ug/kg dry	1	22.1	ND	82	43-134%	---	---	
Chrysene	19.4	1.38	2.76	ug/kg dry	1	22.1	ND	88	50-124%	---	---	
Dibenz(a,h)anthracene	18.0	1.38	2.76	ug/kg dry	1	22.1	ND	81	45-134%	---	---	
Fluoranthene	19.5	1.38	2.76	ug/kg dry	1	22.1	2.06	79	50-127%	---	---	
Fluorene	19.8	1.38	2.76	ug/kg dry	1	22.1	1.52	83	43-125%	---	---	
Indeno(1,2,3-cd)pyrene	17.9	1.38	2.76	ug/kg dry	1	22.1	ND	81	45-133%	---	---	
2-Methylnaphthalene	16.9	1.38	2.76	ug/kg dry	1	22.1	1.60	69	38-122%	---	---	
Naphthalene	19.8	1.38	2.76	ug/kg dry	1	22.1	4.98	67	35-123%	---	---	
Phenanthrene	19.9	1.38	2.76	ug/kg dry	1	22.1	4.29	70	50-121%	---	---	
Pyrene	19.2	1.38	2.76	ug/kg dry	1	22.1	2.60	75	47-127%	---	---	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 85 %*		*Limits: 44-115 %*			*Dilution: 1x*				
p-Terphenyl-d14 (Surr)			*88 %*		*54-127 %*			*"*				
Matrix Spike Dup (9100706-MSD1)			Prepared: 10/06/19 07:51		Analyzed: 10/07/19 15:31							

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Darwin Thomas, Business Development Director

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100706 - EPA 3546							**Sediment**					
Matrix Spike Dup (9100706-MSD1)			Prepared: 10/06/19 07:51		Analyzed: 10/07/19 15:31							
QC Source Sample: Non-SDG (A9J0058-12)												
Acenaphthene	19.9	1.36	2.71	ug/kg dry	1	21.7	3.08	77	40-122%	0.3	30%	
Acenaphthylene	18.2	1.36	2.71	ug/kg dry	1	21.7	ND	84	32-132%	1	30%	
Anthracene	19.1	1.36	2.71	ug/kg dry	1	21.7	ND	88	47-123%	0.9	30%	
Benz(a)anthracene	18.9	1.36	2.71	ug/kg dry	1	21.7	ND	87	49-126%	5	30%	
Benzo(a)pyrene	19.9	1.36	2.71	ug/kg dry	1	21.7	ND	92	45-129%	4	30%	
Benzo(b)fluoranthene	20.6	1.36	2.71	ug/kg dry	1	21.7	ND	95	45-132%	7	30%	
Benzo(k)fluoranthene	18.9	1.36	2.71	ug/kg dry	1	21.7	ND	87	47-132%	0.6	30%	
Benzo(g,h,i)perylene	18.5	1.36	2.71	ug/kg dry	1	21.7	ND	85	43-134%	2	30%	
Chrysene	20.3	1.36	2.71	ug/kg dry	1	21.7	ND	93	50-124%	4	30%	
Dibenz(a,h)anthracene	17.3	1.36	2.71	ug/kg dry	1	21.7	ND	80	45-134%	4	30%	
Fluoranthene	20.5	1.36	2.71	ug/kg dry	1	21.7	2.06	85	50-127%	5	30%	
Fluorene	19.9	1.36	2.71	ug/kg dry	1	21.7	1.52	85	43-125%	0.3	30%	
Indeno(1,2,3-cd)pyrene	18.3	1.36	2.71	ug/kg dry	1	21.7	ND	84	45-133%	2	30%	
2-Methylnaphthalene	17.8	1.36	2.71	ug/kg dry	1	21.7	1.60	75	38-122%	5	30%	
Naphthalene	19.7	1.36	2.71	ug/kg dry	1	21.7	4.98	68	35-123%	0.2	30%	
Phenanthrene	19.9	1.36	2.71	ug/kg dry	1	21.7	4.29	72	50-121%	0.4	30%	
Pyrene	20.2	1.36	2.71	ug/kg dry	1	21.7	2.60	81	47-127%	5	30%	
Surr: 2-Fluorobiphenyl (Surr)			*Recovery: 84 %*		*Limits: 44-115 %*				*Dilution: 1x*			
p-Terphenyl-d14 (Surr)			*87 %*		*54-127 %*				*"*			

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100531 - EPA 3051A												**Sediment**
Blank (9100531-BLK1)			Prepared: 10/02/19 08:34		Analyzed: 10/07/19 20:01							
EPA 6020A												
Arsenic	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
LCS (9100531-BS1)			Prepared: 10/02/19 08:34		Analyzed: 10/07/19 20:06							
EPA 6020A												
Arsenic	23.4	0.250	0.500	mg/kg wet	5	25.0	---	93	80-120%	---	---	
Matrix Spike (9100531-MS1)			Prepared: 10/02/19 08:34		Analyzed: 10/07/19 21:43							
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)												
EPA 6020A												
Arsenic	31.3	0.303	0.606	mg/kg dry	5	30.3	1.06	100	75-125%	---	---	
Matrix Spike Dup (9100531-MSD1)			Prepared: 10/02/19 08:34		Analyzed: 10/07/19 21:47							
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)												
EPA 6020A												
Arsenic	28.5	0.294	0.589	mg/kg dry	5	29.4	1.06	93	75-125%	9	40%	

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100666 - EPA 3051A							**Sediment**					
Blank (9100666-BLK1)			Prepared: 10/04/19 10:27		Analyzed: 10/07/19 22:19							
EPA 6020A												
Arsenic	ND	0.240	0.481	mg/kg wet	5	---	---	---	---	---	---	
LCS (9100666-BS1)			Prepared: 10/04/19 10:27		Analyzed: 10/07/19 22:33							
EPA 6020A												
Arsenic	23.3	0.250	0.500	mg/kg wet	5	25.0	---	93	80-120%	---	---	
Matrix Spike (9100666-MS1)			Prepared: 10/04/19 10:27		Analyzed: 10/07/19 23:28							
QC Source Sample: Non-SDG (A9I0936-22)												
EPA 6020A												
Arsenic	45.5	0.420	0.841	mg/kg dry	5	42.0	6.64	92	75-125%	---	---	
Matrix Spike (9100666-MS2)			Prepared: 10/04/19 10:27		Analyzed: 10/08/19 00:24							
QC Source Sample: Non-SDG (A9J0058-12)												
EPA 6020A												
Arsenic	29.2	0.288	0.576	mg/kg dry	5	28.8	1.93	95	75-125%	---	---	
Matrix Spike Dup (9100666-MSD1)			Prepared: 10/04/19 10:27		Analyzed: 10/07/19 23:33							
QC Source Sample: Non-SDG (A9I0936-22)												
Arsenic	45.7	0.425	0.849	mg/kg dry	5	42.5	6.64	92	75-125%	0.3	40%	
Matrix Spike Dup (9100666-MSD2)			Prepared: 10/04/19 10:27		Analyzed: 10/08/19 00:28							
QC Source Sample: Non-SDG (A9J0058-12)												
Arsenic	29.0	0.282	0.565	mg/kg dry	5	28.2	1.93	96	75-125%	0.7	40%	

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Demand Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100600 - PSEP-5310B TOC							**Sediment**					
Blank (9100600-BLK1)			Prepared: 09/30/19 17:00		Analyzed: 10/10/19 08:29							
SM 5310 B MOD												
Total Organic Carbon	ND	0.020	0.020	% by Weight	1	---	---	---	---	---	---	
LCS (9100600-BS1)			Prepared: 09/30/19 17:00		Analyzed: 10/10/19 08:59							
SM 5310 B MOD												
Total Organic Carbon	9800			mg/kg	1	10000	---	98	90-110%	---	---	
Duplicate (9100600-DUP1)			Prepared: 09/30/19 17:00		Analyzed: 10/10/19 10:10							
QC Source Sample: PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)												
SM 5310 B MOD												
Total Organic Carbon	**0.022**	0.020	0.020	% by Weight	1	---	0.023	---	---	8	20%	

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Demand Parameters

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9100601 - PSEP-5310B TOC							**Sediment**					
Blank (9100601-BLK2)			Prepared: 09/30/19 17:00		Analyzed: 10/15/19 17:46							
SM 5310 B MOD												
Total Organic Carbon	ND	0.020	0.020	% by Weight	1	---	---	---	---	---	---	Q-16
LCS (9100601-BS2)			Prepared: 09/30/19 17:00		Analyzed: 10/15/19 17:57							
SM 5310 B MOD												
Total Organic Carbon	9900			mg/kg	1	10000	---	99	90-110%	---	---	Q-16
Duplicate (9100601-DUP3)			Prepared: 09/30/19 17:00		Analyzed: 10/15/19 18:19							
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09RE1)												
SM 5310 B MOD												
Total Organic Carbon	**0.024**	0.020	0.020	% by Weight	1	---	0.027	---	---	10	20%	Q-16
Duplicate (9100601-DUP4)			Prepared: 09/30/19 17:00		Analyzed: 10/15/19 18:30							
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09RE1)												
SM 5310 B MOD												
Total Organic Carbon	**0.027**	0.020	0.020	% by Weight	1	---	0.027	---	---	0.07	20%	Q-16

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALITY CONTROL (QC) SAMPLE RESULTS

Solid and Moisture Determinations

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9091471 - Total Solids (SM2540G/PSEP)							**Sediment**					
Duplicate (9091471-DUP1)			Prepared: 09/30/19 16:56		Analyzed: 10/01/19 14:10							
QC Source Sample: PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)												
SM 2540 G												
Total Solids	**84.8**	1.00	1.00	% by Weight	1	---	84.7	---	---	0.07	10%	
Duplicate (9091471-DUP2)			Prepared: 09/30/19 16:56		Analyzed: 10/01/19 14:10							
QC Source Sample: PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)												
SM 2540 G												
Total Solids	**87.7**	1.00	1.00	% by Weight	1	---	87.7	---	---	0.009	10%	

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Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

SAMPLE PREPARATION INFORMATION

Selected Volatile Organic Compounds by EPA 8260C

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100594							
A9I0922-06	WQ	EPA 8260C	09/27/19 11:00	10/04/19 14:17	5mL/5mL	5mL/5mL	1.00

Prep: EPA 5035A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9091435							
A9I0922-01	Sediment	5035A/8260C	09/27/19 09:23	09/27/19 09:23	4.95g/5mL	5g/5mL	1.01
A9I0922-02	Sediment	5035A/8260C	09/27/19 09:45	09/27/19 09:45	5.71g/5mL	5g/5mL	0.88
A9I0922-03	Sediment	5035A/8260C	09/27/19 09:22	09/27/19 09:22	4.56g/5mL	5g/5mL	1.10
A9I0922-04	Sediment	5035A/8260C	09/27/19 09:22	09/27/19 09:22	4.93g/5mL	5g/5mL	1.01
A9I0922-05	Sediment	5035A/8260C	09/27/19 09:23	09/27/19 09:23	5.13g/5mL	5g/5mL	0.98
A9I0922-07	Sediment	5035A/8260C	09/27/19 11:31	09/27/19 11:31	5.97g/5mL	5g/5mL	0.84
A9I0922-08	Sediment	5035A/8260C	09/27/19 11:31	09/27/19 11:31	6.29g/5mL	5g/5mL	0.80
A9I0922-09	Sediment	5035A/8260C	09/29/19 14:00	09/29/19 14:00	5.91g/5mL	5g/5mL	0.85
A9I0922-10	Sediment	5035A/8260C	09/29/19 14:01	09/29/19 14:01	4.8g/5mL	5g/5mL	1.04
A9I0922-11	Sediment	5035A/8260C	09/29/19 14:02	09/29/19 14:02	5.8g/5mL	5g/5mL	0.86
A9I0922-12	Sediment	5035A/8260C	09/29/19 12:41	09/29/19 12:41	5.63g/5mL	5g/5mL	0.89
A9I0922-13	Sediment	5035A/8260C	09/29/19 12:54	09/29/19 12:54	5.28g/5mL	5g/5mL	0.95
A9I0922-14	Sediment	5035A/8260C	09/29/19 12:37	09/29/19 12:37	5.34g/5mL	5g/5mL	0.94
A9I0922-15	Sediment	5035A/8260C	09/29/19 12:38	09/29/19 12:38	4.87g/5mL	5g/5mL	1.03
A9I0922-16	Sediment	5035A/8260C	09/29/19 12:44	09/29/19 12:44	5.63g/5mL	5g/5mL	0.89
A9I0922-17	Sediment	5035A/8260C	09/29/19 08:19	09/29/19 08:19	6.1g/5mL	5g/5mL	0.82
Batch: 9100477							
A9I0922-18	Sediment	5035A/8260C	09/29/19 08:19	09/29/19 08:19	6.18g/5mL	5g/5mL	0.81
A9I0922-19	Sediment	5035A/8260C	09/29/19 08:19	09/29/19 08:19	5.34g/5mL	5g/5mL	0.94
A9I0922-20	Sediment	5035A/8260C	09/29/19 08:19	09/29/19 08:19	6.03g/5mL	5g/5mL	0.83
A9I0922-21	Sediment	5035A/8260C	09/29/19 08:19	09/29/19 08:19	5.53g/5mL	5g/5mL	0.90

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100583							
A9I0922-01	Sediment	EPA 8270D	09/27/19 09:23	10/03/19 06:49	15.11g/5mL	10g/5mL	0.66
A9I0922-02	Sediment	EPA 8270D	09/27/19 09:45	10/03/19 06:49	15.04g/5mL	10g/5mL	0.67
A9I0922-03	Sediment	EPA 8270D	09/27/19 09:22	10/03/19 06:49	15.21g/5mL	10g/5mL	0.66

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

SAMPLE PREPARATION INFORMATION

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D

Prep: EPA 3546

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A9I0922-04	Sediment	EPA 8270D	09/27/19 09:22	10/03/19 06:49	15.05g/10mL	10g/5mL	1.33
A9I0922-05	Sediment	EPA 8270D	09/27/19 09:23	10/03/19 06:49	15.51g/5mL	10g/5mL	0.65
A9I0922-07	Sediment	EPA 8270D	09/27/19 11:31	10/03/19 06:49	15.44g/5mL	10g/5mL	0.65
A9I0922-08	Sediment	EPA 8270D	09/27/19 11:31	10/03/19 06:49	15.05g/5mL	10g/5mL	0.66
A9I0922-09	Sediment	EPA 8270D	09/29/19 14:00	10/03/19 06:50	15.28g/5mL	10g/5mL	0.65
A9I0922-10	Sediment	EPA 8270D	09/29/19 14:01	10/03/19 06:50	15.22g/5mL	10g/5mL	0.66
A9I0922-11	Sediment	EPA 8270D	09/29/19 14:02	10/03/19 06:50	15.65g/5mL	10g/5mL	0.64
A9I0922-12	Sediment	EPA 8270D	09/29/19 12:41	10/03/19 06:50	15.1g/5mL	10g/5mL	0.66
A9I0922-13	Sediment	EPA 8270D	09/29/19 12:54	10/03/19 06:50	15.67g/5mL	10g/5mL	0.64
A9I0922-13RE1	Sediment	EPA 8270D	09/29/19 12:54	10/03/19 06:50	15.67g/5mL	10g/5mL	0.64
A9I0922-14	Sediment	EPA 8270D	09/29/19 12:37	10/03/19 06:50	15.22g/5mL	10g/5mL	0.66
A9I0922-15	Sediment	EPA 8270D	09/29/19 12:38	10/03/19 06:50	15.08g/5mL	10g/5mL	0.66
Batch: 9100706							
A9I0922-16	Sediment	EPA 8270D	09/29/19 12:44	10/06/19 07:51	10.33g/5mL	10g/5mL	0.97
A9I0922-17	Sediment	EPA 8270D	09/29/19 08:19	10/06/19 07:51	10.71g/5mL	10g/5mL	0.93
A9I0922-18	Sediment	EPA 8270D	09/29/19 08:19	10/06/19 07:51	10.86g/5mL	10g/5mL	0.92
A9I0922-19RE1	Sediment	EPA 8270D	09/29/19 08:19	10/06/19 07:51	10.54g/5mL	10g/5mL	0.95
A9I0922-20RE1	Sediment	EPA 8270D	09/29/19 08:19	10/06/19 07:51	10.93g/5mL	10g/5mL	0.92
A9I0922-21	Sediment	EPA 8270D	09/29/19 08:19	10/06/19 07:51	10.13g/5mL	10g/5mL	0.99

Total Metals by EPA 6020A (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100531							
A9I0922-01	Sediment	EPA 6020A	09/27/19 09:23	10/02/19 08:34	0.486g/50mL	0.5g/50mL	1.03
A9I0922-02	Sediment	EPA 6020A	09/27/19 09:45	10/02/19 08:34	0.52g/50mL	0.5g/50mL	0.96
A9I0922-03	Sediment	EPA 6020A	09/27/19 09:22	10/02/19 08:34	0.488g/50mL	0.5g/50mL	1.02
A9I0922-04	Sediment	EPA 6020A	09/27/19 09:22	10/02/19 08:34	0.488g/50mL	0.5g/50mL	1.02
A9I0922-05	Sediment	EPA 6020A	09/27/19 09:23	10/02/19 08:34	0.499g/50mL	0.5g/50mL	1.00
A9I0922-07	Sediment	EPA 6020A	09/27/19 11:31	10/02/19 08:34	0.503g/50mL	0.5g/50mL	0.99
A9I0922-08	Sediment	EPA 6020A	09/27/19 11:31	10/02/19 08:34	0.507g/50mL	0.5g/50mL	0.99
A9I0922-09	Sediment	EPA 6020A	09/29/19 14:00	10/02/19 08:34	0.51g/50mL	0.5g/50mL	0.98
A9I0922-10	Sediment	EPA 6020A	09/29/19 14:01	10/02/19 08:34	0.498g/50mL	0.5g/50mL	1.00
A9I0922-11	Sediment	EPA 6020A	09/29/19 14:02	10/02/19 08:34	0.492g/50mL	0.5g/50mL	1.02
A9I0922-12	Sediment	EPA 6020A	09/29/19 12:41	10/02/19 08:34	0.513g/50mL	0.5g/50mL	0.98
A9I0922-13	Sediment	EPA 6020A	09/29/19 12:54	10/02/19 08:34	0.508g/50mL	0.5g/50mL	0.98

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EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

SAMPLE PREPARATION INFORMATION

Total Metals by EPA 6020A (ICPMS)

Prep: EPA 3051A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A9I0922-14	Sediment	EPA 6020A	09/29/19 12:37	10/02/19 08:34	0.5g/50mL	0.5g/50mL	1.00
A9I0922-15	Sediment	EPA 6020A	09/29/19 12:38	10/02/19 08:34	0.492g/50mL	0.5g/50mL	1.02
Batch: 9100666							
A9I0922-16	Sediment	EPA 6020A	09/29/19 12:44	10/04/19 10:27	0.496g/50mL	0.5g/50mL	1.01
A9I0922-17	Sediment	EPA 6020A	09/29/19 08:19	10/04/19 10:27	0.509g/50mL	0.5g/50mL	0.98
A9I0922-18	Sediment	EPA 6020A	09/29/19 08:19	10/04/19 10:27	0.514g/50mL	0.5g/50mL	0.97
A9I0922-19	Sediment	EPA 6020A	09/29/19 08:19	10/04/19 10:27	0.494g/50mL	0.5g/50mL	1.01
A9I0922-20	Sediment	EPA 6020A	09/29/19 08:19	10/04/19 10:27	0.49g/50mL	0.5g/50mL	1.02
A9I0922-21	Sediment	EPA 6020A	09/29/19 08:19	10/04/19 10:27	0.494g/50mL	0.5g/50mL	1.01

Demand Parameters

Prep: PSEP-5310B TOC

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9100600							
A9I0922-01	Sediment	SM 5310 B MOD	09/27/19 09:23	09/30/19 17:00			NA
A9I0922-02	Sediment	SM 5310 B MOD	09/27/19 09:45	09/30/19 17:00			NA
A9I0922-03	Sediment	SM 5310 B MOD	09/27/19 09:22	09/30/19 17:00			NA
A9I0922-04	Sediment	SM 5310 B MOD	09/27/19 09:22	09/30/19 17:00			NA
A9I0922-05	Sediment	SM 5310 B MOD	09/27/19 09:23	09/30/19 17:00			NA
A9I0922-07	Sediment	SM 5310 B MOD	09/27/19 11:31	09/30/19 17:00			NA
A9I0922-08	Sediment	SM 5310 B MOD	09/27/19 11:31	09/30/19 17:00			NA
A9I0922-10	Sediment	SM 5310 B MOD	09/29/19 14:01	09/30/19 17:00			NA
A9I0922-11	Sediment	SM 5310 B MOD	09/29/19 14:02	09/30/19 17:00			NA
A9I0922-12	Sediment	SM 5310 B MOD	09/29/19 12:41	09/30/19 17:00			NA
Batch: 9100601							
A9I0922-09RE1	Sediment	SM 5310 B MOD	09/29/19 14:00	09/30/19 17:00			NA
A9I0922-13RE1	Sediment	SM 5310 B MOD	09/29/19 12:54	09/30/19 17:00			NA
A9I0922-14RE1	Sediment	SM 5310 B MOD	09/29/19 12:37	09/30/19 17:00			NA
A9I0922-15RE1	Sediment	SM 5310 B MOD	09/29/19 12:38	09/30/19 17:00			NA
A9I0922-16RE1	Sediment	SM 5310 B MOD	09/29/19 12:44	09/30/19 17:00			NA
A9I0922-17RE1	Sediment	SM 5310 B MOD	09/29/19 08:19	09/30/19 17:00			NA
A9I0922-18RE1	Sediment	SM 5310 B MOD	09/29/19 08:19	09/30/19 17:00			NA
A9I0922-19RE1	Sediment	SM 5310 B MOD	09/29/19 08:19	09/30/19 17:00			NA
A9I0922-20RE1	Sediment	SM 5310 B MOD	09/29/19 08:19	09/30/19 17:00			NA
A9I0922-21RE1	Sediment	SM 5310 B MOD	09/29/19 08:19	09/30/19 17:00			NA

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Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

SAMPLE PREPARATION INFORMATION

Solid and Moisture Determinations

Prep: Total Solids (SM2540G/PSEP)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9091471							
A9I0922-01	Sediment	SM 2540 G	09/27/19 09:23	09/30/19 16:56			NA
A9I0922-02	Sediment	SM 2540 G	09/27/19 09:45	09/30/19 16:56			NA
A9I0922-03	Sediment	SM 2540 G	09/27/19 09:22	09/30/19 16:56			NA
A9I0922-04	Sediment	SM 2540 G	09/27/19 09:22	09/30/19 16:56			NA
A9I0922-05	Sediment	SM 2540 G	09/27/19 09:23	09/30/19 16:56			NA
A9I0922-07	Sediment	SM 2540 G	09/27/19 11:31	09/30/19 16:56			NA
A9I0922-08	Sediment	SM 2540 G	09/27/19 11:31	09/30/19 16:56			NA
A9I0922-09	Sediment	SM 2540 G	09/29/19 14:00	09/30/19 16:56			NA
A9I0922-10	Sediment	SM 2540 G	09/29/19 14:01	09/30/19 16:56			NA
A9I0922-11	Sediment	SM 2540 G	09/29/19 14:02	09/30/19 16:56			NA
A9I0922-12	Sediment	SM 2540 G	09/29/19 12:41	09/30/19 16:56			NA
A9I0922-13	Sediment	SM 2540 G	09/29/19 12:54	09/30/19 16:56			NA
A9I0922-14	Sediment	SM 2540 G	09/29/19 12:37	09/30/19 16:56			NA
A9I0922-15	Sediment	SM 2540 G	09/29/19 12:38	09/30/19 16:56			NA
A9I0922-16	Sediment	SM 2540 G	09/29/19 12:44	09/30/19 16:56			NA
A9I0922-17	Sediment	SM 2540 G	09/29/19 08:19	09/30/19 16:56			NA
A9I0922-18	Sediment	SM 2540 G	09/29/19 08:19	09/30/19 16:56			NA
A9I0922-19	Sediment	SM 2540 G	09/29/19 08:19	09/30/19 16:56			NA
A9I0922-20	Sediment	SM 2540 G	09/29/19 08:19	09/30/19 16:56			NA
A9I0922-21	Sediment	SM 2540 G	09/29/19 08:19	09/30/19 16:56			NA

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6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

QUALIFIER DEFINITIONS

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

Apex Laboratories

AMEND	Result for this sample or analyte has been amended from the original report. See Case Narrative for details.
J	Estimated Result. Result detected below the lowest point of the calibration curve, but above the specified MDL.
M-05	Estimated results. Peak separation for structural isomers is insufficient for accurate quantification.
Q-16	Reanalysis of an original Batch QC sample.
S-05	Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.
T-02	This Batch QC sample was analyzed outside of the method specified 12 hour tune window. Results are estimated.

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REPORTING NOTES AND CONVENTIONS:

Abbreviations:

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

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

NR Result Not Reported

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

Detection Limits: Limit of Detection (LOD)

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

Reporting Limits: Limit of Quantitation (LOQ)

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

Reporting Conventions:

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

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

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

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

QC Source:

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

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

Miscellaneous Notes:

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

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

Blanks:

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

Apex Laboratories

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Darwin Thomas, Business Development Director

Apex Laboratories, LLC

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

REPORTING NOTES AND CONVENTIONS (Cont.):

Blanks (Cont.):

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

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

Preparation Notes:

Mixed Matrix Samples:

Water Samples:

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

Soil and Sediment Samples:

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

Sampling and Preservation Notes:

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

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

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

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

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AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

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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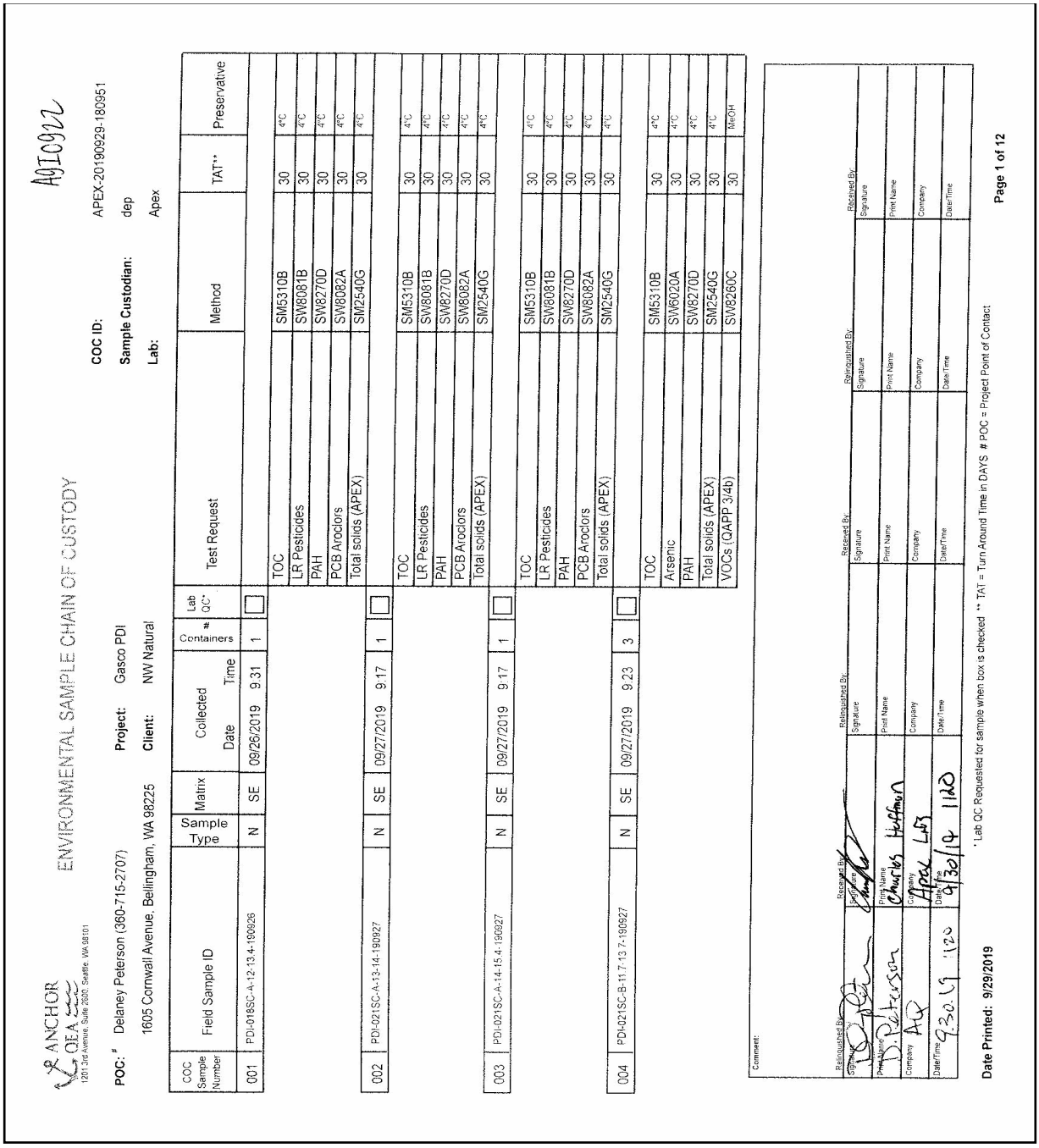
Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

POC: Delaney Peterson (360-715-2707) Project: Gasco PDI COC ID: APEX-20190929-180951

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

Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	PDI-016SC-A-12-13.4-190926	N	SE	09/26/2019	9:31	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
002	PDI-021SC-A-13-14-190927	N	SE	09/27/2019	9:17	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
003	PDI-021SC-A-14-15.4-190927	N	SE	09/27/2019	9:17	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
004	PDI-021SC-B-11.7-13.7-190927	N	SE	09/27/2019	9:23	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

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

Relinquished By: Signature / Print Name: D. Peterson / Company: AQ / Date/Time: 9.30.19 1120 — Received By: Signature / Print Name: Charles Huffman / Company: Apex Labs / Date/Time: 9/30/19 1120

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

Date Printed: 9/29/2019

Page 1 of 12

Apex Laboratories

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Darwin Thomas, Business Development Director

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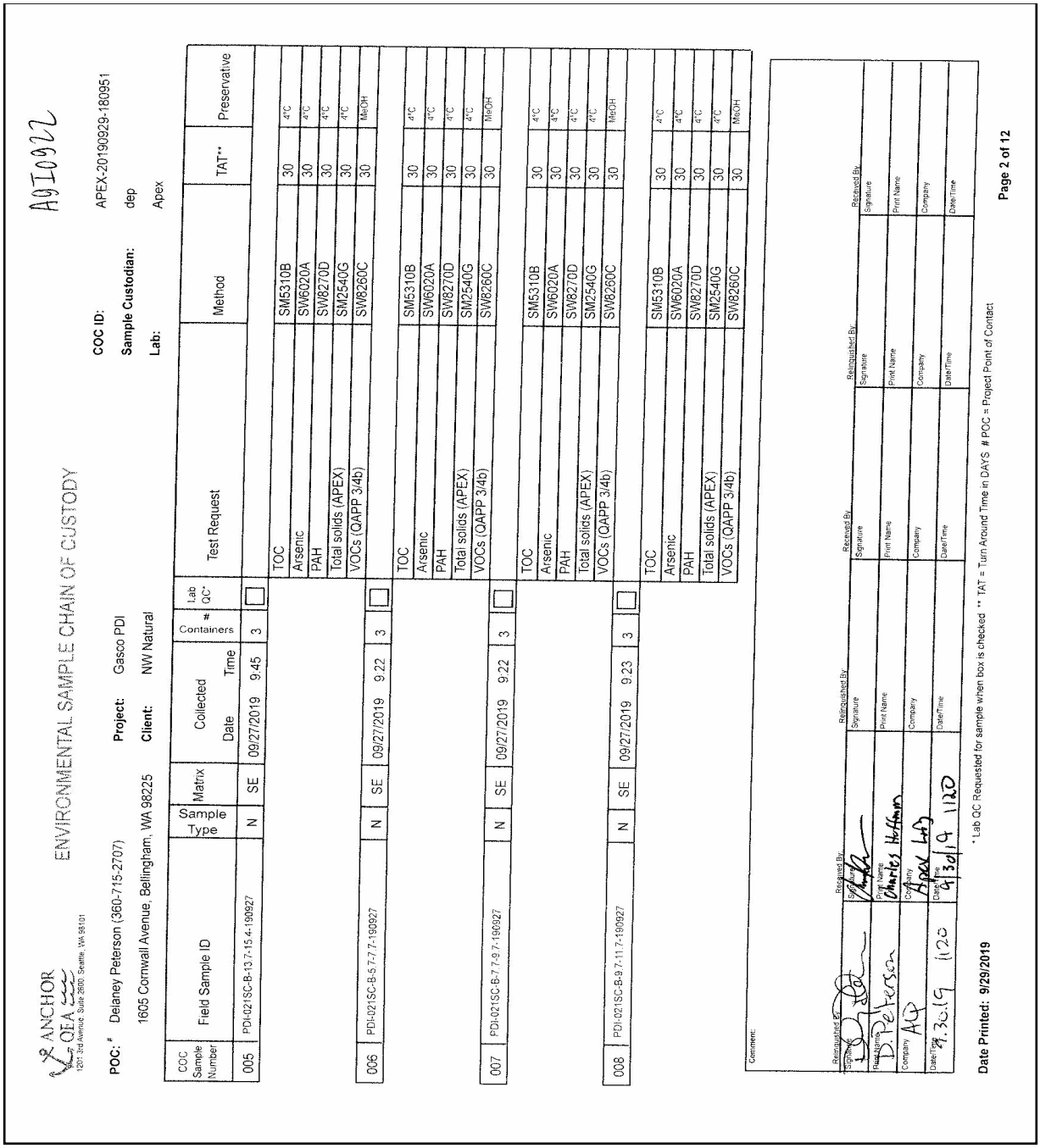
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

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

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

Report ID:
A9I0922 - 11 12 19 0752



A9I0922

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

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

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
005	PDI-021SC-B-13.7-15.4-190927	N	SE	09/27/2019	9:45	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
006	PDI-021SC-B-5.7-7.7-190927	N	SE	09/27/2019	9:22	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
007	PDI-021SC-B-7.7-9.7-190927	N	SE	09/27/2019	9:22	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
008	PDI-021SC-B-9.7-11.7-190927	N	SE	09/27/2019	9:23	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

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

Relinquished By: Signature / Print Name: D. Peterson / Company: AQ / Date/Time: 9.30.19 1120
Received By: Signature / Print Name: Charles Hoffman / Company: Apex Lab / Date/Time: 9/30/19 1120

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

Date Printed: 9/29/2019

Page 2 of 12

Apex Laboratories

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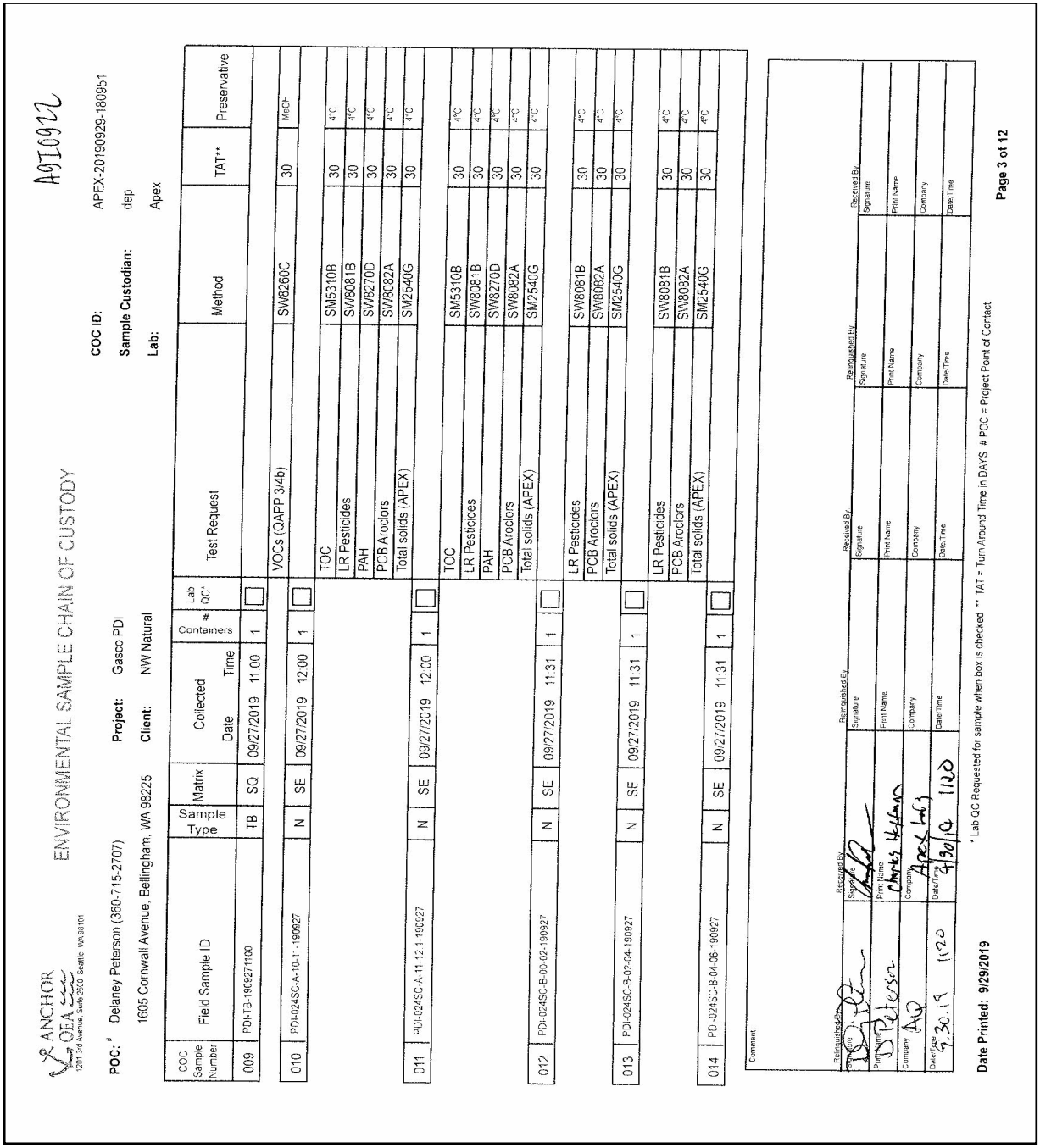
Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**



A9I0922

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

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

POC: * Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225
Project: Gasco PDI
Client: NW Natural
COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
009	PDI-TB-190927100	TB	SQ	09/27/2019	11:00	1		VOCs (QAPP 3/4b)	SW8260C	30	MeOH
010	PDI-024SC-A-10-11-190927	N	SE	09/27/2019	12:00	1		TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
011	PDI-024SC-A-11-12 1-190927	N	SE	09/27/2019	12:00	1		TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
012	PDI-024SC-B-00-02-190927	N	SE	09/27/2019	11:31	1		LR Pesticides	SW8081B	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
013	PDI-024SC-B-02-04-190927	N	SE	09/27/2019	11:31	1		LR Pesticides	SW8081B	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
014	PDI-024SC-B-04-06-190927	N	SE	09/27/2019	11:31	1					

Comment:

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Apex Laboratories

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Apex Laboratories, LLC

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
014	PDI-024SC-B-04-06-190927	N	SE	09/27/2019	11:31	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
015	PDI-024SC-B-06-08-190927	N	SE	09/27/2019	11:31	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
016	PDI-024SC-B-10-12.1-190927	N	SE	09/27/2019	11:31	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
017	PDI-1024SC-B-10-12.1-190927	FD	SE	09/27/2019		3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
018	PDI-FB-1909291637	FB	SQ	09/29/2019	16:37	5	☐				
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C

Comment:

	Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	[signature]	[signature]				
Print Name	D. Peterson	Charles Hoffman				
Company	AQ	Apex Lab				
Date/Time	9.30.19 1120	9/30/19 1120				

Date Printed: 9/29/2019

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

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EPA ID: OR01039

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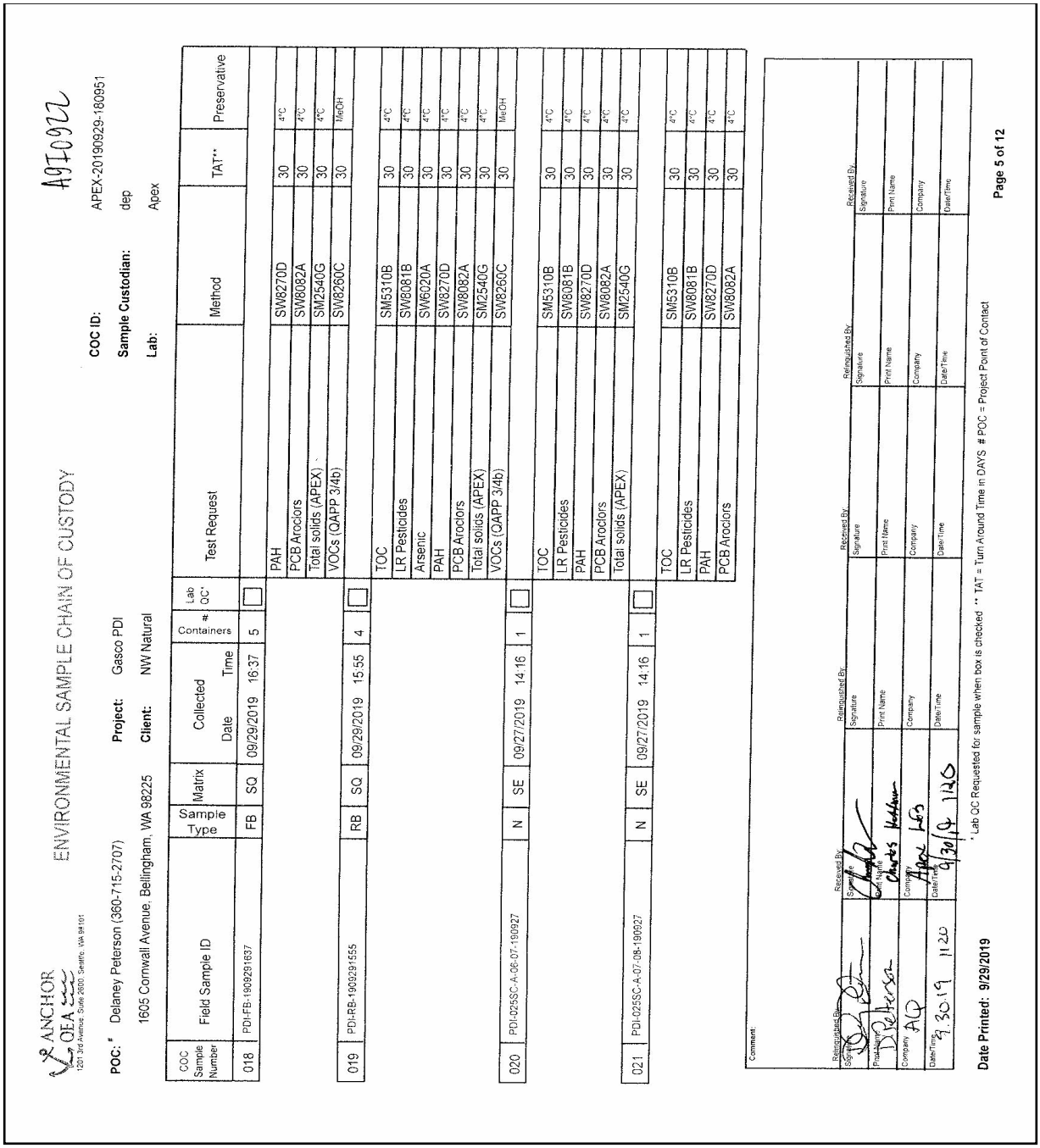
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC	Test Request	Method	TAT**	Preservative
018	PDI-FB-1909291637	FB	SQ	09/29/2019	16:37	5	☐	PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
019	PDI-RB-1909291555	RB	SQ	09/29/2019	15:55	4	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
020	PDI-025SC-A-06-07-190927	N	SE	09/27/2019	14:16	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
021	PDI-025SC-A-07-08-190927	N	SE	09/27/2019	14:16	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C

Comment:

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

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

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Page 5 of 12

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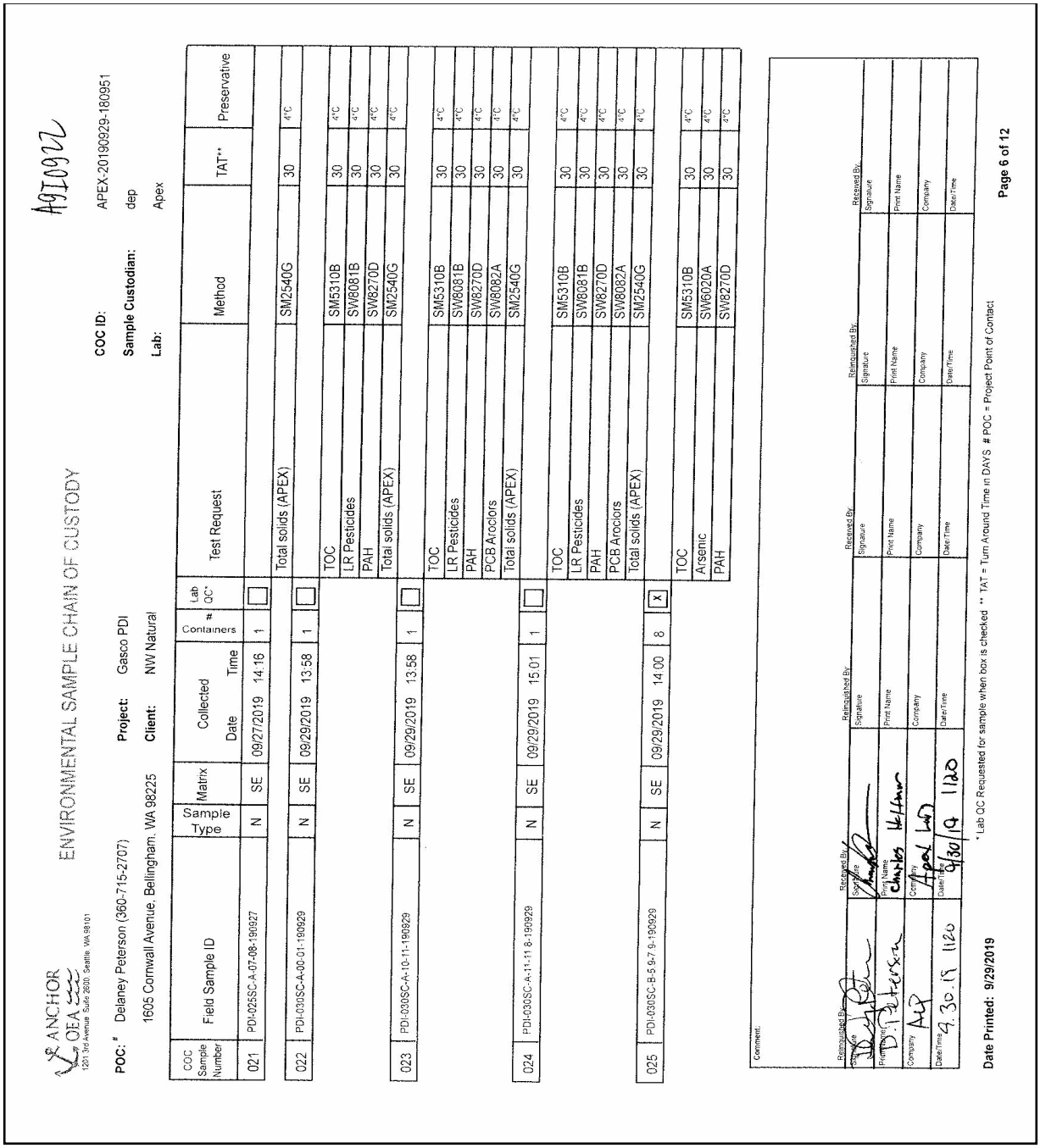
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**



A9I0922

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

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

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

POC: # Delaney Peterson (360-715-2707) Project: Gasco PDI Client: NW Natural
1605 Cornwall Avenue, Bellingham, WA 98225

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
021	PDI-025SC-A-07-08-190927	N	SE	09/27/2019	14:16	1	☐	Total solids (APEX)	SM2540G	30	4°C
022	PDI-030SC-A-00-01-190929	N	SE	09/29/2019	13:58	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
023	PDI-030SC-A-10-11-190929	N	SE	09/29/2019	13:58	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
024	PDI-030SC-A-11-11-8-190929	N	SE	09/29/2019	15:01	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
025	PDI-030SC-B-5-9-7.5-190929	N	SE	09/29/2019	14:00	8	☒	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C

Comment:

Relinquished By: Signature / Print Name / Company / Date/Time
Received By: Signature / Print Name / Company / Date/Time
Relinquished By: Signature / Print Name / Company / Date/Time
Received By: Signature / Print Name / Company / Date/Time
Relinquished By: Signature / Print Name: D. Peterson / Company: AQ / Date/Time: 9.30.19 1120
Received By: Signature / Print Name: Charles Hellman / Company: Apex Lab / Date/Time: 9/30/19 1120

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

Date Printed: 9/29/2019

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Apex Laboratories

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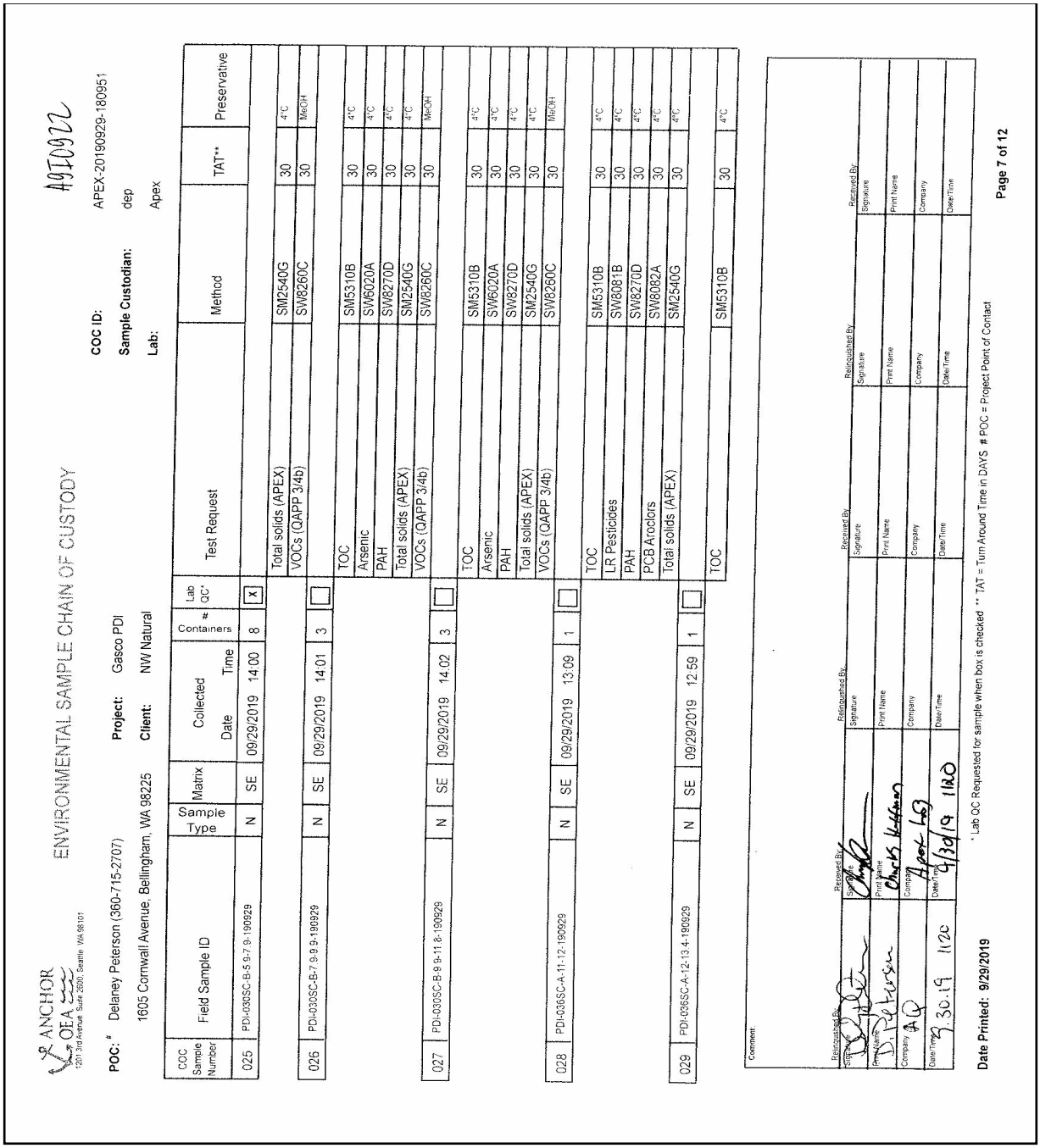
Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

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

A9I0922

POC: # Delaney Peterson (360-715-2707) Project: Gasco PDI Client: NW Natural
1605 Cornwall Avenue, Bellingham, WA 98225

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
025	PDI-030SC-B-5.9-7.9-190929	N	SE	09/29/2019	14:00	8	X	Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
026	PDI-030SC-B-7.9-9.9-190929	N	SE	09/29/2019	14:01	3		TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
027	PDI-030SC-B-9.9-11.8-190929	N	SE	09/29/2019	14:02	3		TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
028	PDI-036SC-A-11-12-190929	N	SE	09/29/2019	13:09	1		TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
029	PDI-036SC-A-12-13.4-190929	N	SE	09/29/2019	12:59	1		TOC	SM5310B	30	4°C

Comment:

Relinquished By / Received By / Relinquished By / Received By
Signature / Print Name / Company / Date/Time
D. Peterson / Anchor / 9.30.19 1120
Charles Hoffman / Apex Lab / 9/30/19 1120

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

Date Printed: 9/29/2019

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Apex Laboratories

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Darwin Thomas, Business Development Director

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
029	PDI-036SC-A-12-13.4-190929	N	SE	09/29/2019	12:59	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
030	PDI-036SC-B-10.2-12.2-190929	N	SE	09/29/2019	12:41	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
031	PDI-036SC-B-12.2-13.4-190929	N	SE	09/29/2019	12:54	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
032	PDI-036SC-B-4.2-6.2-190929	N	SE	09/29/2019	12:37	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

	Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	[signature]	[signature]				
Print Name	D. Peterson	Charles Hoffman				
Company	AQ	Apex Labs				
Date/Time	9.30.19 1120	9/30/19 1120				

Date Printed: 9/29/2019

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

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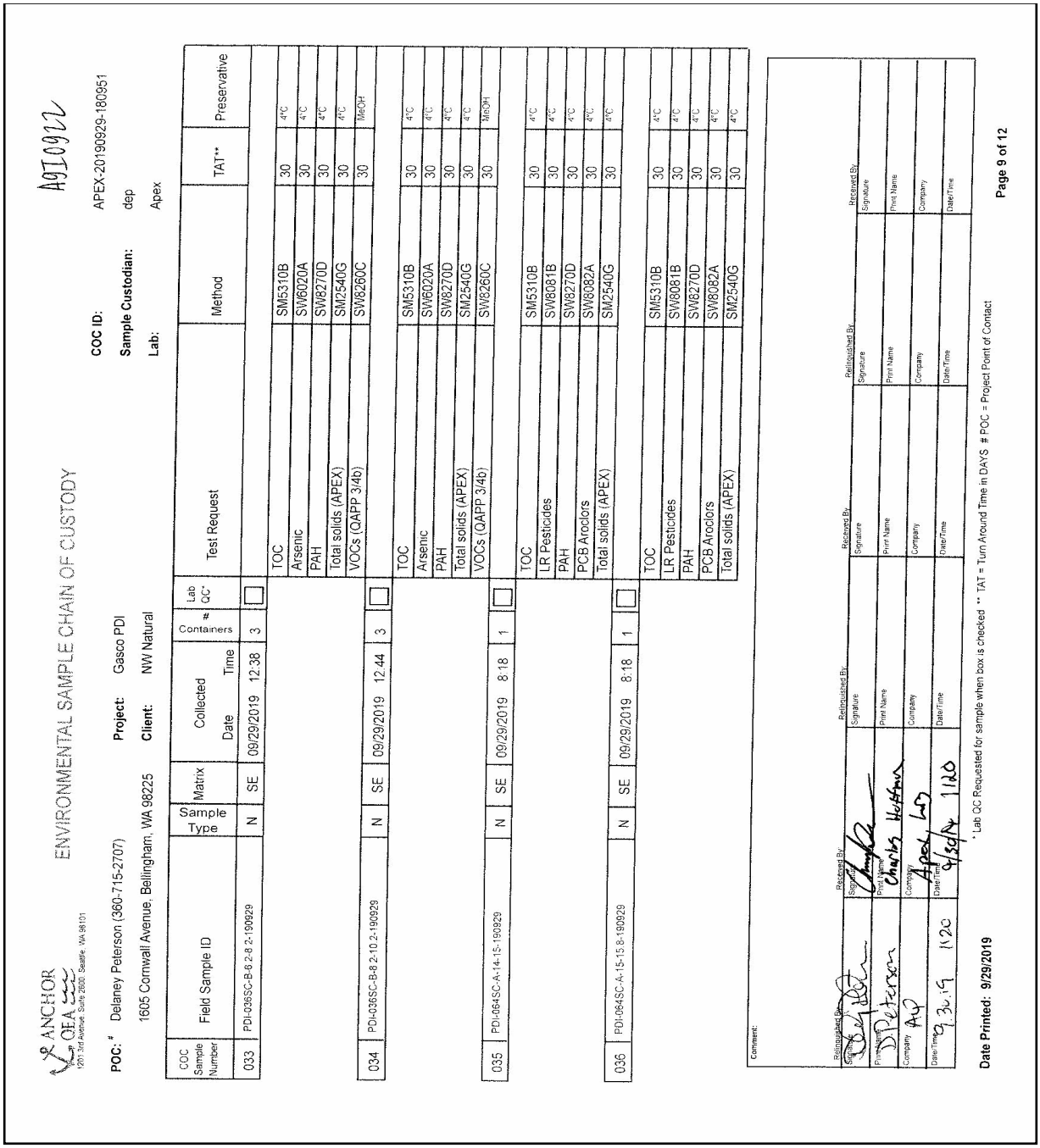
Apex Laboratories, LLC
6700 S.W. Sandburg Street
Tigard, OR 97223
503-718-2323
EPA ID: OR01039

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

POC: * Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225
Project: Gasco PDI
Client: NW Natural
COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
033	PDI-036SC-B-6.2-8.2-190929	N	SE	09/29/2019	12:38	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
034	PDI-036SC-B-8.2-10.2-190929	N	SE	09/29/2019	12:44	3	☐	TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
035	PDI-064SC-A-14-15-190929	N	SE	09/29/2019	8:18	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
036	PDI-064SC-A-15-15.8-190929	N	SE	09/29/2019	8:18	1	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C

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: Delaney Peterson / Company: Anchor QEA / Date/Time: 9/30/19 1120 — Received By: Signature / Print Name: Charles Heffner / Company: Apex Lab / Date/Time: 9/30/19 1120

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

Date Printed: 9/29/2019

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Apex Laboratories

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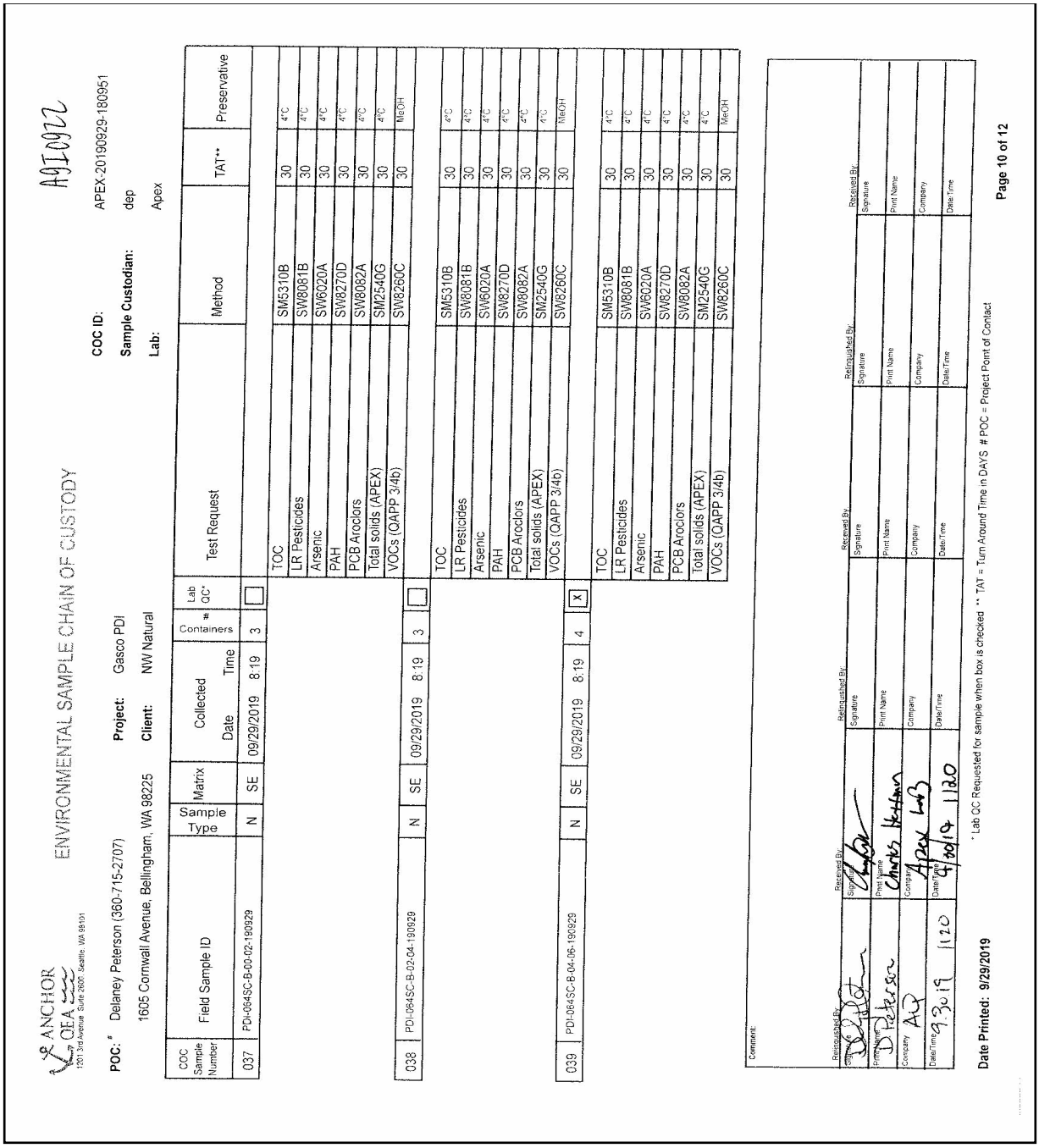
Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

POC: # Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225
Project: Gasco PDI
Client: NW Natural
COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
037	PDI-0645C-B-00-02-190929	N	SE	09/29/2019	8:19	3	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
038	PDI-0645C-B-02-04-190929	N	SE	09/29/2019	8:19	3	☐	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
039	PDI-0645C-B-04-06-190929	N	SE	09/29/2019	8:19	4	X	TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

Relinquished By: Signature / Print Name: D Peterson / Company: AQ / Date/Time: 9/30/19 1120
Received By: Signature / Print Name: Charles Hettman / Company: Apex Lab / Date/Time: 9/30/19 1120
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

Date Printed: 9/29/2019

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Apex Laboratories

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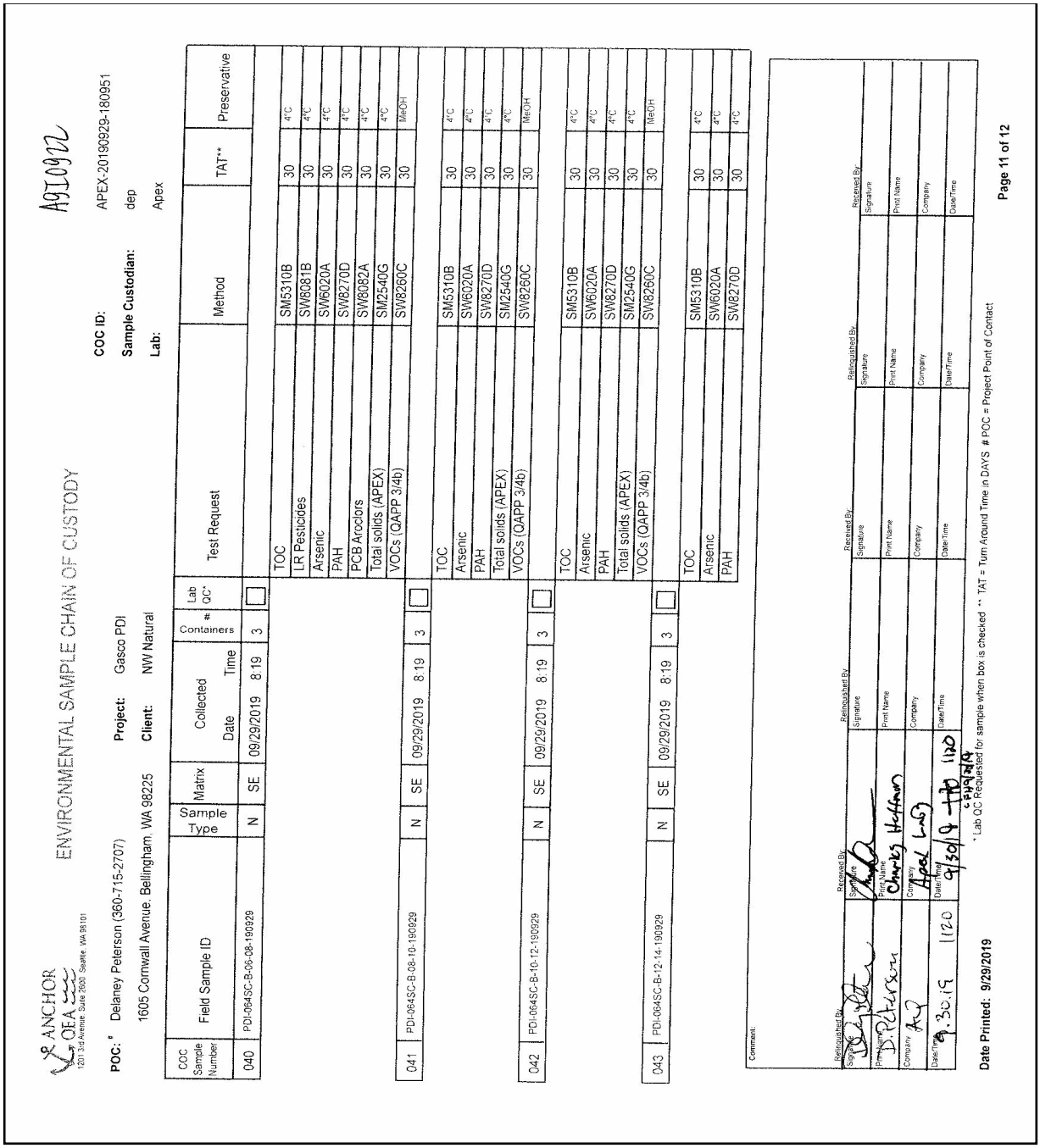
Darwin Thomas, Business Development Director

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**



ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

POC: Delaney Peterson (360-715-2707)
1605 Cornwall Avenue, Bellingham, WA 98225
Project: Gasco PDI
Client: NW Natural
COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
040	PDI-064SC-B-06-08-190929	N	SE	09/29/2019	8:19	3		TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
041	PDI-064SC-B-08-10-190929	N	SE	09/29/2019	8:19	3		TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
042	PDI-064SC-B-10-12-190929	N	SE	09/29/2019	8:19	3		TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
043	PDI-064SC-B-12-14-190929	N	SE	09/29/2019	8:19	3		TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C

Comment:

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

Relinquished By: D. Peterson / Anchor QEA / 9.30.19 1120
Received By: Charles Hoffman / Apex Labs / 9/30/19 1120

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

Date Printed: 9/29/2019

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Apex Laboratories

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Darwin Thomas, Business Development Director

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	# Containers	Lab QC*	Test Request	Method	TAT**	Preservative
043	PDI-064SC-B-12-14-190929	N	SE	09/29/2019	8:19	3	☐				
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
044	PDI-064SC-B-14-15.8-190929	N	SE	09/29/2019	8:19	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
045	PDI-1064SC-B-08-10-190929	FD	SE	09/29/2019		3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

	Relinquished By	Received By	Relinquished By	Received By	Relinquished By	Received By
Signature	[signature]	[signature]				
Print Name	D. Peterson	Charles H[illegible]				
Company	AQ	Apex Lab				
Date/Time	9.30.19 1120	9/30/19 1120				

Date Printed: 9/29/2019

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

Page 12 of 12

APEX LABS COOLER RECEIPT FORM

Client: Anchor QEA Element WO#: A9 I0922

Project/Project #: Gasco PDI

Delivery Info:

Date/time received: 9/30/19 @ 1120 By: CFH

Delivered by: Apex X Client___ESS___FedEx___UPS___Swift___Senvoy___SDS___Other_____

Cooler Inspection Date/time inspected: 9/30/19 @ 1234 By: CFH

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

Signed/dated by client? Yes X No ___

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.8	2.1	4.8	1.4			
Received on ice? (Y/N)	Y	Y	Y	Y			
Temp. blanks? (Y/N)	Y	Y	Y	Y			
Ice type: (Gel/Real/Other)	Real	Real	Real	Real			
Condition:	Good	Good	Good	Good			

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

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

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

Samples Inspection: Date/time inspected: 9/30/19 @ 1458 By: [initials]

All samples intact? Yes X No ___ Comments:

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

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

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

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

Comments

Water samples: pH checked: Yes___No___NA X pH appropriate? Yes___No___NA X

Comments:

Additional information:

Labeled by: [initials] Witness: [initials] 9/30 CFH Cooler Inspected by: [initials] See Project Contact Form: Y

Apex Laboratories, LLC

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

AMENDED REPORT

Anchor QEA, LLC	Project: **Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cores**	
6720 SW Macadam Ave. Suite 125	Project Number: **[none]**	**Report ID:**
Portland, OR 97219	Project Manager: **Ryan Barth**	**A9I0922 - 11 12 19 0752**

WO# A9I0922

COC/Container Discrepancies

COC Reads	Container Reads/Comments
PDI-TB-19092711OO , 1 container	Received 2 containers
PDI-1024SC-B-10-12.1-190927, no T	@ 9/30/19 T of 1131
PDI-1044SC-B-08-10-190929, no T	T of 819
PDI-036SC-B-~~6-2~~-8.2 @ 9/30/19 10.2 19092, T of 1244	MeOH vials read T of 1244

Apex Laboratories

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Darwin Thomas, Business Development Director

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

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

A9I0922

Apex Laboratories

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

Report To:

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

Invoice To:

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

Date Due:	10/14/19 17:00 (10 day TAT)		
Received By:	Charles F. Hoffman	Date Received:	09/30/19 11:20
Logged In By:	Susan L. Treat	Date Logged In:	09/30/19 15:12

Cooler #1 received at 2.8°C

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

Cooler #2 received at 2.1°C

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

Cooler #3 received at 4.8°C

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

Cooler #4 received at 1.4°C

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

Analysis	Due	TAT	Expires	Comments
A9I0922-01 PDI-021SC-B-11.7-13.7-190927 [Sediment] Sampled 09/27/19 09:23 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/25/20 09:23	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/25/20 09:23	
Project Mgmt				
Data Package	11/25/19 17:00	10	01/04/20 09:23	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/28/19 09:23	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/11/19 09:23	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	09/29/19 09:23	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/25/20 09:23	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/25/19 09:23	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-02 PDI-021SC-B-13.7-15.4-190927 [Sediment] Sampled 09/27/19 09:45 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/25/20 09:45	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/25/20 09:45	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/28/19 09:45	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/11/19 09:45	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	09/29/19 09:45	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/25/20 09:45	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/25/19 09:45	
A9I0922-03 PDI-021SC-B-5.7-7.7-190927 [Sediment] Sampled 09/27/19 09:22 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/25/20 09:22	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/25/20 09:22	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/28/19 09:22	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/11/19 09:22	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	09/29/19 09:22	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/25/20 09:22	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/25/19 09:22	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-04 PDI-021SC-B-7.7-9.7-190927 [Sediment] Sampled 09/27/19 09:22 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/25/20 09:22	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/25/20 09:22	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/28/19 09:22	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/11/19 09:22	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	09/29/19 09:22	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/25/20 09:22	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/25/19 09:22	
A9I0922-05 PDI-021SC-B-9.7-11.7-190927 [Sediment] Sampled 09/27/19 09:23 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/25/20 09:23	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/25/20 09:23	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/28/19 09:23	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/11/19 09:23	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	09/29/19 09:23	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/25/20 09:23	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/25/19 09:23	
A9I0922-06 PDI-TB-1909271100 [Water] Sampled 09/27/19 11:00 (GMT-08:00) Pacific Time (US & Canada) 2 Containers				**CoC lists 1 container, received 2**
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/11/19 11:00	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-07 PDI-024SC-B-10-12.1-190927 [Sediment] Sampled 09/27/19 11:31 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/25/20 11:31	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/25/20 11:31	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/28/19 11:31	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/11/19 11:31	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	09/29/19 11:31	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/25/20 11:31	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/25/19 11:31	
A9I0922-08 PDI-1024SC-B-10-12.1-190927 [Sediment] Sampled 09/27/19 11:31 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				**No T on CoC, containers read T of 1131**
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/25/20 11:31	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/25/20 11:31	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/28/19 11:31	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/11/19 11:31	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	09/29/19 11:31	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/25/20 11:31	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/25/19 11:31	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-09 PDI-030SC-B-5.9-7.9-190929 [Sediment] Sampled 09/29/19 14:00 (GMT-08:00) Pacific Time (US & Canada) 15 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 14:00	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 14:00	MS/MSD
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 14:00	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 14:00	MS/MSD
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 14:00	MS/MSD
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 14:00	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 14:00	MS/MSD
A9I0922-10 PDI-030SC-B-7.9-9.9-190929 [Sediment] Sampled 09/29/19 14:01 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 14:01	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 14:01	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 14:01	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 14:01	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 14:01	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 14:01	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 14:01	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-11 PDI-030SC-B-9.9-11.8-190929 [Sediment] Sampled 09/29/19 14:02 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 14:02	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 14:02	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 14:02	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 14:02	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 14:02	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 14:02	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 14:02	
A9I0922-12 PDI-036SC-B-10.2-12.2-190929 [Sediment] Sampled 09/29/19 12:41 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 12:41	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 12:41	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 12:41	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 12:41	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 12:41	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 12:41	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 12:41	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-13 PDI-036SC-B-12.2-13.4-190929 [Sediment] Sampled 09/29/19 12:54 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 12:54	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 12:54	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 12:54	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 12:54	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 12:54	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 12:54	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 12:54	
A9I0922-14 PDI-036SC-B-4.2-6.2-190929 [Sediment] Sampled 09/29/19 12:37 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 12:37	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 12:37	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 12:37	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 12:37	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 12:37	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 12:37	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 12:37	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-15 PDI-036SC-B-6.2-8.2-190929 [Sediment] Sampled 09/29/19 12:38 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 12:38	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 12:38	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 12:38	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 12:38	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 12:38	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 12:38	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 12:38	
A9I0922-16 PDI-036SC-B-8.2-10.2-190929 [Sediment] Sampled 09/29/19 12:44 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 12:44	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 12:44	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 12:44	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 12:44	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 12:44	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 12:44	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 12:44	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-17 PDI-064SC-B-08-10-190929 [Sediment] Sampled 09/29/19 08:19 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 08:19	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 08:19	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 08:19	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 08:19	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 08:19	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 08:19	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 08:19	
A9I0922-18 PDI-064SC-B-10-12-190929 [Sediment] Sampled 09/29/19 08:19 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 08:19	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 08:19	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 08:19	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 08:19	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 08:19	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 08:19	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 08:19	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-19 PDI-064SC-B-12-14-190929 [Sediment] Sampled 09/29/19 08:19 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 08:19	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 08:19	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 08:19	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 08:19	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 08:19	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 08:19	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 08:19	
A9I0922-20 PDI-064SC-B-14-15.8-190929 [Sediment] Sampled 09/29/19 08:19 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 08:19	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 08:19	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 08:19	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 08:19	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 08:19	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 08:19	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 08:19	

A9I0922

Apex Laboratories

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

Analysis	Due	TAT	Expires	Comments
Analysis	**Due**	**TAT**	**Expires**	**Comments**
A9I0922-21 PDI-1064SC-B-08-10-190929 [Sediment] Sampled 09/29/19 08:19 (GMT-08:00) Pacific Time (US & Canada) 6 Containers				**No T on CoC, container reads T of 0819**
Dry Weight				
Dry Weight	10/03/19 17:00	3	03/27/20 08:19	Use Results from TS. Make NR once completed.
Metals				
As (Arsenic) - 6020 - Total	10/11/19 17:00	10	03/27/20 08:19	
Sample Control				
Archive Samples - Frozen	12/27/19 17:00	1	09/30/19 08:19	3 months
Semivols (Scan)				
8270D LL PAH Only (Scan)	10/11/19 17:00	10	10/13/19 08:19	
Volatiles				
8260C BTEX+Halo6	10/11/19 17:00	10	10/01/19 08:19	
Wet Chem				
Solids, Total (SM 2540 G,B)	10/11/19 17:00	10	03/27/20 08:19	Use Result for Dry Weight.
Total Organic Carbon - Soil (5310 B)	10/11/19 17:00	10	10/27/19 08:19	

Reviewed By

Date

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9IC922

COC ID: APEX-20190929-180951

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

Project: Gasco PDI
Client: NW Natural

Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	PDI-018SC-A-12-13.4-190926	N	SE	09/26/2019	9:31	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
002	PDI-021SC-A-13-14-190927	N	SE	09/27/2019	9:17	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
003	PDI-021SC-A-14-15.4-190927	N	SE	09/27/2019	9:17	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
004	PDI-021SC-B-11.7-13.7-190927	N	SE	09/27/2019	9:23	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature:	Signature:	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: Charles Huffman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex Labs	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

* 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

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
005	PDI-021SC-B-13.7-15.4-190927	N	SE	09/27/2019	9:45	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
006	PDI-021SC-B-5.7-7.7-190927	N	SE	09/27/2019	9:22	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
007	PDI-021SC-B-7.7-9.7-190927	N	SE	09/27/2019	9:22	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
008	PDI-021SC-B-9.7-11.7-190927	N	SE	09/27/2019	9:23	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature:	Signature:	Signature:	Signature:	Signature:	Signature:
Print Name: D. Peterson	Print Name: Charles Hoffman	Print Name:	Print Name:	Print Name:	Print Name:
Company: AQ	Company: Apex Labs	Company:	Company:	Company:	Company:
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Date Printed: 9/29/2019

* 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

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
009	PDI-TB-1909271100	TB	SQ	09/27/2019	11:00	1	☐				
010	PDI-024SC-A-10-11-190927	N	SE	09/27/2019	12:00	1	☐	VOCs (QAPP 3/4b)	SW8260C	30	MeOH
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
011	PDI-024SC-A-11-12.1-190927	N	SE	09/27/2019	12:00	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
012	PDI-024SC-B-00-02-190927	N	SE	09/27/2019	11:31	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
013	PDI-024SC-B-02-04-190927	N	SE	09/27/2019	11:31	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
014	PDI-024SC-B-04-06-190927	N	SE	09/27/2019	11:31	1	☐				

Comment:

Relinquished By	Received By	Relinquished By	Received By	Relinquished By	Received By
Signature:	Signature:	Signature	Signature	Signature	Signature
Print Name: D Peterson	Print Name: Charles Hoffman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex Labs	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
014	PDI-024SC-B-04-06-190927	N	SE	09/27/2019	11:31	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
015	PDI-024SC-B-06-08-190927	N	SE	09/27/2019	11:31	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
016	PDI-024SC-B-10-12 1-190927	N	SE	09/27/2019	11:31	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
017	PDI-1024SC-B-10-12.1-190927	FD	SE	09/27/2019		3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
018	PDI-FB-1909291637	FB	SQ	09/29/2019	16:37	5	☐				
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: [signature]	Signature: [signature]	Signature:	Signature:	Signature:	Signature:
Print Name: D. Peterson	Print Name: Charles Hoffman	Print Name:	Print Name:	Print Name:	Print Name:
Company: AQ	Company: Apex Lab	Company:	Company:	Company:	Company:
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Date Printed: 9/29/2019

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

A9I0922

COC ID: APEX-20190929-180951

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

Project: Gasco PDI
Client: NW Natural

Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
018	PDI-FB-1909291637	FB	SQ	09/29/2019	16:37	5	☐				
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
019	PDI-RB-1909291555	RB	SQ	09/29/2019	15:55	4	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
020	PDI-025SC-A-06-07-190927	N	SE	09/27/2019	14:16	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
021	PDI-025SC-A-07-08-190927	N	SE	09/27/2019	14:16	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: D Peterson	Print Name: Charles Hoffman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex LGS	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

* 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

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
021	PDI-025SC-A-07-08-190927	N	SE	09/27/2019	14:16	1	☐				
								Total solids (APEX)	SM2540G	30	4°C
022	PDI-030SC-A-00-01-190929	N	SE	09/29/2019	13:58	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
023	PDI-030SC-A-10-11-190929	N	SE	09/29/2019	13:58	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
024	PDI-030SC-A-11-11 8-190929	N	SE	09/29/2019	15:01	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
025	PDI-030SC-B-5.9-7.9-190929	N	SE	09/29/2019	14:00	8	X				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: Charles Hoffman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex Lab	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

* 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

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
025	PDI-030SC-B-5.9-7.9-190929	N	SE	09/29/2019	14:00	8	X				
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
026	PDI-030SC-B-7.9-9.9-190929	N	SE	09/29/2019	14:01	3					
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
027	PDI-030SC-B-9.9-11.8-190929	N	SE	09/29/2019	14:02	3					
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
028	PDI-036SC-A-11-12-190929	N	SE	09/29/2019	13:09	1					
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
029	PDI-036SC-A-12-13.4-190929	N	SE	09/29/2019	12:59	1					
								TOC	SM5310B	30	4°C

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: Charles Hoffman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex Labs	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

* 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

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
029	PDI-036SC-A-12-13.4-190929	N	SE	09/29/2019	12:59	1	☐				
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
030	PDI-036SC-B-10.2-12.2-190929	N	SE	09/29/2019	12:41	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
031	PDI-036SC-B-12.2-13.4-190929	N	SE	09/29/2019	12:54	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
032	PDI-036SC-B-4.2-6.2-190929	N	SE	09/29/2019	12:37	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name D. Peterson	Print Name Charles Hoffman	Print Name	Print Name	Print Name	Print Name
Company AP	Company Apex LabS	Company	Company	Company	Company
Date/Time 9.30.19 1120	Date/Time 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

* 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

A9I0922

COC ID: APEX-20190929-180951

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

Project: Gasco PDI
Client: NW Natural

Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
033	PDI-036SC-B-6.2-8.2-190929	N	SE	09/29/2019	12:38	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
034	PDI-036SC-B-8.2-10.2-190929	N	SE	09/29/2019	12:44	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
035	PDI-064SC-A-14-15-190929	N	SE	09/29/2019	8:18	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
036	PDI-064SC-A-15-15.8-190929	N	SE	09/29/2019	8:18	1	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C

Comment:

Relinquished By	Received By	Relinquished By	Received By	Relinquished By	Received By
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: Charles Hoffman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex, LLC	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

* 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

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
037	PDI-064SC-B-00-02-190929	N	SE	09/29/2019	8:19	3	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
038	PDI-064SC-B-02-04-190929	N	SE	09/29/2019	8:19	3	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
039	PDI-064SC-B-04-06-190929	N	SE	09/29/2019	8:19	4	☒				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: D Peterson	Print Name: Charles Hartman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex Labs	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

* 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

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
040	PDI-064SC-B-06-08-190929	N	SE	09/29/2019	8:19	3	☐				
								TOC	SM5310B	30	4°C
								LR Pesticides	SW8081B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								PCB Aroclors	SW8082A	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
041	PDI-064SC-B-08-10-190929	N	SE	09/29/2019	8:19	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
042	PDI-064SC-B-10-12-190929	N	SE	09/29/2019	8:19	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
043	PDI-064SC-B-12-14-190929	N	SE	09/29/2019	8:19	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C

Comment:

Relinquished By	Received By	Relinquished By	Received By	Relinquished By	Received By
Signature	Signature	Signature	Signature	Signature	Signature
Print Name: D. Peterson	Print Name: Charles Hoffman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex Labs	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

cFH 9/30/19

Date Printed: 9/29/2019

* 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

A9I0922

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

Project: Gasco PDI
Client: NW Natural

COC ID: APEX-20190929-180951
Sample Custodian: dep
Lab: Apex

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
043	PDI-064SC-B-12-14-190929	N	SE	09/29/2019	8:19	3	☐				
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
044	PDI-064SC-B-14-15.8-190929	N	SE	09/29/2019	8:19	3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH
045	PDI-1064SC-B-08-10-190929	FD	SE	09/29/2019		3	☐				
								TOC	SM5310B	30	4°C
								Arsenic	SW6020A	30	4°C
								PAH	SW8270D	30	4°C
								Total solids (APEX)	SM2540G	30	4°C
								VOCs (QAPP 3/4b)	SW8260C	30	MeOH

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: [signature]	Signature: [signature]	Signature	Signature	Signature	Signature
Print Name: D Peterson	Print Name: Charles Hartman	Print Name	Print Name	Print Name	Print Name
Company: AQ	Company: Apex Labs	Company	Company	Company	Company
Date/Time: 9.30.19 1120	Date/Time: 9/30/19 1120	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 9/29/2019

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

APEX LABS COOLER RECEIPT FORM

Client: Anchor QEA Element WO#: A9 I0922

Project/Project #: Gasco PDI

Delivery Info:

Date/time received: 9/30/19 @ 1120 By: CFH

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

Cooler Inspection Date/time inspected: 9/30/19 @ 1234 By: CFH

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

Signed/dated by client? Yes X No ___

Signed/dated by Apex? Yes X No ___

	Cooler #1	Cooler #2	Cooler #3	Cooler #4	Cooler #5	Cooler #6	Cooler #7
Temperature (°C)	2.8	2.1	4.8	1.4			
Received on ice? (Y/N)	Y	Y	Y	Y			
Temp. blanks? (Y/N)	Y	Y	Y	Y			
Ice type: (Gel/Real/Other)	Real	Real	Real	Real			
Condition:	Good	Good	Good	Good			

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

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

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

Samples Inspection: Date/time inspected: 9/30/19 @ 1458 By: (8)

All samples intact? Yes X No ___ Comments: ___

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

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

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

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

Comments ___

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

Comments: ___

Additional information: ___

Labeled by: (8) Witness: ~~CAH~~ Cooler Inspected by: (8) See Project Contact Form: Y

WO# A9I0922

COC/Container Discrepancies

COC Reads	Container Reads/Comments
PDI-TB-1909271100, 1 container	Received 2 containers
PDI-1024SC-B-10-12.1-190927, no T	@9/30/19 T of 1131
PDI-1064SC-B-08-10-190929, no T	T of 819
PDI-036SC-B-~~6.2~~-8.2 @9/30/19 10.2 190927, T of 1244	MeOH voas read T of 1244

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

CLP-Like Forms

Apex Laboratories

SDG: A9I0922

CLASS: GCMS

METHOD: 5035A/8260C

ANALYSES DATA PACKAGE COVER PAGE

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	Sediment
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	Sediment
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	Sediment
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	Sediment
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	Sediment
PDI-024SC-B-10-12.1-190927	A9I0922-07	Sediment
PDI-1024SC-B-10-12.1-190927	A9I0922-08	Sediment
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	Sediment
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	Sediment
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	Sediment
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	Sediment
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	Sediment
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	Sediment
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	Sediment
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	Sediment
PDI-064SC-B-08-10-190929	A9I0922-17	Sediment
PDI-064SC-B-10-12-190929	A9I0922-18	Sediment
PDI-064SC-B-12-14-190929	A9I0922-19	Sediment
PDI-064SC-B-14-15.8-190929	A9I0922-20	Sediment
PDI-1064SC-B-08-10-190929	A9I0922-21	Sediment

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: 
Name: David G. Jack

Forms Created: 11/18/2019 3:41PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

5035A/8260C

Laboratory: Apex Laboratories **SDG:** A9I0922

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

Batch Matrix: Soil

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

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

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-021SC-B-11.7-13.7-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-01	File ID:	VJ19093011.D
Sampled:	09/27/19 09:23	Prepared:	09/27/19 09:23	Analyzed:	09/30/19 19:14
Solids:	87.66	Preparation:	EPA 5035A	Initial/Final:	4.95 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.46	U
108-88-3	Toluene	50	32.3	U
100-41-4	Ethylbenzene	50	16.2	U
179601-23-1	m,p-Xylene	50	32.3	U
95-47-6	o-Xylene	50	32.3	U
108-90-7	Chlorobenzene	50	16.2	U
75-35-4	1,1-Dichloroethene	50	16.2	U
156-59-2	cis-1,2-Dichloroethene	50	16.2	U
127-18-4	Tetrachloroethene (PCE)	50	16.2	U
79-01-6	Trichloroethene (TCE)	50	16.2	U
75-01-4	Vinyl chloride	50	16.2	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	54.3	109	80 - 120	
Toluene-d8 (Surr)	50.0	49.7	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.9	102	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	95694	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	240499	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	106802	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-021SC-B-13.7-15.4-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-02	File ID:	VJ19093012.D
Sampled:	09/27/19 09:45	Prepared:	09/27/19 09:45	Analyzed:	09/30/19 19:41
Solids:	84.26	Preparation:	EPA 5035A	Initial/Final:	5.71 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702 Instrument: VOA-GCMS10

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.13	U
108-88-3	Toluene	50	30.7	U
100-41-4	Ethylbenzene	50	15.3	U
179601-23-1	m,p-Xylene	50	30.7	U
95-47-6	o-Xylene	50	15.3	U
108-90-7	Chlorobenzene	50	15.3	U
75-35-4	1,1-Dichloroethene	50	15.3	U
156-59-2	cis-1,2-Dichloroethene	50	15.3	U
127-18-4	Tetrachloroethene (PCE)	50	15.3	U
79-01-6	Trichloroethene (TCE)	50	15.3	U
75-01-4	Vinyl chloride	50	15.3	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.5	107	80 - 120	
Toluene-d8 (Surr)	50.0	49.3	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.0	102	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	97797	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	243346	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	108063	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-021SC-B-5.7-7.7-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-03	File ID:	VJ19093013.D
Sampled:	09/27/19 09:22	Prepared:	09/27/19 09:22	Analyzed:	09/30/19 20:08
Solids:	78.13	Preparation:	EPA 5035A	Initial/Final:	4.56 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	43.7	
108-88-3	Toluene	50	42.1	U
100-41-4	Ethylbenzene	50	42.1	U
179601-23-1	m,p-Xylene	50	84.2	U
95-47-6	o-Xylene	50	47.1	
108-90-7	Chlorobenzene	50	21.0	U
75-35-4	1,1-Dichloroethene	50	21.0	U
156-59-2	cis-1,2-Dichloroethene	50	21.0	U
127-18-4	Tetrachloroethene (PCE)	50	21.0	U
79-01-6	Trichloroethene (TCE)	50	21.0	U
75-01-4	Vinyl chloride	50	21.0	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	51.8	104	80 - 120	
Toluene-d8 (Surr)	50.0	49.6	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.6	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	88655	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	215782	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	97006	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-021SC-B-7.7-9.7-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-04	File ID:	VJ19093014.D
Sampled:	09/27/19 09:22	Prepared:	09/27/19 09:22	Analyzed:	09/30/19 20:35
Solids:	89.11	Preparation:	EPA 5035A	Initial/Final:	4.93 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.30	U
108-88-3	Toluene	50	31.5	U
100-41-4	Ethylbenzene	50	31.5	U
179601-23-1	m,p-Xylene	50	31.5	U
95-47-6	o-Xylene	50	31.5	U
108-90-7	Chlorobenzene	50	15.8	U
75-35-4	1,1-Dichloroethene	50	15.8	U
156-59-2	cis-1,2-Dichloroethene	50	15.8	U
127-18-4	Tetrachloroethene (PCE)	50	15.8	U
79-01-6	Trichloroethene (TCE)	50	15.8	U
75-01-4	Vinyl chloride	50	15.8	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.9	108	80 - 120	
Toluene-d8 (Surr)	50.0	49.7	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.1	98	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	96003	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	243899	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	111002	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-021SC-B-9.7-11.7-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-05	File ID:	VJ19093015.D
Sampled:	09/27/19 09:23	Prepared:	09/27/19 09:23	Analyzed:	09/30/19 21:01
Solids:	87.01	Preparation:	EPA 5035A	Initial/Final:	5.13 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.35	U
108-88-3	Toluene	50	31.7	U
100-41-4	Ethylbenzene	50	15.9	U
179601-23-1	m,p-Xylene	50	31.7	U
95-47-6	o-Xylene	50	31.7	U
108-90-7	Chlorobenzene	50	15.9	U
75-35-4	1,1-Dichloroethene	50	15.9	U
156-59-2	cis-1,2-Dichloroethene	50	15.9	U
127-18-4	Tetrachloroethene (PCE)	50	15.9	U
79-01-6	Trichloroethene (TCE)	50	15.9	U
75-01-4	Vinyl chloride	50	15.9	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.9	108	80 - 120	
Toluene-d8 (Surr)	50.0	48.7	97	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.9	102	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	97051	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	245747	9.813	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	109374	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-024SC-B-10-12.1-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-07	File ID:	VJ19093016.D
Sampled:	09/27/19 11:31	Prepared:	09/27/19 11:31	Analyzed:	09/30/19 21:28
Solids:	73.31	Preparation:	EPA 5035A	Initial/Final:	5.97 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	7.53	U
108-88-3	Toluene	50	37.7	U
100-41-4	Ethylbenzene	50	18.8	U
179601-23-1	m,p-Xylene	50	37.7	U
95-47-6	o-Xylene	50	18.8	U
108-90-7	Chlorobenzene	50	18.8	U
75-35-4	1,1-Dichloroethene	50	18.8	U
156-59-2	cis-1,2-Dichloroethene	50	18.8	U
127-18-4	Tetrachloroethene (PCE)	50	18.8	U
79-01-6	Trichloroethene (TCE)	50	18.8	U
75-01-4	Vinyl chloride	50	18.8	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	53.4	107	80 - 120	
Toluene-d8 (Surr)	50.0	48.9	98	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.1	102	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	93971	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	237280	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	103794	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-1024SC-B-10-12.1-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-08	File ID:	VJ19093017.D
Sampled:	09/27/19 11:31	Prepared:	09/27/19 11:31	Analyzed:	09/30/19 21:55
Solids:	72.75	Preparation:	EPA 5035A	Initial/Final:	6.29 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	7.34	U
108-88-3	Toluene	50	36.7	U
100-41-4	Ethylbenzene	50	18.3	U
179601-23-1	m,p-Xylene	50	36.7	U
95-47-6	o-Xylene	50	18.3	U
108-90-7	Chlorobenzene	50	18.3	U
75-35-4	1,1-Dichloroethene	50	18.3	U
156-59-2	cis-1,2-Dichloroethene	50	18.3	U
127-18-4	Tetrachloroethene (PCE)	50	18.3	U
79-01-6	Trichloroethene (TCE)	50	18.3	U
75-01-4	Vinyl chloride	50	18.3	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	52.3	105	80 - 120	
Toluene-d8 (Surr)	50.0	48.9	98	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.5	103	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	93395	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	230685	9.813	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	99898	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-030SC-B-5.9-7.9-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-09	File ID:	VJ19093027.D
Sampled:	09/29/19 14:00	Prepared:	09/29/19 14:00	Analyzed:	10/01/19 02:22
Solids:	84.74	Preparation:	EPA 5035A	Initial/Final:	5.91 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	5.89	U
108-88-3	Toluene	50	29.5	U
100-41-4	Ethylbenzene	50	14.7	U
179601-23-1	m,p-Xylene	50	29.5	U
95-47-6	o-Xylene	50	14.7	U
108-90-7	Chlorobenzene	50	14.7	U
75-35-4	1,1-Dichloroethene	50	14.7	U
156-59-2	cis-1,2-Dichloroethene	50	14.7	U
127-18-4	Tetrachloroethene (PCE)	50	14.7	U
79-01-6	Trichloroethene (TCE)	50	14.7	U
75-01-4	Vinyl chloride	50	14.7	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	45.1	90	80 - 120	
Toluene-d8 (Surr)	50.0	49.9	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.4	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	71101	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	153831	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	67599	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-030SC-B-7.9-9.9-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-10	File ID:	VJ19093018.D
Sampled:	09/29/19 14:01	Prepared:	09/29/19 14:01	Analyzed:	09/30/19 22:22
Solids:	87.62	Preparation:	EPA 5035A	Initial/Final:	4.8 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.65	U
108-88-3	Toluene	50	33.3	U
100-41-4	Ethylbenzene	50	16.6	U
179601-23-1	m,p-Xylene	50	33.3	U
95-47-6	o-Xylene	50	33.3	U
108-90-7	Chlorobenzene	50	16.6	U
75-35-4	1,1-Dichloroethene	50	16.6	U
156-59-2	cis-1,2-Dichloroethene	50	16.6	U
127-18-4	Tetrachloroethene (PCE)	50	16.6	U
79-01-6	Trichloroethene (TCE)	50	16.6	U
75-01-4	Vinyl chloride	50	16.6	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	51.8	104	80 - 120	
Toluene-d8 (Surr)	50.0	49.3	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.6	101	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	88169	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	214725	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	96406	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-030SC-B-9.9-11.8-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-11	File ID:	VJ19093019.D
Sampled:	09/29/19 14:02	Prepared:	09/29/19 14:02	Analyzed:	09/30/19 22:48
Solids:	75.88	Preparation:	EPA 5035A	Initial/Final:	5.8 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	7.27	U
108-88-3	Toluene	50	36.3	U
100-41-4	Ethylbenzene	50	18.2	U
179601-23-1	m,p-Xylene	50	36.3	U
95-47-6	o-Xylene	50	18.2	U
108-90-7	Chlorobenzene	50	18.2	U
75-35-4	1,1-Dichloroethene	50	18.2	U
156-59-2	cis-1,2-Dichloroethene	50	18.2	U
127-18-4	Tetrachloroethene (PCE)	50	18.2	U
79-01-6	Trichloroethene (TCE)	50	18.2	U
75-01-4	Vinyl chloride	50	18.2	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	50.1	100	80 - 120	
Toluene-d8 (Surr)	50.0	49.5	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.2	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	85438	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	200378	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	88686	11.765	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-036SC-B-10.2-12.2-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-12	File ID:	VJ19093020.D
Sampled:	09/29/19 12:41	Prepared:	09/29/19 12:41	Analyzed:	09/30/19 23:15
Solids:	82.83	Preparation:	EPA 5035A	Initial/Final:	5.63 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

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

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	49.5	99	80 - 120	
Toluene-d8 (Surr)	50.0	49.4	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.2	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	77693	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	181643	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	79531	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-036SC-B-12.2-13.4-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-13	File ID:	VJ19093021.D
Sampled:	09/29/19 12:54	Prepared:	09/29/19 12:54	Analyzed:	09/30/19 23:42
Solids:	70.97	Preparation:	EPA 5035A	Initial/Final:	5.28 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	8.72	U
108-88-3	Toluene	50	43.6	U
100-41-4	Ethylbenzene	50	21.8	U
179601-23-1	m,p-Xylene	50	43.6	U
95-47-6	o-Xylene	50	43.6	U
108-90-7	Chlorobenzene	50	21.8	U
75-35-4	1,1-Dichloroethene	50	21.8	U
156-59-2	cis-1,2-Dichloroethene	50	21.8	U
127-18-4	Tetrachloroethene (PCE)	50	21.8	U
79-01-6	Trichloroethene (TCE)	50	21.8	U
75-01-4	Vinyl chloride	50	21.8	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	48.3	97	80 - 120	
Toluene-d8 (Surr)	50.0	49.4	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.5	103	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	78583	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	178523	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	78322	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-036SC-B-4.2-6.2-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-14	File ID:	VJ19093022.D
Sampled:	09/29/19 12:37	Prepared:	09/29/19 12:37	Analyzed:	10/01/19 00:09
Solids:	88.72	Preparation:	EPA 5035A	Initial/Final:	5.34 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	5.91	U
108-88-3	Toluene	50	29.6	U
100-41-4	Ethylbenzene	50	14.8	U
179601-23-1	m,p-Xylene	50	29.6	U
95-47-6	o-Xylene	50	29.6	U
108-90-7	Chlorobenzene	50	14.8	U
75-35-4	1,1-Dichloroethene	50	14.8	U
156-59-2	cis-1,2-Dichloroethene	50	14.8	U
127-18-4	Tetrachloroethene (PCE)	50	14.8	U
79-01-6	Trichloroethene (TCE)	50	14.8	U
75-01-4	Vinyl chloride	50	14.8	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	48.1	96	80 - 120	
Toluene-d8 (Surr)	50.0	49.7	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.2	98	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	77019	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	176619	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	79419	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-036SC-B-6.2-8.2-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-15	File ID:	VJ19093023.D
Sampled:	09/29/19 12:38	Prepared:	09/29/19 12:38	Analyzed:	10/01/19 00:35
Solids:	84.67	Preparation:	EPA 5035A	Initial/Final:	4.87 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	6.97	U
108-88-3	Toluene	50	34.8	U
100-41-4	Ethylbenzene	50	17.4	U
179601-23-1	m,p-Xylene	50	34.8	U
95-47-6	o-Xylene	50	34.8	U
108-90-7	Chlorobenzene	50	17.4	U
75-35-4	1,1-Dichloroethene	50	17.4	U
156-59-2	cis-1,2-Dichloroethene	50	17.4	U
127-18-4	Tetrachloroethene (PCE)	50	17.4	U
79-01-6	Trichloroethene (TCE)	50	17.4	U
75-01-4	Vinyl chloride	50	17.4	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	46.6	93	80 - 120	
Toluene-d8 (Surr)	50.0	49.9	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.6	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	78842	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	173755	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	77548	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-036SC-B-8.2-10.2-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-16	File ID:	VJ19093024.D
Sampled:	09/29/19 12:44	Prepared:	09/29/19 12:44	Analyzed:	10/01/19 01:02
Solids:	76.34	Preparation:	EPA 5035A	Initial/Final:	5.63 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	7.37	U
108-88-3	Toluene	50	36.8	U
100-41-4	Ethylbenzene	50	18.4	U
179601-23-1	m,p-Xylene	50	36.8	U
95-47-6	o-Xylene	50	18.4	U
108-90-7	Chlorobenzene	50	18.4	U
75-35-4	1,1-Dichloroethene	50	18.4	U
156-59-2	cis-1,2-Dichloroethene	50	18.4	U
127-18-4	Tetrachloroethene (PCE)	50	18.4	U
79-01-6	Trichloroethene (TCE)	50	18.4	U
75-01-4	Vinyl chloride	50	18.4	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	46.0	92	80 - 120	
Toluene-d8 (Surr)	50.0	50.1	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.1	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	73966	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	161719	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	71368	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-064SC-B-08-10-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-17	File ID:	VJ19093025.D
Sampled:	09/29/19 08:19	Prepared:	09/29/19 08:19	Analyzed:	10/01/19 01:29
Solids:	66.08	Preparation:	EPA 5035A	Initial/Final:	6.1 g / 5 mL
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	8.77	U
108-88-3	Toluene	50	43.8	U
100-41-4	Ethylbenzene	50	21.9	U
179601-23-1	m,p-Xylene	50	43.8	U
95-47-6	o-Xylene	50	21.9	U
108-90-7	Chlorobenzene	50	21.9	U
75-35-4	1,1-Dichloroethene	50	21.9	U
156-59-2	cis-1,2-Dichloroethene	50	21.9	U
127-18-4	Tetrachloroethene (PCE)	50	21.9	U
79-01-6	Trichloroethene (TCE)	50	21.9	U
75-01-4	Vinyl chloride	50	21.9	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	46.0	92	80 - 120	
Toluene-d8 (Surr)	50.0	49.8	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.0	102	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	71267	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	159508	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	67215	11.771	92181	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-064SC-B-10-12-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-18	File ID:	VJ19100106.D
Sampled:	09/29/19 08:19	Prepared:	09/29/19 08:19	Analyzed:	10/01/19 12:17
Solids:	74.84	Preparation:	EPA 5035A	Initial/Final:	6.18 g / 5 mL
Batch:	9100477	Sequence:	9J01047	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	7.09	U
108-88-3	Toluene	50	35.4	U
100-41-4	Ethylbenzene	50	17.7	U
179601-23-1	m,p-Xylene	50	35.4	U
95-47-6	o-Xylene	50	17.7	U
108-90-7	Chlorobenzene	50	17.7	U
75-35-4	1,1-Dichloroethene	50	17.7	U
156-59-2	cis-1,2-Dichloroethene	50	17.7	U
127-18-4	Tetrachloroethene (PCE)	50	17.7	U
79-01-6	Trichloroethene (TCE)	50	17.7	U
75-01-4	Vinyl chloride	50	17.7	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	45.2	90	80 - 120	
Toluene-d8 (Surr)	50.0	49.7	99	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.2	100	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	71577	6.095	70208	6.095	
Chlorobenzene-d5 (ISTD)	154117	9.813	142282	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	67708	11.771	66281	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-064SC-B-12-14-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-19	File ID:	VJ19100107.D
Sampled:	09/29/19 08:19	Prepared:	09/29/19 08:19	Analyzed:	10/01/19 12:44
Solids:	76.00	Preparation:	EPA 5035A	Initial/Final:	5.34 g / 5 mL
Batch:	9100477	Sequence:	9J01047	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	35.8	
108-88-3	Toluene	50	38.7	U
100-41-4	Ethylbenzene	50	19.3	U
179601-23-1	m,p-Xylene	50	38.7	U
95-47-6	o-Xylene	50	19.3	U
108-90-7	Chlorobenzene	50	19.3	U
75-35-4	1,1-Dichloroethene	50	19.3	U
156-59-2	cis-1,2-Dichloroethene	50	19.3	U
127-18-4	Tetrachloroethene (PCE)	50	19.3	U
79-01-6	Trichloroethene (TCE)	50	19.3	U
75-01-4	Vinyl chloride	50	19.3	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	44.4	89	80 - 120	
Toluene-d8 (Surr)	50.0	50.1	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.7	101	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	68220	6.095	70208	6.095	
Chlorobenzene-d5 (ISTD)	145661	9.812	142282	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	61838	11.771	66281	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-064SC-B-14-15.8-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-20	File ID:	VJ19100108.D
Sampled:	09/29/19 08:19	Prepared:	09/29/19 08:19	Analyzed:	10/01/19 13:11
Solids:	73.92	Preparation:	EPA 5035A	Initial/Final:	6.03 g / 5 mL
Batch:	9100477	Sequence:	9J01047	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	42.0	
108-88-3	Toluene	50	36.9	U
100-41-4	Ethylbenzene	50	18.4	U
179601-23-1	m,p-Xylene	50	36.9	U
95-47-6	o-Xylene	50	36.9	U
108-90-7	Chlorobenzene	50	18.4	U
75-35-4	1,1-Dichloroethene	50	18.4	U
156-59-2	cis-1,2-Dichloroethene	50	18.4	U
127-18-4	Tetrachloroethene (PCE)	50	18.4	U
79-01-6	Trichloroethene (TCE)	50	18.4	U
75-01-4	Vinyl chloride	50	18.4	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	43.9	88	80 - 120	
Toluene-d8 (Surr)	50.0	50.3	101	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.5	101	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	67529	6.095	70208	6.095	
Chlorobenzene-d5 (ISTD)	142500	9.813	142282	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	61279	11.765	66281	11.771	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

5035A/8260C

PDI-1064SC-B-08-10-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-21	File ID:	VJ19100109.D
Sampled:	09/29/19 08:19	Prepared:	09/29/19 08:19	Analyzed:	10/01/19 13:38
Solids:	66.37	Preparation:	EPA 5035A	Initial/Final:	5.53 g / 5 mL
Batch:	9100477	Sequence:	9J01047	Calibration:	A9I2702
Instrument:	VOA-GCMS10				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
71-43-2	Benzene	50	9.34	U
108-88-3	Toluene	50	46.7	U
100-41-4	Ethylbenzene	50	23.4	U
179601-23-1	m,p-Xylene	50	46.7	U
95-47-6	o-Xylene	50	23.4	U
108-90-7	Chlorobenzene	50	23.4	U
75-35-4	1,1-Dichloroethene	50	23.4	U
156-59-2	cis-1,2-Dichloroethene	50	23.4	U
127-18-4	Tetrachloroethene (PCE)	50	23.4	U
79-01-6	Trichloroethene (TCE)	50	23.4	U
75-01-4	Vinyl chloride	50	23.4	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	43.7	87	80 - 120	
Toluene-d8 (Surr)	50.0	50.4	101	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.3	101	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	66126	6.095	70208	6.095	
Chlorobenzene-d5 (ISTD)	138856	9.812	142282	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	58149	11.771	66281	11.771	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9091435 Batch Matrix: Soil
Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9091435-BLK1	VJ19093005.D	09/30/19 15:00	
LCS	9091435-BS1	VJ19093003.D	09/30/19 15:00	
PDI-064SC-B-08-10-190929 (Dup)	9091435-DUP1	VJ19093026.D	09/29/19 08:19	
PDI-030SC-B-5.9-7.9-190929 (MS)	9091435-MS1	VJ19093028.D	09/29/19 14:00	
PDI-030SC-B-5.9-7.9-190929 (MSD	9091435-MSD1	VJ19093029.D	09/29/19 14:00	
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	VJ19093011.D	09/27/19 09:23	
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	VJ19093012.D	09/27/19 09:45	
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	VJ19093013.D	09/27/19 09:22	
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	VJ19093014.D	09/27/19 09:22	
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	VJ19093015.D	09/27/19 09:23	
PDI-024SC-B-10-12.1-190927	A9I0922-07	VJ19093016.D	09/27/19 11:31	
PDI-1024SC-B-10-12.1-190927	A9I0922-08	VJ19093017.D	09/27/19 11:31	
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	VJ19093027.D	09/29/19 14:00	
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	VJ19093018.D	09/29/19 14:01	
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	VJ19093019.D	09/29/19 14:02	
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	VJ19093020.D	09/29/19 12:41	
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	VJ19093021.D	09/29/19 12:54	
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	VJ19093022.D	09/29/19 12:37	
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	VJ19093023.D	09/29/19 12:38	
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	VJ19093024.D	09/29/19 12:44	
PDI-064SC-B-08-10-190929	A9I0922-17	VJ19093025.D	09/29/19 08:19	

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

PREPARATION BATCH SUMMARY

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100477
Batch Matrix: Soil
Preparation: EPA 5035A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100477-BLK1	VJ19100105.D	10/01/19 10:00	
LCS	9100477-BS1	VJ19100103.D	10/01/19 10:00	
PDI-064SC-B-10-12-190929	A9I0922-18	VJ19100106.D	09/29/19 08:19	
PDI-064SC-B-12-14-190929	A9I0922-19	VJ19100107.D	09/29/19 08:19	
PDI-064SC-B-14-15.8-190929	A9I0922-20	VJ19100108.D	09/29/19 08:19	
PDI-1064SC-B-08-10-190929	A9I0922-21	VJ19100109.D	09/29/19 08:19	

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

METHOD BLANK DATA SHEET

5035A/8260C

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Soil	Laboratory ID:	9091435-BLK1	File ID:	VJ19093005.D
Prepared:	09/30/19 15:00	Preparation:	EPA 5035A	Initial/Final:	7.5 g / 5 mL
Analyzed:	09/30/19 16:34	Instrument:	VOA-GCMS10		
Batch:	9091435	Sequence:	9I30038	Calibration:	A9I2702

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

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	47.3	95	80 - 120	
Toluene-d8 (Surr)	50.0	50.1	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	51.5	103	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	83209	6.095	88775	6.095	
Chlorobenzene-d5 (ISTD)	185510	9.812	196509	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	82656	11.771	92181	11.771	

METHOD BLANK DATA SHEET

5035A/8260C

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Soil	Laboratory ID:	9100477-BLK1	File ID:	VJ19100105.D
Prepared:	10/01/19 10:00	Preparation:	EPA 5035A	Initial/Final:	7.5 g / 5 mL
Analyzed:	10/01/19 11:50	Instrument:	VOA-GCMS10		
Batch:	9100477	Sequence:	9J01047	Calibration:	A9I2702

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

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	45.4	91	80 - 120	
Toluene-d8 (Surr)	50.0	51.1	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.2	98	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	71364	6.095	70208	6.095	
Chlorobenzene-d5 (ISTD)	149168	9.812	142282	9.812	
1,4-Dichlorobenzene-d4 (ISTD)	66787	11.771	66281	11.771	

LCS / LCS DUPLICATE RECOVERY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Soil		
Batch:	9091435	Laboratory ID:	9091435-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Benzene	1000	850	85	80 - 120
Toluene	1000	882	88	80 - 120
Ethylbenzene	1000	916	92	80 - 120
m,p-Xylene	2000	1840	92	80 - 120
o-Xylene	1000	907	91	80 - 120
Chlorobenzene	1000	945	95	80 - 120
1,1-Dichloroethene	1000	899	90	80 - 120
cis-1,2-Dichloroethene	1000	902	90	80 - 120
Tetrachloroethene (PCE)	1000	977	98	80 - 120
Trichloroethene (TCE)	1000	953	95	80 - 120
Vinyl chloride	1000	876	88	80 - 120

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Soil		
Batch:	9100477	Laboratory ID:	9100477-BS1
Preparation:	EPA 5035A	Initial/Final:	5 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Benzene	1000	878	88	80 - 120
Toluene	1000	992	99	80 - 120
Ethylbenzene	1000	1060	106	80 - 120
m,p-Xylene	2000	2150	107	80 - 120
o-Xylene	1000	1050	105	80 - 120
Chlorobenzene	1000	1060	106	80 - 120
1,1-Dichloroethene	1000	1000	100	80 - 120
cis-1,2-Dichloroethene	1000	975	98	80 - 120
Tetrachloroethene (PCE)	1000	1060	106	80 - 120
Trichloroethene (TCE)	1000	985	98	80 - 120
Vinyl chloride	1000	973	97	80 - 120

* = Values outside of QC limits

DUPLICATES

5035A/8260C

PDI-064SC-B-08-10-190929

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Soil
Batch: 9091435
Preparation: EPA 5035A
Source Sample Name: PDI-064SC-B-08-10-190929

SDG: A9I0922
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP
Laboratory ID: 9091435-DUP1
Lab Source ID: A9I0922-17
Initial/Final: 5.78 g / 5 mL
% Solids: 66.08

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/kg dry)	C	DUPLICATE CONCENTRATION (ug/kg dry)	C	RPD %	Q	METHOD
Benzene	30	0.00		ND				5035A/8260C
Toluene	30	0.00		ND				5035A/8260C
Ethylbenzene	30	15.9		ND				5035A/8260C
m,p-Xylene	30	18.7		ND				5035A/8260C
o-Xylene	30	19.6		ND				5035A/8260C
Chlorobenzene	30	0.00		ND				5035A/8260C
1,1-Dichloroethene	30	0.00		ND				5035A/8260C
cis-1,2-Dichloroethene	30	0.00		ND				5035A/8260C
Tetrachloroethene (PCE)	30	0.00		ND				5035A/8260C
Trichloroethene (TCE)	30	0.00		ND				5035A/8260C
Vinyl chloride	30	0.00		ND				5035A/8260C

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

5035A/8260C

PDI-030SC-B-5.9-7.9-190929

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Matrix:	Soil		
Batch:	9091435	Laboratory ID:	9091435-MS1
Preparation:	EPA 5035A	Initial/Final:	5.51 g / 5 mL

Source Sample Name: PDI-030SC-B-5.9-7.9-190929

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	MS CONCENTRATION (ug/kg dry)	MS % REC. (*=Out)	QC LIMITS REC.
Benzene	1250	ND	1130	90	77 - 121
Toluene	1250	ND	1230	99	77 - 121
Ethylbenzene	1250	ND	1310	105	76 - 122
m,p-Xylene	2500	ND	2670	107	77 - 124
o-Xylene	1250	ND	1310	104	77 - 123
Chlorobenzene	1250	ND	1340	107	79 - 120
1,1-Dichloroethene	1250	ND	1290	103	70 - 131
cis-1,2-Dichloroethene	1250	ND	1280	103	77 - 123
Tetrachloroethene (PCE)	1250	ND	1290	103	73 - 128
Trichloroethene (TCE)	1250	ND	1230	98	77 - 123
Vinyl chloride	1250	ND	1340	107	56 - 135

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

5035A/8260C

PDI-030SC-B-5.9-7.9-190929

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Soil		
Batch:	9091435	Laboratory ID:	9091435-MSD1
Preparation:	EPA 5035A	Initial/Final:	5.51 g / 5 mL

Source Sample Name: PDI-030SC-B-5.9-7.9-190929

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
Benzene	1250	1140	91	1	35	77 - 121
Toluene	1250	1230	99	0.2	35	77 - 121
Ethylbenzene	1250	1300	104	0.2	35	76 - 122
m,p-Xylene	2500	2630	105	1	35	77 - 124
o-Xylene	1250	1300	104	0.3	35	77 - 123
Chlorobenzene	1250	1330	106	0.8	35	79 - 120
1,1-Dichloroethene	1250	1280	103	0.5	35	70 - 131
cis-1,2-Dichloroethene	1250	1290	103	0.3	35	77 - 123
Tetrachloroethene (PCE)	1250	1280	102	1	35	73 - 128
Trichloroethene (TCE)	1250	1270	101	3	35	77 - 123
Vinyl chloride	1250	1330	106	1	35	56 - 135

ANALYSIS BATCH (SEQUENCE) SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I26051	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9I26051-TUN1	VJ19092626.D	09/26/19 20:35
Initial Cal Blank	9I26051-ICB1	VJ19092627.D	09/26/19 21:02
Cal Standard	9I26051-CAL1	VJ19092628.D	09/26/19 21:28
Cal Standard	9I26051-CAL2	VJ19092629.D	09/26/19 21:55
Cal Standard	9I26051-CAL3	VJ19092630.D	09/26/19 22:22
Cal Standard	9I26051-CAL4	VJ19092631.D	09/26/19 22:49
Cal Standard	9I26051-CAL5	VJ19092632.D	09/26/19 23:15
Cal Standard	9I26051-CAL6	VJ19092633.D	09/26/19 23:42
Cal Standard	9I26051-CAL7	VJ19092634.D	09/27/19 00:09
Cal Standard	9I26051-CAL8	VJ19092635.D	09/27/19 00:35
Cal Standard	9I26051-CAL9	VJ19092636.D	09/27/19 01:02
Cal Standard	9I26051-CALA	VJ19092638.D	09/27/19 01:56
Cal Standard	9I26051-CALB	VJ19092640.D	09/27/19 02:49
Initial Cal Check	9I26051-ICV1	VJ19092643.D	09/27/19 04:10

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I30038	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9I30038-TUN1	VJ19093002.D	09/30/19 15:13
Calibration Check	9I30038-CCV1	VJ19093003.D	09/30/19 15:40
Blank	9091435-BLK1	VJ19093005.D	09/30/19 16:34
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	VJ19093011.D	09/30/19 19:14
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	VJ19093012.D	09/30/19 19:41
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	VJ19093013.D	09/30/19 20:08
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	VJ19093014.D	09/30/19 20:35
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	VJ19093015.D	09/30/19 21:01
PDI-024SC-B-10-12.1-190927	A9I0922-07	VJ19093016.D	09/30/19 21:28
PDI-1024SC-B-10-12.1-190927	A9I0922-08	VJ19093017.D	09/30/19 21:55
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	VJ19093018.D	09/30/19 22:22
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	VJ19093019.D	09/30/19 22:48
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	VJ19093020.D	09/30/19 23:15
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	VJ19093021.D	09/30/19 23:42
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	VJ19093022.D	10/01/19 00:09
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	VJ19093023.D	10/01/19 00:35
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	VJ19093024.D	10/01/19 01:02
PDI-064SC-B-08-10-190929	A9I0922-17	VJ19093025.D	10/01/19 01:29
PDI-064SC-B-08-10-190929 (Dup)	9091435-DUP1	VJ19093026.D	10/01/19 01:55
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	VJ19093027.D	10/01/19 02:22
PDI-030SC-B-5.9-7.9-190929 (MS)	9091435-MS1	VJ19093028.D	10/01/19 02:49
PDI-030SC-B-5.9-7.9-190929 (MSD)	9091435-MSD1	VJ19093029.D	10/01/19 03:15

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.

ANALYSIS BATCH (SEQUENCE) SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J01047	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J01047-TUN1	VJ19100102.D	10/01/19 10:30
Calibration Check	9J01047-CCV1	VJ19100103.D	10/01/19 10:57
Blank	9100477-BLK1	VJ19100105.D	10/01/19 11:50
PDI-064SC-B-10-12-190929	A9I0922-18	VJ19100106.D	10/01/19 12:17
PDI-064SC-B-12-14-190929	A9I0922-19	VJ19100107.D	10/01/19 12:44
PDI-064SC-B-14-15.8-190929	A9I0922-20	VJ19100108.D	10/01/19 13:11
PDI-1064SC-B-08-10-190929	A9I0922-21	VJ19100109.D	10/01/19 13:38

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VJ19092626.D	Injection Date:	09/26/19
Instrument ID:	VOA-GCMS10	Injection Time:	20:35
Sequence:	9I26051	Lab Sample ID:	9I26051-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	139.73	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	71.57	PASS
m/z 175	5 - 9% of m/z 174	7.10	PASS
m/z 176	95 - 105% of m/z 174	97.44	PASS
m/z 177	5 - 10% of m/z 176	6.70	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VJ19093002.D	Injection Date:	09/30/19
Instrument ID:	VOA-GCMS10	Injection Time:	15:13
Sequence:	9I30038	Lab Sample ID:	9I30038-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	136.14	PASS
m/z 96	5 - 9% of m/z 95	7.08	PASS
m/z 173	Less than 2% of m/z 174	0.21	PASS
m/z 174	50 - 200% of m/z 95	73.46	PASS
m/z 175	5 - 9% of m/z 174	7.09	PASS
m/z 176	95 - 105% of m/z 174	97.67	PASS
m/z 177	5 - 10% of m/z 176	6.97	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VJ19100102.D	Injection Date:	10/01/19
Instrument ID:	VOA-GCMS10	Injection Time:	10:30
Sequence:	9J01047	Lab Sample ID:	9J01047-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 95	50 - 200% of m/z 174	144.91	PASS
m/z 96	5 - 9% of m/z 95	7.04	PASS
m/z 173	Less than 2% of m/z 174	0.22	PASS
m/z 174	50 - 200% of m/z 95	69.01	PASS
m/z 175	5 - 9% of m/z 174	7.08	PASS
m/z 176	95 - 105% of m/z 174	97.52	PASS
m/z 177	5 - 10% of m/z 176	6.17	PASS

INITIAL CALIBRATION DATA (Summary)

5035A/8260C

Laboratory: Apex Laboratories SDG: A9I0922

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

Calibration: A9I2702 Date: 09/26/19 16:31 Instrument: VOA-GCMS10

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Benzene	4.872994	Ave	6.847168	6.008909	3.861406E-02			20	
Toluene	2.202659	Ave	8.345349	8.236455	1.514599E-02			20	
Ethylbenzene	2.358714	Ave	5.533353	9.863727	2.800224E-02			20	
m,p-Xylene	1.771148	Ave	4.86118	10.001	1.759164E-02			20	
o-Xylene	1.817022	Ave	6.614811	10.38236	2.823074E-02			20	
Xylenes, total	1.786439	Ave	5.411279	10.38236	2.823074E-02			20	
Chlorobenzene	1.210267	Ave	8.806745	8.935546	33.16626			20	
1,1-Dichloroethene	1.460673	Ave	2.694645	3.1402	0.1216155			20	
cis-1,2-Dichloroethene	1.609055	Ave	6.80961	5.1328	4.801776E-02			20	
Tetrachloroethene (PCE)	0.4501427	Ave	8.277839	8.683	3.429615E-02			20	
Trichloroethene (TCE)	1.055428	Ave	14.69479	6.6279	4.925179E-02			20	
Vinyl chloride	1.009179	Ave	4.987165	2.002333	0.3602026			20	
1,4-Difluorobenzene (Surr)	2.670681	Ave	0.880413	6.658818	4.813163E-02			20	
Toluene-d8 (Surr)	1.402095	Ave	0.7276725	8.176	9.356301E-03			20	
4-Bromofluorobenzene (Surr)	0.7724614	Ave	1.813051	10.883	3.456173E-03			20	

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

INITIAL CALIBRATION DATA

5035A/8260C

Laboratory: Apex Laboratories

Client: Anchor QEA, LLC

Calibration: A9I2702

SDG: A9I0922

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

Instrument: VOA-GCMS10

Calibration Date: 09/26/19 16:31

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Benzene	0.1	5.459375	0.2	5.508033	0.4	5.013614	1	4.78508	2	4.781894	5	4.495854
Toluene	0.1	2.586923	0.2	2.508904	0.4	2.250426	1	2.190351	2	2.153369	5	2.033906
Ethylbenzene	0.1	2.591898	0.2	2.59455	0.4	2.365379	1	2.240469	2	2.318171	5	2.202601
m,p-Xylene	0.2	1.933974	0.4	1.916944	0.8	1.706925	2	1.739427	4	1.715308	10	1.669822
o-Xylene	0.1	2.064564	0.2	2.016444	0.4	1.79314	1	1.717745	2	1.757062	5	1.683339
Xylenes, total	0.3	1.977504	0.6	1.950111	1.2	1.735664	3	1.7322	6	1.729226	15	1.674327
Chlorobenzene	0.1	0.9004482	0.2	1.224224	0.4	1.254377	1	1.216833	2	1.267868	5	1.202983
1,1-Dichloroethene	0.1	~~0~~	0.2	1.518528	0.4	1.417663	1	1.422839	2	1.414476	5	1.443738
cis-1,2-Dichloroethene	0.1	~~0~~	0.2	1.82403	0.4	1.380668	1	1.605191	2	1.605505	5	1.58126
Tetrachloroethene (PCE)	0.1	~~0~~	0.2	~~0~~	0.4	0.3574911	1	0.4448218	2	0.4435973	5	0.4561974
Trichloroethene (TCE)	0.1	~~0~~	0.2	0.6798931	0.4	0.9115663	1	1.012393	2	1.11526	5	1.09957
Vinyl chloride	0.1	~~0~~	0.2	~~0~~	0.4	1.047709	1	0.9623829	2	0.9365959	5	0.9664064
1,4-Difluorobenzene (Surr)	50	2.705241	50	2.701698	50	2.677767	50	2.651151	50	2.665669	50	2.650154
Toluene-d8 (Surr)	50	1.398784	50	1.394931	50	1.399405	50	1.396554	50	1.381783	50	1.406007
4-Bromofluorobenzene (Surr)	50	0.7771705	50	0.772438	50	0.7871283	50	0.7843952	50	0.7836227	50	0.7871103

INITIAL CALIBRATION DATA (Continued)

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration: A9I2702
Instrument: VOA-GCMS10
Matrix:
Calibration Date: 09/26/19 16:31

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Benzene	10	4.726498	20	4.771181	50	4.501578	100	4.802749	200	4.757073		
Toluene	10	2.143989	20	2.138558	50	2.010956	100	2.112947	200	2.098918		
Ethylbenzene	10	2.379118	20	2.373609	50	2.22904	100	2.34354	200	2.307474		
m,p-Xylene	20	1.785198	40	1.782803	100	1.686867	200	1.786886	400	1.758473		
o-Xylene	10	1.815583	20	1.808421	50	1.711986	100	1.82176	200	1.797196		
Xylenes, total	30	1.795326	60	1.791342	150	1.69524	300	1.798511	600	1.77138		
Chlorobenzene	10	1.285523	20	1.267988	50	1.19846	100	1.2574	200	1.236834		
1,1-Dichloroethene	10	1.473437	20	1.471487	50	1.436707	100	1.491725	200	1.516126		
cis-1,2-Dichloroethene	10	1.686967	20	1.593302	50	1.563861	100	1.627508	200	1.62226		
Tetrachloroethene (PCE)	10	0.4801167	20	0.4679024	50	0.4519387	100	0.4738116	200	0.4754074		
Trichloroethene (TCE)	10	1.133204	20	1.133765	50	1.100413	100	1.178923	200	1.189297		
Vinyl chloride	10	1.020764	20	1.016106	50	0.9853973	100	1.058839	200	1.088413		
1,4-Difluorobenzene (Surr)	50	2.640342	50	2.647354	50	2.661561	50	2.675492	50	2.701062		
Toluene-d8 (Surr)	50	1.410707	50	1.421584	50	1.400038	50	1.404027	50	1.40922		
4-Bromofluorobenzene (Surr)	50	0.7731114	50	0.7711176	50	0.7643448	50	0.7503997	50	0.7462366		

SECOND-SOURCE CALIBRATION VERIFICATION

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco PreRD_DG 2019 - 4a-b. DOC-CAP T
Instrument ID:	VOA-GCMS10	Calibration:	A9I2702
Lab File ID:	VJ19092643.D		
Sequence:	9I26051	Inject Date:	09/27/19
Lab Sample ID:	9I26051-ICV1	Inject Time:	04:10

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Benzene	20.0	19.2	-3.9	70 - 130
Toluene	20.0	19.3	-3.5	70 - 130
Ethylbenzene	20.0	19.8	-1.0	70 - 130
m,p-Xylene	40.0	39.7	-0.8	70 - 130
o-Xylene	20.0	19.8	-1.2	70 - 130
Xylenes, total	60.0	59.4	-0.9	70 - 130
Chlorobenzene	20.0	20.8	4.2	70 - 130
1,1-Dichloroethene	20.0	20.1	0.7	70 - 130
cis-1,2-Dichloroethene	20.0	20.2	1.1	70 - 130
Tetrachloroethene (PCE)	20.0	21.0	4.8	70 - 130
Trichloroethene (TCE)	20.0	22.9	14.3	70 - 130
Vinyl chloride	20.0	19.1	-4.4	70 - 130

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I26051	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9I26051-ICV1)				Lab File ID: VJ19092643.D		Analyzed: 09/27/19 04:10		
1,4-Difluorobenzene (Surr)	50.0	99	70 - 130	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	101	70 - 130	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	70 - 130	10.883	10.883	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I30038	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9091435-BS1)			Lab File ID: VJ19093003.D		Analyzed: 09/30/19 15:40			
1,4-Difluorobenzene (Surr)	50.0	96	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.883	10.883	0.0000	+/-1.0	
Blank (9091435-BLK1)			Lab File ID: VJ19093005.D		Analyzed: 09/30/19 16:34			
1,4-Difluorobenzene (Surr)	50.0	95	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	103	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)			Lab File ID: VJ19093011.D		Analyzed: 09/30/19 19:14			
1,4-Difluorobenzene (Surr)	50.0	109	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	102	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)			Lab File ID: VJ19093012.D		Analyzed: 09/30/19 19:41			
1,4-Difluorobenzene (Surr)	50.0	107	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	102	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)			Lab File ID: VJ19093013.D		Analyzed: 09/30/19 20:08			
1,4-Difluorobenzene (Surr)	50.0	104	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)			Lab File ID: VJ19093014.D		Analyzed: 09/30/19 20:35			
1,4-Difluorobenzene (Surr)	50.0	108	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)			Lab File ID: VJ19093015.D		Analyzed: 09/30/19 21:01			
1,4-Difluorobenzene (Surr)	50.0	108	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	97	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	102	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)			Lab File ID: VJ19093016.D		Analyzed: 09/30/19 21:28			
1,4-Difluorobenzene (Surr)	50.0	107	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	98	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	102	80 - 120	10.883	10.883	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I30038	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)			Lab File ID: VJ19093017.D		Analyzed: 09/30/19 21:55			
1,4-Difluorobenzene (Surr)	50.0	105	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	98	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	103	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)			Lab File ID: VJ19093018.D		Analyzed: 09/30/19 22:22			
1,4-Difluorobenzene (Surr)	50.0	104	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	101	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)			Lab File ID: VJ19093019.D		Analyzed: 09/30/19 22:48			
1,4-Difluorobenzene (Surr)	50.0	100	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)			Lab File ID: VJ19093020.D		Analyzed: 09/30/19 23:15			
1,4-Difluorobenzene (Surr)	50.0	99	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)			Lab File ID: VJ19093021.D		Analyzed: 09/30/19 23:42			
1,4-Difluorobenzene (Surr)	50.0	97	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	103	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)			Lab File ID: VJ19093022.D		Analyzed: 10/01/19 00:09			
1,4-Difluorobenzene (Surr)	50.0	96	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15)			Lab File ID: VJ19093023.D		Analyzed: 10/01/19 00:35			
1,4-Difluorobenzene (Surr)	50.0	93	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)			Lab File ID: VJ19093024.D		Analyzed: 10/01/19 01:02			
1,4-Difluorobenzene (Surr)	50.0	92	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.883	10.883	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence: 9I30038
Instrument: VOA-GCMS10
Matrix: Soil
Calibration: A9I2702

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
PDI-064SC-B-08-10-190929 (A9I0922-17)				Lab File ID: VJ19093025.D		Analyzed: 10/01/19 01:29		
1,4-Difluorobenzene (Surr)	50.0	92	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	102	80 - 120	10.883	10.883	0.0000	+/-1.0	
Duplicate (9091435-DUP1)				Lab File ID: VJ19093026.D		Analyzed: 10/01/19 01:55		
1,4-Difluorobenzene (Surr)	50.0	91	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	97	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)				Lab File ID: VJ19093027.D		Analyzed: 10/01/19 02:22		
1,4-Difluorobenzene (Surr)	50.0	90	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.883	10.883	0.0000	+/-1.0	
Matrix Spike (9091435-MS1)				Lab File ID: VJ19093028.D		Analyzed: 10/01/19 02:49		
1,4-Difluorobenzene (Surr)	50.0	90	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.883	10.883	0.0000	+/-1.0	
Matrix Spike Dup (9091435-MSD1)				Lab File ID: VJ19093029.D		Analyzed: 10/01/19 03:15		
1,4-Difluorobenzene (Surr)	50.0	92	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	95	80 - 120	10.883	10.883	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J01047	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9100477-BS1)			Lab File ID: VJ19100103.D		Analyzed: 10/01/19 10:57			
1,4-Difluorobenzene (Surr)	50.0	88	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	97	80 - 120	10.883	10.883	0.0000	+/-1.0	
Blank (9100477-BLK1)			Lab File ID: VJ19100105.D		Analyzed: 10/01/19 11:50			
1,4-Difluorobenzene (Surr)	50.0	91	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-064SC-B-10-12-190929 (A9I0922-18)			Lab File ID: VJ19100106.D		Analyzed: 10/01/19 12:17			
1,4-Difluorobenzene (Surr)	50.0	90	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	100	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-064SC-B-12-14-190929 (A9I0922-19)			Lab File ID: VJ19100107.D		Analyzed: 10/01/19 12:44			
1,4-Difluorobenzene (Surr)	50.0	89	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	101	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-064SC-B-14-15.8-190929 (A9I0922-20)			Lab File ID: VJ19100108.D		Analyzed: 10/01/19 13:11			
1,4-Difluorobenzene (Surr)	50.0	88	80 - 120	6.655	6.658818	-0.0038	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	101	80 - 120	10.883	10.883	0.0000	+/-1.0	
PDI-1064SC-B-08-10-190929 (A9I0922-21)			Lab File ID: VJ19100109.D		Analyzed: 10/01/19 13:38			
1,4-Difluorobenzene (Surr)	50.0	87	80 - 120	6.661	6.658818	0.0022	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.176	8.176	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	101	80 - 120	10.883	10.883	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I30038	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9091435-BS1)			Lab File ID: VJ19093003.D			Analyzed: 09/30/19 15:40			
Pentafluorobenzene (ISTD)	88775	6.095	88775	6.095	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	196509	9.812	196509	9.812	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	92181	11.771	92181	11.771	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9I30038-CCV1)			Lab File ID: VJ19093003.D			Analyzed: 09/30/19 15:40			
Pentafluorobenzene (ISTD)	88775	6.095	84226	6.095	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	196509	9.812	194298	9.813	101	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	92181	11.771	90055	11.771	102	50 - 200	0.0000	+/-0.50	
Blank (9091435-BLK1)			Lab File ID: VJ19093005.D			Analyzed: 09/30/19 16:34			
Pentafluorobenzene (ISTD)	83209	6.095	88775	6.095	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	185510	9.812	196509	9.812	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	82656	11.771	92181	11.771	90	50 - 200	0.0000	+/-0.50	
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)			Lab File ID: VJ19093011.D			Analyzed: 09/30/19 19:14			
Pentafluorobenzene (ISTD)	95694	6.095	88775	6.095	108	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	240499	9.812	196509	9.812	122	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	106802	11.771	92181	11.771	116	50 - 200	0.0000	+/-0.50	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)			Lab File ID: VJ19093012.D			Analyzed: 09/30/19 19:41			
Pentafluorobenzene (ISTD)	97797	6.095	88775	6.095	110	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	243346	9.812	196509	9.812	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	108063	11.771	92181	11.771	117	50 - 200	0.0000	+/-0.50	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)			Lab File ID: VJ19093013.D			Analyzed: 09/30/19 20:08			
Pentafluorobenzene (ISTD)	88655	6.095	88775	6.095	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	215782	9.812	196509	9.812	110	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	97006	11.771	92181	11.771	105	50 - 200	0.0000	+/-0.50	
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)			Lab File ID: VJ19093014.D			Analyzed: 09/30/19 20:35			
Pentafluorobenzene (ISTD)	96003	6.095	88775	6.095	108	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	243899	9.812	196509	9.812	124	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	111002	11.771	92181	11.771	120	50 - 200	0.0000	+/-0.50	
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)			Lab File ID: VJ19093015.D			Analyzed: 09/30/19 21:01			
Pentafluorobenzene (ISTD)	97051	6.095	88775	6.095	109	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	245747	9.813	196509	9.812	125	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	109374	11.771	92181	11.771	119	50 - 200	0.0000	+/-0.50	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)			Lab File ID: VJ19093016.D			Analyzed: 09/30/19 21:28			
Pentafluorobenzene (ISTD)	93971	6.095	88775	6.095	106	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	237280	9.812	196509	9.812	121	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	103794	11.771	92181	11.771	113	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Sequence:	9I30038	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)			Lab File ID: VJ19093017.D			Analyzed: 09/30/19 21:55			
Pentafluorobenzene (ISTD)	93395	6.095	88775	6.095	105	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	230685	9.813	196509	9.812	117	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	99898	11.771	92181	11.771	108	50 - 200	0.0000	+/-0.50	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)			Lab File ID: VJ19093018.D			Analyzed: 09/30/19 22:22			
Pentafluorobenzene (ISTD)	88169	6.095	88775	6.095	99	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	214725	9.812	196509	9.812	109	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	96406	11.771	92181	11.771	105	50 - 200	0.0000	+/-0.50	
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)			Lab File ID: VJ19093019.D			Analyzed: 09/30/19 22:48			
Pentafluorobenzene (ISTD)	85438	6.095	88775	6.095	96	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	200378	9.812	196509	9.812	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	88686	11.765	92181	11.771	96	50 - 200	-0.0060	+/-0.50	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)			Lab File ID: VJ19093020.D			Analyzed: 09/30/19 23:15			
Pentafluorobenzene (ISTD)	77693	6.095	88775	6.095	88	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	181643	9.812	196509	9.812	92	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	79531	11.771	92181	11.771	86	50 - 200	0.0000	+/-0.50	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)			Lab File ID: VJ19093021.D			Analyzed: 09/30/19 23:42			
Pentafluorobenzene (ISTD)	78583	6.095	88775	6.095	89	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	178523	9.812	196509	9.812	91	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	78322	11.771	92181	11.771	85	50 - 200	0.0000	+/-0.50	
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)			Lab File ID: VJ19093022.D			Analyzed: 10/01/19 00:09			
Pentafluorobenzene (ISTD)	77019	6.095	88775	6.095	87	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	176619	9.812	196509	9.812	90	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	79419	11.771	92181	11.771	86	50 - 200	0.0000	+/-0.50	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15)			Lab File ID: VJ19093023.D			Analyzed: 10/01/19 00:35			
Pentafluorobenzene (ISTD)	78842	6.095	88775	6.095	89	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	173755	9.812	196509	9.812	88	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	77548	11.771	92181	11.771	84	50 - 200	0.0000	+/-0.50	
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)			Lab File ID: VJ19093024.D			Analyzed: 10/01/19 01:02			
Pentafluorobenzene (ISTD)	73966	6.095	88775	6.095	83	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	161719	9.812	196509	9.812	82	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	71368	11.771	92181	11.771	77	50 - 200	0.0000	+/-0.50	
PDI-064SC-B-08-10-190929 (A9I0922-17)			Lab File ID: VJ19093025.D			Analyzed: 10/01/19 01:29			
Pentafluorobenzene (ISTD)	71267	6.095	88775	6.095	80	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	159508	9.812	196509	9.812	81	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	67215	11.771	92181	11.771	73	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Sequence:	9I30038	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Duplicate (9091435-DUP1)			Lab File ID: VJ19093026.D			Analyzed: 10/01/19 01:55			
Pentafluorobenzene (ISTD)	70091	6.095	88775	6.095	79	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	158289	9.806	196509	9.812	81	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	69883	11.765	92181	11.771	76	50 - 200	-0.0060	+/-0.50	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)			Lab File ID: VJ19093027.D			Analyzed: 10/01/19 02:22			
Pentafluorobenzene (ISTD)	71101	6.095	88775	6.095	80	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	153831	9.812	196509	9.812	78	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	67599	11.771	92181	11.771	73	50 - 200	0.0000	+/-0.50	
Matrix Spike (9091435-MS1)			Lab File ID: VJ19093028.D			Analyzed: 10/01/19 02:49			
Pentafluorobenzene (ISTD)	72878	6.095	88775	6.095	82	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	156032	9.812	196509	9.812	79	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	70829	11.771	92181	11.771	77	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (9091435-MSD1)			Lab File ID: VJ19093029.D			Analyzed: 10/01/19 03:15			
Pentafluorobenzene (ISTD)	70797	6.089	88775	6.095	80	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	153719	9.812	196509	9.812	78	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	72094	11.771	92181	11.771	78	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J01047	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9100477-BS1)			Lab File ID: VJ19100103.D			Analyzed: 10/01/19 10:57			
Pentafluorobenzene (ISTD)	70208	6.095	70208	6.095	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	142282	9.812	142282	9.812	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	66281	11.771	66281	11.771	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9J01047-CCV1)			Lab File ID: VJ19100103.D			Analyzed: 10/01/19 10:57			
Pentafluorobenzene (ISTD)	70208	6.095	84226	6.095	83	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	142282	9.812	194298	9.813	73	50 - 200	-0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	66281	11.771	90055	11.771	74	50 - 200	0.0000	+/-0.50	
Blank (9100477-BLK1)			Lab File ID: VJ19100105.D			Analyzed: 10/01/19 11:50			
Pentafluorobenzene (ISTD)	71364	6.095	70208	6.095	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	149168	9.812	142282	9.812	105	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	66787	11.771	66281	11.771	101	50 - 200	0.0000	+/-0.50	
PDI-064SC-B-10-12-190929 (A9I0922-18)			Lab File ID: VJ19100106.D			Analyzed: 10/01/19 12:17			
Pentafluorobenzene (ISTD)	71577	6.095	70208	6.095	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	154117	9.813	142282	9.812	108	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	67708	11.771	66281	11.771	102	50 - 200	0.0000	+/-0.50	
PDI-064SC-B-12-14-190929 (A9I0922-19)			Lab File ID: VJ19100107.D			Analyzed: 10/01/19 12:44			
Pentafluorobenzene (ISTD)	68220	6.095	70208	6.095	97	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	145661	9.812	142282	9.812	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	61838	11.771	66281	11.771	93	50 - 200	0.0000	+/-0.50	
PDI-064SC-B-14-15.8-190929 (A9I0922-20)			Lab File ID: VJ19100108.D			Analyzed: 10/01/19 13:11			
Pentafluorobenzene (ISTD)	67529	6.095	70208	6.095	96	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	142500	9.813	142282	9.812	100	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	61279	11.765	66281	11.771	92	50 - 200	-0.0060	+/-0.50	
PDI-1064SC-B-08-10-190929 (A9I0922-21)			Lab File ID: VJ19100109.D			Analyzed: 10/01/19 13:38			
Pentafluorobenzene (ISTD)	66126	6.095	70208	6.095	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	138856	9.812	142282	9.812	98	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	58149	11.771	66281	11.771	88	50 - 200	0.0000	+/-0.50	
Duplicate (9100477-DUP1)			Lab File ID: VJ19100114.D			Analyzed: 10/01/19 15:52			
Pentafluorobenzene (ISTD)	81866	6.095	70208	6.095	117	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	184225	9.812	142282	9.812	129	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	77441	11.771	66281	11.771	117	50 - 200	0.0000	+/-0.50	
Matrix Spike (9100477-MS1)			Lab File ID: VJ19100117.D			Analyzed: 10/01/19 17:12			
Pentafluorobenzene (ISTD)	81302	6.095	70208	6.095	116	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	184980	9.813	142282	9.812	130	50 - 200	0.0010	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	86053	11.771	66281	11.771	130	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
5035A/8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J01047	Instrument:	VOA-GCMS10
Matrix:	Soil	Calibration:	A9I2702

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (9100477-MSD1)			Lab File ID: VJ19100118.D			Analyzed: 10/01/19 17:39			
Pentafluorobenzene (ISTD)	91903	6.095	70208	6.095	131	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	219398	9.812	142282	9.812	154	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	97347	11.771	66281	11.771	147	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

5035A/8260C

Laboratory: Apex Laboratories SDG: A9I0922

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

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PDI-021SC-B-11.7-13.7-190927	09/27/19 09:23	09/30/19 11:20	09/27/19 09:23	0.00	2.00	09/30/19 19:14	3.41	14.00	
PDI-021SC-B-13.7-15.4-190927	09/27/19 09:45	09/30/19 11:20	09/27/19 09:45	0.00	2.00	09/30/19 19:41	3.41	14.00	
PDI-021SC-B-5.7-7.7-190927	09/27/19 09:22	09/30/19 11:20	09/27/19 09:22	0.00	2.00	09/30/19 20:08	3.45	14.00	
PDI-021SC-B-7.7-9.7-190927	09/27/19 09:22	09/30/19 11:20	09/27/19 09:22	0.00	2.00	09/30/19 20:35	3.47	14.00	
PDI-021SC-B-9.7-11.7-190927	09/27/19 09:23	09/30/19 11:20	09/27/19 09:23	0.00	2.00	09/30/19 21:01	3.48	14.00	
PDI-024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	09/27/19 11:31	0.00	2.00	09/30/19 21:28	3.41	14.00	
PDI-1024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	09/27/19 11:31	0.00	2.00	09/30/19 21:55	3.43	14.00	
PDI-030SC-B-5.9-7.9-190929	09/29/19 14:00	09/30/19 11:20	09/29/19 14:00	0.00	2.00	10/01/19 02:22	1.52	14.00	
PDI-030SC-B-7.9-9.9-190929	09/29/19 14:01	09/30/19 11:20	09/29/19 14:01	0.00	2.00	09/30/19 22:22	1.35	14.00	
PDI-030SC-B-9.9-11.8-190929	09/29/19 14:02	09/30/19 11:20	09/29/19 14:02	0.00	2.00	09/30/19 22:48	1.37	14.00	
PDI-036SC-B-10.2-12.2-190929	09/29/19 12:41	09/30/19 11:20	09/29/19 12:41	0.00	2.00	09/30/19 23:15	1.44	14.00	
PDI-036SC-B-12.2-13.4-190929	09/29/19 12:54	09/30/19 11:20	09/29/19 12:54	0.00	2.00	09/30/19 23:42	1.45	14.00	
PDI-036SC-B-4.2-6.2-190929	09/29/19 12:37	09/30/19 11:20	09/29/19 12:37	0.00	2.00	10/01/19 00:09	1.48	14.00	
PDI-036SC-B-6.2-8.2-190929	09/29/19 12:38	09/30/19 11:20	09/29/19 12:38	0.00	2.00	10/01/19 00:35	1.50	14.00	
PDI-036SC-B-8.2-10.2-190929	09/29/19 12:44	09/30/19 11:20	09/29/19 12:44	0.00	2.00	10/01/19 01:02	1.51	14.00	
PDI-064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	09/29/19 08:19	0.00	2.00	10/01/19 01:29	1.72	14.00	
PDI-064SC-B-10-12-190929	09/29/19 08:19	09/30/19 11:20	09/29/19 08:19	0.00	2.00	10/01/19 12:17	2.17	14.00	
PDI-064SC-B-12-14-190929	09/29/19 08:19	09/30/19 11:20	09/29/19 08:19	0.00	2.00	10/01/19 12:44	2.18	14.00	
PDI-064SC-B-14-15.8-190929	09/29/19 08:19	09/30/19 11:20	09/29/19 08:19	0.00	2.00	10/01/19 13:11	2.20	14.00	
PDI-1064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	09/29/19 08:19	0.00	2.00	10/01/19 13:38	2.22	14.00	

Apex Laboratories

SDG: A9I0922

CLASS: GCMS

METHOD: EPA 8260C

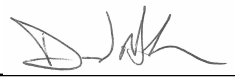
ANALYSES DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-TB-1909271100	A9I0922-06	WQ

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: 
Name: David G. Jack

Forms Created: 11/18/2019 3:41PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: Apex Laboratories **SDG:** A9I0922

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

Batch Matrix: Water

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

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

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

PDI-TB-1909271100

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	WQ	Laboratory ID:	A9I0922-06	File ID:	VG19100419.D
Sampled:	09/27/19 11:00	Prepared:	10/04/19 14:17	Analyzed:	10/04/19 16:35
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

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

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

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	50.8	102	80 - 120	
Toluene-d8 (Surr)	50.0	50.3	101	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	46.1	92	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	83385	6.868	88325	6.867	
Chlorobenzene-d5 (ISTD)	231166	10.452	245927	10.452	
1,4-Dichlorobenzene-d4 (ISTD)	106294	12.293	118022	12.293	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100594
Batch Matrix: Water
Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100594-BLK1	VG19100417.D	10/04/19 12:00	
LCS	9100594-BS1	VG19100413.D	10/04/19 12:00	
LCS Dup	9100594-BSD1	VG19100414.D	10/04/19 12:00	
PDI-TB-1909271100	A9I0922-06	VG19100419.D	10/04/19 14:17	

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

METHOD BLANK DATA SHEET
EPA 8260C

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Water	Laboratory ID:	9100594-BLK1	File ID:	VG19100417.D
Prepared:	10/04/19 12:00	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	10/04/19 15:41	Instrument:	VOA-GCMS7		
Batch:	9100594	Sequence:	9J04030	Calibration:	A9I3003

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

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

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

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Water		
Batch:	9100594	Laboratory ID:	9100594-BS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

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

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Water		
Batch:	9100594	Laboratory ID:	9100594-BSD1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

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

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I26050	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

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

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04030	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J04030-TUN1	VG19100412.D	10/04/19 13:25
Calibration Check	9J04030-CCV1	VG19100413.D	10/04/19 13:52
LCS Dup	9100594-BSD1	VG19100414.D	10/04/19 14:19
Blank	9100594-BLK1	VG19100417.D	10/04/19 15:41
PDI-TB-1909271100	A9I0922-06	VG19100419.D	10/04/19 16:35

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.

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VG19092619.D	Injection Date:	09/26/19
Instrument ID:	VOA-GCMS7	Injection Time:	18:03
Sequence:	9I26050	Lab Sample ID:	9I26050-TUN1

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	VG19100412.D	Injection Date:	10/04/19
Instrument ID:	VOA-GCMS7	Injection Time:	13:25
Sequence:	9J04030	Lab Sample ID:	9J04030-TUN1

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

INITIAL CALIBRATION DATA (Summary)

EPA 8260C

Laboratory: Apex Laboratories SDG: A9I0922

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

Calibration: A9I3003 Date: 09/30/19 22:35 Instrument: VOA-GCMS7

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

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

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Calibration: A9I3003

SDG: A9I0922
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Instrument: VOA-GCMS7
Calibration Date: 09/30/19 22:35

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Benzene	0.1	4.967786	0.2	4.738765	0.4	4.26182	1	4.209777	2	4.143794	5	3.992183
Toluene	0.1	1.856264	0.2	1.782563	0.4	1.568711	1	1.59862	2	1.569136	5	1.480641
Ethylbenzene	0.1	1.617243	0.2	1.655162	0.4	1.456068	1	1.640324	2	1.588484	5	1.475141
m,p-Xylene	0.2	1.235582	0.4	1.160298	0.8	1.029634	2	1.061739	4	1.066899	10	1.032004
o-Xylene	0.1	1.121854	0.2	1.101336	0.4	1.043532	1	1.076955	2	1.068872	5	1.050752
Xylenes, total	0.3	1.197672	0.6	1.140644	1.2	1.034267	3	1.066811	6	1.067557	15	1.038253
Chlorobenzene	0.1	1.131492	0.2	1.121341	0.4	1.009885	1	1.036755	2	0.9879174	5	0.9532392
Tetrachloroethene (PCE)	0.1	~~0.5975512~~	0.2	0.4948639	0.4	0.3837662	1	0.4042575	2	0.3783984	5	0.3597641
1,1-Dichloroethene	0.1	1.423757	0.2	1.272265	0.4	1.273885	1	1.274763	2	1.269526	5	1.202996
Trichloroethene (TCE)	0.1	1.270114	0.2	1.08731	0.4	1.073223	1	1.123376	2	1.065089	5	1.024476
cis-1,2-Dichloroethene	0.1	1.270114	0.2	1.496452	0.4	1.338615	1	1.453722	2	1.373425	5	1.357448
Vinyl chloride	0.1	0.9525858	0.2	0.9499949	0.4	0.8531407	1	0.8612047	2	0.8203331	5	0.8397896
1,4-Difluorobenzene (Surr)	50	3.280808	50	3.270157	50	3.261478	50	3.243112	50	3.20239	50	3.253906
Toluene-d8 (Surr)	50	1.383747	50	1.38676	50	1.381507	50	1.376249	50	1.369365	50	1.376777
4-Bromofluorobenzene (Surr)	50	0.9200992	50	0.9047539	50	0.8937754	50	0.8967701	50	0.8947751	50	0.9069917

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration: A9I3003
Instrument: VOA-GCMS7
Matrix:
Calibration Date: 09/30/19 22:35

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Benzene	10	4.420848	20	4.386574	50	3.945122	100	3.971615	200	4.192599		
Toluene	10	1.632854	20	1.62502	50	1.426775	100	1.448079	200	1.602637		
Ethylbenzene	10	1.643447	20	1.645074	50	1.450559	100	1.480872	200	1.584123		
m,p-Xylene	20	1.167554	40	1.16995	100	1.040401	200	1.075519	400	1.112831		
o-Xylene	10	1.188959	20	1.208597	50	1.098275	100	1.149534	200	1.215295		
Xylenes, total	30	1.174689	60	1.182832	150	1.059692	300	1.100191	600	1.146986		
Chlorobenzene	10	1.024216	20	1.023206	50	0.9219988	100	0.9232434	200	0.9754423		
Tetrachloroethene (PCE)	10	0.4113617	20	0.4085	50	0.3600936	100	0.369441	200	0.4195893		
1,1-Dichloroethene	10	1.426966	20	1.442168	50	1.248825	100	1.282774	200	1.332955		
Trichloroethene (TCE)	10	1.150352	20	1.185368	50	1.091067	100	1.097838	200	1.206277		
cis-1,2-Dichloroethene	10	1.51523	20	1.501308	50	1.345305	100	1.350265	200	1.431826		
Vinyl chloride	10	1.006584	20	0.9925755	50	0.9700071	100	0.8627293	200	0.9521288		
1,4-Difluorobenzene (Surr)	50	3.257679	50	3.225937	50	3.309187	50	3.286582	50	3.30282		
Toluene-d8 (Surr)	50	1.373091	50	1.367439	50	1.360268	50	1.356975	50	1.42256		
4-Bromofluorobenzene (Surr)	50	0.8810397	50	0.8907336	50	0.8785211	50	0.8777501	50	0.9016217		

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco PreRD_DG 2019 - 4a-b. DOC-CAP
Instrument ID:	VOA-GCMS7	Calibration:	A9I3003
Lab File ID:	VG19092636.D		
Sequence:	9I26050	Inject Date:	09/27/19
Lab Sample ID:	9I26050-ICV1	Inject Time:	01:44

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

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I26050	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

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

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04030	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9100594-BS1)			Lab File ID: VG19100413.D		Analyzed: 10/04/19 13:52			
1,4-Difluorobenzene (Surr)	50.0	99	80 - 120	7.453	7.459	-0.0060	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	92	80 - 120	11.446	11.44655	-0.0006	+/-1.0	
LCS Dup (9100594-BSD1)			Lab File ID: VG19100414.D		Analyzed: 10/04/19 14:19			
1,4-Difluorobenzene (Surr)	50.0	100	80 - 120	7.453	7.459	-0.0060	+/-1.0	
Toluene-d8 (Surr)	50.0	98	80 - 120	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	93	80 - 120	11.446	11.44655	-0.0006	+/-1.0	
Blank (9100594-BLK1)			Lab File ID: VG19100417.D		Analyzed: 10/04/19 15:41			
1,4-Difluorobenzene (Surr)	50.0	101	80 - 120	7.453	7.459	-0.0060	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	94	80 - 120	11.446	11.44655	-0.0006	+/-1.0	
PDI-TB-1909271100 (A9I0922-06)			Lab File ID: VG19100419.D		Analyzed: 10/04/19 16:35			
1,4-Difluorobenzene (Surr)	50.0	102	80 - 120	7.453	7.459	-0.0060	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.995	8.995	0.0000	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	92	80 - 120	11.446	11.44655	-0.0006	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04030	Instrument:	VOA-GCMS7
Matrix:	Water	Calibration:	A9I3003

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9100594-BS1)			Lab File ID: VG19100413.D			Analyzed: 10/04/19 13:52			
Pentafluorobenzene (ISTD)	88325	6.867	88325	6.867	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	245927	10.452	245927	10.452	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	118022	12.293	118022	12.293	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9J04030-CCV1)			Lab File ID: VG19100413.D			Analyzed: 10/04/19 13:52			
Pentafluorobenzene (ISTD)	88325	6.867	94013	6.867	94	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	245927	10.452	253060	10.458	97	50 - 200	-0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	118022	12.293	113658	12.293	104	50 - 200	0.0000	+/-0.50	
LCS Dup (9100594-BSD1)			Lab File ID: VG19100414.D			Analyzed: 10/04/19 14:19			
Pentafluorobenzene (ISTD)	94451	6.868	88325	6.867	107	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	266053	10.452	245927	10.452	108	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	128539	12.293	118022	12.293	109	50 - 200	0.0000	+/-0.50	
Blank (9100594-BLK1)			Lab File ID: VG19100417.D			Analyzed: 10/04/19 15:41			
Pentafluorobenzene (ISTD)	90809	6.867	88325	6.867	103	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	248469	10.452	245927	10.452	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	112436	12.293	118022	12.293	95	50 - 200	0.0000	+/-0.50	
PDI-TB-1909271100 (A9I0922-06)			Lab File ID: VG19100419.D			Analyzed: 10/04/19 16:35			
Pentafluorobenzene (ISTD)	83385	6.868	88325	6.867	94	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	231166	10.452	245927	10.452	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	106294	12.293	118022	12.293	90	50 - 200	0.0000	+/-0.50	
Duplicate (9100594-DUP1)			Lab File ID: VG19100421.D			Analyzed: 10/04/19 17:30			
Pentafluorobenzene (ISTD)	90150	6.868	88325	6.867	102	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	251204	10.452	245927	10.452	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	118772	12.293	118022	12.293	101	50 - 200	0.0000	+/-0.50	
Matrix Spike (9100594-MS1)			Lab File ID: VG19100424.D			Analyzed: 10/04/19 18:51			
Pentafluorobenzene (ISTD)	91356	6.868	88325	6.867	103	50 - 200	0.0010	+/-0.50	
Chlorobenzene-d5 (ISTD)	257027	10.458	245927	10.452	105	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	124598	12.293	118022	12.293	106	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

EPA 8260C

Laboratory: Apex Laboratories

SDG: A9I0922

Client: Anchor QEA, LLC

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

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PDI-TB-1909271100	09/27/19 11:00	09/30/19 11:20	10/04/19 14:17	7.14	14.00	10/04/19 16:35	7.23	14.00	

Apex Laboratories

SDG: A9I0922

CLASS: GCMS

METHOD: EPA 8270D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	Sediment
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	Sediment
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	Sediment
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	Sediment
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	Sediment
PDI-024SC-B-10-12.1-190927	A9I0922-07	Sediment
PDI-1024SC-B-10-12.1-190927	A9I0922-08	Sediment
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	Sediment
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	Sediment
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	Sediment
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	Sediment
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	Sediment
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	Sediment
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	Sediment
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	Sediment
PDI-064SC-B-08-10-190929	A9I0922-17	Sediment
PDI-064SC-B-10-12-190929	A9I0922-18	Sediment
PDI-064SC-B-12-14-190929	A9I0922-19	Sediment
PDI-064SC-B-14-15.8-190929	A9I0922-20	Sediment
PDI-1064SC-B-08-10-190929	A9I0922-21	Sediment

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: 
Name: David G. Jack

Forms Created: 11/18/2019 3:41PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** A9I0922

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

Batch Matrix: Sediment

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

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

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-021SC-B-11.7-13.7-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-01	File ID:	N10031924.D
Sampled:	09/27/19 09:23	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 20:56
Solids:	87.66	Preparation:	EPA 3546	Initial/Final:	15.11 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	4	112	D
208-96-8	Acenaphthylene	4	39.1	D
120-12-7	Anthracene	4	81.4	D
56-55-3	Benz(a)anthracene	4	141	D
50-32-8	Benzo(a)pyrene	4	222	D
205-99-2	Benzo(b)fluoranthene	4	192	D
207-08-9	Benzo(k)fluoranthene	4	64.7	D
191-24-2	Benzo(g,h,i)perylene	4	175	D
218-01-9	Chrysene	4	195	D
53-70-3	Dibenz(a,h)anthracene	4	18.2	D
206-44-0	Fluoranthene	4	465	D
86-73-7	Fluorene	4	51.4	D
193-39-5	Indeno(1,2,3-cd)pyrene	4	151	D
91-57-6	2-Methylnaphthalene	4	3.96	JD
91-20-3	Naphthalene	4	23.9	D
85-01-8	Phenanthrene	4	322	D
129-00-0	Pyrene	4	472	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	37.7	34.4	91	44 - 115	
p-Terphenyl-d14 (Surr)	37.7	33.1	88	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	217099	7.889	207501	7.877	
Acenaphthene-d10 (ISTD)	135956	9.643	135408	9.632	
Phenanthrene-d10 (ISTD)	260939	11.153	263900	11.141	
Chrysene-d12 (ISTD)	246438	14.924	227174	14.901	
Perylene-d12 (ISTD)	229668	18.392	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	174282	20.782	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-021SC-B-13.7-15.4-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-02	File ID:	N10031925.D
Sampled:	09/27/19 09:45	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 21:29
Solids:	84.26	Preparation:	EPA 3546	Initial/Final:	15.04 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	4	74.0	D
208-96-8	Acenaphthylene	4	29.6	D
120-12-7	Anthracene	4	99.8	D
56-55-3	Benz(a)anthracene	4	102	D
50-32-8	Benzo(a)pyrene	4	156	D
205-99-2	Benzo(b)fluoranthene	4	140	D
207-08-9	Benzo(k)fluoranthene	4	42.5	D
191-24-2	Benzo(g,h,i)perylene	4	120	D
218-01-9	Chrysene	4	166	D
53-70-3	Dibenz(a,h)anthracene	4	12.2	D
206-44-0	Fluoranthene	4	348	D
86-73-7	Fluorene	4	39.9	D
193-39-5	Indeno(1,2,3-cd)pyrene	4	101	D
91-57-6	2-Methylnaphthalene	4	3.95	U
91-20-3	Naphthalene	4	27.7	D
85-01-8	Phenanthrene	4	301	D
129-00-0	Pyrene	4	338	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	39.5	34.9	88	44 - 115	
p-Terphenyl-d14 (Surr)	39.5	30.3	77	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	219530	7.889	207501	7.877	
Acenaphthene-d10 (ISTD)	136087	9.643	135408	9.632	
Phenanthrene-d10 (ISTD)	263416	11.153	263900	11.141	
Chrysene-d12 (ISTD)	248067	14.918	227174	14.901	
Perylene-d12 (ISTD)	223879	18.392	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	171335	20.776	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-021SC-B-5.7-7.7-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-03	File ID:	N10031926.D
Sampled:	09/27/19 09:22	Prepared:	10/03/19 06:49	Analyzed:	10/03/19 22:01
Solids:	78.13	Preparation:	EPA 3546	Initial/Final:	15.21 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	100	2680	D
208-96-8	Acenaphthylene	100	958	D
120-12-7	Anthracene	100	1830	D
56-55-3	Benz(a)anthracene	100	3320	D
50-32-8	Benzo(a)pyrene	100	5390	D
205-99-2	Benzo(b)fluoranthene	100	4740	D
207-08-9	Benzo(k)fluoranthene	100	1480	D
191-24-2	Benzo(g,h,i)perylene	100	4160	D
218-01-9	Chrysene	100	5320	D
53-70-3	Dibenz(a,h)anthracene	100	424	D
206-44-0	Fluoranthene	100	10600	D
86-73-7	Fluorene	100	1030	D
193-39-5	Indeno(1,2,3-cd)pyrene	100	3570	D
91-57-6	2-Methylnaphthalene	100	105	U
91-20-3	Naphthalene	100	477	D
85-01-8	Phenanthrene	100	5640	D
129-00-0	Pyrene	100	11200	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	42.1	42.0	100	44 - 115	D
p-Terphenyl-d14 (Surr)	42.1	44.1	105	54 - 127	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	222335	7.889	207501	7.877	
Acenaphthene-d10 (ISTD)	134790	9.643	135408	9.632	
Phenanthrene-d10 (ISTD)	257447	11.153	263900	11.141	
Chrysene-d12 (ISTD)	234145	14.918	227174	14.901	
Perylene-d12 (ISTD)	213334	18.392	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	161584	20.776	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-021SC-B-7.7-9.7-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-04	File ID:	N10041912.D
Sampled:	09/27/19 09:22	Prepared:	10/03/19 06:49	Analyzed:	10/04/19 14:14
Solids:	89.11	Preparation:	EPA 3546	Initial/Final:	15.05 g / 10 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1000	89300	D
208-96-8	Acenaphthylene	1000	17000	D
120-12-7	Anthracene	1000	51700	D
56-55-3	Benz(a)anthracene	1000	67100	D
50-32-8	Benzo(a)pyrene	1000	97600	D
205-99-2	Benzo(b)fluoranthene	1000	85400	D
207-08-9	Benzo(k)fluoranthene	1000	28100	D
191-24-2	Benzo(g,h,i)perylene	1000	69900	D
218-01-9	Chrysene	1000	84300	D
53-70-3	Dibenz(a,h)anthracene	1000	7610	D
206-44-0	Fluoranthene	1000	247000	D
86-73-7	Fluorene	1000	40900	D
193-39-5	Indeno(1,2,3-cd)pyrene	1000	60700	D
91-57-6	2-Methylnaphthalene	1000	3460	JD
91-20-3	Naphthalene	1000	15900	D
85-01-8	Phenanthrene	1000	254000	D
129-00-0	Pyrene	1000	262000	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	37.3	96.9	260	44 - 115	D
p-Terphenyl-d14 (Surr)	37.3	157	420	54 - 127	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	215305	7.889	220733	7.877	
Acenaphthene-d10 (ISTD)	132494	9.643	134246	9.637	
Phenanthrene-d10 (ISTD)	249141	11.147	252888	11.141	
Chrysene-d12 (ISTD)	213690	14.918	206372	14.907	
Perylene-d12 (ISTD)	186317	18.386	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	144862	20.776	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-021SC-B-9.7-11.7-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-05	File ID:	N10041913.D
Sampled:	09/27/19 09:23	Prepared:	10/03/19 06:49	Analyzed:	10/04/19 14:47
Solids:	87.01	Preparation:	EPA 3546	Initial/Final:	15.51 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	100	2640	D
208-96-8	Acenaphthylene	100	871	D
120-12-7	Anthracene	100	1890	D
56-55-3	Benz(a)anthracene	100	3180	D
50-32-8	Benzo(a)pyrene	100	5160	D
205-99-2	Benzo(b)fluoranthene	100	4580	D
207-08-9	Benzo(k)fluoranthene	100	1400	D
191-24-2	Benzo(g,h,i)perylene	100	3900	D
218-01-9	Chrysene	100	5270	D
53-70-3	Dibenz(a,h)anthracene	100	409	D
206-44-0	Fluoranthene	100	10000	D
86-73-7	Fluorene	100	980	D
193-39-5	Indeno(1,2,3-cd)pyrene	100	3370	D
91-57-6	2-Methylnaphthalene	100	92.6	U
91-20-3	Naphthalene	100	535	D
85-01-8	Phenanthrene	100	5590	D
129-00-0	Pyrene	100	11300	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	37.0	34.1	92	44 - 115	D
p-Terphenyl-d14 (Surr)	37.0	35.2	95	54 - 127	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	212520	7.883	220733	7.877	
Acenaphthene-d10 (ISTD)	133467	9.644	134246	9.637	
Phenanthrene-d10 (ISTD)	251040	11.147	252888	11.141	
Chrysene-d12 (ISTD)	213166	14.918	206372	14.907	
Perylene-d12 (ISTD)	182101	18.387	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	137652	20.776	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-024SC-B-10-12.1-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-07	File ID:	N10041904.D
Sampled:	09/27/19 11:31	Prepared:	10/03/19 06:49	Analyzed:	10/04/19 09:57
Solids:	73.31	Preparation:	EPA 3546	Initial/Final:	15.44 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	6.47	
208-96-8	Acenaphthylene	1	1.10	U
120-12-7	Anthracene	1	2.46	
56-55-3	Benz(a)anthracene	1	1.82	J
50-32-8	Benzo(a)pyrene	1	2.20	J
205-99-2	Benzo(b)fluoranthene	1	2.20	J
207-08-9	Benzo(k)fluoranthene	1	1.10	U
191-24-2	Benzo(g,h,i)perylene	1	1.55	J
218-01-9	Chrysene	1	2.63	
53-70-3	Dibenz(a,h)anthracene	1	1.10	U
206-44-0	Fluoranthene	1	7.62	
86-73-7	Fluorene	1	2.67	
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.39	J
91-57-6	2-Methylnaphthalene	1	5.05	
91-20-3	Naphthalene	1	5.37	
85-01-8	Phenanthrene	1	13.7	
129-00-0	Pyrene	1	8.58	

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	44.2	37.2	84	44 - 115	
p-Terphenyl-d14 (Surr)	44.2	38.8	88	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	219877	7.877	220733	7.877	
Acenaphthene-d10 (ISTD)	134755	9.632	134246	9.637	
Phenanthrene-d10 (ISTD)	251728	11.141	252888	11.141	
Chrysene-d12 (ISTD)	213441	14.907	206372	14.907	
Perylene-d12 (ISTD)	183846	18.369	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	142162	20.759	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-1024SC-B-10-12.1-190927

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-08	File ID:	N10041905.D
Sampled:	09/27/19 11:31	Prepared:	10/03/19 06:49	Analyzed:	10/04/19 10:29
Solids:	72.75	Preparation:	EPA 3546	Initial/Final:	15.05 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	2.30	
208-96-8	Acenaphthylene	1	1.14	U
120-12-7	Anthracene	1	1.14	U
56-55-3	Benz(a)anthracene	1	1.14	U
50-32-8	Benzo(a)pyrene	1	1.14	U
205-99-2	Benzo(b)fluoranthene	1	1.14	U
207-08-9	Benzo(k)fluoranthene	1	1.14	U
191-24-2	Benzo(g,h,i)perylene	1	1.14	U
218-01-9	Chrysene	1	1.14	U
53-70-3	Dibenz(a,h)anthracene	1	1.14	U
206-44-0	Fluoranthene	1	1.41	J
86-73-7	Fluorene	1	1.14	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.14	U
91-57-6	2-Methylnaphthalene	1	1.14	U
91-20-3	Naphthalene	1	1.90	J
85-01-8	Phenanthrene	1	1.14	U
129-00-0	Pyrene	1	1.99	J

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	45.7	34.4	75	44 - 115	
p-Terphenyl-d14 (Surr)	45.7	37.1	81	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	198945	7.877	220733	7.877	
Acenaphthene-d10 (ISTD)	130161	9.638	134246	9.637	
Phenanthrene-d10 (ISTD)	250218	11.141	252888	11.141	
Chrysene-d12 (ISTD)	213263	14.907	206372	14.907	
Perylene-d12 (ISTD)	186142	18.375	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	150996	20.764	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-030SC-B-5.9-7.9-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-09	File ID:	N10031909.D
Sampled:	09/29/19 14:00	Prepared:	10/03/19 06:50	Analyzed:	10/03/19 12:53
Solids:	84.74	Preparation:	EPA 3546	Initial/Final:	15.28 g / 5 mL
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	5.33	
208-96-8	Acenaphthylene	1	0.965	U
120-12-7	Anthracene	1	0.965	U
56-55-3	Benz(a)anthracene	1	0.965	U
50-32-8	Benzo(a)pyrene	1	0.965	U
205-99-2	Benzo(b)fluoranthene	1	0.965	U
207-08-9	Benzo(k)fluoranthene	1	0.965	U
191-24-2	Benzo(g,h,i)perylene	1	0.965	U
218-01-9	Chrysene	1	0.965	U
53-70-3	Dibenz(a,h)anthracene	1	0.965	U
206-44-0	Fluoranthene	1	0.965	U
86-73-7	Fluorene	1	0.965	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.965	U
91-57-6	2-Methylnaphthalene	1	0.965	U
91-20-3	Naphthalene	1	0.965	U
85-01-8	Phenanthrene	1	0.965	U
129-00-0	Pyrene	1	0.965	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	38.6	33.3	86	44 - 115	
p-Terphenyl-d14 (Surr)	38.6	35.0	91	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	225240	7.877	207501	7.877	
Acenaphthene-d10 (ISTD)	137292	9.632	135408	9.632	
Phenanthrene-d10 (ISTD)	261055	11.141	263900	11.141	
Chrysene-d12 (ISTD)	205586	14.901	227174	14.901	
Perylene-d12 (ISTD)	172563	18.369	185420	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	131367	20.759	126520	20.759	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-030SC-B-7.9-9.9-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-10	File ID:	N10041906.D
Sampled:	09/29/19 14:01	Prepared:	10/03/19 06:50	Analyzed:	10/04/19 11:02
Solids:	87.62	Preparation:	EPA 3546	Initial/Final:	15.22 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	11.6	
208-96-8	Acenaphthylene	1	0.937	U
120-12-7	Anthracene	1	0.937	U
56-55-3	Benz(a)anthracene	1	0.937	U
50-32-8	Benzo(a)pyrene	1	0.937	U
205-99-2	Benzo(b)fluoranthene	1	0.937	U
207-08-9	Benzo(k)fluoranthene	1	0.937	U
191-24-2	Benzo(g,h,i)perylene	1	0.937	U
218-01-9	Chrysene	1	0.937	U
53-70-3	Dibenz(a,h)anthracene	1	0.937	U
206-44-0	Fluoranthene	1	0.937	U
86-73-7	Fluorene	1	0.937	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.937	U
91-57-6	2-Methylnaphthalene	1	0.937	U
91-20-3	Naphthalene	1	0.937	U
85-01-8	Phenanthrene	1	0.937	U
129-00-0	Pyrene	1	0.937	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	37.5	31.8	85	44 - 115	
p-Terphenyl-d14 (Surr)	37.5	33.3	89	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	225289	7.877	220733	7.877	
Acenaphthene-d10 (ISTD)	135852	9.638	134246	9.637	
Phenanthrene-d10 (ISTD)	259499	11.142	252888	11.141	
Chrysene-d12 (ISTD)	221596	14.907	206372	14.907	
Perylene-d12 (ISTD)	196934	18.381	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	154726	20.765	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-030SC-B-9.9-11.8-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-11	File ID:	N10041907.D
Sampled:	09/29/19 14:02	Prepared:	10/03/19 06:50	Analyzed:	10/04/19 11:34
Solids:	75.88	Preparation:	EPA 3546	Initial/Final:	15.65 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	4.93	
208-96-8	Acenaphthylene	1	1.05	U
120-12-7	Anthracene	1	1.05	U
56-55-3	Benz(a)anthracene	1	1.05	U
50-32-8	Benzo(a)pyrene	1	1.05	U
205-99-2	Benzo(b)fluoranthene	1	1.05	U
207-08-9	Benzo(k)fluoranthene	1	1.05	U
191-24-2	Benzo(g,h,i)perylene	1	1.05	U
218-01-9	Chrysene	1	1.05	U
53-70-3	Dibenz(a,h)anthracene	1	1.05	U
206-44-0	Fluoranthene	1	1.05	U
86-73-7	Fluorene	1	1.05	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.05	U
91-57-6	2-Methylnaphthalene	1	1.05	U
91-20-3	Naphthalene	1	1.05	U
85-01-8	Phenanthrene	1	1.05	U
129-00-0	Pyrene	1	1.05	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	42.1	35.2	84	44 - 115	
p-Terphenyl-d14 (Surr)	42.1	38.3	91	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	204275	7.877	220733	7.877	
Acenaphthene-d10 (ISTD)	130703	9.632	134246	9.637	
Phenanthrene-d10 (ISTD)	246592	11.141	252888	11.141	
Chrysene-d12 (ISTD)	203746	14.901	206372	14.907	
Perylene-d12 (ISTD)	176460	18.375	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	141084	20.759	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-036SC-B-10.2-12.2-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-12	File ID:	N10041908.D
Sampled:	09/29/19 12:41	Prepared:	10/03/19 06:50	Analyzed:	10/04/19 12:06
Solids:	82.83	Preparation:	EPA 3546	Initial/Final:	15.1 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	9.97	
208-96-8	Acenaphthylene	1	0.999	U
120-12-7	Anthracene	1	0.999	U
56-55-3	Benz(a)anthracene	1	0.999	U
50-32-8	Benzo(a)pyrene	1	0.999	U
205-99-2	Benzo(b)fluoranthene	1	0.999	U
207-08-9	Benzo(k)fluoranthene	1	0.999	U
191-24-2	Benzo(g,h,i)perylene	1	0.999	U
218-01-9	Chrysene	1	0.999	U
53-70-3	Dibenz(a,h)anthracene	1	0.999	U
206-44-0	Fluoranthene	1	0.999	U
86-73-7	Fluorene	1	0.999	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.999	U
91-57-6	2-Methylnaphthalene	1	0.999	U
91-20-3	Naphthalene	1	0.999	U
85-01-8	Phenanthrene	1	0.999	U
129-00-0	Pyrene	1	0.999	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	40.0	35.0	88	44 - 115	
p-Terphenyl-d14 (Surr)	40.0	36.8	92	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	210748	7.877	220733	7.877	
Acenaphthene-d10 (ISTD)	132770	9.632	134246	9.637	
Phenanthrene-d10 (ISTD)	248085	11.141	252888	11.141	
Chrysene-d12 (ISTD)	210109	14.901	206372	14.907	
Perylene-d12 (ISTD)	184970	18.375	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	149444	20.758	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-036SC-B-12.2-13.4-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-13	File ID:	N10041909.D
Sampled:	09/29/19 12:54	Prepared:	10/03/19 06:50	Analyzed:	10/04/19 12:38
Solids:	70.97	Preparation:	EPA 3546	Initial/Final:	15.67 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
208-96-8	Acenaphthylene	1	2.79	
120-12-7	Anthracene	1	1.12	U
56-55-3	Benz(a)anthracene	1	1.12	U
50-32-8	Benzo(a)pyrene	1	1.12	U
205-99-2	Benzo(b)fluoranthene	1	1.12	U
207-08-9	Benzo(k)fluoranthene	1	1.12	U
191-24-2	Benzo(g,h,i)perylene	1	1.12	U
218-01-9	Chrysene	1	1.12	U
53-70-3	Dibenz(a,h)anthracene	1	1.12	U
206-44-0	Fluoranthene	1	1.12	U
86-73-7	Fluorene	1	35.0	
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.12	U
91-57-6	2-Methylnaphthalene	1	12.1	
91-20-3	Naphthalene	1	31.5	
85-01-8	Phenanthrene	1	9.32	
129-00-0	Pyrene	1	1.12	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	45.0	38.3	85	44 - 115	
p-Terphenyl-d14 (Surr)	45.0	39.3	87	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	220828	7.889	220733	7.877	
Acenaphthene-d10 (ISTD)	135680	9.649	134246	9.637	
Phenanthrene-d10 (ISTD)	259943	11.153	252888	11.141	
Chrysene-d12 (ISTD)	228579	14.924	206372	14.907	
Perylene-d12 (ISTD)	194543	18.398	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	156210	20.788	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-036SC-B-12.2-13.4-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-13RE1	File ID:	N10041914.D
Sampled:	09/29/19 12:54	Prepared:	10/03/19 06:50	Analyzed:	10/04/19 15:19
Solids:	70.97	Preparation:	EPA 3546	Initial/Final:	15.67 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	10	319	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	45.0	41.9	93	44 - 115	
p-Terphenyl-d14 (Surr)	45.0	42.9	95	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Acenaphthene-d10 (ISTD)	130160	9.643	134246	9.637	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-036SC-B-4.2-6.2-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-14	File ID:	N10041910.D
Sampled:	09/29/19 12:37	Prepared:	10/03/19 06:50	Analyzed:	10/04/19 13:10
Solids:	88.72	Preparation:	EPA 3546	Initial/Final:	15.22 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	2.73	
208-96-8	Acenaphthylene	1	0.926	U
120-12-7	Anthracene	1	2.30	
56-55-3	Benz(a)anthracene	1	0.926	U
50-32-8	Benzo(a)pyrene	1	0.926	U
205-99-2	Benzo(b)fluoranthene	1	0.926	U
207-08-9	Benzo(k)fluoranthene	1	0.926	U
191-24-2	Benzo(g,h,i)perylene	1	0.926	U
218-01-9	Chrysene	1	0.926	U
53-70-3	Dibenz(a,h)anthracene	1	0.926	U
206-44-0	Fluoranthene	1	2.00	
86-73-7	Fluorene	1	3.09	
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.926	U
91-57-6	2-Methylnaphthalene	1	0.926	U
91-20-3	Naphthalene	1	0.926	U
85-01-8	Phenanthrene	1	21.2	
129-00-0	Pyrene	1	1.81	J

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	37.0	32.3	87	44 - 115	
p-Terphenyl-d14 (Surr)	37.0	35.9	97	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	201281	7.895	220733	7.877	
Acenaphthene-d10 (ISTD)	129247	9.649	134246	9.637	
Phenanthrene-d10 (ISTD)	244098	11.153	252888	11.141	
Chrysene-d12 (ISTD)	194199	14.924	206372	14.907	
Perylene-d12 (ISTD)	165771	18.392	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	133595	20.782	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-036SC-B-6.2-8.2-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-15	File ID:	N10041911.D
Sampled:	09/29/19 12:38	Prepared:	10/03/19 06:50	Analyzed:	10/04/19 13:42
Solids:	84.67	Preparation:	EPA 3546	Initial/Final:	15.08 g / 5 mL
Batch:	9100583	Sequence:	9J04014	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	33.5	
208-96-8	Acenaphthylene	1	0.979	U
120-12-7	Anthracene	1	0.979	U
56-55-3	Benz(a)anthracene	1	0.979	U
50-32-8	Benzo(a)pyrene	1	0.979	U
205-99-2	Benzo(b)fluoranthene	1	0.979	U
207-08-9	Benzo(k)fluoranthene	1	0.979	U
191-24-2	Benzo(g,h,i)perylene	1	0.979	U
218-01-9	Chrysene	1	0.979	U
53-70-3	Dibenz(a,h)anthracene	1	0.979	U
206-44-0	Fluoranthene	1	0.979	U
86-73-7	Fluorene	1	5.03	
193-39-5	Indeno(1,2,3-cd)pyrene	1	0.979	U
91-57-6	2-Methylnaphthalene	1	0.979	U
91-20-3	Naphthalene	1	0.979	U
85-01-8	Phenanthrene	1	11.8	
129-00-0	Pyrene	1	0.979	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	39.2	26.6	68	44 - 115	
p-Terphenyl-d14 (Surr)	39.2	33.0	84	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	213126	7.889	220733	7.877	
Acenaphthene-d10 (ISTD)	134158	9.643	134246	9.637	
Phenanthrene-d10 (ISTD)	250839	11.147	252888	11.141	
Chrysene-d12 (ISTD)	207565	14.912	206372	14.907	
Perylene-d12 (ISTD)	177856	18.386	172505	18.375	
Dibenz(a,h)anthracene-d14 (ISTD)	143073	20.776	130035	20.764	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-036SC-B-8.2-10.2-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-16	File ID:	N10071921.D
Sampled:	09/29/19 12:44	Prepared:	10/06/19 07:51	Analyzed:	10/07/19 18:09
Solids:	76.34	Preparation:	EPA 3546	Initial/Final:	10.33 g / 5 mL
Batch:	9100706	Sequence:	9J07048	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	24.6	
208-96-8	Acenaphthylene	1	2.88	J
120-12-7	Anthracene	1	3.32	
56-55-3	Benz(a)anthracene	1	3.54	
50-32-8	Benzo(a)pyrene	1	4.70	
205-99-2	Benzo(b)fluoranthene	1	4.42	
207-08-9	Benzo(k)fluoranthene	1	1.59	U
191-24-2	Benzo(g,h,i)perylene	1	3.98	
218-01-9	Chrysene	1	4.70	
53-70-3	Dibenz(a,h)anthracene	1	1.59	U
206-44-0	Fluoranthene	1	14.8	
86-73-7	Fluorene	1	2.40	J
193-39-5	Indeno(1,2,3-cd)pyrene	1	3.44	
91-57-6	2-Methylnaphthalene	1	1.59	U
91-20-3	Naphthalene	1	3.00	J
85-01-8	Phenanthrene	1	20.0	
129-00-0	Pyrene	1	17.4	

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	63.4	49.5	78	44 - 115	
p-Terphenyl-d14 (Surr)	63.4	54.1	85	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	221327	7.883	229540	7.883	
Acenaphthene-d10 (ISTD)	136425	9.638	132113	9.638	
Phenanthrene-d10 (ISTD)	250106	11.147	245549	11.141	
Chrysene-d12 (ISTD)	201138	14.913	188539	14.907	
Perylene-d12 (ISTD)	172170	18.381	157182	18.38	
Dibenz(a,h)anthracene-d14 (ISTD)	135334	20.77	122824	20.77	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-064SC-B-08-10-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-17	File ID:	N10071917.D
Sampled:	09/29/19 08:19	Prepared:	10/06/19 07:51	Analyzed:	10/07/19 16:02
Solids:	66.08	Preparation:	EPA 3546	Initial/Final:	10.71 g / 5 mL
Batch:	9100706	Sequence:	9J07048	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	100	692	D
208-96-8	Acenaphthylene	100	177	U
120-12-7	Anthracene	100	573	D
56-55-3	Benz(a)anthracene	100	1170	D
50-32-8	Benzo(a)pyrene	100	1890	D
205-99-2	Benzo(b)fluoranthene	100	1690	D
207-08-9	Benzo(k)fluoranthene	100	530	D
191-24-2	Benzo(g,h,i)perylene	100	1970	D
218-01-9	Chrysene	100	1510	D
53-70-3	Dibenz(a,h)anthracene	100	177	U
206-44-0	Fluoranthene	100	5020	D
86-73-7	Fluorene	100	420	D
193-39-5	Indeno(1,2,3-cd)pyrene	100	1450	D
91-57-6	2-Methylnaphthalene	100	177	U
91-20-3	Naphthalene	100	534	D
85-01-8	Phenanthrene	100	3940	D
129-00-0	Pyrene	100	6200	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	70.7	57.2	81	44 - 115	D
p-Terphenyl-d14 (Surr)	70.7	63.7	90	54 - 127	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	225021	7.877	229540	7.883	
Acenaphthene-d10 (ISTD)	134163	9.638	132113	9.638	
Phenanthrene-d10 (ISTD)	247259	11.141	245549	11.141	
Chrysene-d12 (ISTD)	193422	14.907	188539	14.907	
Perylene-d12 (ISTD)	169753	18.375	157182	18.38	
Dibenz(a,h)anthracene-d14 (ISTD)	130031	20.764	122824	20.77	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-064SC-B-10-12-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-18	File ID:	N10071922.D
Sampled:	09/29/19 08:19	Prepared:	10/06/19 07:51	Analyzed:	10/07/19 18:41
Solids:	74.84	Preparation:	EPA 3546	Initial/Final:	10.86 g / 5 mL
Batch:	9100706	Sequence:	9J07048	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	3.95	
208-96-8	Acenaphthylene	1	2.36	J
120-12-7	Anthracene	1	1.69	J
56-55-3	Benz(a)anthracene	1	4.18	
50-32-8	Benzo(a)pyrene	1	6.58	
205-99-2	Benzo(b)fluoranthene	1	6.20	
207-08-9	Benzo(k)fluoranthene	1	2.03	J
191-24-2	Benzo(g,h,i)perylene	1	5.91	
218-01-9	Chrysene	1	5.61	
53-70-3	Dibenz(a,h)anthracene	1	1.54	U
206-44-0	Fluoranthene	1	10.3	
86-73-7	Fluorene	1	1.54	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	5.01	
91-57-6	2-Methylnaphthalene	1	1.54	U
91-20-3	Naphthalene	1	3.54	
85-01-8	Phenanthrene	1	7.62	
129-00-0	Pyrene	1	12.3	

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	61.5	43.3	70	44 - 115	
p-Terphenyl-d14 (Surr)	61.5	52.6	85	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	240237	7.883	229540	7.883	
Acenaphthene-d10 (ISTD)	135243	9.637	132113	9.638	
Phenanthrene-d10 (ISTD)	247509	11.147	245549	11.141	
Chrysene-d12 (ISTD)	207190	14.912	188539	14.907	
Perylene-d12 (ISTD)	182226	18.386	157182	18.38	
Dibenz(a,h)anthracene-d14 (ISTD)	142715	20.77	122824	20.77	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-064SC-B-12-14-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-19RE1	File ID:	N10091926.D
Sampled:	09/29/19 08:19	Prepared:	10/06/19 07:51	Analyzed:	10/09/19 21:45
Solids:	76.00	Preparation:	EPA 3546	Initial/Final:	10.54 g / 5 mL
Batch:	9100706	Sequence:	9J09031	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	2.95	J
208-96-8	Acenaphthylene	1	1.56	U
120-12-7	Anthracene	1	1.56	U
56-55-3	Benz(a)anthracene	1	1.56	U
50-32-8	Benzo(a)pyrene	1	1.56	U
205-99-2	Benzo(b)fluoranthene	1	1.56	U
207-08-9	Benzo(k)fluoranthene	1	1.56	U
191-24-2	Benzo(g,h,i)perylene	1	1.56	U
218-01-9	Chrysene	1	1.56	U
53-70-3	Dibenz(a,h)anthracene	1	1.56	U
206-44-0	Fluoranthene	1	1.56	U
86-73-7	Fluorene	1	1.56	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.56	U
91-57-6	2-Methylnaphthalene	1	1.56	U
91-20-3	Naphthalene	1	4.00	
85-01-8	Phenanthrene	1	2.75	J
129-00-0	Pyrene	1	2.04	J

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	62.4	53.4	86	44 - 115	
p-Terphenyl-d14 (Surr)	62.4	55.0	88	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	216879	7.889	206747	7.877	
Acenaphthene-d10 (ISTD)	120270	9.643	125621	9.632	
Phenanthrene-d10 (ISTD)	219400	11.153	235020	11.141	
Chrysene-d12 (ISTD)	185664	14.924	190734	14.907	
Perylene-d12 (ISTD)	161160	18.404	167849	18.381	
Dibenz(a,h)anthracene-d14 (ISTD)	134021	20.794	138526	20.77	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-064SC-B-14-15.8-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-20RE1	File ID:	N10081915.D
Sampled:	09/29/19 08:19	Prepared:	10/06/19 07:51	Analyzed:	10/08/19 15:54
Solids:	73.92	Preparation:	EPA 3546	Initial/Final:	10.93 g / 5 mL
Batch:	9100706	Sequence:	9J08040	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	1	5.76	
208-96-8	Acenaphthylene	1	1.55	U
120-12-7	Anthracene	1	1.55	U
56-55-3	Benz(a)anthracene	1	1.55	U
50-32-8	Benzo(a)pyrene	1	1.55	U
205-99-2	Benzo(b)fluoranthene	1	1.55	U
207-08-9	Benzo(k)fluoranthene	1	1.55	U
191-24-2	Benzo(g,h,i)perylene	1	1.55	U
218-01-9	Chrysene	1	1.55	U
53-70-3	Dibenz(a,h)anthracene	1	1.55	U
206-44-0	Fluoranthene	1	1.55	U
86-73-7	Fluorene	1	1.55	U
193-39-5	Indeno(1,2,3-cd)pyrene	1	1.55	U
91-57-6	2-Methylnaphthalene	1	1.55	U
91-20-3	Naphthalene	1	3.97	
85-01-8	Phenanthrene	1	1.74	J
129-00-0	Pyrene	1	1.55	U

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	61.9	48.8	79	44 - 115	
p-Terphenyl-d14 (Surr)	61.9	53.5	86	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	235293	7.901	216725	7.877	
Acenaphthene-d10 (ISTD)	131359	9.655	120632	9.638	
Phenanthrene-d10 (ISTD)	240745	11.159	215468	11.141	
Chrysene-d12 (ISTD)	201321	14.936	161629	14.907	
Perylene-d12 (ISTD)	172208	18.415	137691	18.381	
Dibenz(a,h)anthracene-d14 (ISTD)	137732	20.805	110477	20.77	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

PDI-1064SC-B-08-10-190929

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment	Laboratory ID:	A9I0922-21	File ID:	N10071918.D
Sampled:	09/29/19 08:19	Prepared:	10/06/19 07:51	Analyzed:	10/07/19 16:34
Solids:	66.37	Preparation:	EPA 3546	Initial/Final:	10.13 g / 5 mL
Batch:	9100706	Sequence:	9J07048	Calibration:	A9I1001
Instrument:	SV-GCMS14				

CAS NO.	COMPOUND	DILUTION	CONC. (ug/kg dry)	Q
83-32-9	Acenaphthene	100	511	D
208-96-8	Acenaphthylene	100	186	U
120-12-7	Anthracene	100	376	D
56-55-3	Benz(a)anthracene	100	831	D
50-32-8	Benzo(a)pyrene	100	1470	D
205-99-2	Benzo(b)fluoranthene	100	1310	D
207-08-9	Benzo(k)fluoranthene	100	373	D
191-24-2	Benzo(g,h,i)perylene	100	1520	D
218-01-9	Chrysene	100	1120	D
53-70-3	Dibenz(a,h)anthracene	100	186	U
206-44-0	Fluoranthene	100	3600	D
86-73-7	Fluorene	100	299	JD
193-39-5	Indeno(1,2,3-cd)pyrene	100	1150	D
91-57-6	2-Methylnaphthalene	100	186	U
91-20-3	Naphthalene	100	489	D
85-01-8	Phenanthrene	100	2860	D
129-00-0	Pyrene	100	4670	D

SYSTEM MONITORING COMPOUND	ADDED (ug/kg dry)	CONC (ug/kg dry)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	74.4	72.1	97	44 - 115	D
p-Terphenyl-d14 (Surr)	74.4	70.6	95	54 - 127	D

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	221265	7.877	229540	7.883	
Acenaphthene-d10 (ISTD)	133361	9.638	132113	9.638	
Phenanthrene-d10 (ISTD)	243642	11.141	245549	11.141	
Chrysene-d12 (ISTD)	181620	14.907	188539	14.907	
Perylene-d12 (ISTD)	156413	18.381	157182	18.38	
Dibenz(a,h)anthracene-d14 (ISTD)	116350	20.765	122824	20.77	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100583 Batch Matrix: Sediment Preparation: EPA 3546

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100583-BLK1	N10031907.D	10/03/19 06:49	
LCS	9100583-BS1	N10031908.D	10/03/19 06:49	
PDI-030SC-B-5.9-7.9-190929 (MS)	9100583-MS1	N10031910.D	10/03/19 06:49	
PDI-030SC-B-5.9-7.9-190929 (MSD	9100583-MSD1	N10031911.D	10/03/19 06:49	
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	N10031924.D	10/03/19 06:49	
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	N10031925.D	10/03/19 06:49	
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	N10031926.D	10/03/19 06:49	
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	N10041912.D	10/03/19 06:49	
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	N10041913.D	10/03/19 06:49	
PDI-024SC-B-10-12.1-190927	A9I0922-07	N10041904.D	10/03/19 06:49	
PDI-1024SC-B-10-12.1-190927	A9I0922-08	N10041905.D	10/03/19 06:49	
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	N10031909.D	10/03/19 06:50	
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	N10041906.D	10/03/19 06:50	
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	N10041907.D	10/03/19 06:50	
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	N10041908.D	10/03/19 06:50	
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	N10041909.D	10/03/19 06:50	
PDI-036SC-B-12.2-13.4-190929	A9I0922-13RE1	N10041914.D	10/03/19 06:50	
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	N10041910.D	10/03/19 06:50	
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	N10041911.D	10/03/19 06:50	

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

PREPARATION BATCH SUMMARY

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100706
Batch Matrix: Sediment
Preparation: EPA 3546

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100706-BLK1	N10071912.D	10/06/19 07:51	
LCS	9100706-BS1	N10071913.D	10/06/19 07:51	
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	N10071921.D	10/06/19 07:51	
PDI-064SC-B-08-10-190929	A9I0922-17	N10071917.D	10/06/19 07:51	
PDI-064SC-B-10-12-190929	A9I0922-18	N10071922.D	10/06/19 07:51	
PDI-064SC-B-12-14-190929	A9I0922-19RE1	N10091926.D	10/06/19 07:51	
PDI-064SC-B-14-15.8-190929	A9I0922-20RE1	N10081915.D	10/06/19 07:51	
PDI-1064SC-B-08-10-190929	A9I0922-21	N10071918.D	10/06/19 07:51	

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

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment	Laboratory ID:	9100583-BLK1	File ID:	N10031907.D
Prepared:	10/03/19 06:49	Preparation:	EPA 3546	Initial/Final:	16 g / 5 mL
Analyzed:	10/03/19 11:49	Instrument:	SV-GCMS14		
Batch:	9100583	Sequence:	9J03014	Calibration:	A9I1001

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

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

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

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment	Laboratory ID:	9100706-BLK1	File ID:	N10071912.D
Prepared:	10/06/19 07:51	Preparation:	EPA 3546	Initial/Final:	11 g / 5 mL
Analyzed:	10/07/19 13:22	Instrument:	SV-GCMS14		
Batch:	9100706	Sequence:	9J07048	Calibration:	A9I1001

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

SYSTEM MONITORING COMPOUND	ADDED (ug/kg wet)	CONC (ug/kg wet)	% REC	QC LIMITS	Q
2-Fluorobiphenyl (Surr)	45.5	39.3	86	44 - 115	
p-Terphenyl-d14 (Surr)	45.5	43.5	96	54 - 127	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Naphthalene-d8 (ISTD)	228641	7.883	229540	7.883	
Acenaphthene-d10 (ISTD)	133662	9.638	132113	9.638	
Phenanthrene-d10 (ISTD)	240732	11.141	245549	11.141	
Chrysene-d12 (ISTD)	171761	14.907	188539	14.907	
Perylene-d12 (ISTD)	142801	18.38	157182	18.38	
Dibenz(a,h)anthracene-d14 (ISTD)	113855	20.764	122824	20.77	

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100583	Laboratory ID:	9100583-BS1
Preparation:	EPA 3546	Initial/Final:	15 g / 5 mL

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

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100706	Laboratory ID:	9100706-BS1
Preparation:	EPA 3546	Initial/Final:	10 g / 5 mL

COMPOUND	SPIKE ADDED (ug/kg wet)	LCS CONCENTRATION (ug/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Acenaphthene	20.0	17.9	89	40 - 122
Acenaphthylene	20.0	17.0	85	32 - 132
Anthracene	20.0	17.4	87	47 - 123
Benz(a)anthracene	20.0	16.5	82	49 - 126
Benzo(a)pyrene	20.0	17.7	89	45 - 129
Benzo(b)fluoranthene	20.0	18.1	90	45 - 132
Benzo(k)fluoranthene	20.0	18.0	90	47 - 132
Benzo(g,h,i)perylene	20.0	16.8	84	43 - 134
Chrysene	20.0	18.0	90	50 - 124
Dibenz(a,h)anthracene	20.0	16.9	85	45 - 134
Fluoranthene	20.0	17.0	85	50 - 127
Fluorene	20.0	17.9	90	43 - 125
Indeno(1,2,3-cd)pyrene	20.0	16.9	84	45 - 133
2-Methylnaphthalene	20.0	15.5	78	38 - 122
Naphthalene	20.0	18.0	90	35 - 123
Phenanthrene	20.0	17.7	89	50 - 121
Pyrene	20.0	18.1	91	47 - 127

* = Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8270D

PDI-030SC-B-5.9-7.9-190929

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Matrix:	Sediment		
Batch:	9100583	Laboratory ID:	9100583-MS1
Preparation:	EPA 3546	Initial/Final:	15.3 g / 5 mL

Source Sample Name: PDI-030SC-B-5.9-7.9-190929

COMPOUND	SPIKE ADDED (ug/kg dry)	SAMPLE CONCENTRATION (ug/kg dry)	MS CONCENTRATION (ug/kg dry)	MS % REC. (*=Out)	QC LIMITS REC.
Acenaphthene	15.4	5.33	16.3	71	40 - 122
Acenaphthylene	15.4	ND	13.4	87	32 - 132
Anthracene	15.4	ND	14.1	92	47 - 123
Benz(a)anthracene	15.4	ND	13.5	88	49 - 126
Benzo(a)pyrene	15.4	ND	13.9	90	45 - 129
Benzo(b)fluoranthene	15.4	ND	14.3	92	45 - 132
Benzo(k)fluoranthene	15.4	ND	14.1	91	47 - 132
Benzo(g,h,i)perylene	15.4	ND	13.0	85	43 - 134
Chrysene	15.4	ND	14.2	92	50 - 124
Dibenz(a,h)anthracene	15.4	ND	13.1	85	45 - 134
Fluoranthene	15.4	ND	14.8	96	50 - 127
Fluorene	15.4	ND	15.0	97	43 - 125
Indeno(1,2,3-cd)pyrene	15.4	ND	13.2	85	45 - 133
2-Methylnaphthalene	15.4	ND	12.7	82	38 - 122
Naphthalene	15.4	ND	13.5	88	35 - 123
Phenanthrene	15.4	ND	14.0	91	50 - 121
Pyrene	15.4	ND	12.9	84	47 - 127

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8270D

PDI-030SC-B-5.9-7.9-190929

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100583	Laboratory ID:	9100583-MSD1
Preparation:	EPA 3546	Initial/Final:	15.8 g / 5 mL

Source Sample Name: PDI-030SC-B-5.9-7.9-190929

COMPOUND	SPIKE ADDED (ug/kg dry)	MSD CONCENTRATION (ug/kg dry)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	14.9	18.3	87	11	30	40 - 122
Acenaphthylene	14.9	12.5	84	7	30	32 - 132
Anthracene	14.9	13.5	90	5	30	47 - 123
Benz(a)anthracene	14.9	13.3	89	2	30	49 - 126
Benzo(a)pyrene	14.9	13.8	92	0.4	30	45 - 129
Benzo(b)fluoranthene	14.9	14.3	96	0.3	30	45 - 132
Benzo(k)fluoranthene	14.9	13.9	93	1	30	47 - 132
Benzo(g,h,i)perylene	14.9	13.6	91	4	30	43 - 134
Chrysene	14.9	14.3	95	0.7	30	50 - 124
Dibenz(a,h)anthracene	14.9	13.2	89	1	30	45 - 134
Fluoranthene	14.9	14.5	97	2	30	50 - 127
Fluorene	14.9	14.4	97	4	30	43 - 125
Indeno(1,2,3-cd)pyrene	14.9	13.3	89	1	30	45 - 133
2-Methylnaphthalene	14.9	11.9	79	6	30	38 - 122
Naphthalene	14.9	13.1	88	3	30	35 - 123
Phenanthrene	14.9	13.5	91	3	30	50 - 121
Pyrene	14.9	14.1	94	9	30	47 - 127

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I06028	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

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

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J03014-TUN2	N10031904.D	10/03/19 10:16
Calibration Check	9J03014-CCV2	N10031905.D	10/03/19 10:44
Calibration Blank	9J03014-CCB1	N10031906.D	10/03/19 11:16
Blank	9100583-BLK1	N10031907.D	10/03/19 11:49
LCS	9100583-BS1	N10031908.D	10/03/19 12:21
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	N10031909.D	10/03/19 12:53
PDI-030SC-B-5.9-7.9-190929 (MS)	9100583-MS1	N10031910.D	10/03/19 13:26
PDI-030SC-B-5.9-7.9-190929 (MSD)	9100583-MSD1	N10031911.D	10/03/19 13:58
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	N10031924.D	10/03/19 20:56
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	N10031925.D	10/03/19 21:29
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	N10031926.D	10/03/19 22:01

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J04014-TUN1	N10041901.D	10/04/19 08:26
Calibration Check	9J04014-CCV1	N10041902.D	10/04/19 08:53
Calibration Blank	9J04014-CCB1	N10041903.D	10/04/19 09:25
PDI-024SC-B-10-12.1-190927	A9I0922-07	N10041904.D	10/04/19 09:57
PDI-1024SC-B-10-12.1-190927	A9I0922-08	N10041905.D	10/04/19 10:29
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	N10041906.D	10/04/19 11:02
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	N10041907.D	10/04/19 11:34
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	N10041908.D	10/04/19 12:06
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	N10041909.D	10/04/19 12:38
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	N10041910.D	10/04/19 13:10
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	N10041911.D	10/04/19 13:42
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	N10041912.D	10/04/19 14:14
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	N10041913.D	10/04/19 14:47
PDI-036SC-B-12.2-13.4-190929	A9I0922-13RE1	N10041914.D	10/04/19 15:19

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J07048	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J07048-TUN1	N10071909.D	10/07/19 11:51
Calibration Check	9J07048-CCV1	N10071910.D	10/07/19 12:19
Calibration Blank	9J07048-CCB1	N10071911.D	10/07/19 12:51
Blank	9100706-BLK1	N10071912.D	10/07/19 13:22
LCS	9100706-BS1	N10071913.D	10/07/19 13:54
PDI-064SC-B-08-10-190929	A9I0922-17	N10071917.D	10/07/19 16:02
PDI-1064SC-B-08-10-190929	A9I0922-21	N10071918.D	10/07/19 16:34
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	N10071921.D	10/07/19 18:09
PDI-064SC-B-10-12-190929	A9I0922-18	N10071922.D	10/07/19 18:41

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J08040	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J08040-TUN1	N10081901.D	10/08/19 08:19
Calibration Check	9J08040-CCV1	N10081902.D	10/08/19 08:47
Calibration Blank	9J08040-CCB1	N10081903.D	10/08/19 09:19
PDI-064SC-B-14-15.8-190929	A9I0922-20RE1	N10081915.D	10/08/19 15:54

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J09031	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9J09031-TUN2	N10091904.D	10/09/19 10:05
Calibration Check	9J09031-CCV2	N10091905.D	10/09/19 10:33
Calibration Blank	9J09031-CCB1	N10091906.D	10/09/19 11:05
PDI-064SC-B-12-14-190929	A9I0922-19RE1	N10091926.D	10/09/19 21:45

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	N09061911.D	Injection Date:	09/06/19
Instrument ID:	SV-GCMS14	Injection Time:	15:51
Sequence:	9I06028	Lab Sample ID:	9I06028-TUN1

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	N10031904.D	Injection Date:	10/03/19
Instrument ID:	SV-GCMS14	Injection Time:	10:16
Sequence:	9J03014	Lab Sample ID:	9J03014-TUN2

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	N10041901.D	Injection Date:	10/04/19
Instrument ID:	SV-GCMS14	Injection Time:	08:26
Sequence:	9J04014	Lab Sample ID:	9J04014-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 68	Less than 2% of m/z 69	1.66	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.53	PASS
m/z 197	Less than 2% of m/z 198	0.51	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.89	PASS
m/z 365	1 - 100% of m/z 198	3.86	PASS
m/z 441	Less than 150% of m/z 443	77.79	PASS
m/z 442	0.1 - 200% of m/z 198	115.76	PASS
m/z 443	15 - 24% of m/z 442	19.32	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	N10071909.D	Injection Date:	10/07/19
Instrument ID:	SV-GCMS14	Injection Time:	11:51
Sequence:	9J07048	Lab Sample ID:	9J07048-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 68	Less than 2% of m/z 69	1.65	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.50	PASS
m/z 197	Less than 2% of m/z 198	0.48	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.70	PASS
m/z 365	1 - 100% of m/z 198	3.81	PASS
m/z 441	Less than 150% of m/z 443	76.72	PASS
m/z 442	0.1 - 200% of m/z 198	110.73	PASS
m/z 443	15 - 24% of m/z 442	19.51	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	N10081901.D	Injection Date:	10/08/19
Instrument ID:	SV-GCMS14	Injection Time:	08:19
Sequence:	9J08040	Lab Sample ID:	9J08040-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 68	Less than 2% of m/z 69	1.70	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.54	PASS
m/z 197	Less than 2% of m/z 198	0.52	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	3.74	PASS
m/z 441	Less than 150% of m/z 443	76.80	PASS
m/z 442	0.1 - 200% of m/z 198	111.34	PASS
m/z 443	15 - 24% of m/z 442	19.31	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Lab File ID:	N10091904.D	Injection Date:	10/09/19
Instrument ID:	SV-GCMS14	Injection Time:	10:05
Sequence:	9J09031	Lab Sample ID:	9J09031-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 68	Less than 2% of m/z 69	1.61	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	0.54	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.79	PASS
m/z 365	1 - 100% of m/z 198	3.73	PASS
m/z 441	Less than 150% of m/z 443	76.89	PASS
m/z 442	0.1 - 200% of m/z 198	110.76	PASS
m/z 443	15 - 24% of m/z 442	19.53	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9I0922

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

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

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

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

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration: A9I1001
Instrument: SV-GCMS14
Calibration Date: 09/10/19 10:37

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Acenaphthene	1	1.438843	2.5	1.487282	5	1.404065	10	1.417353	25	1.419193	50	1.394003
Acenaphthylene	1	2.050122	2.5	2.174081	5	2.138587	10	2.170914	25	2.195113	50	2.171664
Anthracene	1	1.097223	2.5	1.089279	5	1.048542	10	1.062312	25	1.06872	50	1.076085
Benz(a)anthracene	1	1.393885	2.5	1.220902	5	1.088043	10	1.09326	25	1.113653	50	1.097579
Benzo(a)pyrene	1	0.9831077	2.5	0.860229	5	0.8587498	10	0.9020412	25	0.976879	50	1.004382
Benzo(b)fluoranthene	1	1.117055	2.5	1.085157	5	1.064599	10	1.091936	25	1.128411	50	1.163732
Benzo(k)fluoranthene	1	1.067445	2.5	1.081921	5	1.086293	10	1.035921	25	1.12827	50	1.118386
Benzo(b+k)fluoranthene(s)	2	1.112094	5	1.118006	10	1.116503	20	1.114938	50	1.172148	100	1.178575
Benzo(g,h,i)perylene	1	1.244973	2.5	1.184733	5	1.240673	10	1.251188	25	1.288531	50	1.327508
Chrysene	1	1.134167	2.5	1.107207	5	1.086845	10	1.086606	25	1.097682	50	1.081788
Dibenz(a,h)anthracene	1	1.172765	2.5	1.143563	5	1.121188	10	1.116162	25	1.120297	50	1.14373
Fluoranthene	1	1.194051	2.5	1.126776	5	1.104079	10	1.123912	25	1.161779	50	1.170777
Fluorene	1	1.368696	2.5	1.404786	5	1.408744	10	1.421664	25	1.460973	50	1.446685
Indeno(1,2,3-cd)pyrene	1	1.207624	2.5	1.279667	5	1.185249	10	1.191109	25	1.192038	50	1.22331
1-Methylnaphthalene	1	0.8213813	2.5	0.8752222	5	0.8374479	10	0.9164978	25	0.9229373	50	0.9636201
2-Methylnaphthalene	1	0.8933817	2.5	0.9068991	5	0.8805457	10	0.8856102	25	0.8950085	50	0.9411598
Naphthalene	1	1.158343	2.5	1.134973	5	1.097604	10	1.122705	25	1.090082	50	1.082918
Phenanthrene	1	1.287154	2.5	1.193603	5	1.137078	10	1.164716	25	1.154027	50	1.151784
Pyrene	1	1.63414	2.5	1.742266	5	1.585271	10	1.635519	25	1.580246	50	1.570799
Carbazole	1	0.8723786	2.5	0.8303246	5	0.809563	10	0.8178062	25	0.8662439	50	0.8707417
Dibenzofuran	1	1.760349	2.5	1.772666	5	1.736411	10	1.780314	25	1.790475	50	1.776721
2-Fluorobiphenyl (Surr)	1	1.423811	2.5	1.562065	5	1.481173	10	1.49926	25	1.499776	50	1.48226
p-Terphenyl-d14 (Surr)	1	1.150274	2.5	1.092469	5	1.036656	10	1.057709	25	1.06012	50	1.045507

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration: A9I1001
Instrument: SV-GCMS14
Matrix:
Calibration Date: 09/10/19 10:37

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Acenaphthene	100	1.443403	200	1.431066	300	1.387896	400	1.396451				
Acenaphthylene	100	2.247844	200	2.243032	300	2.16069	400	2.157799				
Anthracene	100	1.109829	200	1.115327	300	1.102277	400	1.114841				
Benz(a)anthracene	100	1.142091	200	1.148716	300	1.139155	400	1.17295				
Benzo(a)pyrene	100	1.043258	200	1.084563	300	1.067927	400	1.095282				
Benzo(b)fluoranthene	100	1.194311	200	1.23063	300	1.216813	400	1.246224				
Benzo(k)fluoranthene	100	1.195543	200	1.221498	300	1.197767	400	1.227883				
Benzo(b+k)fluoranthene(s)	200	1.228745	400	1.259094	600	1.236491	800	1.266041				
Benzo(g,h,i)perylene	100	1.387838	200	1.395223	300	1.36793	400	1.394456				
Chrysene	100	1.095048	200	1.103107	300	1.080265	400	1.114348				
Dibenz(a,h)anthracene	100	1.178156	200	1.193501	300	1.181668	400	1.217496				
Fluoranthene	100	1.201514	200	1.227472	300	1.217957	400	1.261473				
Fluorene	100	1.525529	200	1.545124	300	1.492702	400	1.475951				
Indeno(1,2,3-cd)pyrene	100	1.260309	200	1.262162	300	1.248776	400	1.282806				
1-Methylnaphthalene	100	0.9858109	200	1.024788	300	1.01574	400	0.9810225				
2-Methylnaphthalene	100	0.9654102	200	1.001432	300	1.001474	400	0.9752517				
Naphthalene	100	1.082489	200	1.091885	300	1.077863	400	1.090395				
Phenanthrene	100	1.157739	200	1.178493	300	1.133633	400	1.143483				
Pyrene	100	1.559688	200	1.478103	300	1.415905	400	1.421434				
Carbazole	100	0.9049028	200	0.9454096	300	0.9401746	400	0.949796				
Dibenzofuran	100	1.831193	200	1.826652	300	1.770993	400	1.764878				
2-Fluorobiphenyl (Surr)	100	1.499049	200	1.496115	300	1.47728	400	1.49768				
p-Terphenyl-d14 (Surr)	100	1.048827	200	1.020622	300	0.9928344	400	1.012238				

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco PreRD_DG 2019 - 4a-b. DOC-CAP
Instrument ID:	SV-GCMS14	Calibration:	A9I1001
Lab File ID:	N09061924.D		
Sequence:	9I06028	Inject Date:	09/06/19
Lab Sample ID:	9I06028-ICV1	Inject Time:	22:45

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

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Instrument ID:	SV-GCMS14	Calibration:	A9I1001
Lab File ID:	N10031905.D	Calibration Date:	09/10/19 10:37
Sequence:	9J03014	Injection Date:	10/03/19
Lab Sample ID:	9J03014-CCV2	Injection Time:	10:44

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

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

* = Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Instrument ID:	SV-GCMS14	Calibration:	A9I1001
Lab File ID:	N10041902.D	Calibration Date:	09/10/19 10:37
Sequence:	9J04014	Injection Date:	10/04/19
Lab Sample ID:	9J04014-CCV1	Injection Time:	08:53

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Acenaphthene	Ave	50.0	49.7		1.421956	1.413912	-0.6	20
Acenaphthylene	Ave	50.0	48.4		2.170985	2.099951	-3.3	20
Anthracene	Ave	50.0	49.5		1.088444	1.076785	-1.1	20
Benz(a)anthracene	Ave	50.0	46.1		1.161023	1.070678	-7.8	20
Benzo(a)pyrene	Ave	50.0	50.2		0.9876419	0.9925625	0.5	20
Benzo(b)fluoranthene	Ave	50.0	49.9		1.153887	1.152372	-0.1	20
Benzo(k)fluoranthene	Ave	50.0	48.2		1.136093	1.096165	-3.5	20
Benzo(g,h,i)perylene	Ave	50.0	47.9		1.308305	1.253078	-4.2	20
Chrysene	Ave	50.0	48.1		1.098706	1.056287	-3.9	20
Dibenz(a,h)anthracene	Ave	50.0	48.5		1.158853	1.124543	-3.0	20
Fluoranthene	Ave	50.0	49.4		1.178979	1.165702	-1.1	20
Fluorene	Ave	50.0	50.6		1.455085	1.473921	1.3	20
Indeno(1,2,3-cd)pyrene	Ave	50.0	47.1		1.233305	1.162672	-5.7	20
1-Methylnaphthalene	Ave	50.0	40.2		0.9344468	0.7516774	-19.6	20
2-Methylnaphthalene	Ave	50.0	42.9		0.9346173	0.8015385	-14.2	20
Naphthalene	Ave	50.0	48.1		1.102926	1.061781	-3.7	20
Phenanthrene	Ave	50.0	49.0		1.170171	1.145946	-2.1	20
Pyrene	Ave	50.0	46.9		1.562337	1.464501	-6.3	20

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

* = Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Instrument ID:	SV-GCMS14	Calibration:	A9I1001
Lab File ID:	N10071910.D	Calibration Date:	09/10/19 10:37
Sequence:	9J07048	Injection Date:	10/07/19
Lab Sample ID:	9J07048-CCV1	Injection Time:	12:19

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Acenaphthene	Ave	50.0	49.3		1.421956	1.401119	-1.5	20
Acenaphthylene	Ave	50.0	49.0		2.170985	2.126679	-2.0	20
Anthracene	Ave	50.0	48.7		1.088444	1.060106	-2.6	20
Benz(a)anthracene	Ave	50.0	44.8		1.161023	1.039212	-10.5	20
Benzo(a)pyrene	Ave	50.0	50.4		0.9876419	0.9947831	0.7	20
Benzo(b)fluoranthene	Ave	50.0	48.5		1.153887	1.120026	-2.9	20
Benzo(k)fluoranthene	Ave	50.0	49.7		1.136093	1.130168	-0.5	20
Benzo(g,h,i)perylene	Ave	50.0	46.5		1.308305	1.217547	-6.9	20
Chrysene	Ave	50.0	47.9		1.098706	1.052578	-4.2	20
Dibenz(a,h)anthracene	Ave	50.0	47.8		1.158853	1.108334	-4.4	20
Fluoranthene	Ave	50.0	48.1		1.178979	1.13491	-3.7	20
Fluorene	Ave	50.0	50.1		1.455085	1.458403	0.2	20
Indeno(1,2,3-cd)pyrene	Ave	50.0	46.1		1.233305	1.136586	-7.8	20
2-Methylnaphthalene	Ave	50.0	41.5		0.9346173	0.7754465	-17.0	20
Naphthalene	Ave	50.0	48.6		1.102926	1.071874	-2.8	20
Phenanthrene	Ave	50.0	48.5		1.170171	1.134185	-3.1	20
Pyrene	Ave	50.0	48.9		1.562337	1.527249	-2.2	20

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

* = Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Instrument ID:	SV-GCMS14	Calibration:	A9I1001
Lab File ID:	N10081902.D	Calibration Date:	09/10/19 10:37
Sequence:	9J08040	Injection Date:	10/08/19
Lab Sample ID:	9J08040-CCV1	Injection Time:	08:47

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Acenaphthene	Ave	50.0	49.5		1.421956	1.406625	-1.1	20
Acenaphthylene	Ave	50.0	49.2		2.170985	2.136647	-1.6	20
Anthracene	Ave	50.0	48.3		1.088444	1.052221	-3.3	20
Benz(a)anthracene	Ave	50.0	45.7		1.161023	1.060156	-8.7	20
Benzo(a)pyrene	Ave	50.0	50.6		0.9876419	0.9996151	1.2	20
Benzo(b)fluoranthene	Ave	50.0	49.4		1.153887	1.140438	-1.2	20
Benzo(k)fluoranthene	Ave	50.0	49.0		1.136093	1.112288	-2.1	20
Benzo(g,h,i)perylene	Ave	50.0	46.2		1.308305	1.208921	-7.6	20
Chrysene	Ave	50.0	48.0		1.098706	1.055256	-4.0	20
Dibenz(a,h)anthracene	Ave	50.0	47.8		1.158853	1.107633	-4.4	20
Fluoranthene	Ave	50.0	48.6		1.178979	1.146917	-2.7	20
Fluorene	Ave	50.0	48.5		1.455085	1.410936	-3.0	20
Indeno(1,2,3-cd)pyrene	Ave	50.0	46.1		1.233305	1.137305	-7.8	20
2-Methylnaphthalene	Ave	50.0	40.0		0.9346173	0.7487092	-19.9	20
Naphthalene	Ave	50.0	48.9		1.102926	1.079552	-2.1	20
Phenanthrene	Ave	50.0	49.0		1.170171	1.147103	-2.0	20
Pyrene	Ave	50.0	50.0		1.562337	1.563358	0.07	20

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

* = Values outside of QC limits

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Instrument ID:	SV-GCMS14	Calibration:	A9I1001
Lab File ID:	N10091905.D	Calibration Date:	09/10/19 10:37
Sequence:	9J09031	Injection Date:	10/09/19
Lab Sample ID:	9J09031-CCV2	Injection Time:	10:33

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Acenaphthene	Ave	50.0	49.8		1.421956	1.415241	-0.5	20
Acenaphthylene	Ave	50.0	48.2		2.170985	2.091354	-3.7	20
Anthracene	Ave	50.0	49.3		1.088444	1.073909	-1.3	20
Benz(a)anthracene	Ave	50.0	46.3		1.161023	1.075508	-7.4	20
Benzo(a)pyrene	Ave	50.0	51.2		0.9876419	1.010551	2.3	20
Benzo(b)fluoranthene	Ave	50.0	48.9		1.153887	1.128729	-2.2	20
Benzo(k)fluoranthene	Ave	50.0	48.6		1.136093	1.103873	-2.8	20
Benzo(g,h,i)perylene	Ave	50.0	46.1		1.308305	1.206907	-7.8	20
Chrysene	Ave	50.0	47.7		1.098706	1.047606	-4.7	20
Dibenz(a,h)anthracene	Ave	50.0	48.1		1.158853	1.11413	-3.9	20
Fluoranthene	Ave	50.0	49.1		1.178979	1.157867	-1.8	20
Fluorene	Ave	50.0	51.0		1.455085	1.484863	2.0	20
Indeno(1,2,3-cd)pyrene	Ave	50.0	47.2		1.233305	1.164561	-5.6	20
2-Methylnaphthalene	Ave	50.0	42.9		0.9346173	0.8016852	-14.2	20
Naphthalene	Ave	50.0	49.0		1.102926	1.08167	-1.9	20
Phenanthrene	Ave	50.0	48.7		1.170171	1.138797	-2.7	20
Pyrene	Ave	50.0	47.1		1.562337	1.472564	-5.7	20

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

* = Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9I06028	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

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

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9J03014-CCV2)			Lab File ID: N10031905.D		Analyzed: 10/03/19 10:44			
2-Fluorobiphenyl (Surr)	50.0	102	80 - 120	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	50.0	100	80 - 120	12.925	12.9315	-0.0065	+/-1.0	
Calibration Blank (9J03014-CCB1)			Lab File ID: N10031906.D		Analyzed: 10/03/19 11:16			
2-Fluorobiphenyl (Surr)			44 - 115	0	8.9523	-8.9523	+/-1.0	
p-Terphenyl-d14 (Surr)			54 - 127	0	12.9315	-12.9315	+/-1.0	
Blank (9100583-BLK1)			Lab File ID: N10031907.D		Analyzed: 10/03/19 11:49			
2-Fluorobiphenyl (Surr)	31.2	92	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	31.2	108	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
LCS (9100583-BS1)			Lab File ID: N10031908.D		Analyzed: 10/03/19 12:21			
2-Fluorobiphenyl (Surr)	33.3	93	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	33.3	98	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)			Lab File ID: N10031909.D		Analyzed: 10/03/19 12:53			
2-Fluorobiphenyl (Surr)	38.6	86	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	38.6	91	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
Matrix Spike (9100583-MS1)			Lab File ID: N10031910.D		Analyzed: 10/03/19 13:26			
2-Fluorobiphenyl (Surr)	38.6	87	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	38.6	86	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
Matrix Spike Dup (9100583-MSD1)			Lab File ID: N10031911.D		Analyzed: 10/03/19 13:58			
2-Fluorobiphenyl (Surr)	37.3	84	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	37.3	92	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)			Lab File ID: N10031924.D		Analyzed: 10/03/19 20:56			
2-Fluorobiphenyl (Surr)	37.7	91	44 - 115	8.961	8.9523	0.0087	+/-1.0	
p-Terphenyl-d14 (Surr)	37.7	88	54 - 127	12.936	12.9315	0.0045	+/-1.0	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)			Lab File ID: N10031925.D		Analyzed: 10/03/19 21:29			
2-Fluorobiphenyl (Surr)	39.5	88	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	39.5	77	54 - 127	12.937	12.9315	0.0055	+/-1.0	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)			Lab File ID: N10031926.D		Analyzed: 10/03/19 22:01			
2-Fluorobiphenyl (Surr)	42.1	100	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	42.1	105	54 - 127	12.937	12.9315	0.0055	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence: 9J04014
Instrument: SV-GCMS14
Matrix: Sediment
Calibration: A9I1001

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9J04014-CCV1)			Lab File ID: N10041902.D		Analyzed: 10/04/19 08:53			
2-Fluorobiphenyl (Surr)	50.0	103	80 - 120	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	50.0	99	80 - 120	12.925	12.9315	-0.0065	+/-1.0	
Calibration Blank (9J04014-CCB1)			Lab File ID: N10041903.D		Analyzed: 10/04/19 09:25			
2-Fluorobiphenyl (Surr)			44 - 120	0	8.9523	-8.9523	+/-1.0	
p-Terphenyl-d14 (Surr)			50 - 133	0	12.9315	-12.9315	+/-1.0	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)			Lab File ID: N10041904.D		Analyzed: 10/04/19 09:57			
2-Fluorobiphenyl (Surr)	44.2	84	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	44.2	88	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)			Lab File ID: N10041905.D		Analyzed: 10/04/19 10:29			
2-Fluorobiphenyl (Surr)	45.7	75	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	45.7	81	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)			Lab File ID: N10041906.D		Analyzed: 10/04/19 11:02			
2-Fluorobiphenyl (Surr)	37.5	85	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	37.5	89	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)			Lab File ID: N10041907.D		Analyzed: 10/04/19 11:34			
2-Fluorobiphenyl (Surr)	42.1	84	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	42.1	91	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)			Lab File ID: N10041908.D		Analyzed: 10/04/19 12:06			
2-Fluorobiphenyl (Surr)	40.0	88	44 - 115	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	40.0	92	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)			Lab File ID: N10041909.D		Analyzed: 10/04/19 12:38			
2-Fluorobiphenyl (Surr)	45.0	85	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	45.0	87	54 - 127	12.937	12.9315	0.0055	+/-1.0	
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)			Lab File ID: N10041910.D		Analyzed: 10/04/19 13:10			
2-Fluorobiphenyl (Surr)	37.0	87	44 - 115	8.961	8.9523	0.0087	+/-1.0	
p-Terphenyl-d14 (Surr)	37.0	97	54 - 127	12.936	12.9315	0.0045	+/-1.0	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15)			Lab File ID: N10041911.D		Analyzed: 10/04/19 13:42			
2-Fluorobiphenyl (Surr)	39.2	68	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	39.2	84	54 - 127	12.937	12.9315	0.0055	+/-1.0	
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)			Lab File ID: N10041912.D		Analyzed: 10/04/19 14:14			
2-Fluorobiphenyl (Surr)	37.3	260	44 - 115	8.956	8.9523	0.0037	+/-1.0	*
p-Terphenyl-d14 (Surr)	37.3	420	54 - 127	12.931	12.9315	-0.0005	+/-1.0	*

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Surrogate Compound	Spike Level ug/kg dry	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)			Lab File ID: N10041913.D		Analyzed: 10/04/19 14:47			
2-Fluorobiphenyl (Surr)	37.0	92	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	37.0	95	54 - 127	12.931	12.9315	-0.0005	+/-1.0	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13RE1)			Lab File ID: N10041914.D		Analyzed: 10/04/19 15:19			
2-Fluorobiphenyl (Surr)	45.0	93	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	45.0	95	54 - 127	12.931	12.9315	-0.0005	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J07048	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9J07048-CCV1)			Lab File ID: N10071910.D		Analyzed: 10/07/19 12:19			
2-Fluorobiphenyl (Surr)	50.0	105	80 - 120	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	50.0	99	80 - 120	12.931	12.9315	-0.0005	+/-1.0	
Calibration Blank (9J07048-CCB1)			Lab File ID: N10071911.D		Analyzed: 10/07/19 12:51			
2-Fluorobiphenyl (Surr)			44 - 120	0	8.9523	-8.9523	+/-1.0	
p-Terphenyl-d14 (Surr)			50 - 133	12.931	12.9315	-0.0005	+/-1.0	
Blank (9100706-BLK1)			Lab File ID: N10071912.D		Analyzed: 10/07/19 13:22			
2-Fluorobiphenyl (Surr)	45.5	86	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	45.5	96	54 - 127	12.931	12.9315	-0.0005	+/-1.0	
LCS (9100706-BS1)			Lab File ID: N10071913.D		Analyzed: 10/07/19 13:54			
2-Fluorobiphenyl (Surr)	50.0	89	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	50.0	93	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-064SC-B-08-10-190929 (A9I0922-17)			Lab File ID: N10071917.D		Analyzed: 10/07/19 16:02			
2-Fluorobiphenyl (Surr)	70.7	81	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	70.7	90	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-1064SC-B-08-10-190929 (A9I0922-21)			Lab File ID: N10071918.D		Analyzed: 10/07/19 16:34			
2-Fluorobiphenyl (Surr)	74.4	97	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	74.4	95	54 - 127	12.925	12.9315	-0.0065	+/-1.0	
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)			Lab File ID: N10071921.D		Analyzed: 10/07/19 18:09			
2-Fluorobiphenyl (Surr)	63.4	78	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	63.4	85	54 - 127	12.931	12.9315	-0.0005	+/-1.0	
PDI-064SC-B-10-12-190929 (A9I0922-18)			Lab File ID: N10071922.D		Analyzed: 10/07/19 18:41			
2-Fluorobiphenyl (Surr)	61.5	70	44 - 115	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	61.5	85	54 - 127	12.931	12.9315	-0.0005	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J08040	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9J08040-CCV1)			Lab File ID: N10081902.D		Analyzed: 10/08/19 08:47			
2-Fluorobiphenyl (Surr)	50.0	105	80 - 120	8.95	8.9523	-0.0023	+/-1.0	
p-Terphenyl-d14 (Surr)	50.0	101	80 - 120	12.931	12.9315	-0.0005	+/-1.0	
Calibration Blank (9J08040-CCB1)			Lab File ID: N10081903.D		Analyzed: 10/08/19 09:19			
2-Fluorobiphenyl (Surr)			44 - 120	0	8.9523	-8.9523	+/-1.0	
p-Terphenyl-d14 (Surr)			50 - 133	12.936	12.9315	0.0045	+/-1.0	
PDI-064SC-B-14-15.8-190929 (A9I0922-20RE1)			Lab File ID: N10081915.D		Analyzed: 10/08/19 15:54			
2-Fluorobiphenyl (Surr)	61.9	79	44 - 115	8.967	8.9523	0.0147	+/-1.0	
p-Terphenyl-d14 (Surr)	61.9	86	54 - 127	12.948	12.9315	0.0165	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J09031	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9J09031-CCV2)			Lab File ID: N10091905.D		Analyzed: 10/09/19 10:33			
2-Fluorobiphenyl (Surr)	50.0	104	80 - 120	8.944	8.9523	-0.0083	+/-1.0	
p-Terphenyl-d14 (Surr)	50.0	100	80 - 120	12.925	12.9315	-0.0065	+/-1.0	
Calibration Blank (9J09031-CCB1)			Lab File ID: N10091906.D		Analyzed: 10/09/19 11:05			
2-Fluorobiphenyl (Surr)			44 - 115	0	8.9523	-8.9523	+/-1.0	
p-Terphenyl-d14 (Surr)			54 - 127	12.931	12.9315	-0.0005	+/-1.0	
PDI-064SC-B-12-14-190929 (A9I0922-19RE1)			Lab File ID: N10091926.D		Analyzed: 10/09/19 21:45			
2-Fluorobiphenyl (Surr)	62.4	86	44 - 115	8.956	8.9523	0.0037	+/-1.0	
p-Terphenyl-d14 (Surr)	62.4	88	54 - 127	12.937	12.9315	0.0055	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9J03014-CCV2)			Lab File ID: N10031905.D			Analyzed: 10/03/19 10:44			
Naphthalene-d8 (ISTD)	207501	7.877	148351	7.883	140	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	135408	9.632	117951	9.638	115	50 - 200	-0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	263900	11.141	219661	11.147	120	50 - 200	-0.0060	+/-0.50	
Chrysene-d12 (ISTD)	227174	14.901	169841	14.907	134	50 - 200	-0.0060	+/-0.50	
Perylene-d12 (ISTD)	185420	18.375	142416	18.375	130	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	126520	20.759	93265	20.765	136	50 - 200	-0.0060	+/-0.50	
Calibration Blank (9J03014-CCB1)			Lab File ID: N10031906.D			Analyzed: 10/03/19 11:16			
Naphthalene-d8 (ISTD)	203955	7.877	207501	7.877	98	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	126264	9.632	135408	9.632	93	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	237335	11.141	263900	11.141	90	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	163092	14.901	227174	14.901	72	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	121839	18.369	185420	18.375	66	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	86422	20.759	126520	20.759	68	50 - 200	0.0000	+/-0.50	
Blank (9100583-BLK1)			Lab File ID: N10031907.D			Analyzed: 10/03/19 11:49			
Naphthalene-d8 (ISTD)	194910	7.877	207501	7.877	94	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	125114	9.632	135408	9.632	92	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	238408	11.141	263900	11.141	90	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	176778	14.901	227174	14.901	78	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	134282	18.369	185420	18.375	72	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	96007	20.759	126520	20.759	76	50 - 200	0.0000	+/-0.50	
LCS (9100583-BS1)			Lab File ID: N10031908.D			Analyzed: 10/03/19 12:21			
Naphthalene-d8 (ISTD)	196581	7.877	207501	7.877	95	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	128611	9.632	135408	9.632	95	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	246492	11.141	263900	11.141	93	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	197429	14.901	227174	14.901	87	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	156299	18.369	185420	18.375	84	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	110329	20.759	126520	20.759	87	50 - 200	0.0000	+/-0.50	
PDI-030SC-B-5.9-7.9-190929 (A9I0922-09)			Lab File ID: N10031909.D			Analyzed: 10/03/19 12:53			
Naphthalene-d8 (ISTD)	225240	7.877	207501	7.877	109	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	137292	9.632	135408	9.632	101	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	261055	11.141	263900	11.141	99	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	205586	14.901	227174	14.901	90	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	172563	18.369	185420	18.375	93	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	131367	20.759	126520	20.759	104	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Sequence:	9J03014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike (9100583-MS1)			Lab File ID: N10031910.D			Analyzed: 10/03/19 13:26			
Naphthalene-d8 (ISTD)	208722	7.877	207501	7.877	101	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	136347	9.638	135408	9.632	101	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	265804	11.141	263900	11.141	101	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	234666	14.901	227174	14.901	103	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	200617	18.375	185420	18.375	108	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	152539	20.759	126520	20.759	121	50 - 200	0.0000	+/-0.50	
Matrix Spike Dup (9100583-MSD1)			Lab File ID: N10031911.D			Analyzed: 10/03/19 13:58			
Naphthalene-d8 (ISTD)	200676	7.877	207501	7.877	97	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	131834	9.632	135408	9.632	97	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	253777	11.141	263900	11.141	96	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	206223	14.901	227174	14.901	91	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	166706	18.369	185420	18.375	90	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	117294	20.759	126520	20.759	93	50 - 200	0.0000	+/-0.50	
PDI-021SC-B-11.7-13.7-190927 (A9I0922-01)			Lab File ID: N10031924.D			Analyzed: 10/03/19 20:56			
Naphthalene-d8 (ISTD)	217099	7.889	207501	7.877	105	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	135956	9.643	135408	9.632	100	50 - 200	0.0110	+/-0.50	
Phenanthrene-d10 (ISTD)	260939	11.153	263900	11.141	99	50 - 200	0.0120	+/-0.50	
Chrysene-d12 (ISTD)	246438	14.924	227174	14.901	108	50 - 200	0.0230	+/-0.50	
Perylene-d12 (ISTD)	229668	18.392	185420	18.375	124	50 - 200	0.0170	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	174282	20.782	126520	20.759	138	50 - 200	0.0230	+/-0.50	
PDI-021SC-B-13.7-15.4-190927 (A9I0922-02)			Lab File ID: N10031925.D			Analyzed: 10/03/19 21:29			
Naphthalene-d8 (ISTD)	219530	7.889	207501	7.877	106	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	136087	9.643	135408	9.632	101	50 - 200	0.0110	+/-0.50	
Phenanthrene-d10 (ISTD)	263416	11.153	263900	11.141	100	50 - 200	0.0120	+/-0.50	
Chrysene-d12 (ISTD)	248067	14.918	227174	14.901	109	50 - 200	0.0170	+/-0.50	
Perylene-d12 (ISTD)	223879	18.392	185420	18.375	121	50 - 200	0.0170	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	171335	20.776	126520	20.759	135	50 - 200	0.0170	+/-0.50	
PDI-021SC-B-5.7-7.7-190927 (A9I0922-03)			Lab File ID: N10031926.D			Analyzed: 10/03/19 22:01			
Naphthalene-d8 (ISTD)	222335	7.889	207501	7.877	107	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	134790	9.643	135408	9.632	100	50 - 200	0.0110	+/-0.50	
Phenanthrene-d10 (ISTD)	257447	11.153	263900	11.141	98	50 - 200	0.0120	+/-0.50	
Chrysene-d12 (ISTD)	234145	14.918	227174	14.901	103	50 - 200	0.0170	+/-0.50	
Perylene-d12 (ISTD)	213334	18.392	185420	18.375	115	50 - 200	0.0170	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	161584	20.776	126520	20.759	128	50 - 200	0.0170	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9J04014-CCV1)			Lab File ID: N10041902.D			Analyzed: 10/04/19 08:53			
Naphthalene-d8 (ISTD)	220733	7.877	148351	7.883	149	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	134246	9.637	117951	9.638	114	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10 (ISTD)	252888	11.141	219661	11.147	115	50 - 200	-0.0060	+/-0.50	
Chrysene-d12 (ISTD)	206372	14.907	169841	14.907	122	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	172505	18.375	142416	18.375	121	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	130035	20.764	93265	20.765	139	50 - 200	-0.0010	+/-0.50	
Calibration Blank (9J04014-CCB1)			Lab File ID: N10041903.D			Analyzed: 10/04/19 09:25			
Naphthalene-d8 (ISTD)	215264	7.877	220733	7.877	98	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	128087	9.632	134246	9.637	95	50 - 200	-0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	224767	11.141	252888	11.141	89	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	152912	14.895	206372	14.907	74	50 - 200	-0.0120	+/-0.50	
Perylene-d12 (ISTD)	128160	18.369	172505	18.375	74	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	102505	20.759	130035	20.764	79	50 - 200	-0.0050	+/-0.50	
PDI-024SC-B-10-12.1-190927 (A9I0922-07)			Lab File ID: N10041904.D			Analyzed: 10/04/19 09:57			
Naphthalene-d8 (ISTD)	219877	7.877	220733	7.877	100	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	134755	9.632	134246	9.637	100	50 - 200	-0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	251728	11.141	252888	11.141	100	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	213441	14.907	206372	14.907	103	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	183846	18.369	172505	18.375	107	50 - 200	-0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	142162	20.759	130035	20.764	109	50 - 200	-0.0050	+/-0.50	
PDI-1024SC-B-10-12.1-190927 (A9I0922-08)			Lab File ID: N10041905.D			Analyzed: 10/04/19 10:29			
Naphthalene-d8 (ISTD)	198945	7.877	220733	7.877	90	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	130161	9.638	134246	9.637	97	50 - 200	0.0010	+/-0.50	
Phenanthrene-d10 (ISTD)	250218	11.141	252888	11.141	99	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	213263	14.907	206372	14.907	103	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	186142	18.375	172505	18.375	108	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	150996	20.764	130035	20.764	116	50 - 200	0.0000	+/-0.50	
PDI-030SC-B-7.9-9.9-190929 (A9I0922-10)			Lab File ID: N10041906.D			Analyzed: 10/04/19 11:02			
Naphthalene-d8 (ISTD)	225289	7.877	220733	7.877	102	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	135852	9.638	134246	9.637	101	50 - 200	0.0010	+/-0.50	
Phenanthrene-d10 (ISTD)	259499	11.142	252888	11.141	103	50 - 200	0.0010	+/-0.50	
Chrysene-d12 (ISTD)	221596	14.907	206372	14.907	107	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	196934	18.381	172505	18.375	114	50 - 200	0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	154726	20.765	130035	20.764	119	50 - 200	0.0010	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-030SC-B-9.9-11.8-190929 (A9I0922-11)			Lab File ID: N10041907.D			Analyzed: 10/04/19 11:34			
Naphthalene-d8 (ISTD)	204275	7.877	220733	7.877	93	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	130703	9.632	134246	9.637	97	50 - 200	-0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	246592	11.141	252888	11.141	98	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	203746	14.901	206372	14.907	99	50 - 200	-0.0060	+/-0.50	
Perylene-d12 (ISTD)	176460	18.375	172505	18.375	102	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	141084	20.759	130035	20.764	108	50 - 200	-0.0050	+/-0.50	
PDI-036SC-B-10.2-12.2-190929 (A9I0922-12)			Lab File ID: N10041908.D			Analyzed: 10/04/19 12:06			
Naphthalene-d8 (ISTD)	210748	7.877	220733	7.877	95	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	132770	9.632	134246	9.637	99	50 - 200	-0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	248085	11.141	252888	11.141	98	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	210109	14.901	206372	14.907	102	50 - 200	-0.0060	+/-0.50	
Perylene-d12 (ISTD)	184970	18.375	172505	18.375	107	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	149444	20.758	130035	20.764	115	50 - 200	-0.0060	+/-0.50	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13)			Lab File ID: N10041909.D			Analyzed: 10/04/19 12:38			
Naphthalene-d8 (ISTD)	220828	7.889	220733	7.877	100	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	135680	9.649	134246	9.637	101	50 - 200	0.0120	+/-0.50	
Phenanthrene-d10 (ISTD)	259943	11.153	252888	11.141	103	50 - 200	0.0120	+/-0.50	
Chrysene-d12 (ISTD)	228579	14.924	206372	14.907	111	50 - 200	0.0170	+/-0.50	
Perylene-d12 (ISTD)	194543	18.398	172505	18.375	113	50 - 200	0.0230	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	156210	20.788	130035	20.764	120	50 - 200	0.0240	+/-0.50	
PDI-036SC-B-4.2-6.2-190929 (A9I0922-14)			Lab File ID: N10041910.D			Analyzed: 10/04/19 13:10			
Naphthalene-d8 (ISTD)	201281	7.895	220733	7.877	91	50 - 200	0.0180	+/-0.50	
Acenaphthene-d10 (ISTD)	129247	9.649	134246	9.637	96	50 - 200	0.0120	+/-0.50	
Phenanthrene-d10 (ISTD)	244098	11.153	252888	11.141	97	50 - 200	0.0120	+/-0.50	
Chrysene-d12 (ISTD)	194199	14.924	206372	14.907	94	50 - 200	0.0170	+/-0.50	
Perylene-d12 (ISTD)	165771	18.392	172505	18.375	96	50 - 200	0.0170	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	133595	20.782	130035	20.764	103	50 - 200	0.0180	+/-0.50	
PDI-036SC-B-6.2-8.2-190929 (A9I0922-15)			Lab File ID: N10041911.D			Analyzed: 10/04/19 13:42			
Naphthalene-d8 (ISTD)	213126	7.889	220733	7.877	97	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	134158	9.643	134246	9.637	100	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	250839	11.147	252888	11.141	99	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	207565	14.912	206372	14.907	101	50 - 200	0.0050	+/-0.50	
Perylene-d12 (ISTD)	177856	18.386	172505	18.375	103	50 - 200	0.0110	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	143073	20.776	130035	20.764	110	50 - 200	0.0120	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J04014	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
PDI-021SC-B-7.7-9.7-190927 (A9I0922-04)			Lab File ID: N10041912.D			Analyzed: 10/04/19 14:14			
Naphthalene-d8 (ISTD)	215305	7.889	220733	7.877	98	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	132494	9.643	134246	9.637	99	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	249141	11.147	252888	11.141	99	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	213690	14.918	206372	14.907	104	50 - 200	0.0110	+/-0.50	
Perylene-d12 (ISTD)	186317	18.386	172505	18.375	108	50 - 200	0.0110	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	144862	20.776	130035	20.764	111	50 - 200	0.0120	+/-0.50	
PDI-021SC-B-9.7-11.7-190927 (A9I0922-05)			Lab File ID: N10041913.D			Analyzed: 10/04/19 14:47			
Naphthalene-d8 (ISTD)	212520	7.883	220733	7.877	96	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	133467	9.644	134246	9.637	99	50 - 200	0.0070	+/-0.50	
Phenanthrene-d10 (ISTD)	251040	11.147	252888	11.141	99	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	213166	14.918	206372	14.907	103	50 - 200	0.0110	+/-0.50	
Perylene-d12 (ISTD)	182101	18.387	172505	18.375	106	50 - 200	0.0120	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	137652	20.776	130035	20.764	106	50 - 200	0.0120	+/-0.50	
PDI-036SC-B-12.2-13.4-190929 (A9I0922-13RE1)			Lab File ID: N10041914.D			Analyzed: 10/04/19 15:19			
Acenaphthene-d10 (ISTD)	130160	9.643	134246	9.637	97	50 - 200	0.0060	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J07048	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9J07048-CCV1)			Lab File ID: N10071910.D			Analyzed: 10/07/19 12:19			
Naphthalene-d8 (ISTD)	229540	7.883	148351	7.883	155	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	132113	9.638	117951	9.638	112	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	245549	11.141	219661	11.147	112	50 - 200	-0.0060	+/-0.50	
Chrysene-d12 (ISTD)	188539	14.907	169841	14.907	111	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	157182	18.38	142416	18.375	110	50 - 200	0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	122824	20.77	93265	20.765	132	50 - 200	0.0050	+/-0.50	
Calibration Blank (9J07048-CCB1)			Lab File ID: N10071911.D			Analyzed: 10/07/19 12:51			
Naphthalene-d8 (ISTD)	220954	7.883	229540	7.883	96	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	130308	9.638	132113	9.638	99	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	224511	11.147	245549	11.141	91	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	151035	14.907	188539	14.907	80	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	129496	18.381	157182	18.38	82	50 - 200	0.0010	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	103251	20.77	122824	20.77	84	50 - 200	0.0000	+/-0.50	
Blank (9100706-BLK1)			Lab File ID: N10071912.D			Analyzed: 10/07/19 13:22			
Naphthalene-d8 (ISTD)	228641	7.883	229540	7.883	100	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	133662	9.638	132113	9.638	101	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	240732	11.141	245549	11.141	98	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	171761	14.907	188539	14.907	91	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	142801	18.38	157182	18.38	91	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	113855	20.764	122824	20.77	93	50 - 200	-0.0060	+/-0.50	
LCS (9100706-BS1)			Lab File ID: N10071913.D			Analyzed: 10/07/19 13:54			
Naphthalene-d8 (ISTD)	224354	7.877	229540	7.883	98	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	133653	9.637	132113	9.638	101	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10 (ISTD)	244445	11.141	245549	11.141	100	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	177788	14.907	188539	14.907	94	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	147208	18.375	157182	18.38	94	50 - 200	-0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	114528	20.764	122824	20.77	93	50 - 200	-0.0060	+/-0.50	
Matrix Spike (9100706-MS1)			Lab File ID: N10071915.D			Analyzed: 10/07/19 14:58			
Naphthalene-d8 (ISTD)	237122	7.877	229540	7.883	103	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	140526	9.638	132113	9.638	106	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	261269	11.141	245549	11.141	106	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	206041	14.907	188539	14.907	109	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	177557	18.381	157182	18.38	113	50 - 200	0.0010	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	139203	20.765	122824	20.77	113	50 - 200	-0.0050	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence: 9J07048
Instrument: SV-GCMS14
Matrix: Sediment
Calibration: A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Matrix Spike Dup (9100706-MSD1)			Lab File ID: N10071916.D			Analyzed: 10/07/19 15:31			
Naphthalene-d8 (ISTD)	228465	7.877	229540	7.883	100	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	137897	9.637	132113	9.638	104	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10 (ISTD)	253618	11.141	245549	11.141	103	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	203316	14.907	188539	14.907	108	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	173910	18.38	157182	18.38	111	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	137005	20.764	122824	20.77	112	50 - 200	-0.0060	+/-0.50	
PDI-064SC-B-08-10-190929 (A9I0922-17)			Lab File ID: N10071917.D			Analyzed: 10/07/19 16:02			
Naphthalene-d8 (ISTD)	225021	7.877	229540	7.883	98	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	134163	9.638	132113	9.638	102	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	247259	11.141	245549	11.141	101	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	193422	14.907	188539	14.907	103	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	169753	18.375	157182	18.38	108	50 - 200	-0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	130031	20.764	122824	20.77	106	50 - 200	-0.0060	+/-0.50	
PDI-1064SC-B-08-10-190929 (A9I0922-21)			Lab File ID: N10071918.D			Analyzed: 10/07/19 16:34			
Naphthalene-d8 (ISTD)	221265	7.877	229540	7.883	96	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	133361	9.638	132113	9.638	101	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	243642	11.141	245549	11.141	99	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	181620	14.907	188539	14.907	96	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	156413	18.381	157182	18.38	100	50 - 200	0.0010	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	116350	20.765	122824	20.77	95	50 - 200	-0.0050	+/-0.50	
PDI-036SC-B-8.2-10.2-190929 (A9I0922-16)			Lab File ID: N10071921.D			Analyzed: 10/07/19 18:09			
Naphthalene-d8 (ISTD)	221327	7.883	229540	7.883	96	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	136425	9.638	132113	9.638	103	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	250106	11.147	245549	11.141	102	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	201138	14.913	188539	14.907	107	50 - 200	0.0060	+/-0.50	
Perylene-d12 (ISTD)	172170	18.381	157182	18.38	110	50 - 200	0.0010	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	135334	20.77	122824	20.77	110	50 - 200	0.0000	+/-0.50	
PDI-064SC-B-10-12-190929 (A9I0922-18)			Lab File ID: N10071922.D			Analyzed: 10/07/19 18:41			
Naphthalene-d8 (ISTD)	240237	7.883	229540	7.883	105	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	135243	9.637	132113	9.638	102	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10 (ISTD)	247509	11.147	245549	11.141	101	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	207190	14.912	188539	14.907	110	50 - 200	0.0050	+/-0.50	
Perylene-d12 (ISTD)	182226	18.386	157182	18.38	116	50 - 200	0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	142715	20.77	122824	20.77	116	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J08040	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9J08040-CCV1)			Lab File ID: N10081902.D			Analyzed: 10/08/19 08:47			
Naphthalene-d8 (ISTD)	216725	7.877	148351	7.883	146	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	120632	9.638	117951	9.638	102	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	215468	11.141	219661	11.147	98	50 - 200	-0.0060	+/-0.50	
Chrysene-d12 (ISTD)	161629	14.907	169841	14.907	95	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	137691	18.381	142416	18.375	97	50 - 200	0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	110477	20.77	93265	20.765	118	50 - 200	0.0050	+/-0.50	
Calibration Blank (9J08040-CCB1)			Lab File ID: N10081903.D			Analyzed: 10/08/19 09:19			
Naphthalene-d8 (ISTD)	201981	7.883	216725	7.877	93	50 - 200	0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	118531	9.637	120632	9.638	98	50 - 200	-0.0010	+/-0.50	
Phenanthrene-d10 (ISTD)	195468	11.147	215468	11.141	91	50 - 200	0.0060	+/-0.50	
Chrysene-d12 (ISTD)	142208	14.912	161629	14.907	88	50 - 200	0.0050	+/-0.50	
Perylene-d12 (ISTD)	130719	18.386	137691	18.381	95	50 - 200	0.0050	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	114295	20.77	110477	20.77	103	50 - 200	0.0000	+/-0.50	
PDI-064SC-B-14-15.8-190929 (A9I0922-20RE1)			Lab File ID: N10081915.D			Analyzed: 10/08/19 15:54			
Naphthalene-d8 (ISTD)	235293	7.901	216725	7.877	109	50 - 200	0.0240	+/-0.50	
Acenaphthene-d10 (ISTD)	131359	9.655	120632	9.638	109	50 - 200	0.0170	+/-0.50	
Phenanthrene-d10 (ISTD)	240745	11.159	215468	11.141	112	50 - 200	0.0180	+/-0.50	
Chrysene-d12 (ISTD)	201321	14.936	161629	14.907	125	50 - 200	0.0290	+/-0.50	
Perylene-d12 (ISTD)	172208	18.415	137691	18.381	125	50 - 200	0.0340	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	137732	20.805	110477	20.77	125	50 - 200	0.0350	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J09031	Instrument:	SV-GCMS14
Matrix:	Sediment	Calibration:	A9I1001

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9J09031-CCV2)			Lab File ID: N10091905.D			Analyzed: 10/09/19 10:33			
Naphthalene-d8 (ISTD)	206747	7.877	148351	7.883	139	50 - 200	-0.0060	+/-0.50	
Acenaphthene-d10 (ISTD)	125621	9.632	117951	9.638	107	50 - 200	-0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	235020	11.141	219661	11.147	107	50 - 200	-0.0060	+/-0.50	
Chrysene-d12 (ISTD)	190734	14.907	169841	14.907	112	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	167849	18.381	142416	18.375	118	50 - 200	0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	138526	20.77	93265	20.765	149	50 - 200	0.0050	+/-0.50	
Calibration Blank (9J09031-CCB1)			Lab File ID: N10091906.D			Analyzed: 10/09/19 11:05			
Naphthalene-d8 (ISTD)	205914	7.877	206747	7.877	100	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	123345	9.638	125621	9.632	98	50 - 200	0.0060	+/-0.50	
Phenanthrene-d10 (ISTD)	216729	11.141	235020	11.141	92	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	165104	14.907	190734	14.907	87	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	146553	18.381	167849	18.381	87	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	124942	20.77	138526	20.77	90	50 - 200	0.0000	+/-0.50	
PDI-064SC-B-12-14-190929 (A9I0922-19RE1)			Lab File ID: N10091926.D			Analyzed: 10/09/19 21:45			
Naphthalene-d8 (ISTD)	216879	7.889	206747	7.877	105	50 - 200	0.0120	+/-0.50	
Acenaphthene-d10 (ISTD)	120270	9.643	125621	9.632	96	50 - 200	0.0110	+/-0.50	
Phenanthrene-d10 (ISTD)	219400	11.153	235020	11.141	93	50 - 200	0.0120	+/-0.50	
Chrysene-d12 (ISTD)	185664	14.924	190734	14.907	97	50 - 200	0.0170	+/-0.50	
Perylene-d12 (ISTD)	161160	18.404	167849	18.381	96	50 - 200	0.0230	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	134021	20.794	138526	20.77	97	50 - 200	0.0240	+/-0.50	

HOLDING TIME SUMMARY

EPA 8270D

Laboratory: Apex Laboratories SDG: A9I0922

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

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PDI-021SC-B-11.7-13.7-190927	09/27/19 09:23	09/30/19 11:20	10/03/19 06:49	5.89	14.00	10/03/19 20:56	0.59	40.00	
PDI-021SC-B-13.7-15.4-190927	09/27/19 09:45	09/30/19 11:20	10/03/19 06:49	5.88	14.00	10/03/19 21:29	0.61	40.00	
PDI-021SC-B-5.7-7.7-190927	09/27/19 09:22	09/30/19 11:20	10/03/19 06:49	5.89	14.00	10/03/19 22:01	0.63	40.00	
PDI-021SC-B-7.7-9.7-190927	09/27/19 09:22	09/30/19 11:20	10/03/19 06:49	5.89	14.00	10/04/19 14:14	1.31	40.00	
PDI-021SC-B-9.7-11.7-190927	09/27/19 09:23	09/30/19 11:20	10/03/19 06:49	5.89	14.00	10/04/19 14:47	1.33	40.00	
PDI-024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	10/03/19 06:49	5.80	14.00	10/04/19 09:57	1.13	40.00	
PDI-1024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	10/03/19 06:49	5.80	14.00	10/04/19 10:29	1.15	40.00	
PDI-030SC-B-5.9-7.9-190929	09/29/19 14:00	09/30/19 11:20	10/03/19 06:50	3.70	14.00	10/03/19 12:53	0.25	40.00	
PDI-030SC-B-7.9-9.9-190929	09/29/19 14:01	09/30/19 11:20	10/03/19 06:50	3.70	14.00	10/04/19 11:02	1.17	40.00	
PDI-030SC-B-9.9-11.8-190929	09/29/19 14:02	09/30/19 11:20	10/03/19 06:50	3.70	14.00	10/04/19 11:34	1.20	40.00	
PDI-036SC-B-10.2-12.2-190929	09/29/19 12:41	09/30/19 11:20	10/03/19 06:50	3.76	14.00	10/04/19 12:06	1.22	40.00	
PDI-036SC-B-12.2-13.4-190929	09/29/19 12:54	09/30/19 11:20	10/03/19 06:50	3.75	14.00	10/04/19 12:38	1.24	40.00	
PDI-036SC-B-12.2-13.4-190929	09/29/19 12:54	09/30/19 11:20	10/03/19 06:50	3.75	14.00	10/04/19 15:19	1.35	40.00	
PDI-036SC-B-4.2-6.2-190929	09/29/19 12:37	09/30/19 11:20	10/03/19 06:50	3.76	14.00	10/04/19 13:10	1.26	40.00	
PDI-036SC-B-6.2-8.2-190929	09/29/19 12:38	09/30/19 11:20	10/03/19 06:50	3.76	14.00	10/04/19 13:42	1.29	40.00	
PDI-036SC-B-8.2-10.2-190929	09/29/19 12:44	09/30/19 11:20	10/06/19 07:51	6.80	14.00	10/07/19 18:09	1.43	40.00	
PDI-064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	10/06/19 07:51	6.98	14.00	10/07/19 16:02	1.34	40.00	
PDI-064SC-B-10-12-190929	09/29/19 08:19	09/30/19 11:20	10/06/19 07:51	6.98	14.00	10/07/19 18:41	1.45	40.00	
PDI-064SC-B-12-14-190929	09/29/19 08:19	09/30/19 11:20	10/06/19 07:51	6.98	14.00	10/09/19 21:45	3.58	40.00	
PDI-064SC-B-14-15.8-190929	09/29/19 08:19	09/30/19 11:20	10/06/19 07:51	6.98	14.00	10/08/19 15:54	2.34	40.00	
PDI-1064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	10/06/19 07:51	6.98	14.00	10/07/19 16:34	1.36	40.00	

Apex Laboratories

SDG: A9I0922

CLASS: METALS

METHOD: EPA 6020A

ANALYSES DATA PACKAGE COVER PAGE

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9I0922

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

Client Sample Id:	Lab Sample Id:	Matrix
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	Sediment
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	Sediment
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	Sediment
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	Sediment
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	Sediment
PDI-024SC-B-10-12.1-190927	A9I0922-07	Sediment
PDI-1024SC-B-10-12.1-190927	A9I0922-08	Sediment
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	Sediment
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	Sediment
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	Sediment
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	Sediment
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	Sediment
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	Sediment
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	Sediment
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	Sediment
PDI-064SC-B-08-10-190929	A9I0922-17	Sediment
PDI-064SC-B-10-12-190929	A9I0922-18	Sediment
PDI-064SC-B-12-14-190929	A9I0922-19	Sediment
PDI-064SC-B-14-15.8-190929	A9I0922-20	Sediment
PDI-1064SC-B-08-10-190929	A9I0922-21	Sediment

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: 
Name: David G. Jack

Forms Created: 11/18/2019 3:41PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 6020A

Laboratory: Apex Laboratories **SDG:** A9I0922

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

Batch Matrix: Sediment

Analyte	MDL	MRL	Units
Arsenic	0.250	0.500	mg/kg

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

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-021SC-B-11.7-13.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-01
File ID: 9J07068-038
Sampled: 09/27/19 09:23
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 20:57
Solids: 87.66
Preparation: EPA 3051A
Initial/Final: 0.486 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	2.41	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-021SC-B-13.7-15.4-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-02
File ID: 9J07068-039
Sampled: 09/27/19 09:45
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:01
Solids: 84.26
Preparation: EPA 3051A
Initial/Final: 0.52 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.16	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-021SC-B-5.7-7.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-03
File ID: 9J07068-040
Sampled: 09/27/19 09:22
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:06
Solids: 78.13
Preparation: EPA 3051A
Initial/Final: 0.488 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	2.43	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-021SC-B-7.7-9.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-04
File ID: 9J07068-041
Sampled: 09/27/19 09:22
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:10
Solids: 89.11
Preparation: EPA 3051A
Initial/Final: 0.488 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.09	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-021SC-B-9.7-11.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-05
File ID: 9J07068-042
Sampled: 09/27/19 09:23
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:15
Solids: 87.01
Preparation: EPA 3051A
Initial/Final: 0.499 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.68	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-024SC-B-10-12.1-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-07
File ID: 9J07068-043
Sampled: 09/27/19 11:31
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:19
Solids: 73.31
Preparation: EPA 3051A
Initial/Final: 0.503 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	2.20	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-1024SC-B-10-12.1-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-08
File ID: 9J07068-044
Sampled: 09/27/19 11:31
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:24
Solids: 72.75
Preparation: EPA 3051A
Initial/Final: 0.507 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	2.14	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-030SC-B-5.9-7.9-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-09
File ID: 9J07068-047
Sampled: 09/29/19 14:00
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:38
Solids: 84.74
Preparation: EPA 3051A
Initial/Final: 0.51 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.06	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-030SC-B-7.9-9.9-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-10
File ID: 9J07068-050
Sampled: 09/29/19 14:01
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:52
Solids: 87.62
Preparation: EPA 3051A
Initial/Final: 0.498 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.53	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-030SC-B-9.9-11.8-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-11
File ID: 9J07068-051
Sampled: 09/29/19 14:02
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 21:56
Solids: 75.88
Preparation: EPA 3051A
Initial/Final: 0.492 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.32	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-036SC-B-10.2-12.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-12
File ID: 9J07068-052
Sampled: 09/29/19 12:41
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 22:01
Solids: 82.83
Preparation: EPA 3051A
Initial/Final: 0.513 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.39	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-036SC-B-12.2-13.4-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-13
File ID: 9J07068-053
Sampled: 09/29/19 12:54
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 22:05
Solids: 70.97
Preparation: EPA 3051A
Initial/Final: 0.508 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.73	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-036SC-B-4.2-6.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-14
File ID: 9J07068-054
Sampled: 09/29/19 12:37
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 22:10
Solids: 88.72
Preparation: EPA 3051A
Initial/Final: 0.5 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.23	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-036SC-B-6.2-8.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-15
File ID: 9J07068-055
Sampled: 09/29/19 12:38
Prepared: 10/02/19 08:34
Analyzed: 10/07/19 22:15
Solids: 84.67
Preparation: EPA 3051A
Initial/Final: 0.492 g / 50 mL
Batch: 9100531
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.30	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-036SC-B-8.2-10.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-16
File ID: 9J07068-060
Sampled: 09/29/19 12:44
Prepared: 10/04/19 10:27
Analyzed: 10/07/19 22:38
Solids: 76.34
Preparation: EPA 3051A
Initial/Final: 0.496 g / 50 mL
Batch: 9100666
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	1.83	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-064SC-B-08-10-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-17
File ID: 9J07068-061
Sampled: 09/29/19 08:19
Prepared: 10/04/19 10:27
Analyzed: 10/07/19 22:42
Solids: 66.08
Preparation: EPA 3051A
Initial/Final: 0.509 g / 50 mL
Batch: 9100666
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	4.11	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-064SC-B-10-12-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-18
File ID: 9J07068-062
Sampled: 09/29/19 08:19
Prepared: 10/04/19 10:27
Analyzed: 10/07/19 22:47
Solids: 74.84
Preparation: EPA 3051A
Initial/Final: 0.514 g / 50 mL
Batch: 9100666
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	2.69	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-064SC-B-12-14-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-19
File ID: 9J07068-063
Sampled: 09/29/19 08:19
Prepared: 10/04/19 10:27
Analyzed: 10/07/19 22:51
Solids: 76.00
Preparation: EPA 3051A
Initial/Final: 0.494 g / 50 mL
Batch: 9100666
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	3.53	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-064SC-B-14-15.8-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-20
File ID: 9J07068-064
Sampled: 09/29/19 08:19
Prepared: 10/04/19 10:27
Analyzed: 10/07/19 22:56
Solids: 73.92
Preparation: EPA 3051A
Initial/Final: 0.49 g / 50 mL
Batch: 9100666
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	3.35	5		EPA 6020A

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

PDI-1064SC-B-08-10-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-21
File ID: 9J07068-065
Sampled: 09/29/19 08:19
Prepared: 10/04/19 10:27
Analyzed: 10/07/19 23:01
Solids: 66.37
Preparation: EPA 3051A
Initial/Final: 0.494 g / 50 mL
Batch: 9100666
Sequence: 9J07068
Instrument: ICPMS5

CAS NO.	Analyte	Concentration (mg/kg dry)	Dilution Factor	Q	Method
7440-38-2	Arsenic	3.94	5		EPA 6020A

PREPARATION BATCH SUMMARY

EPA 6020A

Laboratory: Apex Laboratories SDG: A9I0922

Client: Anchor QEA, LLC Project: Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cc

Batch: 9100531 Batch Matrix: Sediment Preparation: EPA 3051A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100531-BLK1	9J07068-026	10/02/19 08:34	
LCS	9100531-BS1	9J07068-027	10/02/19 08:34	
PDI-030SC-B-5.9-7.9-190929 (MS)	9100531-MS1	9J07068-048	10/02/19 08:34	
PDI-030SC-B-5.9-7.9-190929 (MSD	9100531-MSD1	9J07068-049	10/02/19 08:34	
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	9J07068-038	10/02/19 08:34	
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	9J07068-039	10/02/19 08:34	
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	9J07068-040	10/02/19 08:34	
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	9J07068-041	10/02/19 08:34	
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	9J07068-042	10/02/19 08:34	
PDI-024SC-B-10-12.1-190927	A9I0922-07	9J07068-043	10/02/19 08:34	
PDI-1024SC-B-10-12.1-190927	A9I0922-08	9J07068-044	10/02/19 08:34	
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	9J07068-047	10/02/19 08:34	
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	9J07068-050	10/02/19 08:34	
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	9J07068-051	10/02/19 08:34	
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	9J07068-052	10/02/19 08:34	
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	9J07068-053	10/02/19 08:34	
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	9J07068-054	10/02/19 08:34	
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	9J07068-055	10/02/19 08:34	

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

PREPARATION BATCH SUMMARY

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100666
Batch Matrix: Sediment
Preparation: EPA 3051A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100666-BLK1	9J07068-056	10/04/19 10:27	
LCS	9100666-BS1	9J07068-059	10/04/19 10:27	
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	9J07068-060	10/04/19 10:27	
PDI-064SC-B-08-10-190929	A9I0922-17	9J07068-061	10/04/19 10:27	
PDI-064SC-B-10-12-190929	A9I0922-18	9J07068-062	10/04/19 10:27	
PDI-064SC-B-12-14-190929	A9I0922-19	9J07068-063	10/04/19 10:27	
PDI-064SC-B-14-15.8-190929	A9I0922-20	9J07068-064	10/04/19 10:27	
PDI-1064SC-B-08-10-190929	A9I0922-21	9J07068-065	10/04/19 10:27	

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

METHOD BLANK DATA SHEET

EPA 6020A

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment	Laboratory ID:	9100531-BLK1	File ID:	9J07068-026
Prepared:	10/02/19 08:34	Preparation:	EPA 3051A	Initial/Final:	0.52 g / 50 mL
Analyzed:	10/07/19 20:01	Instrument:	ICPMS5		
Batch:	9100531	Sequence:	9J07068	Calibration:	UNASSIGNED

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

METHOD BLANK DATA SHEET
EPA 6020A

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment	Laboratory ID:	9100666-BLK1	File ID:	9J07068-056
Prepared:	10/04/19 10:27	Preparation:	EPA 3051A	Initial/Final:	0.52 g / 50 mL
Analyzed:	10/07/19 22:19	Instrument:	ICPMS5		
Batch:	9100666	Sequence:	9J07068	Calibration:	UNASSIGNED

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

LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100531	Laboratory ID:	9100531-BS1
Preparation:	EPA 3051A	Initial/Final:	0.5 g / 50 mL

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

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100666	Laboratory ID:	9100666-BS1
Preparation:	EPA 3051A	Initial/Final:	0.5 g / 50 mL

COMPOUND	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC. (*=Out)	QC LIMITS REC.
Arsenic	25.0	23.3	93	80 - 120

* = Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 6020A

PDI-030SC-B-5.9-7.9-190929

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment		
Batch:	9100531	Laboratory ID:	9100531-MS1
Preparation:	EPA 3051A	Initial/Final:	0.487 g / 50 mL

Source Sample Name: PDI-030SC-B-5.9-7.9-190929

COMPOUND	SPIKE ADDED (mg/kg dry)	SAMPLE CONCENTRATION (mg/kg dry)	MS CONCENTRATION (mg/kg dry)	MS % REC. (*=Out)	QC LIMITS REC.
Arsenic	30.3	1.06	31.3	100	75 - 125

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 6020A

PDI-030SC-B-5.9-7.9-190929

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100531	Laboratory ID:	9100531-MSD1
Preparation:	EPA 3051A	Initial/Final:	0.501 g / 50 mL

Source Sample Name: PDI-030SC-B-5.9-7.9-190929

COMPOUND	SPIKE ADDED (mg/kg dry)	MSD CONCENTRATION (mg/kg dry)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
Arsenic	29.4	28.5	93	9	40	75 - 125

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J07068	Instrument:	ICPMS5
Matrix:	Sediment	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	9J07068-ICV1	9J07068-013	10/07/19 19:01
Initial Cal Blank	9J07068-ICB1	9J07068-014	10/07/19 19:06
Instrument RL Check	9J07068-CRL1	9J07068-015	10/07/19 19:11
Instrument RL Check	9J07068-CRL2	9J07068-016	10/07/19 19:15
Instrument RL Check	9J07068-CRL3	9J07068-017	10/07/19 19:20
Instrument RL Check	9J07068-CRL4	9J07068-018	10/07/19 19:24
Blank	9100531-BLK1	9J07068-026	10/07/19 20:01
LCS	9100531-BS1	9J07068-027	10/07/19 20:06
Calibration Check	9J07068-CCV2	9J07068-032	10/07/19 20:29
Calibration Blank	9J07068-CCB1	9J07068-033	10/07/19 20:34
Calibration Blank	9J07068-CCB2	9J07068-034	10/07/19 20:38
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	9J07068-038	10/07/19 20:57
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	9J07068-039	10/07/19 21:01
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	9J07068-040	10/07/19 21:06
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	9J07068-041	10/07/19 21:10
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	9J07068-042	10/07/19 21:15
PDI-024SC-B-10-12.1-190927	A9I0922-07	9J07068-043	10/07/19 21:19
PDI-1024SC-B-10-12.1-190927	A9I0922-08	9J07068-044	10/07/19 21:24
Calibration Check	9J07068-CCV3	9J07068-045	10/07/19 21:29
Calibration Blank	9J07068-CCB3	9J07068-046	10/07/19 21:33
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	9J07068-047	10/07/19 21:38
PDI-030SC-B-5.9-7.9-190929 (MS)	9100531-MS1	9J07068-048	10/07/19 21:43
PDI-030SC-B-5.9-7.9-190929 (MSD)	9100531-MSD1	9J07068-049	10/07/19 21:47
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	9J07068-050	10/07/19 21:52
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	9J07068-051	10/07/19 21:56
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	9J07068-052	10/07/19 22:01
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	9J07068-053	10/07/19 22:05
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	9J07068-054	10/07/19 22:10
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	9J07068-055	10/07/19 22:15
Blank	9100666-BLK1	9J07068-056	10/07/19 22:19
Calibration Check	9J07068-CCV4	9J07068-057	10/07/19 22:24
Calibration Blank	9J07068-CCB4	9J07068-058	10/07/19 22:28
LCS	9100666-BS1	9J07068-059	10/07/19 22:33

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J07068	Instrument:	ICPMS5
Matrix:	Sediment	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	9J07068-060	10/07/19 22:38
PDI-064SC-B-08-10-190929	A9I0922-17	9J07068-061	10/07/19 22:42
PDI-064SC-B-10-12-190929	A9I0922-18	9J07068-062	10/07/19 22:47
PDI-064SC-B-12-14-190929	A9I0922-19	9J07068-063	10/07/19 22:51
PDI-064SC-B-14-15.8-190929	A9I0922-20	9J07068-064	10/07/19 22:56
PDI-1064SC-B-08-10-190929	A9I0922-21	9J07068-065	10/07/19 23:01
Calibration Check	9J07068-CCV5	9J07068-069	10/07/19 23:19
Calibration Blank	9J07068-CCB5	9J07068-070	10/07/19 23:24
Calibration Check	9J07068-CCV6	9J07068-081	10/08/19 00:14
Calibration Blank	9J07068-CCB6	9J07068-082	10/08/19 00:19
Calibration Check	9J07068-CCV7	9J07068-088	10/08/19 00:47
Calibration Blank	9J07068-CCB7	9J07068-089	10/08/19 00:51
Instrument RL Check	9J07068-CRL5	9J07068-090	10/08/19 00:56
Instrument RL Check	9J07068-CRL6	9J07068-091	10/08/19 01:01
Instrument RL Check	9J07068-CRL7	9J07068-092	10/08/19 01:05
Instrument RL Check	9J07068-CRL8	9J07068-093	10/08/19 01:10
Calibration Check	9J07068-CCV8	9J07068-102	10/08/19 01:52
Calibration Check	9J07068-CCV9	9J07068-103	10/08/19 01:57
Calibration Blank	9J07068-CCB8	9J07068-104	10/08/19 02:01
Instrument RL Check	9J07068-CRL9	9J07068-105	10/08/19 02:06
Instrument RL Check	9J07068-CRLA	9J07068-106	10/08/19 02:11
Instrument RL Check	9J07068-CRLB	9J07068-107	10/08/19 02:15
Instrument RL Check	9J07068-CRLC	9J07068-108	10/08/19 02:20

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

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9J07068

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

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Instrument ID: ICPMS5
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Sequence: 9J07068
Calibration: UNASSIGNED

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

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

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9J07068

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

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 6020A

Laboratory: Apex Laboratories SDG: A9I0922

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

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PDI-021SC-B-11.7-13.7-190927	09/27/19 09:23	09/30/19 11:20	10/02/19 08:34	4.97	180.00	10/07/19 20:57	10.48	180.00	
PDI-021SC-B-13.7-15.4-190927	09/27/19 09:45	09/30/19 11:20	10/02/19 08:34	4.95	180.00	10/07/19 21:01	10.47	180.00	
PDI-021SC-B-5.7-7.7-190927	09/27/19 09:22	09/30/19 11:20	10/02/19 08:34	4.97	180.00	10/07/19 21:06	10.49	180.00	
PDI-021SC-B-7.7-9.7-190927	09/27/19 09:22	09/30/19 11:20	10/02/19 08:34	4.97	180.00	10/07/19 21:10	10.49	180.00	
PDI-021SC-B-9.7-11.7-190927	09/27/19 09:23	09/30/19 11:20	10/02/19 08:34	4.97	180.00	10/07/19 21:15	10.49	180.00	
PDI-024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	10/02/19 08:34	4.88	180.00	10/07/19 21:19	10.41	180.00	
PDI-1024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	10/02/19 08:34	4.88	180.00	10/07/19 21:24	10.41	180.00	
PDI-030SC-B-5.9-7.9-190929	09/29/19 14:00	09/30/19 11:20	10/02/19 08:34	2.77	180.00	10/07/19 21:38	8.32	180.00	
PDI-030SC-B-7.9-9.9-190929	09/29/19 14:01	09/30/19 11:20	10/02/19 08:34	2.77	180.00	10/07/19 21:52	8.33	180.00	
PDI-030SC-B-9.9-11.8-190929	09/29/19 14:02	09/30/19 11:20	10/02/19 08:34	2.77	180.00	10/07/19 21:56	8.33	180.00	
PDI-036SC-B-10.2-12.2-190929	09/29/19 12:41	09/30/19 11:20	10/02/19 08:34	2.83	180.00	10/07/19 22:01	8.39	180.00	
PDI-036SC-B-12.2-13.4-190929	09/29/19 12:54	09/30/19 11:20	10/02/19 08:34	2.82	180.00	10/07/19 22:05	8.38	180.00	
PDI-036SC-B-4.2-6.2-190929	09/29/19 12:37	09/30/19 11:20	10/02/19 08:34	2.83	180.00	10/07/19 22:10	8.40	180.00	
PDI-036SC-B-6.2-8.2-190929	09/29/19 12:38	09/30/19 11:20	10/02/19 08:34	2.83	180.00	10/07/19 22:15	8.40	180.00	
PDI-036SC-B-8.2-10.2-190929	09/29/19 12:44	09/30/19 11:20	10/04/19 10:27	4.90	180.00	10/07/19 22:38	8.41	180.00	
PDI-064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	10/04/19 10:27	5.09	180.00	10/07/19 22:42	8.60	180.00	
PDI-064SC-B-10-12-190929	09/29/19 08:19	09/30/19 11:20	10/04/19 10:27	5.09	180.00	10/07/19 22:47	8.60	180.00	
PDI-064SC-B-12-14-190929	09/29/19 08:19	09/30/19 11:20	10/04/19 10:27	5.09	180.00	10/07/19 22:51	8.61	180.00	
PDI-064SC-B-14-15.8-190929	09/29/19 08:19	09/30/19 11:20	10/04/19 10:27	5.09	180.00	10/07/19 22:56	8.61	180.00	
PDI-1064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	10/04/19 10:27	5.09	180.00	10/07/19 23:01	8.61	180.00	

Apex Laboratories

SDG: A9I0922

CLASS: WET

METHOD: SM 5310 B MOD

ANALYSES DATA PACKAGE COVER PAGE

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	Sediment
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	Sediment
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	Sediment
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	Sediment
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	Sediment
PDI-024SC-B-10-12.1-190927	A9I0922-07	Sediment
PDI-1024SC-B-10-12.1-190927	A9I0922-08	Sediment
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	Sediment
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	Sediment
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	Sediment
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	Sediment
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	Sediment
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	Sediment
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	Sediment
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	Sediment
PDI-064SC-B-08-10-190929	A9I0922-17	Sediment
PDI-064SC-B-10-12-190929	A9I0922-18	Sediment
PDI-064SC-B-12-14-190929	A9I0922-19	Sediment
PDI-064SC-B-14-15.8-190929	A9I0922-20	Sediment
PDI-1064SC-B-08-10-190929	A9I0922-21	Sediment

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: 
Name: David G. Jack

Forms Created: 11/18/2019 3:41PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

SM 5310 B MOD

Laboratory: Apex Laboratories **SDG:** A9I0922

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

Batch Matrix: Sediment

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

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

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-021SC-B-11.7-13.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-01
Sampled: 09/27/19 09:23
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 09:22
Solids: 87.66
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.023	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-021SC-B-13.7-15.4-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-02
Sampled: 09/27/19 09:45
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 10:57
Solids: 84.26
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.023	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-021SC-B-5.7-7.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-03
Sampled: 09/27/19 09:22
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 11:13
Solids: 78.13
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	1.0	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-021SC-B-7.7-9.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-04
Sampled: 09/27/19 09:22
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 12:00
Solids: 89.11
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.052	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-021SC-B-9.7-11.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-05
Sampled: 09/27/19 09:23
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 12:24
Solids: 87.01
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.13	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-024SC-B-10-12.1-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-07
Sampled: 09/27/19 11:31
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 13:01
Solids: 73.31
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.046	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-1024SC-B-10-12.1-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-08
Sampled: 09/27/19 11:31
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 14:40
Solids: 72.75
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.044	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-030SC-B-5.9-7.9-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-09RE1
File ID: 9J15035_TCDirect.txt-006
Sampled: 09/29/19 14:00
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 18:08
Solids: 84.74
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.027	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-030SC-B-7.9-9.9-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-10
Sampled: 09/29/19 14:01
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 15:07
Solids: 87.62
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.020	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-030SC-B-9.9-11.8-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-11
Sampled: 09/29/19 14:02
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 15:30
Solids: 75.88
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

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

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-036SC-B-10.2-12.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-12
Sampled: 09/29/19 12:41
Prepared: 09/30/19 17:00
Analyzed: 10/10/19 16:23
Solids: 82.83
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100600
Sequence: 9J10017
Calibration: A8B0203
Instrument: TOC

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

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-036SC-B-12.2-13.4-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-13RE1
File ID: 9J15035_TCDirect.txt-009
Sampled: 09/29/19 12:54
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 18:40
Solids: 70.97
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.19	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-036SC-B-4.2-6.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-14RE1
File ID: 9J15035_TCDirect.txt-010
Sampled: 09/29/19 12:37
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 18:51
Solids: 88.72
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.020	1	U	SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-036SC-B-6.2-8.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-15RE1
File ID: 9J15035_TCDirect.txt-011
Sampled: 09/29/19 12:38
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 19:02
Solids: 84.67
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.043	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-036SC-B-8.2-10.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-16RE1
File ID: 9J15035_TCDirect.txt-012
Sampled: 09/29/19 12:44
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 19:13
Solids: 76.34
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.048	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-064SC-B-08-10-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-17RE1
File ID: 9J15035_TCDirect.txt-013
Sampled: 09/29/19 08:19
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 19:24
Solids: 66.08
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	1.0	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-064SC-B-10-12-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-18RE1
File ID: 9J15035_TCDirect.txt-016
Sampled: 09/29/19 08:19
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 19:56
Solids: 74.84
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.15	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-064SC-B-12-14-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-19RE1
File ID: 9J15035_TCDirect.txt-017
Sampled: 09/29/19 08:19
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 20:07
Solids: 76.00
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.19	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-064SC-B-14-15.8-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-20RE1
File ID: 9J15035_TCDirect.txt-018
Sampled: 09/29/19 08:19
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 20:18
Solids: 73.92
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.31	1		SM 5310 B MOD

INORGANIC ANALYSIS DATA SHEET

SM 5310 B MOD

PDI-1064SC-B-08-10-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-21RE1
File ID: 9J15035_TCDirect.txt-019
Sampled: 09/29/19 08:19
Prepared: 09/30/19 17:00
Analyzed: 10/15/19 20:28
Solids: 66.37
Preparation: PSEP-5310B TOC
Initial/Final: 5 N/A / 5 N/A
Batch: 9100601
Sequence: 9J15035
Calibration: A9J0704
Instrument: TOC6

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TOC	Total Organic Carbon	0.93	1		SM 5310 B MOD

PREPARATION BATCH SUMMARY

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100600 Batch Matrix: Sediment Preparation: PSEP-5310B TOC

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100600-BLK1		09/30/19 17:00	
LCS	9100600-BS1		09/30/19 17:00	
PDI-021SC-B-11.7-13.7-190927 (Du	9100600-DUP1		09/30/19 17:00	
PDI-021SC-B-11.7-13.7-190927	A9I0922-01		09/30/19 17:00	
PDI-021SC-B-13.7-15.4-190927	A9I0922-02		09/30/19 17:00	
PDI-021SC-B-5.7-7.7-190927	A9I0922-03		09/30/19 17:00	
PDI-021SC-B-7.7-9.7-190927	A9I0922-04		09/30/19 17:00	
PDI-021SC-B-9.7-11.7-190927	A9I0922-05		09/30/19 17:00	
PDI-024SC-B-10-12.1-190927	A9I0922-07		09/30/19 17:00	
PDI-1024SC-B-10-12.1-190927	A9I0922-08		09/30/19 17:00	
PDI-030SC-B-7.9-9.9-190929	A9I0922-10		09/30/19 17:00	
PDI-030SC-B-9.9-11.8-190929	A9I0922-11		09/30/19 17:00	
PDI-036SC-B-10.2-12.2-190929	A9I0922-12		09/30/19 17:00	

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

PREPARATION BATCH SUMMARY

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9100601 Batch Matrix: Sediment Preparation: PSEP-5310B TOC

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9100601-BLK2	J15035_TCDirect.txt-00	09/30/19 17:00	
LCS	9100601-BS2	J15035_TCDirect.txt-00	09/30/19 17:00	
PDI-030SC-B-5.9-7.9-190929 (Dup)	9100601-DUP3	J15035_TCDirect.txt-00	09/30/19 17:00	
PDI-030SC-B-5.9-7.9-190929 (Dup)	9100601-DUP4	J15035_TCDirect.txt-00	09/30/19 17:00	
PDI-030SC-B-5.9-7.9-190929	A9I0922-09RE1	J15035_TCDirect.txt-00	09/30/19 17:00	
PDI-036SC-B-12.2-13.4-190929	A9I0922-13RE1	J15035_TCDirect.txt-00	09/30/19 17:00	
PDI-036SC-B-4.2-6.2-190929	A9I0922-14RE1	J15035_TCDirect.txt-01	09/30/19 17:00	
PDI-036SC-B-6.2-8.2-190929	A9I0922-15RE1	J15035_TCDirect.txt-01	09/30/19 17:00	
PDI-036SC-B-8.2-10.2-190929	A9I0922-16RE1	J15035_TCDirect.txt-01	09/30/19 17:00	
PDI-064SC-B-08-10-190929	A9I0922-17RE1	J15035_TCDirect.txt-01	09/30/19 17:00	
PDI-064SC-B-10-12-190929	A9I0922-18RE1	J15035_TCDirect.txt-01	09/30/19 17:00	
PDI-064SC-B-12-14-190929	A9I0922-19RE1	J15035_TCDirect.txt-01	09/30/19 17:00	
PDI-064SC-B-14-15.8-190929	A9I0922-20RE1	J15035_TCDirect.txt-01	09/30/19 17:00	
PDI-1064SC-B-08-10-190929	A9I0922-21RE1	J15035_TCDirect.txt-01	09/30/19 17:00	

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

METHOD BLANK DATA SHEET
SM 5310 B MOD

Laboratory:	Apex Laboratories			SDG:	A9I0922
Client:	Anchor QEA, LLC			Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Matrix:	Sediment	Laboratory ID:	9100600-BLK1	File ID:	
Prepared:	09/30/19 17:00	Preparation:	PSEP-5310B TOC	Initial/Final:	5 N/A / 5 N/A
Analyzed:	10/10/19 08:29	Instrument:	TOC		
Batch:	9100600	Sequence:	9J10017	Calibration:	A8B0203

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

METHOD BLANK DATA SHEET
SM 5310 B MOD

Laboratory:	Apex Laboratories		SDG:	A9I0922	
Client:	Anchor QEA, LLC		Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C	
Matrix:	Sediment	Laboratory ID:	9100601-BLK2	File ID:	9J15035_TCDirect.txt-004
Prepared:	09/30/19 17:00	Preparation:	PSEP-5310B TOC	Initial/Final:	5 N/A / 5 N/A
Analyzed:	10/15/19 17:46	Instrument:	TOC6		
Batch:	9100601	Sequence:	9J15035	Calibration:	A9J0704

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

LCS / LCS DUPLICATE RECOVERY

SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100600	Laboratory ID:	9100600-BS1
Preparation:	PSEP-5310B TOC	Initial/Final:	5 N/A / 5 N/A

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Total Organic Carbon	10000	9800	98	90 - 110

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Matrix:	Sediment		
Batch:	9100601	Laboratory ID:	9100601-BS2
Preparation:	PSEP-5310B TOC	Initial/Final:	5 N/A / 5 N/A

COMPOUND	SPIKE ADDED (mg/kg)	LCS CONCENTRATION (mg/kg)	LCS % REC. (*=Out)	QC LIMITS REC.
Total Organic Carbon	10000	9900	99	90 - 110

* = Values outside of QC limits

PDI-021SC-B-11.7-13.7-190927

DUPLICATES

SM 5310 B MOD

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Sediment
Batch: 9100600
Preparation: PSEP-5310B TOC
Source Sample Name: PDI-021SC-B-11.7-13.7-190927

SDG: A9I0922
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP
Laboratory ID: 9100600-DUP1
Lab Source ID: A9I0922-01
Initial/Final: 5 N/A / 5 N/A
% Solids: 87.66

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (% by Weight)	C	DUPLICATE CONCENTRATION (% by Weight)	C	RPD %	Q	METHOD
Total Organic Carbon	20	0.023		0.022		8		SM 5310 B MOD

* Values outside of QC limits

PDI-030SC-B-5.9-7.9-190929

DUPLICATES

SM 5310 B MOD

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Sediment
Batch: 9100601
Preparation: PSEP-5310B TOC
Source Sample Name: PDI-030SC-B-5.9-7.9-190929

SDG: A9I0922
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP
Laboratory ID: 9100601-DUP3
Lab Source ID: A9I0922-09RE1
Initial/Final: 5 N/A / 5 N/A
% Solids: 84.74

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (% by Weight)	C	DUPLICATE CONCENTRATION (% by Weight)	C	RPD %	Q	METHOD
Total Organic Carbon	20	0.027		0.024		10		SM 5310 B MOD

* Values outside of QC limits

PDI-030SC-B-5.9-7.9-190929

DUPLICATES

SM 5310 B MOD

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Sediment
Batch: 9100601
Preparation: PSEP-5310B TOC
Source Sample Name: PDI-030SC-B-5.9-7.9-190929

SDG: A9I0922
Project: Gasco PreRD DG 2019 - 4a-b. DOC-CAP T
Laboratory ID: 9100601-DUP4
Lab Source ID: A9I0922-09RE1
Initial/Final: 5 N/A / 5 N/A
% Solids: 84.74

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (% by Weight)	C	DUPLICATE CONCENTRATION (% by Weight)	C	RPD %	Q	METHOD
Total Organic Carbon	20	0.027		0.027		0.07		SM 5310 B MOD

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY
SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	8B02022	Instrument:	TOC
Matrix:	Sediment	Calibration:	A8B0203

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

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

ANALYSIS BATCH (SEQUENCE) SUMMARY
SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J07031	Instrument:	TOC6
Matrix:	Sediment	Calibration:	A9J0704

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	9J07031-CAL2		10/07/19 10:20
Cal Standard	9J07031-CAL3		10/07/19 10:31
Cal Standard	9J07031-CAL4		10/07/19 10:41
Cal Standard	9J07031-CAL5		10/07/19 10:52
Cal Standard	9J07031-CAL6		10/07/19 11:03
Cal Standard	9J07031-CAL7		10/07/19 11:14
Cal Standard	9J07031-CAL8		10/07/19 11:24
Cal Standard	9J07031-CAL9		10/07/19 11:35
Initial Cal Check	9J07031-ICV1		10/07/19 11:46
Initial Cal Blank	9J07031-ICB1		10/07/19 11:57

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

ANALYSIS BATCH (SEQUENCE) SUMMARY
SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J10017	Instrument:	TOC
Matrix:	Sediment	Calibration:	A8B0203

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	9J10017-CCV1		10/10/19 07:59
Calibration Blank	9J10017-CCB1		10/10/19 08:20
Blank	9100600-BLK1		10/10/19 08:29
LCS	9100600-BS1		10/10/19 08:59
PDI-021SC-B-11.7-13.7-190927	A9I0922-01		10/10/19 09:22
PDI-021SC-B-11.7-13.7-190927 (Du	9100600-DUP1		10/10/19 10:10
PDI-021SC-B-13.7-15.4-190927	A9I0922-02		10/10/19 10:57
PDI-021SC-B-5.7-7.7-190927	A9I0922-03		10/10/19 11:13
PDI-021SC-B-7.7-9.7-190927	A9I0922-04		10/10/19 12:00
PDI-021SC-B-9.7-11.7-190927	A9I0922-05		10/10/19 12:24
PDI-024SC-B-10-12.1-190927	A9I0922-07		10/10/19 13:01
PDI-1024SC-B-10-12.1-190927	A9I0922-08		10/10/19 14:40
Calibration Check	9J10017-CCV2		10/10/19 13:40
Calibration Blank	9J10017-CCB2		10/10/19 14:22
PDI-030SC-B-7.9-9.9-190929	A9I0922-10		10/10/19 15:07
PDI-030SC-B-9.9-11.8-190929	A9I0922-11		10/10/19 15:30
PDI-036SC-B-10.2-12.2-190929	A9I0922-12		10/10/19 16:23
Calibration Check	9J10017-CCV3		10/10/19 16:38
Calibration Blank	9J10017-CCB3		10/10/19 17:05

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
SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing C
Sequence:	9J15035	Instrument:	TOC6
Matrix:	Sediment	Calibration:	A9J0704

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	9J15035-CCV1	9J15035_TCDirect.txt-002	10/15/19 17:25
Calibration Blank	9J15035-CCB1	9J15035_TCDirect.txt-003	10/15/19 17:36
Blank	9100601-BLK2	9J15035_TCDirect.txt-004	10/15/19 17:46
LCS	9100601-BS2	9J15035_TCDirect.txt-005	10/15/19 17:57
PDI-030SC-B-5.9-7.9-190929	A9I0922-09RE1	9J15035_TCDirect.txt-006	10/15/19 18:08
PDI-030SC-B-5.9-7.9-190929 (Dup)	9100601-DUP3	9J15035_TCDirect.txt-007	10/15/19 18:19
PDI-030SC-B-5.9-7.9-190929 (Dup)	9100601-DUP4	9J15035_TCDirect.txt-008	10/15/19 18:30
PDI-036SC-B-12.2-13.4-190929	A9I0922-13RE1	9J15035_TCDirect.txt-009	10/15/19 18:40
PDI-036SC-B-4.2-6.2-190929	A9I0922-14RE1	9J15035_TCDirect.txt-010	10/15/19 18:51
PDI-036SC-B-6.2-8.2-190929	A9I0922-15RE1	9J15035_TCDirect.txt-011	10/15/19 19:02
PDI-036SC-B-8.2-10.2-190929	A9I0922-16RE1	9J15035_TCDirect.txt-012	10/15/19 19:13
PDI-064SC-B-08-10-190929	A9I0922-17RE1	9J15035_TCDirect.txt-013	10/15/19 19:24
Calibration Check	9J15035-CCV2	9J15035_TCDirect.txt-014	10/15/19 19:34
Calibration Blank	9J15035-CCB2	9J15035_TCDirect.txt-015	10/15/19 19:45
PDI-064SC-B-10-12-190929	A9I0922-18RE1	9J15035_TCDirect.txt-016	10/15/19 19:56
PDI-064SC-B-12-14-190929	A9I0922-19RE1	9J15035_TCDirect.txt-017	10/15/19 20:07
PDI-064SC-B-14-15.8-190929	A9I0922-20RE1	9J15035_TCDirect.txt-018	10/15/19 20:18
PDI-1064SC-B-08-10-190929	A9I0922-21RE1	9J15035_TCDirect.txt-019	10/15/19 20:28
Calibration Check	9J15035-CCV3	9J15035_TCDirect.txt-026	10/15/19 21:44
Calibration Blank	9J15035-CCB3	9J15035_TCDirect.txt-027	10/15/19 21:55
Calibration Check	9J15035-CCV4	9J15035_TCDirect.txt-038	10/15/19 23:53
Calibration Blank	9J15035-CCB4	9J15035_TCDirect.txt-039	10/16/19 00:04
Calibration Check	9J15035-CCV5	9J15035_TCDirect.txt-046	10/16/19 01:20
Calibration Blank	9J15035-CCB5	9J15035_TCDirect.txt-047	10/16/19 01:31

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

INITIAL CALIBRATION DATA (Summary)

SM 5310 B MOD

Laboratory: Apex Laboratories SDG: A9I0922

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

Calibration: A8B0203 Date: 02/02/18 15:56 Instrument: TOC

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

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

INITIAL CALIBRATION DATA

SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration:	A8B0203	Instrument:	TOC
		Calibration Date:	02/02/18 15:56

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

INITIAL CALIBRATION DATA (Continued)

SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration:	A8B0203	Instrument:	TOC
Matrix:		Calibration Date:	02/02/18 15:56

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

INITIAL CALIBRATION DATA (Summary)

SM 5310 B MOD

Laboratory: Apex Laboratories SDG: A9I0922

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

Calibration: A9J0704 Date: 10/07/19 09:43 Instrument: TOC6

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Total Organic Carbon	112.0101	Lin	4.125361			0.99991			

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

INITIAL CALIBRATION DATA

SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration:	A9J0704	Instrument:	TOC6
		Calibration Date:	10/07/19 09:43

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF
Total Organic Carbon	200	121.3214	500	114.9583	1000	111.7859	2500	110.6194	5000	112.4182	12500	106.0423

INITIAL CALIBRATION DATA (Continued)

SM 5310 B MOD

Laboratory:	Apex Laboratories	SDG:	A9I0922
Client:	Anchor QEA, LLC	Project:	Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Te
Calibration:	A9J0704	Instrument:	TOC6
Matrix:		Calibration Date:	10/07/19 09:43

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF	mg/kg	RF
Total Organic Carbon	25000	110.7676	50000	108.168								

INITIAL AND CONTINUING CALIBRATION CHECK

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: TOC
Calibration: A8B0203
Control Limt: +/- 10.00%
Sequence: 8B02022

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

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: TOC6
Calibration: A9J0704
Control Limt: +/- 10.00%
Sequence: 9J07031

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9J07031-ICV1	Total Organic Carbon	10000	10000	102	mg/kg	SM 5310 B MOD

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: TOC
Calibration: A8B0203
Control Limt: +/- 10.00%
Sequence: 9J10017

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9J10017-CCV1	Total Organic Carbon	10000	11000	107	mg/kg	SM 5310 B MOD
9J10017-CCV2	Total Organic Carbon	10000	9500	95	mg/kg	SM 5310 B MOD
9J10017-CCV3	Total Organic Carbon	10000	9300	93	mg/kg	SM 5310 B MOD

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Co
Instrument ID: TOC6
Calibration: A9J0704
Control Limt: +/- 10.00%
Sequence: 9J15035

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9J15035-CCV1	Total Organic Carbon	10000	9900	99	mg/kg	SM 5310 B MOD
9J15035-CCV2	Total Organic Carbon	10000	9900	99	mg/kg	SM 5310 B MOD
9J15035-CCV3	Total Organic Carbon	10000	9900	99	mg/kg	SM 5310 B MOD
9J15035-CCV4	Total Organic Carbon	10000	10000	101	mg/kg	SM 5310 B MOD
9J15035-CCV5	Total Organic Carbon	10000	10000	100	mg/kg	SM 5310 B MOD

* Values outside of QC limits

INSTRUMENT BLANKS
SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Instrument ID: TOC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Sequence: 8B02022
Calibration: A8B0203

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

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

INSTRUMENT BLANKS
SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Instrument ID: TOC6
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Sequence: 9J07031
Calibration: A9J0704

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9J07031-ICB1	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD

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

INSTRUMENT BLANKS
SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Instrument ID: TOC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Sequence: 9J10017
Calibration: A8B0203

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9J10017-CCB1	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD
9J10017-CCB2	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD
9J10017-CCB3	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD

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

INSTRUMENT BLANKS
SM 5310 B MOD

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Instrument ID: TOC6
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Sequence: 9J15035
Calibration: A9J0704

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9J15035-CCB1	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD
9J15035-CCB2	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD
9J15035-CCB3	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD
9J15035-CCB4	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD
9J15035-CCB5	Total Organic Carbon	ND	200 (Inst)	mg/kg		SM 5310 B MOD

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

HOLDING TIME SUMMARY

SM 5310 B MOD

Laboratory: Apex Laboratories SDG: A9I0922

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

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PDI-021SC-B-11.7-13.7-190927	09/27/19 09:23	09/30/19 11:20	09/30/19 17:00	3.32	28.00	10/10/19 09:22	13.00	28.00	
PDI-021SC-B-13.7-15.4-190927	09/27/19 09:45	09/30/19 11:20	09/30/19 17:00	3.30	28.00	10/10/19 10:57	13.05	28.00	
PDI-021SC-B-5.7-7.7-190927	09/27/19 09:22	09/30/19 11:20	09/30/19 17:00	3.32	28.00	10/10/19 11:13	13.08	28.00	
PDI-021SC-B-7.7-9.7-190927	09/27/19 09:22	09/30/19 11:20	09/30/19 17:00	3.32	28.00	10/10/19 12:00	13.11	28.00	
PDI-021SC-B-9.7-11.7-190927	09/27/19 09:23	09/30/19 11:20	09/30/19 17:00	3.32	28.00	10/10/19 12:24	13.13	28.00	
PDI-024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	09/30/19 17:00	3.23	28.00	10/10/19 13:01	13.06	28.00	
PDI-1024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	09/30/19 17:00	3.23	28.00	10/10/19 14:40	13.13	28.00	
PDI-030SC-B-5.9-7.9-190929	09/29/19 14:00	09/30/19 11:20	09/30/19 17:00	1.13	28.00	10/15/19 18:08	16.17	28.00	
PDI-030SC-B-7.9-9.9-190929	09/29/19 14:01	09/30/19 11:20	09/30/19 17:00	1.12	28.00	10/10/19 15:07	11.05	28.00	
PDI-030SC-B-9.9-11.8-190929	09/29/19 14:02	09/30/19 11:20	09/30/19 17:00	1.12	28.00	10/10/19 15:30	11.06	28.00	
PDI-036SC-B-10.2-12.2-190929	09/29/19 12:41	09/30/19 11:20	09/30/19 17:00	1.18	28.00	10/10/19 16:23	11.15	28.00	
PDI-036SC-B-12.2-13.4-190929	09/29/19 12:54	09/30/19 11:20	09/30/19 17:00	1.17	28.00	10/15/19 18:40	16.24	28.00	
PDI-036SC-B-4.2-6.2-190929	09/29/19 12:37	09/30/19 11:20	09/30/19 17:00	1.18	28.00	10/15/19 18:51	16.26	28.00	
PDI-036SC-B-6.2-8.2-190929	09/29/19 12:38	09/30/19 11:20	09/30/19 17:00	1.18	28.00	10/15/19 19:02	16.27	28.00	
PDI-036SC-B-8.2-10.2-190929	09/29/19 12:44	09/30/19 11:20	09/30/19 17:00	1.18	28.00	10/15/19 19:13	16.27	28.00	
PDI-064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 17:00	1.36	28.00	10/15/19 19:24	16.46	28.00	
PDI-064SC-B-10-12-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 17:00	1.36	28.00	10/15/19 19:56	16.48	28.00	
PDI-064SC-B-12-14-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 17:00	1.36	28.00	10/15/19 20:07	16.49	28.00	
PDI-064SC-B-14-15.8-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 17:00	1.36	28.00	10/15/19 20:18	16.50	28.00	
PDI-1064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 17:00	1.36	28.00	10/15/19 20:28	16.51	28.00	

Apex Laboratories

SDG: A9I0922

CLASS: WET

METHOD: SM 2540 G

ANALYSES DATA PACKAGE COVER PAGE

SM 2540 G

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD_DG 2019 - 4a-b. DOC-CAP Testing C

Client Sample Id:	Lab Sample Id:	Matrix
PDI-021SC-B-11.7-13.7-190927	A9I0922-01	Sediment
PDI-021SC-B-13.7-15.4-190927	A9I0922-02	Sediment
PDI-021SC-B-5.7-7.7-190927	A9I0922-03	Sediment
PDI-021SC-B-7.7-9.7-190927	A9I0922-04	Sediment
PDI-021SC-B-9.7-11.7-190927	A9I0922-05	Sediment
PDI-024SC-B-10-12.1-190927	A9I0922-07	Sediment
PDI-1024SC-B-10-12.1-190927	A9I0922-08	Sediment
PDI-030SC-B-5.9-7.9-190929	A9I0922-09	Sediment
PDI-030SC-B-7.9-9.9-190929	A9I0922-10	Sediment
PDI-030SC-B-9.9-11.8-190929	A9I0922-11	Sediment
PDI-036SC-B-10.2-12.2-190929	A9I0922-12	Sediment
PDI-036SC-B-12.2-13.4-190929	A9I0922-13	Sediment
PDI-036SC-B-4.2-6.2-190929	A9I0922-14	Sediment
PDI-036SC-B-6.2-8.2-190929	A9I0922-15	Sediment
PDI-036SC-B-8.2-10.2-190929	A9I0922-16	Sediment
PDI-064SC-B-08-10-190929	A9I0922-17	Sediment
PDI-064SC-B-10-12-190929	A9I0922-18	Sediment
PDI-064SC-B-12-14-190929	A9I0922-19	Sediment
PDI-064SC-B-14-15.8-190929	A9I0922-20	Sediment
PDI-1064SC-B-08-10-190929	A9I0922-21	Sediment

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in computer-readable data submitted on diskette has been autorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures.

Signature: 
Name: David G. Jack

Forms Created: 11/18/2019 3:41PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

SM 2540 G

Laboratory: Apex Laboratories **SDG:** A9I0922

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

Batch Matrix: Sediment

Analyte	MDL	MRL	Units
Total Solids	1.00	1.00	% by Weight

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

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-021SC-B-11.7-13.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-01
Sampled: 09/27/19 09:23
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 87.66
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	87.7	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-021SC-B-13.7-15.4-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-02
Sampled: 09/27/19 09:45
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 84.26
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	84.3	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-021SC-B-5.7-7.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-03
Sampled: 09/27/19 09:22
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 78.13
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	78.1	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-021SC-B-7.7-9.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-04
Sampled: 09/27/19 09:22
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 89.11
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	89.1	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-021SC-B-9.7-11.7-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-05
Sampled: 09/27/19 09:23
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 87.01
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	87.0	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-024SC-B-10-12.1-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-07
Sampled: 09/27/19 11:31
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 73.31
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	73.3	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-1024SC-B-10-12.1-190927

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-08
Sampled: 09/27/19 11:31
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 72.75
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	72.7	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-030SC-B-5.9-7.9-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-09
Sampled: 09/29/19 14:00
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 84.74
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	84.7	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-030SC-B-7.9-9.9-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-10
Sampled: 09/29/19 14:01
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 87.62
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	87.6	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-030SC-B-9.9-11.8-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-11
Sampled: 09/29/19 14:02
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 75.88
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	75.9	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-036SC-B-10.2-12.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-12
Sampled: 09/29/19 12:41
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 82.83
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	82.8	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-036SC-B-12.2-13.4-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-13
Sampled: 09/29/19 12:54
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 70.97
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	71.0	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-036SC-B-4.2-6.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-14
Sampled: 09/29/19 12:37
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 88.72
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	88.7	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-036SC-B-6.2-8.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-15
Sampled: 09/29/19 12:38
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 84.67
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	84.7	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-036SC-B-8.2-10.2-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-16
Sampled: 09/29/19 12:44
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 76.34
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	76.3	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-064SC-B-08-10-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-17
Sampled: 09/29/19 08:19
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 66.08
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	66.1	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-064SC-B-10-12-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-18
Sampled: 09/29/19 08:19
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 74.84
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	74.8	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-064SC-B-12-14-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-19
Sampled: 09/29/19 08:19
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 76.00
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

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

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-064SC-B-14-15.8-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-20
Sampled: 09/29/19 08:19
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 73.92
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	73.9	1		SM 2540 G

INORGANIC ANALYSIS DATA SHEET

SM 2540 G

PDI-1064SC-B-08-10-190929

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP Testing Cores
Matrix: Sediment
Laboratory ID: A9I0922-21
Sampled: 09/29/19 08:19
Prepared: 09/30/19 16:56
Analyzed: 10/01/19 14:10
Solids: 66.37
Preparation: Total Solids (SM2540G/PSEP)
Initial/Final: 1 N/A / 1 N/A
Batch: 9091471
Calibration:
Instrument: Inst

CAS NO.	Analyte	Concentration (% by Weight)	Dilution Factor	Q	Method
TS	Total Solids	66.4	1		SM 2540 G

PREPARATION BATCH SUMMARY

SM 2540 G

Laboratory: Apex Laboratories
SDG: A9I0922
Client: Anchor QEA, LLC
Project: Gasco PreRD DG 2019 - 4a-b. DOC-CAP Testing Cc
Batch: 9091471 Batch Matrix: Sediment Preparation: Total Solids (SM2540G/PSEP)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
PDI-030SC-B-5.9-7.9-190929 (Dup)	9091471-DUP1		09/30/19 16:56	
PDI-021SC-B-11.7-13.7-190927 (Du	9091471-DUP2		09/30/19 16:56	
PDI-021SC-B-11.7-13.7-190927	A9I0922-01		09/30/19 16:56	
PDI-021SC-B-13.7-15.4-190927	A9I0922-02		09/30/19 16:56	
PDI-021SC-B-5.7-7.7-190927	A9I0922-03		09/30/19 16:56	
PDI-021SC-B-7.7-9.7-190927	A9I0922-04		09/30/19 16:56	
PDI-021SC-B-9.7-11.7-190927	A9I0922-05		09/30/19 16:56	
PDI-024SC-B-10-12.1-190927	A9I0922-07		09/30/19 16:56	
PDI-1024SC-B-10-12.1-190927	A9I0922-08		09/30/19 16:56	
PDI-030SC-B-5.9-7.9-190929	A9I0922-09		09/30/19 16:56	
PDI-030SC-B-7.9-9.9-190929	A9I0922-10		09/30/19 16:56	
PDI-030SC-B-9.9-11.8-190929	A9I0922-11		09/30/19 16:56	
PDI-036SC-B-10.2-12.2-190929	A9I0922-12		09/30/19 16:56	
PDI-036SC-B-12.2-13.4-190929	A9I0922-13		09/30/19 16:56	
PDI-036SC-B-4.2-6.2-190929	A9I0922-14		09/30/19 16:56	
PDI-036SC-B-6.2-8.2-190929	A9I0922-15		09/30/19 16:56	
PDI-036SC-B-8.2-10.2-190929	A9I0922-16		09/30/19 16:56	
PDI-064SC-B-08-10-190929	A9I0922-17		09/30/19 16:56	
PDI-064SC-B-10-12-190929	A9I0922-18		09/30/19 16:56	
PDI-064SC-B-12-14-190929	A9I0922-19		09/30/19 16:56	
PDI-064SC-B-14-15.8-190929	A9I0922-20		09/30/19 16:56	
PDI-1064SC-B-08-10-190929	A9I0922-21		09/30/19 16:56	

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.

PDI-030SC-B-5.9-7.9-190929

DUPLICATES

SM 2540 G

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Sediment
Batch: 9091471
Preparation: Total Solids (SM2540G/PSEP)
Source Sample Name: PDI-030SC-B-5.9-7.9-190929

SDG: A9I0922
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP
Laboratory ID: 9091471-DUP1
Lab Source ID: A9I0922-09
Initial/Final: 1 N/A / 1 N/A
% Solids: 84.74

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (% by Weight)	C	DUPLICATE CONCENTRATION (% by Weight)	C	RPD %	Q	METHOD
Total Solids	10	84.7		84.8		0.07		SM 2540 G

* Values outside of QC limits

DUPLICATES

SM 2540 G

PDI-021SC-B-11.7-13.7-190927

Laboratory: Apex Laboratories
Client: Anchor QEA, LLC
Matrix: Sediment
Batch: 9091471
Preparation: Total Solids (SM2540G/PSEP)
Source Sample Name: PDI-021SC-B-11.7-13.7-190927

SDG: A9I0922
Project: Gasco_PreRD_DG 2019 - 4a-b. DOC-CAP
Laboratory ID: 9091471-DUP2
Lab Source ID: A9I0922-01
Initial/Final: 1 N/A / 1 N/A
% Solids: 87.66

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (% by Weight)	C	DUPLICATE CONCENTRATION (% by Weight)	C	RPD %	Q	METHOD
Total Solids	10	87.7		87.7		0.009		SM 2540 G

* Values outside of QC limits

HOLDING TIME SUMMARY

SM 2540 G

Laboratory: Apex Laboratories SDG: A9I0922

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

Sample Name	Date Collected	Date Received	Date Prepared	Days to Prep	Max Days to Prep	Date Analyzed	Days to Analysis	Max Days to Analysis	Q
PDI-021SC-B-11.7-13.7-190927	09/27/19 09:23	09/30/19 11:20	09/30/19 16:56	3.31	180.00	10/01/19 14:10	0.88		
PDI-021SC-B-13.7-15.4-190927	09/27/19 09:45	09/30/19 11:20	09/30/19 16:56	3.30	180.00	10/01/19 14:10	0.88		
PDI-021SC-B-5.7-7.7-190927	09/27/19 09:22	09/30/19 11:20	09/30/19 16:56	3.32	180.00	10/01/19 14:10	0.88		
PDI-021SC-B-7.7-9.7-190927	09/27/19 09:22	09/30/19 11:20	09/30/19 16:56	3.32	180.00	10/01/19 14:10	0.88		
PDI-021SC-B-9.7-11.7-190927	09/27/19 09:23	09/30/19 11:20	09/30/19 16:56	3.31	180.00	10/01/19 14:10	0.88		
PDI-024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	09/30/19 16:56	3.23	180.00	10/01/19 14:10	0.88		
PDI-1024SC-B-10-12.1-190927	09/27/19 11:31	09/30/19 11:20	09/30/19 16:56	3.23	180.00	10/01/19 14:10	0.88		
PDI-030SC-B-5.9-7.9-190929	09/29/19 14:00	09/30/19 11:20	09/30/19 16:56	1.12	180.00	10/01/19 14:10	0.88		
PDI-030SC-B-7.9-9.9-190929	09/29/19 14:01	09/30/19 11:20	09/30/19 16:56	1.12	180.00	10/01/19 14:10	0.88		
PDI-030SC-B-9.9-11.8-190929	09/29/19 14:02	09/30/19 11:20	09/30/19 16:56	1.12	180.00	10/01/19 14:10	0.88		
PDI-036SC-B-10.2-12.2-190929	09/29/19 12:41	09/30/19 11:20	09/30/19 16:56	1.18	180.00	10/01/19 14:10	0.88		
PDI-036SC-B-12.2-13.4-190929	09/29/19 12:54	09/30/19 11:20	09/30/19 16:56	1.17	180.00	10/01/19 14:10	0.88		
PDI-036SC-B-4.2-6.2-190929	09/29/19 12:37	09/30/19 11:20	09/30/19 16:56	1.18	180.00	10/01/19 14:10	0.88		
PDI-036SC-B-6.2-8.2-190929	09/29/19 12:38	09/30/19 11:20	09/30/19 16:56	1.18	180.00	10/01/19 14:10	0.88		
PDI-036SC-B-8.2-10.2-190929	09/29/19 12:44	09/30/19 11:20	09/30/19 16:56	1.18	180.00	10/01/19 14:10	0.88		
PDI-064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 16:56	1.36	180.00	10/01/19 14:10	0.88		
PDI-064SC-B-10-12-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 16:56	1.36	180.00	10/01/19 14:10	0.88		
PDI-064SC-B-12-14-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 16:56	1.36	180.00	10/01/19 14:10	0.88		
PDI-064SC-B-14-15.8-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 16:56	1.36	180.00	10/01/19 14:10	0.88		
PDI-1064SC-B-08-10-190929	09/29/19 08:19	09/30/19 11:20	09/30/19 16:56	1.36	180.00	10/01/19 14:10	0.88		

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

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

Batch 9091435
Sequence 9I30038 (A9I0922-01,02,03,04,05,07,08,09,10,11,12,13,14,15,16,17)

PREPARATION BENCH SHEET

BATCH #: 9091435 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
9091435-BLK1		QC	09/30/19 15:00	7.5	5							
9091435-BS1		QC	09/30/19 15:00	5	5	A19I354		250				
9091435-BS2		QC	09/30/19 15:00	5	5	A19I278		250				
A9I0883-01RE1	B	8260C Halogenated VOCs	09/27/19 14:15	1.22	5					#1	MOD 200X RR1 Foam(V-13)	
A9I0884-01RE1	B	8260C Halogenated VOCs	09/27/19 14:29	1.03	5					#1	MOD 200X RR1	
A9I0902-01RE1	C	8260C Halogenated VOCs	09/28/19 09:00	1.01	5					Composite (1-5)	MOD 100X RR1 Foam(V-13)	
A9I0904-01RE1	B	8260C Halogenated VOCs	09/28/19 09:30	1	5					#1	MOD 200X RR1 Foam(V-13)	
A9I0922-01	B	8260C BTEX+Halo6	(Date Sampled)	4.95	5					PDI-021SC-B-11.7-13.7-190927		
A9I0922-02	B	8260C BTEX+Halo6	(Date Sampled)	5.71	5					PDI-021SC-B-13.7-15.4-190927		
A9I0922-03	B	8260C BTEX+Halo6	(Date Sampled)	4.56	5					PDI-021SC-B-5.7-7.7-190927		
A9I0922-04	B	8260C BTEX+Halo6	(Date Sampled)	4.93	5					PDI-021SC-B-7.7-9.7-190927		
A9I0922-05	B	8260C BTEX+Halo6	(Date Sampled)	5.13	5					PDI-021SC-B-9.7-11.7-190927		
A9I0922-07	B	8260C BTEX+Halo6	(Date Sampled)	5.97	5					PDI-024SC-B-10-12.1-190927		
A9I0922-08	B	8260C BTEX+Halo6	(Date Sampled)	6.29	5					PDI-1024SC-B-10-12.1-190927		
A9I0922-09	C	8260C Halogenated VOCs	(Date Sampled)	5.91	5					PDI-030SC-B-5.9-7.9-190929	Added for BatchQC in: 9091435	
A9I0922-09	C	8260C BTEX+Halo6	(Date Sampled)	5.91	5					PDI-030SC-B-5.9-7.9-190929	MS/MSD	
9091435-MS1		QC	09/29/19 14:00	5.51	5	A19I354	A9I0922-09	250	297	DW=84.7%	~~PENDING DW~~ CSOX	
9091435-MSD1		QC	09/29/19 14:00	5.51	5	A19I354	A9I0922-09	250	297		~~PENDING DW~~	
A9I0922-10	B	8260C BTEX+Halo6	(Date Sampled)	4.8	5					PDI-030SC-B-7.9-9.9-190929		
A9I0922-11	B	8260C BTEX+Halo6	(Date Sampled)	5.8	5					PDI-030SC-B-9.9-11.8-190929		
A9I0922-12	B	8260C BTEX+Halo6	(Date Sampled)	5.63	5					PDI-036SC-B-10.2-12.2-190929		
A9I0922-13	B	8260C BTEX+Halo6	(Date Sampled)	5.28	5					PDI-036SC-B-12.2-13.4-190929		

Prepared By: [signature] 10/1/19 Date

Reviewed By: [signature] 10/2/19 Date

PREPARATION BENCH SHEET

BATCH #: 9091435 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
A9I0922-14	B	8260C BTEX+Halo6	(Date Sampled)	5.34	5					PDI-036SC-B-4.2-6.2-190929		
A9I0922-15	B	8260C BTEX+Halo6	(Date Sampled)	4.87	5					PDI-036SC-B-6.2-8.2-190929		
A9I0922-16	B	8260C BTEX+Halo6	(Date Sampled)	5.63	5					PDI-036SC-B-8.2-10.2-190929		
A9I0922-17	B	8260C Halogenated VOCs	(Date Sampled)	6.1	5					PDI-064SC-B-8-10-190929	Added for BatchQC in: 9091435	
A9I0922-17	B	8260C BTEX+Halo6	(Date Sampled)	6.1	5					PDI-064SC-B-8-10-190929		
9091435-DUP1		QC	09/29/19 08:19	5.78	5		A9I0922-17					

*pH <2 verified_____

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A18J327	11/30/23	Balance s/n 593312
~~A19D063~~	~~09/30/19~~	~~Methanol - Fisher (P/T) #185562~~
~~A19F143~~	~~12/09/19~~	~~Methanol - Fisher (P/T) #185042~~

JB 10/1/19

Analyte Spike(s)

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

Surrogate(s)

Std ID	Exp. Date	Description

SOIL MS10

MeOH A19I220
A19F219

Prepared By: Date

Reviewed By: Date

Worksheet

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

Sample ID	Container	Container Weight (g)	Tare Weight (g)	Net Sample Weight (g)	Formula Check
A9I0922-01	B	38.77	33.82	4.95	✓
2	B	39.81	34.1	5.71	✓
3	B	38.36	33.8	4.56	✓
4	B	38.34	33.41	4.93	✓
5	B	38.47	33.34	5.13	✓
7	B	39.51	33.54	5.97	✓
8	B	40.03	33.74	6.29	✓
9	C SOURCE	39.59	33.68	5.91	✓
9	D MS/MSD	39.33	33.82	5.51	✓
10	B	38.82	34.02	4.8	✓
11	B	39.57	33.77	5.8	✓
12	B	39.41	33.78	5.63	✓
13	B	38.79	33.51	5.28	✓
14	B	38.66	33.32	5.34	✓
15	B	38.33	33.46	4.87	✓
16	B	39.01	33.38	5.63	✓
17	B	39.54	33.44	6.1	✓
17	C DUP	39.25	33.47	5.78	✓

10/1/19

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

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

Batch: 9091435

Matrix Spike

Sample Weight	Final Volume	Dilution	Dry Weight
g	mL		%
5.510	5	50	84.7

Final Spike Level	**Spike Amount**
ug/kg	**ul**
1252	**292**

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

A9I0922-09

10/2/19

A9I0922

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0922-01 — **PDI-021SC-B-11.7-13.7-190927** — Sampled: **09/27/19 09:23**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.77	33.82	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.21	34.07	(5) 10 15 Other	

BTEX + HALOG — Due: — TAT:

A9I0922-02 — **PDI-021SC-B-13.7-15.4-190927** — Sampled: **09/27/19 09:45**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.81	34.10	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.32	33.89	(5) 10 15 Other	

Due: — TAT:

A9I0922-03 — **PDI-021SC-B-5.7-7.7-190927** — Sampled: **09/27/19 09:22**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.36	33.80	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	37.90	33.68	(5) 10 15 Other	

Due: — TAT:

A9I0922-04 — **PDI-021SC-B-7.7-9.7-190927** — Sampled: **09/27/19 09:22**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.34	33.41	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.69	33.82	(5) 10 15 Other	

Due: — TAT:

A9I0922-05 — **PDI-021SC-B-9.7-11.7-190927** — Sampled: **09/27/19 09:23**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.47	33.36	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.94	33.85	(5) 10 15 Other	

Due: — TAT:

Weighed by: (8) @ 9/30/19 1633

Methanol Reagent ID: A19I219 — Balance ID: A18J327

A9I0922

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0922-07 | **PDI-024SC-B-10-12.1-190927** | Sampled: **09/27/19 11:31**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.51	33.54	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.41	33.65	(5) 10 15 Other	

BTEX + HALOG   Due: TAT:

A9I0922-08 | **PDI-1024SC-B-10-12.1-190927** | Sampled: **09/27/19 11:31**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	40.03	33.74	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.91	33.70	(5) 10 15 Other	

Due: TAT:

A9I0922-09 | **PDI-030SC-B-5.9-7.9-190929** | Sampled: **09/29/19 14:00**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
Source (**C**) Sediment	40 mL VOA - 5035 (MeOH)	39.59	33.68	(5) 10 15 Other	
MS/MSD (**D**) Sediment	40 mL VOA - 5035 (MeOH)	39.33	33.82	(5) 10 15 Other	
E Sediment	40 mL VOA - 5035 (MeOH)	39.67	34.03	(5) 10 15 Other	
F Sediment	40 mL VOA - 5035 (MeOH)	39.03	33.38	(5) 10 15 Other	
G Sediment	40 mL VOA - 5035 (MeOH)	39.53	33.77	(5) 10 15 Other	
H Sediment	40 mL VOA - 5035 (MeOH)	39.23	33.56	(5) 10 15 Other	

Due: TAT:

A9I0922-10 | **PDI-030SC-B-7.9-9.9-190929** | Sampled: **09/29/19 14:01**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.82	34.02	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.95	33.83	(5) 10 15 Other	

Due: TAT:

Weighed by: (8) @ 9/30/19 1633

Methanol Reagent ID: A19I219-   Balance ID: A18J027

Print Date: 9/30/2019 3:58:09PM

A9I0922

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0922-11 — **PDI-030SC-B-9.9-11.8-190929** — Sampled: **09/29/19 14:02**

	Container	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.57	33.77	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.64	33.89	(5) 10 15 Other	

BTEX + HALOG Due: TAT:

A9I0922-12 — **PDI-036SC-B-10.2-12.2-190929** — Sampled: **09/29/19 12:41**

	Container	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.41	33.78	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.40	33.46	(5) 10 15 Other	

Due: TAT:

A9I0922-13 — **PDI-036SC-B-12.2-13.4-190929** — Sampled: **09/29/19 12:54**

	Container	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.79	33.51	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.08	33.91	(5) 10 15 Other	

Due: TAT:

A9I0922-14 — **PDI-036SC-B-4.2-6.2-190929** — Sampled: **09/29/19 12:37**

	Container	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.66	33.32	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.58	33.58	(5) 10 15 Other	

Due: TAT:

A9I0922-15 — **PDI-036SC-B-6.2-8.2-190929** — Sampled: **09/29/19 12:38**

	Container	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.33	33.46	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.42	33.53	(5) 10 15 Other	

Due: TAT:

Weighed by: (8) @ 9/30/19 1633

Methanol Reagent ID: A19I2019 Balance ID: A18J527

Print Date: 9/30/2019 3:58:09PM

A9I0922

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0922-16 — **PDI-036SC-B-8.2-10.2-190929** — Sampled: **09/29/19 12:44**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.01	33.38	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.48	~~39.48~~ 33.68 (8) 9/30/19	(5) 10 15 Other	

BTEX + HALOG — Due: — TAT:

A9I0922-17 — **PDI-064SC-B-8-10-190929** — Sampled: **09/29/19 08:19**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.54	33.44	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.25	33.47	(5) 10 15 Other	DUP

Due: — TAT:

A9I0922-18 — **PDI-064SC-B-10-12-190929** — Sampled: **09/29/19 08:19**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.76	33.58	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.39	33.41	(5) 10 15 Other	

Due: — TAT:

A9I0922-19 — **PDI-064SC-B-12-14-190929** — Sampled: **09/29/19 08:19**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	38.81	33.47	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	38.90	33.58	(5) 10 15 Other	

Due: — TAT:

A9I0922-20 — **PDI-064SC-B-14-15.8-190929** — Sampled: **09/29/19 08:19**

Container	Type	Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Sediment	40 mL VOA - 5035 (MeOH)	39.80	33.77	(5) 10 15 Other	
C Sediment	40 mL VOA - 5035 (MeOH)	39.71	33.27	(5) 10 15 Other	

Due: — TAT:

Weighed by: (8) @ 9/30/19 1633

Methanol Reagent ID: A19I2199 — Balance ID: A18J327

Print Date: 9/30/2019 3:58:09PM

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9I30038	Instrument:	VOA-GCMS10
Date:	09/30/19 09:37	Calibration:	A9I2702

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9I30038-IBL1	Soil	QC	QC			A19G118	
2	9I30038-TUN1	Soil	QC	QC			A19G118	
3	9I30038-CCV1	Soil	QC	QC			A19G118	
4	9091435-BS1	Soil	QC	QC		9091435	A19G118	
5	9I30038-CCV2	Soil	QC	QC			A19G118	
6	9091435-BS2	Soil	QC	QC		9091435	A19G118	
7	9091435-BLK1	Soil	QC	QC		9091435	A19G118	
8	A9I0883-01RE1	Soil	8260C Halogenated VOCs		10/03/19	9091435	A19G118	
9	A9I0902-01RE1	Soil	8260C Halogenated VOCs		10/03/19	9091435	A19G118	
10	A9I0904-01RE1	Soil	8260C Halogenated VOCs		10/03/19	9091435	A19G118	
11	A9I0884-01RE1	Soil	8260C Halogenated VOCs		10/03/19	9091435	A19G118	
12	9I30038-IBL3	Soil	QC	QC			A19G118	
13	A9I0922-01	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
14	A9I0922-02	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
15	A9I0922-03	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
16	A9I0922-04	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
17	A9I0922-05	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
18	A9I0922-07	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
19	A9I0922-08	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
20	A9I0922-10	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
21	A9I0922-11	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
22	A9I0922-12	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
23	A9I0922-13	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
24	A9I0922-14	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
25	A9I0922-15	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
26	A9I0922-16	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
27	A9I0922-17	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
"	"	Soil	8260C Halogenated VOCs	(QC Source)		9091435	A19G118	
28	9091435-DUP1	Soil	QC	QC		9091435	A19G118	
29	A9I0922-09	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9091435	A19G118	
"	"	Soil	8260C Halogenated VOCs	(QC Source)		9091435	A19G118	
30	9091435-MS1	Soil	QC	QC		9091435	A19G118	
31	9091435-MSD1	Soil	QC	QC		9091435	A19G118	
32	9I30038-IBL4	Soil	QC	QC			A19G118	

Data Entered By: 10/1/19

Data Reviewed By: 10/2/19

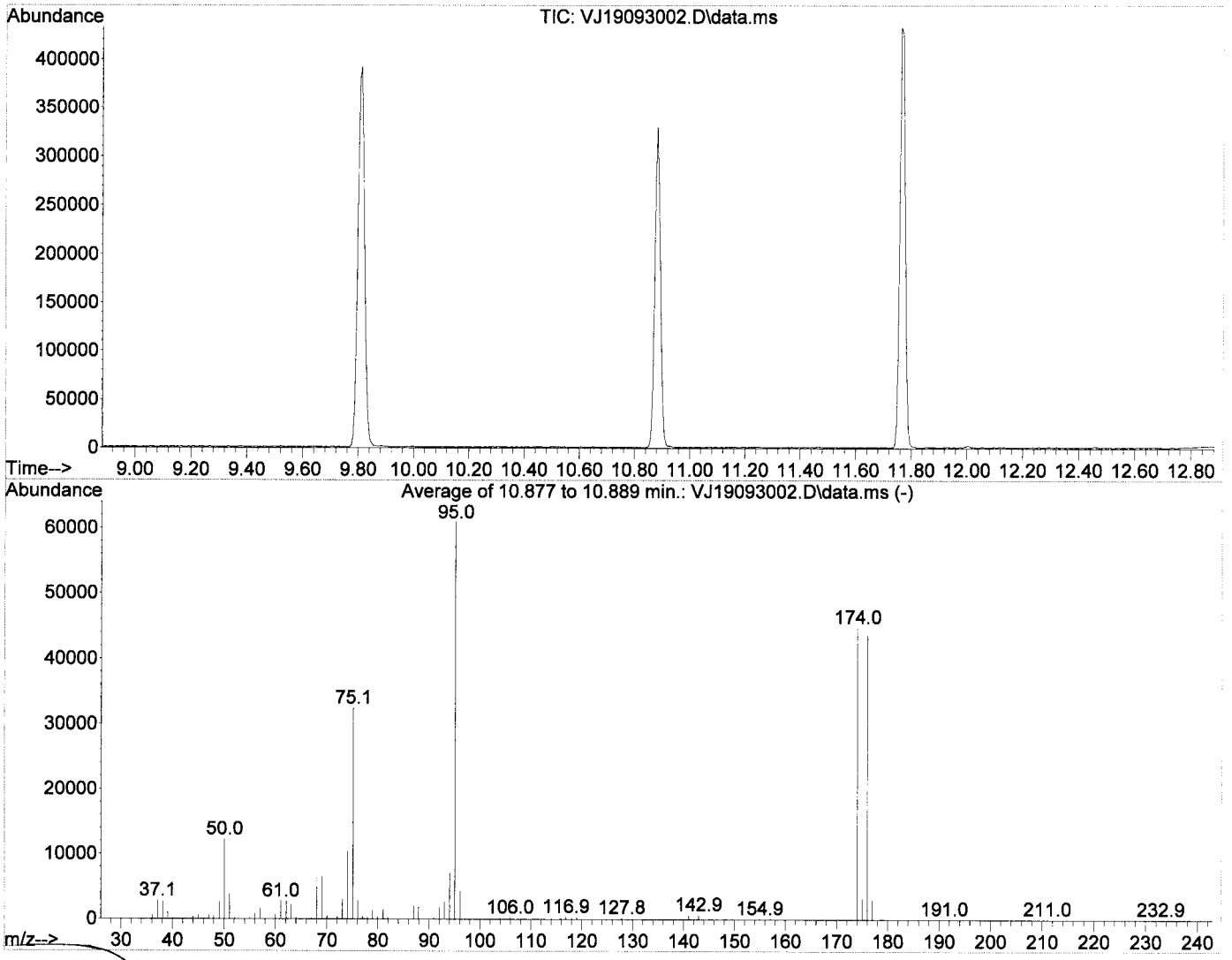
Comments: ↑ 12DCP to 1/2 ppb on col
↑ MDL = MRL for DCM (QSS)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093002.D
Acq On : 30 Sep 2019 3:13 pm
Operator : TB/IMA
Sample : 9I30038-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VJ190926S+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Fri Sep 27 13:24:27 2019

10/1/19



AutoFind: Scans 1528, 1529, 1530; Background Corrected with Scan 1521

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	136.1	61059	PASS
96	95	5	9	7.1	4326	PASS
173	174	0.00	2	0.2	95	PASS
174	95	50	200	73.5	44851	PASS
175	174	5	9	7.1	3182	PASS
176	174	95	105	97.7	43808	PASS
177	176	5	10	7.0	3053	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093002.D
Acq On : 30 Sep 2019 3:13 pm
Operator : TB/IMA
Sample : 9I30038-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 30 15:59:39 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

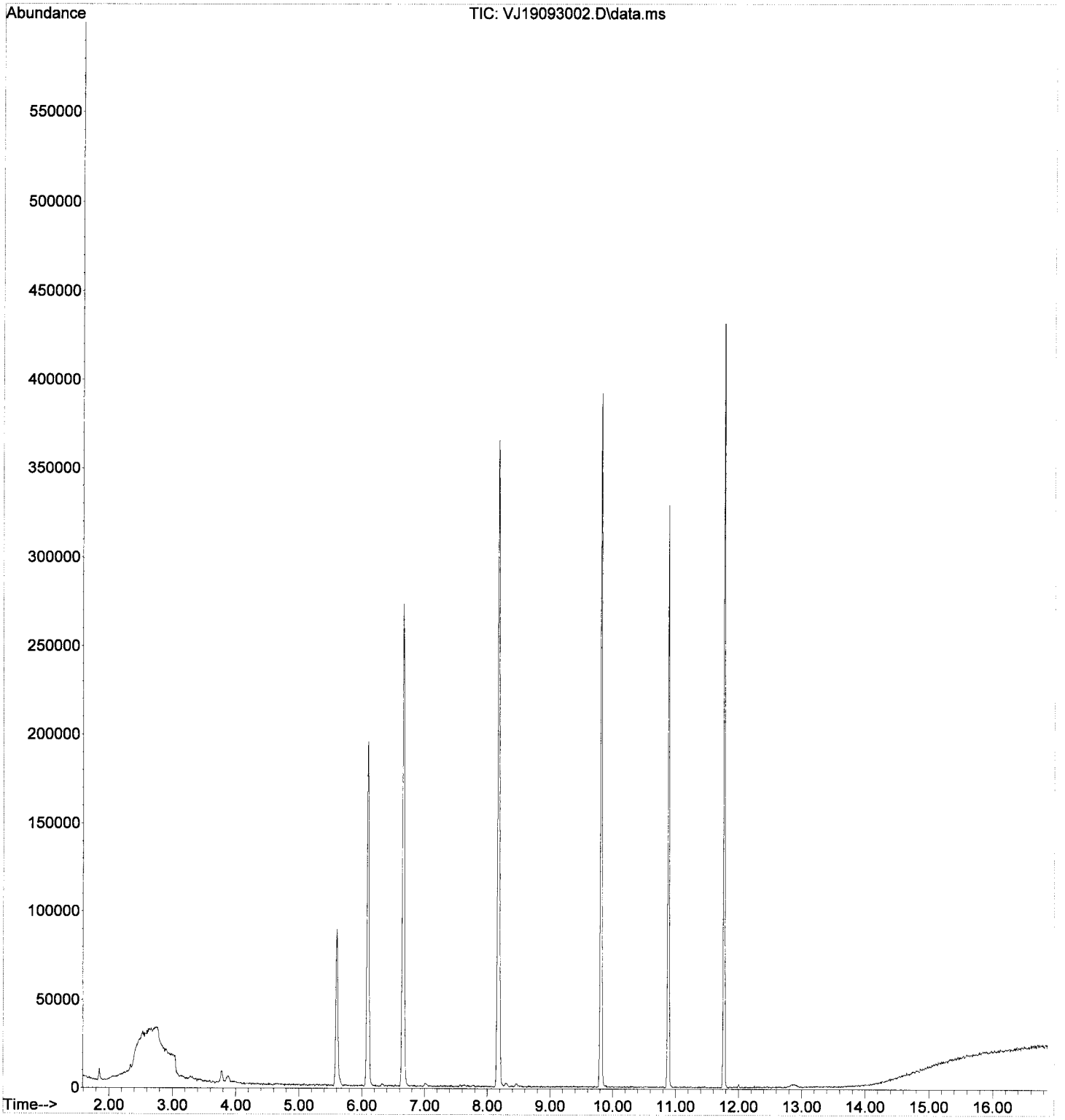
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	88630	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	208209	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	93884	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	63092	49.84	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	233376	49.30	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	287578	49.25	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	72855	50.23	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.891	50	343	0.15	ug/L	#	50
5) Bromomethane	2.336	96	2243	Below Cal			97
6) Chloroethane	2.475	64	266	0.99	ug/L	#	28
8) Ethanol	3.358	45	622	Below Cal		#	29
12) Iodomethane	3.285	142	380	Below Cal		#	47
13) Methylene Chloride	3.771	84	3447	Below Cal			96
14) Acetone	3.869	43	4490	1.09	ug/L		88
28) Tetrahydrofuran	5.584	42	178	0.10	ug/L	#	41
32) 2-Butanone (MEK)	5.742	43	879	0.38	ug/L		52
34) tert-Amyl methyl ether...	6.162	73	155	Below Cal		#	46
36) iso-Butyl Alcohol	6.320	43	428	1.56	ug/L	#	43

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093002.D
Acq On : 30 Sep 2019 3:13 pm
Operator : TB/IMA
Sample : 9I30038-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 30 15:59:39 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On : 30 Sep 2019 3:40 pm
Operator : TB/IMA
Sample : 9091435-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 01 10:39:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)	
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	105	0.00	
2		Dichlorodifluoromethane	20.000	18.698	6.5	93	0.00	
3	P	Chloromethane	20.000	16.142	19.3	87	0.00	
4	C	Vinyl Chloride	20.000	17.529	12.4	92	-0.01	
5		Bromomethane	20.000	20.018	-0.1	104	0.00	
6		Chloroethane	20.000	17.914	10.4	95	0.00	
7		Trichlorofluoromethane	20.000	18.644	6.8	98	0.00	
8		Ethanol	1250.000	899.471	28.0#	87	0.00	~~Q55~~ MR
9	C	1,1-Dichloroethene	20.000	17.980	10.1	94	0.00	
10		Carbon Disulfide	20.000	17.382	13.1	94	0.00	
11		Freon 113	20.000	18.721	6.4	95	0.00	
12		Iodomethane	20.000	11.511	42.4#	67	0.00	MR
13		Methylene Chloride	20.000	15.707	21.5#	85	0.00	Q55
14		Acetone	40.000	34.839	12.9	94	-0.01	
15		t-1,2-Dichloroethene	20.000	18.360	8.2	92	0.00	
16		n-Hexane	20.000	18.051	9.7	90	0.00	
17		Methyl-tert-butyl-ether	20.000	17.459	12.7	96	0.00	
18		tert-Butanol (TBA)	1250.000	1077.569	13.8	91	0.00	
19		Diisopropyl ether (DIPE)	5.000	4.249	15.0	96	0.00	
20	P	1,1-Dichloroethane	20.000	17.600	12.0	95	0.00	
21		Acrylonitrile	20.000	18.727	6.4	95	0.00	
22		Ethyl-tert-butyl ether (ETB	5.000	4.251	15.0	94	0.00	
23		c-1,2-Dichloroethene	20.000	18.044	9.8	96	0.00	
24		2,2-Dichloropropane	20.000	19.274	3.6	104	0.00	
25		Bromochloromethane	20.000	18.206	9.0	94	0.00	
26	C	Chloroform	20.000	18.354	8.2	97	0.00	
27		Carbon Tetrachloride	20.000	20.502	-2.5	107	0.00	
28		Tetrahydrofuran	20.000	16.631	16.8	91	0.00	
29		1,1,1-Trichloroethane	20.000	19.310	3.5	96	0.00	
30	S	Dibromofluoromethane (S)	50.000	48.937	2.1	103	0.00	
31		1,1-Dichloropropene	20.000	17.987	10.1	94	0.00	
32		2-Butanone (MEK)	40.000	32.287	19.3	93	0.00	
33		Benzene	20.000	16.995	15.0	91	0.00	
34		tert-Amyl methyl ether (TAM	5.000	4.044	19.1	91	0.00	
35		1,2-Dichloroethane (EDC)	20.000	19.017	4.9	97	0.00	
36		iso-Butyl Alcohol	500.000	414.804	17.0	86	-0.01	
37	S	1,4-Difluorobenzene (S)	50.000	48.085	3.8	102	0.00	
38		Trichloroethene (TCE)	20.000	19.069	4.7	94	0.00	
39		tert-Amyl ethyl ether (TAEE	5.000	4.207	15.9	94	0.00	
40		Dibromomethane	20.000	19.278	3.6	99	0.00	
41	C	1,2-Dichloropropane	20.000	17.755	11.2	92	0.00	
42		Bromodichloromethane	20.000	20.721	-3.6	106	0.00	
43		Chlorobenzene-d5 (I)	50.000	50.000	0.0	101	0.00	
44		c-1,3-Dichloropropene	20.000	20.469	-2.3	98	0.00	
45	S	Toluene-d8 (S)	50.000	50.486	-1.0	101	0.00	
46	C	Toluene	20.000	17.641	11.8	92	0.00	
47		Tetrachloroethene (PCE)	20.000	19.545	2.3	95	0.00	
48		4-Methyl-2-Pentanone (MIBK)	40.000	36.612	8.5	92	0.00	
49		t-1,3-Dichloropropene	20.000	20.592	-3.0	102	0.00	
50		1,1,2-Trichloroethane	20.000	19.485	2.6	96	0.00	

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On : 30 Sep 2019 3:40 pm
Operator : TB/IMA
Sample : 9091435-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 01 10:39:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)	
51		Dibromochloromethane	20.000	22.642	-13.2	115	0.00	
52		1,3-Dichloropropane	20.000	19.438	2.8	96	0.00	
53		1,2-Dibromoethane (EDB)	20.000	20.169	-0.8	98	0.00	
54		2-Hexanone	40.000	34.976	12.6	91	0.00	
55	P	Chlorobenzene	20.000	18.905	5.5	91	0.00	
56	C	Ethylbenzene	20.000	18.313	8.4	92	0.00	
57		1,1,1,2-Tetrachloroethane	20.000	21.609	-8.0	104	0.00	
58		m,p-Xylenes (2)	40.000	36.770	8.1	92	0.00	
59		o-Xylene	20.000	18.143	9.3	92	0.00	
60		Styrene	20.000	17.975	10.1	89	0.00	
61	P	Bromoform	20.000	24.667	-23.3#	128	0.00	- Q56
62		Isopropylbenzene	20.000	18.389	8.1	91	0.00	
63	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	102	0.00	
64	S	4-Bromofluorobenzene (S)	50.000	49.481	1.0	101	0.00	
65		Bromobenzene	20.000	19.223	3.9	93	0.00	
66		n-Propylbenzene	20.000	17.944	10.3	92	0.00	
67	P	1,1,2,2-Tetrachloroethane	20.000	18.860	5.7	94	0.00	
68		2-Chlorotoluene	20.000	18.968	5.2	92	0.00	
69		1,3,5-Trimethylbenzene	20.000	18.445	7.8	94	0.00	
70		1,2,3-Trichloropropane	20.000	18.880	5.6	94	0.00	
71		t-1,4-Dichloro-2-butene	20.000	20.658	-3.3	109	0.00	
72		4-Chlorotoluene	20.000	18.091	9.5	94	0.00	
73		tert-Butylbenzene	20.000	17.786	11.1	92	0.00	
74		1,2,4-Trimethylbenzene	20.000	18.584	7.1	94	0.00	
75		sec-Butylbenzene	20.000	18.327	8.4	92	0.00	
76		4-Isopropyltoluene	20.000	18.412	7.9	92	0.00	
77		1,3-Dichlorobenzene	20.000	18.129	9.4	93	0.00	
78		1,4-Dichlorobenzene	20.000	18.851	5.7	95	0.00	
79		n-Butylbenzene	20.000	18.131	9.3	94	0.00	
80		1,2-Dichlorobenzene	20.000	18.381	8.1	92	0.00	
81		1,2-Dibromo-3-Chloropropane	20.000	18.750	6.3	100	0.00	
82		Hexachlorobutadiene	20.000	19.541	2.3	97	0.00	
83		1,2,4-Trichlorobenzene	20.000	18.739	6.3	92	0.00	
84		Naphthalene	20.000	18.648	6.8	91	0.00	
85		1,2,3-Trichlorobenzene	20.000	18.743	6.3	94	0.00	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On : 30 Sep 2019 3:40 pm
Operator : TB/IMA
Sample : 9091435-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 30 15:59:51 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	88775	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	196509	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	92181	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	62052	48.94	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	228007	48.08	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	278204	50.49	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	70467	49.48	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	30448	18.70	ug/L		98
3) Chloromethane	1.898	50	38102	16.14	ug/L		97
4) Vinyl Chloride	1.995	62	31408	17.53	ug/L		97
5) Bromomethane	2.342	96	15648	20.02	ug/L		98
6) Chloroethane	2.463	64	4771	17.91	ug/L		78
7) Trichlorofluoromethane	2.597	101	14876	18.64	ug/L		94
8) Ethanol	3.315	45	72079	899.47	ug/L		88
9) 1,1-Dichloroethene	3.139	61	46629	17.98	ug/L		82
10) Carbon Disulfide	3.151	76	64293	17.38	ug/L		98
11) Freon 113	3.193	101	26040	18.72	ug/L		91
12) Iodomethane	3.291	142	7070	11.51	ug/L		82
13) Methylene Chloride	3.777	84	28261	15.71	ug/L		88
14) Acetone	3.869	43	~~39454~~	~~27.17~~	~~ug/L~~		~~86~~ MI Same as curve
15) t-1,2-Dichloroethene	3.948	61	47406	18.36	ug/L		95
16) n-Hexane	4.039	86	7413	18.05	ug/L	#	84
17) Methyl-tert-butyl-ether	4.112	73	136354	17.46	ug/L		80
18) tert-Butanol (TBA)	4.270	59	812368	1077.57	ug/L	#	87
19) Diisopropyl ether (DIPE)	4.507	45	31696	4.25	ug/L		92
20) 1,1-Dichloroethane	4.580	63	51205	17.60	ug/L		99
21) Acrylonitrile	4.641	53	~~20177~~	~~15.74~~	~~ug/L~~		~~93~~ MI Same as curve
22) Ethyl-tert-butyl ether...	4.879	59	32713	4.25	ug/L		96
23) c-1,2-Dichloroethene	5.134	61	51550	18.04	ug/L		92
24) 2,2-Dichloropropane	5.244	77	62982	19.27	ug/L		98
25) Bromochloromethane	5.329	49	29748	18.21	ug/L		82
26) Chloroform	5.420	83	63922	18.35	ug/L		93
27) Carbon Tetrachloride	5.560	117	48995	20.50	ug/L		93
28) Tetrahydrofuran	5.590	42	28412	16.63	ug/L		97
29) 1,1,1-Trichloroethane	5.627	97	61988	19.31	ug/L		98
31) 1,1-Dichloropropene	5.755	75	53324	17.99	ug/L		93
32) 2-Butanone (MEK)	5.742	43	74880	32.29	ug/L		95
33) Benzene	6.010	78	147042	17.00	ug/L		98
34) tert-Amyl methyl ether...	6.156	73	29830	4.04	ug/L		98
35) 1,2-Dichloroethane (EDC)	6.211	62	62872	19.02	ug/L		96
36) iso-Butyl Alcohol	6.302	43	113830	414.80	ug/L		95
38) Trichloroethene (TCE)	6.625	130	35734	19.07	ug/L		88
39) tert-Amyl ethyl ether ...	6.910	59	23924	4.21	ug/L		87
40) Dibromomethane	7.069	93	23445	19.28	ug/L		85
41) 1,2-Dichloropropane	7.178	63	38182	17.76	ug/L		86
42) Bromodichloromethane	7.251	83	45813	20.72	ug/L		95
44) c-1,3-Dichloropropene	7.957	75	60582	20.47	ug/L		92
46) Toluene	8.237	91	152715	17.64	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	34577	19.54	ug/L		85
48) 4-Methyl-2-Pentanone (...	8.675	43	127132	36.61	ug/L		98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On : 30 Sep 2019 3:40 pm
Operator : TB/IMA
Sample : 9091435-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 30 15:59:51 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

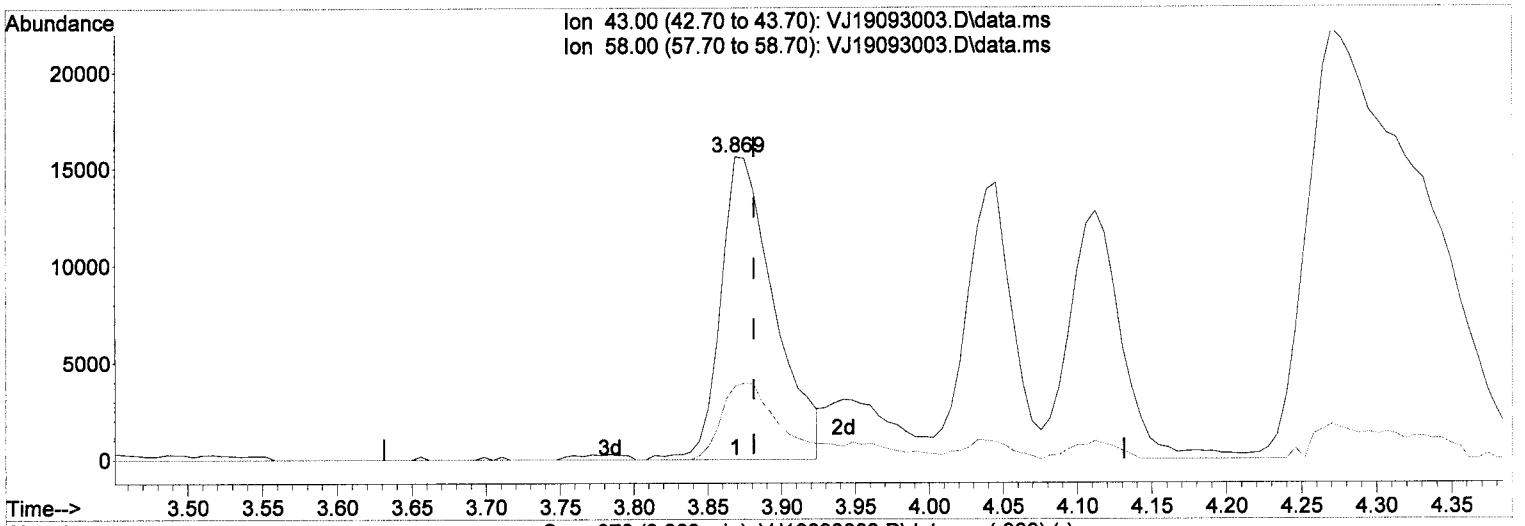
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	61150	20.59	ug/L		96
50) 1,1,2-Trichloroethane	8.882	97	32719	19.48	ug/L		93
51) Dibromochloromethane	9.070	129	28688	22.64	ug/L		98
52) 1,3-Dichloropropane	9.167	76	63510	19.44	ug/L		94
53) 1,2-Dibromoethane (EDB)	9.307	107	36758	20.17	ug/L		97
54) 2-Hexanone	9.551	43	96932	34.98	ug/L		97
55) Chlorobenzene	9.824	112	89925	18.91	ug/L		93
56) Ethylbenzene	9.861	91	169763	18.31	ug/L		96
57) 1,1,1,2-Tetrachloroethane	9.891	131	33106	21.61	ug/L		97
58) m,p-Xylenes (2)	10.001	91	255954	36.77	ug/L		95
59) o-Xylene	10.384	91	129564	18.14	ug/L		93
60) Styrene	10.427	104	88875	17.97	ug/L		94
61) Bromoform	10.445	173	18699	24.67	ug/L		94
62) Isopropylbenzene	10.658	105	155159	18.39	ug/L		96
65) Bromobenzene	10.968	156	34452	19.22	ug/L	#	79
66) n-Propylbenzene	10.999	91	177258	17.94	ug/L		94
67) 1,1,2,2-Tetrachloroethane	11.053	83	45494	18.86	ug/L		97
68) 2-Chlorotoluene	11.120	126	32591	18.97	ug/L	#	80
69) 1,3,5-Trimethylbenzene	11.163	105	123665	18.44	ug/L		92
70) 1,2,3-Trichloropropane	11.157	110	17918	18.88	ug/L		92
71) t-1,4-Dichloro-2-butene	11.193	88	8917	20.66	ug/L	#	81
72) 4-Chlorotoluene	11.254	91	109739	18.09	ug/L		90
73) tert-Butylbenzene	11.412	91	74642	17.79	ug/L		86
74) 1,2,4-Trimethylbenzene	11.467	105	125718	18.58	ug/L		95
75) sec-Butylbenzene	11.552	105	147609	18.33	ug/L		96
76) 4-Isopropyltoluene	11.662	119	123281	18.41	ug/L		96
77) 1,3-Dichlorobenzene	11.710	146	61880	18.13	ug/L		95
78) 1,4-Dichlorobenzene	11.783	146	63253	18.85	ug/L		95
79) n-Butylbenzene	11.978	91	110599	18.13	ug/L		96
80) 1,2-Dichlorobenzene	12.094	146	58094	18.38	ug/L		95
81) 1,2-Dibromo-3-Chloropr...	12.702	157	11531	18.75	ug/L	#	57
82) Hexachlorobutadiene	13.225	223	9144	19.54	ug/L		93
83) 1,2,4-Trichlorobenzene	13.243	180	38807	18.74	ug/L		95
84) Naphthalene	13.517	128	149320	18.65	ug/L		96
85) 1,2,3-Trichlorobenzene	13.681	180	38063	18.74	ug/L		95

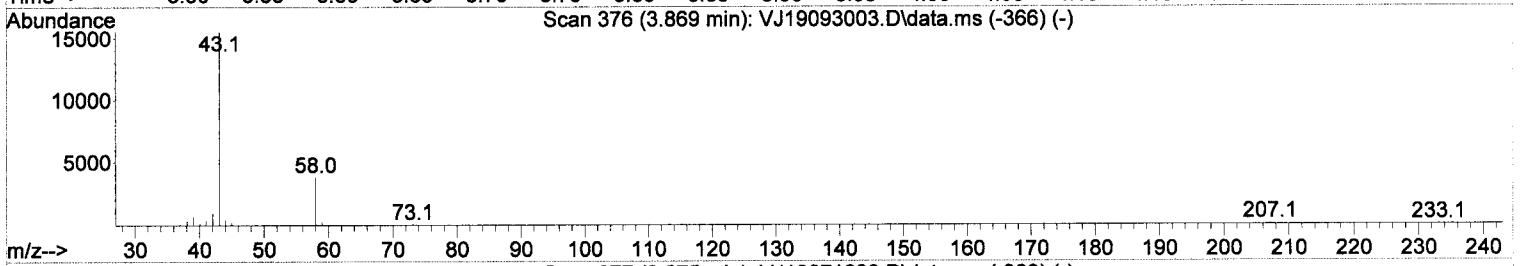
(#) = qualifier out of range (m) = manual integration (+) = signals summed

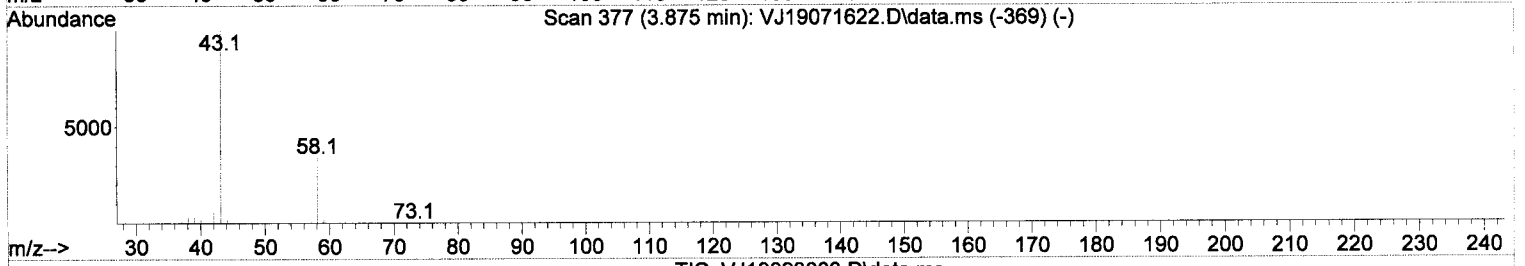
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On : 30 Sep 2019 3:40 pm
Operator : TB/IMA
Sample : 9091435-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 01 10:38:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093003.D\data.ms

(14) Acetone

3.869min (-0.012) 27.17 ug/L

response 39454

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	24.55
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On    : 30 Sep 2019   3:40 pm
Operator  : TB/IMA
Sample    : 9091435-BS1
Misc      : 50X  5g/5mLx1000uL/50mL  VOC+MeOH A19I354
ALS Vial  : 3   Sample Multiplier: 1

Quant Time: Oct 01 10:38:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title  : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration
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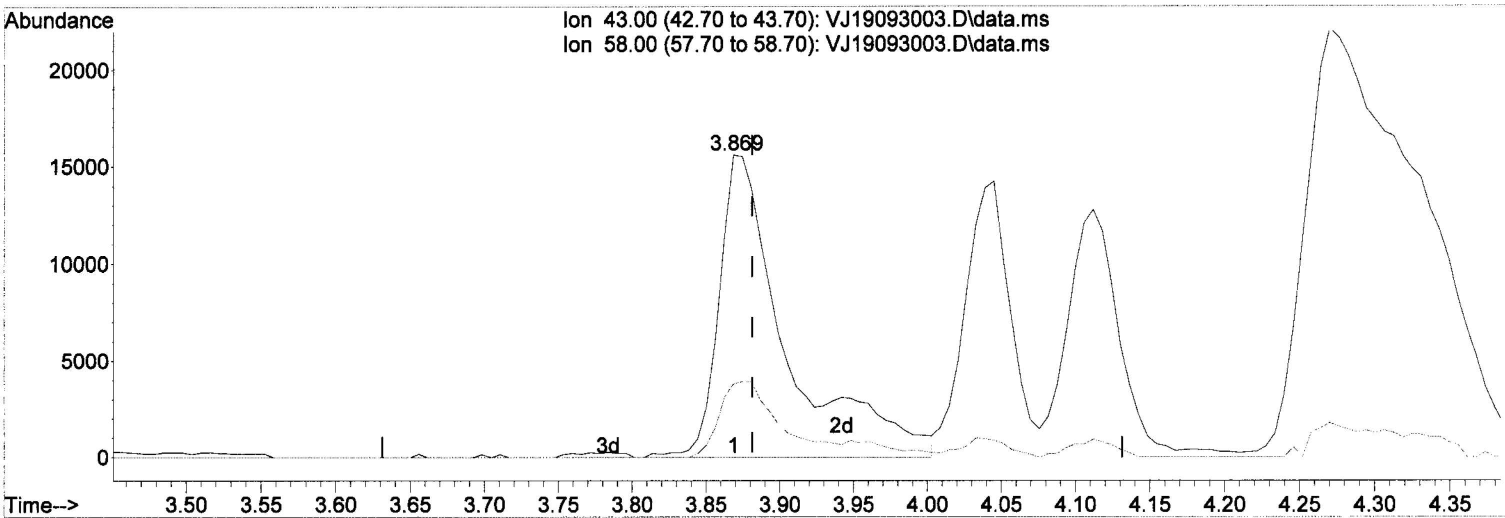
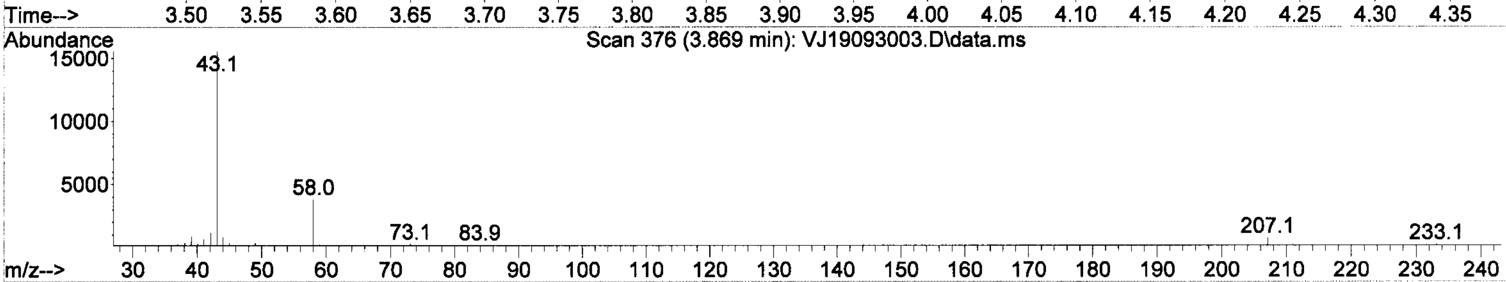
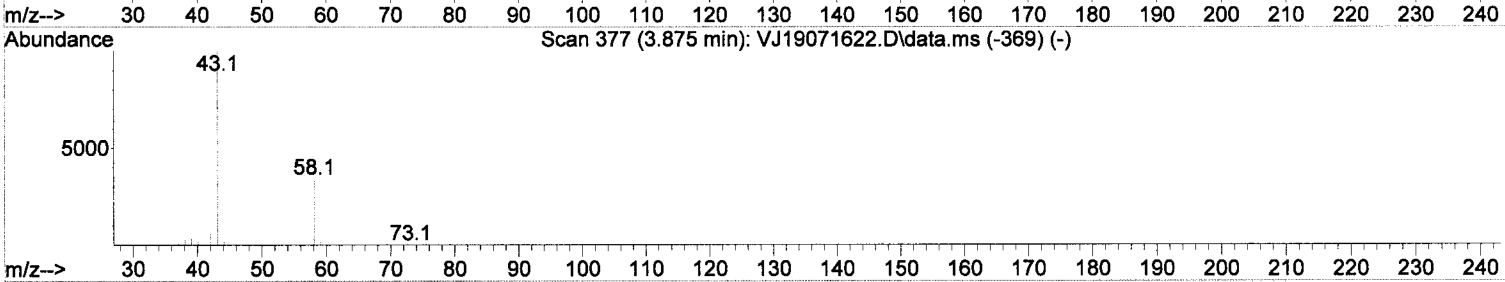






TIC: VJ19093003.D\data.ms

(14) Acetone

3.869min (-0.012) 34.84 ug/L m

response 49730

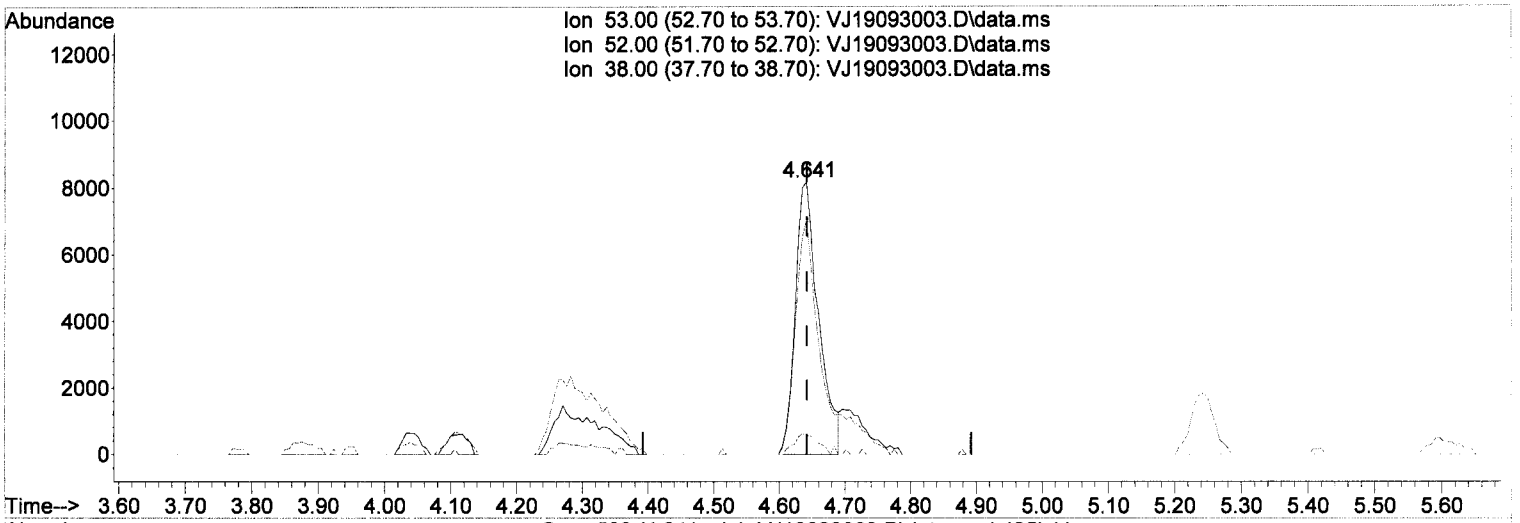
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	24.55
0.00	0.00	0.00
0.00	0.00	0.00

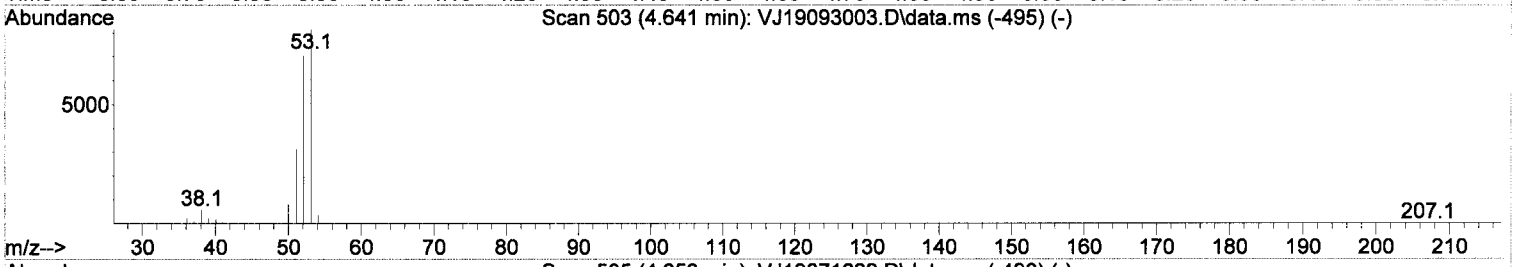
10/1/19

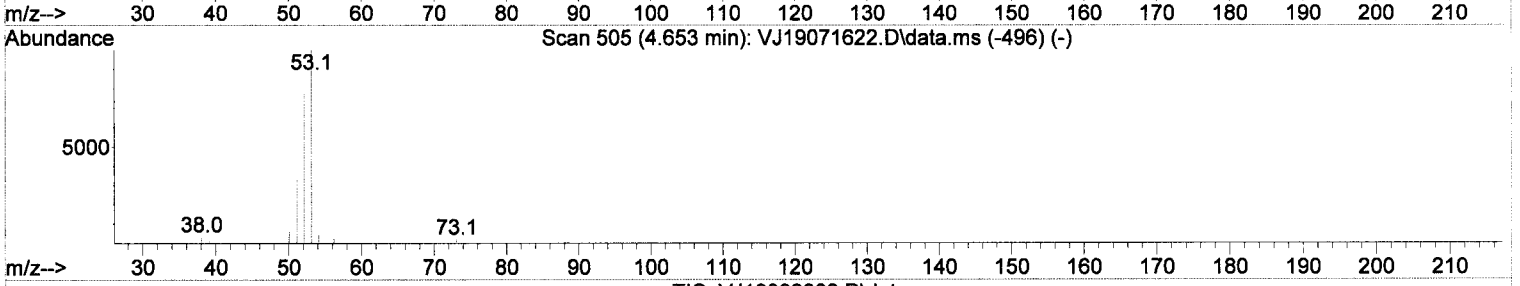
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On : 30 Sep 2019 3:40 pm
Operator : TB/IMA
Sample : 9091435-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 01 10:38:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093003.D\data.ms

(21) Acrylonitrile

4.641min (-0.000) 15.74 ug/L

response 20177

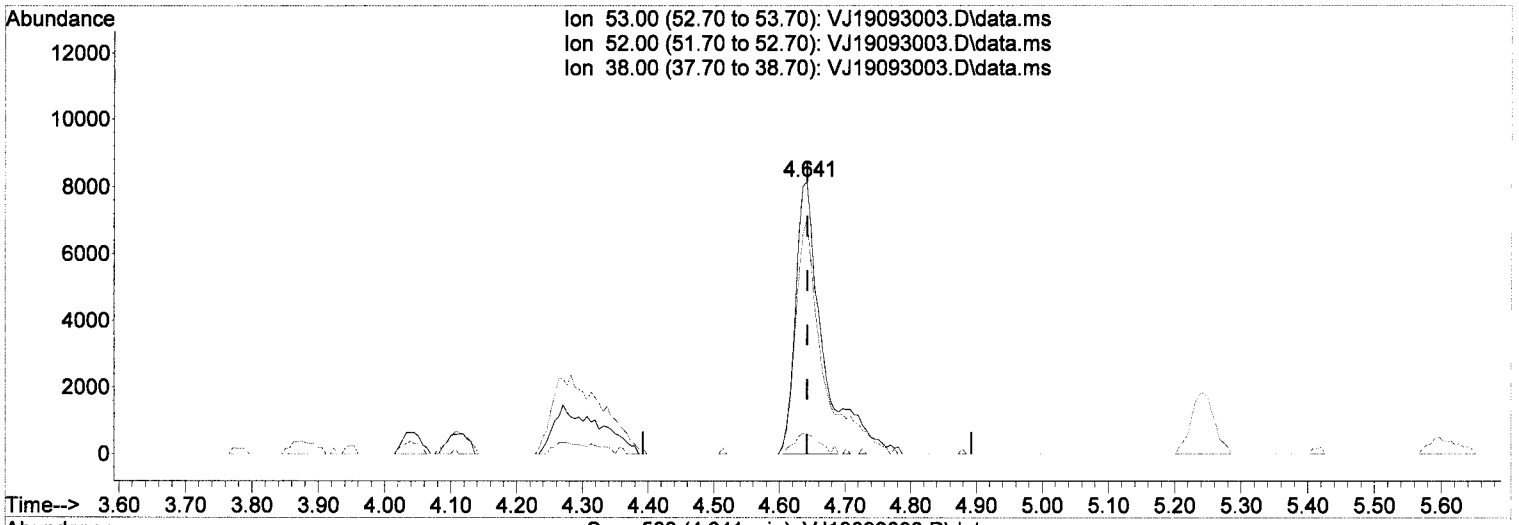
Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	86.07
38.00	5.50	6.90
0.00	0.00	0.00

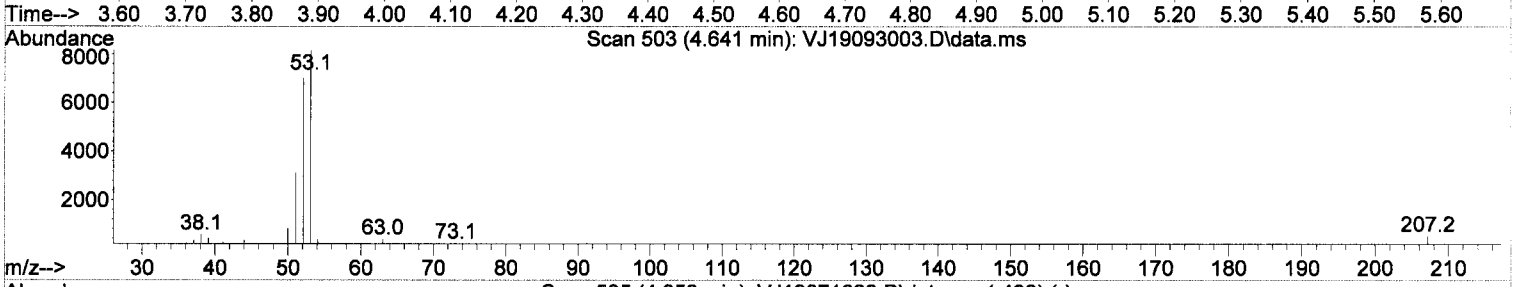
MI

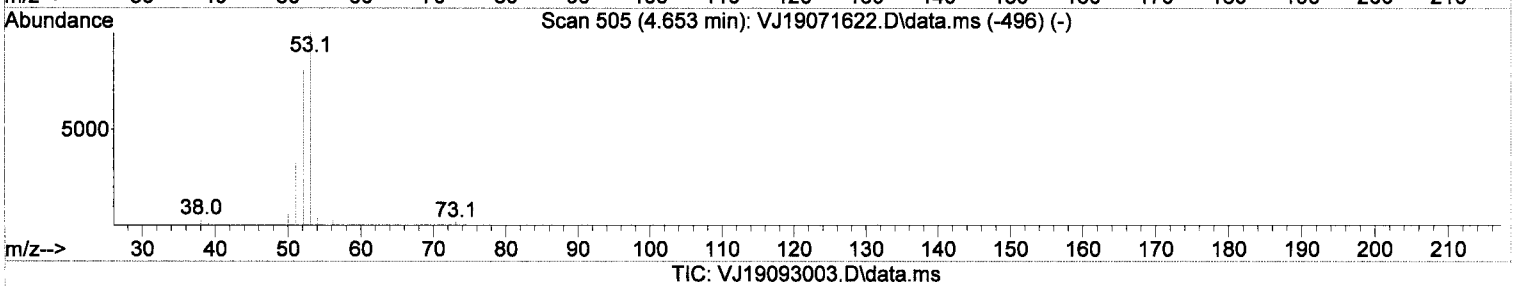
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On : 30 Sep 2019 3:40 pm
Operator : TB/IMA
Sample : 9091435-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 01 10:38:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093003.D\data.ms

(21) Acrylonitrile

4.641min (-0.000) 18.73 ug/L (m)

10/1/19

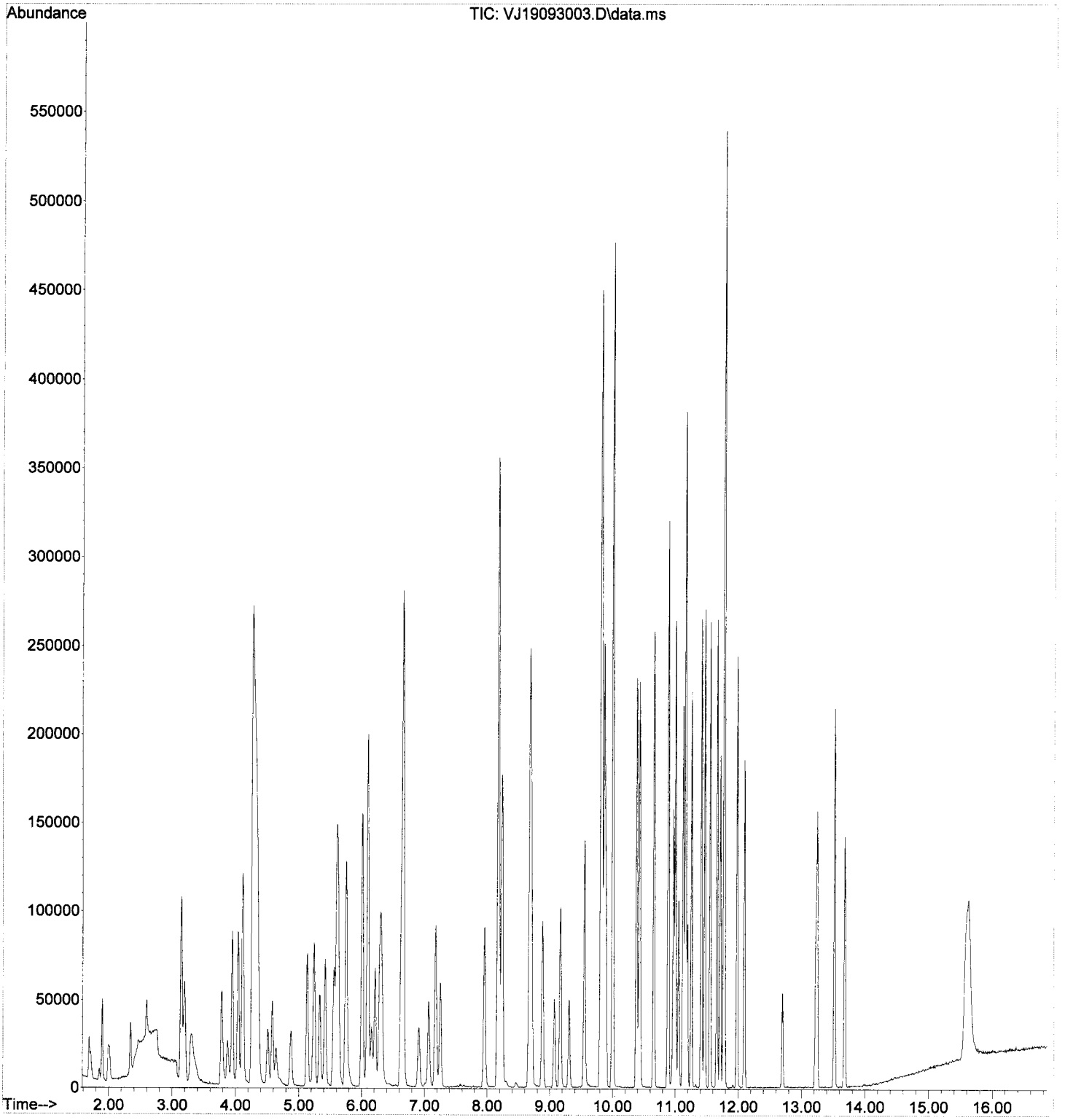
response 24000

Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	86.07
38.00	5.50	6.90
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093003.D
Acq On : 30 Sep 2019 3:40 pm
Operator : TB/IMA
Sample : 9091435-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 30 15:59:51 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093004.D
Acq On : 30 Sep 2019 4:07 pm
Operator : TB/IMA
Sample : 9091435-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 01 10:41:47 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

10/1/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	113	-0.01
2	S	1,4-Difluorobenzene (Sur)	50.000	49.635	0.7	111	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.603	0.8	112	0.00
4	H	NWTPH-Gx (TPH)	500.000	485.520	2.9	108	0.00
5	H	TPHg (C5-C9)	500.000	508.413	-1.7	105	0.00
6	H	TPHg (C6-C10)	500.000	493.992	1.2	109	0.00
7	H	CA-LUFT (C5-C12)	500.000	505.164	-1.0	106	0.00
8		Benzene (NR)	-1.000	0.000	0.0	107	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	110	-0.01
10		Toluene (NR)	-1.000	0.000	0.0	107	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	113	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	110	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	107	-0.01

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093004.D
Acq On : 30 Sep 2019 4:07 pm
Operator : TB/IMA
Sample : 9091435-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 01 10:41:47 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

10/1/19

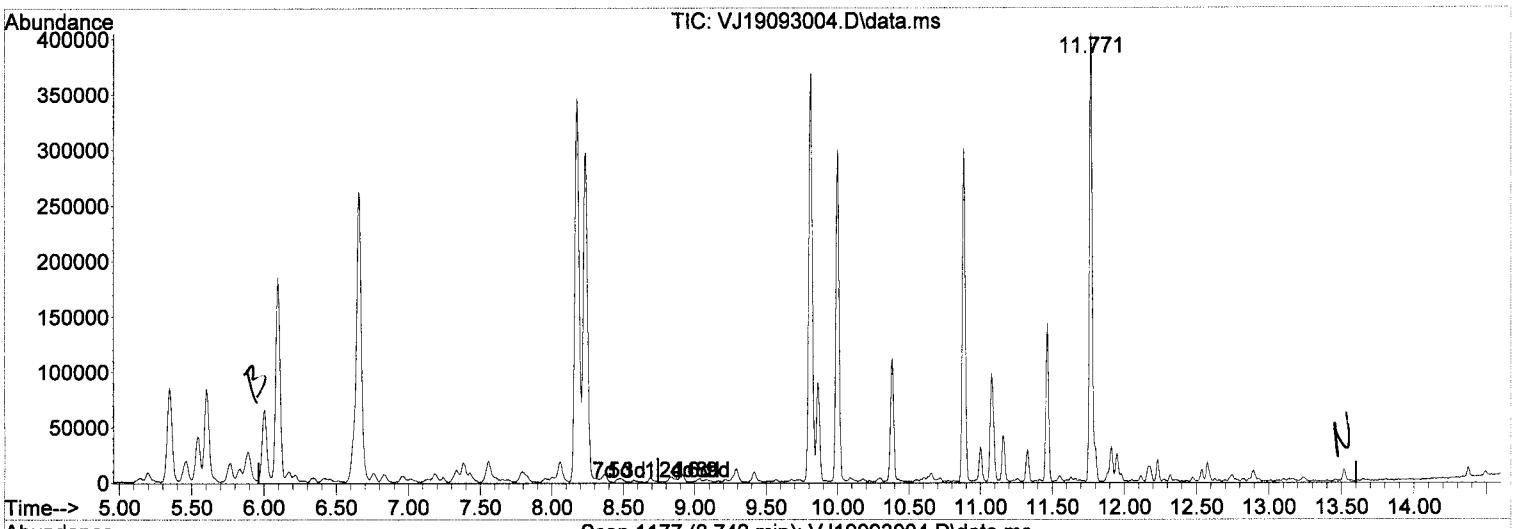
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	123768	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	217582	49.64	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	66841	49.60	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	265172	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	192120	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	134523	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	3015080m	485.52	ug/L	
5) TPHg (C5-C9)	9.239	TIC	4075472m	508.41	ug/L	
6) TPHg (C6-C10)	9.239	TIC	3380707m	493.99	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	4862142m	505.16	ug/L	

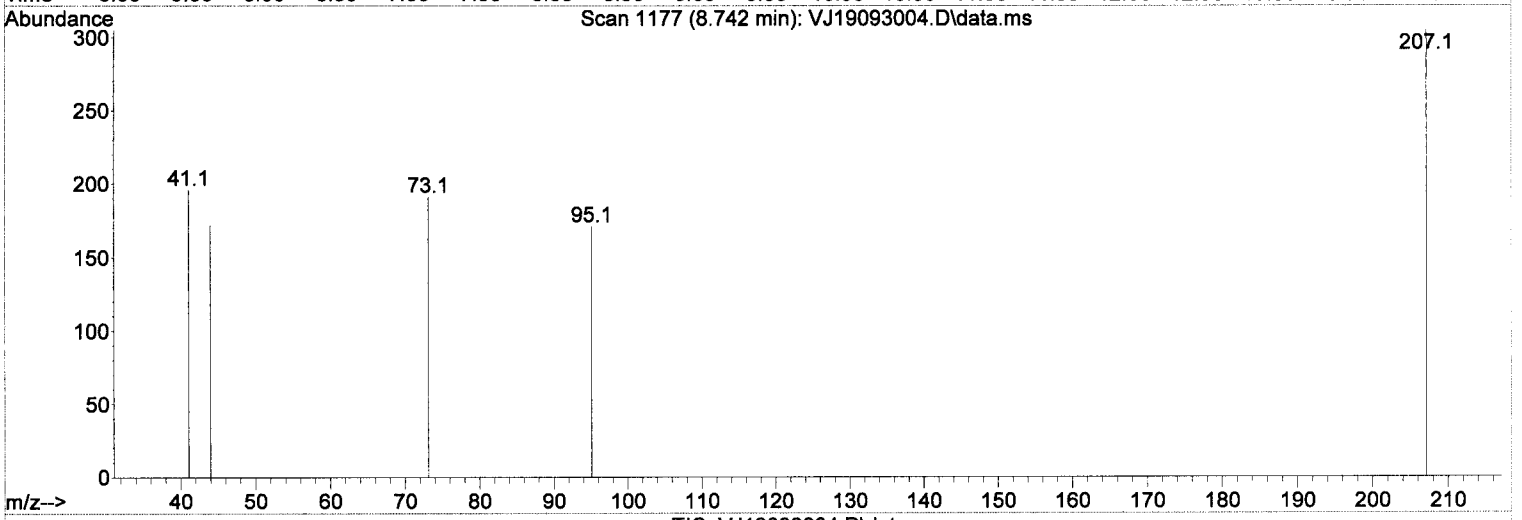
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093004.D
Acq On : 30 Sep 2019 4:07 pm
Operator : TB/IMA
Sample : 9091435-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 01 10:41:47 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration





TIC: VJ19093004.D\data.ms

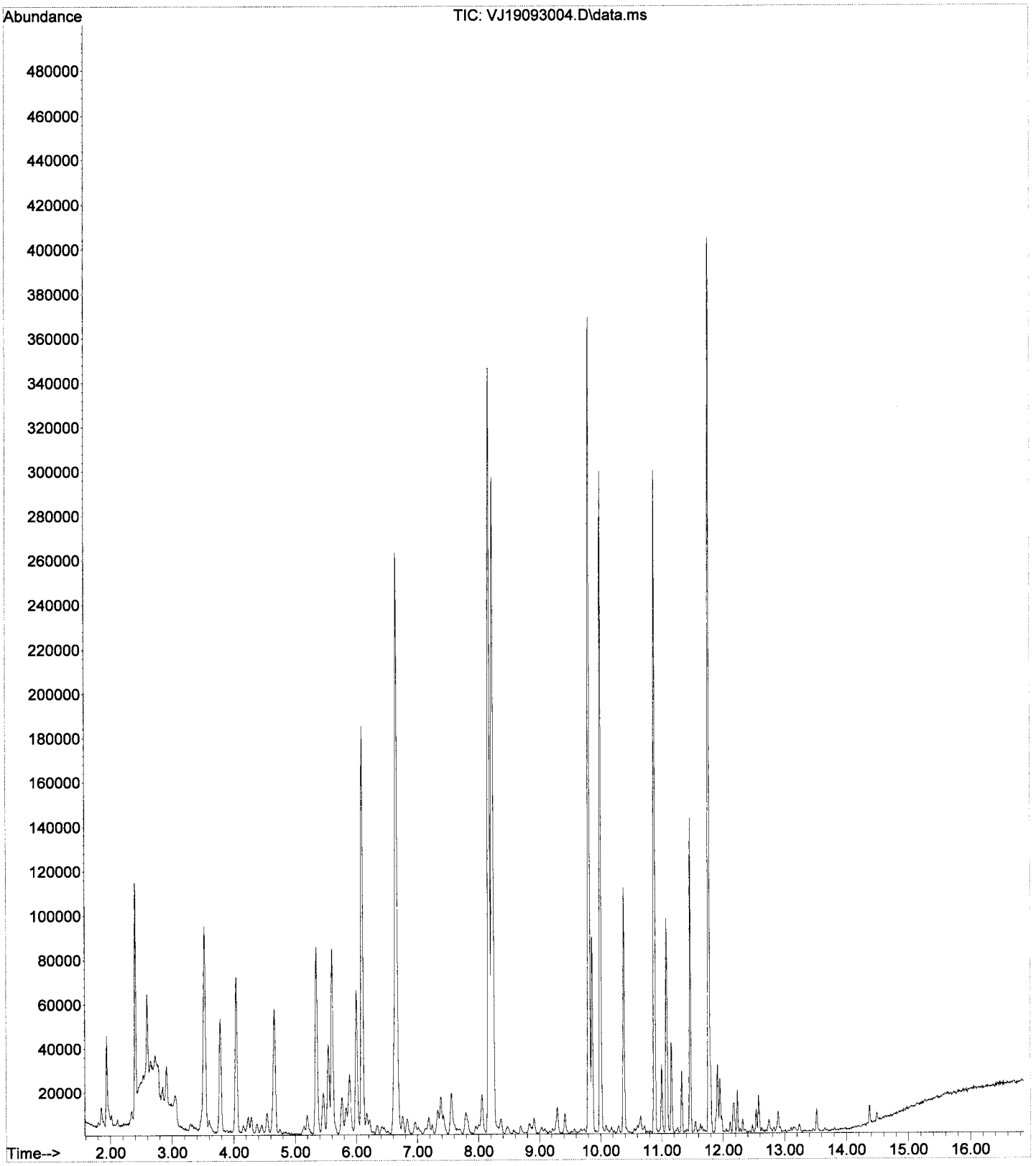
(4) NWTPH-Gx (TPH) (H)

8.739min (0.000) 485.52 ug/L m

response 3015080

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

File :C:\msdchem\1\data\2019-09\9I30038\VJ19093004.D
Operator : TB/IMA
Acquired : 30 Sep 2019 4:07 pm using AcqMethod VJ1907RUN.M
Instrument : VOA-GCMS10
Sample Name: 9091435-BS2
Misc Info : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
Vial Number: 4



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093005.D
Acq On : 30 Sep 2019 4:34 pm
Operator : TB/IMA
Sample : 9091435-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 01 10:43:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	118951	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	210378	49.94	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	65770	50.78	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	260695	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	185510	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	130037	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	80656m	10.87	ug/L	< MDL
5) TPHg (C5-C9)	9.239	TIC	270564m	3.27	ug/L	
6) TPHg (C6-C10)	9.239	TIC	244830m	8.31	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	290934m	4.73	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093005.D
Acq On : 30 Sep 2019 4:34 pm
Operator : TB/IMA
Sample : 9091435-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 01 10:44:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	83209	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	185510	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	82656	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	56304	47.37	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	210061	47.26	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	260695	50.11	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	65770	51.50	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.892	50	573	0.26	ug/L	#	50
5) Bromomethane	2.342	96	2385	0.42	ug/L		96
6) Chloroethane	2.463	64	123	0.45	ug/L	#	47
8) Ethanol	3.315	45	3175	5.30	ug/L		90
12) Iodomethane	3.291	142	1141	1.31	ug/L		73
13) Methylene Chloride	3.777	84	1063	Below Cal			92
14) Acetone	3.875	43	1710	Below Cal		#	42
32) 2-Butanone (MEK)	5.749	43	765	0.35	ug/L		52
34) tert-Amyl methyl ether...	6.138	73	82	Below Cal		#	46
36) iso-Butyl Alcohol	6.327	43	531	2.06	ug/L		85
58) m,p-Xylenes (2)	9.995	91	747	0.11	ug/L		91

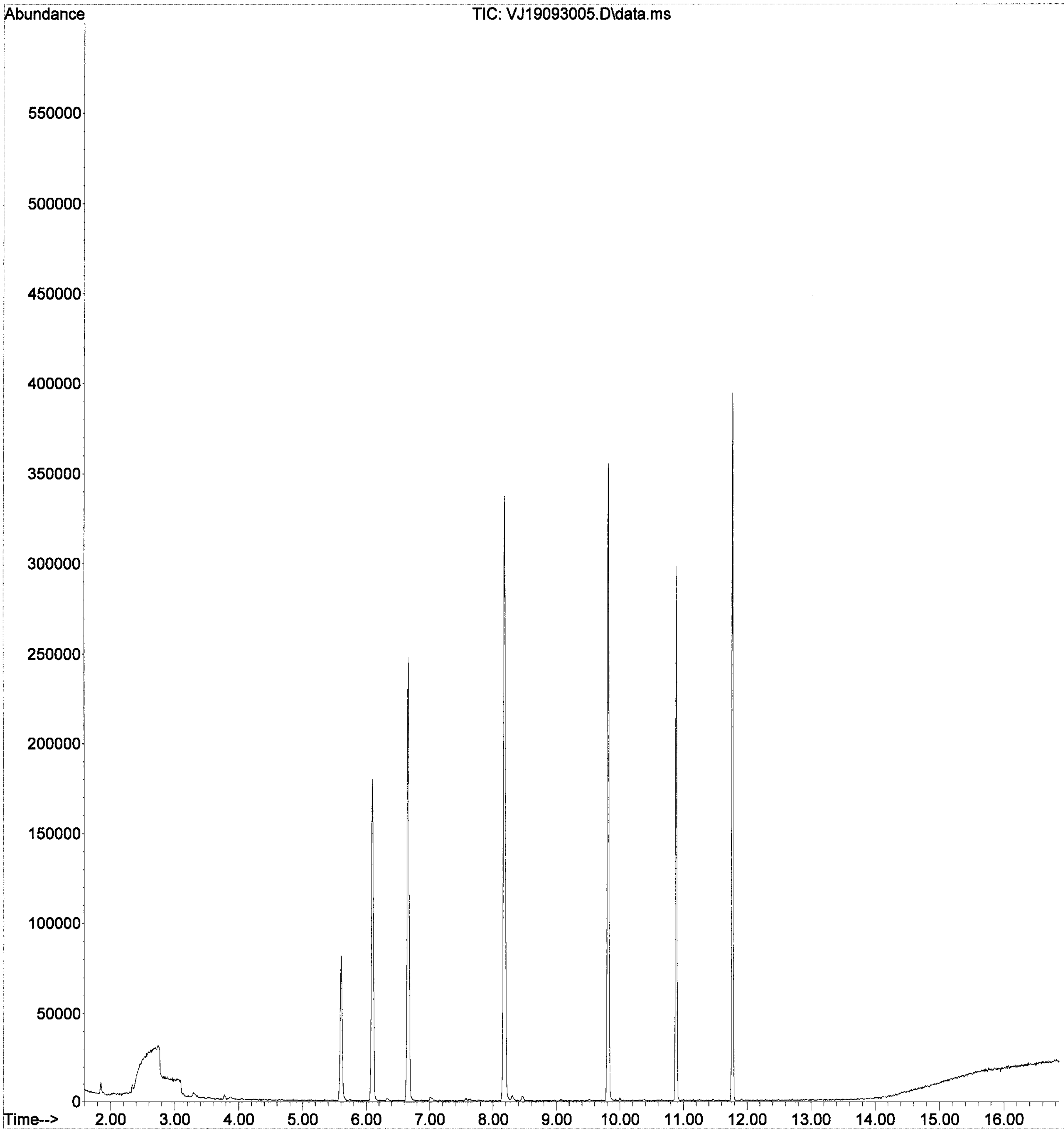
CMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093005.D
Acq On : 30 Sep 2019 4:34 pm
Operator : TB/IMA
Sample : 9091435-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 01 10:44:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



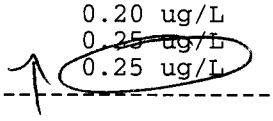
Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093011.D
Acq On : 30 Sep 2019 7:14 pm
Operator : TB/IMA
Sample : A9I0922-01
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 11 Sample Multiplier: 1

10/1/19

Quant Time: Oct 01 10:44:20 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	95694	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	240499	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	106802	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	76330	55.85	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	277395	54.27	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	335327	49.72	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	83965	50.89	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.898	50	529	0.21	ug/L		74
5) Bromomethane	2.348	96	2862	0.59	ug/L		89
6) Chloroethane	2.451	64	117	0.36	ug/L	#	1
8) Ethanol	3.297	45	125	Below Cal		#	29
12) Iodomethane	3.297	142	924	0.66	ug/L		68
13) Methylene Chloride	3.790	84	1920	Below Cal			94
14) Acetone	3.881	43	2514	Below Cal			92
18) tert-Butanol (TBA)	4.252	59	115	0.14	ug/L	#	46
34) tert-Amyl methyl ether...	6.138	73	368	Below Cal		#	46
56) Ethylbenzene	9.867	91	2260	0.20	ug/L		90
58) m,p-Xylenes (2)	10.001	91	2144	0.25	ug/L		85
59) o-Xylene	10.384	91	2227	0.25	ug/L		94

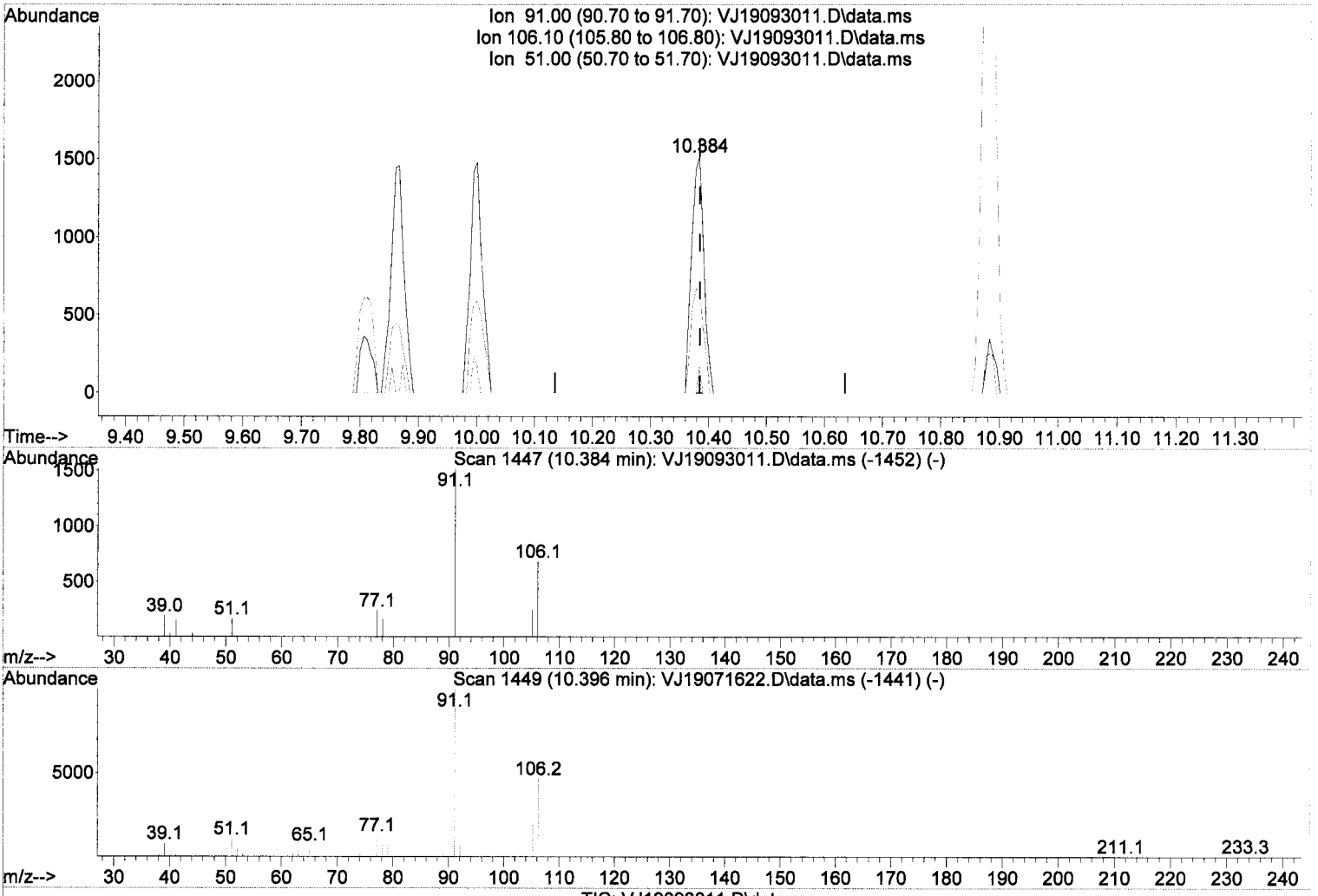


(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093011.D
Acq On : 30 Sep 2019 7:14 pm
Operator : TB/IMA
Sample : A9I0922-01
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 01 10:44:20 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



TIC: VJ19093011.D\data.ms

(59) o-Xylene

10.384min (-0.000) 0.25 ug/L

response 2227

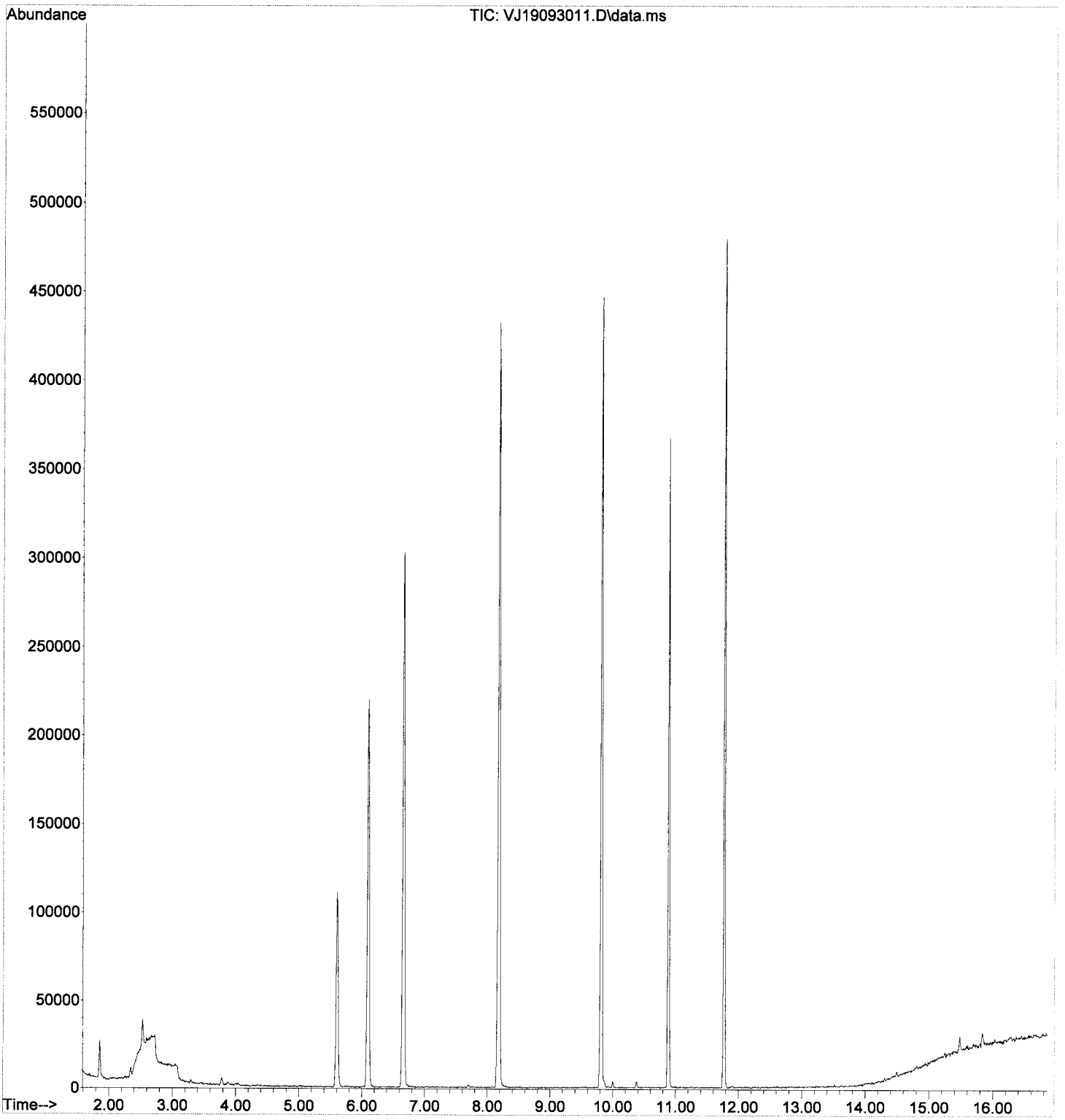
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	44.99
51.00	9.70	11.08
0.00	0.00	0.00

TMDL = MRL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093011.D
Acq On : 30 Sep 2019 7:14 pm
Operator : TB/IMA
Sample : A9I0922-01
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 01 10:44:20 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093012.D
Acq On : 30 Sep 2019 7:41 pm
Operator : TB/IMA
Sample : A9I0922-02
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 01 10:44:23 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.095	99	97797	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	243346	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	108063	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.602	111	80982	57.97 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	279669	53.54 ug/L		0.00
45) Toluene-d8 (S)	8.176	98	336370	49.29 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	85193	51.03 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.898	50	378	0.15 ug/L	# NR	50
5) Bromomethane	2.348	96	2174	Below Cal		86
6) Chloroethane	2.451	64	61	0.15 ug/L	#	1
8) Ethanol	3.279	45	61	Below Cal	#	29
12) Iodomethane	3.291	142	693	0.24 ug/L	#	47
13) Methylene Chloride	3.790	84	1805	Below Cal		93
14) Acetone	3.875	43	2072	Below Cal		97
18) tert-Butanol (TBA)	4.270	59	186	0.22 ug/L	#	46
34) tert-Amyl methyl ether...	6.150	73	224	Below Cal	#	46
56) Ethylbenzene	9.861	91	2068	0.18 ug/L		87
58) m,p-Xylenes (2)	10.001	91	1968	0.23 ug/L		89
59) o-Xylene	10.384	91	1940	0.22 ug/L		92

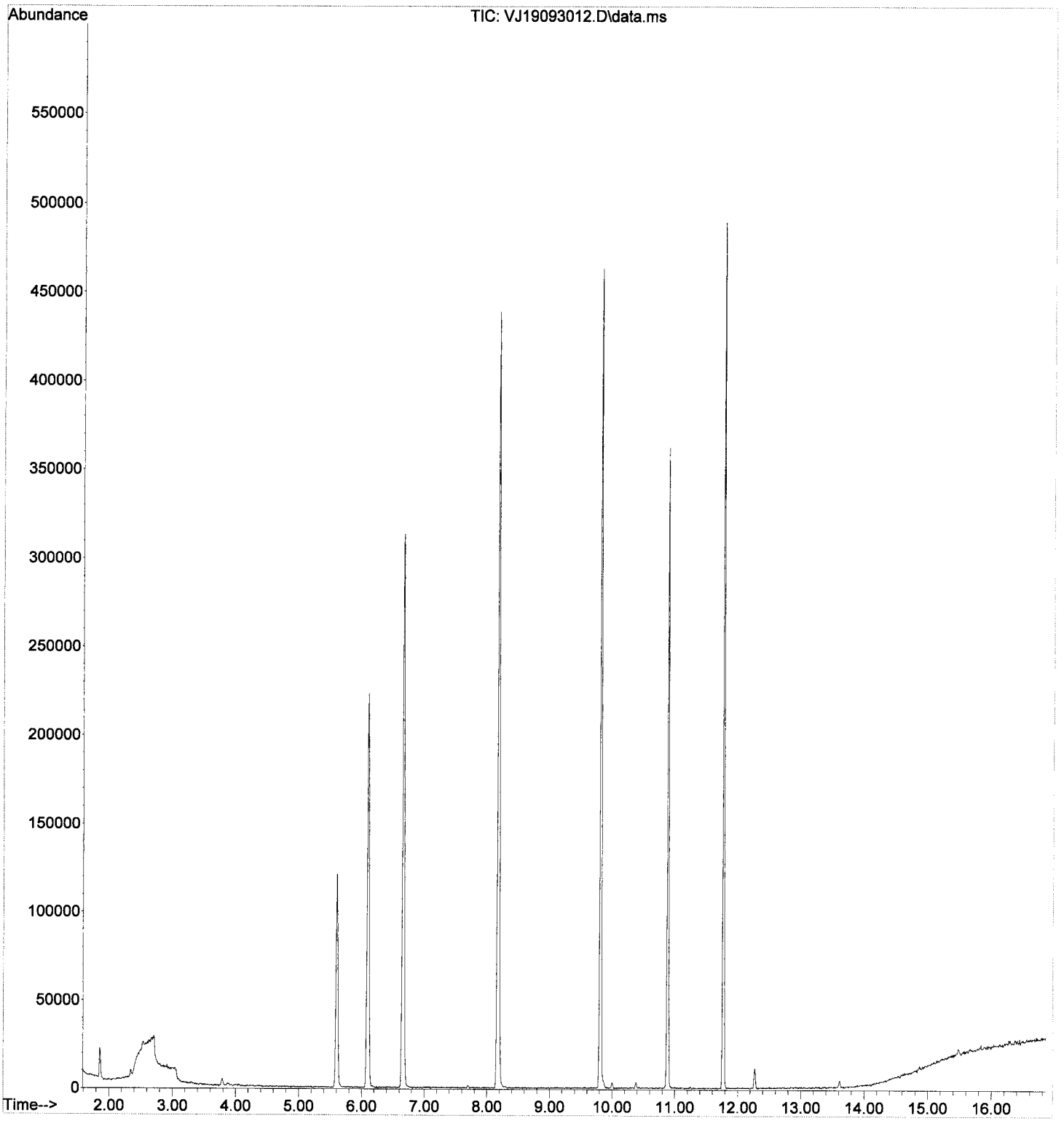
<2MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093012.D
Acq On : 30 Sep 2019 7:41 pm
Operator : TB/IMA
Sample : A9I0922-02
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 01 10:44:23 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093013.D
Acq On : 30 Sep 2019 8:08 pm
Operator : TB/IMA
Sample : A9I0922-03
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 01 10:44:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

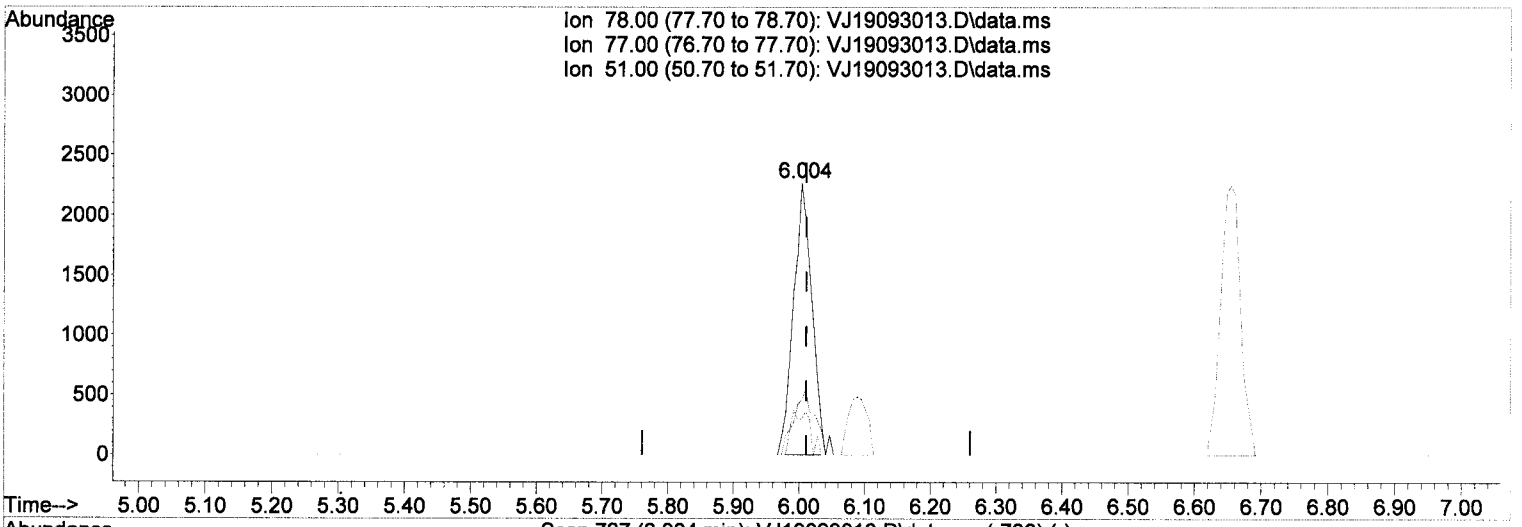
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.095	99	88655	50.00 ug/L	0.00
43) Chlorobenzene-d5 (I)	9.812	117	215782	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	97006	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.596	111	71133	56.18 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.655	114	245123	51.76 ug/L	0.00
45) Toluene-d8 (S)	8.176	98	299862	49.56 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.883	174	74388	49.64 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.885	50	456	0.19 ug/L #	50
5) Bromomethane	2.336	96	2029	Below Cal	96
6) Chloroethane	2.439	64	122	0.42 ug/L #	10
8) Ethanol	3.285	45	57	Below Cal #	29
10) Carbon Disulfide	3.151	76	1256	0.34 ug/L	76
12) Iodomethane	3.291	142	490	Below Cal #	47
13) Methylene Chloride	3.771	84	1518	Below Cal	89
14) Acetone	3.875	43	3611	0.43 ug/L	87
18) tert-Butanol (TBA)	4.264	59	1198	1.59 ug/L #	51
33) Benzene	6.004	78	4482	0.52 ug/L	94
34) tert-Amyl methyl ether...	6.174	73	193	Below Cal #	46
46) Toluene	8.231	91	2899	0.30 ug/L	96
48) 4-Methyl-2-Pentanone (...	8.687	43	3981	1.04 ug/L #	49
50) 1,1,2-Trichloroethane	8.857	97	356	0.19 ug/L #	12
54) 2-Hexanone	9.575	43	984	0.32 ug/L #	31
56) Ethylbenzene	9.867	91	3963	0.39 ug/L	97
58) m,p-Xylenes (2)	10.001	91	4717	0.62 ug/L	86
59) o-Xylene	10.384	91	4388	0.56 ug/L	85
60) Styrene	10.433	104	815	0.15 ug/L	71
62) Isopropylbenzene	10.658	105	18241	1.97 ug/L	97
66) n-Propylbenzene	10.999	91	13726	1.32 ug/L	92
67) 1,1,2,2-Tetrachloroethane	11.059	83	1356	0.53 ug/L #	24
68) 2-Chlorotoluene	11.242	126	242	0.13 ug/L #	1
69) 1,3,5-Trimethylbenzene	11.157	105	12852	1.82 ug/L	90
70) 1,2,3-Trichloropropane	11.163	110	618	0.62 ug/L #	1
73) tert-Butylbenzene	11.412	91	3955	0.90 ug/L	86
74) 1,2,4-Trimethylbenzene	11.467	105	18725	2.63 ug/L	92
75) sec-Butylbenzene	11.552	105	187178	22.08 ug/L	96
76) 4-Isopropyltoluene	11.631	119	17961	2.55 ug/L	96
79) n-Butylbenzene	11.978	91	12201	1.90 ug/L	97
83) 1,2,4-Trichlorobenzene	13.249	180	217	0.10 ug/L #	1
84) Naphthalene	13.517	128	183474	21.77 ug/L	98
85) 1,2,3-Trichlorobenzene	13.688	180	796	0.37 ug/L #	62

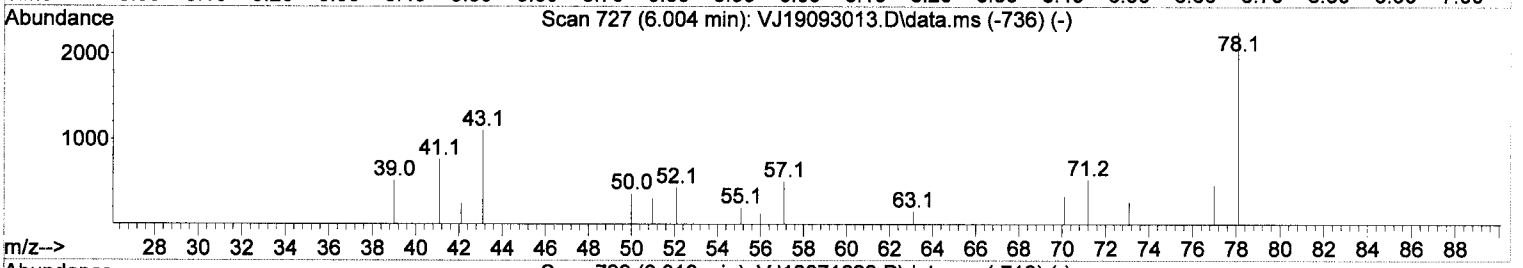
(#) = qualifier out of range (m) = manual integration (+) = signals summed

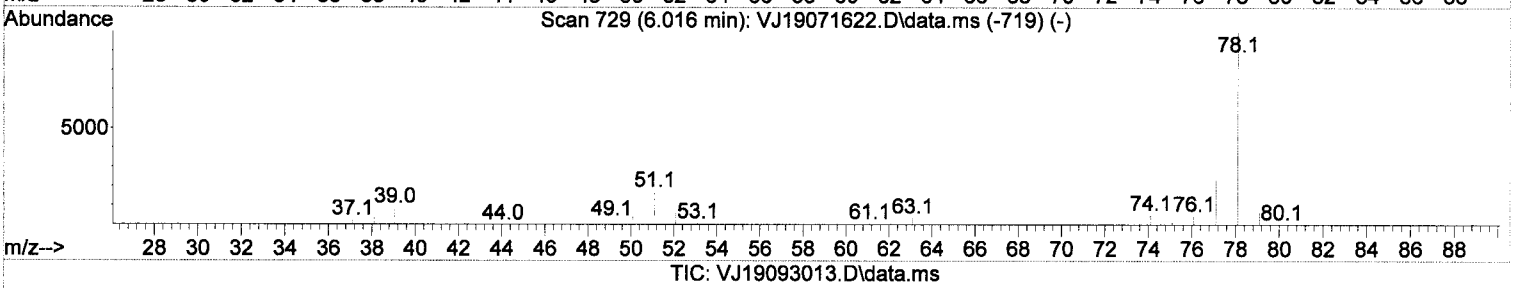
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093013.D
Acq On : 30 Sep 2019 8:08 pm
Operator : TB/IMA
Sample : A9I0992-03
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 01 10:44:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093013.D\data.ms

(33) Benzene

6.004min (-0.006) 0.52 ug/L

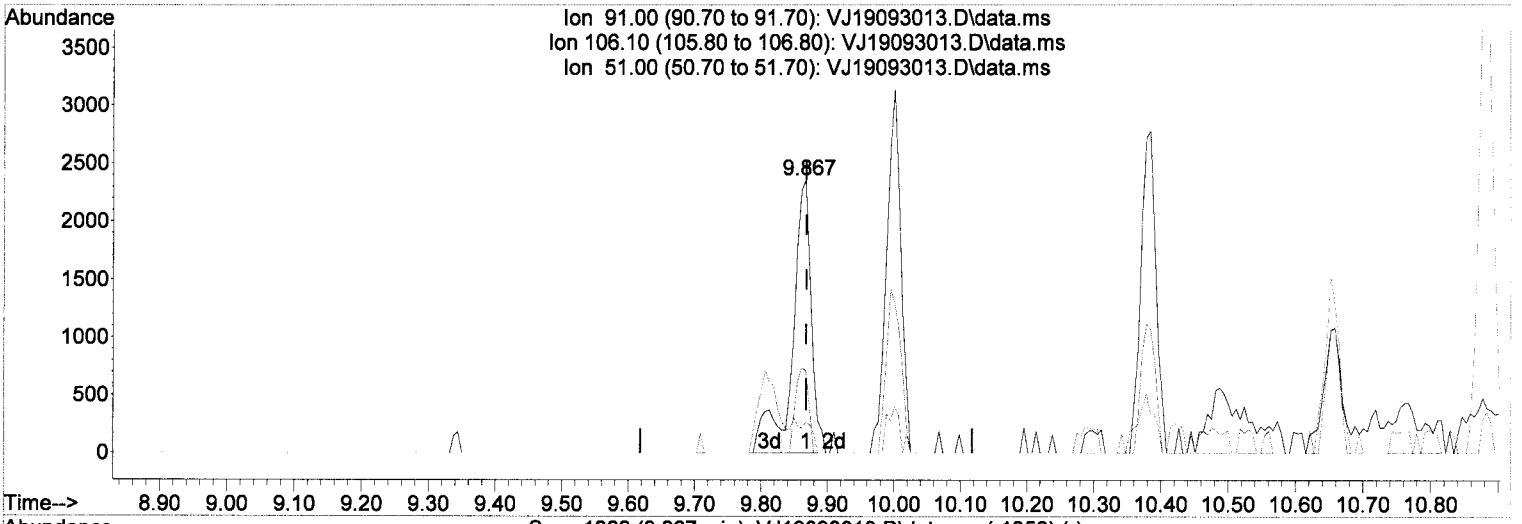
response 4482

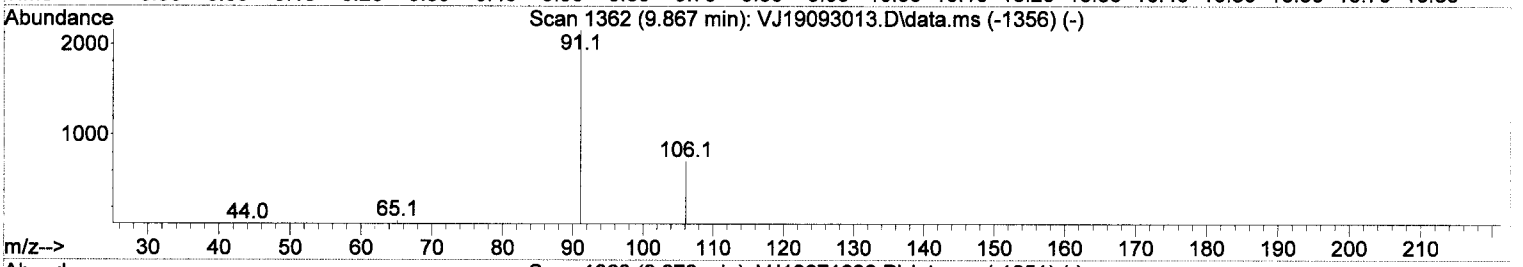
Ion	Exp%	Act%
78.00	100.00	100.00
77.00	23.60	20.53
51.00	16.20	13.45
0.00	0.00	0.00

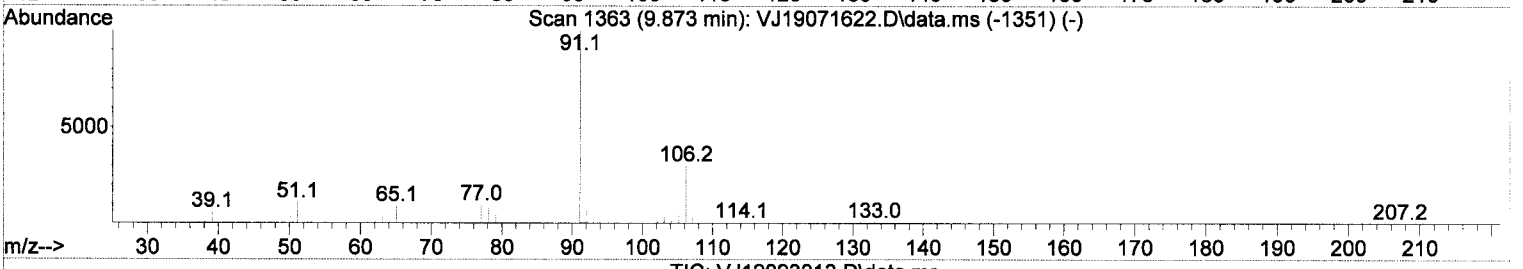
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093013.D
Acq On : 30 Sep 2019 8:08 pm
Operator : TB/IMA
Sample : A9I0992-03
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 01 10:44:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093013.D\data.ms

(56) Ethylbenzene (C)

9.867min (-0.000) 0.39 ug/L

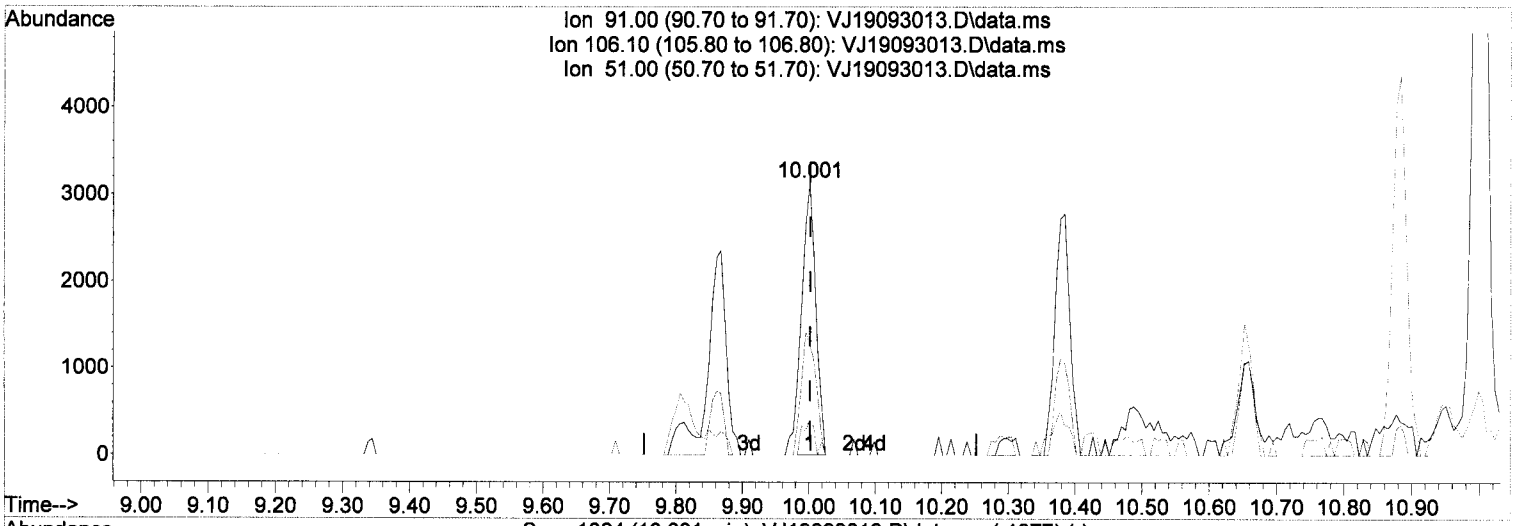
response 3963

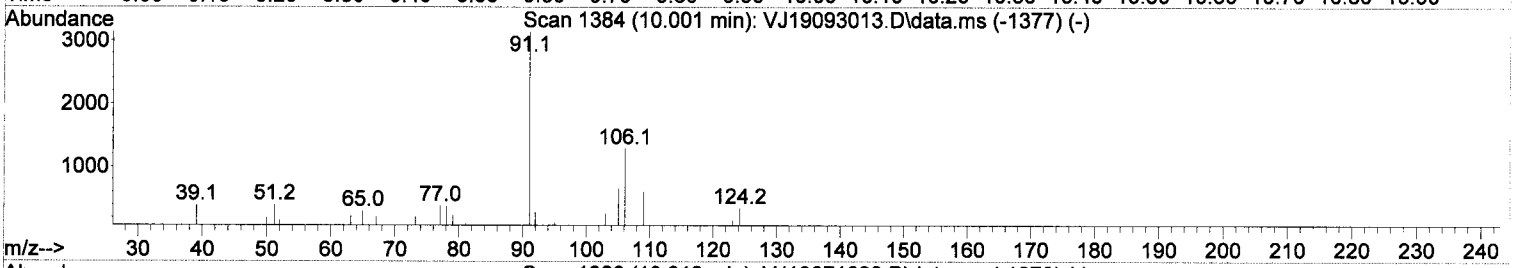
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	31.80	30.15
51.00	9.80	11.25
0.00	0.00	0.00

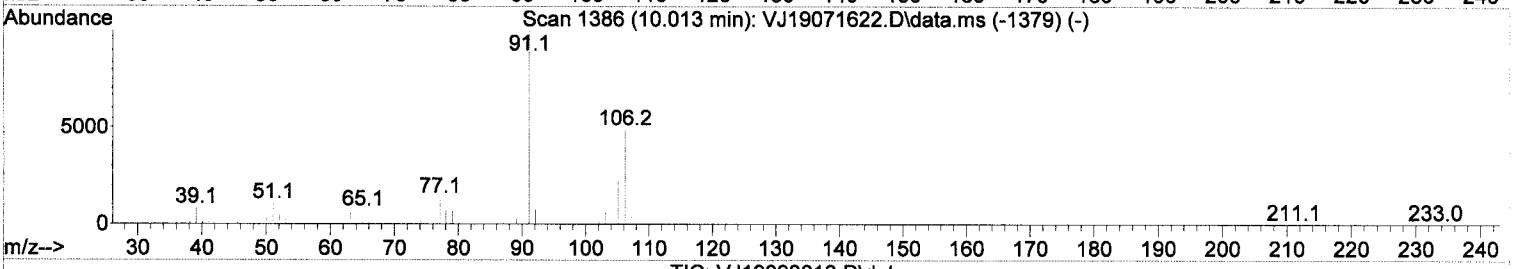
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093013.D
Acq On : 30 Sep 2019 8:08 pm
Operator : TB/IMA
Sample : A9I0992-03
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 01 10:44:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093013.D\data.ms

(58) m,p-Xylenes (2)

10.001min (-0.000) 0.62 ug/L

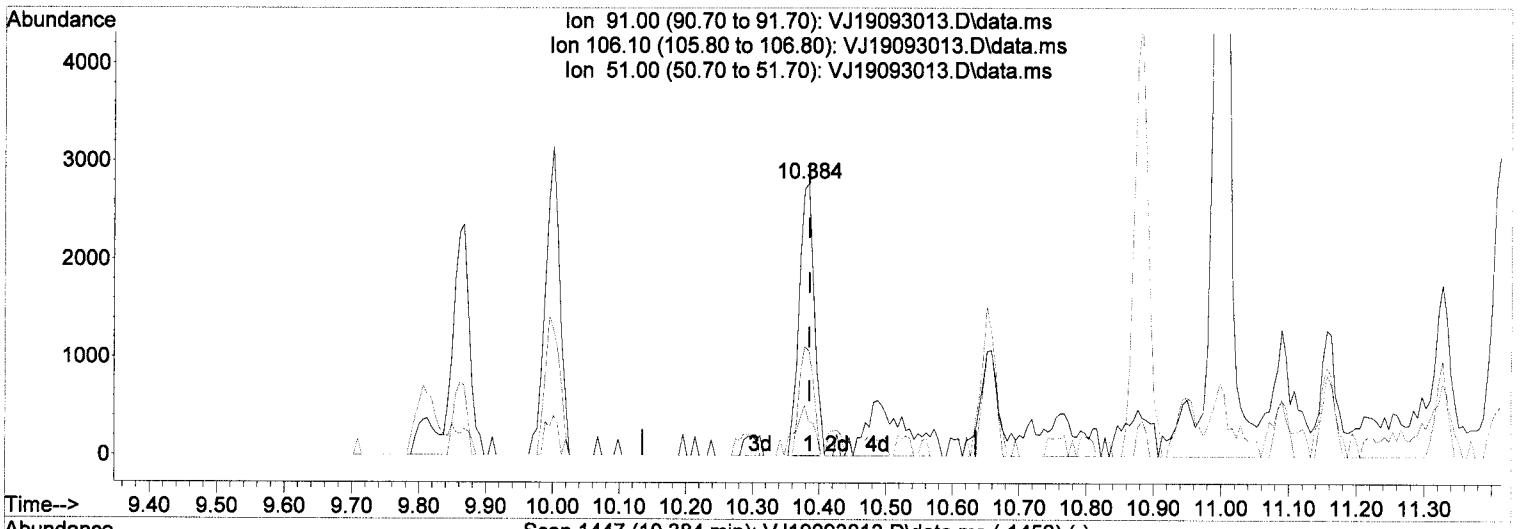
response 4717

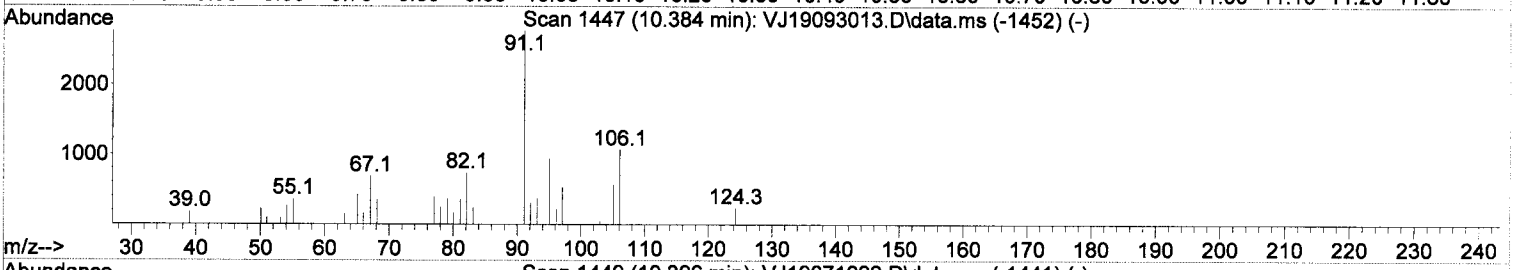
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	51.80	41.06
51.00	9.80	12.72
0.00	0.00	0.00

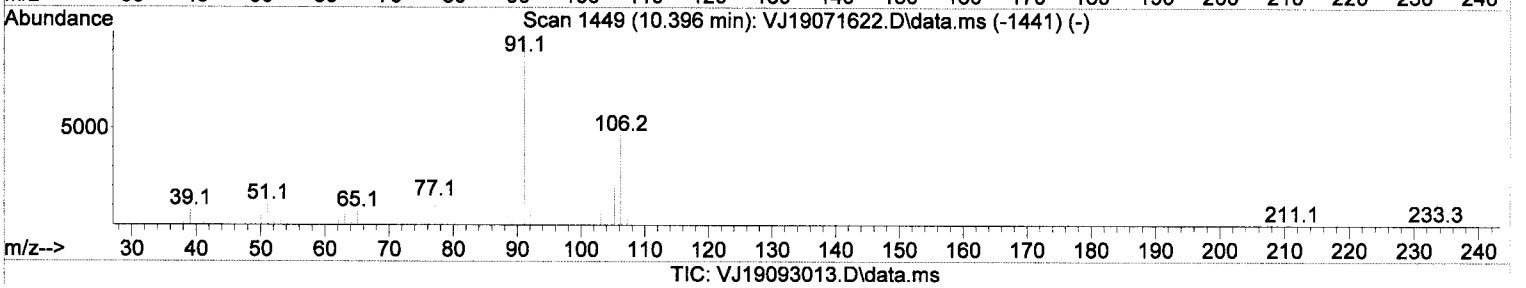
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093013.D
Acq On : 30 Sep 2019 8:08 pm
Operator : TB/IMA
Sample : A9I0992-03
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 01 10:44:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093013.D\data.ms

(59) o-Xylene

10.384min (-0.000) 0.56 ug/L

response 4388

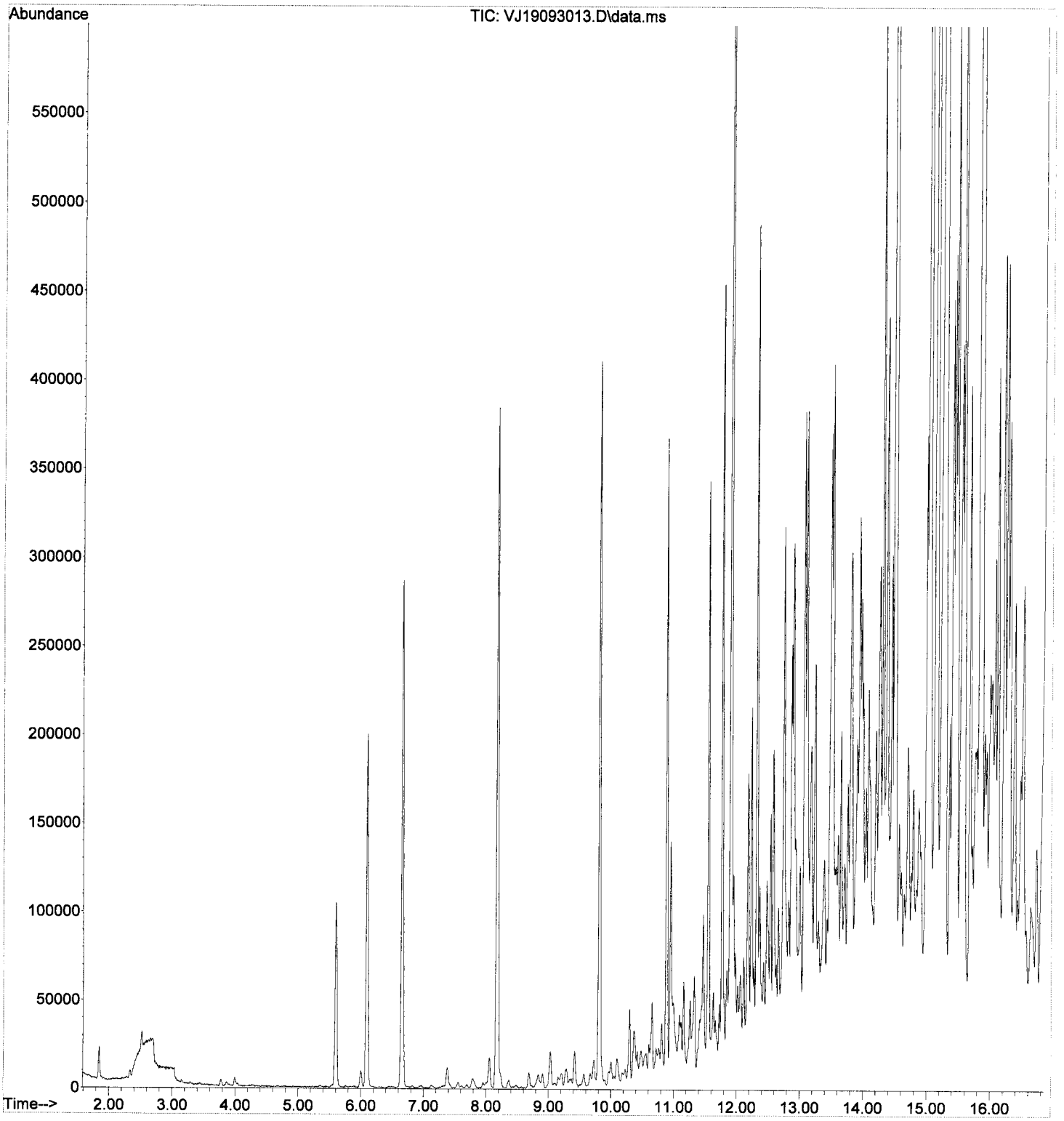
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	38.52
51.00	9.70	12.32
0.00	0.00	0.00

10/2/19

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093013.D
Acq On : 30 Sep 2019 8:08 pm
Operator : TB/IMA
Sample : A9I0922-03
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 01 10:44:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093014.D
Acq On : 30 Sep 2019 8:35 pm
Operator : TB/IMA
Sample : A9I0922-04
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 14 Sample Multiplier: 1

TB 10/1/19

Quant Time: Oct 01 10:44:29 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

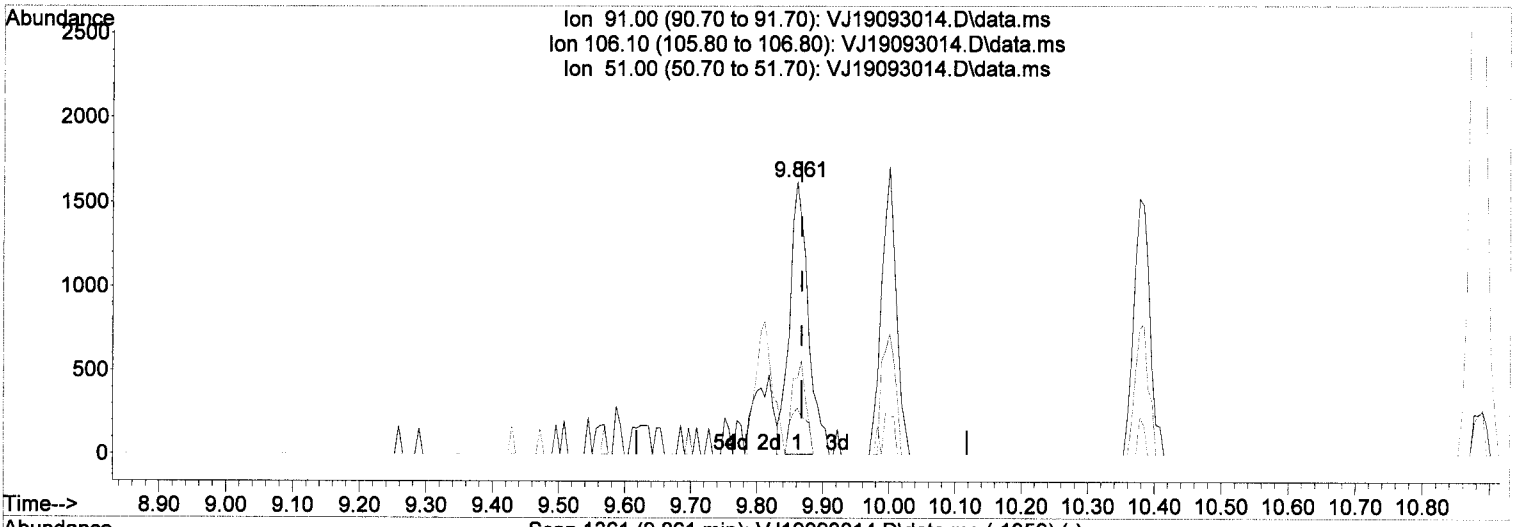
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.095	99	96003	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	243899	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	111002	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.602	111	74968	54.67 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	276467	53.91 ug/L		0.00
45) Toluene-d8 (S)	8.176	98	339819	49.69 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	84279	49.15 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.892	50	341	0.13 ug/L	#	50
5) Bromomethane	2.336	96	1978	Below Cal		97
6) Chloroethane	2.445	64	252	0.86 ug/L	#	1
8) Ethanol	3.309	45	67	Below Cal	#	29
13) Methylene Chloride	3.777	84	1785	Below Cal		88
14) Acetone	3.875	43	2000	Below Cal		98
17) Methyl-tert-butyl-ether	4.094	73	682	0.08 ug/L		57
34) tert-Amyl methyl ether...	6.156	73	404	Below Cal	#	46
46) Toluene	8.231	91	913	0.08 ug/L		94
56) Ethylbenzene	9.861	91	3178	0.28 ug/L		90
58) m,p-Xylenes (2)	10.001	91	2634	0.30 ug/L		87
59) o-Xylene	10.378	91	2532	0.29 ug/L		97
75) sec-Butylbenzene	11.552	105	3085	0.32 ug/L		85
83) 1,2,4-Trichlorobenzene	13.250	180	435	0.17 ug/L	#	11
84) Naphthalene	13.517	128	9218	0.96 ug/L		96
85) 1,2,3-Trichlorobenzene	13.730	180	15482	6.33 ug/L	#	20

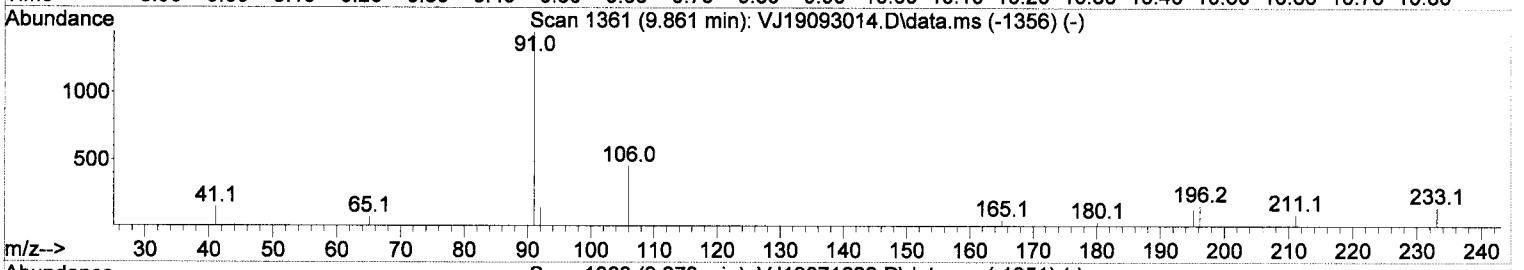
(#) = qualifier out of range (m) = manual integration (+) = signals summed

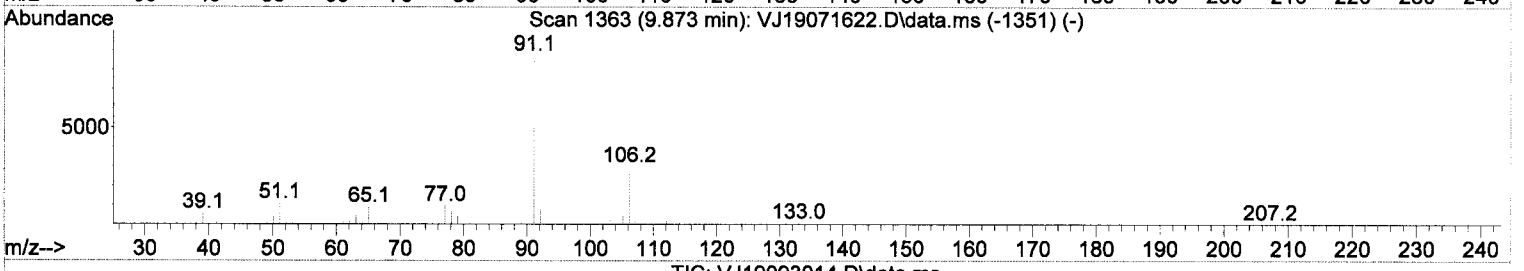
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093014.D
Acq On : 30 Sep 2019 8:35 pm
Operator : TB/IMA
Sample : A9I0992-04
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 01 10:44:29 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093014.D\data.ms

(56) Ethylbenzene (C)

9.861min (-0.006) 0.28 ug/L

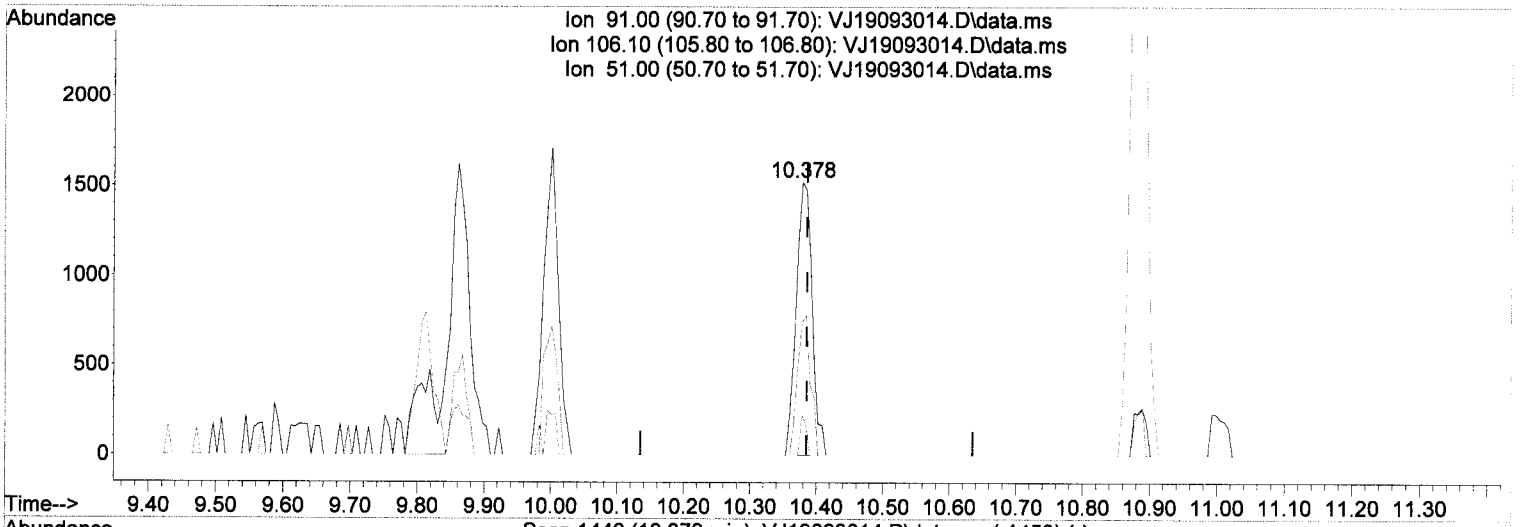
response 3178

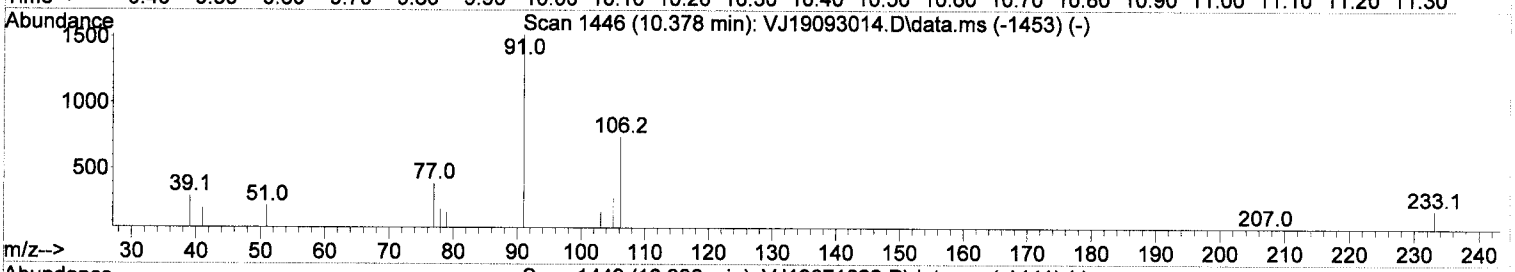
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	31.80	28.04
51.00	9.80	17.23
0.00	0.00	0.00

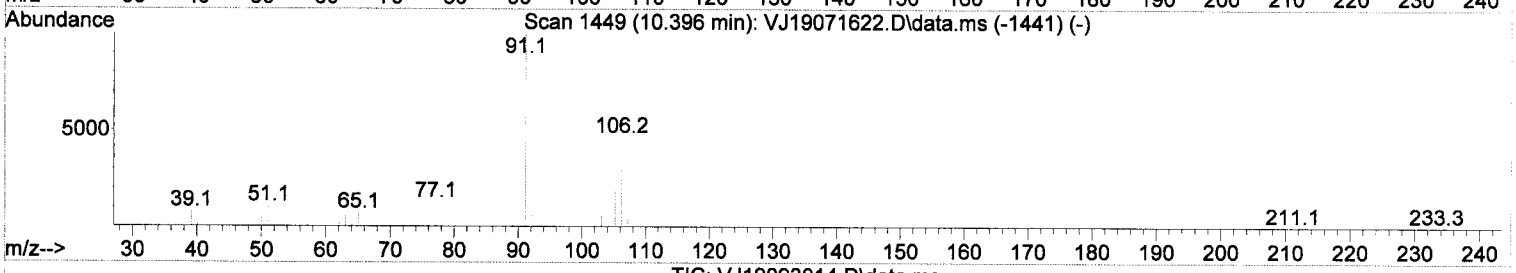
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093014.D
Acq On : 30 Sep 2019 8:35 pm
Operator : TB/IMA
Sample : A9I0922-04
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 01 10:44:29 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093014.D\data.ms

(59) o-Xylene

10.378min (-0.006) 0.29 ug/L

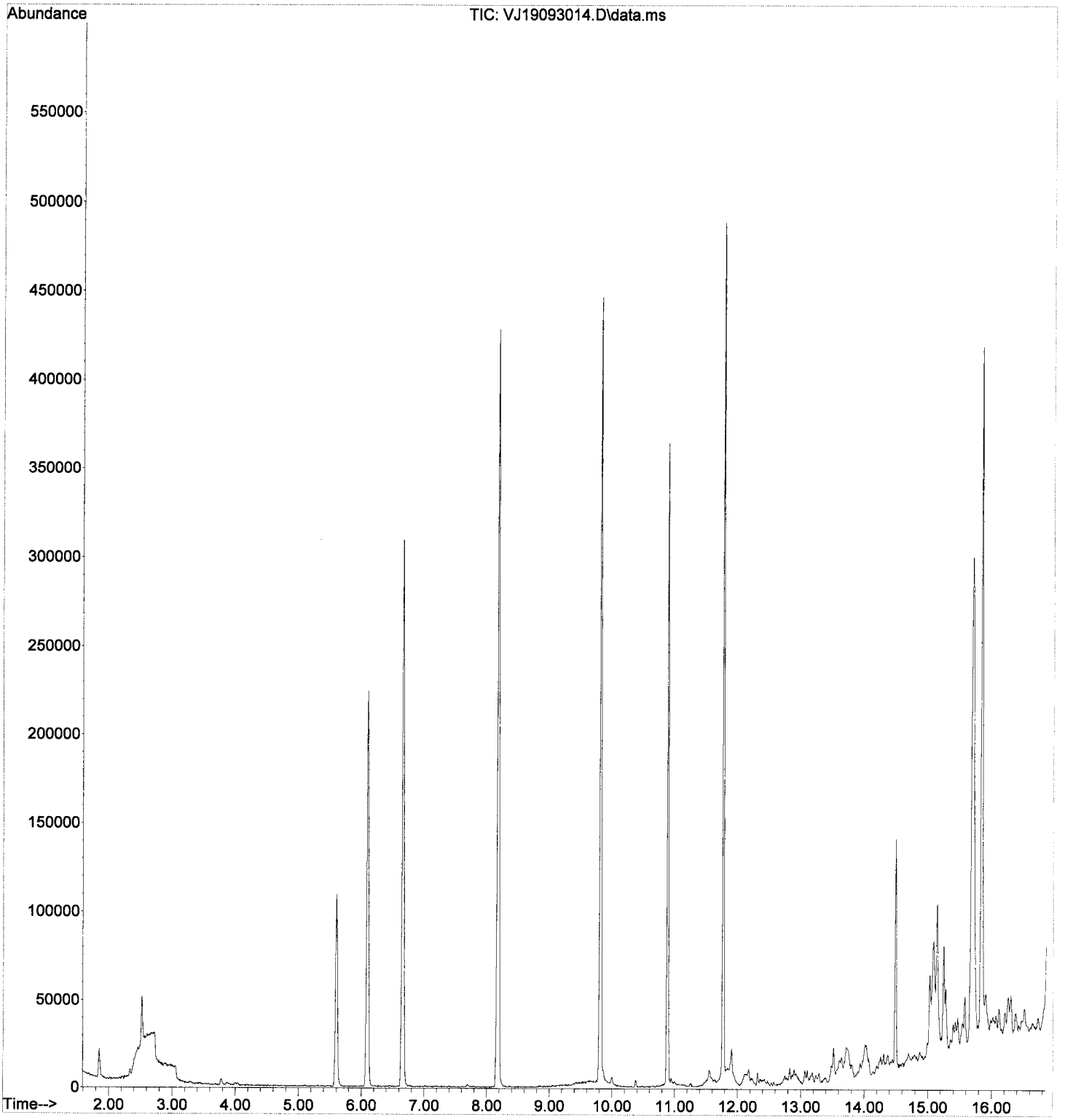
response 2532

Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	49.08
51.00	9.70	14.54
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093014.D
Acq On : 30 Sep 2019 8:35 pm
Operator : TB/IMA
Sample : A9I0922-04
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 01 10:44:29 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093015.D
Acq On : 30 Sep 2019 9:01 pm
Operator : TB/IMA
Sample : A9I0922-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 01 10:44:32 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	97051	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.813	117	245747	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	109374	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	76212	54.98	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	279552	53.93	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	335773	48.72	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	85967	50.88	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.892	50	415	0.16	ug/L	#	50
5) Bromomethane	2.342	96	2253	Below Cal			87
6) Chloroethane	2.464	64	59	0.15	ug/L	#	47
8) Ethanol	3.291	45	187	Below Cal		#	29
10) Carbon Disulfide	3.157	76	859	0.21	ug/L		78
12) Iodomethane	3.291	142	596	0.09	ug/L		59
13) Methylene Chloride	3.784	84	1335	Below Cal			85
14) Acetone	3.881	43	2885	Below Cal			82
18) tert-Butanol (TBA)	4.270	59	182	0.22	ug/L	#	46
28) Tetrahydrofuran	5.603	42	166	0.09	ug/L	#	30
34) tert-Amyl methyl ether...	6.162	73	129	Below Cal		#	46
56) Ethylbenzene	9.867	91	2538	0.22	ug/L		92
58) m,p-Xylenes (2)	10.001	91	2183	0.25	ug/L		88
59) o-Xylene	10.378	91	2247	0.25	ug/L		89
60) Styrene	10.427	104	668	0.11	ug/L		81
75) sec-Butylbenzene	11.552	105	1858	0.19	ug/L		87
84) Naphthalene	13.517	128	10196	1.07	ug/L		97
85) 1,2,3-Trichlorobenzene	13.627	180	1804	0.75	ug/L	#	12

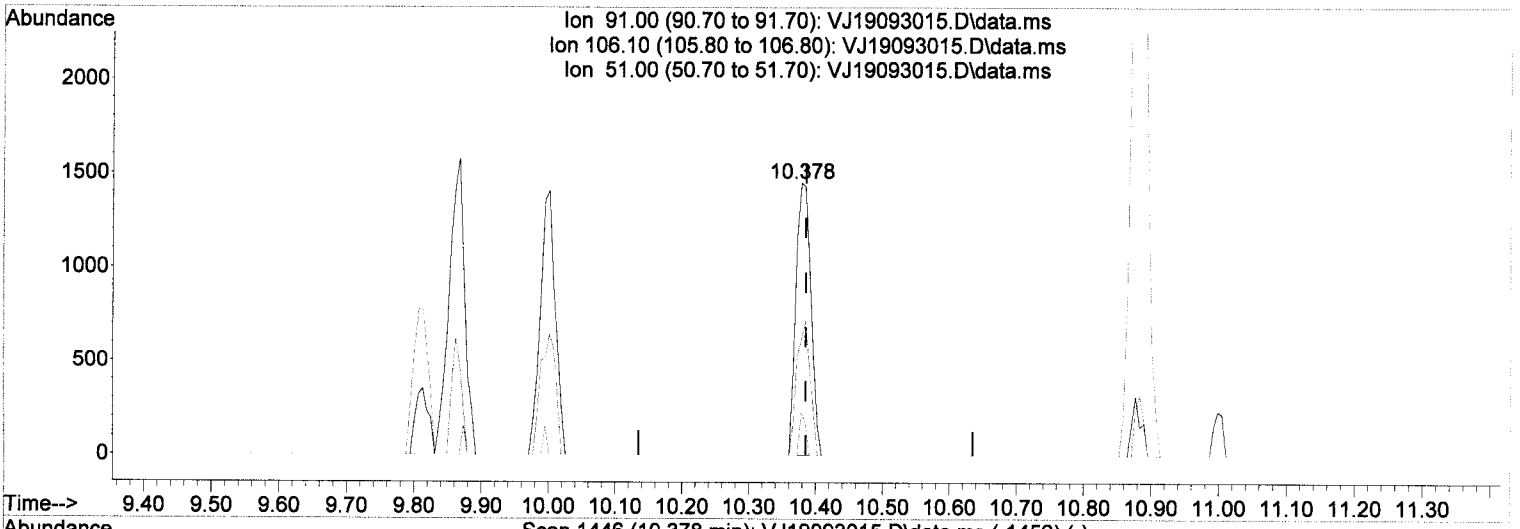
LMDL LMDL

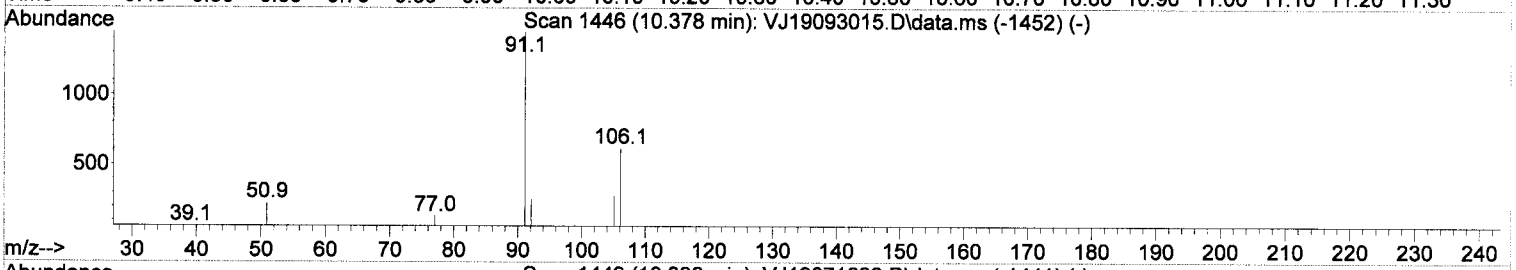
(#) = qualifier out of range (m) = manual integration (+) = signals summed

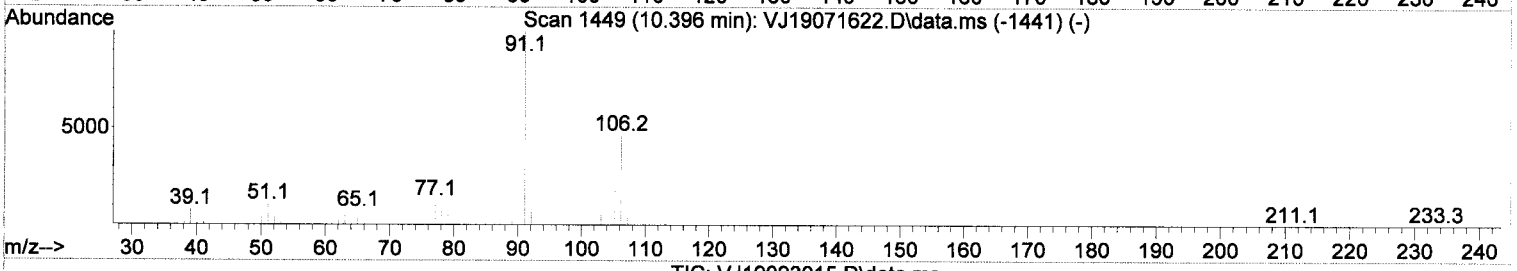
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093015.D
Acq On : 30 Sep 2019 9:01 pm
Operator : TB/IMA
Sample : A9I0922-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 01 10:44:32 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093015.D\data.ms

(59) o-Xylene

10.378min (-0.006) 0.25 ug/L

response 2247

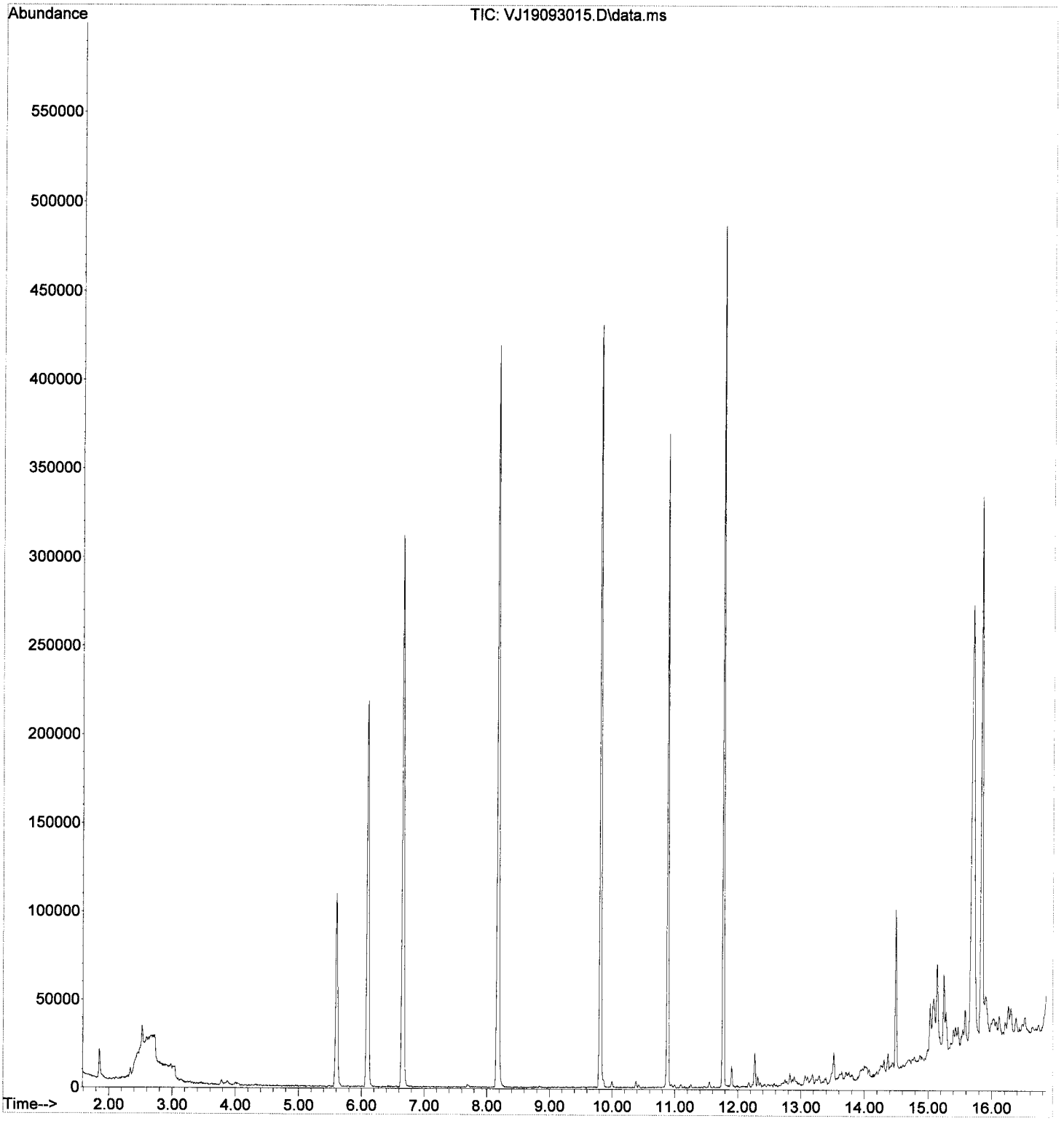
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	42.78
51.00	9.70	15.48
0.00	0.00	0.00

TMB = MRL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093015.D
Acq On : 30 Sep 2019 9:01 pm
Operator : TB/IMA
Sample : A9I0922-05
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 01 10:44:32 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093016.D
Acq On : 30 Sep 2019 9:28 pm
Operator : TB/IMA
Sample : A9I0922-07
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 01 10:44:35 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	93971	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	237280	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	103794	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	75679	56.38	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	268113	53.42	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	325444	48.91	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	82010	51.14	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.898	50	331	0.13	ug/L	NR	73
5) Bromomethane	2.342	96	1888	Below Cal			77
6) Chloroethane	2.482	64	297	1.04	ug/L	#	56
8) Ethanol	3.279	45	205	Below Cal		#	29
10) Carbon Disulfide	3.163	76	599	0.15	ug/L		78
12) Iodomethane	3.297	142	515	Below Cal			78
13) Methylene Chloride	3.783	84	1131	Below Cal			94
14) Acetone	3.875	43	2602	Below Cal			83
17) Methyl-tert-butyl-ether	4.142	73	711	0.09	ug/L		57
18) tert-Butanol (TBA)	4.264	59	71	0.09	ug/L	#	46
34) tert-Amyl methyl ether...	6.168	73	141	Below Cal		#	46
56) Ethylbenzene	9.867	91	2055	0.18	ug/L		91
58) m,p-Xylenes (2)	10.001	91	1839	0.22	ug/L		92
59) o-Xylene	10.378	91	1743	0.20	ug/L		92
75) sec-Butylbenzene	11.552	105	1160	0.13	ug/L		90
79) n-Butylbenzene	11.905	91	847	0.12	ug/L	#	32
84) Naphthalene	13.517	128	753	0.08	ug/L		79
85) 1,2,3-Trichlorobenzene	13.669	180	185	0.08	ug/L	#	12

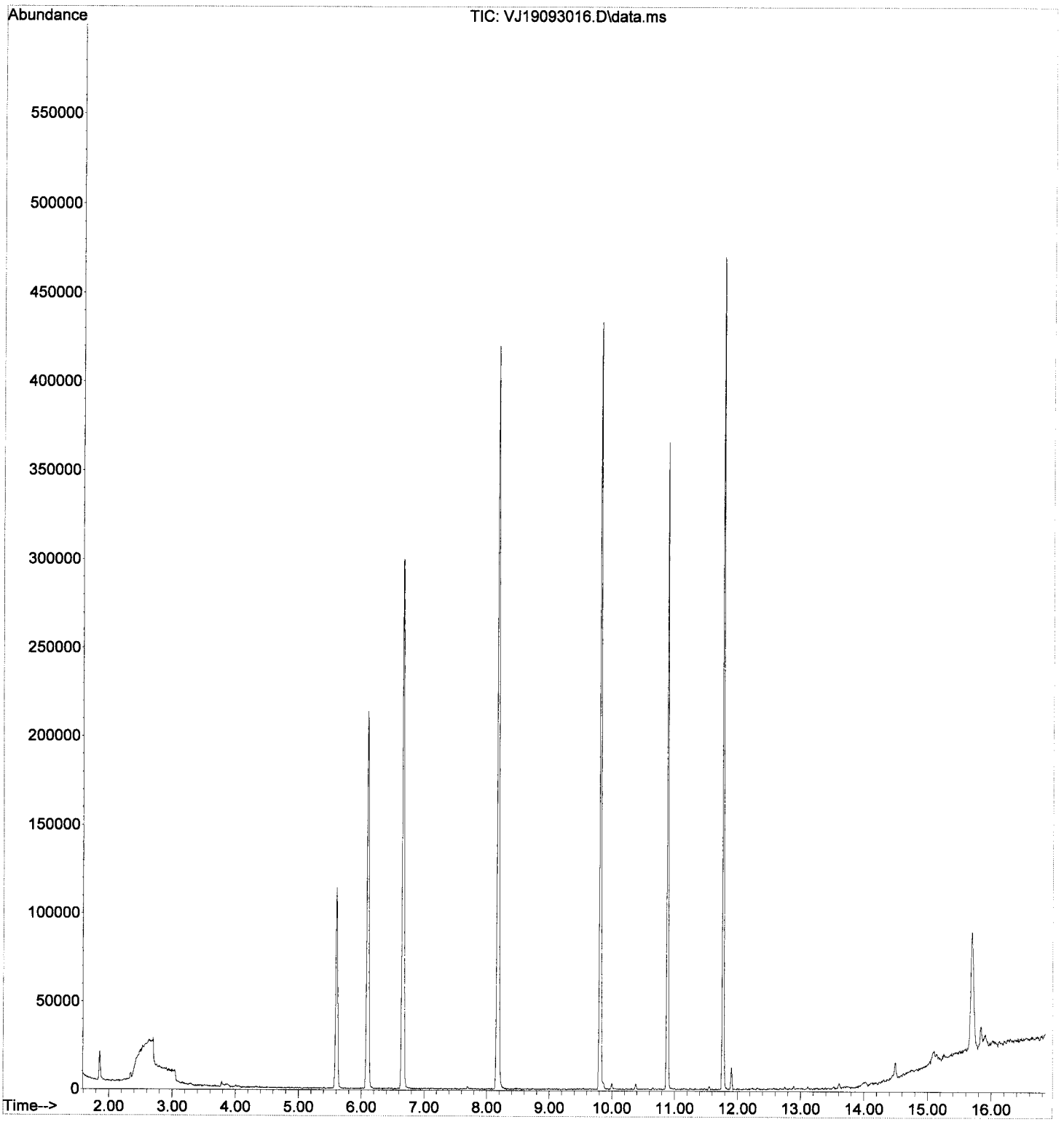
NR
NR
<MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093016.D
Acq On : 30 Sep 2019 9:28 pm
Operator : TB/IMA
Sample : A9I0922-07
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 01 10:44:35 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093017.D
Acq On : 30 Sep 2019 9:55 pm
Operator : TB/IMA
Sample : A9I0922-08
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 01 10:44:38 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	93395	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.813	117	230685	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	99898	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	75170	56.35	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	260878	52.30	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	316263	48.89	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	79542	51.54	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.898	50	353	0.14	ug/L	#	50
5) Bromomethane	2.348	96	1997	Below Cal			93
6) Chloroethane	2.482	64	127	0.41	ug/L	#	45
8) Ethanol	3.279	45	59	Below Cal		#	29
10) Carbon Disulfide	3.163	76	688	0.18	ug/L		56
12) Iodomethane	3.303	142	468	Below Cal		#	47
13) Methylene Chloride	3.790	84	1054	Below Cal			88
14) Acetone	3.875	43	2766	Below Cal			98
18) tert-Butanol (TBA)	4.264	59	123	0.16	ug/L	#	46
34) tert-Amyl methyl ether...	6.144	73	268	Below Cal		#	46
56) Ethylbenzene	9.861	91	1949	0.18	ug/L		92
58) m,p-Xylenes (2)	10.001	91	1698	0.21	ug/L		91
59) o-Xylene	10.384	91	1938	0.23	ug/L		84
79) n-Butylbenzene	11.905	91	619	0.09	ug/L	#	32

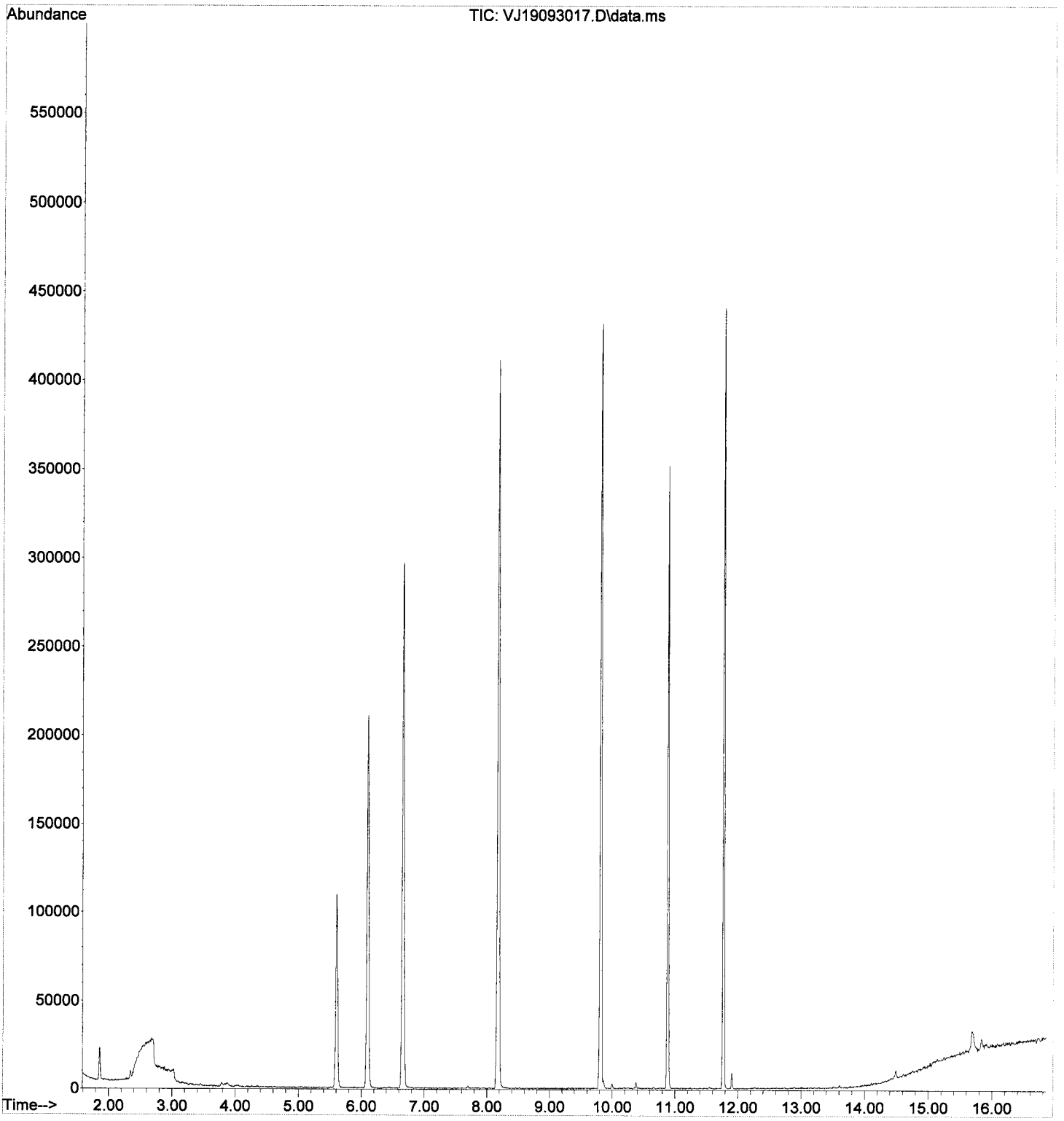
LMDC

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093017.D
Acq On : 30 Sep 2019 9:55 pm
Operator : TB/IMA
Sample : A9I0922-08
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 01 10:44:38 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093018.D
Acq On : 30 Sep 2019 10:22 pm
Operator : TB/IMA
Sample : A9I0922-10
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 18 Sample Multiplier: 1

10/1/19

Quant Time: Oct 01 10:44:41 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	88169	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	214725	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	96406	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	65864	52.30	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	244054	51.82	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	296657	49.27	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	75324	50.57	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.885	50	271	0.12	ug/L	#	50
5) Bromomethane	2.336	96	1701	Below Cal			99
6) Chloroethane	2.475	64	82	0.26	ug/L	#	1
8) Ethanol	3.315	45	240	Below Cal		#	29
12) Iodomethane	3.279	142	242	Below Cal		#	47
13) Methylene Chloride	3.783	84	1118	Below Cal			93
14) Acetone	3.875	43	1121	Below Cal		#	42
34) tert-Amyl methyl ether...	6.162	73	79	Below Cal		#	46
56) Ethylbenzene	9.861	91	2038	0.20	ug/L		93
58) m,p-Xylenes (2)	10.001	91	1806	0.24	ug/L		87
59) o-Xylene	10.384	91	2163	0.28	ug/L		71

<MDL

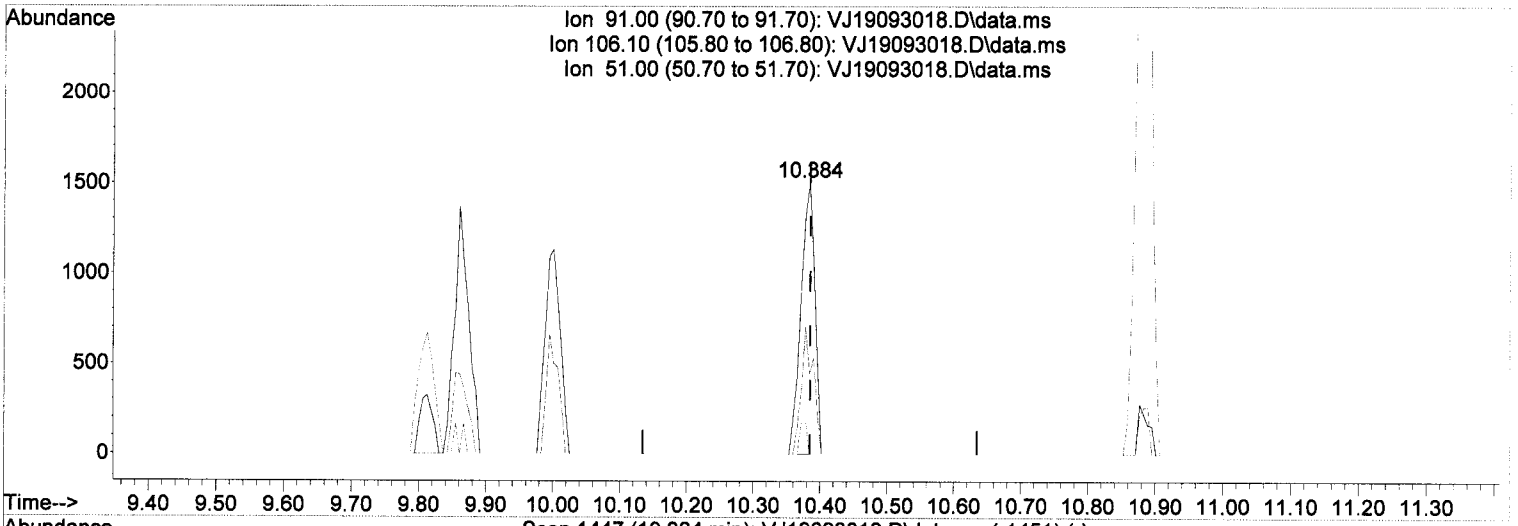
<MDL

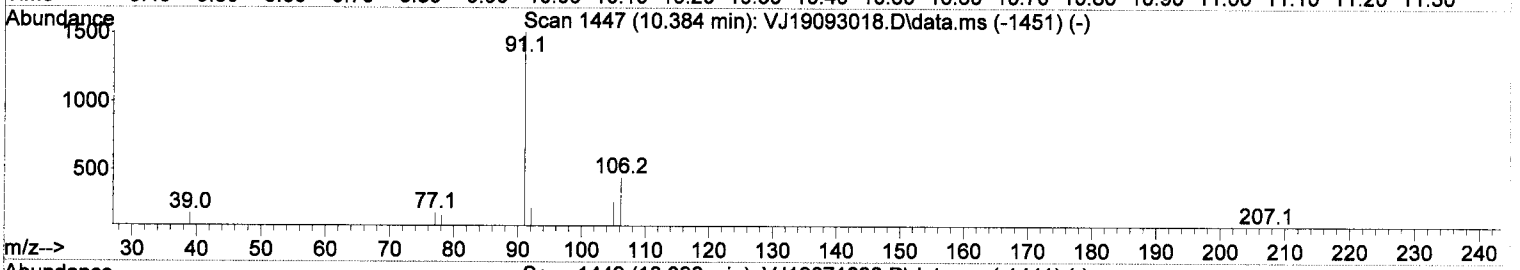
(#) = qualifier out of range (m) = manual integration (+) = signals summed

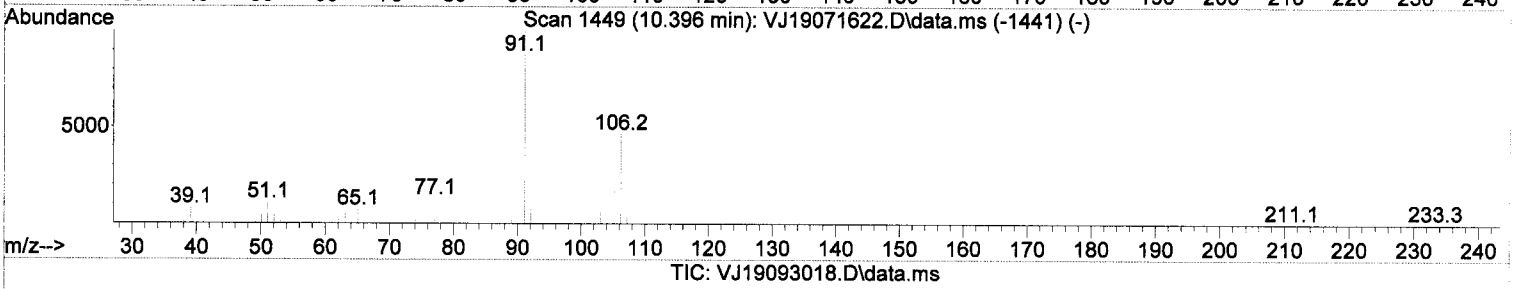
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093018.D
Acq On : 30 Sep 2019 10:22 pm
Operator : TB/IMA
Sample : A9I0922-10
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 01 10:44:41 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093018.D\data.ms

(59) o-Xylene

10.384min (-0.000) 0.28 ug/L

response 2163

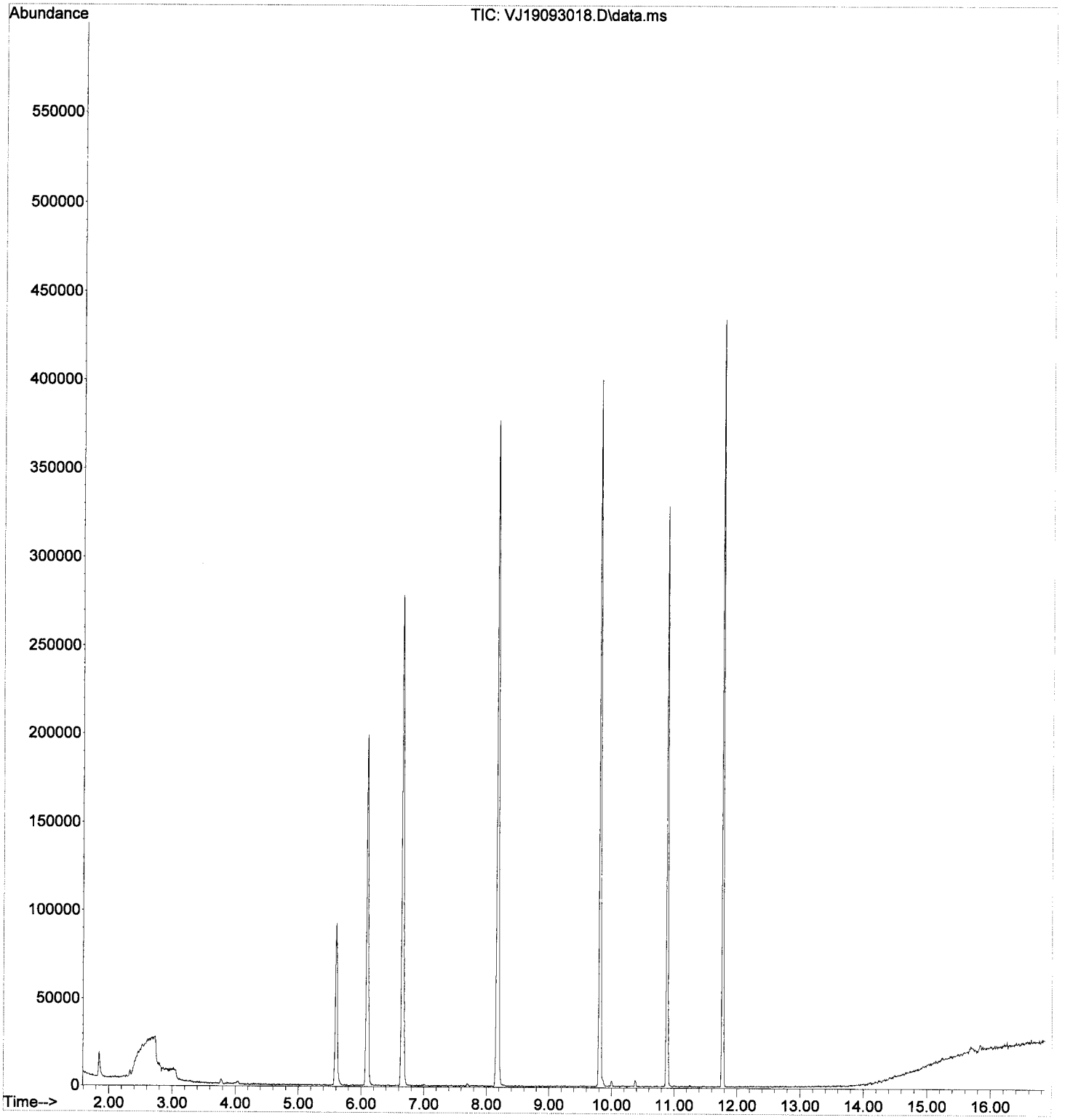
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	29.66
51.00	9.70	0.00
0.00	0.00	0.00

↑ MWL = MPL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093018.D
Acq On : 30 Sep 2019 10:22 pm
Operator : TB/IMA
Sample : A9I0922-10
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Oct 01 10:44:41 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093019.D
Acq On : 30 Sep 2019 10:48 pm
Operator : TB/IMA
Sample : A9I0922-11
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 01 10:44:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	85438	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	200378	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.765	152	88686	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	66560	54.54	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	228734	50.12	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	278366	49.54	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	68794	50.21	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.892	50	318	0.14	ug/L	#	50
5) Bromomethane	2.336	96	1750	Below Cal			90
6) Chloroethane	2.470	64	65	0.20	ug/L	#	23
8) Ethanol	3.291	45	132	Below Cal		#	29
12) Iodomethane	3.291	142	261	Below Cal		#	47
13) Methylene Chloride	3.778	84	1126	Below Cal			92
14) Acetone	3.863	43	1533	Below Cal		#	42
18) tert-Butanol (TBA)	4.276	59	303	0.42	ug/L	#	42
34) tert-Amyl methyl ether...	6.168	73	181	Below Cal		#	46
56) Ethylbenzene	9.861	91	1780	0.19	ug/L		84
58) m,p-Xylenes (2)	9.995	91	1499	0.21	ug/L		93
59) o-Xylene	10.378	91	1725	0.24	ug/L		96

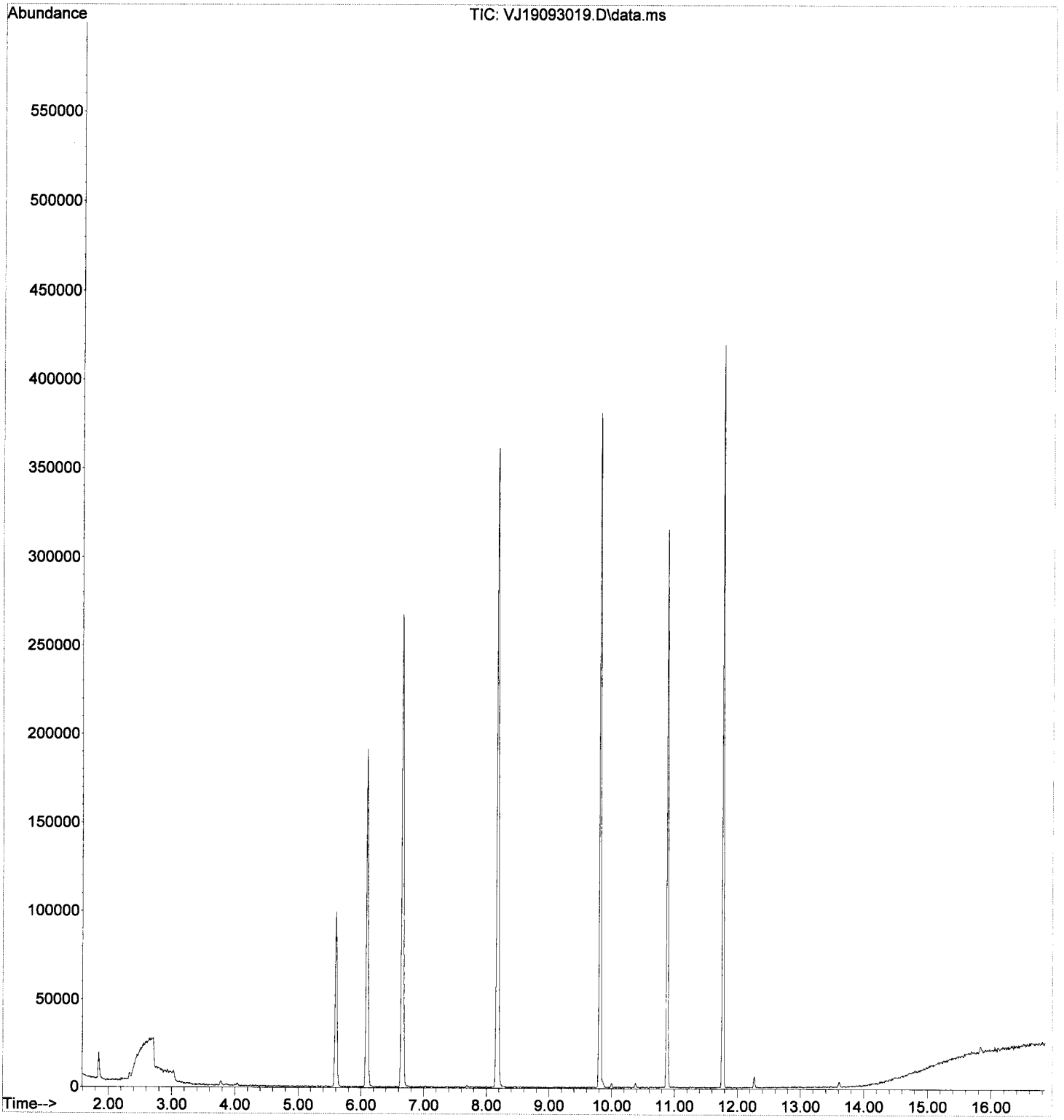
< MDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093019.D
Acq On : 30 Sep 2019 10:48 pm
Operator : TB/IMA
Sample : A9I0922-11
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Oct 01 10:44:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093020.D
Acq On : 30 Sep 2019 11:15 pm
Operator : TB/IMA
Sample : A9I0922-12
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 01 10:44:47 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	77693	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	181643	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	79531	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	60018	54.08	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	205448	49.51	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	251822	49.44	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	61695	50.21	ug/L		0.00
Target Compounds						Qvalue	
3) Chloromethane	1.891	50	258	0.12	ug/L	#	50
5) Bromomethane	2.336	96	1397	Below Cal			95
6) Chloroethane	2.451	64	59	0.20	ug/L	#	1
8) Ethanol	3.285	45	167	Below Cal		#	29
12) Iodomethane	3.297	142	187	Below Cal		#	47
13) Methylene Chloride	3.783	84	1049	Below Cal			87
14) Acetone	3.869	43	1505	Below Cal		#	42
34) tert-Amyl methyl ether...	6.156	73	113	Below Cal		#	46
56) Ethylbenzene	9.861	91	1753	0.20	ug/L		86
58) m,p-Xylenes (2)	10.001	91	1486	0.23	ug/L		84
59) o-Xylene	10.378	91	1595	0.24	ug/L		92

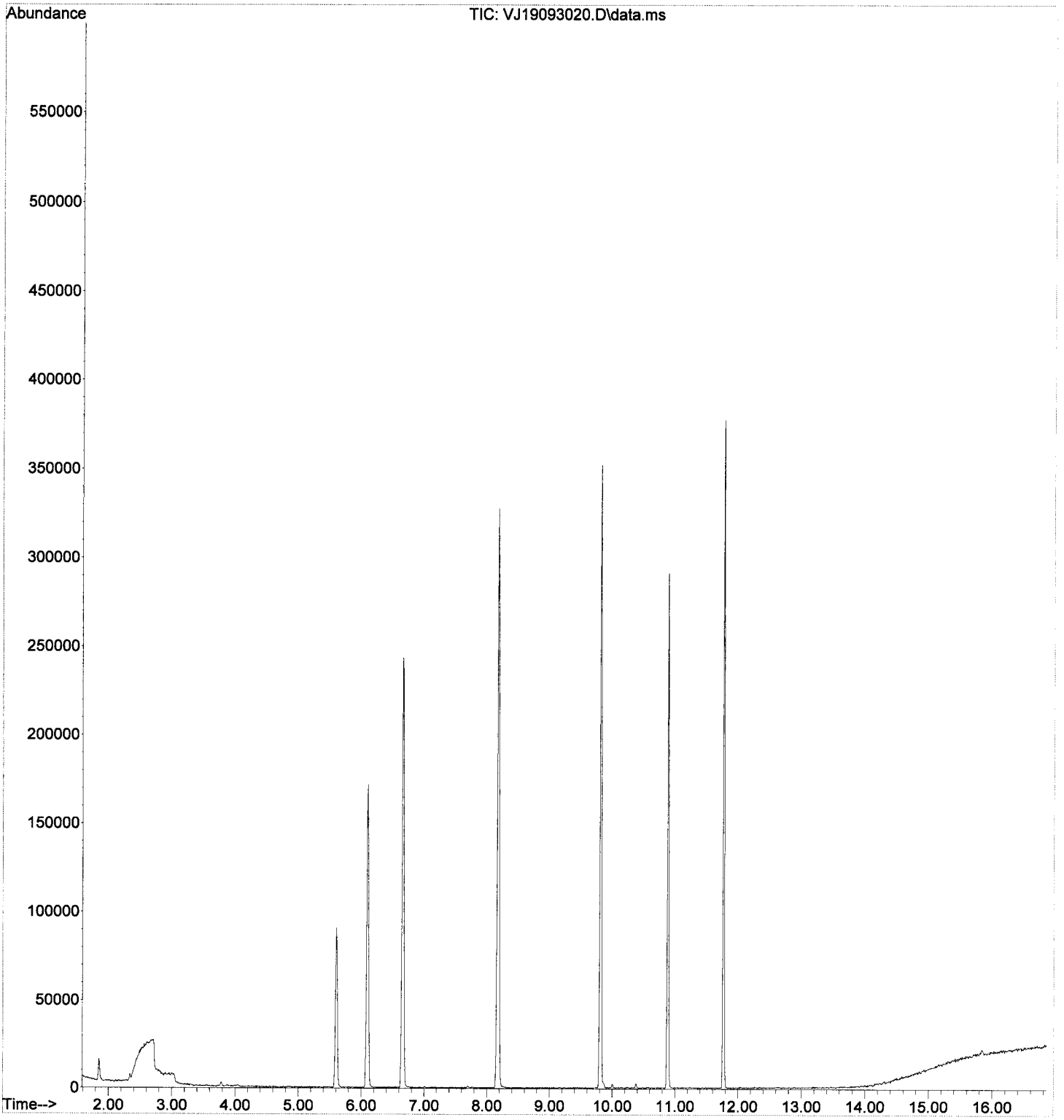
<LMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093020.D
Acq On : 30 Sep 2019 11:15 pm
Operator : TB/IMA
Sample : A9I0922-12
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Oct 01 10:44:47 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

```
Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093021.D
Acq On    : 30 Sep 2019  11:42 pm
Operator  : TB/IMA
Sample    : A9I0922-13
Misc      : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial  : 21   Sample Multiplier: 1

Quant Time: Oct 01 10:44:50 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title  : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration
```

PB 10/1/19

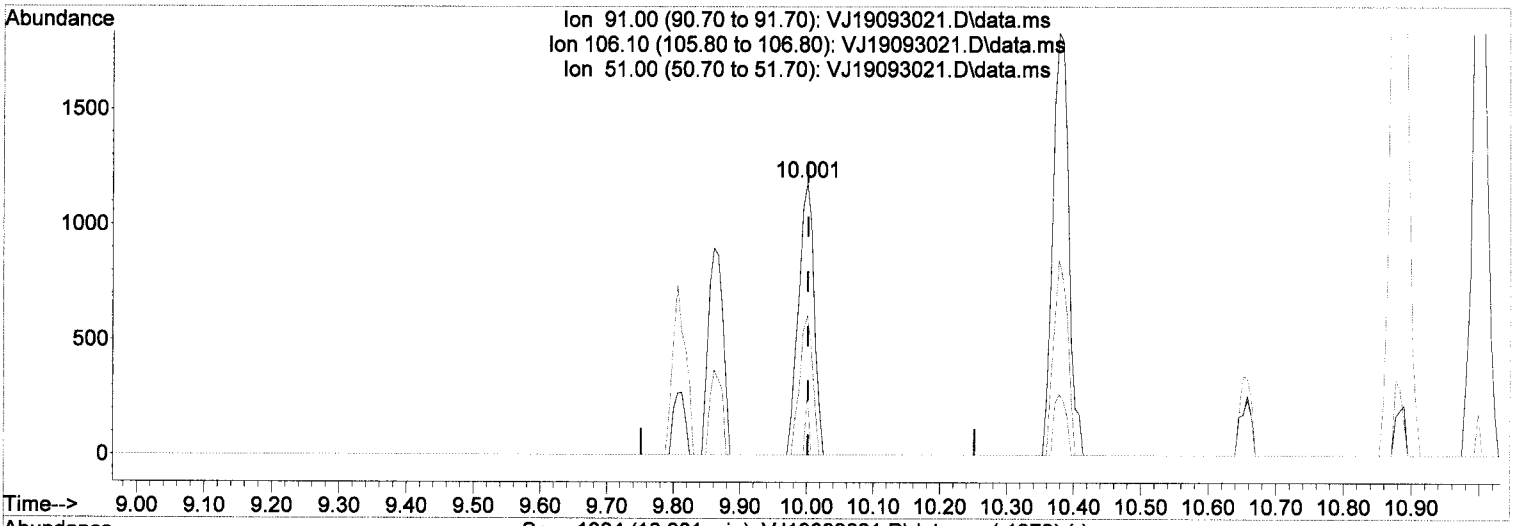
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.095	99	78583	50.00 ug/L	0.00
43) Chlorobenzene-d5 (I)	9.812	117	178523	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	78322	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.602	111	61262	54.58 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.655	114	202735	48.30 ug/L	0.00
45) Toluene-d8 (S)	8.176	98	247130	49.37 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.883	174	62330	51.51 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.898	50	248	0.12 ug/L # NR	50
5) Bromomethane	2.342	96	1385	Below Cal	91
6) Chloroethane	2.457	64	57	0.19 ug/L #	47
8) Ethanol	3.266	45	132	Below Cal #	29
12) Iodomethane	3.297	142	94	Below Cal #	50
13) Methylene Chloride	3.789	84	1034	Below Cal	83
14) Acetone	3.869	43	1891	Below Cal	89
23) c-1,2-Dichloroethene	5.140	61	310	0.12 ug/L #	18 <MDL
34) tert-Amyl methyl ether...	6.162	73	58	Below Cal # NR	46
56) Ethylbenzene	9.861	91	1384	0.16 ug/L	81 <MDL
58) m,p-Xylenes (2)	10.001	91	1920	0.30 ug/L	94
59) o-Xylene	10.378	91	3039	0.47 ug/L	94 ↑MDL=MRL
62) Isopropylbenzene	10.652	105	4003	0.52 ug/L	93
66) n-Propylbenzene	10.999	91	3822	0.46 ug/L NR	96
69) 1,3,5-Trimethylbenzene	11.157	105	933	0.16 ug/L	81
72) 4-Chlorotoluene	11.327	91	966	0.19 ug/L	80
73) tert-Butylbenzene	11.412	91	324	0.09 ug/L #	59
74) 1,2,4-Trimethylbenzene	11.461	105	1875	0.33 ug/L	83
75) sec-Butylbenzene	11.552	105	6594	0.96 ug/L	90
79) n-Butylbenzene	11.978	91	792	0.15 ug/L	76
84) Naphthalene	13.523	128	1460	0.21 ug/L	79

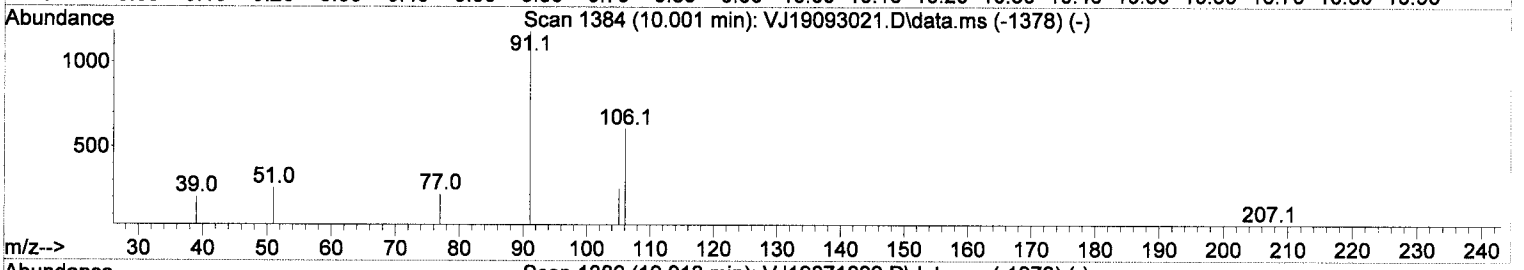
(#) = qualifier out of range (m) = manual integration (+) = signals summed

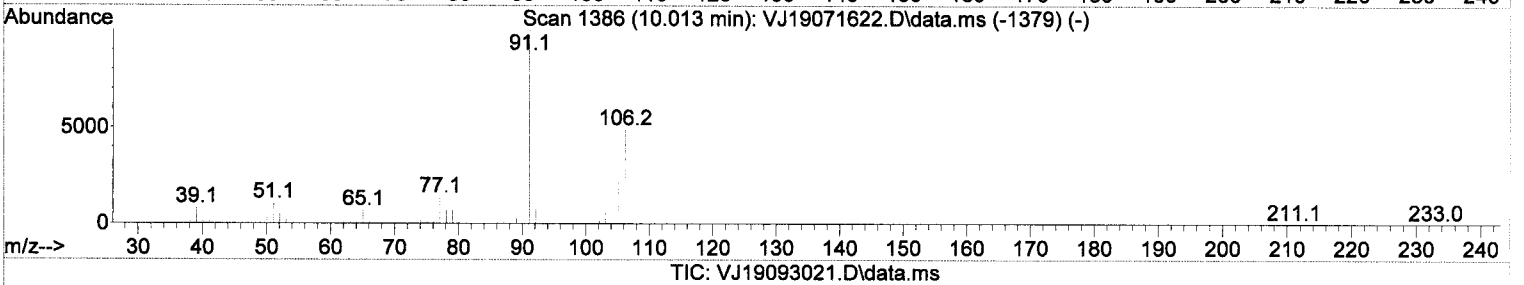
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093021.D
Acq On : 30 Sep 2019 11:42 pm
Operator : TB/IMA
Sample : A9I0992-13
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 01 10:44:50 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093021.D\data.ms

(58) m,p-Xylenes (2)

10.001min (-0.000) 0.30 ug/L

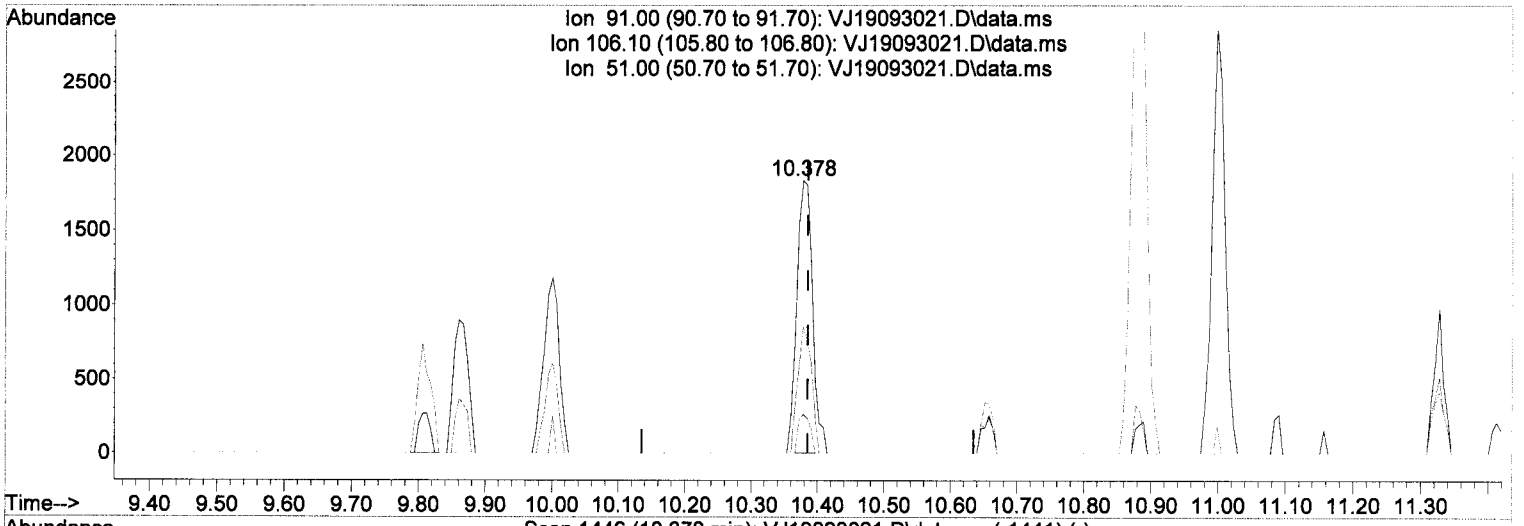
response 1920

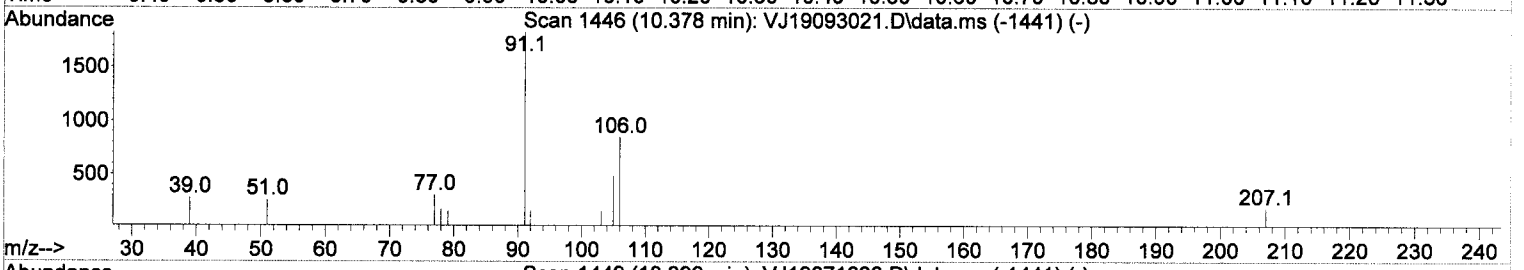
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	51.80	51.39
51.00	9.80	21.69
0.00	0.00	0.00

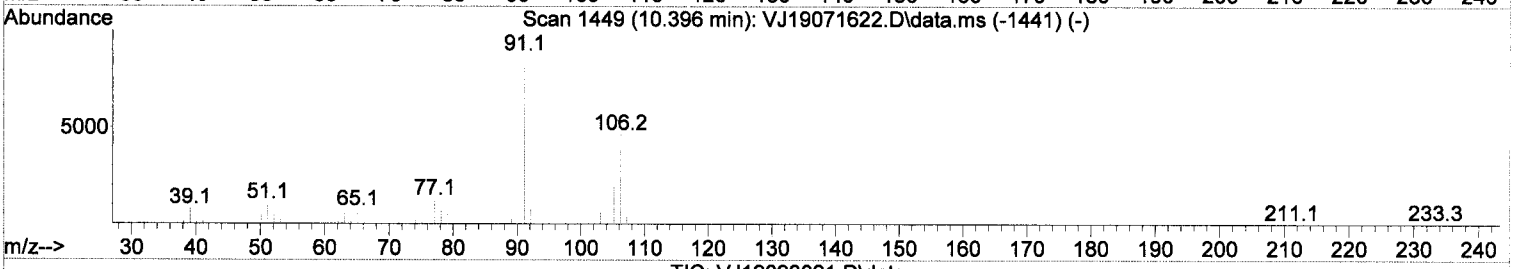
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093021.D
Acq On : 30 Sep 2019 11:42 pm
Operator : TB/IMA
Sample : A9I0992-13
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 01 10:44:50 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093021.D\data.ms

(59) o-Xylene

10.378min (-0.006) 0.47 ug/L

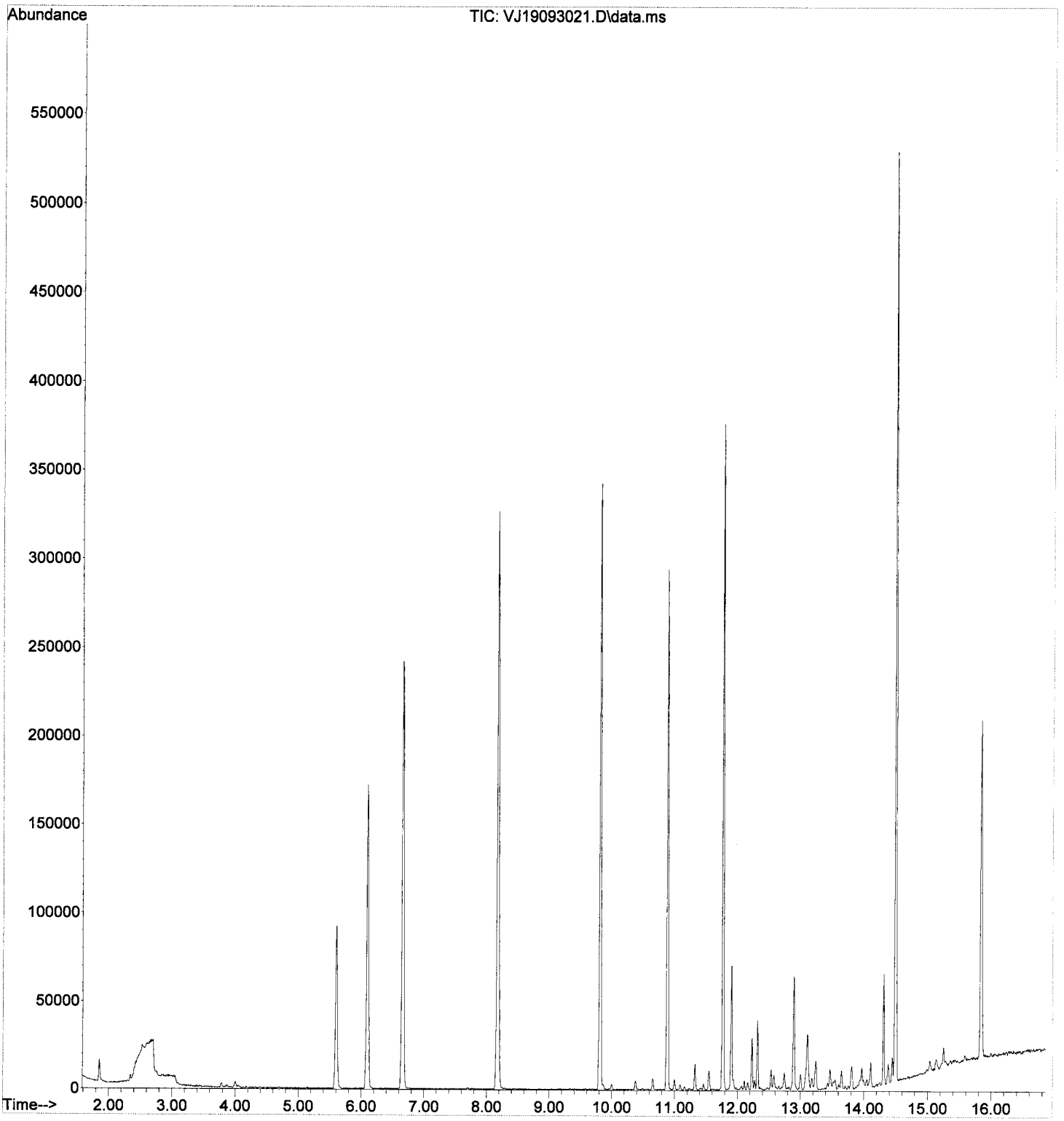
response 3039

Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	46.34
51.00	9.70	14.41
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093021.D
Acq On : 30 Sep 2019 11:42 pm
Operator : TB/IMA
Sample : A9I0922-13
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 01 10:44:50 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093022.D
Acq On : 1 Oct 2019 12:09 am
Operator : TB/IMA
Sample : A9I0922-14
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Oct 01 10:44:53 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

TB 10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	77019	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	176619	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	79419	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	54794	49.81	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	197916	48.11	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	246275	49.73	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	60309	49.15	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.892	50	260	0.13	ug/L	#	50
5) Bromomethane	2.336	96	1654	Below Cal			87
6) Chloroethane	2.476	64	115	0.46	ug/L	#	1
12) Iodomethane	3.291	142	63	Below Cal		#	47
13) Methylene Chloride	3.784	84	837	Below Cal			84
14) Acetone	3.863	43	988	Below Cal		#	42
34) tert-Amyl methyl ether...	6.144	73	57	Below Cal		#	46
56) Ethylbenzene	9.861	91	1843	0.22	ug/L		86
58) m,p-Xylenes (2)	10.001	91	1529	0.24	ug/L		91
59) o-Xylene	10.384	91	1671	0.26	ug/L		92

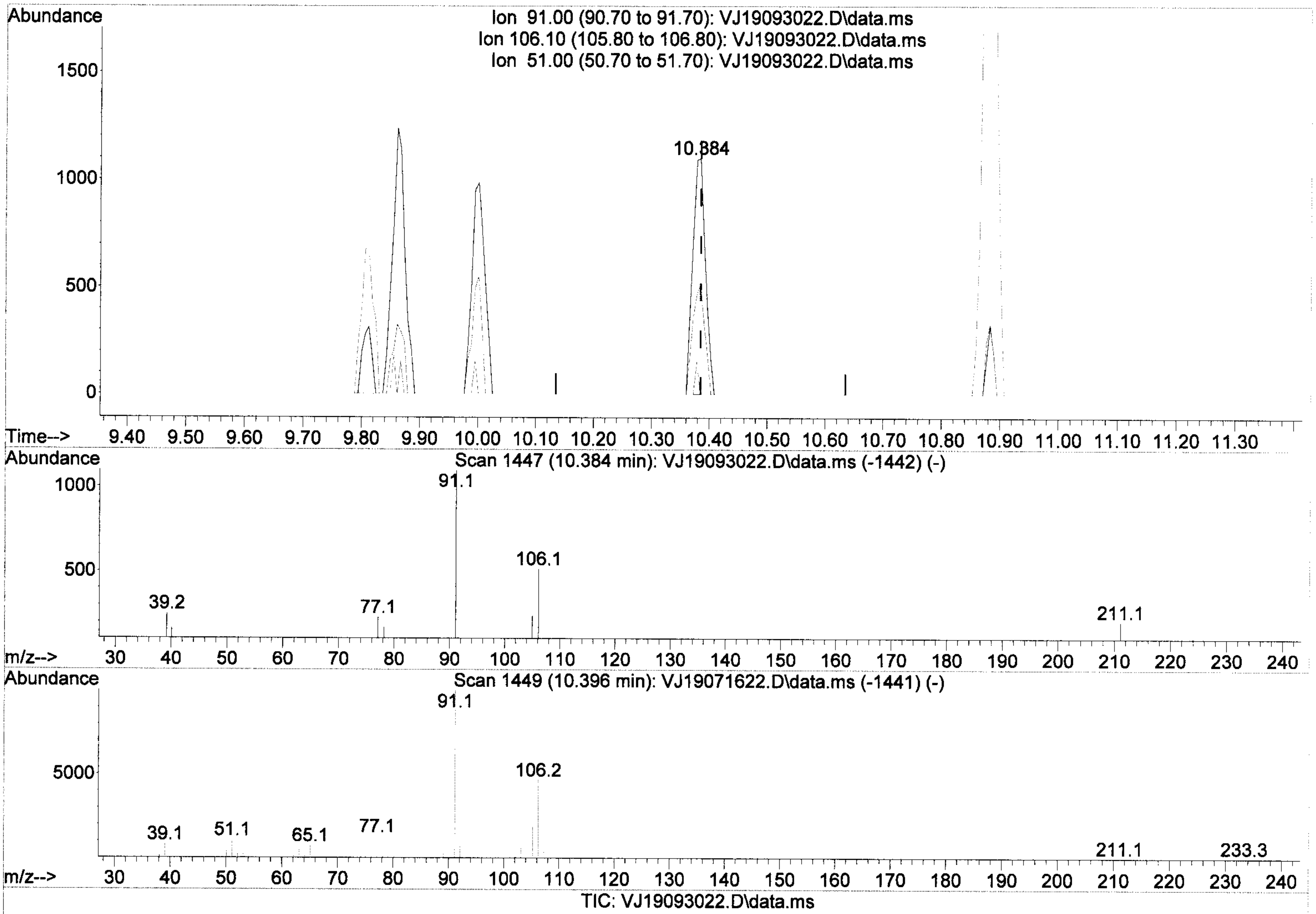
< MDL

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

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093022.D
Acq On    :  1 Oct 2019  12:09 am
Operator  : TB/IMA
Sample    : A9I0922-14
Misc      : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial  : 22   Sample Multiplier: 1

Quant Time: Oct 01 10:44:53 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title  : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration
```



(59) o-Xylene

10.384min (-0.000) 0.26 ug/L

response 1671

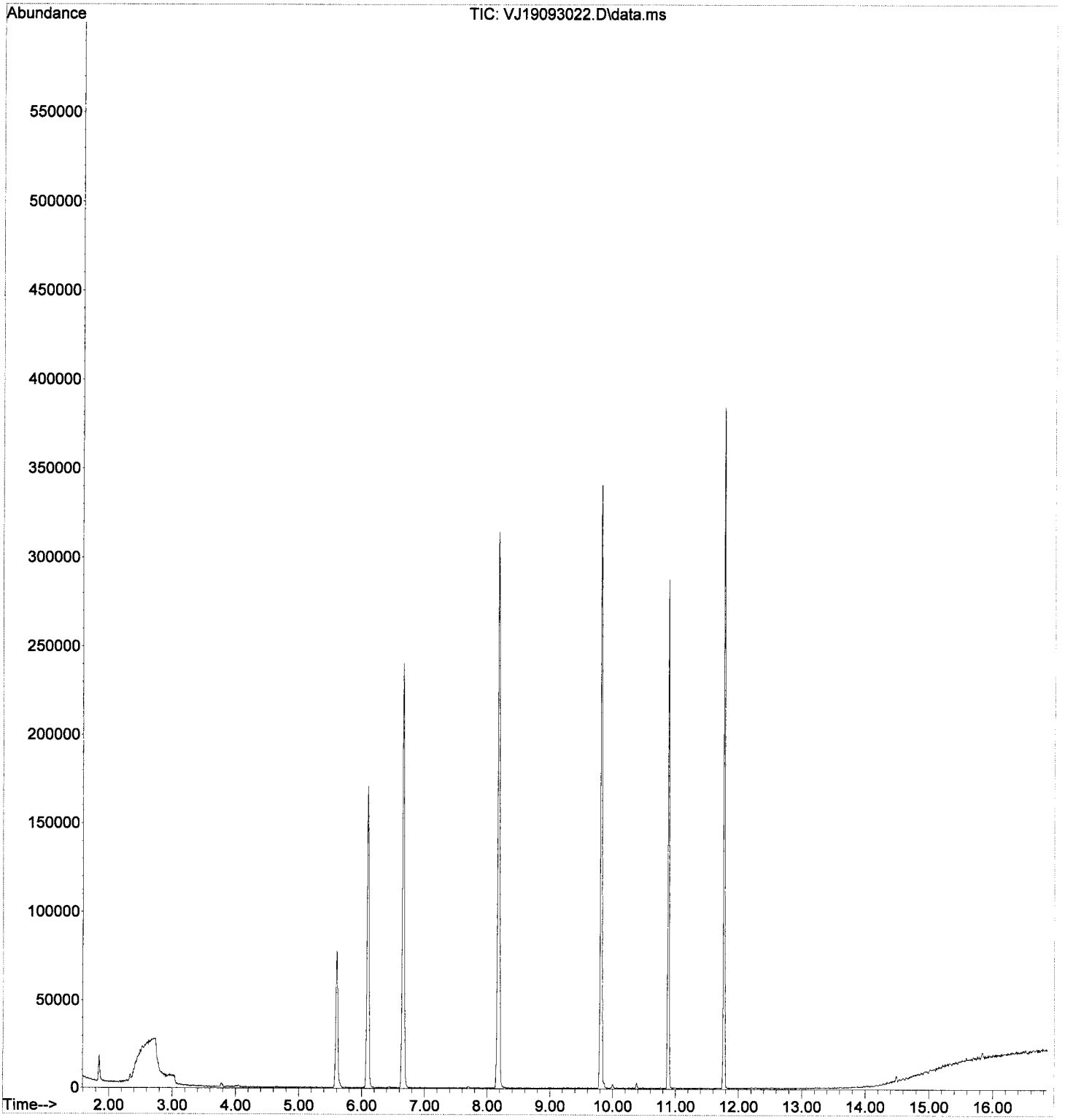
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	46.86
51.00	9.70	0.00
0.00	0.00	0.00

↑ MDL = MRL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093022.D
Acq On : 1 Oct 2019 12:09 am
Operator : TB/IMA
Sample : A9I0922-14
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Oct 01 10:44:53 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093023.D
Acq On : 1 Oct 2019 12:35 am
Operator : TB/IMA
Sample : A9I0922-15
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Oct 01 10:44:56 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	78842	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.812	117	173755	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	77548	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	58046	51.55	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	196418	46.64	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	243213	49.92	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	59434	49.61	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.898	50	223	0.11	ug/L	#	50
5) Bromomethane	2.342	96	1328	Below Cal			98
6) Chloroethane	2.494	64	129	0.51	ug/L	#	13
12) Iodomethane	3.297	142	56	Below Cal		#	47
13) Methylene Chloride	3.778	84	859	Below Cal			92
14) Acetone	3.875	43	1201	Below Cal		#	42
18) tert-Butanol (TBA)	4.258	59	205	0.31	ug/L	#	1
34) tert-Amyl methyl ether...	6.168	73	71	Below Cal		#	46
56) Ethylbenzene	9.861	91	1593	0.19	ug/L		90
58) m,p-Xylenes (2)	9.995	91	1184	0.19	ug/L		95
59) o-Xylene	10.378	91	1576	0.25	ug/L		90

CMPL

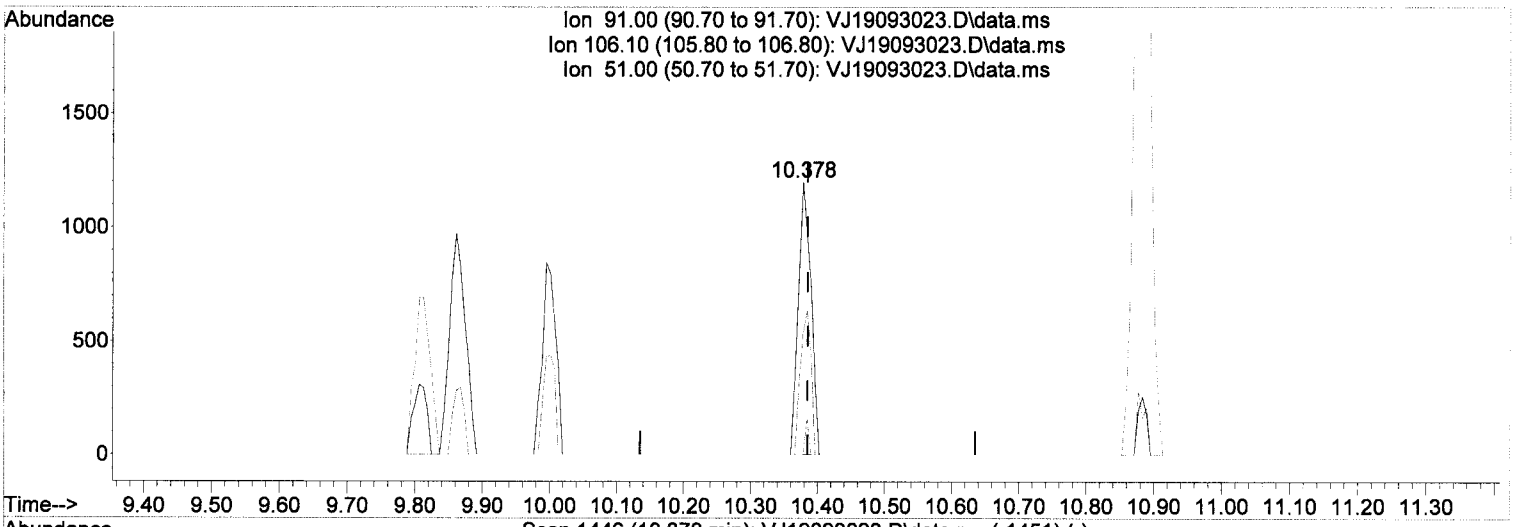
CMPL

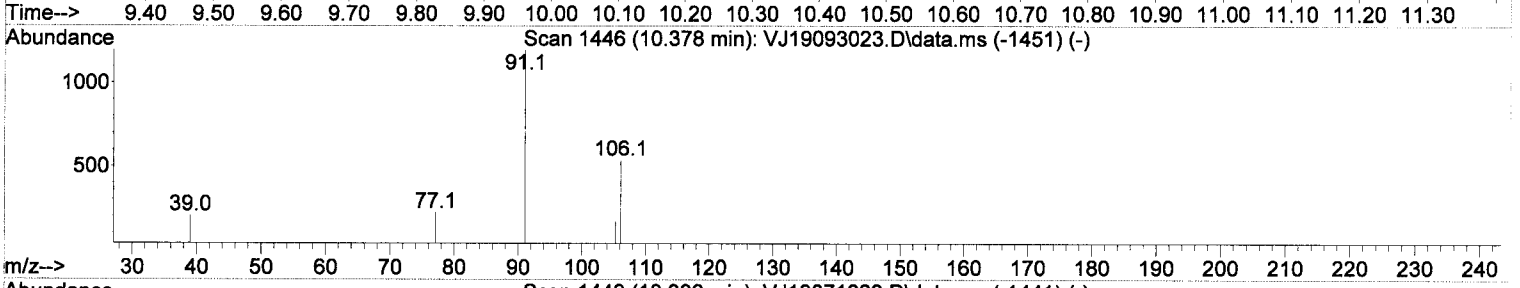
(#) = qualifier out of range (m) = manual integration (+) = signals summed

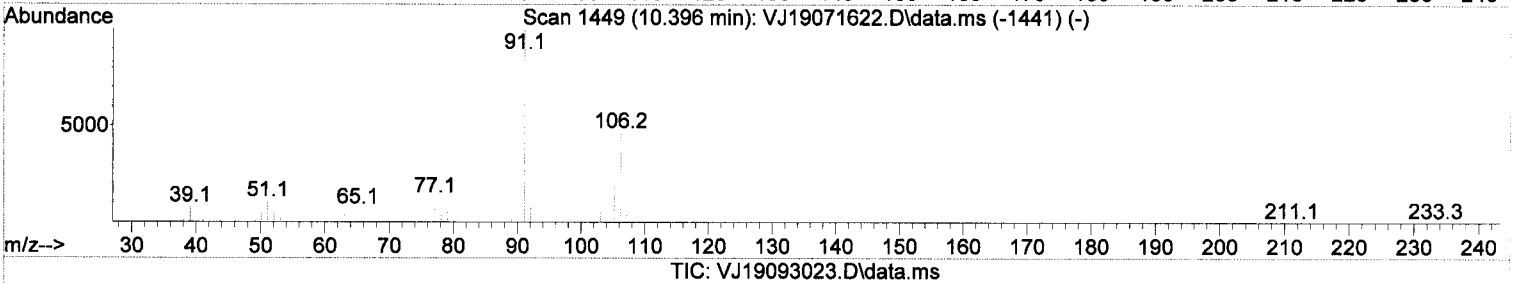
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093023.D
Acq On : 1 Oct 2019 12:35 am
Operator : TB/IMA
Sample : A9I0922-15
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Oct 01 10:44:56 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093023.D\data.ms

(59) o-Xylene

10.378min (-0.006) 0.25 ug/L

response 1576

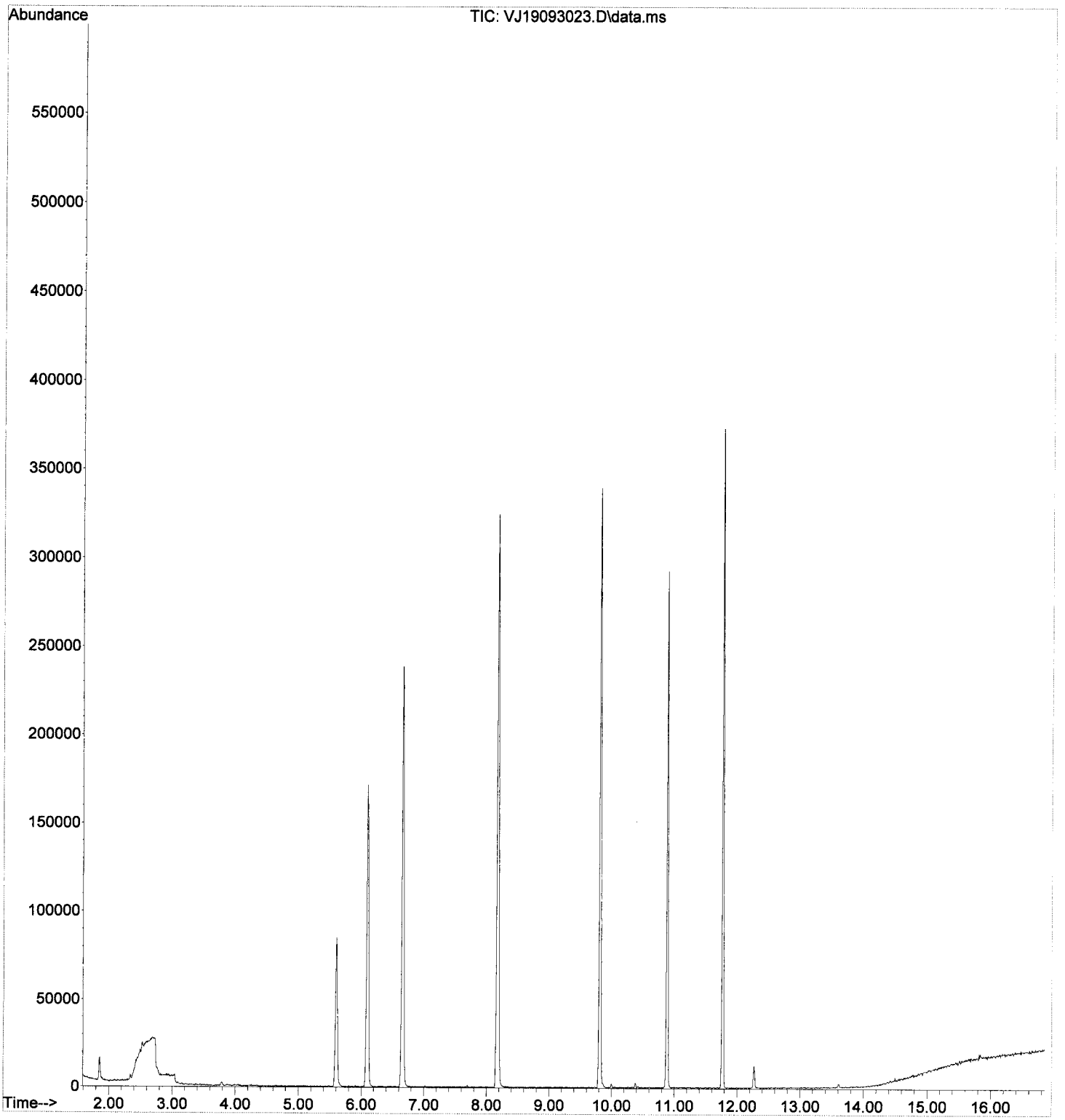
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	44.86
51.00	9.70	0.00
0.00	0.00	0.00

Should = MRL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093023.D
Acq On : 1 Oct 2019 12:35 am
Operator : TB/IMA
Sample : A9I0922-15
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Oct 01 10:44:56 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093024.D
Acq On : 1 Oct 2019 1:02 am
Operator : TB/IMA
Sample : A9I0922-16
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Oct 01 10:44:59 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	73966	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.812	117	161719	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	71368	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	55887	52.90	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	181552	45.95	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	227252	50.11	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	55215	50.08	ug/L		0.00
Target Compounds							Qvalue
5) Bromomethane	2.336	96	1069	Below Cal			86
6) Chloroethane	2.476	64	249	1.12	ug/L	#	47
13) Methylene Chloride	3.778	84	752	Below Cal			80
14) Acetone	3.869	43	1094	Below Cal		#	42
18) tert-Butanol (TBA)	4.240	59	62	0.10	ug/L	#	46
34) tert-Amyl methyl ether...	6.187	73	64	Below Cal		#	46
56) Ethylbenzene	9.867	91	1474	0.19	ug/L		85
58) m,p-Xylenes (2)	9.995	91	1164	0.20	ug/L		89
59) o-Xylene	10.378	91	1417	0.24	ug/L		72

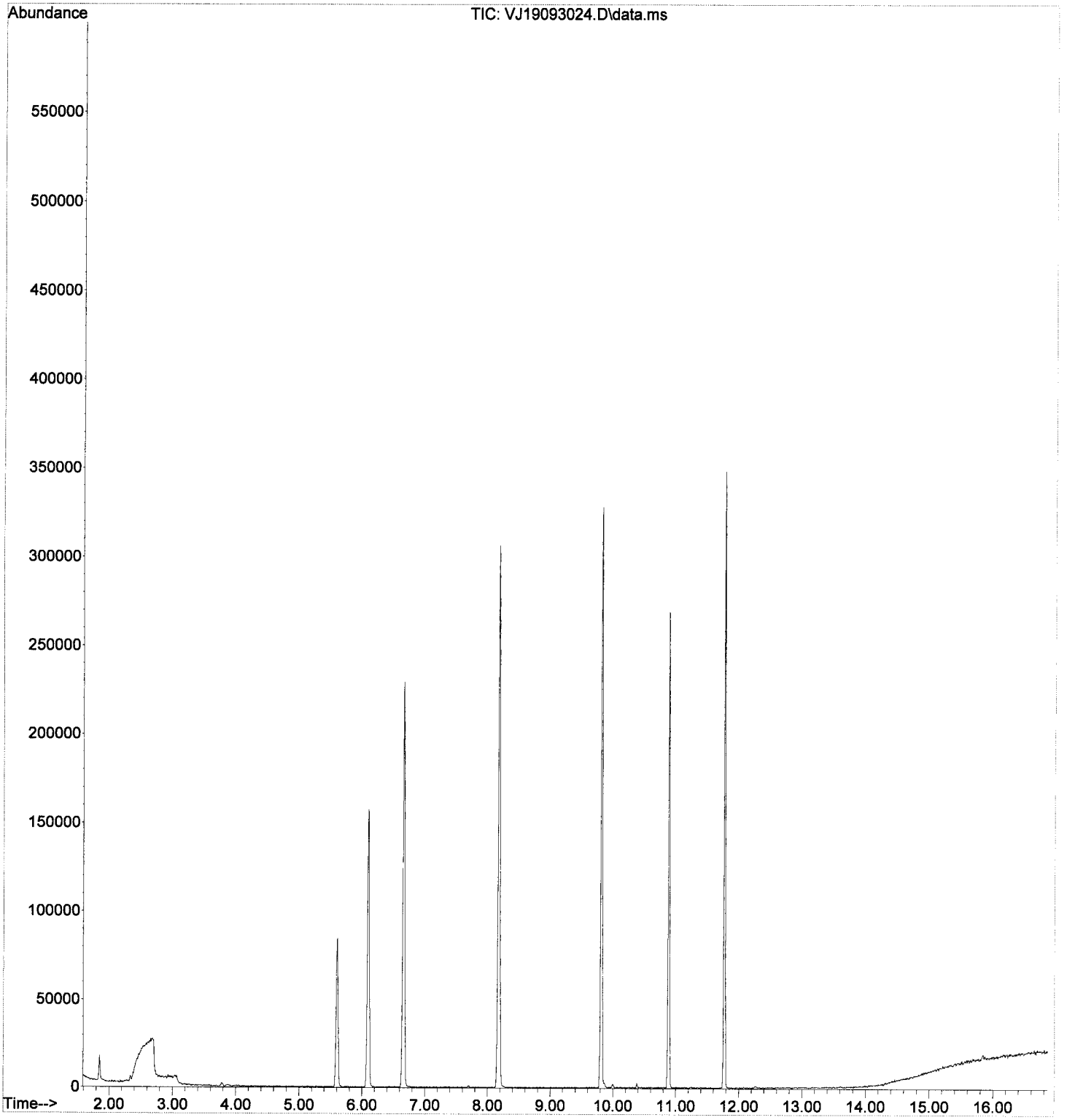
LMDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093024.D
Acq On : 1 Oct 2019 1:02 am
Operator : TB/IMA
Sample : A9I0922-16
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Oct 01 10:44:59 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

```
Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093025.D
Acq On    :  1 Oct 2019   1:29 am
Operator  : TB/IMA
Sample    : A9I0992-17
Misc      : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial  : 25   Sample Multiplier: 1

Quant Time: Oct 01 10:43:17 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title  : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration
```

QC

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	97253	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	175218	50.87	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	52960	50.02	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	222610	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	159508	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	104763	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	264969m	51.96	ug/L	
5) TPHg (C5-C9)	9.239	TIC	232382m	5.16	ug/L	
6) TPHg (C6-C10)	9.239	TIC	225656m	13.35	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	361160m	21.93	ug/L	

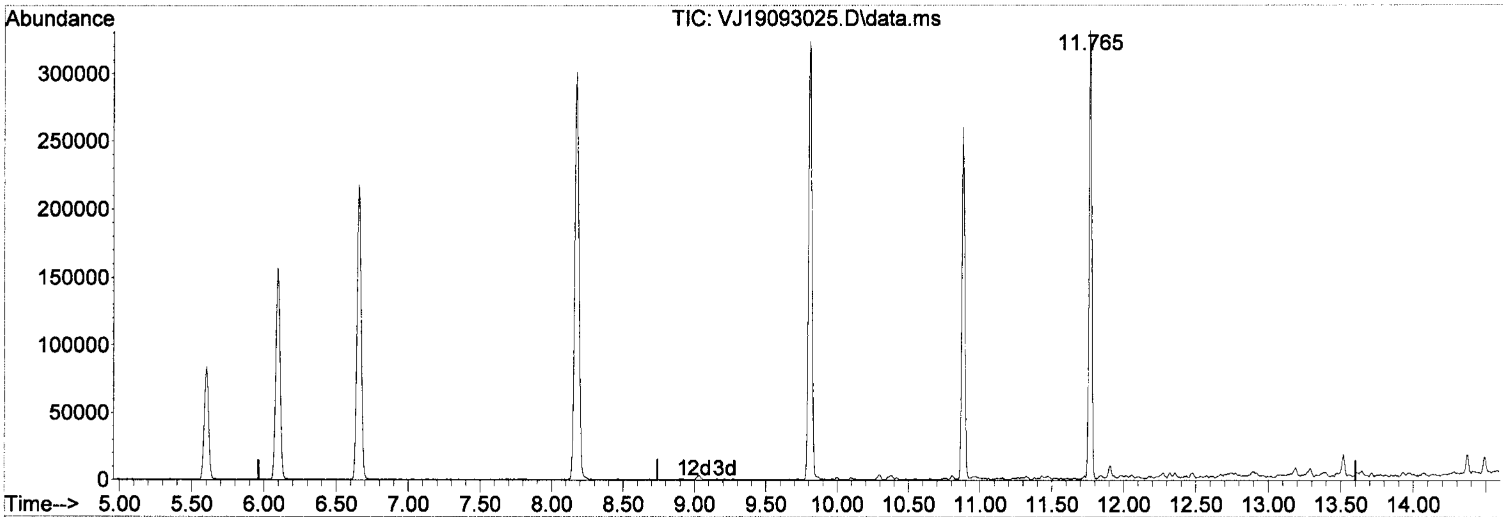
NWTPH 10/1/19 MAL

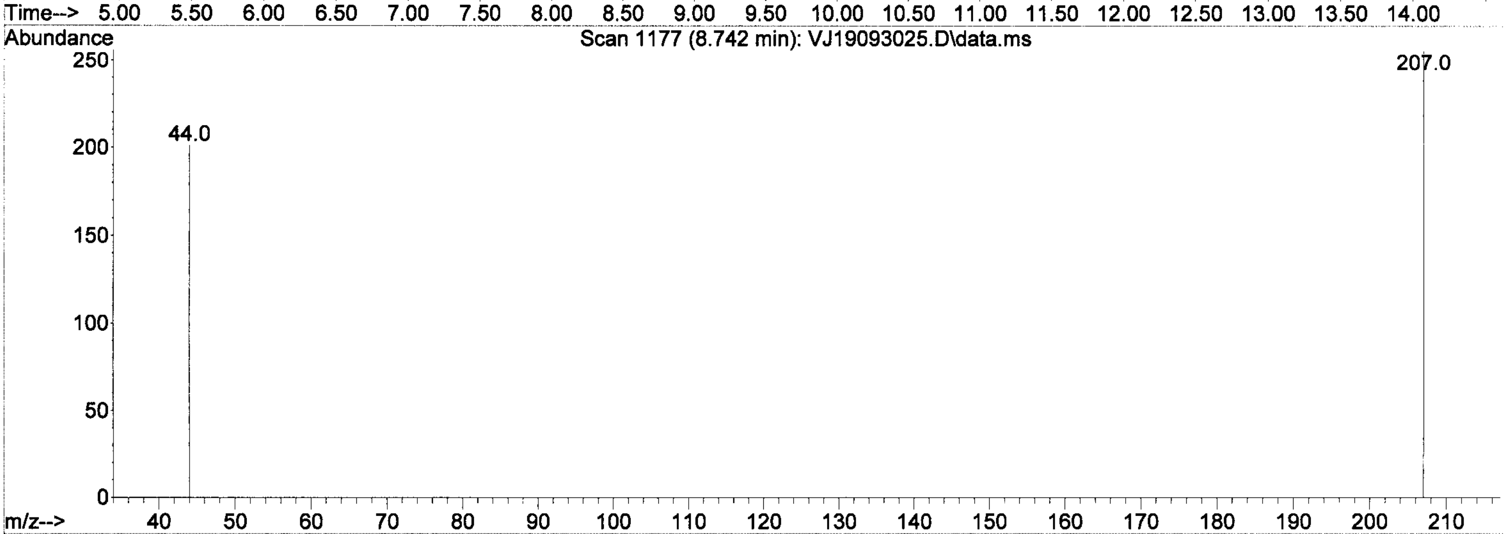
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093025.D
Acq On : 1 Oct 2019 1:29 am
Operator : TB/IMA
Sample : A9I0992-17
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Oct 01 10:43:17 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration





TIC: VJ19093025.D\data.ms

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

8.739min (0.000) 51.96 ug/L m

response 264969

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.34#
0.00	0.00	0.21#
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093025.D
Acq On : 1 Oct 2019 1:29 am
Operator : TB/IMA
Sample : A9I0922-17
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1

QC

10/1/19

Quant Time: Oct 01 10:45:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.095	99	71267	50.00 ug/L	# 0.00
43) Chlorobenzene-d5 (I)	9.812	117	159508	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	67215	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.603	111	54746	53.78 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.655	114	174954	45.96 ug/L	0.00
45) Toluene-d8 (S)	8.176	98	222610	49.77 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.883	174	52960	51.00 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.892	50	154	0.08 ug/L #	50
5) Bromomethane	2.342	96	1181	Below Cal	93
6) Chloroethane	2.476	64	182	0.83 ug/L #	1
8) Ethanol	3.437	45	180	Below Cal #	29
13) Methylene Chloride	3.784	84	748	Below Cal	80
14) Acetone	3.869	43	1096	Below Cal #	42
18) tert-Butanol (TBA)	4.252	59	59	0.10 ug/L #	46
34) tert-Amyl methyl ether...	6.156	73	58	Below Cal #	46
48) 4-Methyl-2-Pentanone (...	8.693	43	247	0.09 ug/L #	43
56) Ethylbenzene	9.861	91	1364	0.18 ug/L	89
58) m,p-Xylenes (2)	10.001	91	1205	0.21 ug/L	84
59) o-Xylene	10.378	91	1300	0.22 ug/L	79
84) Naphthalene	13.517	128	9702	1.66 ug/L	95

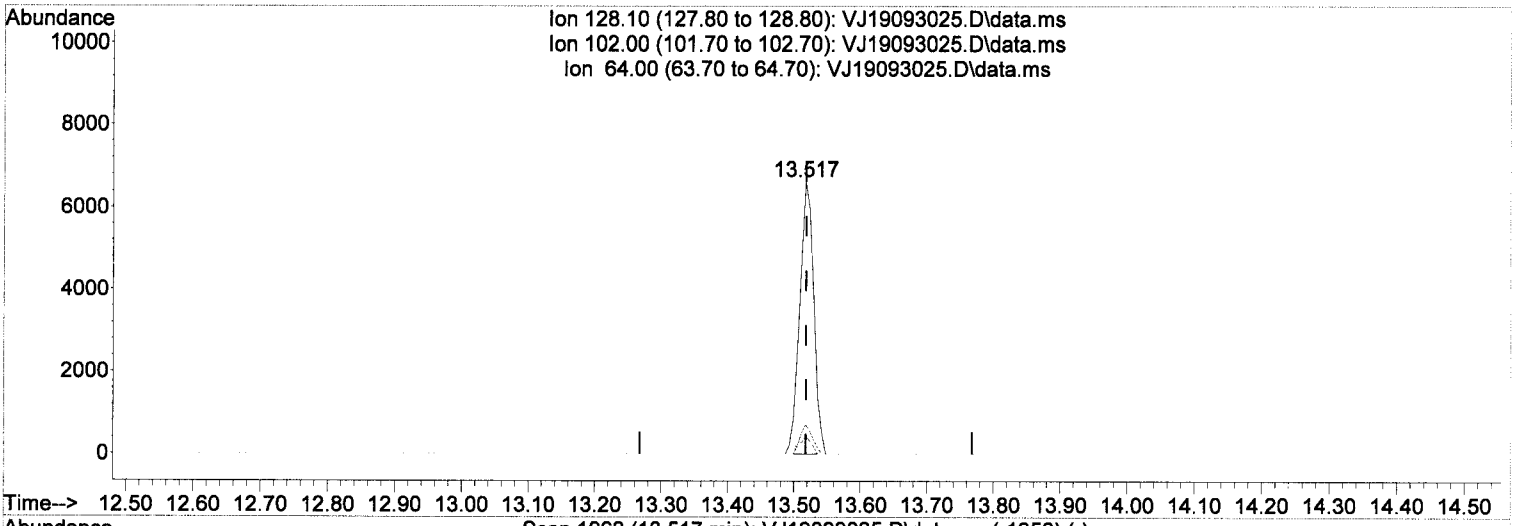
<LMDL

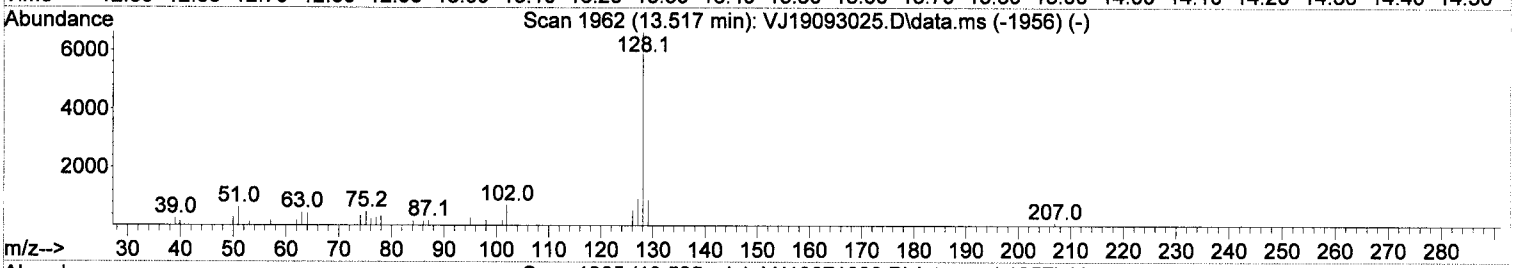
(#) = qualifier out of range (m) = manual integration (+) = signals summed

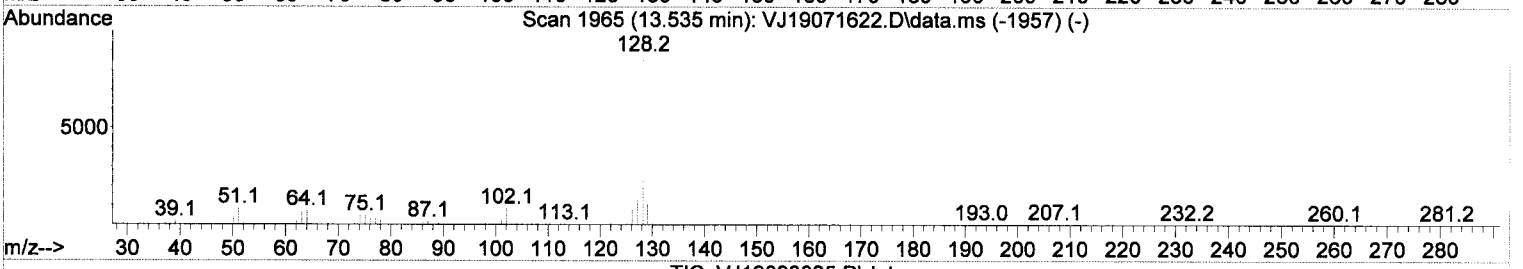
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093025.D
Acq On : 1 Oct 2019 1:29 am
Operator : TB/IMA
Sample : A9I0992-17
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Oct 01 10:45:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093025.D\data.ms

(84) Naphthalene

13.517min (-0.000) 1.66 ug/L

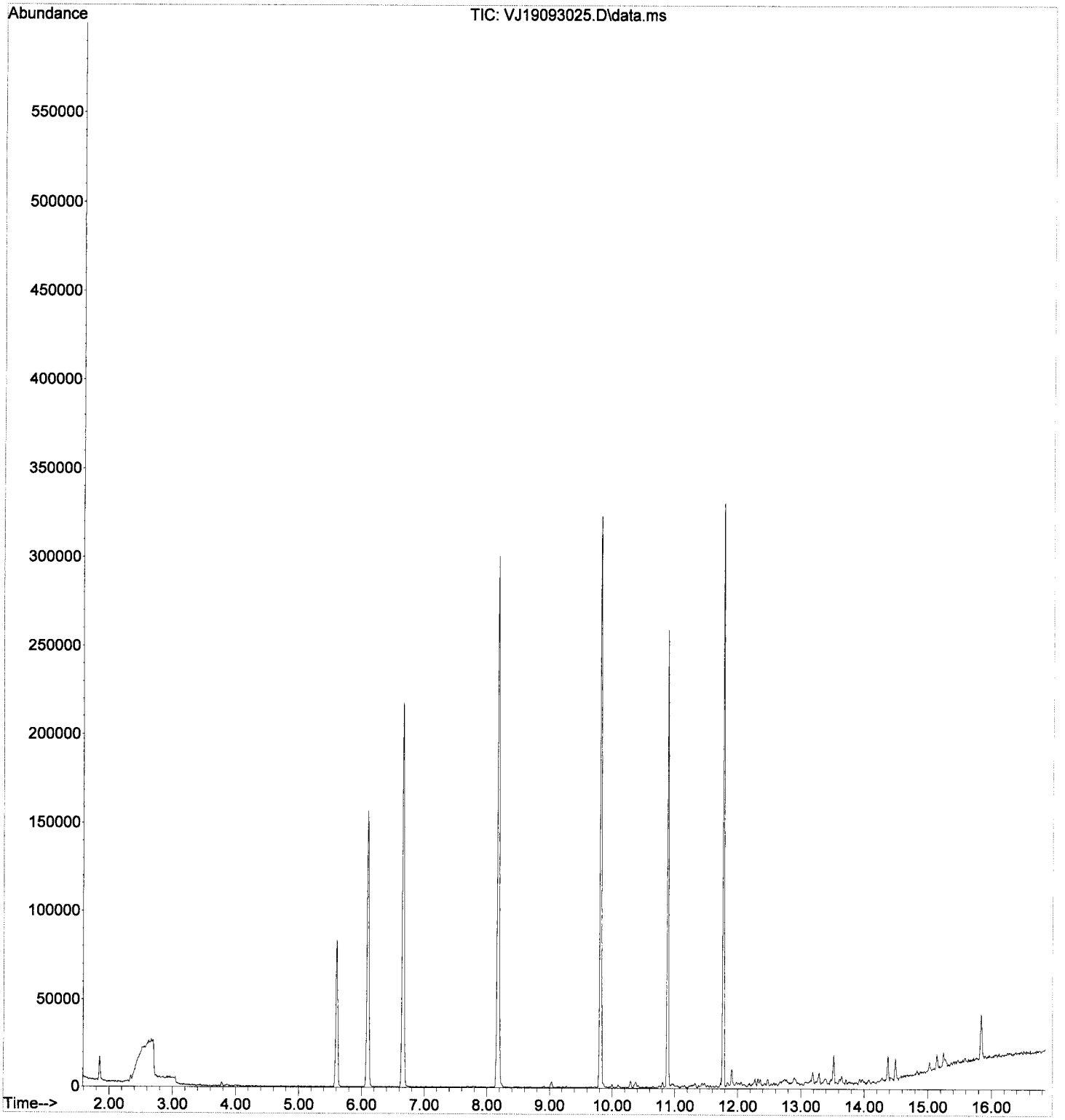
response 9702

Ion	Exp%	Act%
128.10	100.00	100.00
102.00	7.90	10.80
64.00	6.30	6.73
0.00	0.00	0.00

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093025.D
Acq On : 1 Oct 2019 1:29 am
Operator : TB/IMA
Sample : A9I0922-17
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Oct 01 10:45:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093026.D
Acq On : 1 Oct 2019 1:55 am
Operator : TB/IMA
Sample : 9091435-DUP1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-17)
ALS Vial : 26 Sample Multiplier: 1

10/1/19

Quant Time: Oct 01 10:43:36 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

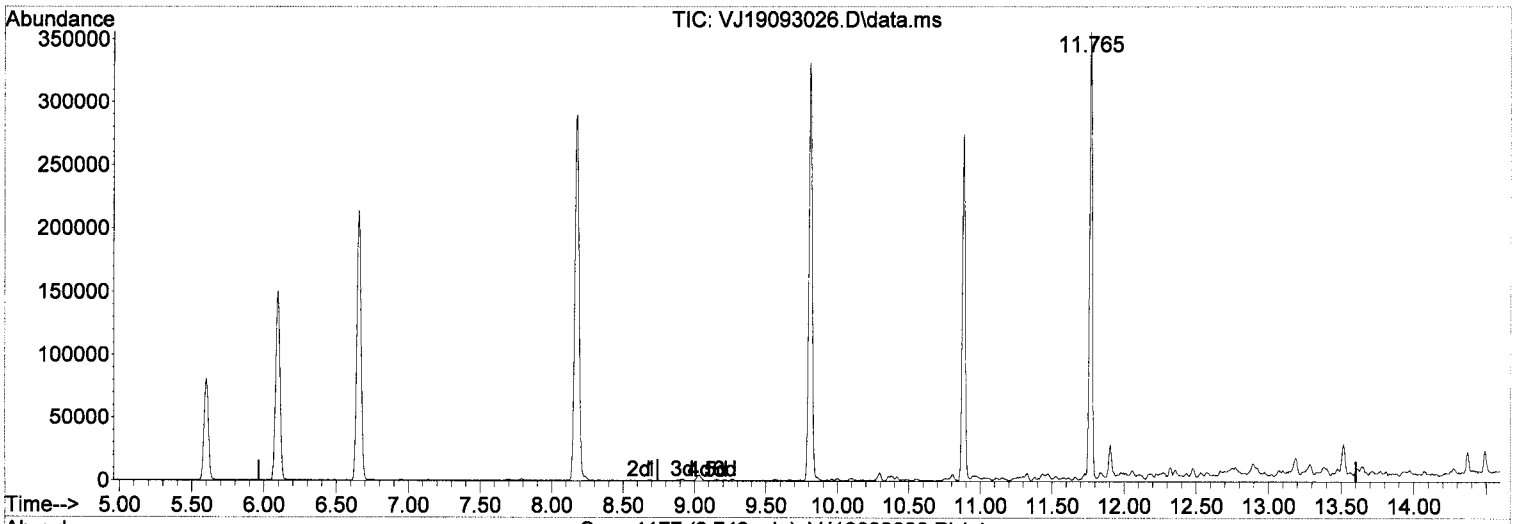
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.095	168	93247	50.00 ug/L	#-0.01
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.655	114	171233	51.85 ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	54219	53.41 ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	216263	0.00 ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.806	117	158289	0.00 ug/L	-0.01
12) 1,4-Dichlorobenzene-d4...	11.765	150	109505	0.00 ug/L	-0.01
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	505790m	106.15 ug/L	
5) TPHg (C5-C9)	9.239	TIC	252618m	10.42 ug/L	
6) TPHg (C6-C10)	9.239	TIC	241749m	18.58 ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	514460m	46.40 ug/L	

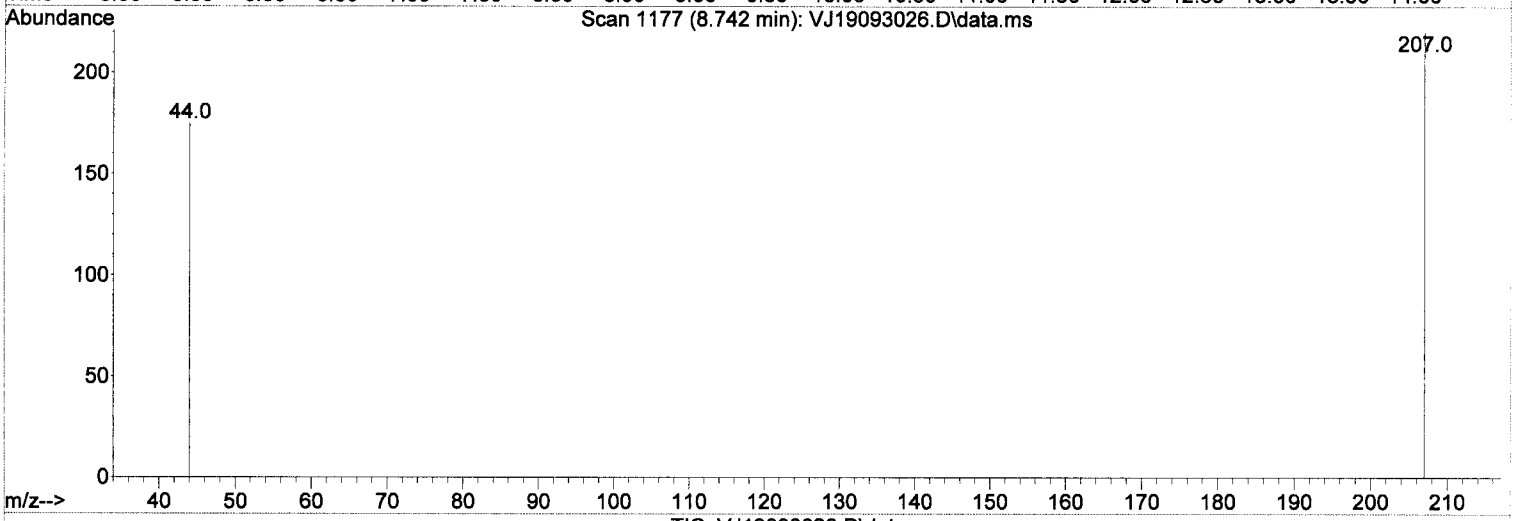
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093026.D
Acq On : 1 Oct 2019 1:55 am
Operator : TB/IMA
Sample : 9091435-DUP1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-17)
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Oct 01 10:43:36 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration





TIC: VJ19093026.D\data.ms

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

8.739min (0.000) 106.15 ug/L m

response 505790

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.32#
0.00	0.00	0.19#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093026.D
Acq On : 1 Oct 2019 1:55 am
Operator : TB/IMA
Sample : 9091435-DUP1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-17)
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Oct 01 10:45:05 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

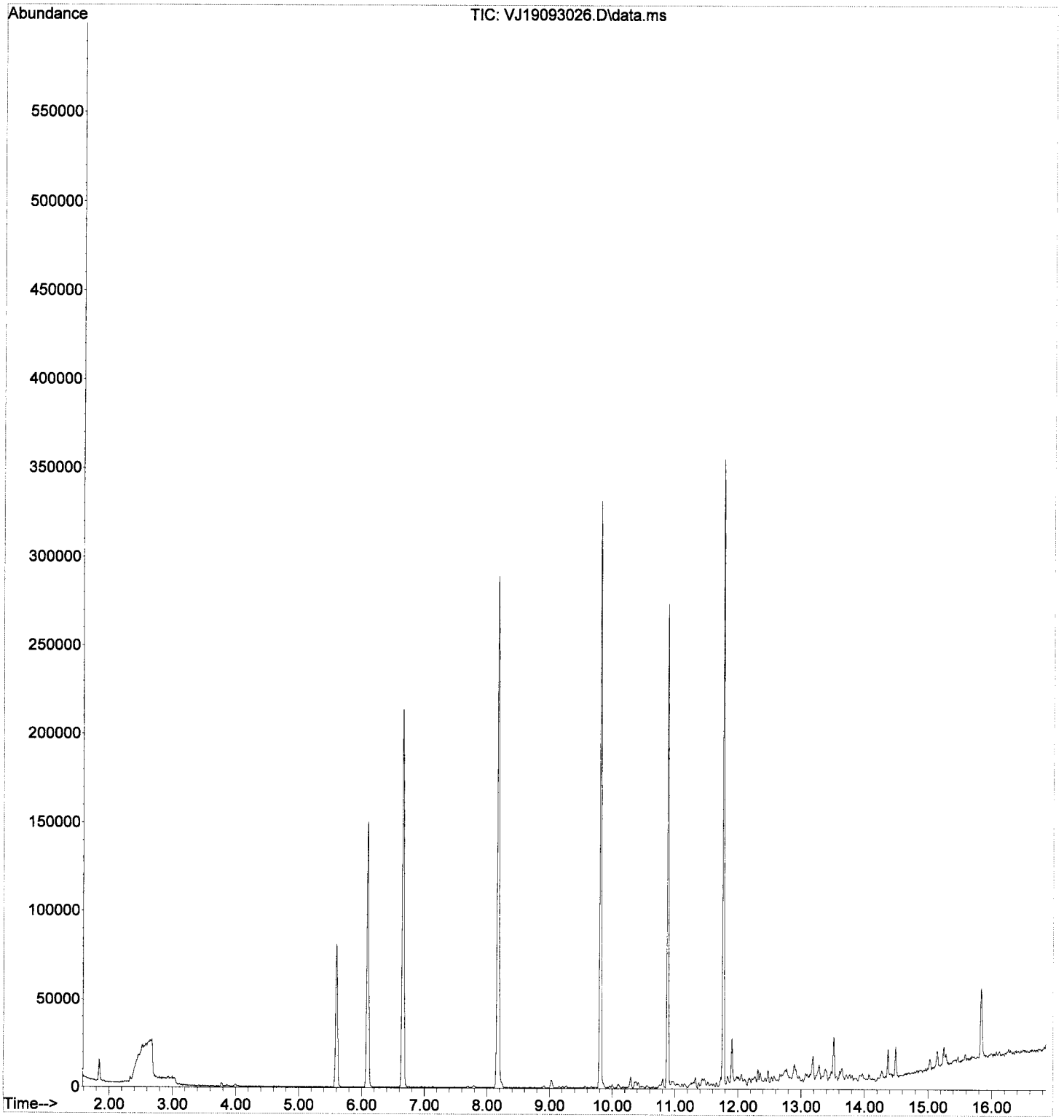
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	70091	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.806	117	158289	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.765	152	69883	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.596	111	53152	53.09	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	171233	45.74	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	215809	48.62	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	54219	50.22	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.885	50	160	0.09	ug/L	#	50
5) Bromomethane	2.336	96	959	Below Cal			98
6) Chloroethane	2.469	64	61	0.24	ug/L	#	30
8) Ethanol	3.443	45	124	Below Cal		#	29
13) Methylene Chloride	3.784	84	806	Below Cal		#	77
14) Acetone	3.857	43	1443	Below Cal		#	42
34) tert-Amyl methyl ether...	6.187	73	57	Below Cal		#	46
46) Toluene	8.237	91	1263	0.18	ug/L		93
48) 4-Methyl-2-Pentanone (...	8.687	43	316	0.11	ug/L	#	43
56) Ethylbenzene	9.861	91	1354	0.18	ug/L		78
58) m,p-Xylenes (2)	9.995	91	1127	0.20	ug/L		81
59) o-Xylene	10.378	91	1217	0.21	ug/L		91
67) 1,1,2,2-Tetrachloroethane	11.059	83	589	0.32	ug/L	#	24
84) Naphthalene	13.517	128	14753	2.43	ug/L		95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093026.D
Acq On : 1 Oct 2019 1:55 am
Operator : TB/IMA
Sample : 9091435-DUP1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-17)
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Oct 01 10:45:05 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093027.D
Acq On : 1 Oct 2019 2:22 am
Operator : TB/IMA
Sample : A9I0922-09
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 01 10:45:08 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	71101	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.812	117	153831	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	67599	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	52873	52.06	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	171269	45.10	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	215376	49.93	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	51626	49.43	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.898	50	239	0.13	ug/L	#	50
5) Bromomethane	2.342	96	1282	Below Cal			91
6) Chloroethane	2.463	64	187	0.86	ug/L	#	31
12) Iodomethane	3.297	142	59	Below Cal		#	47
13) Methylene Chloride	3.783	84	906	Below Cal			93
14) Acetone	3.875	43	1177	Below Cal		#	42
34) tert-Amyl methyl ether...	6.162	73	63	Below Cal		#	46
56) Ethylbenzene	9.861	91	1473	0.20	ug/L		95
58) m,p-Xylenes (2)	10.001	91	1314	0.24	ug/L		88
59) o-Xylene	10.384	91	1376	0.25	ug/L		87

LMDL

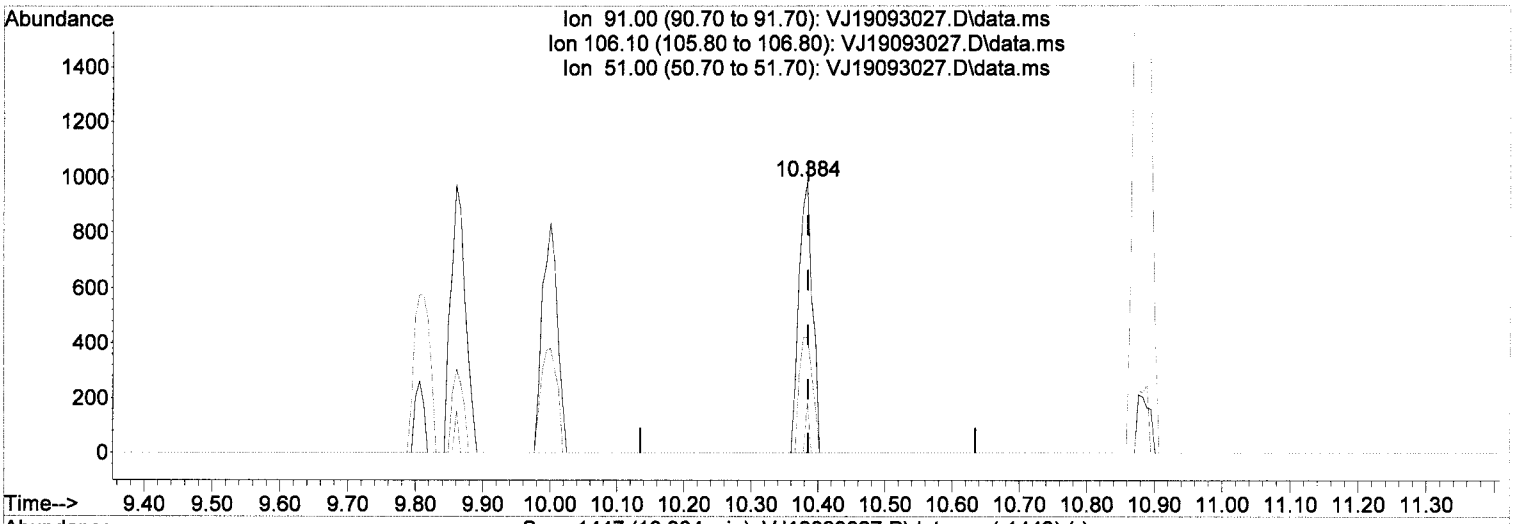
MDL = MRL

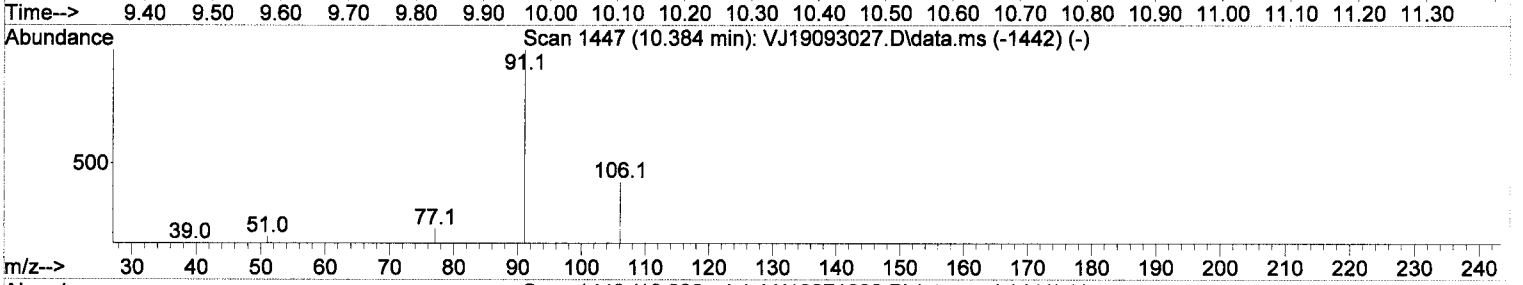
(#) = qualifier out of range (m) = manual integration (+) = signals summed

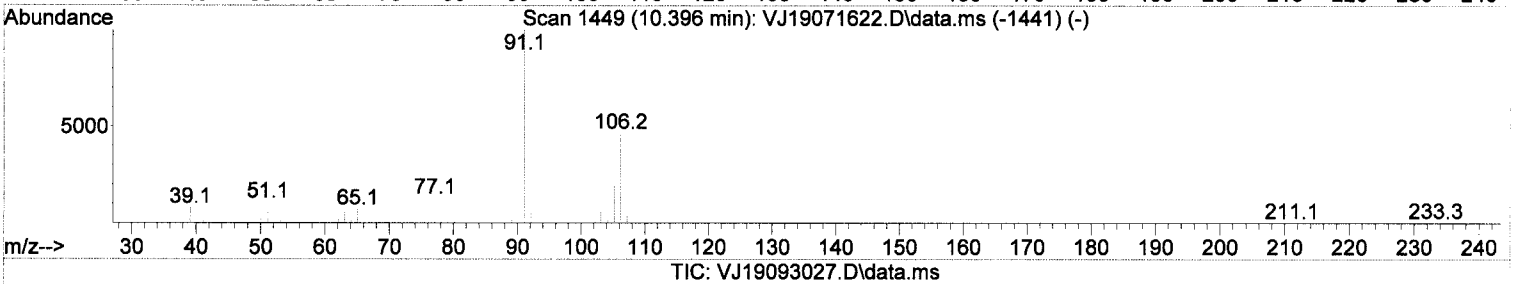
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093027.D
Acq On : 1 Oct 2019 2:22 am
Operator : TB/IMA
Sample : A9I0922-09
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 01 10:45:08 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19093027.D\data.ms

(59) o-Xylene

10.384min (-0.000) 0.25 ug/L

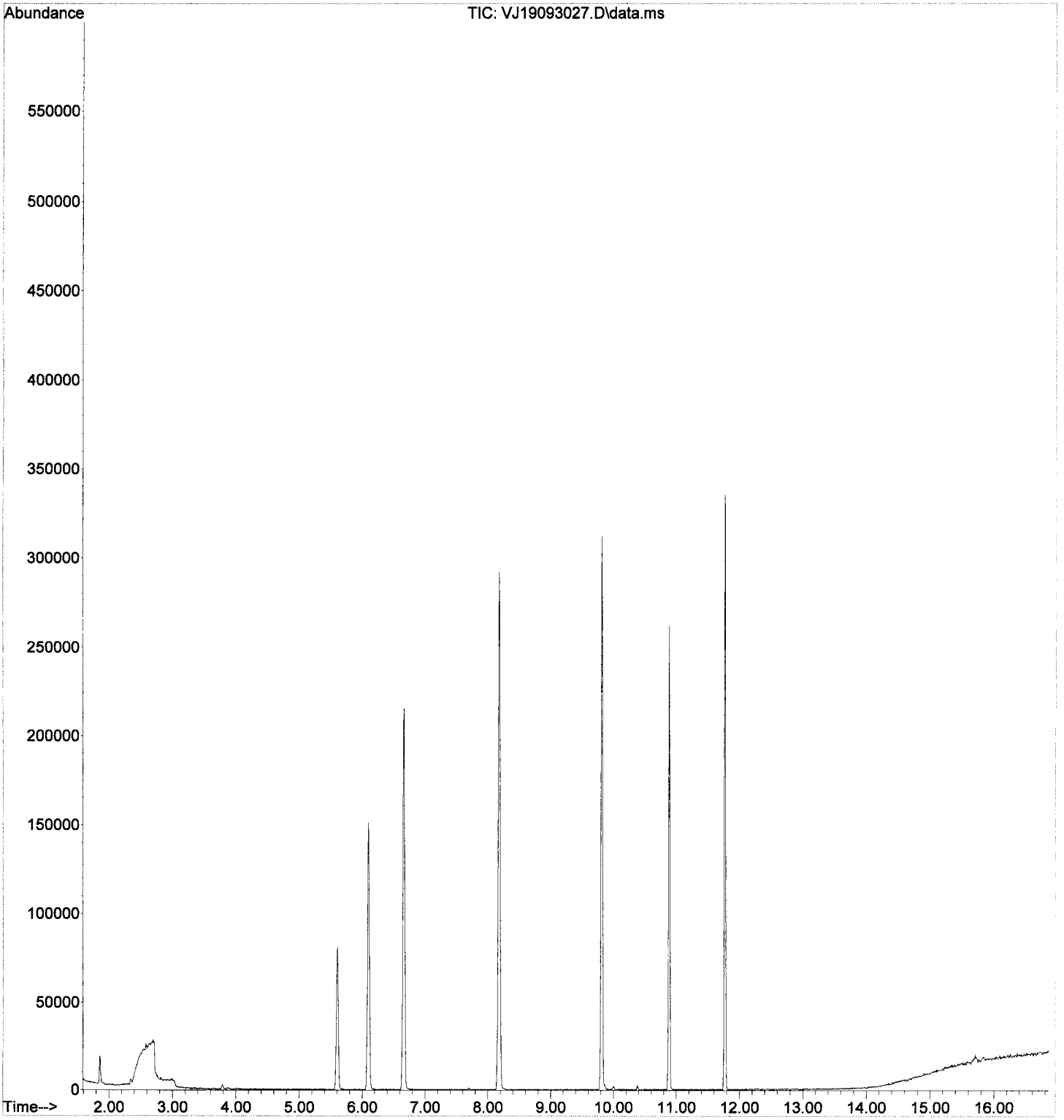
response 1376

Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	42.60
51.00	9.70	18.76
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093027.D
Acq On : 1 Oct 2019 2:22 am
Operator : TB/IMA
Sample : A9I0922-09
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Oct 01 10:45:08 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093028.D
Acq On : 1 Oct 2019 2:49 am
Operator : TB/IMA
Sample : 9091435-MS1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-09)
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 01 10:45:11 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	72878	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.812	117	156032	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	70829	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	54499	52.36	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	175442	45.07	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	218817	50.01	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	53857	49.22	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	31463	23.54	ug/L		97
3) Chloromethane	1.904	50	37679	19.44	ug/L		99
4) Vinyl Chloride	2.001	62	31481	21.40	ug/L		97
5) Bromomethane	2.348	96	15321	24.46	ug/L		99
6) Chloroethane	2.469	64	6133	27.36	ug/L		92
7) Trichlorofluoromethane	2.603	101	17590	26.85	ug/L		97
8) Ethanol	3.297	45	60045	913.32	ug/L		90
9) 1,1-Dichloroethene	3.151	61	43855	20.60	ug/L		81
10) Carbon Disulfide	3.163	76	54934	18.09	ug/L		99
11) Freon 113	3.205	101	23071	20.20	ug/L		82
12) Iodomethane	3.303	142	7103	14.16	ug/L		77
13) Methylene Chloride	3.789	84	25144	17.26	ug/L		87
14) Acetone	3.875	43	53872	46.70	ug/L		87
15) t-1,2-Dichloroethene	3.954	61	44929	21.20	ug/L		86
16) n-Hexane	4.051	86	6123	18.16	ug/L	#	70
17) Methyl-tert-butyl-ether	4.112	73	119757	18.68	ug/L		59
18) tert-Butanol (TBA)	4.264	59	751257	1213.88	ug/L	#	89
19) Diisopropyl ether (DIPE)	4.507	45	28472	4.65	ug/L		95
20) 1,1-Dichloroethane	4.586	63	49635	20.78	ug/L		100
21) Acrylonitrile	4.641	53	21386	20.33	ug/L		92
22) Ethyl-tert-butyl ether...	4.878	59	28852	4.57	ug/L		96
23) c-1,2-Dichloroethene	5.140	61	48172	20.54	ug/L		86
24) 2,2-Dichloropropane	5.250	77	46306	17.26	ug/L		94
25) Bromochloromethane	5.335	49	27895	20.80	ug/L		78
26) Chloroform	5.420	83	62303	21.79	ug/L		96
27) Carbon Tetrachloride	5.566	117	44430	22.65	ug/L		98
28) Tetrahydrofuran	5.596	42	25719	18.34	ug/L		92
29) 1,1,1-Trichloroethane	5.627	97	57764	21.92	ug/L		95
31) 1,1-Dichloropropene	5.754	75	48953	20.11	ug/L		89
32) 2-Butanone (MEK)	5.742	43	70333	36.94	ug/L		91
33) Benzene	6.010	78	127868	18.00	ug/L		94
34) tert-Amyl methyl ether...	6.156	73	26749	4.41	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.211	62	60023	22.12	ug/L		95
36) iso-Butyl Alcohol	6.290	43	104645	464.51	ug/L		93
38) Trichloroethene (TCE)	6.631	130	30200	19.63	ug/L		87
39) tert-Amyl ethyl ether ...	6.910	59	21238	4.55	ug/L		86
40) Dibromomethane	7.069	93	21004	21.04	ug/L	#	83
41) 1,2-Dichloropropane	7.178	63	34184	19.36	ug/L		83
42) Bromodichloromethane	7.257	83	40329	22.15	ug/L		98
44) c-1,3-Dichloropropene	7.957	75	51003	21.70	ug/L		89
46) Toluene	8.237	91	135654	19.74	ug/L		99
47) Tetrachloroethene (PCE)	8.687	166	29031	20.67	ug/L		83
48) 4-Methyl-2-Pentanone (...	8.675	43	116414	42.22	ug/L		96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093028.D
Acq On : 1 Oct 2019 2:49 am
Operator : TB/IMA
Sample : 9091435-MS1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-09)
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 01 10:45:11 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

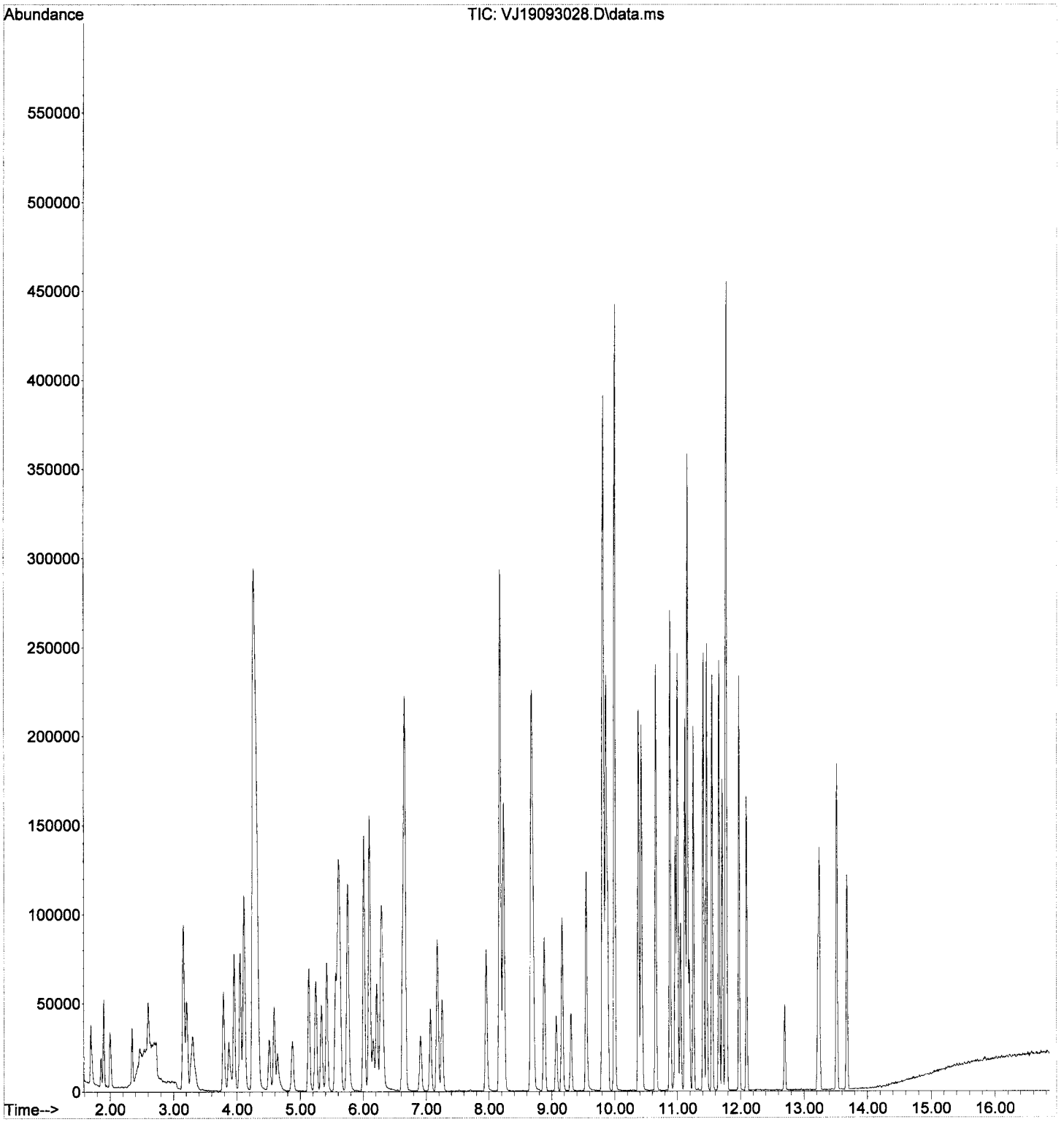
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	52594	22.30	ug/L		96
50) 1,1,2-Trichloroethane	8.881	97	28754	21.57	ug/L		90
51) Dibromochloromethane	9.070	129	24426	24.16	ug/L		96
52) 1,3-Dichloropropane	9.167	76	56746	21.87	ug/L		89
53) 1,2-Dibromoethane (EDB)	9.307	107	31259	21.60	ug/L		98
54) 2-Hexanone	9.545	43	88347	40.15	ug/L		94
55) Chlorobenzene	9.824	112	80873	21.41	ug/L		91
56) Ethylbenzene	9.861	91	153842	20.90	ug/L		95
57) 1,1,1,2-Tetrachloroethane	9.891	131	28358	23.31	ug/L		97
58) m,p-Xylenes (2)	10.001	91	235497	42.61	ug/L		92
59) o-Xylene	10.378	91	118374	20.88	ug/L		89
60) Styrene	10.427	104	76864	19.58	ug/L		89
61) Bromoform	10.439	173	14912	24.77	ug/L		96
62) Isopropylbenzene	10.658	105	141763	21.16	ug/L		95
65) Bromobenzene	10.968	156	29660	21.54	ug/L	#	74
66) n-Propylbenzene	10.999	91	161673	21.30	ug/L		92
67) 1,1,2,2-Tetrachloroethane	11.053	83	39329	21.22	ug/L		92
68) 2-Chlorotoluene	11.120	126	28073	21.26	ug/L	#	63
69) 1,3,5-Trimethylbenzene	11.157	105	111775	21.70	ug/L		87
70) 1,2,3-Trichloropropane	11.157	110	15996	21.94	ug/L		89
71) t-1,4-Dichloro-2-butene	11.193	88	7381	22.25	ug/L	#	76
72) 4-Chlorotoluene	11.254	91	100434	21.55	ug/L		89
73) tert-Butylbenzene	11.412	91	70445	21.85	ug/L		81
74) 1,2,4-Trimethylbenzene	11.467	105	113461	21.83	ug/L		92
75) sec-Butylbenzene	11.552	105	134548	21.74	ug/L		95
76) 4-Isopropyltoluene	11.662	119	110759	21.53	ug/L		94
77) 1,3-Dichlorobenzene	11.710	146	54384	20.74	ug/L		93
78) 1,4-Dichlorobenzene	11.777	146	54167	21.01	ug/L		93
79) n-Butylbenzene	11.978	91	100983	21.55	ug/L		96
80) 1,2-Dichlorobenzene	12.094	146	50662	20.86	ug/L		96
81) 1,2-Dibromo-3-Chloropr...	12.702	157	9484	20.07	ug/L	#	48
82) Hexachlorobutadiene	13.225	223	7701	21.42	ug/L		93
83) 1,2,4-Trichlorobenzene	13.243	180	32458	20.40	ug/L		93
84) Naphthalene	13.517	128	126974	20.64	ug/L		94
85) 1,2,3-Trichlorobenzene	13.681	180	32080	20.56	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093028.D
Acq On : 1 Oct 2019 2:49 am
Operator : TB/IMA
Sample : 9091435-MS1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-09)
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Oct 01 10:45:11 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093029.D
Acq On : 1 Oct 2019 3:15 am
Operator : TB/IMA
Sample : 9091435-MSD1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-09)
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 01 10:45:14 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

10/1/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.089	99	70797	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.812	117	153719	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	72094	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.597	111	53646	53.05	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	174327	46.10	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	215479	49.99	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	52878	47.48	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	30413	23.42	ug/L		98
3) Chloromethane	1.892	50	37445	19.89	ug/L		99
4) Vinyl Chloride	1.989	62	30291	21.20	ug/L		94
5) Bromomethane	2.336	96	15571	25.73	ug/L		98
6) Chloroethane	2.457	64	5783	26.61	ug/L		90
7) Trichlorofluoromethane	2.591	101	16980	26.69	ug/L		96
8) Ethanol	3.285	45	60126	942.63	ug/L		88
9) 1,1-Dichloroethene	3.139	61	42408	20.50	ug/L		80
10) Carbon Disulfide	3.151	76	53994	18.30	ug/L		99
11) Freon 113	3.194	101	22580	20.36	ug/L		88
12) Iodomethane	3.291	142	7956	16.34	ug/L		74
13) Methylene Chloride	3.778	84	24431	17.27	ug/L		86
14) Acetone	3.863	43	52704	47.04	ug/L		90
15) t-1,2-Dichloroethene	3.948	61	43962	21.35	ug/L		87
16) n-Hexane	4.039	86	5891	17.99	ug/L	#	87
17) Methyl-tert-butyl-ether	4.106	73	119375	19.17	ug/L		72
18) tert-Butanol (TBA)	4.252	59	741724	1233.70	ug/L	#	89
19) Diisopropyl ether (DIPE)	4.502	45	27507	4.62	ug/L		94
20) 1,1-Dichloroethane	4.581	63	48918	21.08	ug/L		99
21) Acrylonitrile	4.629	53	20997	20.54	ug/L		94
22) Ethyl-tert-butyl ether...	4.873	59	28877	4.71	ug/L		92
23) c-1,2-Dichloroethene	5.128	61	46950	20.61	ug/L		86
24) 2,2-Dichloropropane	5.244	77	44826	17.20	ug/L		95
25) Bromochloromethane	5.329	49	27059	20.77	ug/L		77
26) Chloroform	5.414	83	61861	22.27	ug/L		92
27) Carbon Tetrachloride	5.560	117	43394	22.77	ug/L		97
28) Tetrahydrofuran	5.584	42	26029	19.10	ug/L		91
29) 1,1,1-Trichloroethane	5.621	97	56203	21.95	ug/L		98
31) 1,1-Dichloropropene	5.755	75	46601	19.71	ug/L		91
32) 2-Butanone (MEK)	5.736	43	70119	37.91	ug/L		95
33) Benzene	6.004	78	125834	18.24	ug/L		95
34) tert-Amyl methyl ether...	6.150	73	26648	4.52	ug/L		96
35) 1,2-Dichloroethane (EDC)	6.211	62	59533	22.58	ug/L		93
36) iso-Butyl Alcohol	6.290	43	105448	481.84	ug/L		97
38) Trichloroethene (TCE)	6.625	130	30297	20.27	ug/L		89
39) tert-Amyl ethyl ether ...	6.905	59	20835	4.59	ug/L		87
40) Dibromomethane	7.063	93	21006	21.66	ug/L	#	83
41) 1,2-Dichloropropane	7.172	63	33699	19.65	ug/L		84
42) Bromodichloromethane	7.251	83	40366	22.79	ug/L		93
44) c-1,3-Dichloropropene	7.957	75	50695	21.90	ug/L		90
46) Toluene	8.231	91	133436	19.70	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	28266	20.42	ug/L		80
48) 4-Methyl-2-Pentanone (...	8.675	43	115297	42.45	ug/L		96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093029.D
Acq On : 1 Oct 2019 3:15 am
Operator : TB/IMA
Sample : 9091435-MSD1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-09)
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 01 10:45:14 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

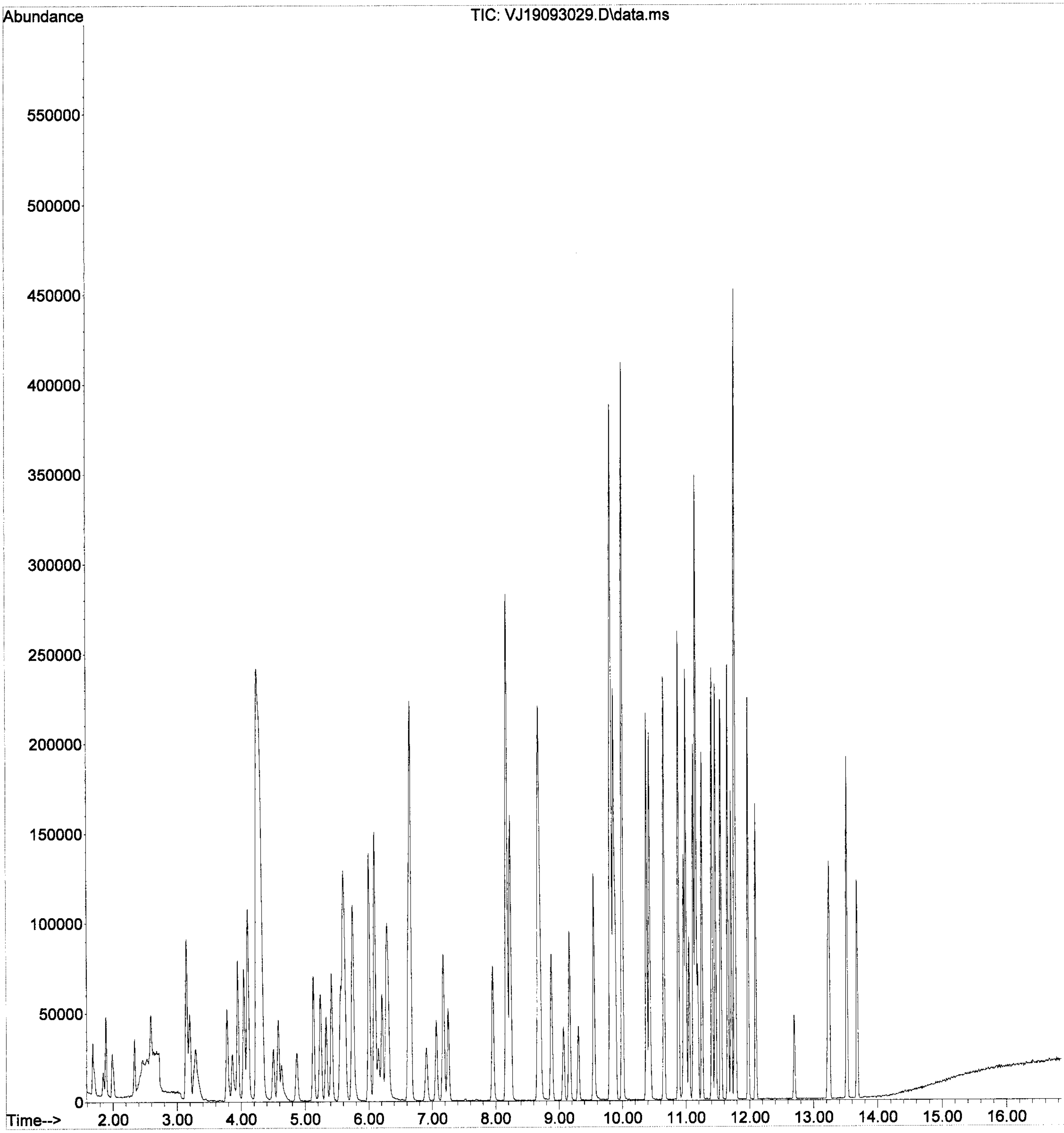
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	51903	22.34 ug/L	94
50) 1,1,2-Trichloroethane	8.882	97	28484	21.68 ug/L	92
51) Dibromochloromethane	9.070	129	24637	24.69 ug/L	98
52) 1,3-Dichloropropane	9.168	76	56876	22.25 ug/L	90
53) 1,2-Dibromoethane (EDB)	9.308	107	31612	22.17 ug/L	99
54) 2-Hexanone	9.545	43	90339	41.67 ug/L	94
55) Chlorobenzene	9.825	112	79026	21.24 ug/L	91
56) Ethylbenzene	9.861	91	151222	20.85 ug/L	96
57) 1,1,1,2-Tetrachloroethane	9.892	131	28770	24.01 ug/L	95
58) m,p-Xylenes (2)	9.995	91	229205	42.09 ug/L	92
59) o-Xylene	10.378	91	116298	20.82 ug/L	91
60) Styrene	10.427	104	75618	19.55 ug/L	90
61) Bromoform	10.439	173	15002	25.25 ug/L	92
62) Isopropylbenzene	10.652	105	138657	21.01 ug/L	93
65) Bromobenzene	10.968	156	29110	20.77 ug/L #	76
66) n-Propylbenzene	10.999	91	158306	20.49 ug/L	92
67) 1,1,2,2-Tetrachloroethane	11.047	83	38854	20.60 ug/L	95
68) 2-Chlorotoluene	11.120	126	28474	21.19 ug/L #	69
69) 1,3,5-Trimethylbenzene	11.157	105	109711	20.92 ug/L	88
70) 1,2,3-Trichloropropane	11.157	110	15918	21.45 ug/L	93
71) t-1,4-Dichloro-2-butene	11.187	88	7223	21.40 ug/L #	76
72) 4-Chlorotoluene	11.254	91	100353	21.15 ug/L	89
73) tert-Butylbenzene	11.412	91	69076	21.05 ug/L	83
74) 1,2,4-Trimethylbenzene	11.467	105	112432	21.25 ug/L	94
75) sec-Butylbenzene	11.552	105	131269	20.84 ug/L	95
76) 4-Isopropyltoluene	11.662	119	110290	21.06 ug/L	94
77) 1,3-Dichlorobenzene	11.711	146	53538	20.06 ug/L	94
78) 1,4-Dichlorobenzene	11.777	146	54114	20.62 ug/L	94
79) n-Butylbenzene	11.978	91	99780	20.92 ug/L	95
80) 1,2-Dichlorobenzene	12.094	146	50666	20.50 ug/L	96
81) 1,2-Dibromo-3-Chloropr...	12.702	157	9647	20.06 ug/L #	53
82) Hexachlorobutadiene	13.225	223	7860	21.48 ug/L	93
83) 1,2,4-Trichlorobenzene	13.244	180	32086	19.81 ug/L	94
84) Naphthalene	13.517	128	126819	20.25 ug/L	94
85) 1,2,3-Trichlorobenzene	13.676	180	32205	20.28 ug/L	92

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I30038\
Data File : VJ19093029.D
Acq On : 1 Oct 2019 3:15 am
Operator : TB/IMA
Sample : 9091435-MSD1
Misc : 50X 5g/5mLx1000uL/50mL (A9I0992-09)
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Oct 01 10:45:14 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



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

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

Batch 9100477
Sequence 9J01047 (A9I0922-18,19,20,21)

PREPARATION BENCH SHEET

BATCH #: 9100477 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

OCT 0 4 2019

APEX LABORATORIES

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
9100477-BLK1		QC	10/01/19 10:00	7.5	5							
9100477-BS1		QC	10/01/19 10:00	5	5	A19I354		250				
9100477-BS2		QC	10/01/19 10:00	5	5	A19I278		250				
A9I0707-02	B	8260C BTEX+N	(Date Sampled)	6.68	5					19-28176 W(OT)-6'-8'	FP	
A9I0772-01	B	8260C BTEX+N	(Date Sampled)	5.87	5					14221 10636-E@11.0'	FP	
A9I0922-18	B	8260C BTEX+Halo6	(Date Sampled)	6.18	5					PDI-064SC-B-10-12-190929	FP	
A9I0922-19	B	8260C BTEX+Halo6	(Date Sampled)	5.34	5					PDI-064SC-B-12-14-190929	FP	
A9I0922-20	B	8260C BTEX+Halo6	(Date Sampled)	6.03	5					PDI-064SC-B-14-15.8-190929	FP	
A9I0922-21	B	8260C BTEX+Halo6	(Date Sampled)	5.53	5					PDI-1064SC-B-08-10-190929	FP	
A9I0932-01	B	8260C BTEX+N	(Date Sampled)	5.91	5					19-28964 N(IT)73"	FP	
A9I0936-20	B	8260C BTEX+Halo6	(Date Sampled)	5.3	5					PDI-064SC-B-00-02-190929	FP	
A9I0936-21	B	8260C BTEX+Halo6	(Date Sampled)	5.3	5					PDI-064SC-B-02-04-190929	FP	
A9I0936-22	C	8260C Full List	(Date Sampled)	5.78	5					PDI-064SC-B-04-06-190929	FP, Added for BatchQC in: 910047	
A9I0936-22	C	8260C BTEX+N	(Date Sampled)	5.78	5					PDI-064SC-B-04-06-190929	FP, Added for BatchQC in: 910047	
A9I0936-22	C	8260C BTEX+Halo6	(Date Sampled)	5.78	5					PDI-064SC-B-04-06-190929	FP MS/MSD	
A9I0936-22	C	NWTPH-Gx	(Date Sampled)	5.78	5					PDI-064SC-B-04-06-190929	FP, Added for BatchQC in: 910047	
9100477-MS1		QC	09/29/19 08:19	5.78	5	A19I354	A9I0936-22	~~250~~		COC	~~pending dw~~ DW=59,206	
9100477-MSD1		QC	09/29/19 08:19	5.78	5	A19I354	A9I0936-22	~~250~~			~~pending dw~~	
A9I0936-23	B	8260C BTEX+Halo6	(Date Sampled)	4.81	5					PDI-064SC-B-06-08-190929	FP	
A9I0948-03	B	8260C Full List	(Date Sampled)	5.23	5					Tank 1 Sand	FP	
A9I0948-03	B	8260C BTEX+N	(Date Sampled)	5.23	5					Tank 1 Sand	FP, Added for BatchQC in: 910047	
A9I0948-03	B	8260C BTEX+Halo6	(Date Sampled)	5.23	5					Tank 1 Sand	FP, Added for BatchQC in: 910047	

10/3 19

10/3/19

Prepared By: Date

10/3/19

Reviewed By: Date

PREPARATION BENCH SHEET

BATCH #: 9100477 (Soil)

Apex Laboratories

Prep Method: EPA 5035A

Lab Number	Cont.	Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
A9I0948-03	B	NWTPH-Gx	(Date Sampled)	5.23	5					Tank 1 Sand	FP	
9100477-DUP1		QC	09/27/19 17:06	5.54	5		A9I0948-03					
A9I0951-01	C	8260C Full List	09/30/19 21:30	1.05	5					Tank 2 Product	MOD	
A9I0951-01	C	NWTPH-Gx	09/30/19 21:30	1.05	5					Tank 2 Product	MOD	
A9I0954-05	C	8260C Full List	(Date Sampled)	4.53	5					Comp-Stockpile-093019	FP	
A9I0954-05	C	NWTPH-Gx	(Date Sampled)	4.53	5					Comp-Stockpile-093019	FP	
A9J0013-01	B	8260C Full List	10/01/19 12:25	1.03	5					Used Oil Tank #1	MOD	

*pH <2 verified_____

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A18J327	11/30/23	Balance s/n 593312
A19I219	09/16/20	Methanol - Fisher (P/T) #191546
A19I220	09/16/20	Methanol - B&J (P/T) #DX075-US

Analyte Spike(s)

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

Surrogate(s)

Std ID	Exp. Date	Description

SOIL MS10

Prepared By: Date

Reviewed By: Date

Worksheet

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

Sample ID	Container	Container Weight (g)	Tare Weight (g)	Net Sample Weight (g)	Formula Check
A9I0707-02	B	40.47	33.79	6.68	✓
[illegible]	B	[illegible]	[illegible]	5.87	✓
A9I0922-18	B	39.76	33.58	6.18	✓
[illegible]	B	[illegible]	[illegible]	6.94	✓
A9I0922-20	B	39.8	33.77	6.03	✓
[illegible]	B	[illegible]	[illegible]	5.53	✓
A9I0932-01	B	40.05	34.14	5.91	✓
[illegible]	B	[illegible]	[illegible]	5.3	✓
A9I0936-21	B	39.36	34.06	5.3	✓
[illegible]	B	[illegible]	[illegible]	5.78	✓
A9I0936-23	B	38.3	33.49	4.81	✓
[illegible]	B	[illegible]	[illegible]	5.23	✓
A9I0948-03	C	39.33	33.79	5.54	✓
A9I0954-05 [illegible]	B	[illegible]	[illegible]	4.63	✓
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	
				0	

IMA
10/2/19

IMA
10/2/19

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

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

Batch: 9100477

Matrix Spike

Sample Weight	Final Volume	Dilution	Dry Weight
g	mL		%
5.780	5	50	59.2
			0.592

Final Spike Level	**Spike Amount**
ug/kg	**ul**
2150.43	**368**

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

A9I0936-22

A9I0951

5035 Container Prep Worksheet
~Soil Jar Extraction~

A9I0951-01	Tank 2 Product	Sampled: 09/27/19 16:50

		Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
C Liquid	40 mL VOA - In House Prep - 5035 (MeOH)	~~A~~ B	1.05	(5) 10 15	(JS) @	9/30/19 2130	Y (N)	Mod, odor

8260C Full List (JS) 9/30/19 B Expires: 09/29/19 16:50 Due: 10/02/19 17:00

NWTPH-Gx Expires: 09/29/19 16:50 Due: 10/02/19 17:00

Methanol Reagent ID: A19I219 Balance ID: A18J327

A9J0013

5035 Container Prep Worksheet
~Soil Jar Extraction~

A9J0013-01	Used Oil Tank #1	Sampled: 09/30/19 09:00

		Container Used	Sample Weight (g)	Volume MeOH (mL)	Prepared By:	Prepared date/time	Within 48 hours?	Notes:
B Oil	40 mL VOA - In House Prep - 5035 (MeOH)	A	1.03	5 10 15	JS @	10/1/19 1225	Y N	MOD

8260C Full List

Expires: 10/02/19 09:00 Due: 10/04/19 17:00

A9I0707

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0707-02	19-28176 W(OT)-6'-8'			Sampled:	09/23/19 15:00
B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g) 40.47	Tare Weight (g) 32.79	Volume MeOH (mL) (0) 5 10 15 Other	Notes: Dx @ 2750 ~~50x~~ 100x

BTEX + N | Due: | TAT:

Weighed by: AKK @ 1800 9/23/19

Methanol Reagent ID: A19F143 Balance ID: A18J327

Print Date: 9/23/2019 5:43:00PM

A9I0772

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0772-01 | **14221 10636-E@11.0'** | Sampled: **09/25/19 09:35**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	35.36	29.49	(5) 10 15 Other	Dx@9540 100X
C Soil	40 mL VOA - 5035 (MeOH)	38.48	33.60	(5) 10 15 Other	Notes:

BTEX + N

Due: TAT:

A9I0772-02 | **14221 10636-W@11.0'** | Sampled: **09/25/19 09:50**

		Container Weight (g)	Tare Weight (g)	Volume MeOH (mL)	Notes:
B Soil	40 mL VOA - 5035 (MeOH)	34.34	29.94	(5) 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	35.10	29.18	(5) 10 15 Other	Notes:

Due: TAT:

Weighed by: MCK @ 1300 9/24/19

Methanol Reagent ID: A19F143 Balance ID: A18J327

A9I0922

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0922-16 — **PDI-036SC-B-8.2-10.2-190929** — Sampled: 09/29/19 12:44

B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.01	Tare Weight (g): 33.38	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.48	Tare Weight (g): ~~39.48~~ 33.68	Volume MeOH (mL): (5) 10 15 Other	Notes:

BTEX + HALOG

Due: TAT:

A9I0922-17 — **PDI-064SC-B-8-10-190929** — Sampled: 09/29/19 08:19

B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): ~~39.54~~	Tare Weight (g): 33.44	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.25	Tare Weight (g): 33.47	Volume MeOH (mL): (5) 10 15 Other	Notes:

Due: TAT:

A9I0922-18 — **PDI-064SC-B-10-12-190929** — Sampled: 09/29/19 08:19

B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.76	Tare Weight (g): 33.58	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.39	Tare Weight (g): 33.41	Volume MeOH (mL): (5) 10 15 Other	Notes:

Due: TAT:

A9I0922-19 — **PDI-064SC-B-12-14-190929** — Sampled: 09/29/19 08:19

B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.81	Tare Weight (g): 33.47	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.90	Tare Weight (g): 33.58	Volume MeOH (mL): (5) 10 15 Other	Notes:

Due: TAT:

A9I0922-20 — **PDI-064SC-B-14-15.8-190929** — Sampled: 09/29/19 08:19

B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.80	Tare Weight (g): 33.77	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.71	Tare Weight (g): 33.27	Volume MeOH (mL): (5) 10 15 Other	Notes:

Due: TAT:

Weighed by: _____ @ 9/30/19 1633

Methanol Reagent ID: A19I219~ Balance ID: A18J327~

A9I0922

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0922-21	PDI-1064SC-B-08-10-190929			Sampled:	09/29/19 08:19
B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.08	Tare Weight (g): 33.55	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.66	Tare Weight (g): 33.76	Volume MeOH (mL): (5) 10 15 Other	Notes:

BTEX + HALOG Due: TAT:

Weighed by (8) @ 9/30/19 1633

Methanol Reagent ID: A19I2193 Balance ID: A183527

A9I0932

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0932-01		19-28964 N(IT)73"			Sampled: 09/26/19 16:15
B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 40.05	Tare Weight (g): 34.14	Volume MeOH (mL): (5) 10 15 Other	Notes: Dx@14500 200x
BTEX+N		Due:	TAT:		

A9I0932-02		19-28964 S(IT)73"			Sampled: 09/26/19 16:15
B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.76	Tare Weight (g): 33.41	Volume MeOH (mL): (5) 10 15 Other	Notes:
		Due:	TAT:		

Weighed by: VRS @ 9/30/19 17:14

Methanol Reagent ID: A19I219 Balance ID: A18J327

Print Date: 9/30/2019 5:14:40PM

A9I0936

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0936-20	PDI-064SC-B-00-02-190929			Sampled:	09/29/19 08:19
B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.82	Tare Weight (g): 33.52	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.46	Tare Weight (g): 33.56	Volume MeOH (mL): (5) 10 15 Other	Notes:

BTEX + HALOG Due: TAT:

A9I0936-21	PDI-064SC-B-02-04-190929			Sampled:	09/29/19 08:19
B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.36	Tare Weight (g): 34.06	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 40.51	Tare Weight (g): 34.01	Volume MeOH (mL): (5) 10 15 Other	Notes:

Due: TAT:

A9I0936-22	PDI-064SC-B-04-06-190929			Sampled:	09/29/19 08:19
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.34	Tare Weight (g): 33.56	Volume MeOH (mL): (5) 10 15 Other	Notes: MS/MSD
D Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.09	Tare Weight (g): 33.78	Volume MeOH (mL): (5) 10 15 Other	Notes:
E Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.63	Tare Weight (g): 33.61	Volume MeOH (mL): (5) 10 15 Other	Notes:
F Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.88	Tare Weight (g): 33.47	Volume MeOH (mL): (5) 10 15 Other	Notes:
G Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.25	Tare Weight (g): 33.57	Volume MeOH (mL): (5) 10 15 Other	Notes:

Due: TAT:

A9I0936-23	PDI-064SC-B-06-08-190929			Sampled:	09/29/19 08:19
B Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.30	Tare Weight (g): 33.49	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Sediment	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.39	Tare Weight (g): 33.49	Volume MeOH (mL): 5 10 15 Other	Notes:

Due: TAT:

Weighed by: (8) @ 9/30/19 1923

Methanol Reagent ID: A19I219 Balance ID: A18J327

A9I0948

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0948-01		S1		Sampled:	09/27/19 16:47
B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.01	Tare Weight (g): 33.81	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.12	Tare Weight (g): 33.78	Volume MeOH (mL): 5 10 15 Other	Notes:
		Due:	TAT:		

A9I0948-02		S2		Sampled:	09/27/19 16:41
B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 37.69	Tare Weight (g): 33.44	Volume MeOH (mL): 5 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.95	Tare Weight (g): 34.08	Volume MeOH (mL): 5 10 15 Other	Notes:
		Due:	TAT:		

A9I0948-03		Tank 1 Sand		Sampled:	09/27/19 17:06
B Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.57	Tare Weight (g): 33.34	Volume MeOH (mL): (5) 10 15 Other	Notes:
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 39.33	Tare Weight (g): 33.79	Volume MeOH (mL): (5) 10 15 Other	Notes: DUP
8260/Gx		Due:	TAT:		

Weighed by: (8) @ 9/30/19 2059

Methanol Reagent ID: A19I219 Balance ID: A18J327

Print Date: 9/30/2019 8:50:00PM

A9I0954

5035 Container Prep Worksheet
~Field MeOH Preserved~

(Prepared = Sampled Date/Time)

A9I0954-05		Comp-Stockpile-093019			Sampled: 09/30/19 14:30
C Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.37	Tare Weight (g): 33.84	Volume MeOH (mL): (5) 10 15 Other	Notes:
D Soil	40 mL VOA - 5035 (MeOH)	Container Weight (g): 38.26	Tare Weight (g): 33.58	Volume MeOH (mL): (5) 10 15 Other	Notes:
8260/6x		Due:	TAT:		

Weighed by: SL @ 9/30/19 2206

Methanol Reagent ID: A19I219-

Balance ID: A18J327

Print Date: 9/30/201910:00:50PM

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9J01047	Instrument:	VOA-GCMS10
Date:	10/01/19 09:42	Calibration:	A9I2702

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J01047-IBL1	Soil	QC	QC			A19G118	
2	9J01047-TUN1	Soil	QC	QC			A19G118	
3	9J01047-CCV1	Soil	QC	QC			A19G118	
4	9100477-BS1	Soil	QC	QC		9100477	A19G118	
5	9J01047-CCV2	Soil	QC	QC			A19G118	
6	9100477-BS2	Soil	QC	QC		9100477	A19G118	
7	9100477-BLK1	Soil	QC	QC		9100477	A19G118	
8	A9I0922-18	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100477	A19G118	
9	A9I0922-19	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100477	A19G118	
10	A9I0922-20	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100477	A19G118	
11	A9I0922-21	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100477	A19G118	
12	A9I0936-21	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100477	A19G118	
13	A9I0936-23	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100477	A19G118	
14	9J01047-IBL2	Soil	QC	QC			A19G118	
15	A9I0948-03	Soil	8260C Full List		10/02/19	9100477	A19G118	
"	"	Soil	NWTPH-Gx		10/02/19	9100477	A19G118	
"	"	Soil	8260C BTEX+N	(QC Source)		9100477	A19G118	
"	"	Soil	8260C BTEX+Halo6	(QC Source)		9100477	A19G118	
16	9100477-DUP1	Soil	QC	QC		9100477	A19G118	
17	A9I0954-05	Soil	8260C Full List		10/03/19	9100477	A19G118	
"	"	Soil	NWTPH-Gx		10/03/19	9100477	A19G118	
18	A9I0936-22	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100477	A19G118	
"	"	Soil	8260C Full List	(QC Source)		9100477	A19G118	
"	"	Soil	8260C BTEX+N	(QC Source)		9100477	A19G118	
"	"	Soil	NWTPH-Gx	(QC Source)		9100477	A19G118	
19	9100477-MS1	Soil	QC	QC		9100477	A19G118	
20	9100477-MSD1	Soil	QC	QC		9100477	A19G118	
21	9J01047-IBL3	Soil	QC	QC			A19G118	
22	A9I0707-02	Soil	8260C BTEX+N		10/02/19	9100477	A19G118	
23	A9I0772-01	Soil	8260C BTEX+N		10/02/19	9100477	A19G118	
24	9J01047-IBL4	Soil	QC	QC			A19G118	
25	A9I0936-20	Soil	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100477	A19G118	
26	9J01047-IBL5	Soil	QC	QC			A19G118	
27	A9I0951-01	Soil	8260C Full List		10/02/19	9100477	A19G118	
"	"	Soil	NWTPH-Gx		10/02/19	9100477	A19G118	
28	9J01047-IBL6	Soil	QC	QC			A19G118	
29	A9J0013-01	Soil	8260C Full List		10/04/19	9100477	A19G118	
30	A9I0932-01	Soil	8260C BTEX+N		10/03/19	9100477	A19G118	
31	9J01047-IBL7	Soil	QC	QC			A19G118	
32	9J01047-IBL8	Soil	QC	QC			A19G118	

Data Entered By: 10/2/19

Data Reviewed By: 10/3/19

Comments: ↑MDL=MRL for DCM Q55

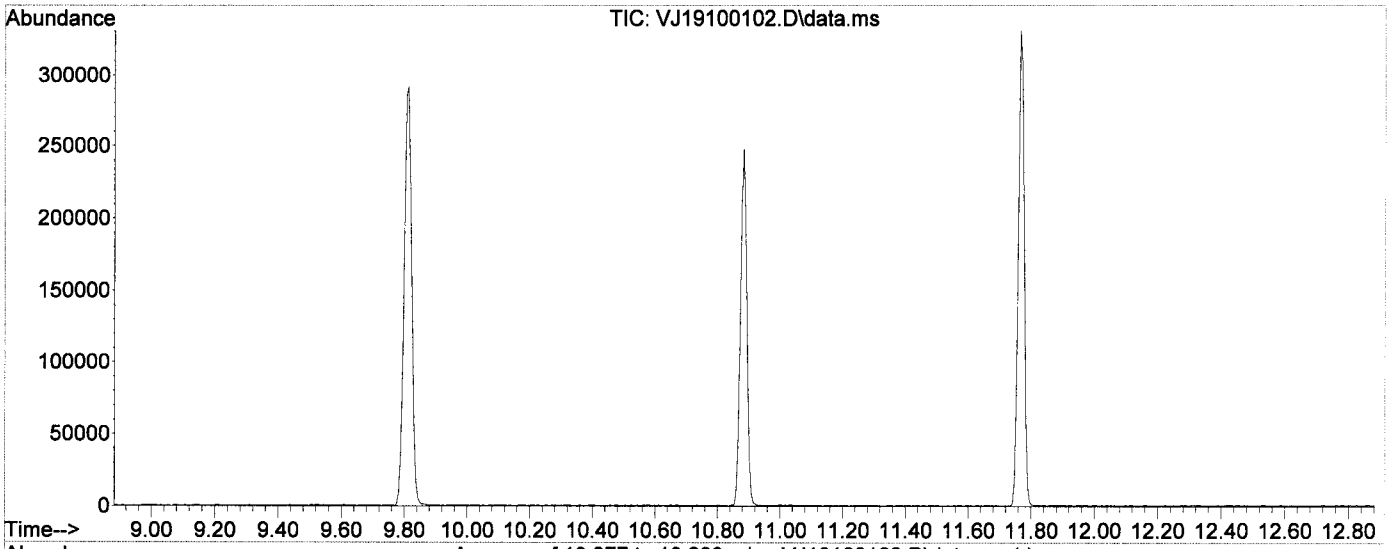
↑MDL/MRL for 1,2-DCP to 1/2 ppb on col

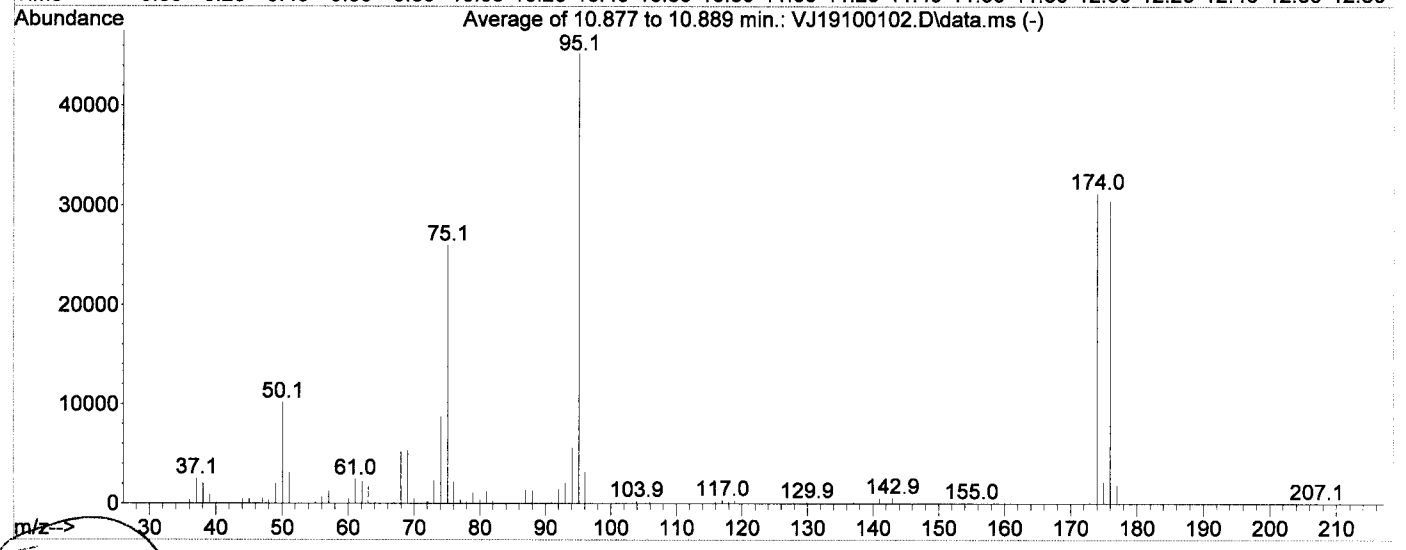
BFB

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100102.D
Acq On : 1 Oct 2019 10:30 am
Operator : TB/IMA
Sample : 9J01047-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VJ190926S+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Fri Sep 27 13:24:27 2019





AutoFind: Scans 1528, 1529, 1530; Background Corrected with Scan 1521

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	144.9	45283	PASS
96	95	5	9	7.0	3189	PASS
173	174	0.00	2	0.2	68	PASS
174	95	50	200	69.0	31248	PASS
175	174	5	9	7.1	2213	PASS
176	174	95	105	97.5	30472	PASS
177	176	5	10	6.2	1879	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100102.D
Acq On : 1 Oct 2019 10:30 am
Operator : TB/IMA
Sample : 9J01047-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

JM 10/1/19

Quant Time: Oct 01 11:17:23 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

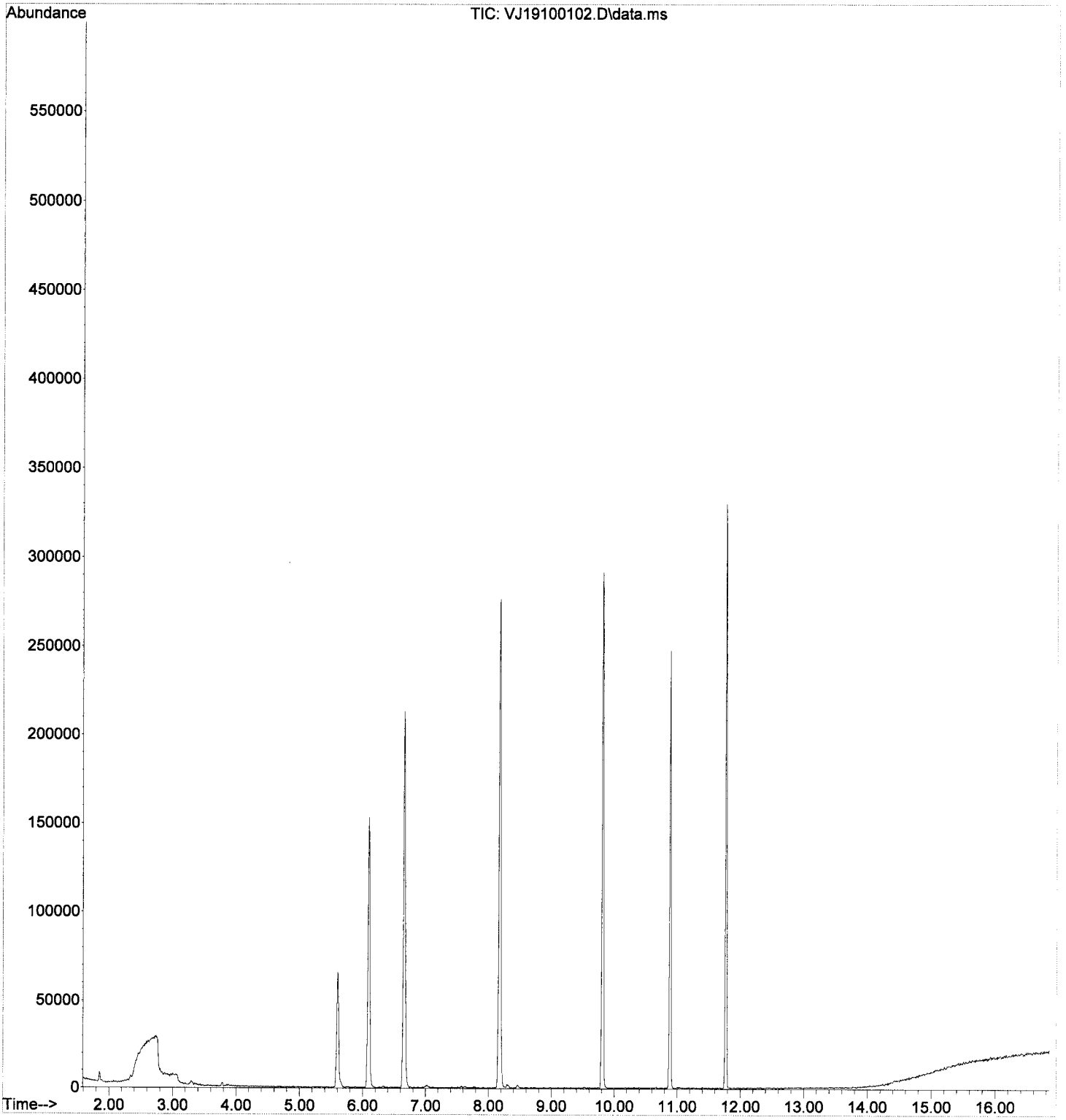
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.095	99	72280	50.00 ug/L	# 0.00
43) Chlorobenzene-d5 (I)	9.812	117	148201	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	65366	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.603	111	47199	45.72 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.655	114	172565	44.70 ug/L	0.00
45) Toluene-d8 (S)	8.176	98	213466	51.37 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.883	174	50713	50.22 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.898	50	444	0.23 ug/L #	50
5) Bromomethane	2.342	96	1654	Below Cal	92
6) Chloroethane	2.476	64	127	0.55 ug/L #	57
8) Ethanol	3.315	45	2097	Below Cal	100
12) Iodomethane	3.291	142	736	0.74 ug/L	72
13) Methylene Chloride	3.778	84	715	Below Cal	90
14) Acetone	3.875	43	1199	Below Cal #	42
32) 2-Butanone (MEK)	5.743	43	290	0.15 ug/L	52
34) tert-Amyl methyl ether...	6.168	73	62	Below Cal #	46
36) iso-Butyl Alcohol	6.320	43	283	1.27 ug/L	76

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100102.D
Acq On : 1 Oct 2019 10:30 am
Operator : TB/IMA
Sample : 9J01047-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 01 11:17:23 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100103.D
Acq On : 1 Oct 2019 10:57 am
Operator : TB/IMA
Sample : 9100477-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

VM 10/1/19

Quant Time: Oct 01 11:17:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 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	83	0.00	
2		Dichlorodifluoromethane	20.000	21.562	-7.8	85	0.00	
3	P	Chloromethane	20.000	18.832	5.8	81	0.00	
4	C	Vinyl Chloride	20.000	19.462	2.7	81	0.00	
5		Bromomethane	20.000	21.684	-8.4	88	0.00	
6		Chloroethane	20.000	23.065	-15.3	98	0.00	
7		Trichlorofluoromethane	20.000	25.453	-27.3#	105	0.00	Q56
8		Ethanol	1250.000	926.186	25.9#	71	0.00	
9	C	1,1-Dichloroethene	20.000	20.015	-0.1	83	0.00	
10		Carbon Disulfide	20.000	17.416	12.9	74	0.00	
11		Freon 113	20.000	19.403	3.0	77	0.00	
12		Iodomethane	20.000	13.574	32.1#	63	0.00	
13		Methylene Chloride	20.000	15.833	20.8#	67	0.00	Q55
14		Acetone	40.000	34.940	12.7	75	0.00	
15		t-1,2-Dichloroethene	20.000	20.156	-0.8	80	0.00	
16		n-Hexane	20.000	18.221	8.9	72	0.00	
17		Methyl-tert-butyl-ether	20.000	18.030	9.8	79	0.00	
18		tert-Butanol (TBA)	1250.000	1152.131	7.8	77	0.02	
19		Diisopropyl ether (DIPE)	5.000	4.495	10.1	80	0.00	
20	P	1,1-Dichloroethane	20.000	19.097	4.5	82	0.00	
21		Acrylonitrile	20.000	16.919	15.4	68	0.00	
22		Ethyl-tert-butyl ether (ETB	5.000	4.536	9.3	79	0.00	
23		c-1,2-Dichloroethene	20.000	19.508	2.5	82	0.00	
24		2,2-Dichloropropane	20.000	21.624	-8.1	92	0.00	
25		Bromochloromethane	20.000	19.496	2.5	79	0.00	
26	C	Chloroform	20.000	20.154	-0.8	84	0.00	
27		Carbon Tetrachloride	20.000	22.451	-12.3	93	0.00	
28		Tetrahydrofuran	20.000	17.778	11.1	77	0.00	
29		1,1,1-Trichloroethane	20.000	21.447	-7.2	85	0.00	
30	S	Dibromofluoromethane (S)	50.000	46.366	7.3	77	0.00	
31		1,1-Dichloropropene	20.000	19.013	4.9	79	0.00	
32		2-Butanone (MEK)	40.000	35.695	10.8	82	0.00	
33		Benzene	20.000	17.551	12.2	75	0.00	
34		tert-Amyl methyl ether (TAM	5.000	4.463	10.7	79	0.00	
35		1,2-Dichloroethane (EDC)	20.000	21.774	-8.9	88	0.00	
36		iso-Butyl Alcohol	500.000	452.823	9.4	74	-0.02	
37	S	1,4-Difluorobenzene (S)	50.000	44.082	11.8	74	0.00	
38		Trichloroethene (TCE)	20.000	19.692	1.5	76	0.00	
39		tert-Amyl ethyl ether (TAEE	5.000	4.497	10.1	80	0.00	
40		Dibromomethane	20.000	19.689	1.6	80	0.00	
41	C	1,2-Dichloropropane	20.000	18.595	7.0	76	0.00	
42		Bromodichloromethane	20.000	21.717	-8.6	88	0.00	
43		Chlorobenzene-d5 (I)	50.000	50.000	0.0	73	0.00	
44		c-1,3-Dichloropropene	20.000	23.101	-15.5	80	0.00	
45	S	Toluene-d8 (S)	50.000	50.902	-1.8	74	0.00	
46	C	Toluene	20.000	19.846	0.8	75	0.00	
47		Tetrachloroethene (PCE)	20.000	21.238	-6.2	75	0.00	
48		4-Methyl-2-Pentanone (MIBK)	40.000	42.542	-6.4	77	0.00	
49		t-1,3-Dichloropropene	20.000	23.751	-18.8	85	0.00	
50		1,1,2-Trichloroethane	20.000	20.976	-4.9	75	0.00	

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100103.D
Acq On : 1 Oct 2019 10:57 am
Operator : TB/IMA
Sample : 9100477-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 01 11:17:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)	
51		Dibromochloromethane	20.000	24.345	-21.7#	90	0.00	Q56
52		1,3-Dichloropropane	20.000	21.961	-9.8	78	0.00	
53		1,2-Dibromoethane (EDB)	20.000	21.462	-7.3	76	0.00	
54		2-Hexanone	40.000	41.226	-3.1	77	0.00	
55	P	Chlorobenzene	20.000	21.188	-5.9	74	0.00	
56	C	Ethylbenzene	20.000	21.101	-5.5	77	0.00	
57		1,1,1,2-Tetrachloroethane	20.000	24.735	-23.7#	86	0.00	Q56
58		m,p-Xylenes (2)	40.000	42.903	-7.3	78	0.00	
59		o-Xylene	20.000	21.018	-5.1	77	0.00	
60		Styrene	20.000	20.010	-0.1	72	0.00	
61	P	Bromoform	20.000	25.883	-29.4#	98	0.00	Q56
62		Isopropylbenzene	20.000	21.117	-5.6	76	0.00	
63	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	74	0.00	
64	S	4-Bromofluorobenzene (S)	50.000	48.713	2.6	72	0.00	
65		Bromobenzene	20.000	21.673	-8.4	76	0.00	
66		n-Propylbenzene	20.000	21.175	-5.9	78	0.00	
67	P	1,1,2,2-Tetrachloroethane	20.000	20.821	-4.1	74	0.00	
68		2-Chlorotoluene	20.000	21.581	-7.9	75	0.00	
69		1,3,5-Trimethylbenzene	20.000	21.747	-8.7	80	0.00	
70		1,2,3-Trichloropropane	20.000	22.348	-11.7	80	0.00	
71		t-1,4-Dichloro-2-butene	20.000	24.806	-24.0#	94	0.00	
72		4-Chlorotoluene	20.000	21.755	-8.8	81	0.00	
73		tert-Butylbenzene	20.000	21.645	-8.2	81	0.00	
74		1,2,4-Trimethylbenzene	20.000	21.835	-9.2	79	0.00	
75		sec-Butylbenzene	20.000	21.352	-6.8	77	0.00	
76		4-Isopropyltoluene	20.000	21.432	-7.2	77	0.00	
77		1,3-Dichlorobenzene	20.000	20.862	-4.3	77	0.00	
78		1,4-Dichlorobenzene	20.000	21.096	-5.5	76	0.00	
79		n-Butylbenzene	20.000	21.937	-9.7	82	0.00	
80		1,2-Dichlorobenzene	20.000	21.138	-5.7	76	0.00	
81		1,2-Dibromo-3-Chloropropane	20.000	21.450	-7.2	83	0.00	
82		Hexachlorobutadiene	20.000	20.662	-3.3	74	0.00	
83		1,2,4-Trichlorobenzene	20.000	20.555	-2.8	73	0.00	
84		Naphthalene	20.000	21.336	-6.7	75	0.00	
85		1,2,3-Trichlorobenzene	20.000	21.202	-6.0	76	0.00	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100103.D
Acq On : 1 Oct 2019 10:57 am
Operator : TB/IMA
Sample : 9100477-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

JMM 10/1/19

Quant Time: Oct 01 11:17:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	70208	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.812	117	142282	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	66281	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	46496	46.37	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	165309	44.08	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	203092	50.90	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	49882	48.71	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	27768	21.56	ug/L		99
3) Chloromethane	1.898	50	35155	18.83	ug/L		99
4) Vinyl Chloride	2.007	62	27578	19.46	ug/L		95
5) Bromomethane	2.348	96	13267	21.68	ug/L		98
6) Chloroethane	2.470	64	4925	23.07	ug/L		88
7) Trichlorofluoromethane	2.603	101	16061	25.45	ug/L		98
8) Ethanol	3.321	45	58627	926.19	ug/L		90
9) 1,1-Dichloroethene	3.145	61	41051	20.01	ug/L		82
10) Carbon Disulfide	3.157	76	50947	17.42	ug/L		98
11) Freon 113	3.200	101	21344	19.40	ug/L		87
12) Iodomethane	3.297	142	6565	13.57	ug/L		79
13) Methylene Chloride	3.784	84	22501	15.83	ug/L		84
14) Acetone	3.875	43	39437	34.94	ug/L		88
15) t-1,2-Dichloroethene	3.954	61	41159	20.16	ug/L		85
16) n-Hexane	4.045	86	5918	18.22	ug/L	#	79
17) Methyl-tert-butyl-ether	4.112	73	111363	18.03	ug/L		95
18) tert-Butanol (TBA)	4.295	59	686919	1152.13	ug/L	#	89
19) Diisopropyl ether (DIPE)	4.514	45	26520	4.50	ug/L		97
20) 1,1-Dichloroethane	4.587	63	43940	19.10	ug/L		98
21) Acrylonitrile	4.641	53	17148	16.92	ug/L		91
22) Ethyl-tert-butyl ether...	4.879	59	27607	4.54	ug/L		96
23) c-1,2-Dichloroethene	5.134	61	44076	19.51	ug/L		89
24) 2,2-Dichloropropane	5.244	77	55882	21.62	ug/L		92
25) Bromochloromethane	5.335	49	25194	19.50	ug/L		77
26) Chloroform	5.420	83	55510	20.15	ug/L		96
27) Carbon Tetrachloride	5.560	117	42431	22.45	ug/L		94
28) Tetrahydrofuran	5.597	42	24019	17.78	ug/L		94
29) 1,1,1-Trichloroethane	5.627	97	54449	21.45	ug/L		98
31) 1,1-Dichloropropene	5.755	75	44577	19.01	ug/L		93
32) 2-Butanone (MEK)	5.743	43	65471	35.70	ug/L		94
33) Benzene	6.010	78	120093	17.55	ug/L		95
34) tert-Amyl methyl ether...	6.156	73	26066	4.46	ug/L		95
35) 1,2-Dichloroethane (EDC)	6.211	62	56931	21.77	ug/L		96
36) iso-Butyl Alcohol	6.296	43	98274	452.82	ug/L		93
38) Trichloroethene (TCE)	6.625	130	29184	19.69	ug/L		87
39) tert-Amyl ethyl ether ...	6.911	59	20220	4.50	ug/L		86
40) Dibromomethane	7.069	93	18937	19.69	ug/L	#	81
41) 1,2-Dichloropropane	7.178	63	31625	18.60	ug/L		86
42) Bromodichloromethane	7.257	83	38053	21.72	ug/L		99
44) c-1,3-Dichloropropene	7.957	75	49503	23.10	ug/L		90
46) Toluene	8.237	91	124392	19.85	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	27205	21.24	ug/L		81
48) 4-Methyl-2-Pentanone (...	8.675	43	106957	42.54	ug/L		98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100103.D
Acq On : 1 Oct 2019 10:57 am
Operator : TB/IMA
Sample : 9100477-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 01 11:17:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

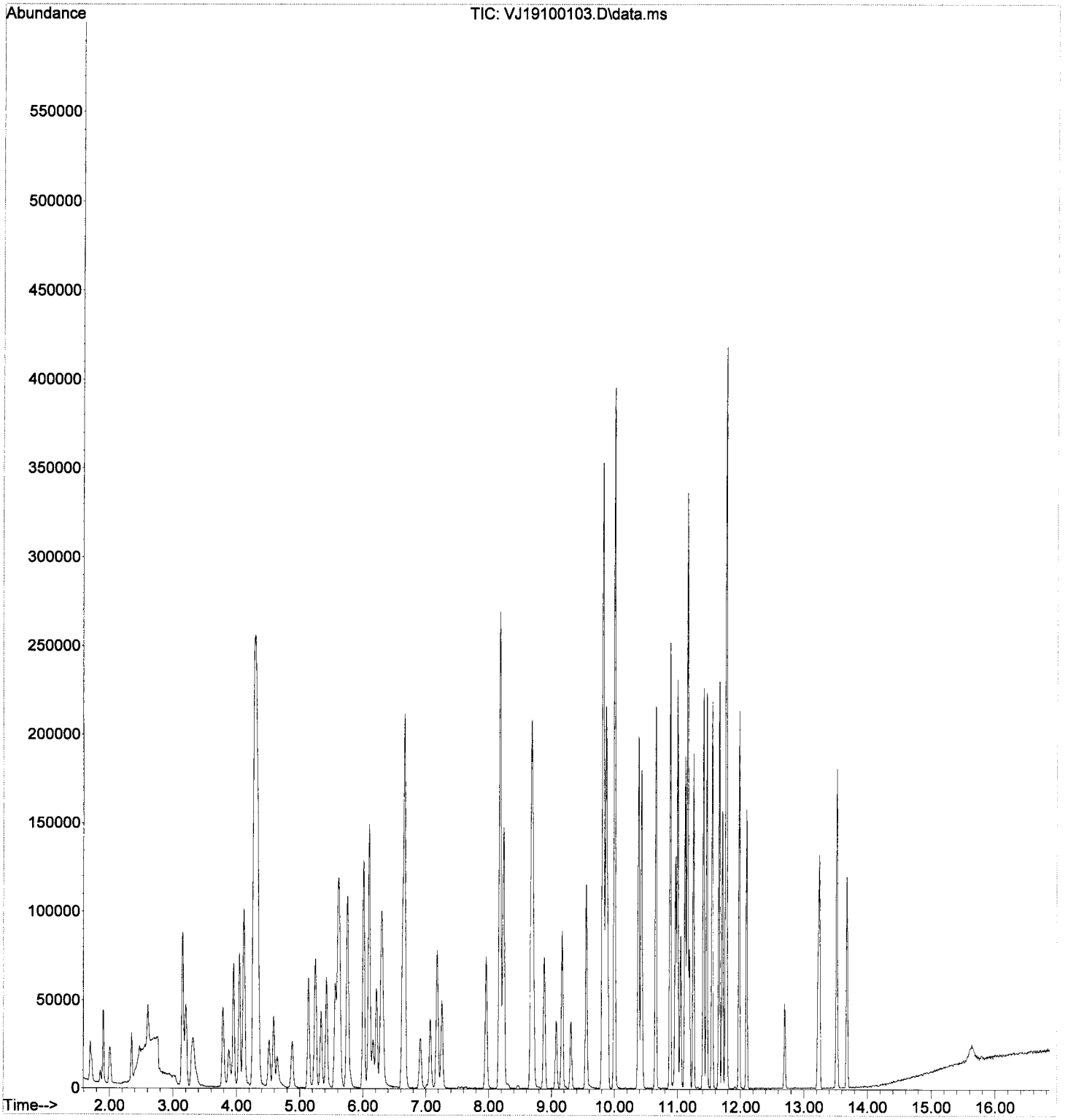
	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49)	t-1,3-Dichloropropene	8.705	75	51068	23.75	ug/L		93
50)	1,1,2-Trichloroethane	8.882	97	25503	20.98	ug/L		87
51)	Dibromochloromethane	9.070	129	22459	24.35	ug/L		98
52)	1,3-Dichloropropane	9.168	76	51952	21.96	ug/L		88
53)	1,2-Dibromoethane (EDB)	9.307	107	28321	21.46	ug/L		97
54)	2-Hexanone	9.551	43	82724	41.23	ug/L		94
55)	Chlorobenzene	9.825	112	72971	21.19	ug/L		91
56)	Ethylbenzene	9.861	91	141631	21.10	ug/L		95
57)	1,1,1,2-Tetrachloroethane	9.892	131	27438	24.74	ug/L		94
58)	m,p-Xylenes (2)	10.001	91	216234	42.90	ug/L		92
59)	o-Xylene	10.378	91	108675	21.02	ug/L		90
60)	Styrene	10.427	104	71638	20.01	ug/L		89
61)	Bromoform	10.439	173	14268	25.88	ug/L		93
62)	Isopropylbenzene	10.652	105	129003	21.12	ug/L		93
65)	Bromobenzene	10.968	156	27929	21.67	ug/L	#	74
66)	n-Propylbenzene	10.999	91	150404	21.18	ug/L		93
67)	1,1,2,2-Tetrachloroethane	11.047	83	36113	20.82	ug/L		96
68)	2-Chlorotoluene	11.120	126	26662	21.58	ug/L	#	72
69)	1,3,5-Trimethylbenzene	11.157	105	104838	21.75	ug/L		90
70)	1,2,3-Trichloropropane	11.157	110	15250	22.35	ug/L		93
71)	t-1,4-Dichloro-2-butene	11.193	88	7699	24.81	ug/L	#	75
72)	4-Chlorotoluene	11.254	91	94888	21.75	ug/L		90
73)	tert-Butylbenzene	11.412	91	65317	21.65	ug/L		82
74)	1,2,4-Trimethylbenzene	11.461	105	106208	21.83	ug/L		90
75)	sec-Butylbenzene	11.552	105	123656	21.35	ug/L		95
76)	4-Isopropyltoluene	11.662	119	103179	21.43	ug/L		93
77)	1,3-Dichlorobenzene	11.711	146	51201	20.86	ug/L		95
78)	1,4-Dichlorobenzene	11.777	146	50896	21.10	ug/L		94
79)	n-Butylbenzene	11.978	91	96216	21.94	ug/L		95
80)	1,2-Dichlorobenzene	12.094	146	48036	21.14	ug/L		95
81)	1,2-Dibromo-3-Chloropr...	12.696	157	9485	21.45	ug/L	#	35
82)	Hexachlorobutadiene	13.225	223	6952	20.66	ug/L		89
83)	1,2,4-Trichlorobenzene	13.244	180	30608	20.55	ug/L		93
84)	Naphthalene	13.517	128	122838	21.34	ug/L		94
85)	1,2,3-Trichlorobenzene	13.682	180	30959	21.20	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100103.D
Acq On : 1 Oct 2019 10:57 am
Operator : TB/IMA
Sample : 9100477-BS1
Misc : 50X 5g/5mLx1000uL/50mL VOC+MeOH A19I354
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 01 11:17:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100104.D
Acq On : 1 Oct 2019 11:24 am
Operator : TB/IMA
Sample : 9100477-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 01 12:41:17 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	90	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	50.426	-0.9	90	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.291	1.4	88	0.00
4	H	NWTPH-Gx (TPH)	500.000	515.006	-3.0	92	0.00
5	H	TPHg (C5-C9)	500.000	543.824	-8.8	90	0.00
6	H	TPHg (C6-C10)	500.000	525.373	-5.1	92	0.00
7	H	CA-LUFT (C5-C12)	500.000	539.117	-7.8	90	0.00
8		Benzene (NR)	-1.000	0.000	0.0	90	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	90	-0.01
10		Toluene (NR)	-1.000	0.000	0.0	88	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	90	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	90	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	89	-0.01

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100104.D
Acq On : 1 Oct 2019 11:24 am
Operator : TB/IMA
Sample : 9100477-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 01 12:41:17 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

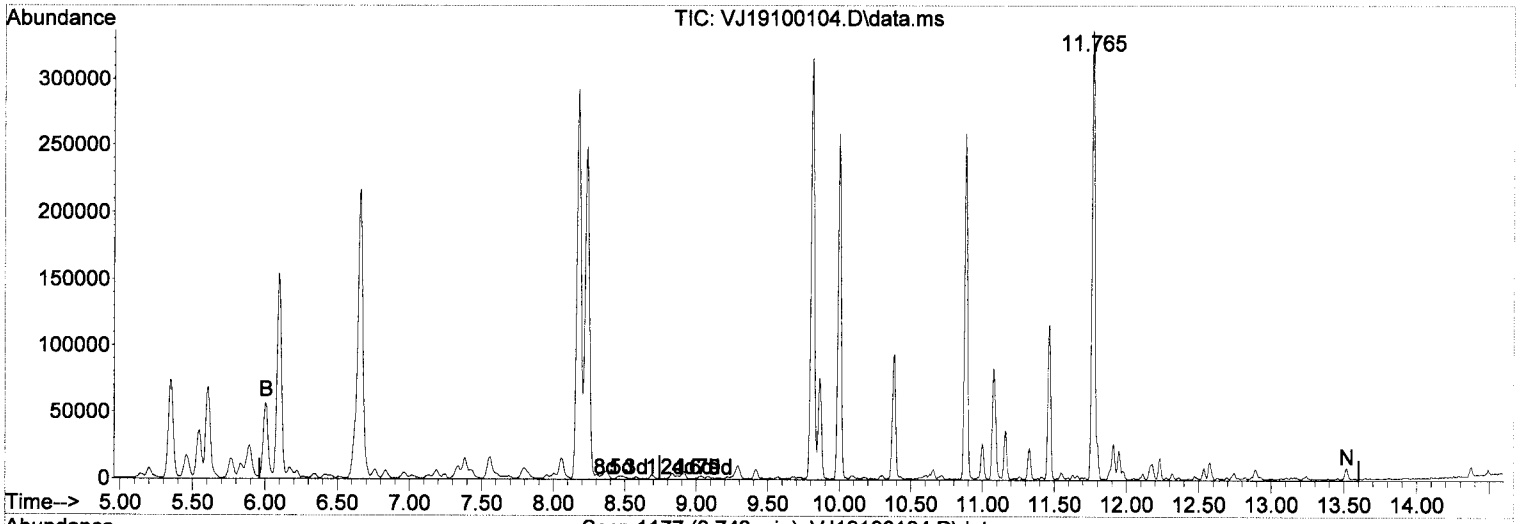
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.101	168	98821	50.00 ug/L	# 0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.661	114	176492	50.43 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	53033	49.29 ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	216885	0.00 ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	152839	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	109790	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	2553046m	515.01 ug/L	
5) TPHg (C5-C9)	9.239	TIC	3465934m	543.82 ug/L	
6) TPHg (C6-C10)	9.239	TIC	2860443m	525.37 ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	4128746m	539.12 ug/L	

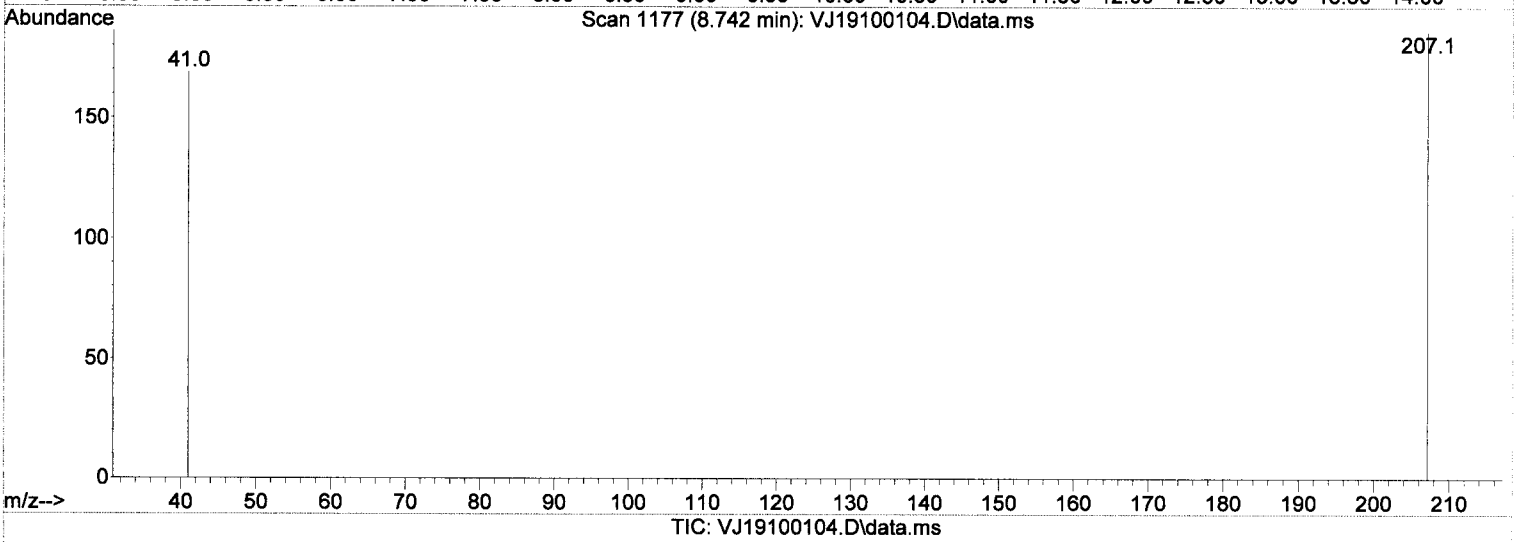
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100104.D
Acq On : 1 Oct 2019 11:24 am
Operator : TB/IMA
Sample : 9100477-BS2
Misc : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 01 12:41:17 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration





TIC: VJ19100104.D\data.ms

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

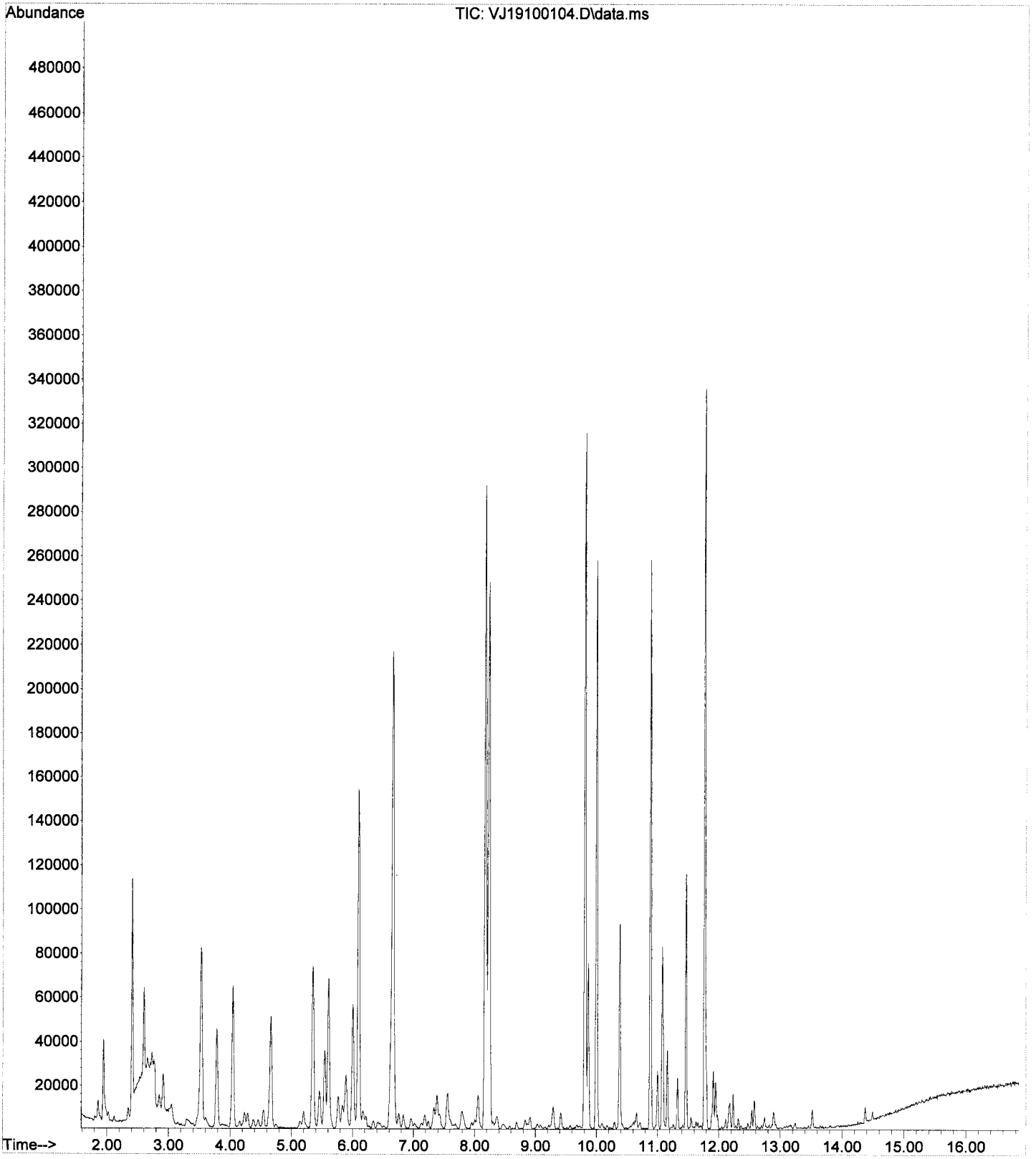
8.739min (0.000) 515.01 ug/L m

response 2553046

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

VJ 10/1/19

File :C:\msdchem\1\data\2019-10\9J01047\VJ19100104.D
Operator : TB/IMA
Acquired : 1 Oct 2019 11:24 am using AcqMethod VJ1907RUN.M
Instrument : VOA-GCMS10
Sample Name: 9100477-BS2
Misc Info : 50X 5g/5mLx1000uL/50mL GX+MeOH A19I278
Vial Number: 4



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100105.D
Acq On : 1 Oct 2019 11:50 am
Operator : TB/IMA
Sample : 9100477-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 01 12:47:51 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	96046	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	172872	50.82	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	50735	48.52	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	213752	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	149435	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	104549	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	39002m	5.41	ug/L	
5) TPHg (C5-C9)	9.239	TIC	192059m	Below Cal		
6) TPHg (C6-C10)	9.239	TIC	171227m	3.02	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	210958m	1.35	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100105.D
Acq On : 1 Oct 2019 11:50 am
Operator : TB/IMA
Sample : 9100477-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 01 12:47:38 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

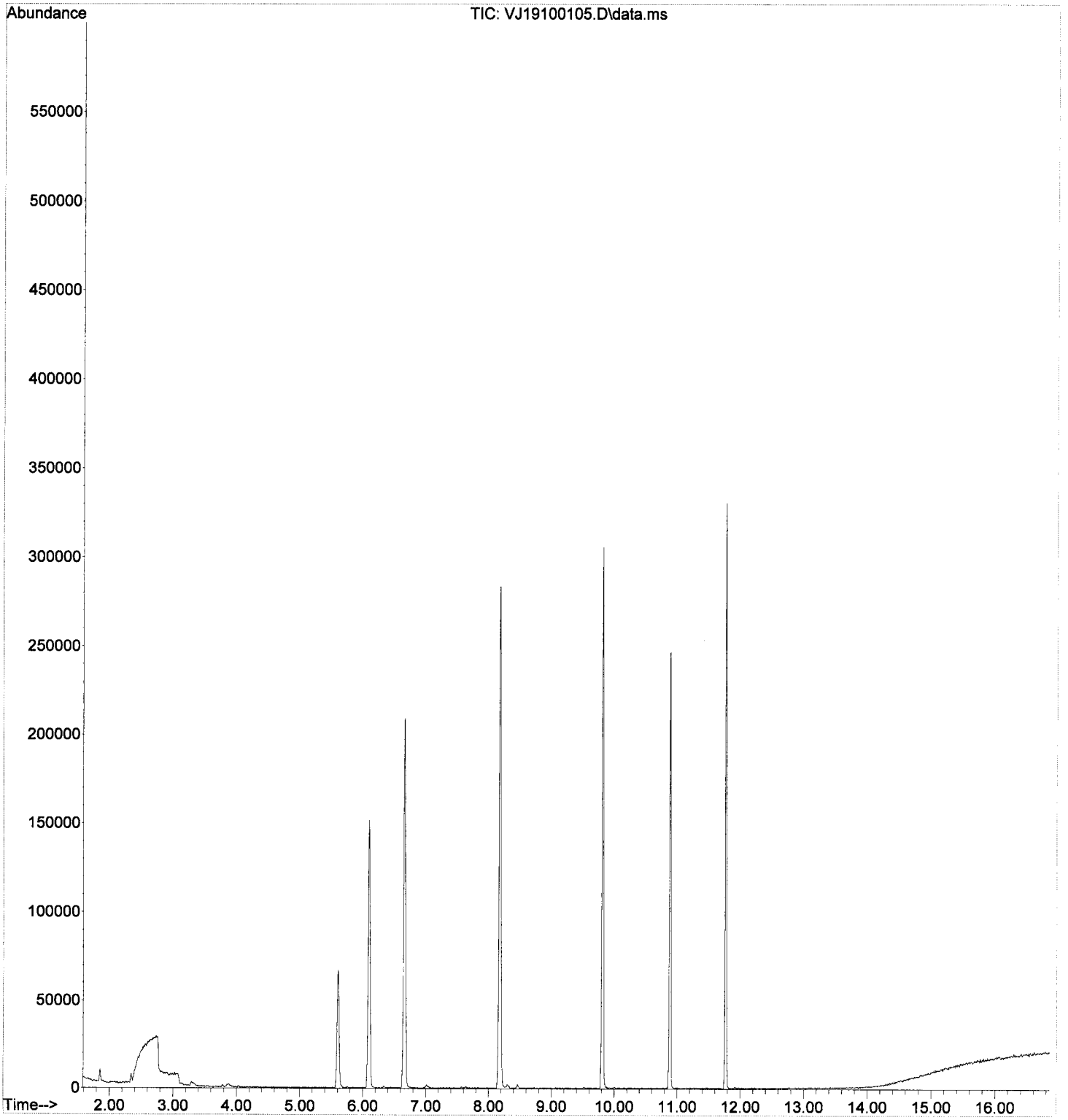
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	71364	50.00	ug/L		# 0.00
43) Chlorobenzene-d5 (I)	9.812	117	149168	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	66787	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.609	111	47689	46.79	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	172872	45.35	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	213560	51.05	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	50735	49.17	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.898	50	588	0.31	ug/L		93
5) Bromomethane	2.342	96	1939	0.22	ug/L		96
6) Chloroethane	2.457	64	122	0.54	ug/L	#	1
8) Ethanol	3.315	45	3089	11.23	ug/L		87
10) Carbon Disulfide	3.151	76	422	0.14	ug/L		78
12) Iodomethane	3.297	142	1100	1.58	ug/L		64
13) Methylene Chloride	3.778	84	420	Below Cal		#	69
14) Acetone	3.875	43	1904	Below Cal		#	42
32) 2-Butanone (MEK)	5.761	43	683	0.37	ug/L		52
34) tert-Amyl methyl ether...	6.168	73	60	Below Cal		#	46
36) iso-Butyl Alcohol	6.339	43	334	1.51	ug/L		73
58) m,p-Xylenes (2)	10.001	91	492	0.09	ug/L	#	34
74) 1,2,4-Trimethylbenzene	11.467	105	396	0.08	ug/L	#	36

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100105.D
Acq On : 1 Oct 2019 11:50 am
Operator : TB/IMA
Sample : 9100477-BLK1
Misc : 50X 7.5g/5mLx1000uL/50mL DI+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 01 12:47:38 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100106.D
Acq On : 1 Oct 2019 12:17 pm
Operator : TB/IMA
Sample : A9I0922-18
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 01 12:58:45 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

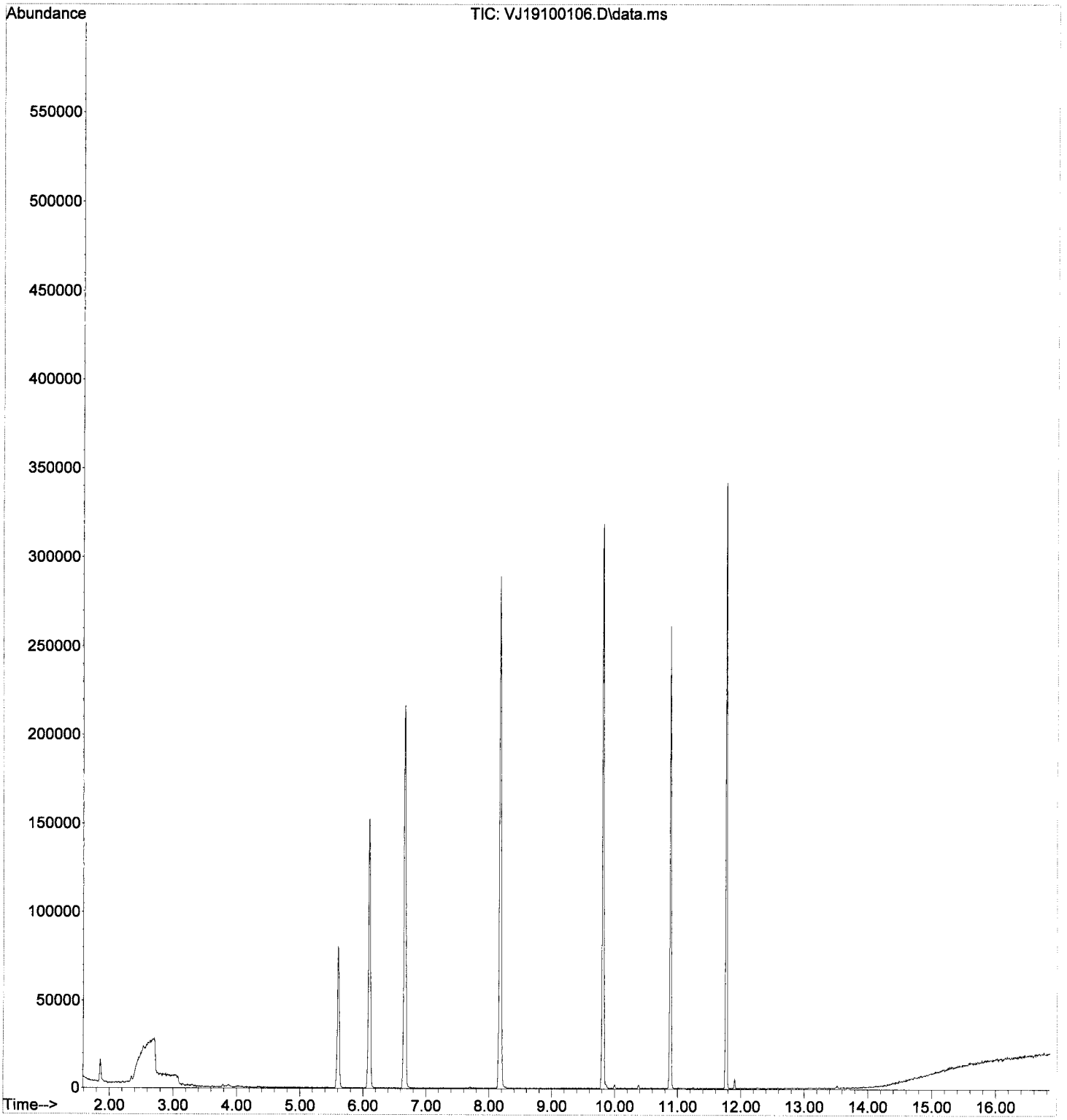
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.095	99	71577	50.00 ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.813	117	154117	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	67708	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.603	111	54047	52.87 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	172724	45.18 ug/L		0.00
45) Toluene-d8 (S)	8.176	98	215001	49.75 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	52467	50.16 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.898	50	388	0.20 ug/L	#	50
5) Bromomethane	2.348	96	1528	Below Cal		97
6) Chloroethane	2.488	64	58	0.22 ug/L	#	3
10) Carbon Disulfide	3.163	76	413	0.14 ug/L		78
12) Iodomethane	3.297	142	826	0.96 ug/L		63
13) Methylene Chloride	3.790	84	595	Below Cal		87
14) Acetone	3.881	43	1960	Below Cal		82
34) tert-Amyl methyl ether...	6.162	73	67	Below Cal	#	46
56) Ethylbenzene	9.861	91	1388	0.19 ug/L		84
58) m,p-Xylenes (2)	9.995	91	1303	0.24 ug/L		77
59) o-Xylene	10.384	91	1372	0.24 ug/L		83
84) Naphthalene	13.517	128	1392	0.24 ug/L		80

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100106.D
Acq On : 1 Oct 2019 12:17 pm
Operator : TB/IMA
Sample : A9I0922-18
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 01 12:58:45 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100107.D
Acq On : 1 Oct 2019 12:44 pm
Operator : TB/IMA
Sample : A9I0922-19
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 7 Sample Multiplier: 1

IMA
10/1/19

Quant Time: Oct 01 13:01:39 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

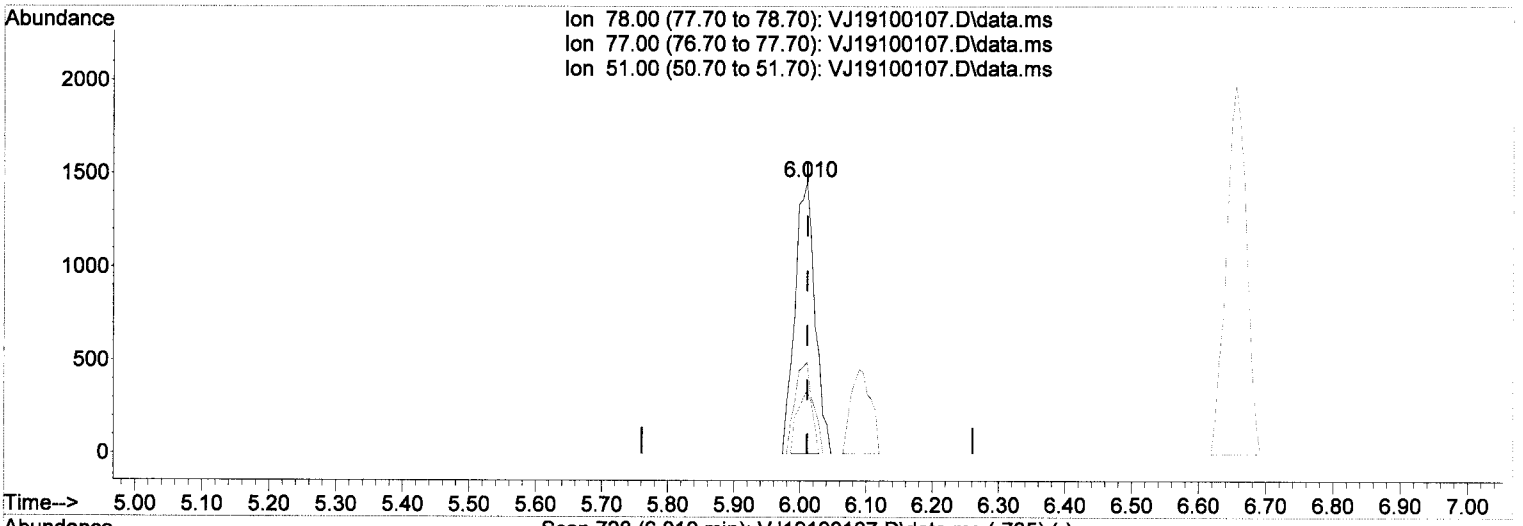
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	68220	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.812	117	145661	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	61838	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.596	111	51603	52.96	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	161627	44.36	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	204466	50.06	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	48393	50.65	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.892	50	371	0.20	ug/L	#<MDL	50
5) Bromomethane	2.336	96	1405	Below Cal			96
6) Chloroethane	2.439	64	55	0.22	ug/L	#	6
8) Ethanol	3.437	45	140	Below Cal		#	29
10) Carbon Disulfide	3.151	76	383	0.13	ug/L		78
12) Iodomethane	3.297	142	688	0.73	ug/L		75
13) Methylene Chloride	3.784	84	593	Below Cal			88
14) Acetone	3.869	43	2420	0.08	ug/L		82
18) tert-Butanol (TBA)	4.246	59	332	0.57	ug/L	#	46
33) Benzene	6.010	78	3071	0.46	ug/L		81
34) tert-Amyl methyl ether...	6.132	73	125	Below Cal		#<MDL	46
56) Ethylbenzene	9.861	91	1168	0.17	ug/L		89
58) m,p-Xylenes (2)	9.995	91	1111	0.22	ug/L		84
59) o-Xylene	10.378	91	1102	0.21	ug/L		88

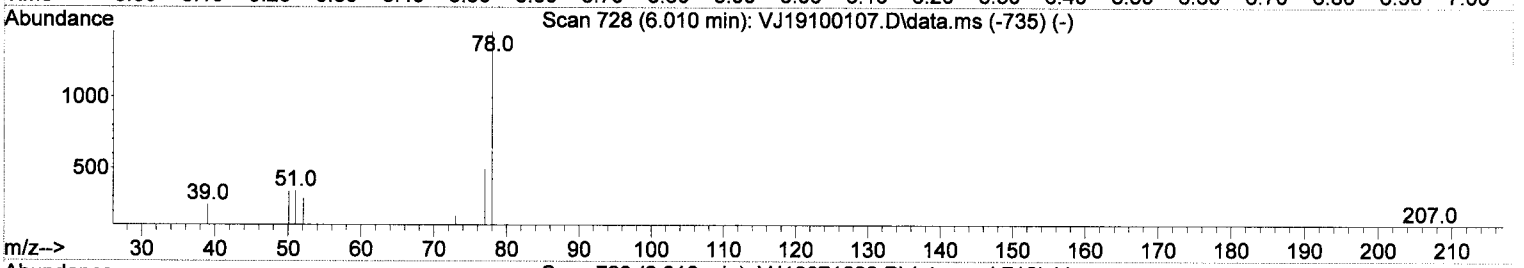
(#) = qualifier out of range (m) = manual integration (+) = signals summed

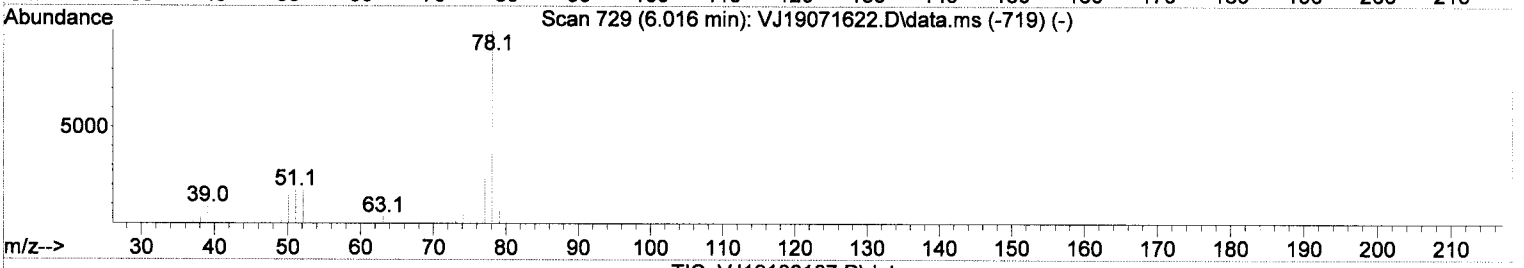
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100107.D
Acq On : 1 Oct 2019 12:44 pm
Operator : TB/IMA
Sample : A9I0922-19
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 01 13:01:39 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19100107.D\data.ms

(33) Benzene

6.010min (-0.000) 0.46 ug/L

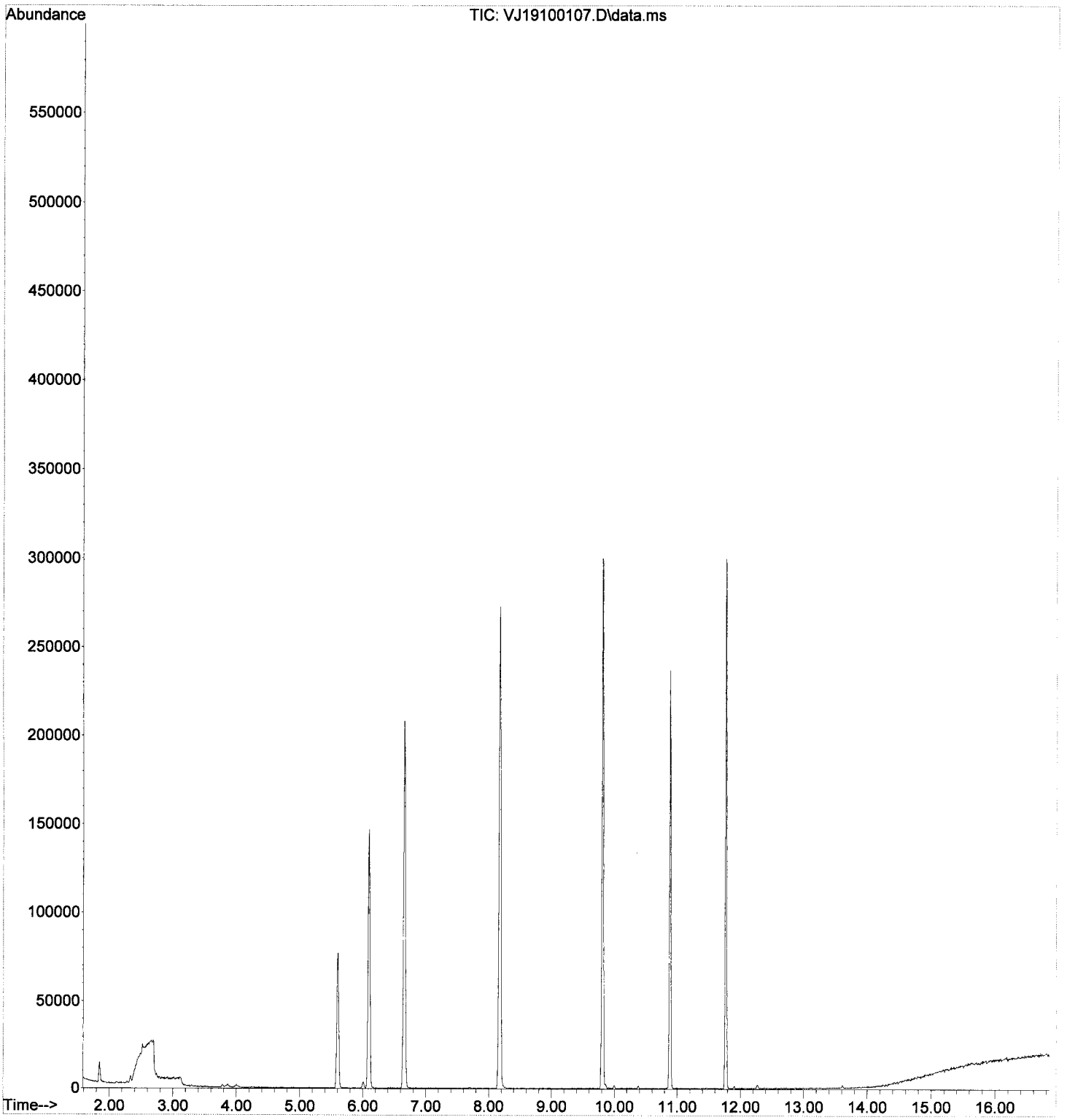
response 3071

Ion	Exp%	Act%
78.00	100.00	100.00
77.00	23.60	33.70
51.00	16.20	23.40
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100107.D
Acq On : 1 Oct 2019 12:44 pm
Operator : TB/IMA
Sample : A9I0922-19
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 01 13:01:39 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100108.D
Acq On : 1 Oct 2019 1:11 pm
Operator : TB/IMA
Sample : A9I0922-20
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 8 Sample Multiplier: 1

IMA
10/1/19

Quant Time: Oct 01 13:56:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	67529	50.00	ug/L	#	0.00
43) Chlorobenzene-d5 (I)	9.813	117	142500	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.765	152	61279	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	50674	52.54	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	158449	43.93	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	201174	50.34	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	47823	50.51	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.892	50	321	0.18	ug/L	#	>MDL 50
5) Bromomethane	2.336	96	1507	Below Cal			85
6) Chloroethane	2.470	64	170	0.82	ug/L	#	64
10) Carbon Disulfide	3.157	76	426	0.15	ug/L		78
12) Iodomethane	3.291	142	479	0.24	ug/L	#	46
13) Methylene Chloride	3.778	84	572	Below Cal			82
14) Acetone	3.869	43	2685	0.37	ug/L		77
18) tert-Butanol (TBA)	4.264	59	1093	1.91	ug/L	#	75
33) Benzene	6.010	78	3754	0.57	ug/L		92
34) tert-Amyl methyl ether...	6.114	73	116	Below Cal		#	<MDL 1
56) Ethylbenzene	9.861	91	1298	0.19	ug/L		85
58) m,p-Xylenes (2)	10.001	91	1086	0.22	ug/L		90
59) o-Xylene	10.378	91	1318	0.25	ug/L		92
60) Styrene	10.427	104	689	0.19	ug/L		<MDL 88
79) n-Butylbenzene	11.905	91	1371	0.34	ug/L	#	32
84) Naphthalene	13.517	128	3447	0.65	ug/L		88

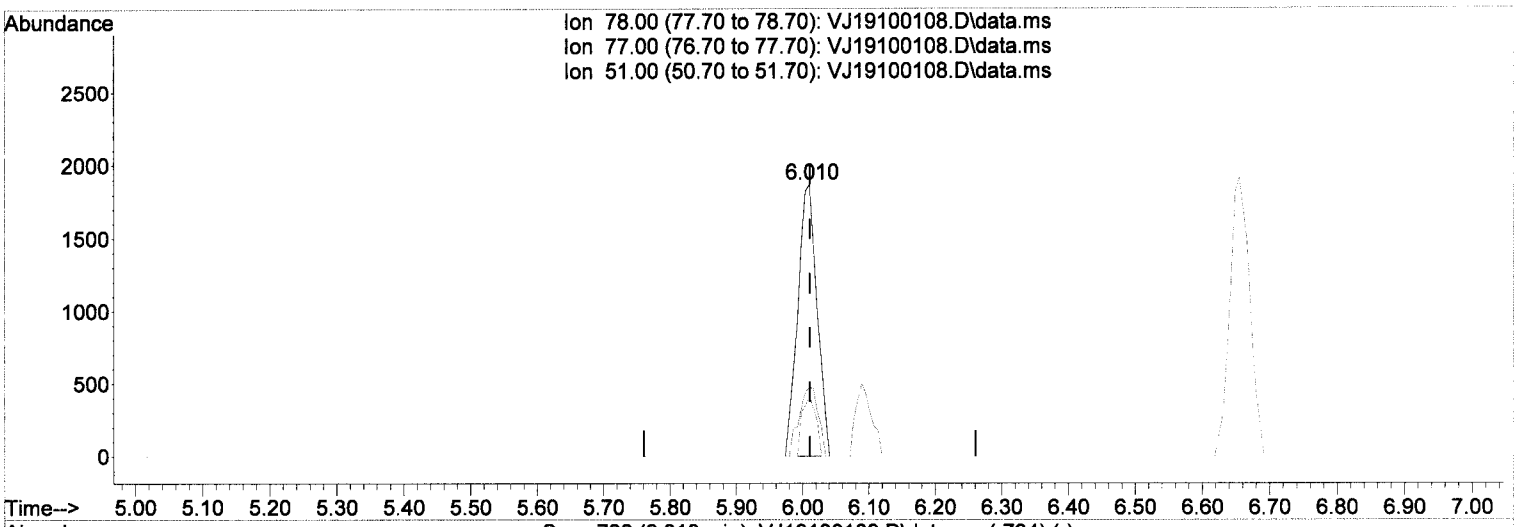
(#) = qualifier out of range (m) = manual integration (+) = signals summed

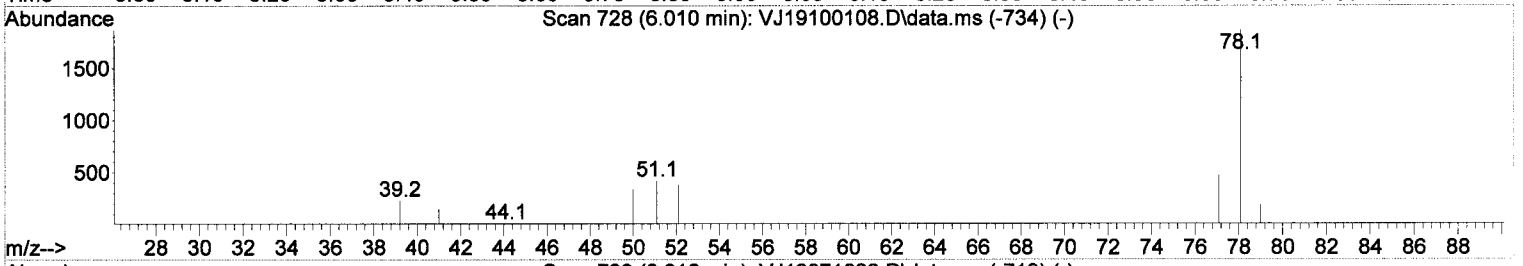
↑ >MDL
↑ MDL

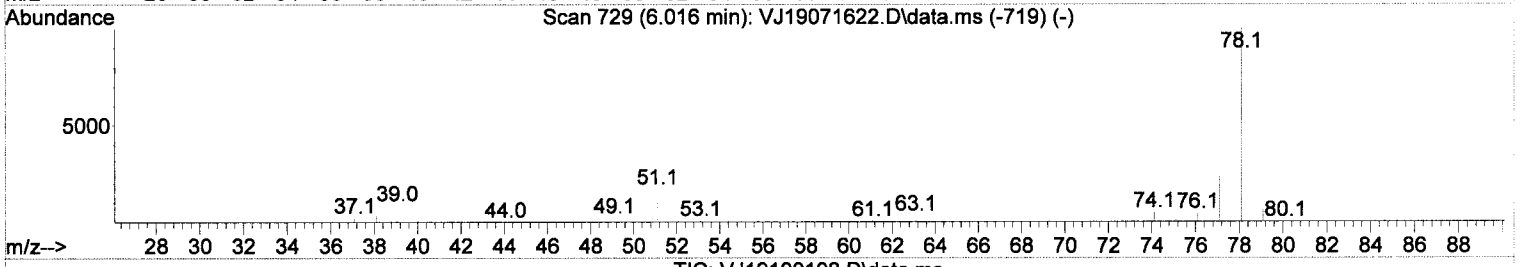
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100108.D
Acq On : 1 Oct 2019 1:11 pm
Operator : TB/IMA
Sample : A9I0922-20
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 01 13:56:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19100108.D\data.ms

(33) Benzene

6.010min (-0.000) 0.57 ug/L

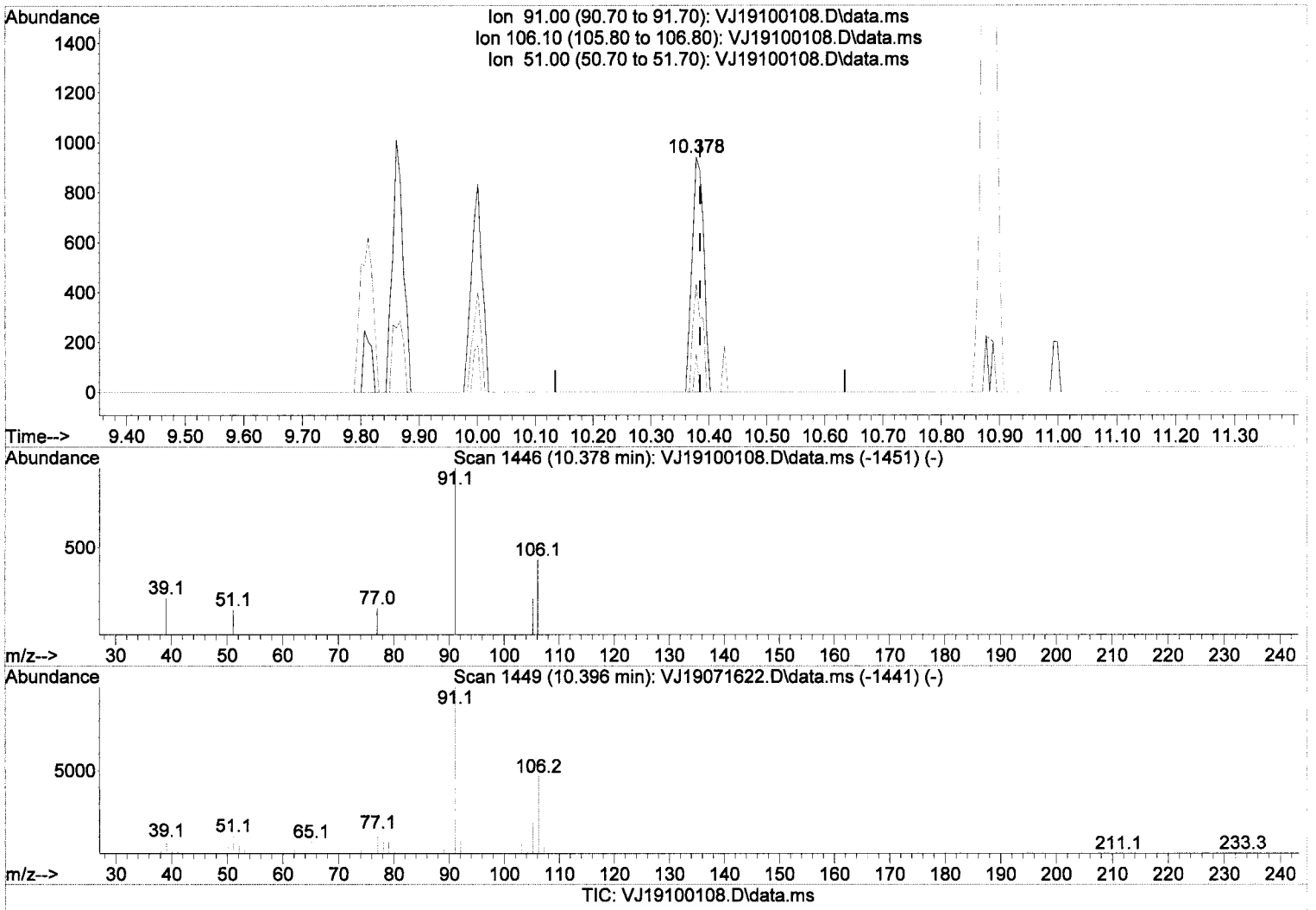
response 3754

Ion	Exp%	Act%
78.00	100.00	100.00
77.00	23.60	25.36
51.00	16.20	22.26
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100108.D
Acq On : 1 Oct 2019 1:11 pm
Operator : TB/IMA
Sample : A9I0922-20
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 01 13:56:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



TIC: VJ19100108.D\data.ms

(59) o-Xylene

10.378min (-0.006) 0.25 ug/L

response 1318

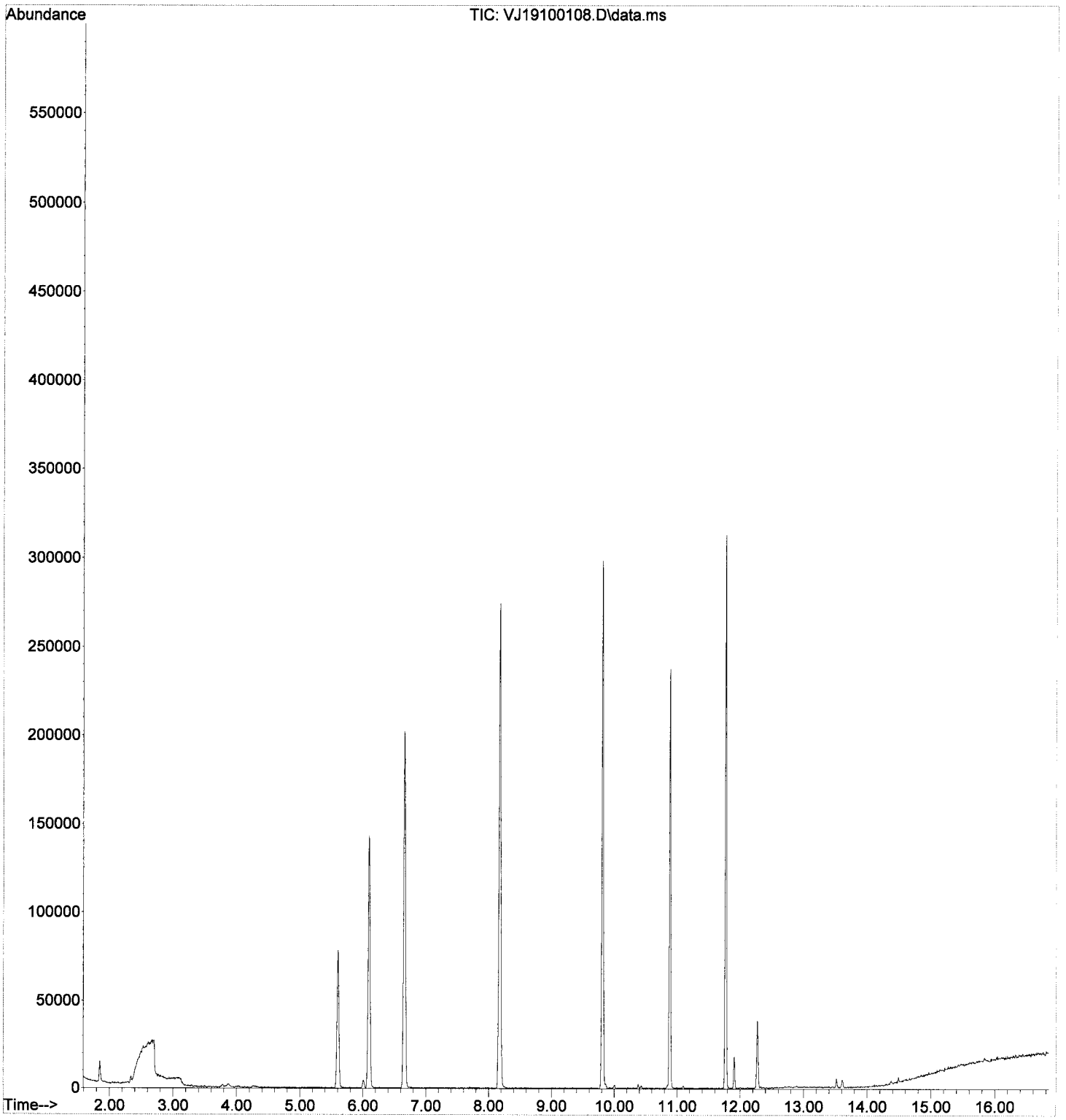
Ion	Exp%	Act%
91.00	100.00	100.00
106.10	49.80	45.81
51.00	9.70	16.22
0.00	0.00	0.00

↑MDL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100108.D
Acq On : 1 Oct 2019 1:11 pm
Operator : TB/IMA
Sample : A9I0922-20
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 01 13:56:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100109.D
Acq On : 1 Oct 2019 1:38 pm
Operator : TB/IMA
Sample : A9I0922-21
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 9 Sample Multiplier: 1

IMA
10/1/19

Quant Time: Oct 01 14:02:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.095	99	66126	50.00 ug/L	# 0.00
43) Chlorobenzene-d5 (I)	9.812	117	138856	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	58149	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.609	111	50517	53.49 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.661	114	154513	43.75 ug/L	0.00
45) Toluene-d8 (S)	8.176	98	196167	50.38 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.883	174	45179	50.29 ug/L	0.00

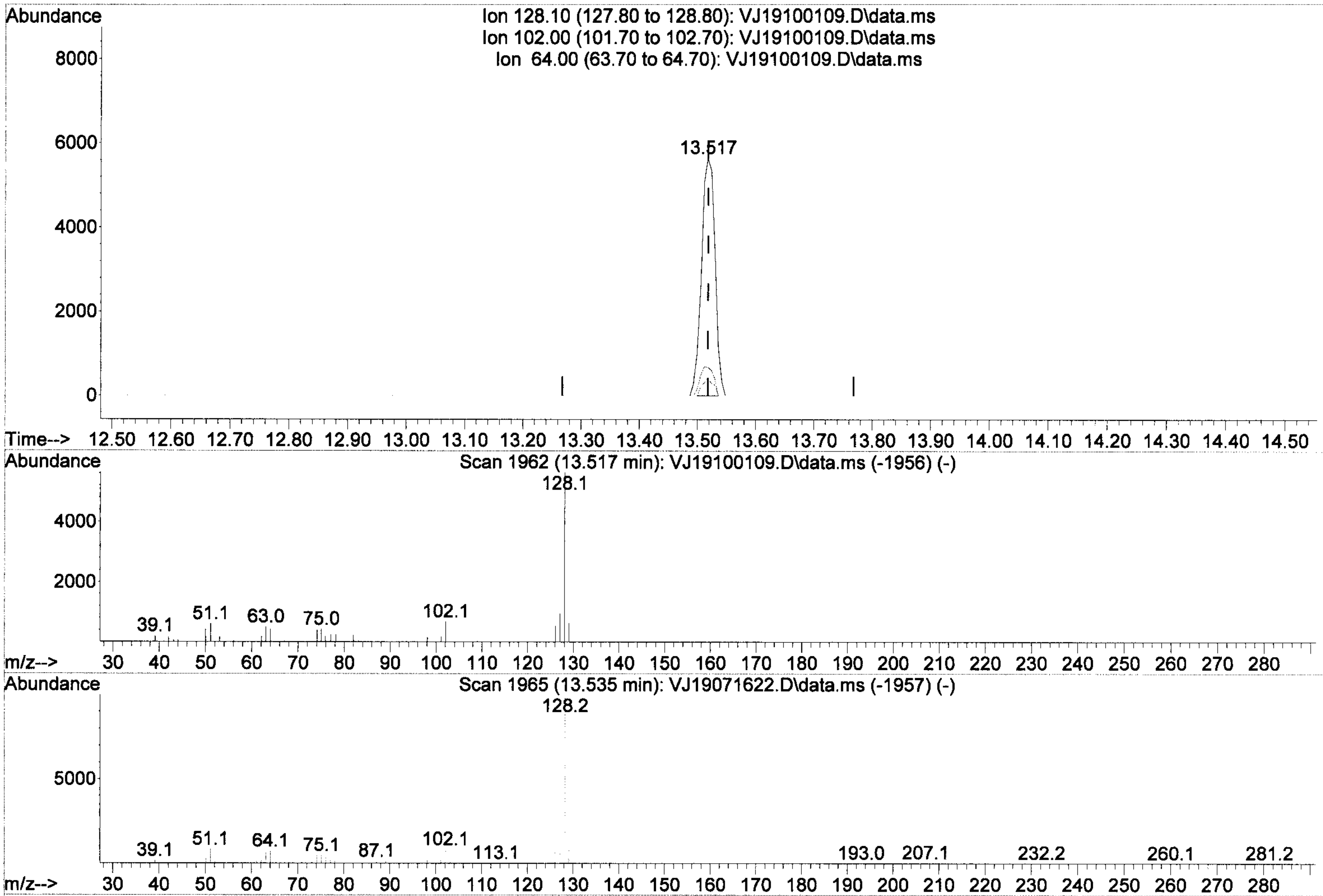
Target Compounds	R.T.	QIon	Response	Conc Units		Qvalue
3) Chloromethane	1.904	50	322	0.18 ug/L	# <MDL	50
5) Bromomethane	2.348	96	1332	Below Cal		89
6) Chloroethane	2.476	64	177	0.87 ug/L	#	1
10) Carbon Disulfide	3.169	76	410	0.15 ug/L		78
12) Iodomethane	3.303	142	430	0.15 ug/L		53
13) Methylene Chloride	3.784	84	461	Below Cal	#	62
14) Acetone	3.875	43	2451	0.19 ug/L		88
18) tert-Butanol (TBA)	4.270	59	138	0.25 ug/L	#	46
34) tert-Amyl methyl ether...	6.174	73	57	Below Cal	#	46
46) Toluene	8.231	91	2040	0.33 ug/L		74
48) 4-Methyl-2-Pentanone (...	8.687	43	290	0.12 ug/L	#	43
56) Ethylbenzene	9.861	91	1229	0.19 ug/L		87
58) m,p-Xylenes (2)	10.001	91	1061	0.22 ug/L		76
59) o-Xylene	10.384	91	1195	0.24 ug/L		74
67) 1,1,2,2-Tetrachloroethane	11.060	83	371	0.24 ug/L	#	24
84) Naphthalene	13.517	128	9065	1.79 ug/L		92

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100109.D
Acq On : 1 Oct 2019 1:38 pm
Operator : TB/IMA
Sample : A9I0922-21
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 01 14:02:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



TIC: VJ19100109.D\data.ms

(84) Naphthalene

13.517min (-0.000) 1.79 ug/L

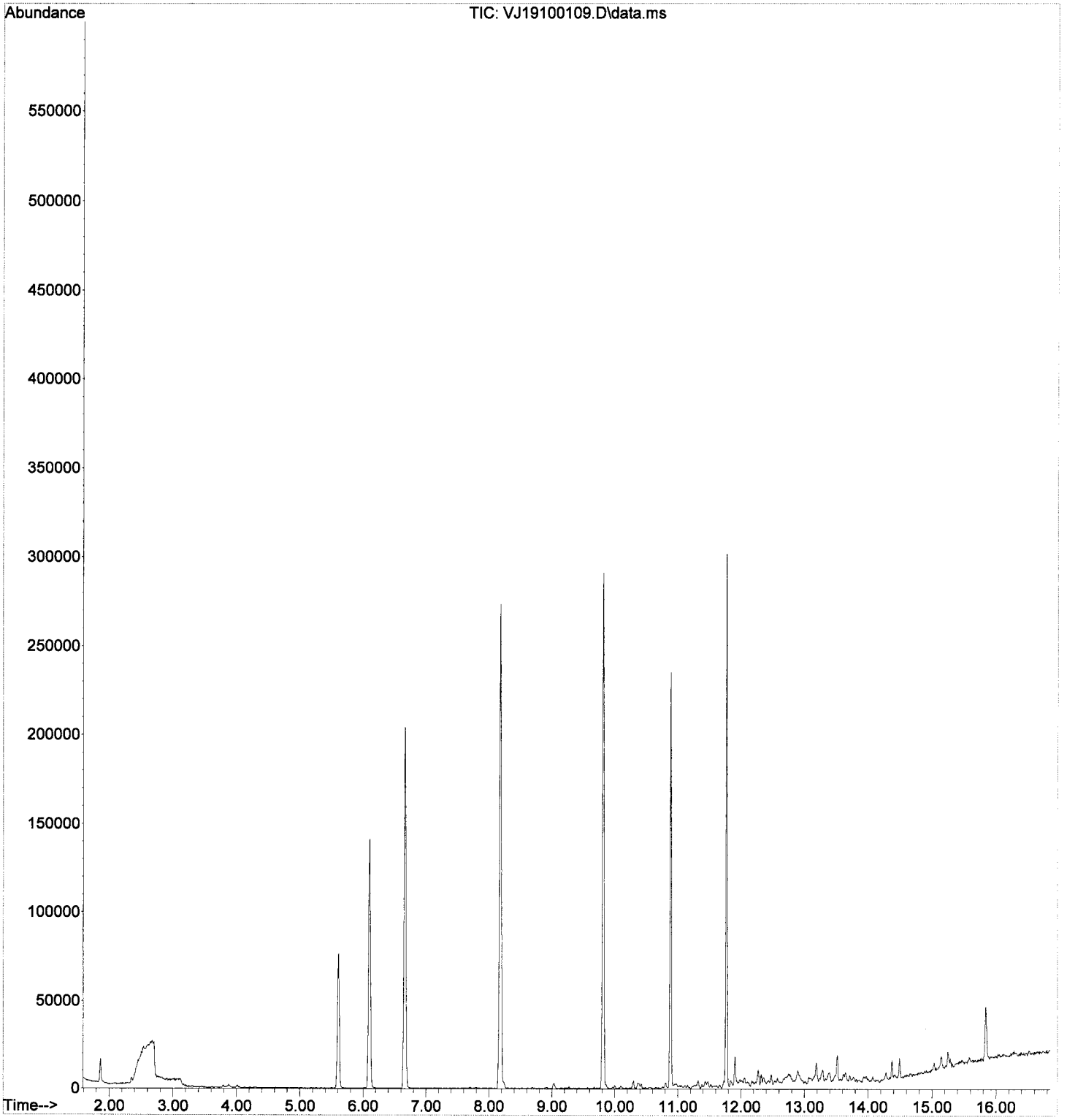
response 9065

Ion	Exp%	Act%
128.10	100.00	100.00
102.00	7.90	12.15
64.00	6.30	7.56
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J01047\
Data File : VJ19100109.D
Acq On : 1 Oct 2019 1:38 pm
Operator : TB/IMA
Sample : A9I0922-21
Misc : 50X 5g/5mLx1000uL/50mL BTEX/HALO6
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 01 14:02:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



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

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

Batch 9100594
Sequence 9J04030 (A9I0922-06)

PREPARATION BENCH SHEET

Apex Laboratories

BATCH #: 9100594 (Water)

Prep Method: EPA 5030B

Lab Number	Cont.	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
9100594-BLK1		QC	10/04/19 12:00	5	5							
9100594-BSD1		QC	10/04/19 12:00	5	5	A19J063		5				
9100594-BS1		QC	10/04/19 12:00	5	5	A19J063		5				
9100594-BS2		QC	10/04/19 12:00	5	5	A19J046		5				
A9I0885-03	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-TB-1909251448		<2
A9I0922-06	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-TB-1909271100		<2
A9I0936-09	A	8260C BTEX	10/04/19 14:17	5	5					PDI-FB-1909291637	Added for BatchQC in: 9100594	<2
A9I0936-09	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-FB-1909291637		<2
A9I0936-09	A	NWTPH-Gx	10/04/19 14:17	5	5					PDI-FB-1909291637	Added for BatchQC in: 9100594	<2
9100594-DUP1		QC	10/04/19 14:17	5	5		A9I0936-09					<2
A9I0936-10	A	8260C BTEX	10/04/19 14:17	5	5					PDI-RB-1909291555	Added for BatchQC in: 9100594	<2
A9I0936-10	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-RB-1909291555		<2
A9I0936-10	A	NWTPH-Gx	10/04/19 14:17	5	5					PDI-RB-1909291555	Added for BatchQC in: 9100594	<2
9100594-MS1		QC	10/04/19 14:17	5	5	A19J063	A9I0936-10	5				<2
A9J0063-01	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-TB-1909301011		<2
A9J0149-01	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-TB-19010021525		<2
A9J0149-04	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-FB-1910031324		<2
A9J0149-05	A	8260C BTEX+Halo6	10/04/19 14:17	5	5					PDI-RB-1910031323		<2

*pH <2 verified 10/6/19

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description

Analyte Spike(s)

Std ID	Exp. Date	Description
A19J046	02/17/20	Prim NWTPH-Gx Spike (500 ug/mL)
A19J063	11/09/19	8260 Cal. Std. B VOCR+OXY Spike (20-40ug/r

Surrogate(s)

Std ID	Exp. Date	Description

10/6/19
Prepared By: Date

10/7/19
Reviewed By: Date

PREPARATION BENCH SHEET

BATCH #: 9100594 (Water)

Apex Laboratories

Prep Method: EPA 5030B

Lab Number	Cont.	Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	ClientID / Sample	Extraction Comments	pH*
GCMS7												

Prepared By: Date

Reviewed By: 10/7/19 Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9J04030** Instrument: **VOA-GCMS7**

Date: **10/04/19 12:15** Calibration: **A9I3003**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J04030-IBL1	Water	QC	QC			A19F381	
2	9J04030-IBL2	Water	QC	QC			A19F381	
3	9J04030-TUN1	Water	QC	QC			A19F381	
4	9J04030-CCV1	Water	QC	QC			A19F381	
5	9100594-BS1	Water	QC	QC		9100594	A19F381	
6	9100594-BSD1	Water	QC	QC		9100594	A19F381	
7	9J04030-IBL3	Water	QC	QC			A19F381	
8	9J04030-CCV2	Water	QC	QC			A19F381	
9	9100594-BS2	Water	QC	QC		9100594	A19F381	
10	9100594-BLK1	Water	QC	QC		9100594	A19F381	
11	A9I0885-03	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/10/19	9100594	A19F381	
12	A9I0922-06	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100594	A19F381	
13	A9I0936-09	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100594	A19F381	
"	"	Water	8260C BTEX	(QC Source)		9100594	A19F381	
"	"	~~Water~~	~~NWTPH-Gx~~	(QC Source)		9100594	A19F381	
14	9100594-DUP1	Water	QC	QC		9100594	A19F381	
15	A9J0063-01	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/15/19	9100594	A19F381	
16	A9I0936-10	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/11/19	9100594	A19F381	
"	"	Water	8260C BTEX	(QC Source)		9100594	A19F381	
"	"	~~Water~~	~~NWTPH-Gx~~	(QC Source)		9100594	A19F381	
17	9100594-MS1	Water	QC	QC		9100594	A19F381	
18	9J04030-IBL4	Water	QC	QC			A19F381	
19	A9J0149-01	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/17/19	9100594	A19F381	
20	A9J0149-04	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/17/19	9100594	A19F381	
21	A9J0149-05	Water	8260C BTEX+Halo6	Anchor QEA, LLC	10/17/19	9100594	A19F381	

Data Entered By: 10/4/19

Data Reviewed By: 10/7/19

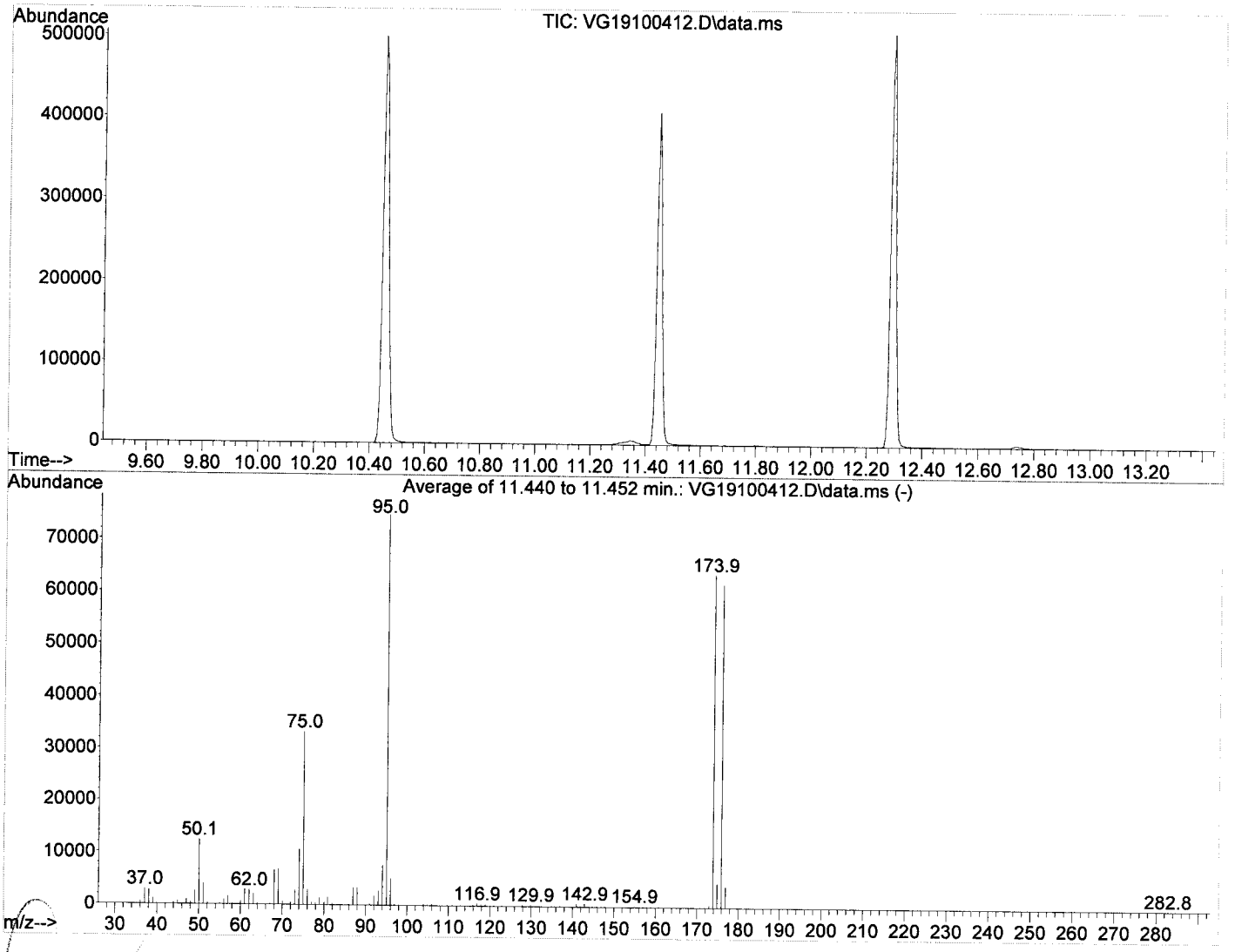
Comments:

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100412.D
Acq On : 4 Oct 2019 1:25 pm
Operator : TNL
Sample : 9J04030-TUN1
Misc : A19F380 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019

10/4/19



AutoFind: Scans 1608, 1609, 1610; Background Corrected with Scan 1601

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	117.3	74677	PASS
96	95	5	9	6.8	5107	PASS
173	174	0.00	2	0.6	389	PASS
174	95	50	200	85.3	63688	PASS
175	174	5	9	7.1	4536	PASS
176	174	95	105	97.1	61859	PASS
177	176	5	10	6.5	4044	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100412.D
Acq On : 4 Oct 2019 1:25 pm
Operator : TNL
Sample : 9J04030-TUN1
Misc : A19F380 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

VN 10/4/19

Quant Time: Oct 04 16:33:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

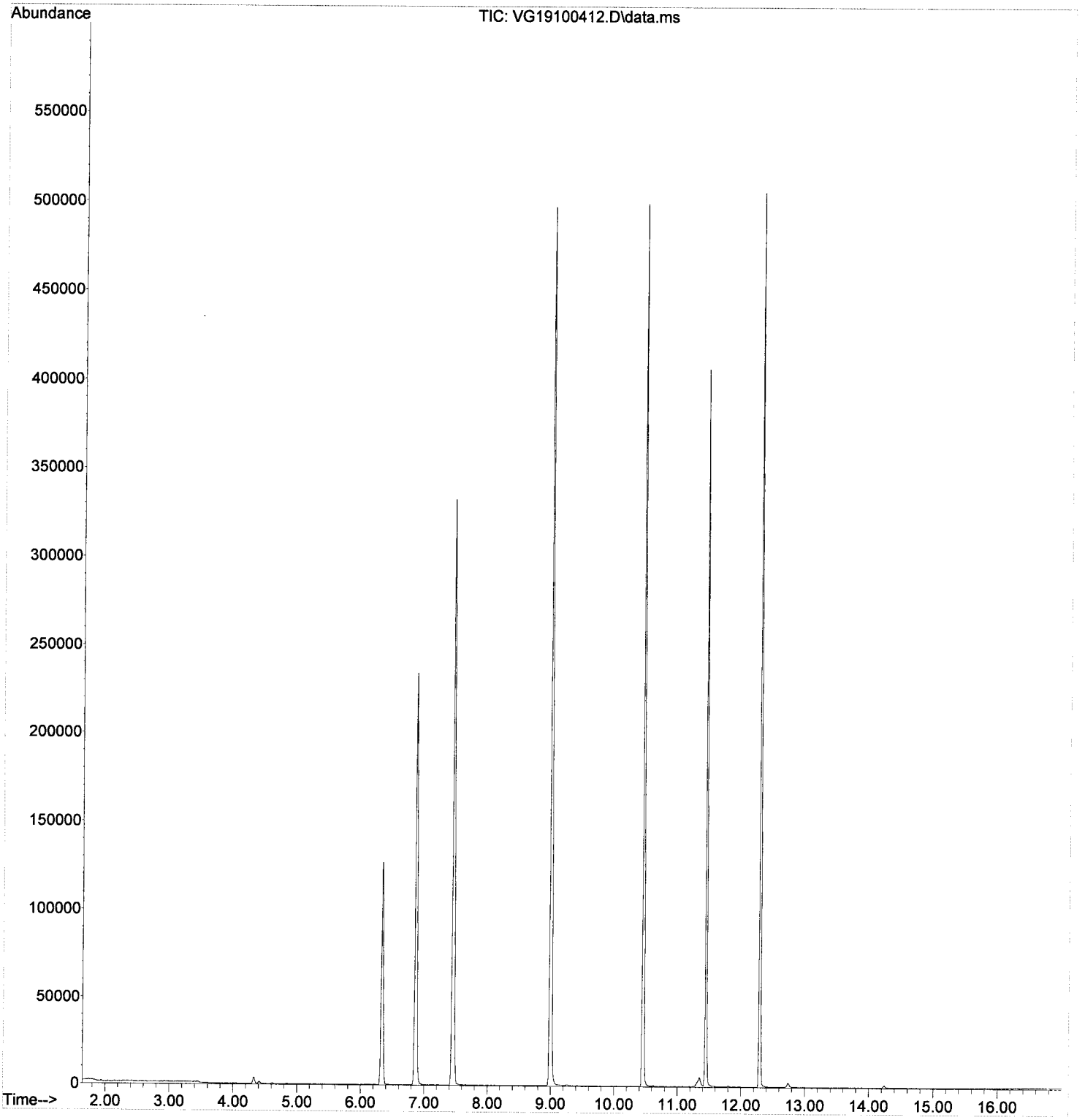
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	93759	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.452	117	259272	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	119394	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	86754	46.78 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.453	114	310125	50.68 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	357898	50.10 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	99418	46.51 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.996	50	239	0.14 ug/L #	50
6) Chloroethane	2.716	64	19	Below Cal #	47
14) Methylene Chloride	4.325	84	1649	0.87 ug/L	95
15) Acetone	4.411	43	1679	1.55 ug/L	87
19) tert-Butanol (TBA)	4.843	59	96	0.28 ug/L #	7

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100412.D
Acq On : 4 Oct 2019 1:25 pm
Operator : TNL
Sample : 9J04030-TUN1
Misc : A19F380 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:33:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	94	0.00
2		Dichlorodifluoromethane	20.000	22.848	-14.2	101	0.00
3	P	Chloromethane	20.000	22.460	-12.3	106	0.00
4	C	Vinyl Chloride	20.000	22.551	-12.8	98	0.00
5		Bromomethane	20.000	24.729	-23.6#	115	0.00
6		Chloroethane	20.000	22.281	-11.4	102	0.00
7		Trichlorofluoromethane	20.000	21.334	-6.7	88	-0.02
8		Ethanol	1250.000	1194.209	4.5	89	0.01
9	C	1,1-Dichloroethene	20.000	20.222	-1.1	87	-0.01
10		Carbon Disulfide	20.000	17.563	12.2	73	0.00
11		Freon 113	20.000	19.940	0.3	88	0.00
12		Iodomethane	20.000	10.438	47.8#	50	-0.01
13		Acrolein	20.000	31.043	-55.2#	145	0.00
14		Methylene Chloride	20.000	19.325	3.4	89	0.00
15		Acetone	40.000	38.559	3.6	89	0.00
16		t-1,2-Dichloroethene	20.000	19.872	0.6	88	0.00
17		n-Hexane	20.000	23.362	-16.8	102	0.00
18		Methyl-tert-butyl-ether	20.000	18.944	5.3	84	0.00
19		tert-Butanol (TBA)	1250.000	1164.191	6.9	78	0.00
20		Diisopropyl ether (DIPE)	5.000	5.064	-1.3	89	0.00
21	P	1,1-Dichloroethane	20.000	20.501	-2.5	88	0.00
22		Acrylonitrile	20.000	20.929	-4.6	94	0.00
23		Vinyl Acetate	20.000	27.801	-39.0#	157	-0.02
24		Ethyl-tert-butyl ether (ETB	5.000	4.719	5.6	84	0.00
25		c-1,2-Dichloroethene	20.000	20.517	-2.6	90	0.00
26		2,2-Dichloropropane	20.000	15.056	24.7#	64	0.00
27		Bromochloromethane	20.000	20.308	-1.5	90	0.00
28	C	Chloroform	20.000	19.898	0.5	87	0.00
29		Carbon Tetrachloride	20.000	12.268	38.7#	52	-0.01
30		Tetrahydrofuran	20.000	21.789	-8.9	96	-0.02
31		1,1,1-Trichloroethane	20.000	16.249	18.8	67	0.00
32	S	Dibromofluoromethane (S)	50.000	49.175	1.7	90	0.00
33		1,1-Dichloropropene	20.000	20.555	-2.8	90	0.00
34		2-Butanone (MEK)	40.000	42.620	-6.5	96	-0.02
35		Benzene	20.000	19.731	1.3	91	-0.01
36		tert-Amyl methyl ether (TAM	5.000	4.413	11.7	82	0.03
37		1,2-Dichloroethane (EDC)	20.000	20.774	-3.9	91	0.00
38		iso-Butyl Alcohol	500.000	414.564	17.1	68	-0.01
39	S	1,4-Difluorobenzene (S)	50.000	49.628	0.7	94	0.00
40		Trichloroethene (TCE)	20.000	18.739	6.3	84	0.00
41		tert-Amyl ethyl ether (TAEE	5.000	4.357	12.9	75	-0.02
42		Dibromomethane	20.000	20.385	-1.9	90	0.00
43	C	1,2-Dichloropropane	20.000	21.074	-5.4	91	0.00
44		Bromodichloromethane	20.000	17.372	13.1	72	0.01
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	97	0.00
46		2-Chloroethyl Vinyl Ether	20.000	19.274	3.6	86	-0.01
47		c-1,3-Dichloropropene	20.000	15.578	22.1#	71	0.00
48	S	Toluene-d8 (S)	50.000	49.704	0.6	97	0.00
49	C	Toluene	20.000	19.328	3.4	92	0.00
50		Tetrachloroethene (PCE)	20.000	18.428	7.9	87	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	45.828	-14.6	97	-0.01
52		t-1,3-Dichloropropene	20.000	14.304	28.5#	66	-0.01
53		1,1,2-Trichloroethane	20.000	19.994	0.0	92	0.00
54		Dibromochloromethane	20.000	13.317	33.4#	63	-0.01
55		1,3-Dichloropropane	20.000	20.516	-2.6	94	-0.01
56		1,2-Dibromoethane (EDB)	20.000	19.034	4.8	83	0.00
57		2-Hexanone	40.000	45.746	-14.4	98	0.00
58	P	Chlorobenzene	20.000	19.346	3.3	93	0.00
59		Ethylbenzene	20.000	20.512	-2.6	95	0.00
60		1,1,1,2-Tetrachloroethane	20.000	13.618	31.9#	62	0.00
61		m,p-Xylenes (2)	40.000	42.340	-5.9	97	-0.01
62		o-Xylene	20.000	21.101	-5.5	95	0.00
63		Styrene	20.000	22.616	-13.1	96	-0.01
64	P	Bromoform	20.000	11.337	43.3#	60	0.00
65		Isopropylbenzene	20.000	21.485	-7.4	93	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	104	0.00
67	S	4-Bromofluorobenzene (S)	50.000	46.054	7.9	96	0.00
68		Bromobenzene	20.000	18.218	8.9	92	0.00
69		n-Propylbenzene	20.000	20.532	-2.7	99	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.669	-3.3	100	0.00
71		2-Chlorotoluene	20.000	19.669	1.7	96	0.00
72		1,3,5-Trimethylbenzene	20.000	21.033	-5.2	102	0.00
73		1,2,3-Trichloropropane	20.000	20.515	-2.6	95	-0.01
74		t-1,4-Dichloro-2-butene	20.000	11.195	44.0#	55	0.00
75		4-Chlorotoluene	20.000	19.818	0.9	100	0.00
76		tert-Butylbenzene	20.000	20.104	-0.5	96	0.00
77		1,2,4-Trimethylbenzene	20.000	21.170	-5.9	103	0.00
78		sec-Butylbenzene	20.000	21.139	-5.7	98	0.00
79		4-Isopropyltoluene	20.000	21.129	-5.6	100	0.00
80		1,3-Dichlorobenzene	20.000	19.495	2.5	99	0.00
81		1,4-Dichlorobenzene	20.000	19.215	3.9	101	0.00
82		n-Butylbenzene	20.000	21.928	-9.6	109	0.00
83		1,2-Dichlorobenzene	20.000	20.481	-2.4	101	-0.01
84		1,2-Dibromo-3-Chloropropane	20.000	13.340	33.3#	70	0.00
85		Hexachlorobutadiene	20.000	21.276	-6.4	97	0.00
86		1,2,4-Trichlorobenzene	20.000	21.489	-7.4	106	0.00
87		Naphthalene	20.000	24.379	-21.9#	110	0.00
88		1,2,3-Trichlorobenzene	20.000	24.057	-20.3#	111	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	88325	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.452	117	245927	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	118022	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	85904	49.18 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.453	114	286068	49.63 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	336812	49.70 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	97311	46.05 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.728	85	25785	22.85 ug/L	97
3) Chloromethane	1.990	50	35826	22.46 ug/L	99
4) Vinyl Chloride	2.118	62	36436	22.55 ug/L	96
5) Bromomethane	2.557	96	16412	24.73 ug/L	99
6) Chloroethane	2.728	64	5999	22.28 ug/L	91
7) Trichlorofluoromethane	2.917	101	34196	21.33 ug/L	99
8) Ethanol	3.649	45	57794	1194.21 ug/L	85
9) 1,1-Dichloroethene	3.588	61	46928	20.22 ug/L	98
10) Carbon Disulfide	3.588	76	49910	17.56 ug/L	99
11) Freon 113	3.661	101	30881	19.94 ug/L	96
12) Iodomethane	3.752	142	10993	10.44 ug/L	93
13) Acrolein	4.039	56	11986	31.04 ug/L	96
14) Methylene Chloride	4.325	84	34544	19.32 ug/L	96
15) Acetone	4.405	43	39443	38.56 ug/L	97
16) t-1,2-Dichloroethene	4.508	61	46566	19.87 ug/L	96
17) n-Hexane	4.612	86	5763	23.36 ug/L #	47
18) Methyl-tert-butyl-ether	4.667	73	86884	18.94 ug/L	98
19) tert-Butanol (TBA)	4.831	59	381445	1164.19 ug/L #	52
20) Diisopropyl ether (DIPE)	5.118	45	26413	5.06 ug/L	97
21) 1,1-Dichloroethane	5.221	63	60546	20.50 ug/L	98
22) Acrylonitrile	5.295	53	24139	20.93 ug/L	95
23) Vinyl Acetate	5.532	43	61174	27.80 ug/L	95
24) Ethyl-tert-butyl ether...	5.520	59	19937	4.72 ug/L	94
25) c-1,2-Dichloroethene	5.825	61	50851	20.52 ug/L	99
26) 2,2-Dichloropropane	5.935	77	21988	15.06 ug/L #	33
27) Bromochloromethane	6.038	49	30277	20.31 ug/L	91
28) Chloroform	6.136	83	59646	19.90 ug/L	96
29) Carbon Tetrachloride	6.270	117	18867	12.27 ug/L	98
30) Tetrahydrofuran	6.307	42	23871	21.79 ug/L	99
31) 1,1,1-Trichloroethane	6.349	97	33896	16.25 ug/L	94
33) 1,1-Dichloropropene	6.483	75	47521	20.56 ug/L	97
34) 2-Butanone (MEK)	6.483	43	68683	42.62 ug/L	98
35) Benzene	6.758	78	149658	19.73 ug/L	100
36) tert-Amyl methyl ether...	6.904	73	16651	4.41 ug/L #	68
37) 1,2-Dichloroethane (EDC)	6.989	62	48433	20.77 ug/L	99
38) iso-Butyl Alcohol	7.050	43	66253	414.56 ug/L	93
40) Trichloroethene (TCE)	7.410	130	37238	18.74 ug/L	98
41) tert-Amyl ethyl ether ...	7.690	59	11586	4.36 ug/L	84
42) Dibromomethane	7.886	93	23858	20.38 ug/L	93
43) 1,2-Dichloropropane	8.001	63	39652	21.07 ug/L	92
44) Bromodichloromethane	8.081	83	29887	17.37 ug/L	97
46) 2-Chloroethyl Vinyl Ether	8.739	63	26975	19.27 ug/L #	1
47) c-1,3-Dichloropropene	8.800	75	37717	15.58 ug/L	97

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

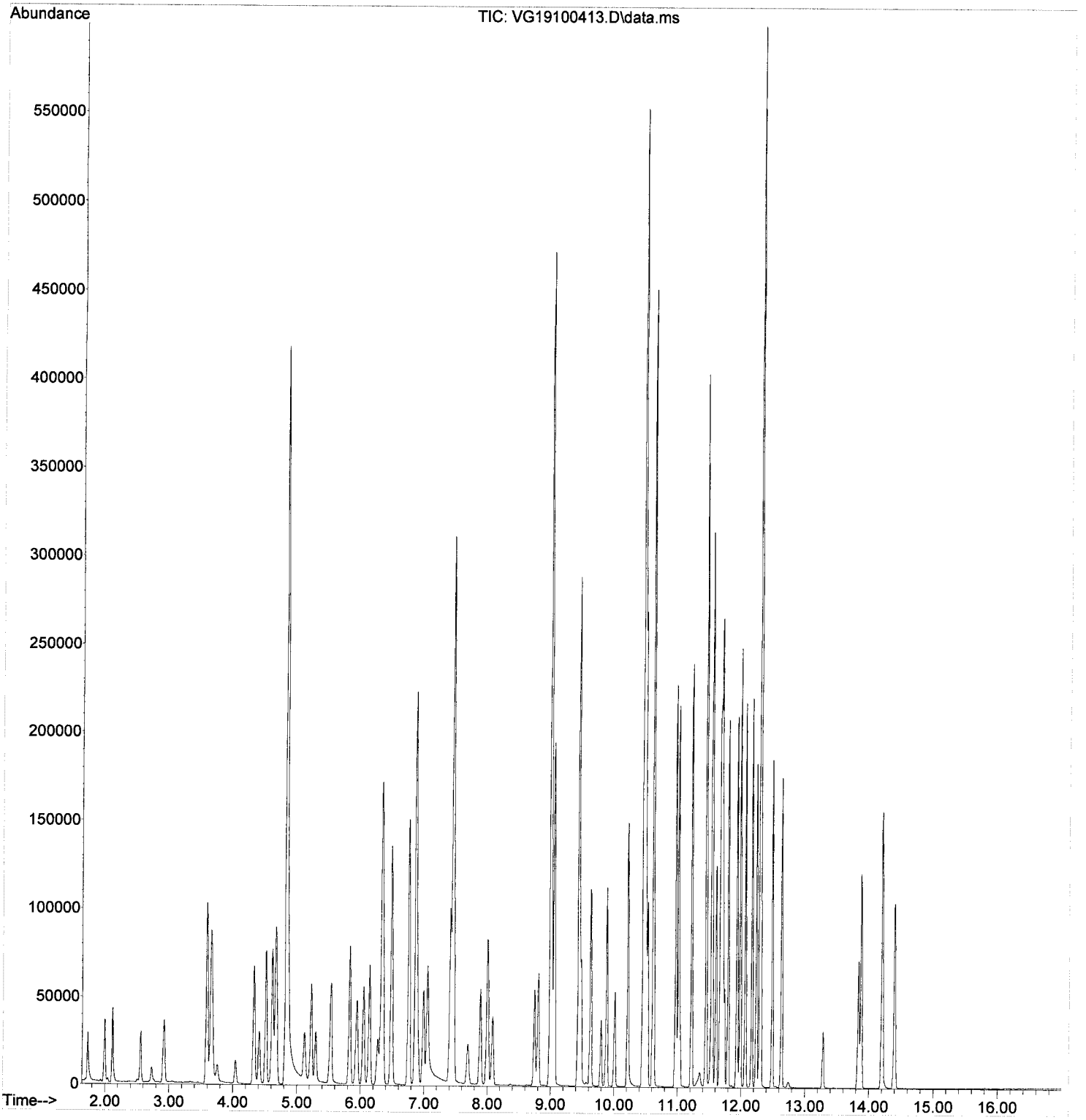
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	152028	19.33 ug/L	100
50) Tetrachloroethene (PCE)	9.434	166	36166	18.43 ug/L	95
51) 4-Methyl-2-Pentanone (...	9.440	43	122720	45.83 ug/L	99
52) t-1,3-Dichloropropene	9.477	75	30953	14.30 ug/L	97
53) 1,1,2-Trichloroethane	9.623	97	36548	19.99 ug/L	97
54) Dibromochloromethane	9.794	129	19688	13.32 ug/L	97
55) 1,3-Dichloropropane	9.879	76	62790	20.52 ug/L	99
56) 1,2-Dibromoethane (EDB)	10.007	107	35221	19.03 ug/L	99
57) 2-Hexanone	10.214	43	90579	45.75 ug/L	99
58) Chlorobenzene	10.470	112	96096	19.35 ug/L	98
59) Ethylbenzene	10.489	91	158087	20.51 ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.525	131	19743	13.62 ug/L	96
61) m,p-Xylenes (2)	10.611	91	230069	42.34 ug/L	97
62) o-Xylene	10.970	91	116279	21.10 ug/L	97
63) Styrene	11.013	104	91986	22.62 ug/L	98
64) Bromoform	11.037	173	11766	11.34 ug/L	97
65) Isopropylbenzene	11.220	105	138925	21.48 ug/L	99
68) Bromobenzene	11.531	156	39308	18.22 ug/L	92
69) n-Propylbenzene	11.543	91	157839	20.53 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	54861	20.67 ug/L	98
71) 2-Chlorotoluene	11.665	126	33774	19.67 ug/L	93
72) 1,3,5-Trimethylbenzene	11.690	105	110353	21.03 ug/L	95
73) 1,2,3-Trichloropropane	11.708	110	16619	20.51 ug/L	86
74) t-1,4-Dichloro-2-butene	11.738	88	2938	11.19 ug/L #	46
75) 4-Chlorotoluene	11.793	91	99016	19.82 ug/L	97
76) tert-Butylbenzene	11.934	91	58330	20.10 ug/L	96
77) 1,2,4-Trimethylbenzene	11.982	105	113039	21.17 ug/L	97
78) sec-Butylbenzene	12.062	105	126808	21.14 ug/L	96
79) 4-Isopropyltoluene	12.165	119	103892	21.13 ug/L	99
80) 1,3-Dichlorobenzene	12.238	146	66197	19.50 ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	67644	19.22 ug/L	97
82) n-Butylbenzene	12.482	91	93149	21.93 ug/L	96
83) 1,2-Dichlorobenzene	12.629	146	65098	20.48 ug/L	98
84) 1,2-Dibromo-3-Chloropr...	13.281	157	6921	13.34 ug/L #	65
85) Hexachlorobutadiene	13.830	223	9474	21.28 ug/L	98
86) 1,2,4-Trichlorobenzene	13.872	180	40851	21.49 ug/L	96
87) Naphthalene	14.201	128	133365	24.38 ug/L	99
88) 1,2,3-Trichlorobenzene	14.396	180	39578	24.06 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100413.D
Acq On : 4 Oct 2019 1:52 pm
Operator : TNL
Sample : 9100594-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19J063
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:07 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	100	0.00
2		Dichlorodifluoromethane	20.000	22.688	-13.4	107	0.00
3	P	Chloromethane	20.000	21.851	-9.3	110	0.00
4	C	Vinyl Chloride	20.000	22.127	-10.6	102	0.00
5		Bromomethane	20.000	24.199	-21.0#	120	0.00
6		Chloroethane	20.000	22.695	-13.5	111	0.00
7		Trichlorofluoromethane	20.000	21.256	-6.3	94	-0.01
8		Ethanol	1250.000	1227.552	1.8	98	0.01
9	C	1,1-Dichloroethene	20.000	19.939	0.3	91	-0.01
10		Carbon Disulfide	20.000	18.003	10.0	80	0.00
11		Freon 113	20.000	19.841	0.8	94	0.00
12		Iodomethane	20.000	11.706	41.5#	61	-0.01
13		Acrolein	20.000	30.981	-54.9#	155	0.00
14		Methylene Chloride	20.000	19.298	3.5	95	0.00
15		Acetone	40.000	37.658	5.9	93	0.00
16		t-1,2-Dichloroethene	20.000	19.529	2.4	93	0.00
17		n-Hexane	20.000	22.597	-13.0	105	0.00
18		Methyl-tert-butyl-ether	20.000	19.087	4.6	90	0.00
19		tert-Butanol (TBA)	1250.000	1202.493	3.8	86	0.00
20		Diisopropyl ether (DIPE)	5.000	4.929	1.4	93	0.00
21	P	1,1-Dichloroethane	20.000	20.053	-0.3	93	0.00
22		Acrylonitrile	20.000	20.694	-3.5	99	0.00
23		Vinyl Acetate	20.000	29.444	-47.2#	177	-0.02
24		Ethyl-tert-butyl ether (ETB	5.000	4.682	6.4	89	0.00
25		c-1,2-Dichloroethene	20.000	19.971	0.1	94	0.00
26		2,2-Dichloropropane	20.000	16.157	19.2	73	0.00
27		Bromochloromethane	20.000	20.103	-0.5	95	0.00
28	C	Chloroform	20.000	19.706	1.5	92	0.00
29		Carbon Tetrachloride	20.000	13.286	33.6#	61	-0.01
30		Tetrahydrofuran	20.000	21.211	-6.1	100	-0.01
31		1,1,1-Trichloroethane	20.000	16.963	15.2	75	0.00
32	S	Dibromofluoromethane (S)	50.000	50.240	-0.5	99	0.00
33		1,1-Dichloropropene	20.000	20.126	-0.6	94	0.00
34		2-Butanone (MEK)	40.000	41.575	-3.9	100	-0.02
35		Benzene	20.000	19.579	2.1	96	-0.01
36		tert-Amyl methyl ether (TAM	5.000	4.439	11.2	88	0.03
37		1,2-Dichloroethane (EDC)	20.000	20.307	-1.5	96	0.00
38		iso-Butyl Alcohol	500.000	462.668	7.5	82	-0.01
39	S	1,4-Difluorobenzene (S)	50.000	49.882	0.2	101	0.00
40		Trichloroethene (TCE)	20.000	18.952	5.2	90	0.00
41		tert-Amyl ethyl ether (TAEE	5.000	4.443	11.1	82	-0.02
42		Dibromomethane	20.000	20.083	-0.4	95	0.00
43	C	1,2-Dichloropropane	20.000	20.523	-2.6	95	0.00
44		Bromodichloromethane	20.000	17.850	10.7	80	0.01
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	105	0.00
46		2-Chloroethyl Vinyl Ether	20.000	18.500	7.5	90	-0.01
47		c-1,3-Dichloropropene	20.000	15.801	21.0#	77	0.00
48	S	Toluene-d8 (S)	50.000	49.222	1.6	104	0.00
49	C	Toluene	20.000	18.881	5.6	98	0.00
50		Tetrachloroethene (PCE)	20.000	18.029	9.9	93	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	44.320	-10.8	102	-0.01
52		t-1,3-Dichloropropene	20.000	14.699	26.5#	74	-0.01
53		1,1,2-Trichloroethane	20.000	19.557	2.2	98	0.00
54		Dibromochloromethane	20.000	14.022	29.9#	72	-0.01
55		1,3-Dichloropropane	20.000	19.816	0.9	98	-0.01
56		1,2-Dibromoethane (EDB)	20.000	19.232	3.8	91	0.00
57		2-Hexanone	40.000	44.273	-10.7	102	0.00
58	P	Chlorobenzene	20.000	19.098	4.5	99	0.00
59	C	Ethylbenzene	20.000	20.003	-0.0	100	0.00
60		1,1,1,2-Tetrachloroethane	20.000	14.200	29.0#	70	0.00
61		m,p-Xylenes (2)	40.000	41.480	-3.7	103	0.00
62		o-Xylene	20.000	20.892	-4.5	102	0.00
63		Styrene	20.000	22.417	-12.1	103	-0.01
64	P	Bromoform	20.000	11.955	40.2#	68	0.00
65		Isopropylbenzene	20.000	21.004	-5.0	99	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	113	0.00
67	S	4-Bromofluorobenzene (S)	50.000	46.407	7.2	105	0.00
68		Bromobenzene	20.000	18.102	9.5	100	0.00
69		n-Propylbenzene	20.000	20.061	-0.3	106	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.383	-1.9	107	0.00
71		2-Chlorotoluene	20.000	19.339	3.3	103	0.00
72		1,3,5-Trimethylbenzene	20.000	20.622	-3.1	109	0.00
73		1,2,3-Trichloropropane	20.000	20.042	-0.2	101	-0.01
74		t-1,4-Dichloro-2-butene	20.000	11.176	44.1#	60	0.00
75		4-Chlorotoluene	20.000	19.332	3.3	106	0.00
76		tert-Butylbenzene	20.000	19.556	2.2	102	0.00
77		1,2,4-Trimethylbenzene	20.000	20.611	-3.1	110	0.00
78		sec-Butylbenzene	20.000	20.632	-3.2	104	0.00
79		4-Isopropyltoluene	20.000	20.802	-4.0	107	0.00
80		1,3-Dichlorobenzene	20.000	19.152	4.2	106	0.00
81		1,4-Dichlorobenzene	20.000	18.806	6.0	107	0.00
82		n-Butylbenzene	20.000	21.261	-6.3	115	0.00
83		1,2-Dichlorobenzene	20.000	20.268	-1.3	109	-0.01
84		1,2-Dibromo-3-Chloropropane	20.000	14.333	28.3#	83	0.00
85		Hexachlorobutadiene	20.000	20.838	-4.2	103	0.00
86		1,2,4-Trichlorobenzene	20.000	21.336	-6.7	114	0.00
87		Naphthalene	20.000	24.017	-20.1#	118	0.00
88		1,2,3-Trichlorobenzene	20.000	23.940	-19.7	120	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	94451	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.452	117	266053	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	128539	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	93851	50.24 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.453	114	307478	49.88 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	360842	49.22 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	106796	46.41 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.728	85	27377	22.69 ug/L		98
3) Chloromethane	1.997	50	37272	21.85 ug/L		99
4) Vinyl Chloride	2.119	62	38230	22.13 ug/L		95
5) Bromomethane	2.557	96	17174	24.20 ug/L		97
6) Chloroethane	2.728	64	6523	22.70 ug/L		91
7) Trichlorofluoromethane	2.923	101	36435	21.26 ug/L		99
8) Ethanol	3.649	45	63528	1227.55 ug/L		82
9) 1,1-Dichloroethene	3.588	61	49482	19.94 ug/L		97
10) Carbon Disulfide	3.594	76	54708	18.00 ug/L		98
11) Freon 113	3.667	101	32859	19.84 ug/L		96
12) Iodomethane	3.752	142	13198	11.71 ug/L		95
13) Acrolein	4.039	56	12792	30.98 ug/L		97
14) Methylene Chloride	4.325	84	36888	19.30 ug/L		99
15) Acetone	4.411	43	41193	37.66 ug/L		96
16) t-1,2-Dichloroethene	4.514	61	48937	19.53 ug/L		99
17) n-Hexane	4.618	86	5961	22.60 ug/L	#	37
18) Methyl-tert-butyl-ether	4.673	73	93612	19.09 ug/L		97
19) tert-Butanol (TBA)	4.837	59	421321	1202.49 ug/L	#	59
20) Diisopropyl ether (DIPE)	5.118	45	27495	4.93 ug/L		96
21) 1,1-Dichloroethane	5.222	63	63331	20.05 ug/L		100
22) Acrylonitrile	5.295	53	25523	20.69 ug/L		96
23) Vinyl Acetate	5.532	43	69322	29.44 ug/L		95
24) Ethyl-tert-butyl ether...	5.520	59	21155	4.68 ug/L		95
25) c-1,2-Dichloroethene	5.831	61	52932	19.97 ug/L		99
26) 2,2-Dichloropropane	5.941	77	25232	16.16 ug/L	#	46
27) Bromochloromethane	6.045	49	32049	20.10 ug/L		97
28) Chloroform	6.136	83	63167	19.71 ug/L		95
29) Carbon Tetrachloride	6.270	117	21914	13.29 ug/L		96
30) Tetrahydrofuran	6.313	42	24849	21.21 ug/L		98
31) 1,1,1-Trichloroethane	6.349	97	37840	16.96 ug/L		96
33) 1,1-Dichloropropene	6.484	75	49755	20.13 ug/L		97
34) 2-Butanone (MEK)	6.484	43	71645	41.57 ug/L		99
35) Benzene	6.758	78	158803	19.58 ug/L		98
36) tert-Amyl methyl ether...	6.904	73	17911	4.44 ug/L		72
37) 1,2-Dichloroethane (EDC)	6.989	62	50629	20.31 ug/L		99
38) iso-Butyl Alcohol	7.050	43	79069	462.67 ug/L		92
40) Trichloroethene (TCE)	7.410	130	40275	18.95 ug/L		98
41) tert-Amyl ethyl ether ...	7.691	59	12633	4.44 ug/L		87
42) Dibromomethane	7.886	93	25135	20.08 ug/L		92
43) 1,2-Dichloropropane	8.002	63	41295	20.52 ug/L		93
44) Bromodichloromethane	8.081	83	32840	17.85 ug/L		97
46) 2-Chloroethyl Vinyl Ether	8.739	63	28011	18.50 ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	41405	15.80 ug/L		96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

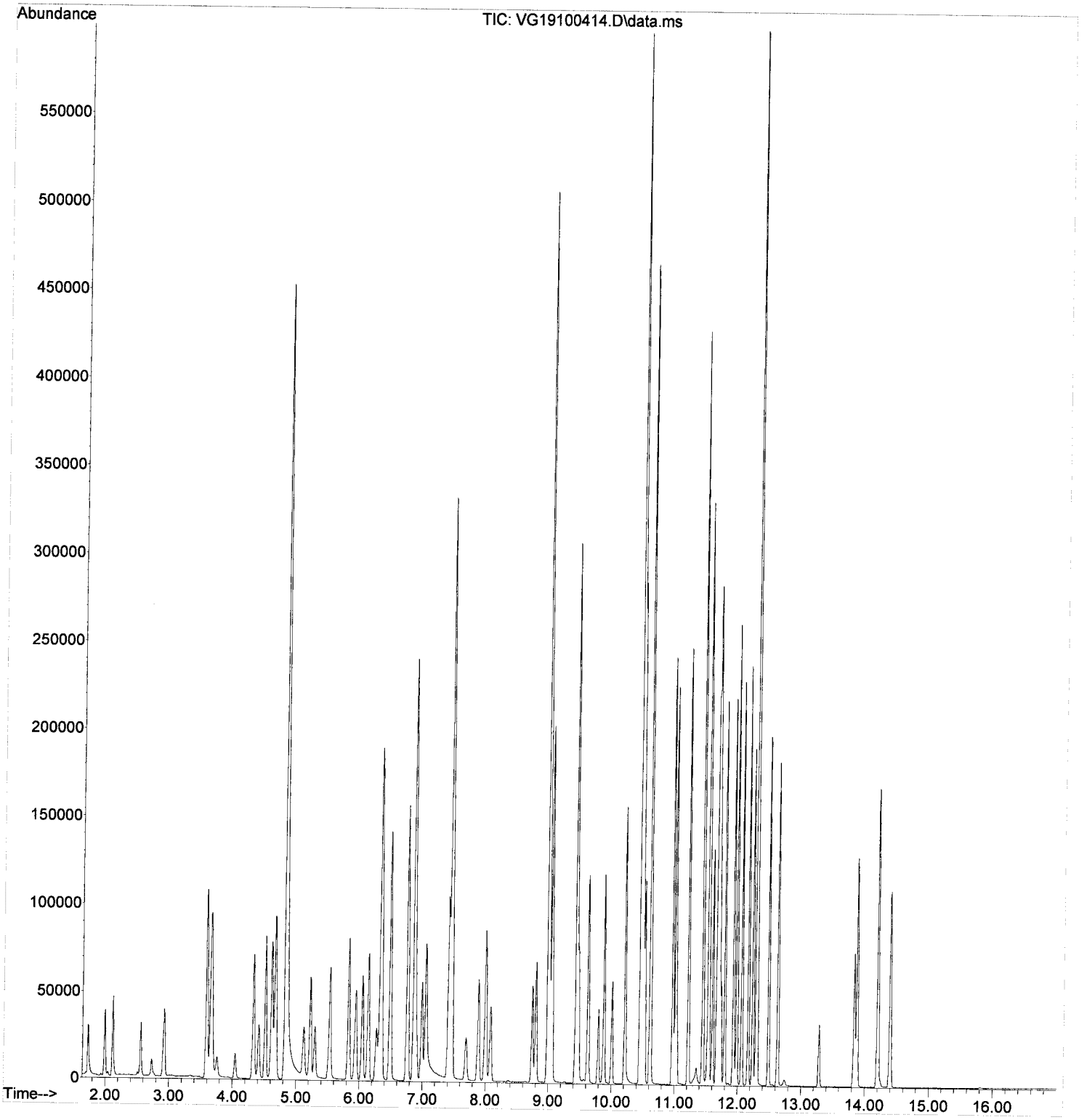
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	160671	18.88 ug/L	100
50) Tetrachloroethene (PCE)	9.434	166	38277	18.03 ug/L	93
51) 4-Methyl-2-Pentanone (...	9.440	43	128393	44.32 ug/L	98
52) t-1,3-Dichloropropene	9.477	75	34444	14.70 ug/L	99
53) 1,1,2-Trichloroethane	9.629	97	38676	19.56 ug/L	95
54) Dibromochloromethane	9.794	129	22512	14.02 ug/L	97
55) 1,3-Dichloropropane	9.879	76	65610	19.82 ug/L	100
56) 1,2-Dibromoethane (EDB)	10.007	107	38499	19.23 ug/L	98
57) 2-Hexanone	10.214	43	94836	44.27 ug/L	99
58) Chlorobenzene	10.471	112	102625	19.10 ug/L	99
59) Ethylbenzene	10.489	91	166779	20.00 ug/L	99
60) 1,1,1,2-Tetrachloroethane	10.525	131	22296	14.20 ug/L	97
61) m,p-Xylenes (2)	10.617	91	243839	41.48 ug/L	98
62) o-Xylene	10.970	91	124546	20.89 ug/L	98
63) Styrene	11.013	104	98639	22.42 ug/L	98
64) Bromoform	11.037	173	13468	11.96 ug/L	97
65) Isopropylbenzene	11.220	105	146933	21.00 ug/L	98
68) Bromobenzene	11.531	156	42538	18.10 ug/L	94
69) n-Propylbenzene	11.543	91	167961	20.06 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	58923	20.38 ug/L	96
71) 2-Chlorotoluene	11.665	126	36166	19.34 ug/L	99
72) 1,3,5-Trimethylbenzene	11.690	105	117838	20.62 ug/L	95
73) 1,2,3-Trichloropropane	11.708	110	17683	20.04 ug/L	86
74) t-1,4-Dichloro-2-butene	11.732	88	3194	11.18 ug/L #	48
75) 4-Chlorotoluene	11.793	91	105191	19.33 ug/L	96
76) tert-Butylbenzene	11.934	91	61797	19.56 ug/L	97
77) 1,2,4-Trimethylbenzene	11.982	105	119862	20.61 ug/L	98
78) sec-Butylbenzene	12.062	105	134791	20.63 ug/L	96
79) 4-Isopropyltoluene	12.165	119	111398	20.80 ug/L	99
80) 1,3-Dichlorobenzene	12.238	146	70827	19.15 ug/L	98
81) 1,4-Dichlorobenzene	12.306	146	72105	18.81 ug/L	97
82) n-Butylbenzene	12.482	91	98364	21.26 ug/L	95
83) 1,2-Dichlorobenzene	12.629	146	70160	20.27 ug/L	99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	8147	14.33 ug/L	73
85) Hexachlorobutadiene	13.830	223	10106	20.84 ug/L	98
86) 1,2,4-Trichlorobenzene	13.872	180	44175	21.34 ug/L	97
87) Naphthalene	14.201	128	143092	24.02 ug/L	100
88) 1,2,3-Trichlorobenzene	14.397	180	42895	23.94 ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100414.D
Acq On : 4 Oct 2019 2:19 pm
Operator : TNL
Sample : 9100594-BSD1
Misc : 1X 5mL 500PPB GX A19J046 (PREP ERROR)
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100415.D
Acq On : 4 Oct 2019 2:47 pm
Operator : TNL
Sample : 9J04030-IBL3
Misc : 1X 5mL 500PPB VOCR+O A19J003
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:26 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

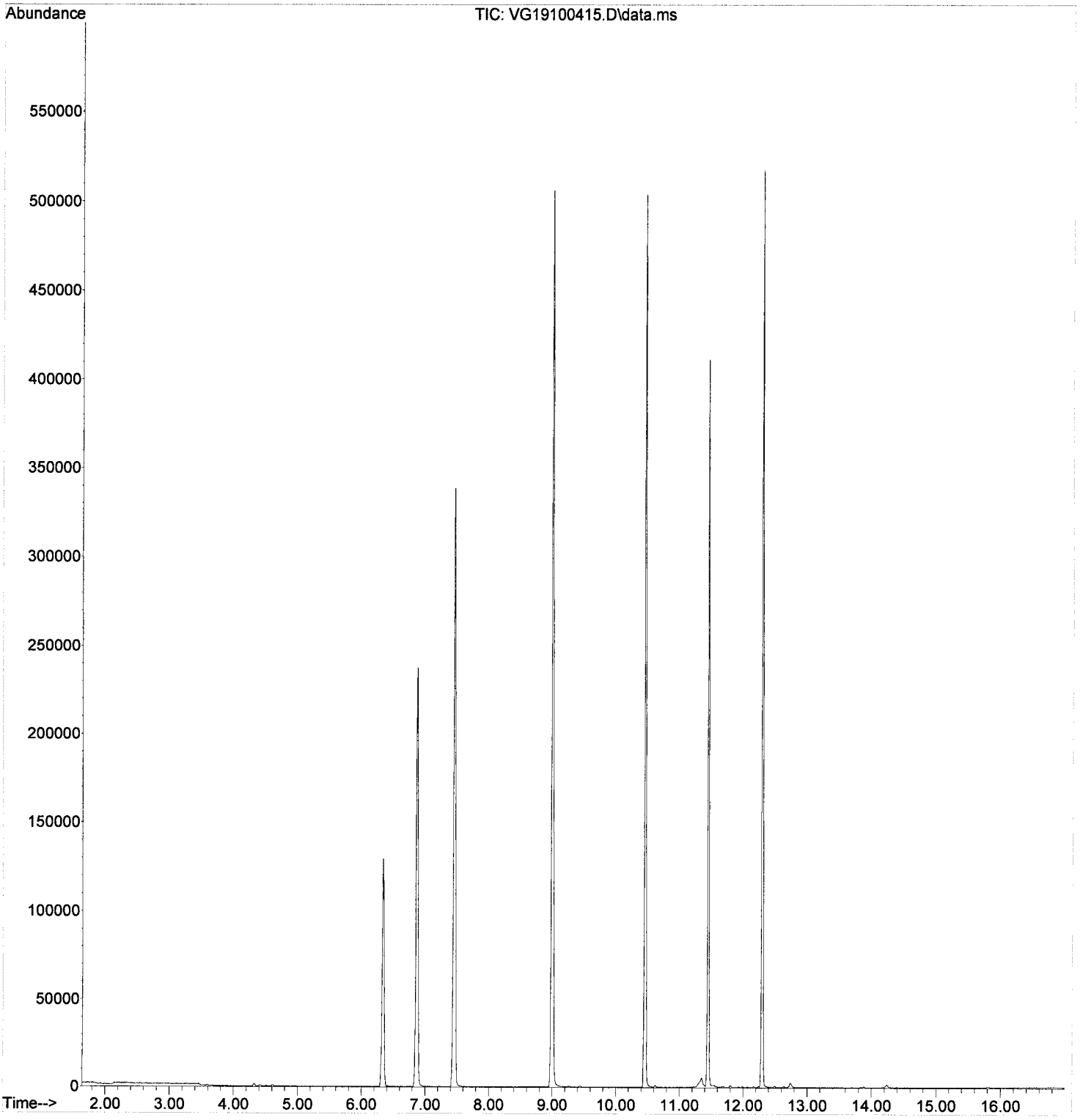
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.867	99	95032	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.452	117	264156	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	120743	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.331	111	90016	47.89	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.453	114	315043	50.80	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	360553	49.54	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	100760	46.61	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.728	85	56	0.14	ug/L	#	51
3) Chloromethane	1.984	50	315	0.18	ug/L		91
5) Bromomethane	2.551	96	124	0.17	ug/L	#	68
6) Chloroethane	2.722	64	47	Below Cal		#	47
10) Carbon Disulfide	3.588	76	716	0.23	ug/L		79
12) Iodomethane	3.758	142	13	Below Cal		#	47
14) Methylene Chloride	4.325	84	687	0.36	ug/L		91
15) Acetone	4.411	43	933	0.85	ug/L		97
19) tert-Butanol (TBA)	4.837	59	95	0.27	ug/L	#	46
23) Vinyl Acetate	5.569	43	10	1.37	ug/L		74
50) Tetrachloroethene (PCE)	9.440	166	197	0.09	ug/L	#	63
61) m,p-Xylenes (2)	10.623	91	655	0.11	ug/L		96
79) 4-Isopropyltoluene	12.165	119	408	0.08	ug/L		94
80) 1,3-Dichlorobenzene	12.238	146	336	0.10	ug/L		84
81) 1,4-Dichlorobenzene	12.305	146	482	0.13	ug/L	#	40
82) n-Butylbenzene	12.488	91	583	0.13	ug/L		87
85) Hexachlorobutadiene	13.823	223	74	0.16	ug/L	#	69
86) 1,2,4-Trichlorobenzene	13.878	180	286	0.15	ug/L		92
87) Naphthalene	14.207	128	491	0.09	ug/L		89
88) 1,2,3-Trichlorobenzene	14.403	180	192	0.11	ug/L		87

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100415.D
Acq On : 4 Oct 2019 2:47 pm
Operator : TNL
Sample : 9J04030-IBL3
Misc : 1X 5mL 500PPB VOCR+O A19J003
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:26 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100416.D
Acq On : 4 Oct 2019 3:14 pm
Operator : TNL
Sample : 9100594-BS2
Misc : 1X 5mL 500PPB GX A19J046
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:33 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	86	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	51.776	-3.6	90	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	52.141	-4.3	90	0.00
4	H	NWTPH-Gx (TPH)	500.000	577.827	-15.6	97	0.00
5	H	TPHg (C5-C9)	500.000	589.602	-17.9	97	0.00
6	H	TPHg (C6-C10)	500.000	593.320	-18.7	97	0.00
7	H	CA-LUFT (C5-C12)	500.000	586.304	-17.3	96	0.00
8		Benzene (NR)	-1.000	0.000	0.0	90	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	93	0.00
10		Toluene (NR)	-1.000	0.000	0.0	91	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	93	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	97	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	91	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100416.D
Acq On : 4 Oct 2019 3:14 pm
Operator : TNL
Sample : 9100594-BS2
Misc : 1X 5mL 500PPB GX A19J046
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

VM 10/4/19

Quant Time: Oct 04 16:34:33 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

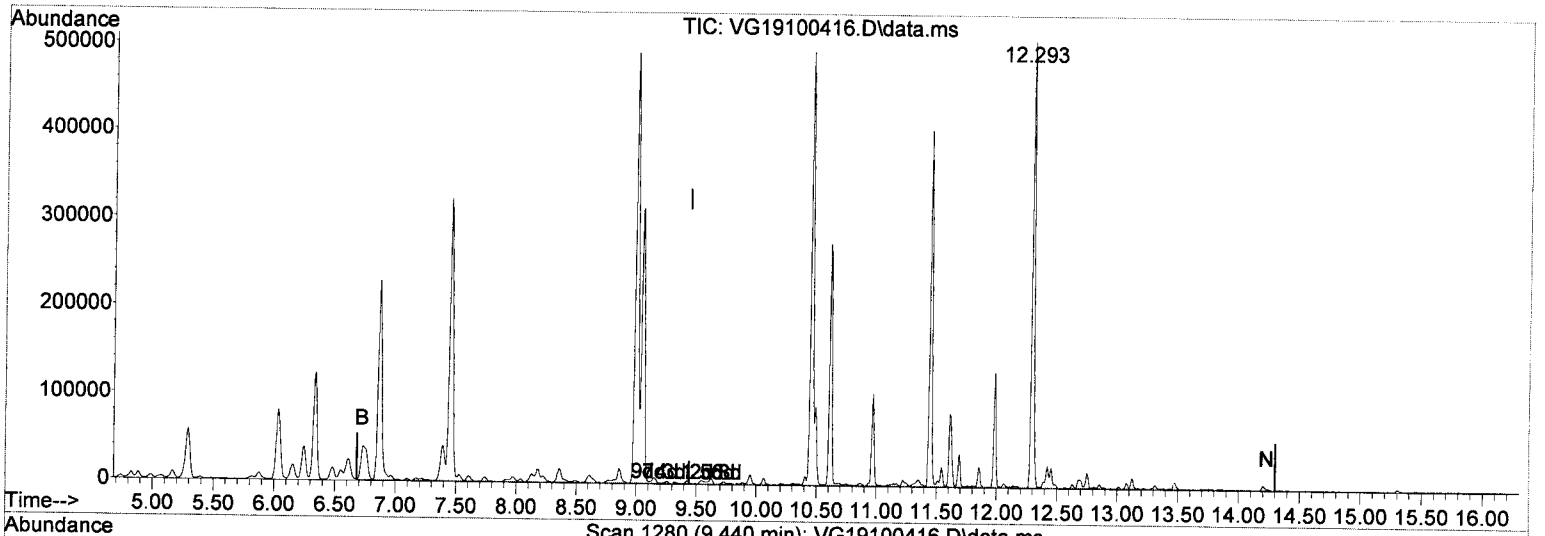
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.867	168	181224	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	7.453	114	294788	51.78 ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	96555	52.14 ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	346907	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.452	117	252315	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	184359	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	2718899m	577.83 ug/L	
5) TPHg (C5-C9)	9.940	TIC	3682092m	~~589.60~~ ug/L	
6) TPHg (C6-C10)	9.940	TIC	3124118m	593.32 ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	4396929m	586.30 ug/L	

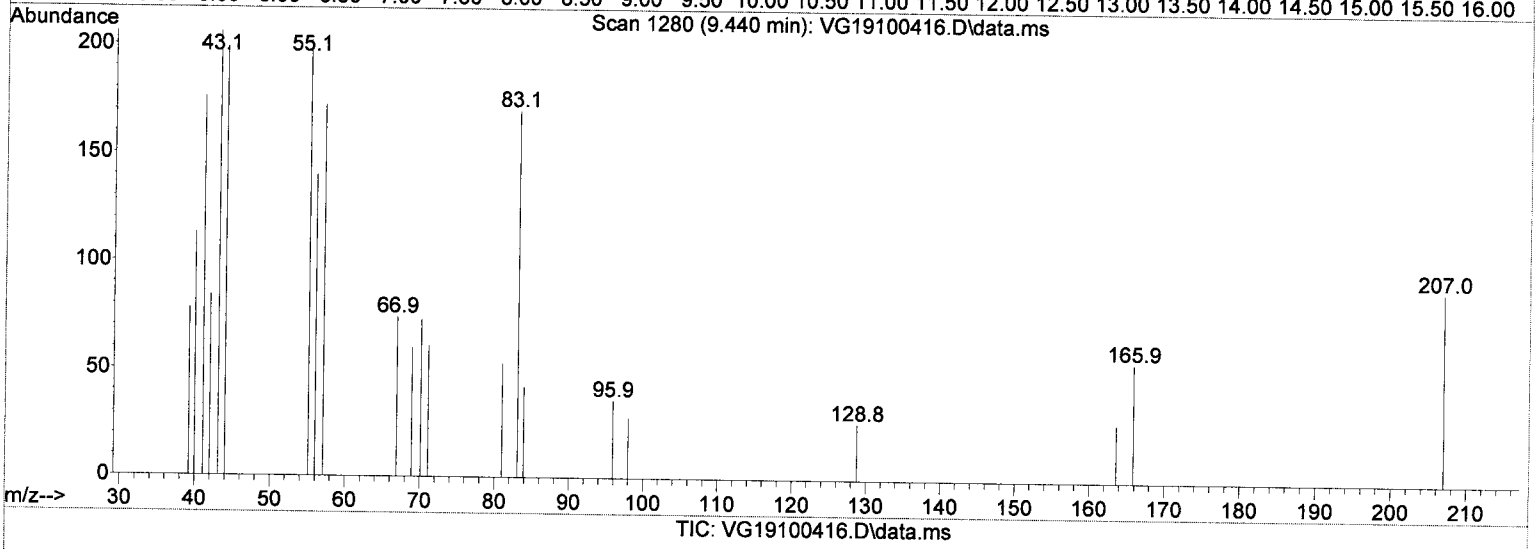
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100416.D
Acq On : 4 Oct 2019 3:14 pm
Operator : TNL
Sample : 9100594-BS2
Misc : 1X 5mL 500PPB GX A19J046
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:34:33 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration





TIC: VG19100416.D\data.ms

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

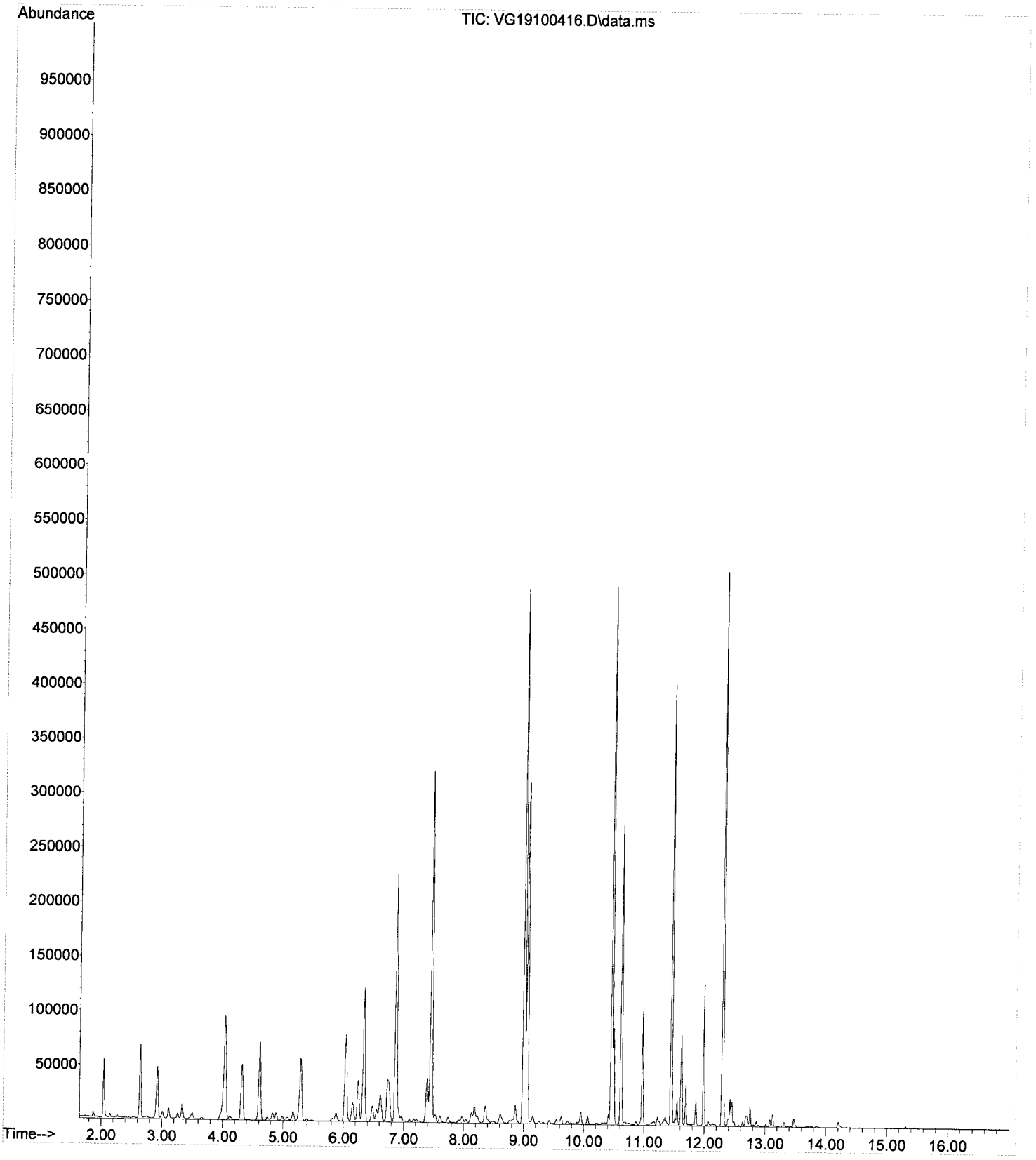
9.440min (0.000) 577.83 ug/L m

response 2718899

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

10/4/19

File :C:\msdchem\1\data\2019-10\9J04030\VG19100416.D
Operator : TNL
Acquired : 4 Oct 2019 3:14 pm using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9100594-BS2
Misc Info : 1X 5mL 500PPB GX A19J046
Vial Number: 7



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100417.D
Acq On : 4 Oct 2019 3:41 pm
Operator : TNL
Sample : 9100594-BLK1
Misc : 1X 5mL DI
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:35:03 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

WU 10/4/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.867	168	181474	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	7.453	114	299064	52.46 ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	94309	50.86 ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	345146	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.452	117	248685	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	176878	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	55888m	6.81 ug/L	<MRL
5) TPHg (C5-C9)	9.940	TIC	297564m	Below Cal	
6) TPHg (C6-C10)	9.940	TIC	288346m	1.73 ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	327847m	4.24 ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100417.D
Acq On : 4 Oct 2019 3:41 pm
Operator : TNL
Sample : 9100594-BLK1
Misc : 1X 5mL DI
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

VN 10/4/19

Quant Time: Oct 04 16:35:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

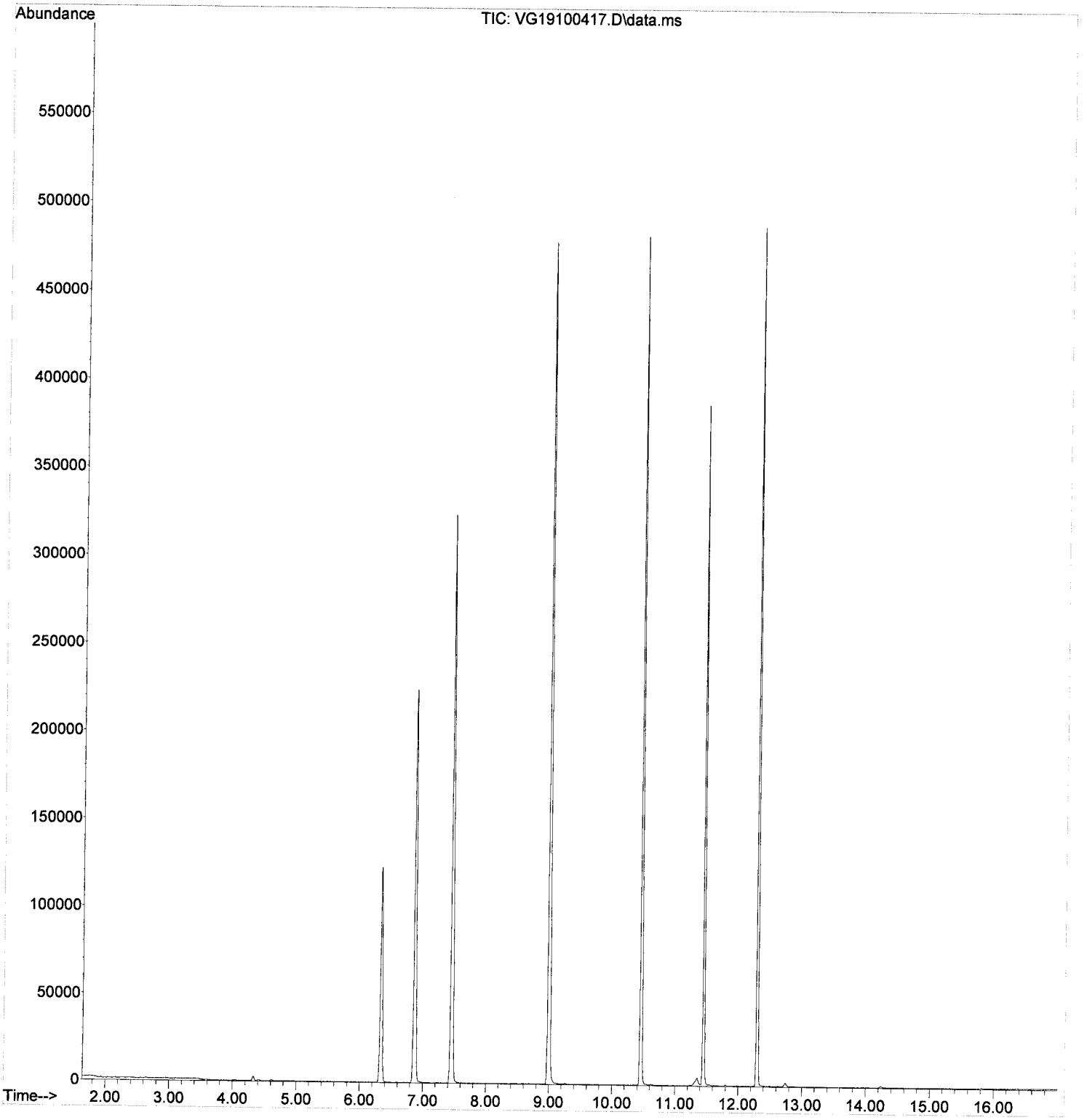
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	90809	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.452	117	248469	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	112436	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	84856	47.25 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.453	114	298549	50.38 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	344841	50.37 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	94309	46.85 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.990	50	234	0.14 ug/L	82
6) Chloroethane	2.728	64	93	Below Cal #	47
10) Carbon Disulfide	3.588	76	279	0.10 ug/L	78
12) Iodomethane	3.764	142	10	Below Cal #	47
14) Methylene Chloride	4.325	84	1153	0.63 ug/L	94
15) Acetone	4.411	43	907	0.86 ug/L	79
61) m,p-Xylenes (2)	10.623	91	448	0.08 ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100417.D
Acq On : 4 Oct 2019 3:41 pm
Operator : TNL
Sample : 9100594-BLK1
Misc : 1X 5mL DI
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:35:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100418.D
Acq On : 4 Oct 2019 4:08 pm
Operator : TNL
Sample : A9I0885-03
Misc : 1X 5mL BTEX+HALO6
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 04 16:35:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	91299	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.452	117	254467	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	118422	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	85224	47.20 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.453	114	304523	51.11 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	350255	49.95 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	98568	46.49 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.728	85	11	0.10 ug/L #	51
3) Chloromethane	1.996	50	304	0.18 ug/L	88
6) Chloroethane	2.722	64	41	Below Cal #	47
8) Ethanol	3.514	45	10	0.20 ug/L #	29
14) Methylene Chloride	4.325	84	1483	0.80 ug/L	97
15) Acetone	4.411	43	2636	2.49 ug/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100419.D
Acq On : 4 Oct 2019 4:35 pm
Operator : TNL
Sample : A9I0922-06
Misc : 1X 5mL BTEX+HALO6
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 06 16:48:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

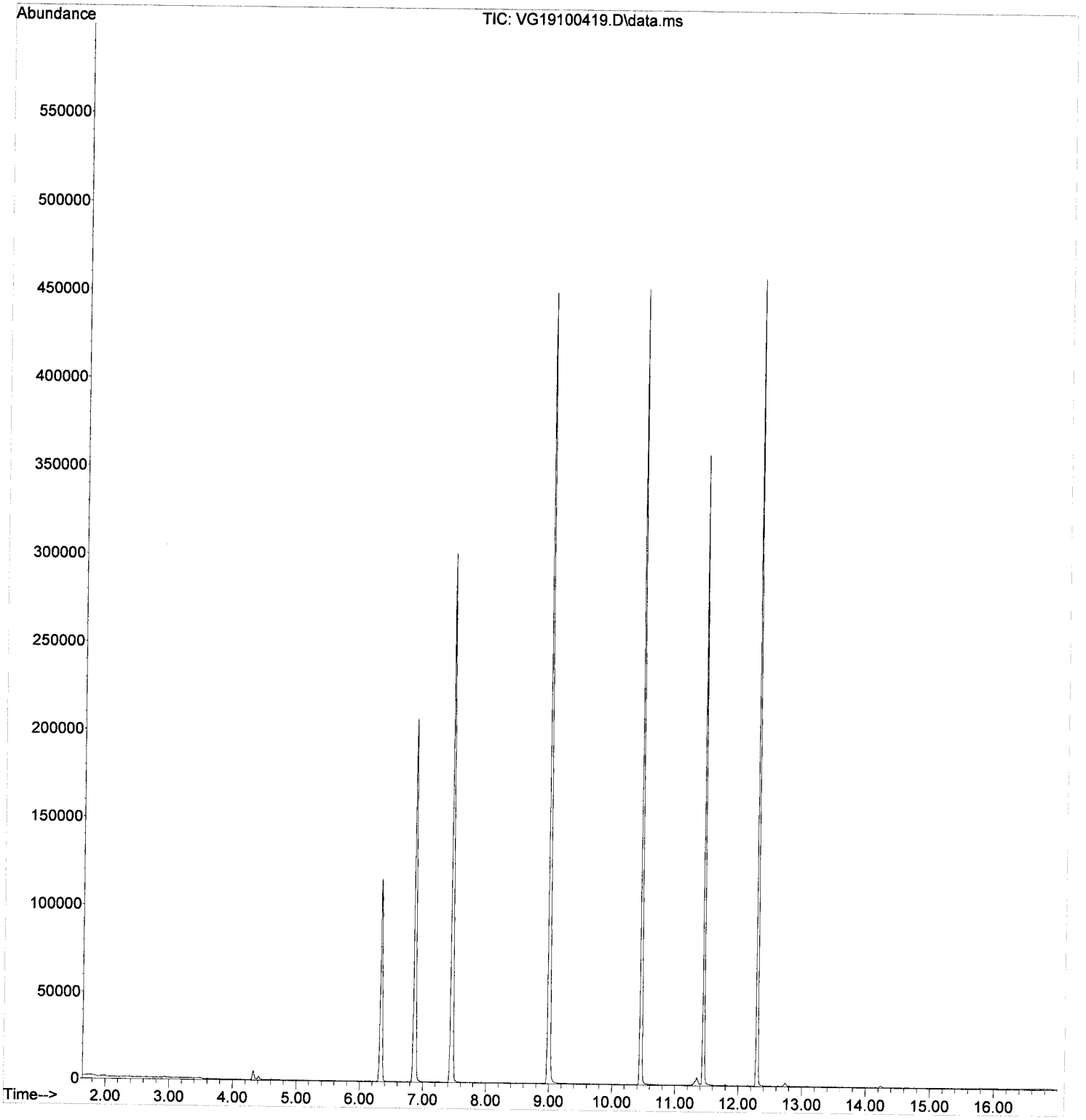
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	83385	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.452	117	231166	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	106294	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	79835	48.41 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.453	114	276719	50.85 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	320537	50.32 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	87811	46.14 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.990	50	369	0.25 ug/L	81
6) Chloroethane	2.746	64	37	Below Cal #	47
8) Ethanol	3.758	45	10	0.22 ug/L #	29
14) Methylene Chloride	4.325	84	1911	1.13 ug/L	93
15) Acetone	4.411	43	2697	2.79 ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-10\9J04030\
Data File : VG19100419.D
Acq On : 4 Oct 2019 4:35 pm
Operator : TNL
Sample : A9I0922-06
Misc : 1X 5mL BTEX+HALO6
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Oct 06 16:48:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



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

Selected Volatile Organic Compounds by EPA 8260C
Calibration Data

Sequence 9I26050 (Cal ID A9I3003) VOA-GCMS7

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9I26050**	Instrument:	**VOA-GCMS7**
Date:	**09/26/19 17:20**	Calibration:	**A9I3003**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9I26050-IBL1	Water	QC	QC			A19F381	
2	9I26050-TUN1	Water	QC	QC			A19F381	
3	9I26050-ICB1	Water	QC	QC			A19F381	
4	9I26050-CAL1	Water	QC	QC			A19F381	A19I319
5	9I26050-CAL2	Water	QC	QC			A19F381	A19I320
6	9I26050-CAL3	Water	QC	QC			A19F381	A19I321
7	9I26050-CAL4	Water	QC	QC			A19F381	A19I322
8	9I26050-CAL5	Water	QC	QC			A19F381	A19I323
9	9I26050-CAL6	Water	QC	QC			A19F381	A19I324
10	9I26050-CAL7	Water	QC	QC			A19F381	A19I325
11	9I26050-CAL8	Water	QC	QC			A19F381	A19I326
12	9I26050-CAL9	Water	QC	QC			A19F381	A19I327
13	9I26050-IBL2	Water	QC	QC			A19F381	
14	9I26050-CALA	Water	QC	QC			A19F381	A19I328
15	9I26050-IBL3	Water	QC	QC			A19F381	
16	9I26050-CALB	Water	QC	QC			A19F381	A19I329
17	9I26050-IBL4	Water	QC	QC			A19F381	
18	9I26050-IBL5	Water	QC	QC			A19F381	
19	9I26050-ICV1	Water	QC	QC			A19F381	A19I330
20	9I26050-ICV2	Water	QC	QC			A19F381	A19H365
21	9I26050-IBL6	Water	QC	QC			A19F381	
22	9I26050-TUN2	Water	QC	QC			A19F381	
23	9I26050-IBL7	Water	QC	QC			A19F381	
24	9I26050-ICB2	Water	QC	QC			A19F381	
25	9I26050-CALC	Water	QC	QC			A19F381	A19I331
26	9I26050-CALD	Water	QC	QC			A19F381	A19I332
27	9I26050-CALE	Water	QC	QC			A19F381	A19I333
28	9I26050-CALF	Water	QC	QC			A19F381	A19I334
29	9I26050-CALG	Water	QC	QC			A19F381	A19H370
30	9I26050-CALH	Water	QC	QC			A19F381	A19H371
31	9I26050-CALI	Water	QC	QC			A19F381	A19H372
32	9I26050-CALJ	Water	QC	QC			A19F381	A19H373
33	9I26050-IBL8	Water	QC	QC			A19F381	
34	9I26050-IBL9	Water	QC	QC			A19F381	
35	9I26050-ICV3	Water	QC	QC			A19F381	A19G350
36	9I26050-IBLA	Water	QC	QC			A19F381	

Data Entered By: 9/30/19 tnl

Comments:

Data Reviewed By: 10/1/19

Calibration Status Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	-1	50	C:\msdchem\1\data\2019-09\9I26050\VG19092621.D
2	2	0	50	C:\msdchem\1\data\2019-09\9I26050\VG19092622.D
3	3	0	50	C:\msdchem\1\data\2019-09\9I26050\VG19092623.D
4	4	1	50	C:\msdchem\1\data\2019-09\9I26050\VG19092624.D
5	5	2	50	C:\msdchem\1\data\2019-09\9I26050\VG19092625.D
6	6	5	50	C:\msdchem\1\data\2019-09\9I26050\VG19092626.D
7	7	10	50	C:\msdchem\1\data\2019-09\9I26050\VG19092627.D
8	8	20	50	C:\msdchem\1\data\2019-09\9I26050\VG19092628.D
9	9	50	50	C:\msdchem\1\data\2019-09\9I26050\VG19092629.D
10	10	100	50	C:\msdchem\1\data\2019-09\9I26050\VG19092631.D
11	1a	200	50	C:\msdchem\1\data\2019-09\9I26050\VG19092633.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Sep 30 14:12 2019	Sep 30 14:12 2019	26 Sep 2019 6:57 pm
2	2	Sep 30 14:12 2019	Sep 30 13:31 2019	26 Sep 2019 7:24 pm
3	3	Sep 30 14:12 2019	Sep 30 13:07 2019	26 Sep 2019 7:52 pm
4	4	Sep 30 14:12 2019	Sep 30 13:07 2019	26 Sep 2019 8:19 pm
5	5	Sep 30 14:12 2019	Sep 30 13:07 2019	26 Sep 2019 8:46 pm
6	6	Sep 30 14:12 2019	Sep 30 13:07 2019	26 Sep 2019 9:13 pm
7	7	Sep 30 14:12 2019	Sep 30 13:08 2019	26 Sep 2019 9:40 pm
8	8	Sep 30 14:12 2019	Sep 30 13:08 2019	26 Sep 2019 10:07 pm
9	9	Sep 30 14:12 2019	Sep 30 13:08 2019	26 Sep 2019 10:34 pm
10	10	Sep 30 14:12 2019	Sep 30 13:08 2019	26 Sep 2019 11:28 pm
11	1a	Sep 30 14:12 2019	Sep 30 13:08 2019	27 Sep 2019 12:22 am

VG190930W+.M Mon Sep 30 20:32:19 2019

Response Factor Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019
Response Via : Initial Calibration

Calibration Files
1 =VG19092621.D 2 =VG19092622.D 3 =VG19092623.D 4 =VG19092624.D 5 =VG19092625.D 6 =VG19092626.D
7 =VG19092627.D 8 =VG19092628.D 9 =VG19092629.D 10 =VG19092631.D 1a =VG19092633.D

		Compound	1	2	3	4	5	6	7	8	9	10	1a	Avg	%RSD
1)	I	Pentafluorobenzene...	ISTD												
2)		Dichlorodifluo...		0.558	0.430	0.500	0.470	0.552	0.695	0.682	0.698	0.613	0.706	0.590	17.47
3)	P	Chloromethane			1.075	0.938	0.845	0.830	0.938	0.898	0.898	0.818	0.887	0.903	8.58
4)	C	Vinyl Chloride	0.953	0.950	0.853	0.861	0.820	0.840	1.007	0.993	0.970	0.863	0.952	0.915	7.38
5)		Bromomethane					0.391	0.377	0.382	0.380	0.355	0.346	0.399	0.376	5.03
6)		Chloroethane			0.370	0.253	0.171	0.229	0.187	0.157	0.154	0.130	0.123	0.197	39.50
7)		Trichlorofluor...	0.809	0.947	0.853	0.950	0.896	0.854	1.051	1.034	0.960	0.827	0.798	0.907	9.68
8)		Ethanol	0.032	0.028	0.027	0.027	0.025	0.026	0.029	0.028	0.027	0.025		0.027	7.19
9)	C	1,1-Dichloroet...	1.424	1.272	1.274	1.275	1.270	1.203	1.427	1.442	1.249	1.283	1.333	1.314	6.18
10)		Carbon Disulfide			1.600	1.377	1.345	1.391	1.724	1.823	1.763	1.846		1.609	13.09
11)		Freon 113	1.045	0.972	0.786	0.851	0.838	0.746	0.929	0.931	0.800	0.819	0.928	0.877	10.37
12)		Iodomethane	1.229	0.852	0.698	0.522	0.495	0.435	0.534	0.580	0.663	0.679	0.743	0.675	32.64
13)		Acrolein			0.195	0.208	0.206	0.210	0.236	0.219	0.231	0.230	0.231	0.219	6.58
14)		Methylene Chlo...						1.215	1.117	1.029	0.906	0.893	0.911	1.012	13.13
15)		Acetone					0.715	0.563	0.587	0.587	0.547	0.527	0.527	0.579	11.23
16)		t-1,2-Dichloro...	1.255	1.527	1.340	1.285	1.280	1.238	1.407	1.402	1.244	1.255	1.359	1.327	6.84
17)		n-Hexane			0.141	0.140	0.133	0.123	0.146	0.151	0.132	0.132	0.158	0.140	7.80
18)		Methyl-tert-bu...	2.305	2.609	2.439	2.570	2.406	2.446	2.730	2.764	2.708	2.718	2.864	2.596	6.83
19)		tert-Butanol (...	0.164	0.170	0.170	0.180	0.170	0.182	0.208	0.208	0.213	0.190		0.185	9.90
20)		Diisopropyl et...		2.881	2.812	2.859	2.902	2.851	3.157	3.153	3.056	2.904		2.953	4.50
21)	P	1,1-Dichloroet...	1.419	1.844	1.590	1.637	1.611	1.616	1.812	1.820	1.632	1.647	1.763	1.672	7.58
22)		Acrylonitrile		0.608	0.700	0.645	0.645	0.617	0.685	0.682	0.659	0.639	0.648	0.653	4.50
23)		Vinyl Acetate				0.805	0.885	1.302	1.546	1.039	1.014	1.250	0.983	1.103	22.21
24)		Ethyl-tert-but...			2.185	2.398	2.203	2.270	2.529	2.539	2.536	2.473		2.392	6.35
25)		c-1,2-Dichloro...	1.270	1.496	1.339	1.454	1.373	1.357	1.515	1.501	1.345	1.350	1.432	1.403	5.76
26)		2,2-Dichloropr...		0.754	0.698	0.744	0.735	0.739	0.877	0.919	0.868	0.914	1.019	0.827	12.87
27)		Bromochloromet...	0.947	0.855	0.832	0.852	0.838	0.847	0.930	0.897	0.824	0.736	0.724	0.844	8.17
28)	C	Chloroform	1.639	1.687	1.660	1.676	1.644	1.626	1.811	1.821	1.663	1.667	1.772	1.697	4.14
29)		Carbon Tetrach...			0.659	0.724	0.693	0.700	0.895	0.961	0.924	1.029	1.201	0.865	21.32
30)		Tetrahydrofuran			0.570	0.603	0.576	0.585	0.649	0.663	0.650	0.636	0.649	0.620	5.89
31)		1,1,1-Trichlor...	0.937	1.065	1.097	1.134	1.086	1.092	1.310	1.339	1.229	1.281	1.420	1.181	12.28
32)	S	Dibromofluorom...	0.958	0.967	0.973	0.951	0.947	0.980	1.000	1.010	1.043	1.029	1.022	0.989	3.38
33)		1,1-Dichloropr...	1.403	1.390	1.207	1.251	1.255	1.207	1.411	1.408	1.228	1.261	1.375	1.309	6.67
34)		2-Butanone (MEK)	0.927	0.947	0.919	0.902	0.859	0.853	0.954	0.953	0.938	0.901	0.882	0.912	3.96
35)		Benzene	4.968	4.739	4.262	4.210	4.144	3.992	4.421	4.387	3.945	3.972	4.193	4.294	7.49
36)		tert-Amyl meth...				2.328	1.996	1.986	2.173	2.158	2.175	2.135		2.136	5.48
37)		1,2-Dichloroet...	1.193	1.295	1.293	1.373	1.322	1.311	1.417	1.409	1.292	1.276	1.336	1.320	4.83
38)		iso-Butyl Alcohol		0.076	0.082	0.085	0.080	0.092	0.108	0.103	0.108	0.093	0.077	0.090	13.66
39)	S	1,4-Difluorobe...	3.281	3.270	3.261	3.243	3.202	3.254	3.258	3.226	3.309	3.287	3.303	3.263	0.98
40)		Trichloroethen...	1.270	1.087	1.073	1.123	1.065	1.024	1.150	1.185	1.091	1.098	1.206	1.125	6.39
41)		tert-Amyl ethy...			1.222	1.468	1.406	1.462	1.614	1.637	1.640	1.593		1.505	9.67

Method Path : C:\msdchem\1\methods\
Method File : VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds

42)		Dibromomethane			0.634	0.618	0.597	0.621	0.695	0.702	0.686	0.687	0.724	0.663	6.83	
43)	C	1,2-Dichloropr...	0.814	1.157	0.998	1.081	1.050	1.056	1.154	1.161	1.054	1.069	1.122	1.065	9.25	
44)		Bromodichlorom...			0.836	0.864	0.829	0.856	1.017	1.098	1.117	1.173		0.974	14.71	
45)		Chlorobenzene-d5 (I)	----------	ISTD	----------											
46)		2-Chloroethyl ...			0.243	0.243	0.257	0.296	0.309	0.300	0.301	0.327	0.285		11.31	
47)		c-1,3-Dichloro...		0.375	0.342	0.376	0.364	0.407	0.486	0.528	0.526	0.547	0.622	0.457	21.08	& x
48)	S	Toluene-d8 (S)	1.384	1.387	1.382	1.376	1.369	1.377	1.373	1.367	1.360	1.357	1.423	1.378	1.27	
49)	C	Toluene	1.856	1.783	1.569	1.599	1.569	1.481	1.633	1.625	1.427	1.448	1.603	1.599	8.15	
50)		Tetrachloroeth...		0.495	0.384	0.404	0.378	0.360	0.411	0.408	0.360	0.369	0.420	0.399	10.05	
51)		4-Methyl-2-Pen...		0.503	0.475	0.540	0.531	0.550	0.625	0.625	0.586	0.530	0.479	0.544	9.88	
52)		t-1,3-Dichloro...		0.285	0.267	0.303	0.295	0.347	0.418	0.463	0.479	0.505	0.573	0.394	27.47	&
53)		1,1,2-Trichlor...	0.328	0.379	0.360	0.383	0.353	0.361	0.394	0.391	0.371	0.369	0.400	0.372	5.62	
54)		Dibromochlorom...				0.202	0.195	0.223	0.275	0.308	0.341	0.372	0.433	0.294	29.22	& x
55)		1,3-Dichloropr...	0.544	0.628	0.614	0.643	0.602	0.608	0.667	0.659	0.614	0.608	0.659	0.622	5.62	
56)		1,2-Dibromoeth...		0.302	0.305	0.358	0.351	0.361	0.408	0.419	0.407	0.407	0.445	0.376	12.87	
57)		2-Hexanone				0.359	0.362	0.380	0.458	0.458	0.443	0.398	0.363	0.403	10.86	
58)	P	Chlorobenzene	1.131	1.121	1.010	1.037	0.988	0.953	1.024	1.023	0.922	0.923	0.975	1.010	6.89	
59)	C	Ethylbenzene	1.617	1.655	1.456	1.640	1.588	1.475	1.643	1.645	1.451	1.481	1.584	1.567	5.34	
60)		1,1,1,2-Tetrac...		0.222	0.214	0.232	0.224	0.245	0.294	0.314	0.313	0.328	0.369	0.276	19.76	& x
61)		m,p-Xylenes (2)	1.236	1.160	1.030	1.062	1.067	1.032	1.168	1.170	1.040	1.076	1.113	1.105	6.25	
62)		o-Xylene	1.122	1.101	1.044	1.077	1.069	1.051	1.189	1.209	1.098	1.150	1.215	1.120	5.54	
63)		Styrene	0.692	0.717	0.700	0.753	0.791	0.797	0.936	0.946	0.894	0.917	0.954	0.827	12.62	
64)	P	Bromoform			0.102	0.126	0.121	0.136	0.169	0.195	0.243	0.268	0.289	0.183	37.75	& x
65)		Isopropylbenzene	1.253	1.267	1.163	1.235	1.304	1.236	1.438	1.468	1.311	1.352	1.435	1.315	7.46	
66)	I	1,4-Dichlorobenzen...	----------	ISTD	----------											
67)	S	4-Bromofluorob...	0.920	0.905	0.894	0.897	0.895	0.907	0.881	0.891	0.879	0.878	0.902	0.895	1.46	
68)		Bromobenzene	0.998	0.986	0.913	0.926	0.888	0.894	0.927	0.939	0.835	0.840	0.910	0.914	5.56	
69)		n-Propylbenzene	3.609	3.424	3.068	3.136	3.208	3.081	3.430	3.492	2.904	3.028	3.445	3.257	7.09	
70)	P	1,1,2,2-Tetrac...	1.119	1.192	1.081	1.158	1.104	1.176	1.270	1.212	1.106	0.999	0.951	1.124	8.23	
71)		2-Chlorotoluene	0.773	0.695	0.693	0.715	0.727	0.705	0.758	0.773	0.674	0.701	0.787	0.727	5.36	
72)		1,3,5-Trimethy...	2.377	2.307	2.048	2.160	2.196	2.124	2.336	2.376	2.030	2.101	2.396	2.223	6.27	
73)		1,2,3-Trichlor...	0.301	0.296	0.339	0.364	0.357	0.366	0.390	0.384	0.348	0.318	0.311	0.343	9.56	
74)		t-1,4-Dichloro...				0.055	0.068	0.080	0.098	0.117	0.125	0.127	0.135	0.101	30.02	& x
75)		4-Chlorotoluene	2.593	2.200	2.010	2.071	2.045	2.027	2.128	2.176	1.878	1.946	2.209	2.117	8.94	
76)		tert-Butylbenzene		1.269	1.157	1.207	1.239	1.160	1.307	1.332	1.124	1.163	1.335	1.229	6.39	
77)		1,2,4-Trimethy...			2.207	2.349	2.279	2.186	2.388	2.404	2.061	2.104	2.382	2.262	5.69	
78)		sec-Butylbenzene		2.461	2.259	2.468	2.545	2.368	2.765	2.850	2.389	2.469	2.840	2.541	8.14	
79)		4-Isopropyltol...		2.083	1.862	2.053	2.049	1.930	2.215	2.280	1.975	2.042	2.341	2.083	7.34	
80)		1,3-Dichlorobe...	1.744	1.500	1.436	1.377	1.368	1.370	1.448	1.469	1.324	1.330	1.459	1.439	8.13	
81)		1,4-Dichlorobe...		1.972	1.603	1.517	1.414	1.382	1.460	1.478	1.323	1.324	1.443	1.491	12.68	
82)		n-Butylbenzene	2.278	1.825	1.698	1.791	1.817	1.614	1.841	1.884	1.586	1.603	1.858	1.800	10.72	
83)		1,2-Dichlorobe...	1.371	1.478	1.242	1.378	1.304	1.314	1.411	1.419	1.295	1.264	1.337	1.347	5.33	
84)		1,2-Dibromo-3-...				0.134	0.129	0.160	0.196	0.216	0.251	0.237	0.251	0.197	25.61	& x
85)		Hexachlorobuta...			0.163	0.199	0.200	0.172	0.205	0.215	0.186	0.173	0.183	0.189	9.14	
86)		1,2,4-Trichlor...	1.101	0.817	0.719	0.768	0.782	0.752	0.843	0.849	0.773	0.701	0.755	0.805	13.47	
87)		Naphthalene				1.917	1.879	2.129	2.602	2.660	2.565	2.302	2.486	2.318	13.41	
88)		1,2,3-Trichlor...	0.638	0.670	0.648	0.704	0.655	0.685	0.785	0.787	0.730	0.652	0.713	0.697	7.55	

(#) = Out of Range

Compound List Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019
Response Via : Initial Calibration

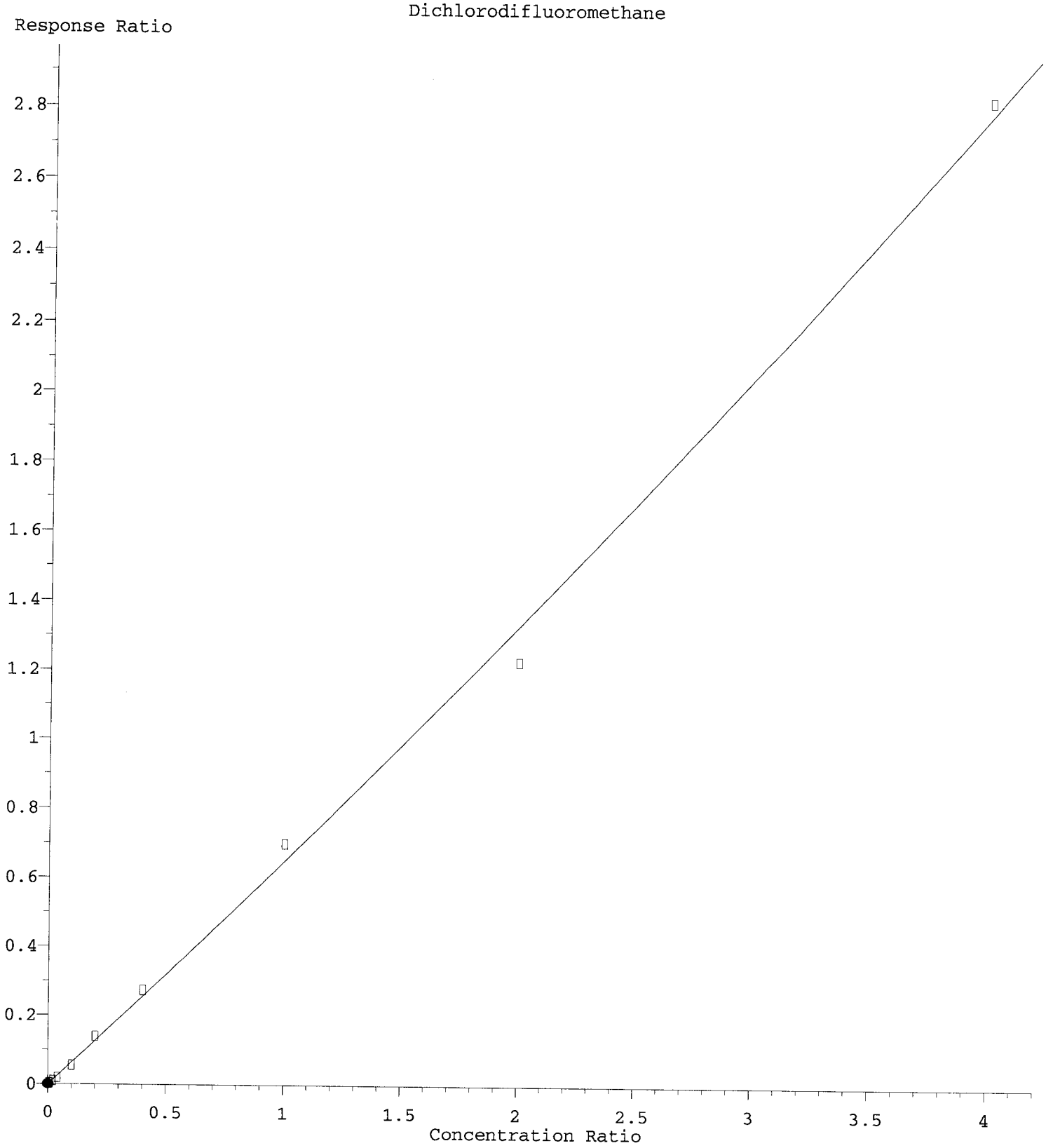
Total Cpnds : 88

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID	
1	I	Pentafluorobenzene (I)	99	6.868	1.000	A	2	A	R	
2		Dichlorodifluoromethane	85	1.734	0.252	Q	2	A	R	1/a
3	P	Chloromethane	50	1.996	0.291	A	2	A	R	
4	C	Vinyl Chloride	62	2.118	0.308	A	2	A	R	
5		Bromomethane	96	2.557	0.372	A	2	A	R	
6		Chloroethane	64	2.734	0.398	Q	2	A	R	Equal weighting
7		Trichlorofluoromethane	101	2.935	0.427	A	2	A	R	
8		Ethanol	45	3.636	0.530	A	1	A	R	
9	C	1,1-Dichloroethene	61	3.600	0.524	A	2	A	R	
10		Carbon Disulfide	76	3.593	0.523	A	2	A	R	
11		Freon 113	101	3.661	0.533	A	2	A	R	
12		Iodomethane	142	3.764	0.548	Q	2	A	R	1/a
13		Acrolein	56	4.038	0.588	A	2	A	R	
14		Methylene Chloride	84	4.325	0.630	A	2	A	R	
15		Acetone	43	4.410	0.642	A	1	A	R	
16		t-1,2-Dichloroethene	61	4.514	0.657	A	2	A	R	
17		n-Hexane	86	4.612	0.672	A	3	A	R	
18		Methyl-tert-butyl-ether	73	4.673	0.680	A	3	A	R	
19		tert-Butanol (TBA)	59	4.831	0.704	A	1	A	R	
20		Diisopropyl ether (DIPE)	45	5.118	0.745	A	2	A	R	
21	P	1,1-Dichloroethane	63	5.228	0.761	A	2	A	R	
22		Acrylonitrile	53	5.288	0.770	A	2	A	R	
23		Vinyl Acetate	43	5.550	0.808	Q	2	A	R	Equal weighting
24		Ethyl-tert-butyl ether (ETBE)	59	5.514	0.803	A	2	A	R	
25		c-1,2-Dichloroethene	61	5.825	0.848	A	2	A	R	
26		2,2-Dichloropropane	77	5.941	0.865	A	2	A	R	
27		Bromochloromethane	49	6.045	0.880	A	2	A	R	
28	C	Chloroform	83	6.142	0.894	A	2	A	R	
29		Carbon Tetrachloride	117	6.282	0.915	Q	2	A	R	1/a
30		Tetrahydrofuran	42	6.325	0.921	A	2	A	R	
31		1,1,1-Trichloroethane	97	6.349	0.925	A	2	A	R	
32	S	Dibromofluoromethane (S)	111	6.337	0.923	A	2	A	R	
33		1,1-Dichloropropene	75	6.490	0.945	A	2	A	R	
34		2-Butanone (MEK)	43	6.501	0.947	A	2	A	R	
35		Benzene	78	6.770	0.986	A	2	A	R	
36		tert-Amyl methyl ether (TAME)	73	6.874	1.001	A	2	A	R	
37		1,2-Dichloroethane (EDC)	62	6.989	1.018	A	2	A	R	
38		iso-Butyl Alcohol	43	7.063	1.028	A	2	A	R	
39	S	1,4-Difluorobenzene (S)	114	7.459	1.086	A	2	A	R	
40		Trichloroethene (TCE)	130	7.416	1.080	A	2	A	R	
41		tert-Amyl ethyl ether (TAEE)	59	7.709	1.123	A	2	A	R	
42		Dibromomethane	93	7.885	1.148	A	2	A	R	
43	C	1,2-Dichloropropane	63	8.007	1.166	A	2	A	R	
44		Bromodichloromethane	83	8.068	1.175	A	2	A	R	
45	I	Chlorobenzene-d5 (I)	117	10.458	1.000	A	2	A	R	
46		2-Chloroethyl Vinyl Ether	63	8.751	0.837	A	2	A	R	
47		c-1,3-Dichloropropene	75	8.806	0.842	Q	2	A	R	1/a
48	S	Toluene-d8 (S)	98	8.995	0.860	A	2	A	R	
49	C	Toluene	91	9.050	0.865	A	2	A	R	
50		Tetrachloroethene (PCE)	166	9.446	0.903	A	2	A	R	
51		4-Methyl-2-Pentanone (MIBK)	43	9.452	0.904	A	2	A	R	
52		t-1,3-Dichloropropene	75	9.489	0.907	Q	2	A	R	1/a
53		1,1,2-Trichloroethane	97	9.629	0.921	A	2	A	R	
54		Dibromochloromethane	129	9.805	0.938	Q	2	A	R	1/a
55		1,3-Dichloropropane	76	9.891	0.946	A	2	A	R	

56		1,2-Dibromoethane (EDB)	107	10.013	0.957	A	2	A	R	
57		2-Hexanone	43	10.221	0.977	A	2	A	R	
58	P	Chlorobenzene	112	10.470	1.001	A	2	A	R	
59	C	Ethylbenzene	91	10.495	1.003	A	2	A	R	1/a
60		1,1,1,2-Tetrachloroethane	131	10.525	1.006	Q	2	A	R	
61		m,p-Xylenes (2)	91	10.622	1.016	A	2	A	R	
62		o-Xylene	91	10.976	1.050	A	2	A	R	
63		Styrene	104	11.025	1.054	A	2	A	R	
64	P	Bromoform	173	11.037	1.055	Q	2	A	R	1/a
65		Isopropylbenzene	105	11.220	1.073	A	2	A	R	
66	I	1,4-Dichlorobenzene-d4 (I)	152	12.293	1.000	A	2	A	R	
67	S	4-Bromofluorobenzene (S)	174	11.452	0.932	A	2	A	R	
68		Bromobenzene	156	11.531	0.938	A	2	A	R	
69		n-Propylbenzene	91	11.550	0.939	A	2	A	R	
70	P	1,1,2,2-Tetrachloroethane	83	11.604	0.944	A	2	A	R	
71		2-Chlorotoluene	126	11.671	0.949	A	2	A	R	
72		1,3,5-Trimethylbenzene	105	11.696	0.951	A	2	A	R	
73		1,2,3-Trichloropropane	110	11.720	0.953	A	2	A	R	
74		t-1,4-Dichloro-2-butene	88	11.738	0.955	Q	3	A	R	1/a
75		4-Chlorotoluene	91	11.800	0.960	A	2	A	R	
76		tert-Butylbenzene	91	11.934	0.971	A	2	A	R	
77		1,2,4-Trimethylbenzene	105	11.988	0.975	A	2	A	R	
78		sec-Butylbenzene	105	12.067	0.982	A	2	A	R	
79		4-Isopropyltoluene	119	12.165	0.990	A	2	A	R	
80		1,3-Dichlorobenzene	146	12.245	0.996	A	2	A	R	
81		1,4-Dichlorobenzene	146	12.306	1.001	A	2	A	R	
82		n-Butylbenzene	91	12.488	1.016	A	2	A	R	
83		1,2-Dichlorobenzene	146	12.641	1.028	A	2	A	R	
84		1,2-Dibromo-3-Chloropropane	157	13.280	1.080	Q	2	A	R	Equal weighting
85		Hexachlorobutadiene	223	13.836	1.125	A	3	A	R	
86		1,2,4-Trichlorobenzene	180	13.878	1.129	A	2	A	R	
87		Naphthalene	128	14.207	1.156	A	2	A	R	
88		1,2,3-Trichlorobenzene	180	14.403	1.172	A	2	A	R	

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VG190930W+.M Mon Sep 30 20:32:10 2019



Intercept < MDL

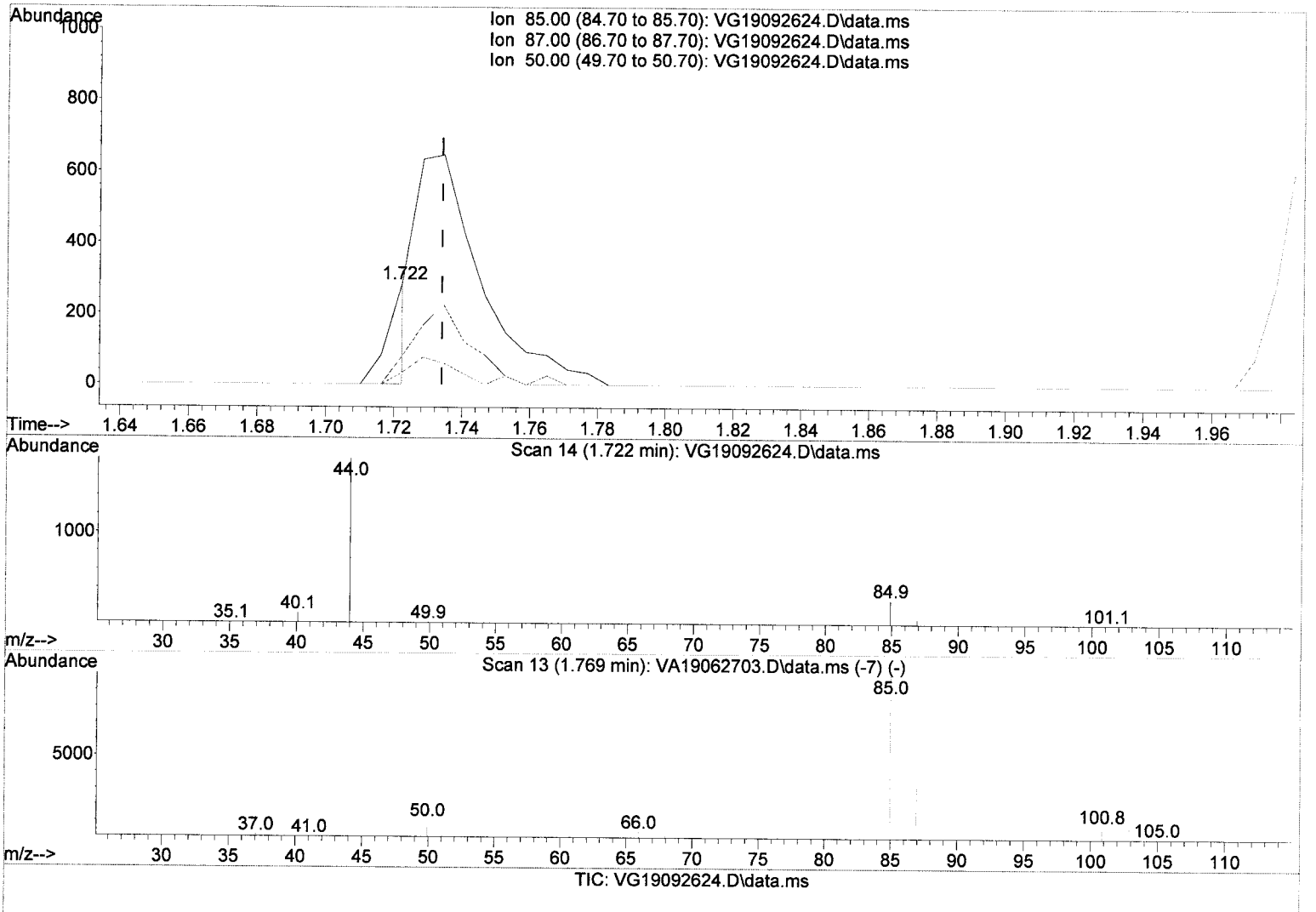
9/30/19 RM

R = 1.56e-002 A*A + 6.34e-001 A - 1.20e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



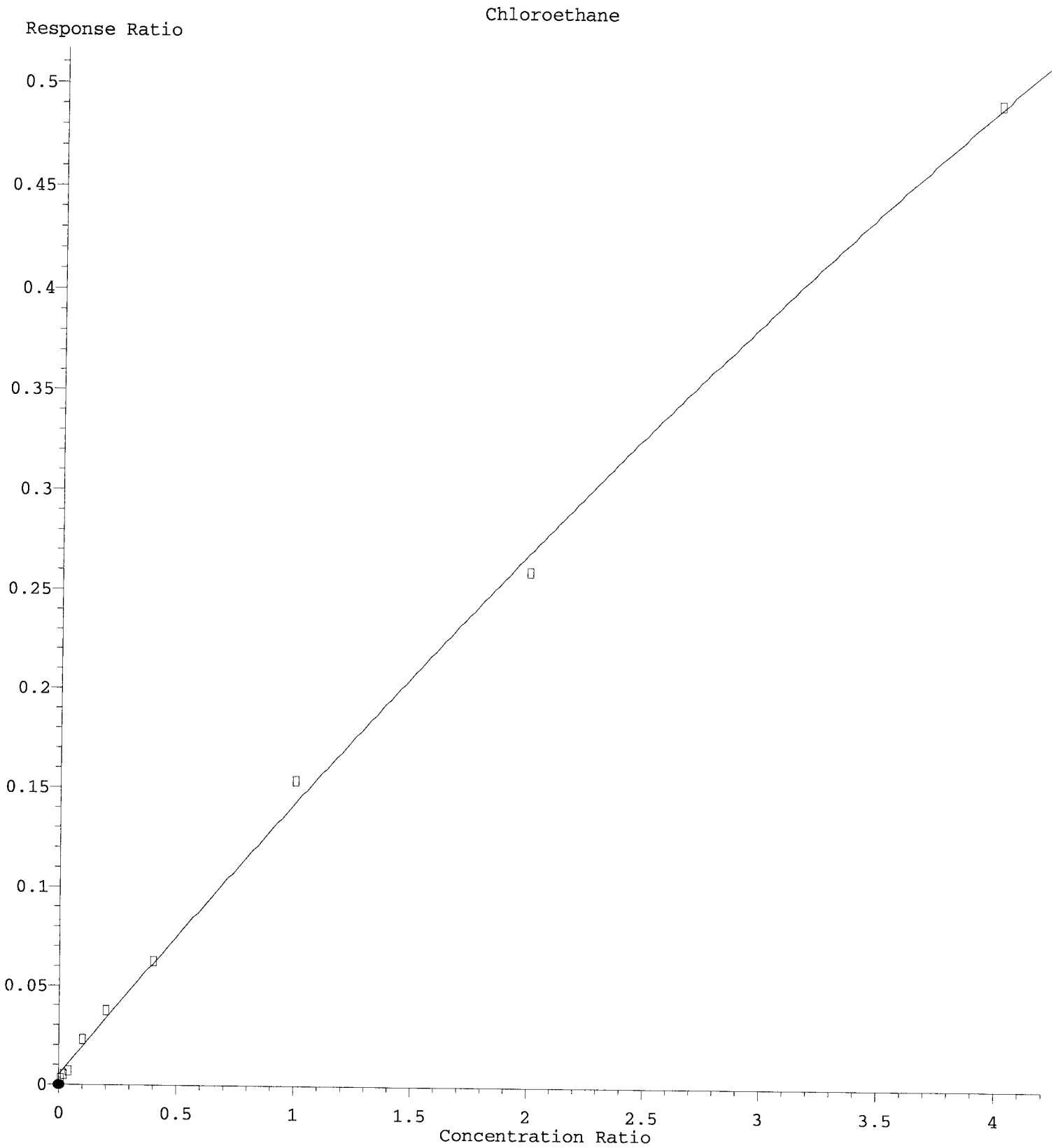
TIC: VG19092624.D\data.ms

(2) Dichlorodifluoromethane

1.722min (-0.012) 0.20 ug/L m

response 135

Ion	Exp%	Act%
85.00	100.00	100.00
87.00	31.10	27.72
50.00	11.20	11.58
0.00	0.00	0.00



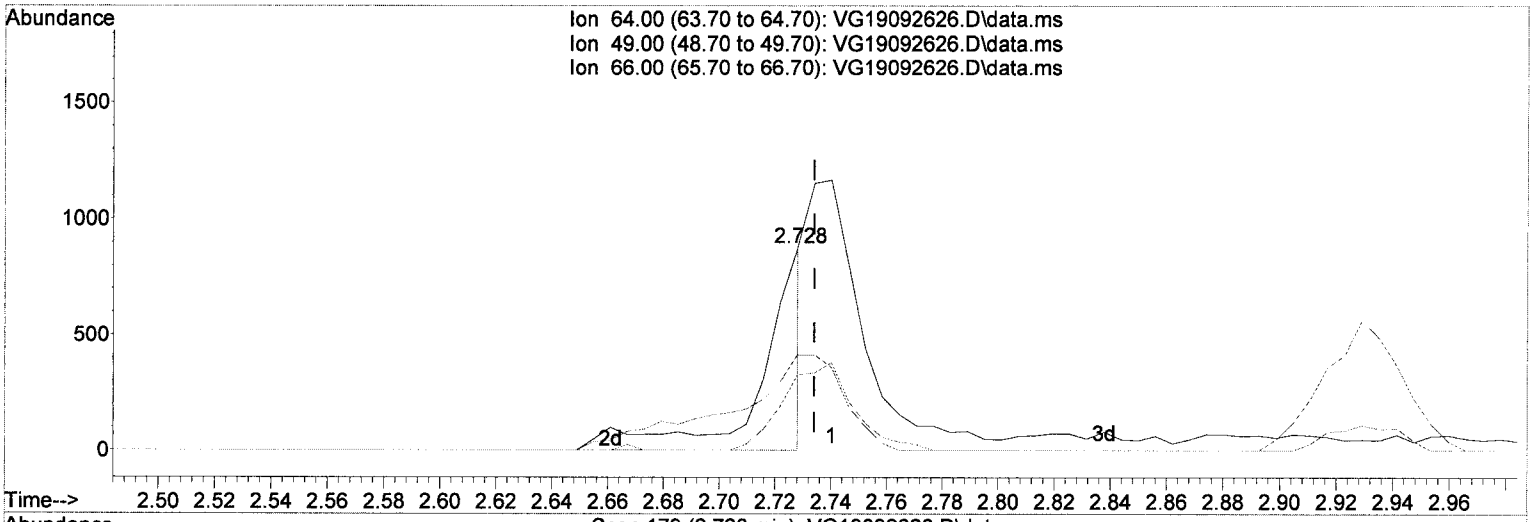
Intercept MDL / 9/30/19 hl

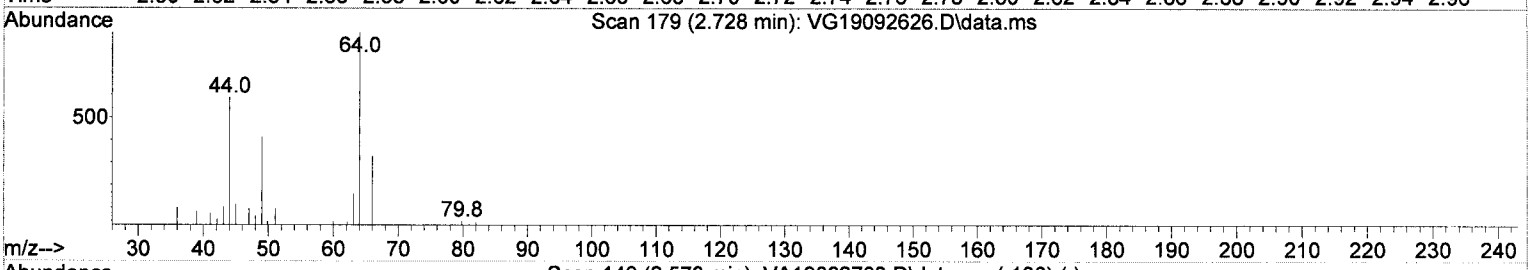
R = -5.34e-003 A*A + 1.43e-001 A + 5.45e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

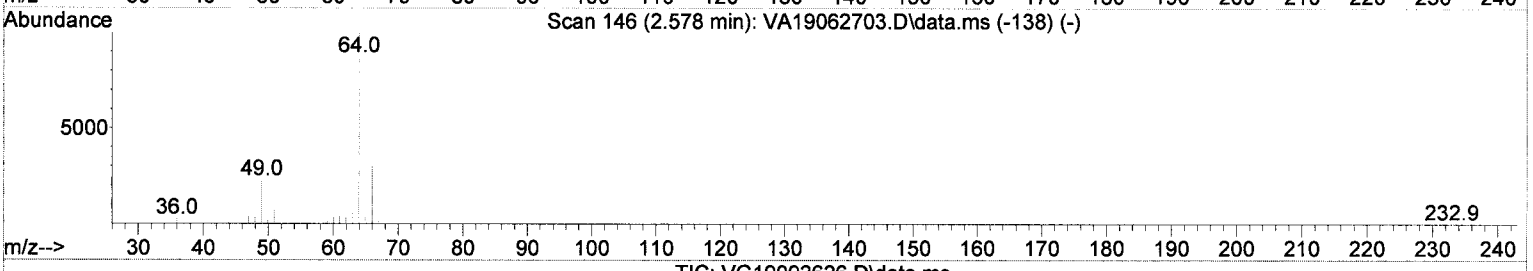
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092626.D
Acq On : 26 Sep 2019 9:13 pm
Operator : MM
Sample : 9I26050-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:47 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







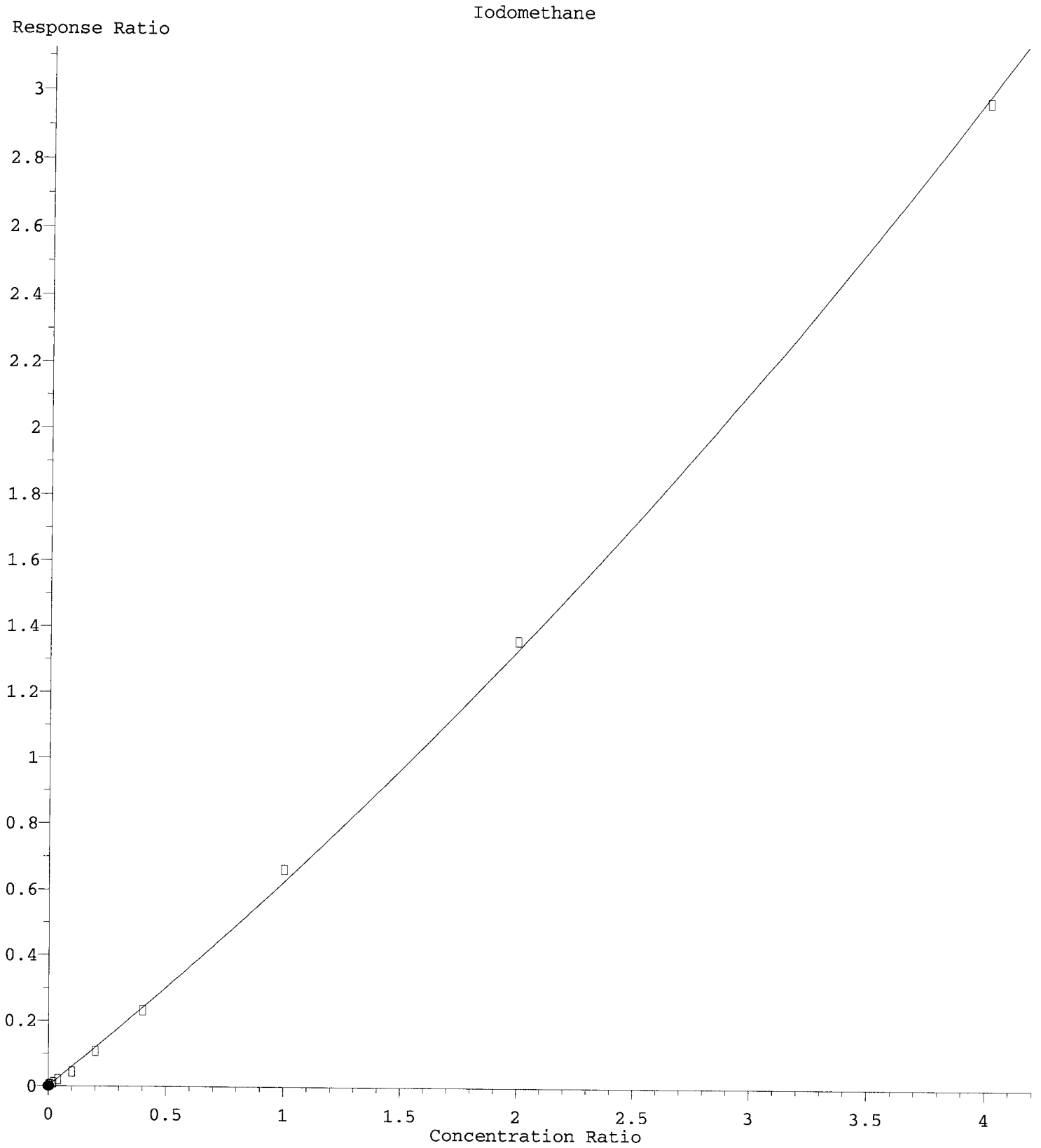
TIC: VG19092626.D\data.ms

(6) Chloroethane

2.728min (-0.006) 1.38 ug/L m

response 943

Ion	Exp%	Act%
64.00	100.00	100.00
49.00	24.30	47.20
66.00	31.30	37.37
0.00	0.00	0.00



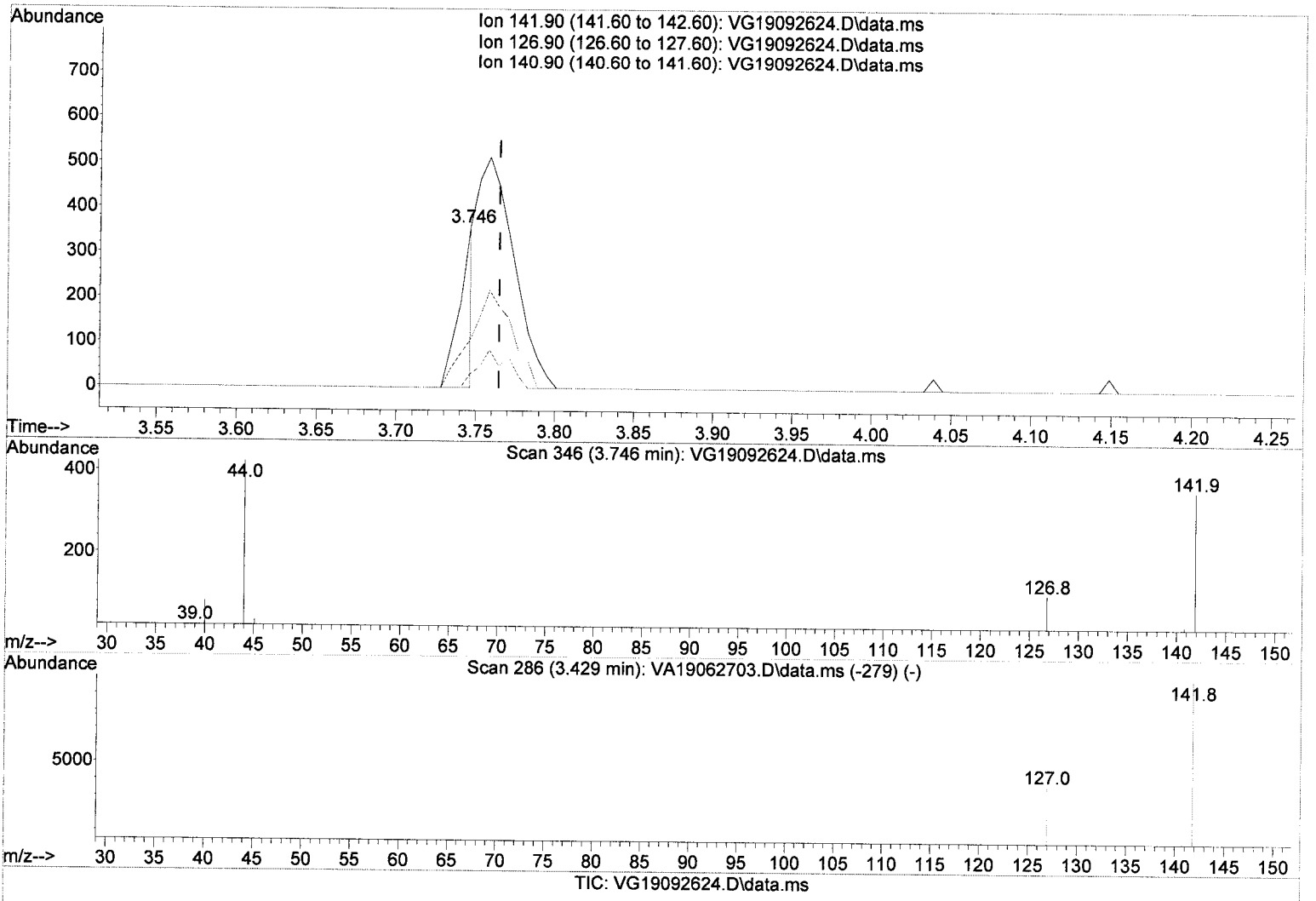
Intercept < MDL
9/30/19 MM

R = 4.09e-002 A*A + 5.84e-001 A + 7.07e-004
Coef of Det (r^2) = 0.998 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



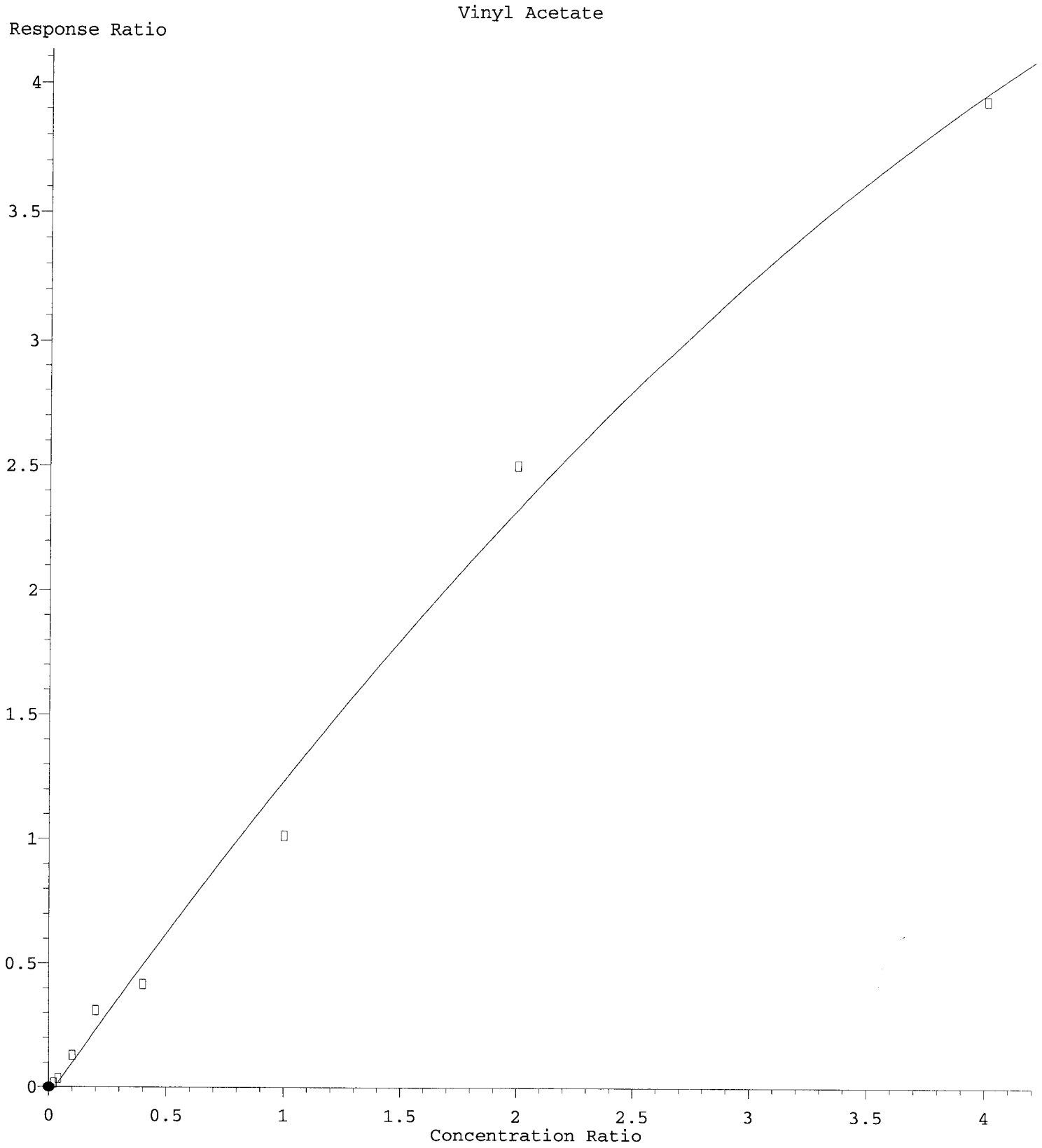
TIC: VG19092624.D\data.ms

(12) Iodomethane

3.746min (-0.018) 0.14 ug/L m

response 233

Ion	Exp%	Act%
141.90	100.00	100.00
126.90	34.80	29.53
140.90	15.30	8.64
0.00	0.00	0.00



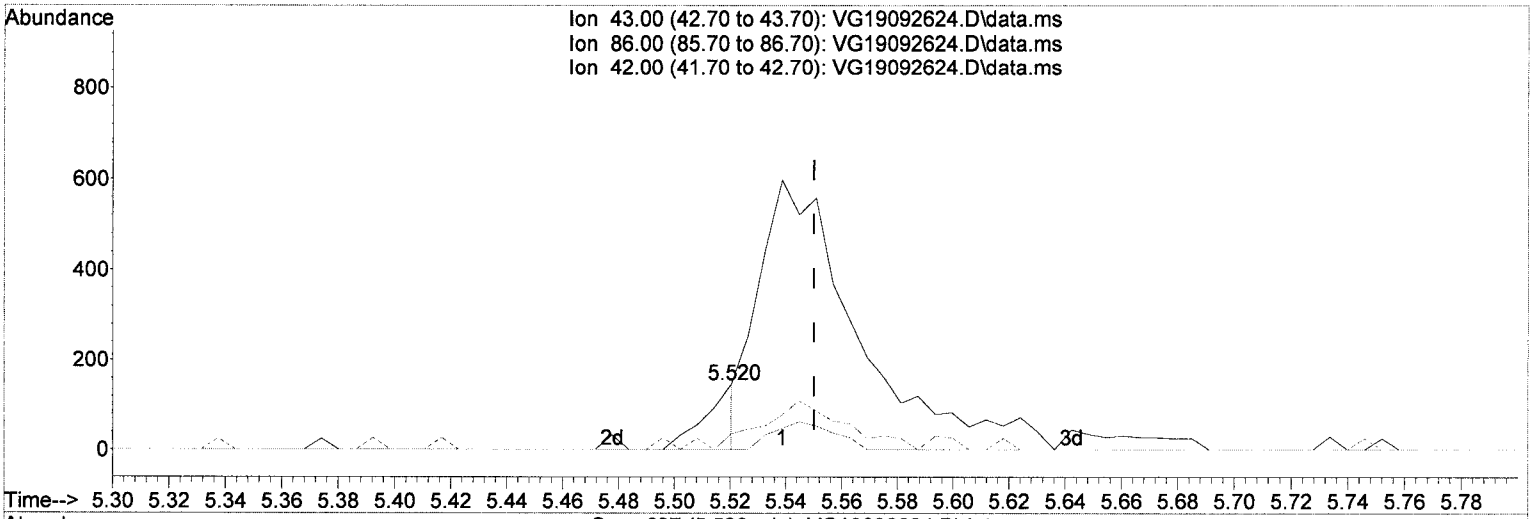
Intercept < MDL
9/30/19 MM

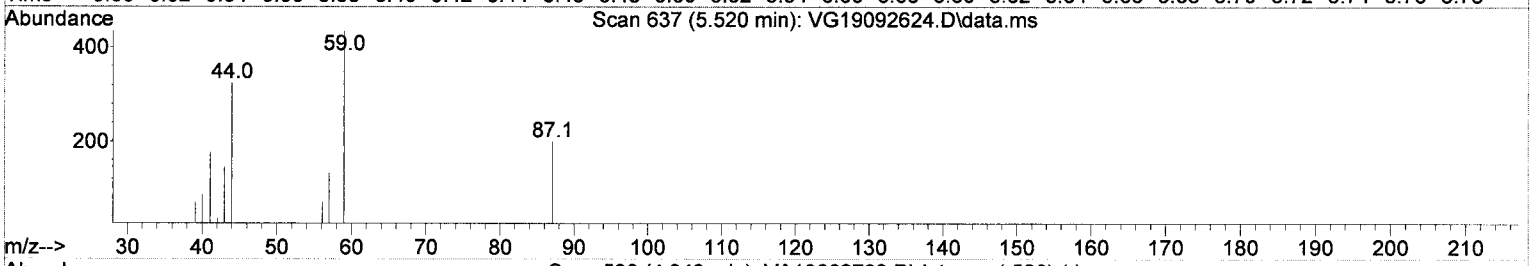
R = -9.08e-002 A*A + 1.36e+000 A - 3.70e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

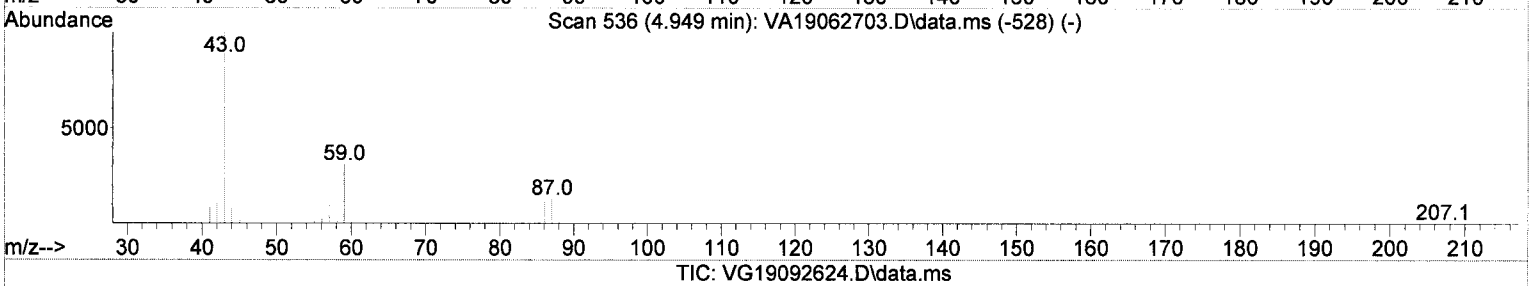
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







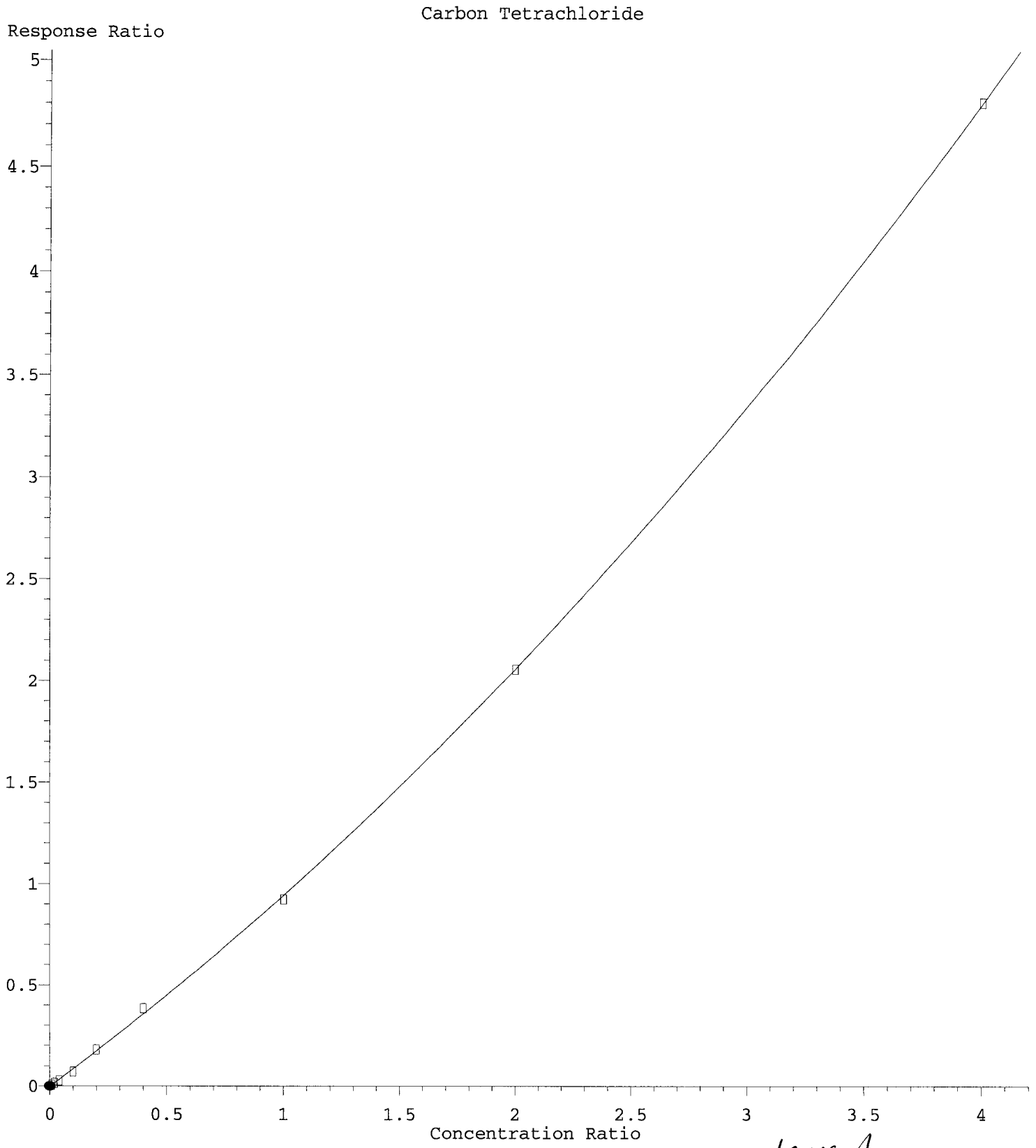
TIC: VG19092624.D\data.ms

(23) Vinyl Acetate

5.520min (-0.030) 1.41 ug/L m

response 119

Ion	Exp%	Act%
43.00	100.00	100.00
86.00	10.60	0.00
42.00	8.70	24.14
0.00	0.00	0.00



Intercept <
MDL

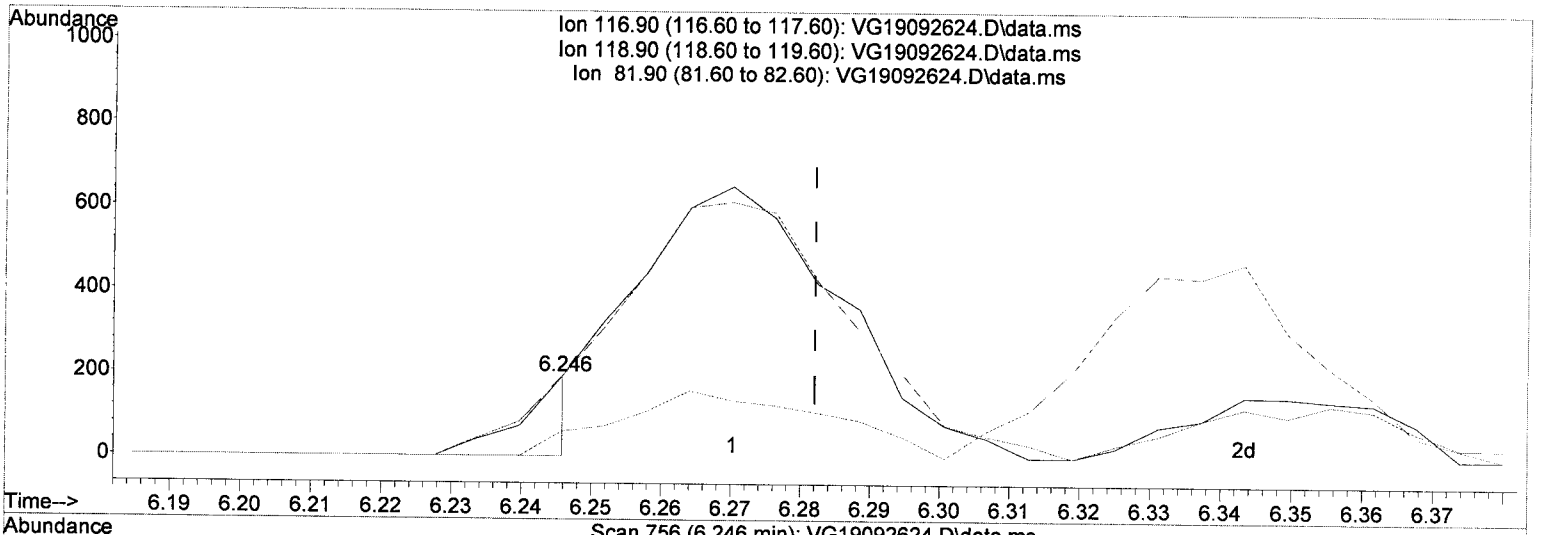
9/30/19

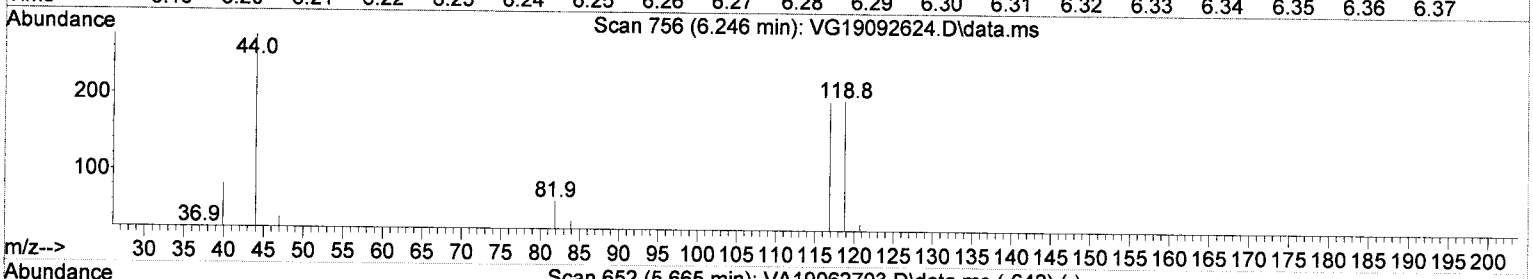
R = 8.48e-002 A*A + 8.61e-001 A - 2.85e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VGI190930w+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

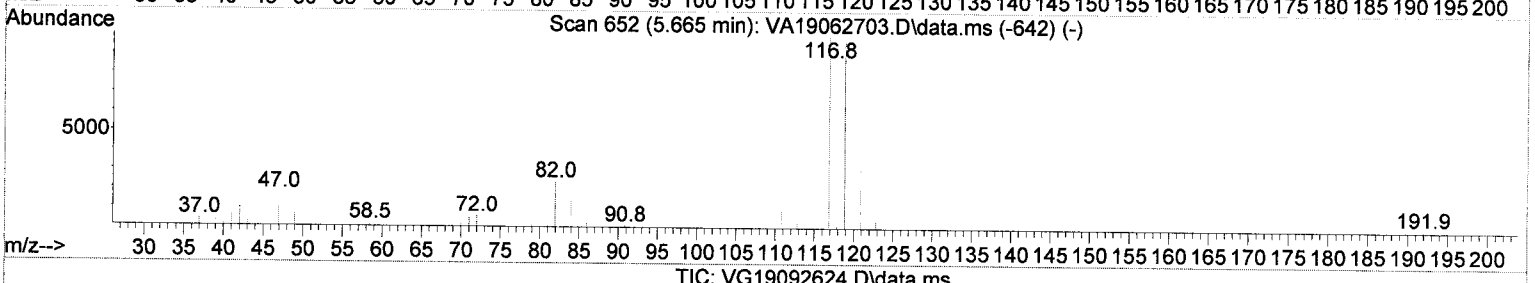
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







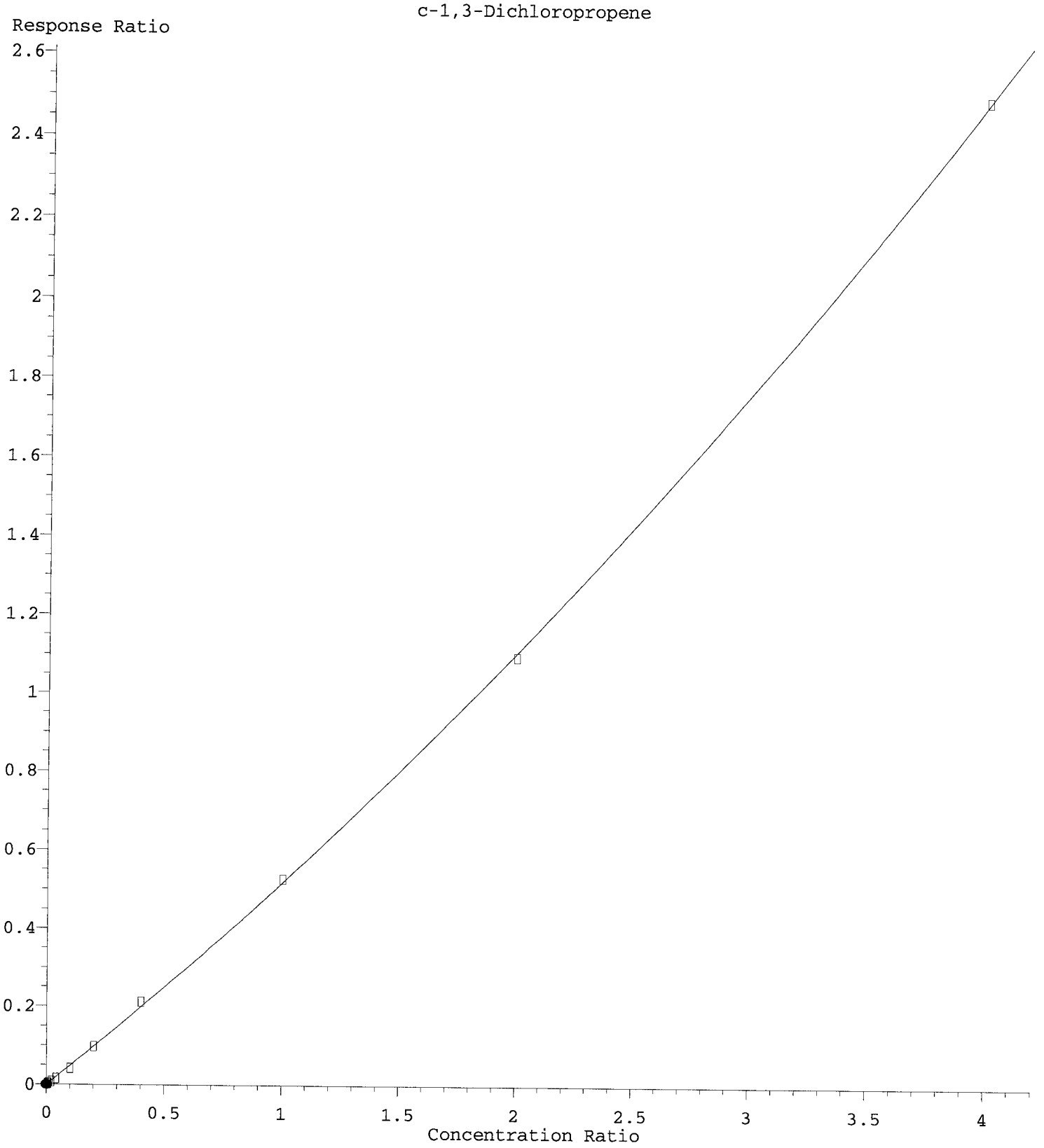
TIC: VG19092624.D\data.ms

(29) Carbon Tetrachloride

6.246min (-0.036) 0.23 ug/L m

response 112

Ion	Exp%	Act%
116.90	100.00	100.00
118.90	91.90	100.52
81.90	22.60	31.61
0.00	0.00	0.00



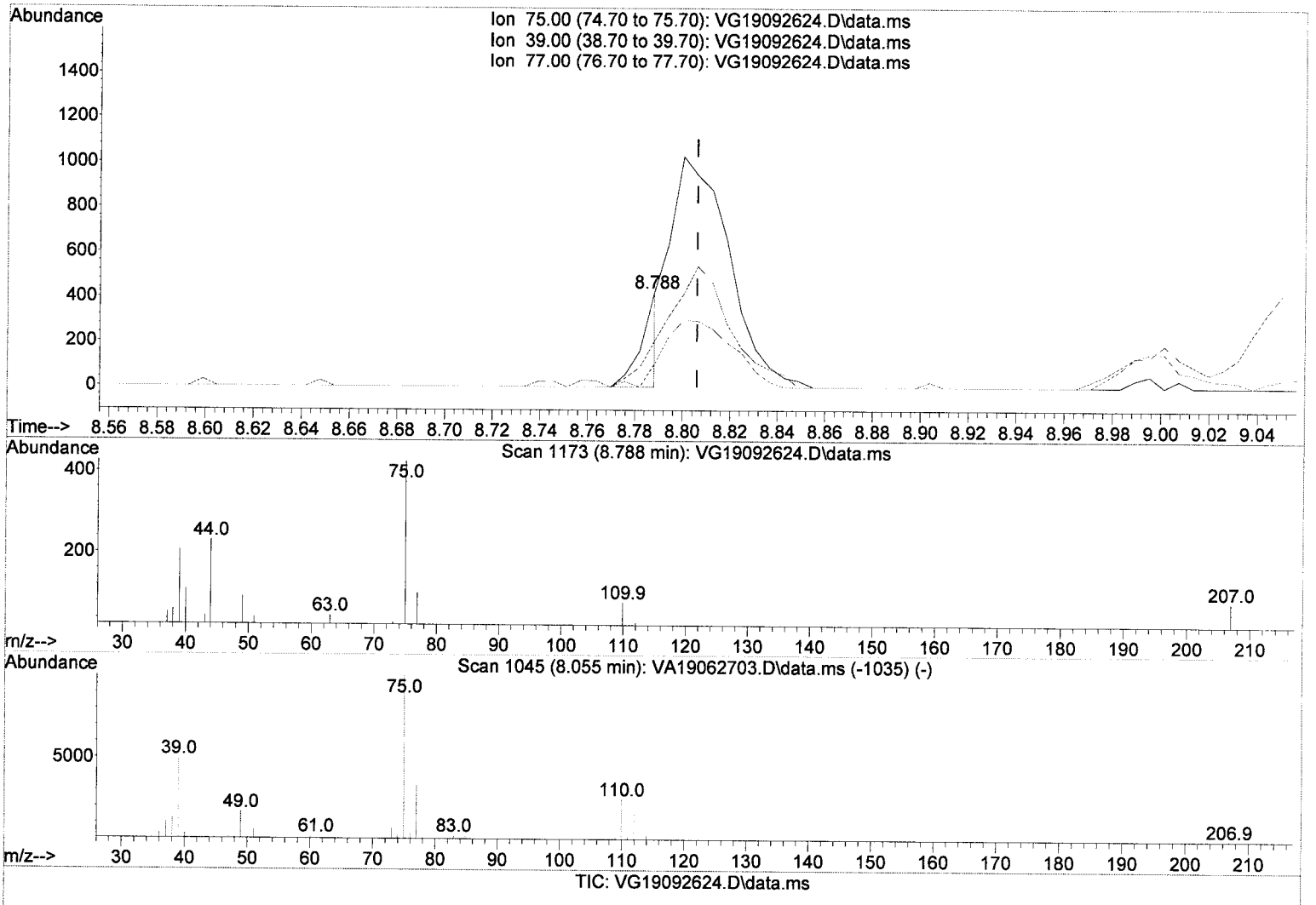
Intercept < MDL
9/30/19 MJ

R = 3.41e-002 A*A + 4.85e-001 A - 1.16e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

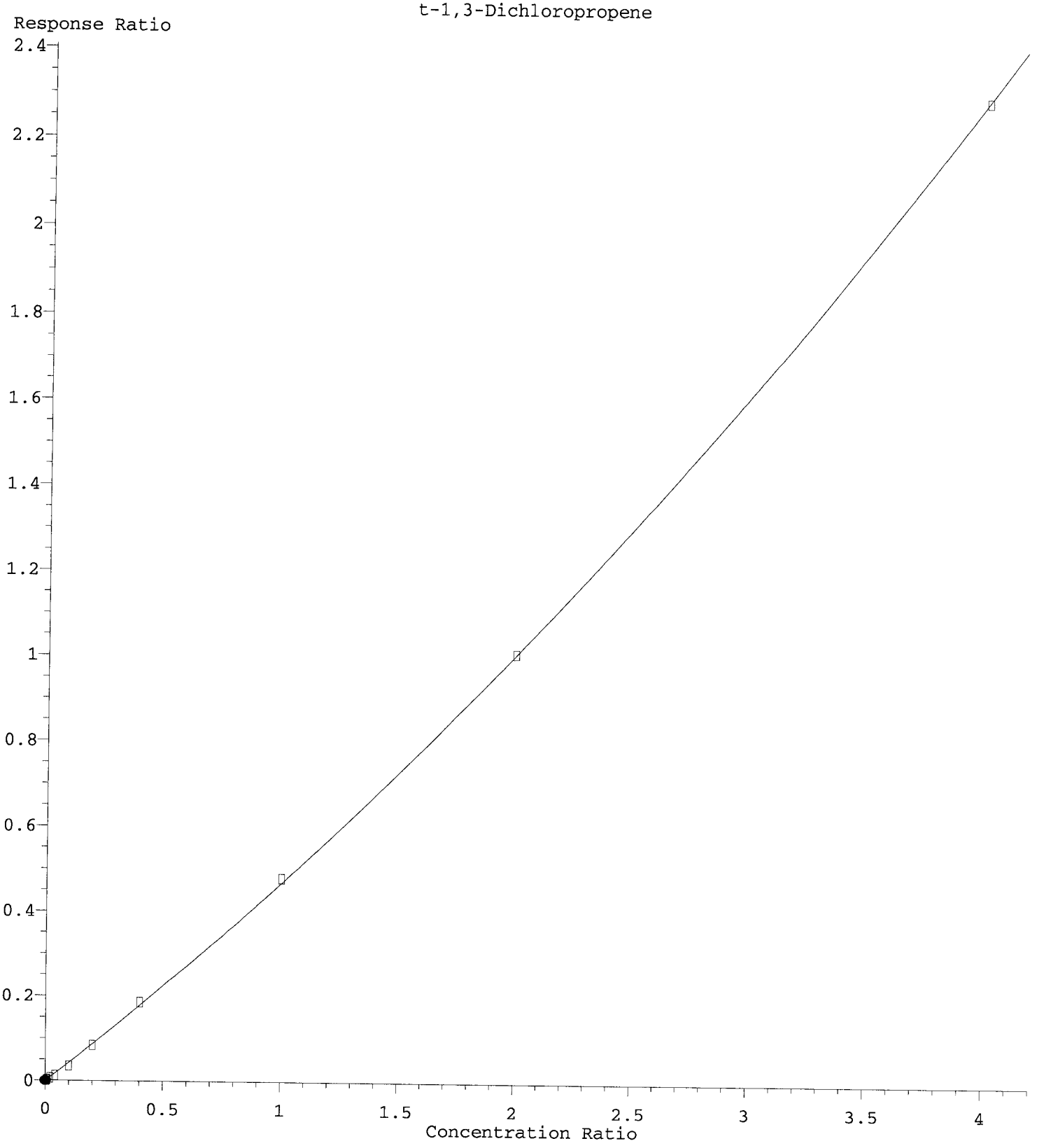


(47) c-1,3-Dichloropropene

8.788min (-0.018) 0.21 ug/L m

response 235

Ion	Exp%	Act%
75.00	100.00	100.00
39.00	50.30	48.24
77.00	31.90	24.00
0.00	0.00	0.00



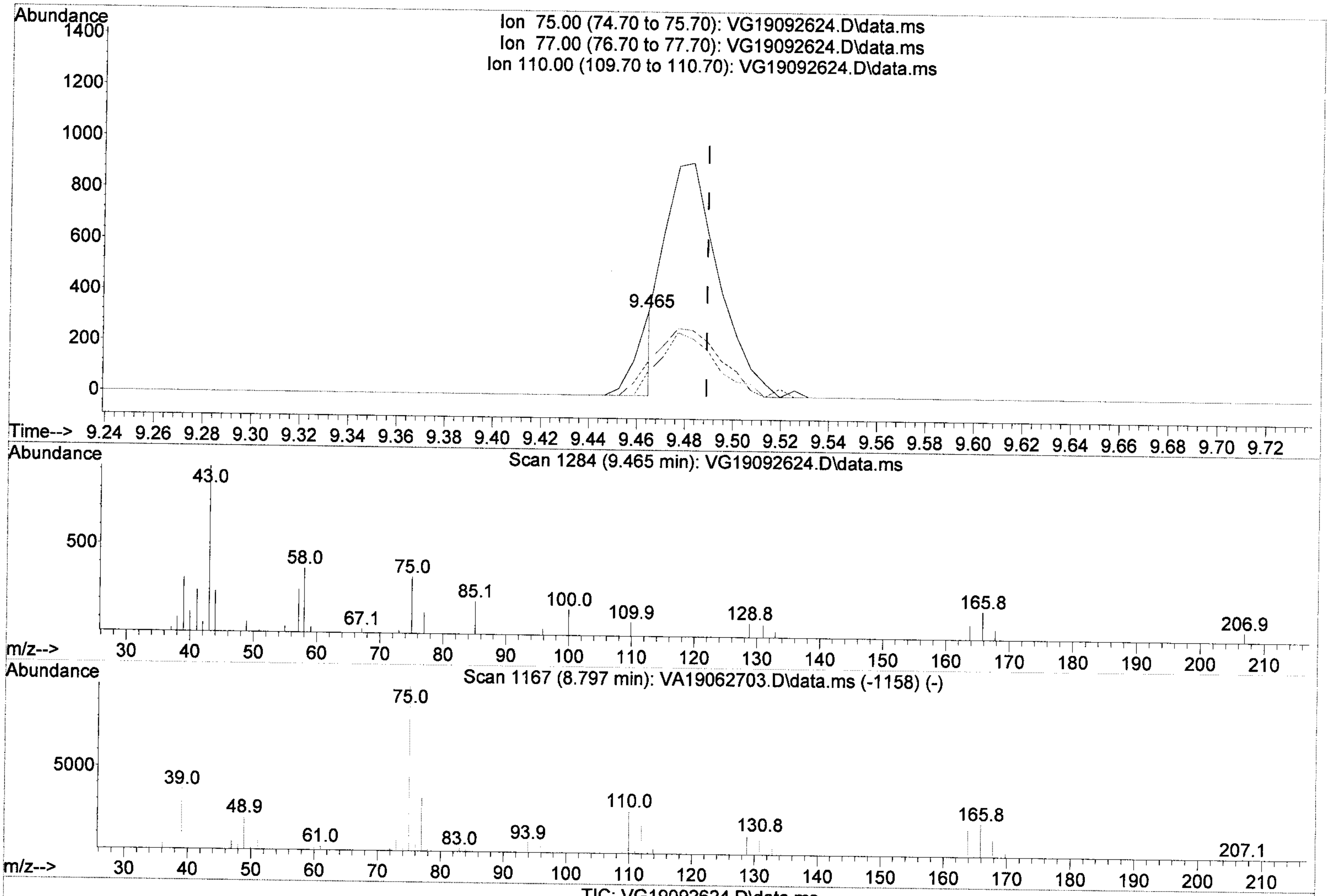
Intercept < MDL
9/30/19 bm

R = 3.48e-002 A*A + 4.35e-001 A - 1.46e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

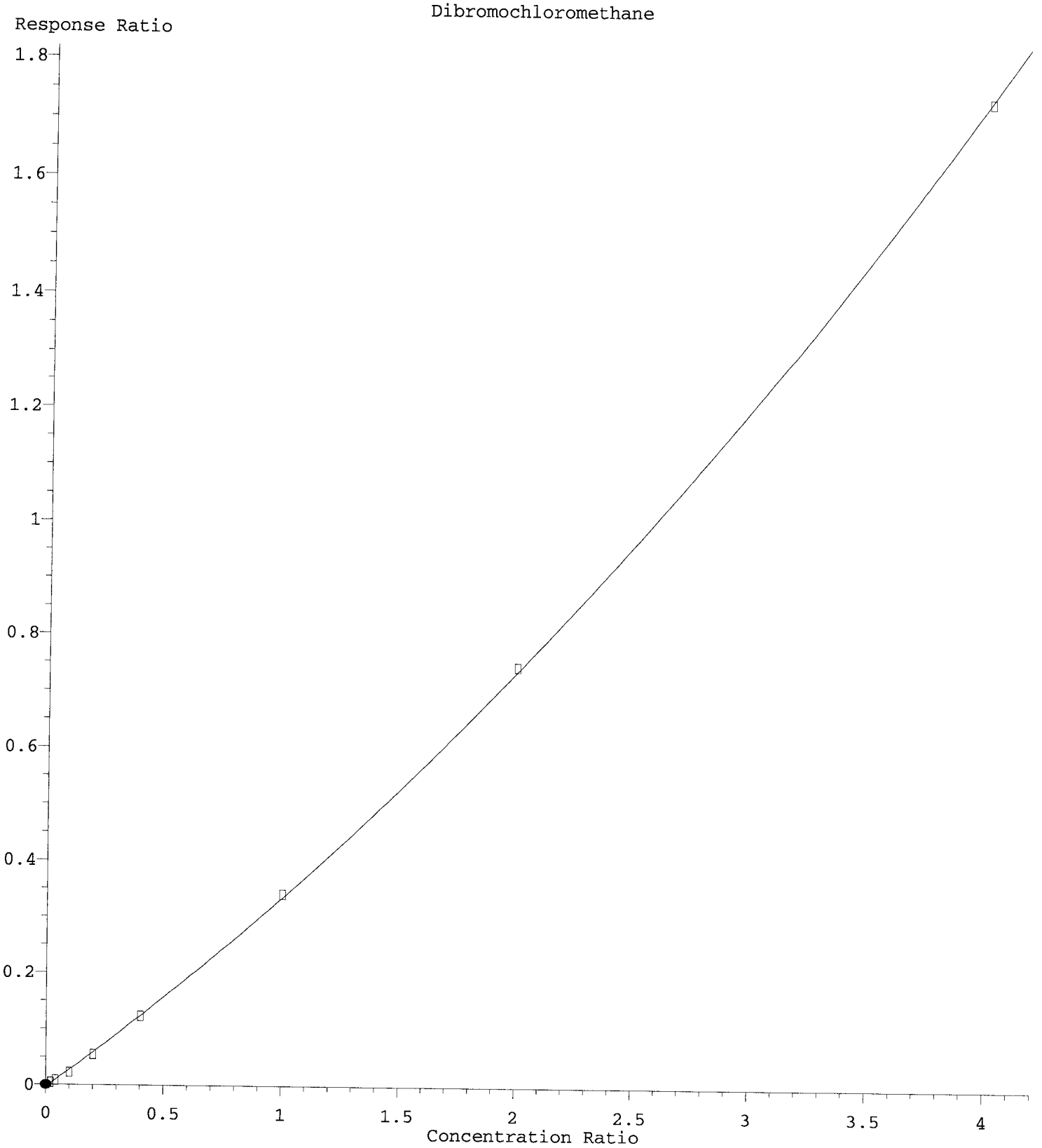


(52) t-1,3-Dichloropropene

9.465min (-0.024) 0.25 ug/L m

response 181

Ion	Exp%	Act%
75.00	100.00	100.00
77.00	33.20	41.09
110.00	25.60	29.31
0.00	0.00	0.00



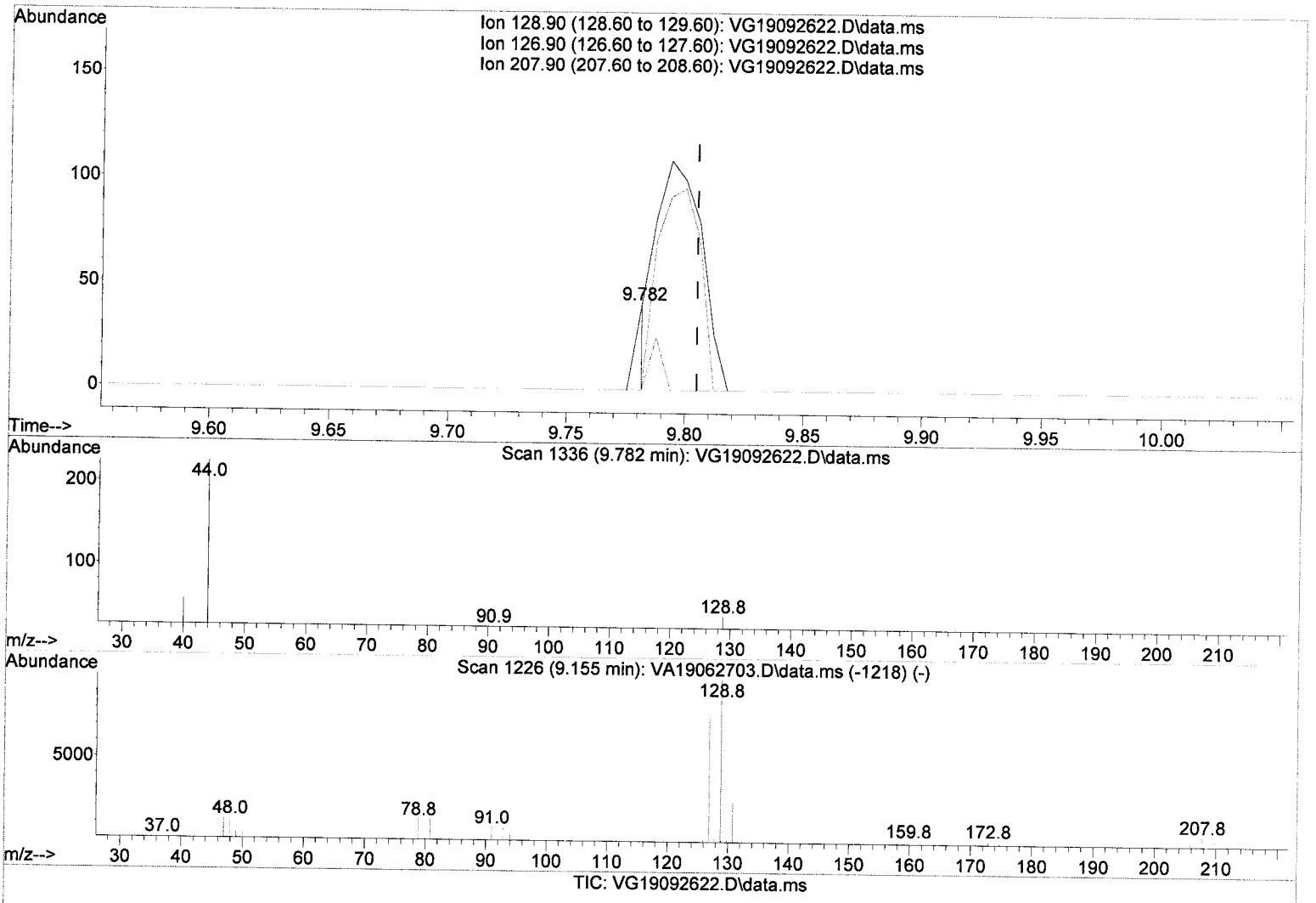
Intercept < MDL
9/30/19 RL

R = 3.23e-002 A*A + 3.06e-001 A - 3.71e-003
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:35 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



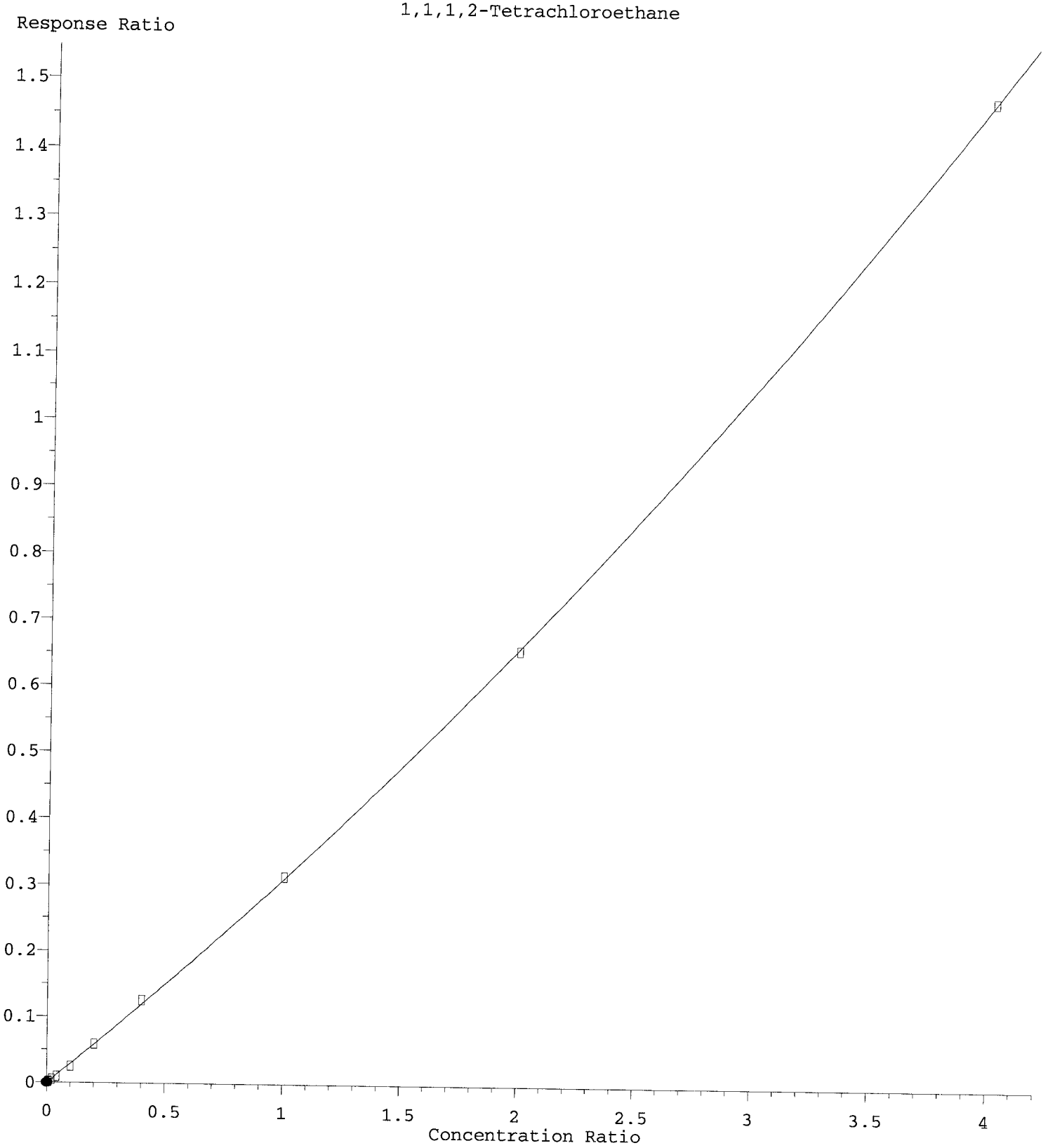
TIC: VG19092622.D\data.ms

(54) Dibromochloromethane

9.782min (-0.023) 0.62 ug/L m

response 15

Ion	Exp%	Act%
128.90	100.00	100.00
126.90	77.40	0.00#
207.90	7.30	0.00
0.00	0.00	0.00

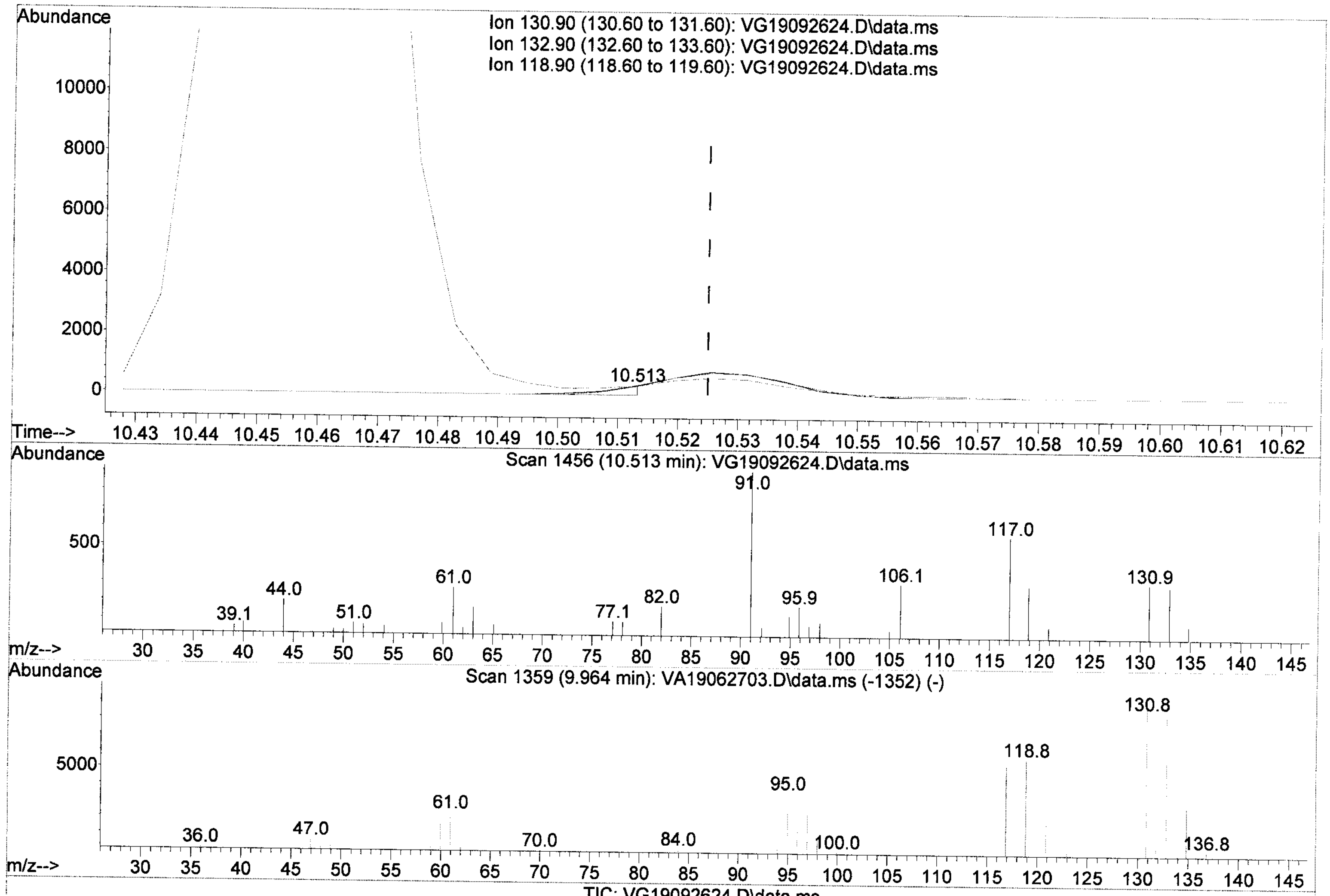


Intercept ∠ MDL
9/30/19 KY

R = 1.91e-002 A*A + 2.92e-001 A - 6.67e-004
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

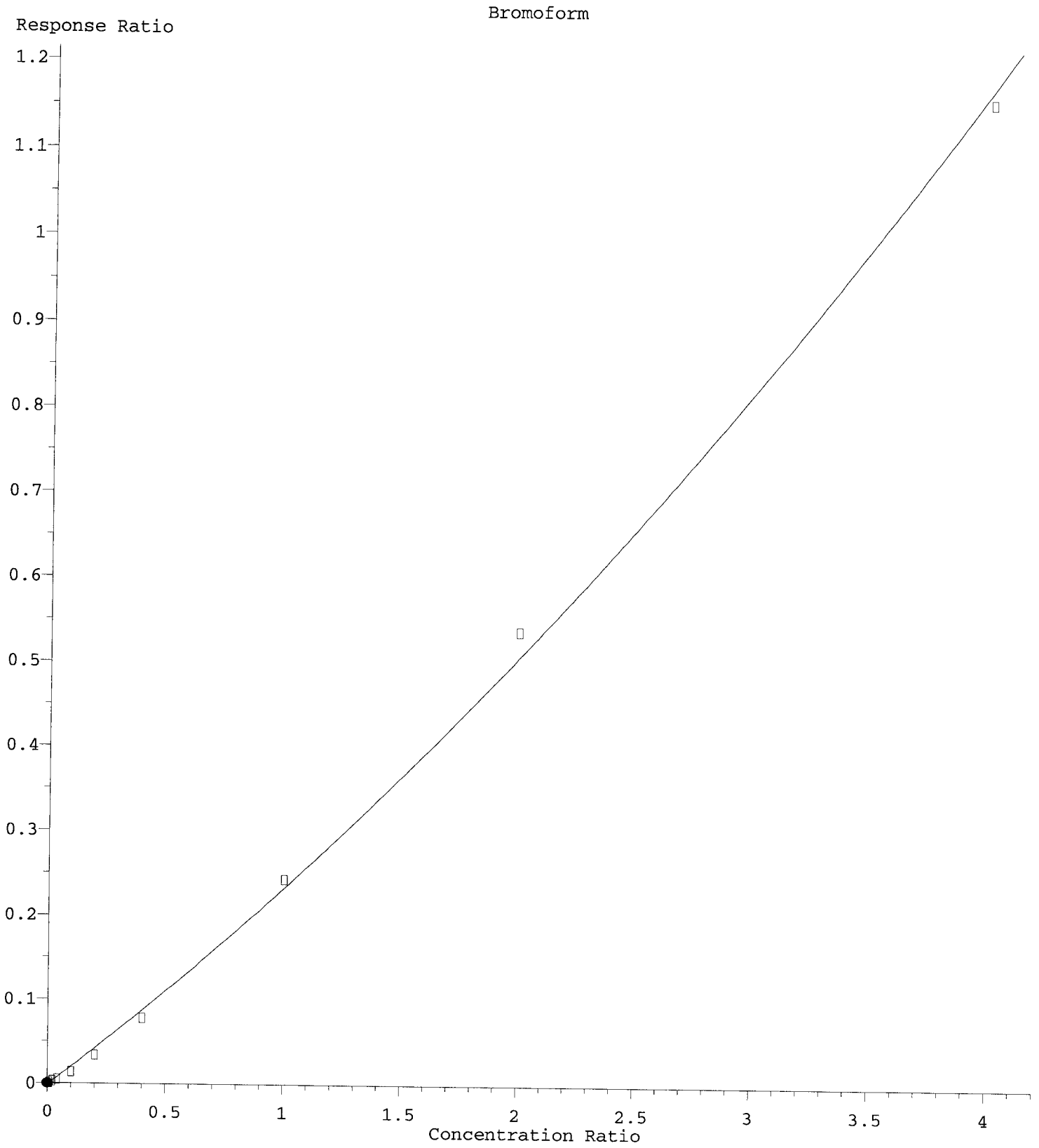


(60) 1,1,1,2-Tetrachloroethane

10.513min (-0.012) 0.22 ug/L m

response 162

Ion	Exp%	Act%
130.90	100.00	100.00
132.90	94.90	95.96
118.90	63.20	95.65#
0.00	0.00	0.00

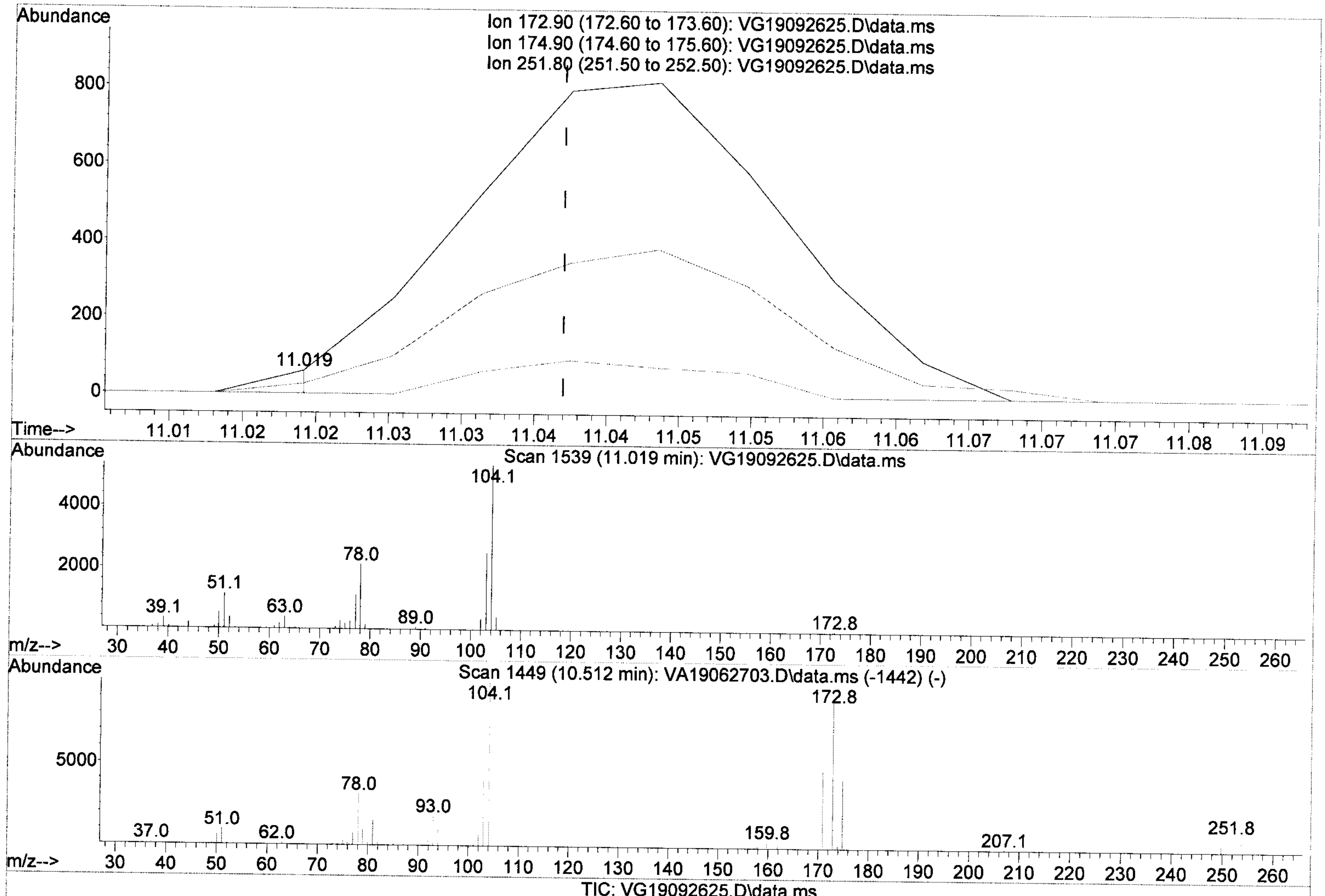


Intercept < MDL
9/30/19 MM

R = 1.95e-002 A*A + 2.15e-001 A - 2.01e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092625.D
Acq On : 26 Sep 2019 8:46 pm
Operator : MM
Sample : 9I26050-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:44 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

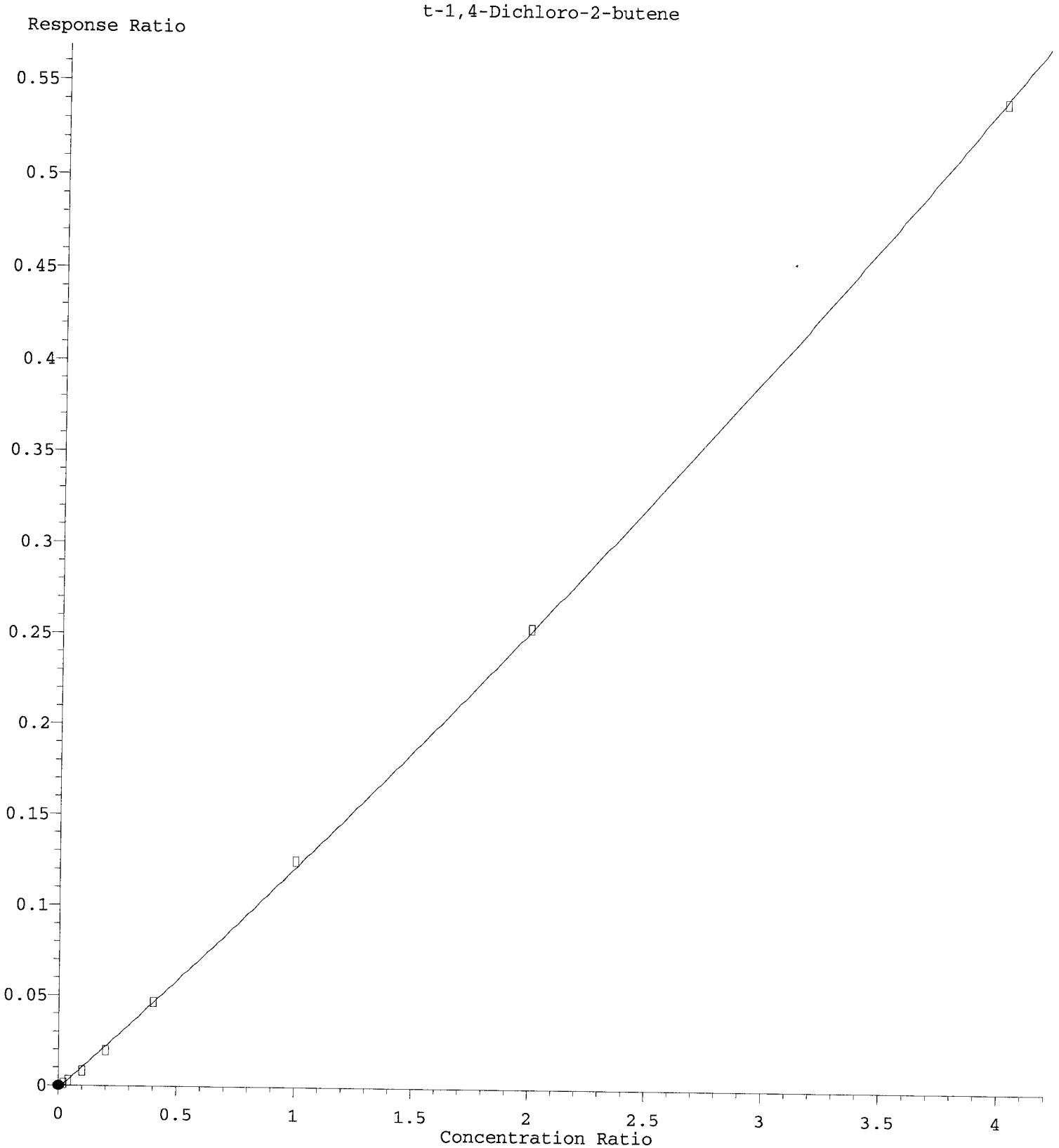


(64) Bromoform (P)

11.019min (-0.018) 0.49 ug/L m

response 22

Ion	Exp%	Act%
172.90	100.00	100.00
174.90	48.50	43.33
251.80	13.90	0.00
0.00	0.00	0.00



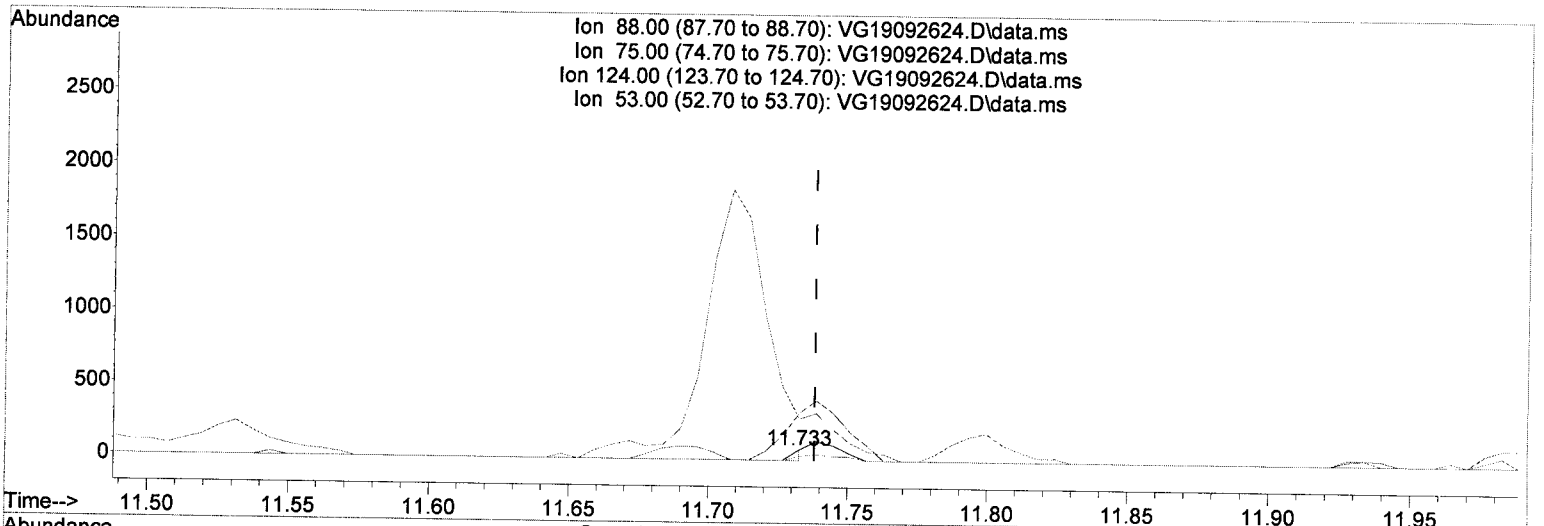
Intercept CMDR
9/30/19 hm

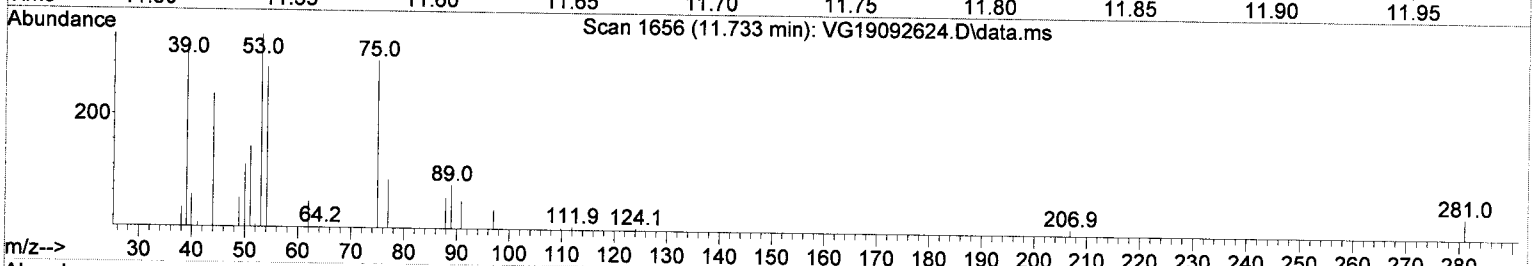
R = 4.38e-003 A*A + 1.19e-001 A - 1.90e-003
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VS190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

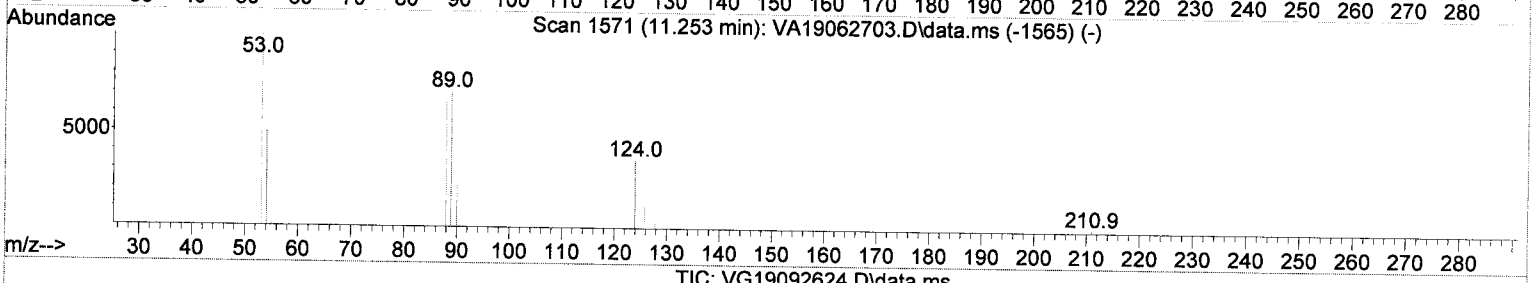
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







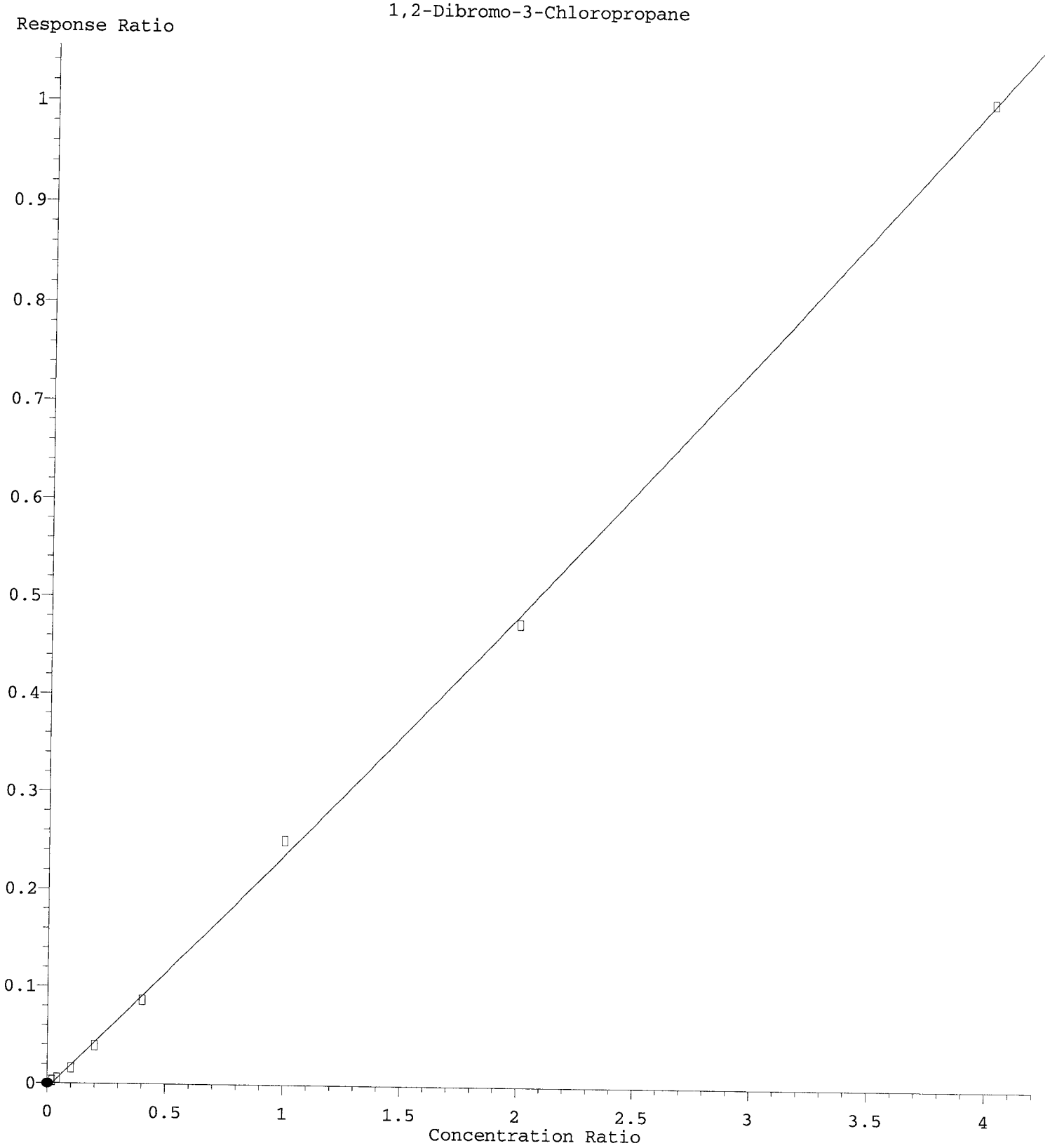
TIC: VG19092624.D\data.ms

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

11.733min (-0.005) 0.89 ug/L m

response 26

Ion	Exp%	Act%
88.00	100.00	100.00
75.00	263.20	395.83#
124.00	63.30	38.89#
53.00	196.80	451.39#



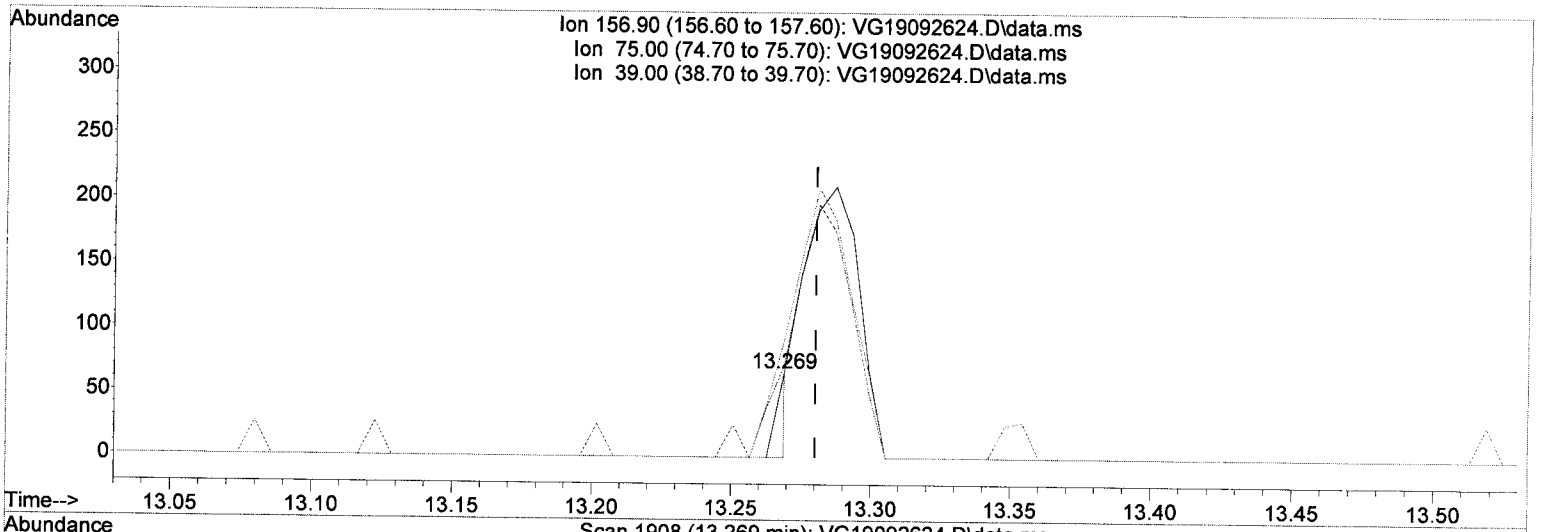
Intercept CMDR
9/30/19 hm

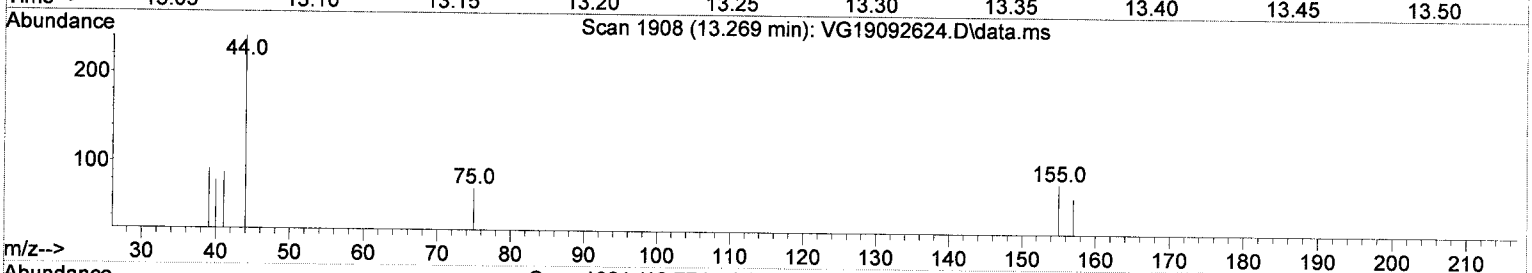
R = 3.82e-003 A*A + 2.37e-001 A - 4.76e-003
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic
Method Name: C:\msdchem\1\methods\VG190930W+.M
Calibration Table Last Updated: Mon Sep 30 14:44:15 2019

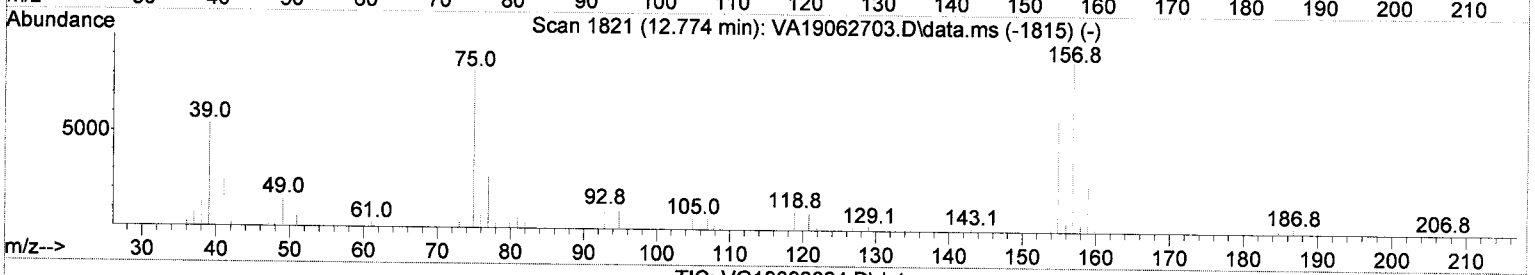
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:41:41 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration







TIC: VG19092624.D\data.ms

(84) 1,2-Dibromo-3-Chloropropane

13.269min (-0.011) 1.05 ug/L m

response 24

Ion	Exp%	Act%
156.90	100.00	100.00
75.00	73.10	109.09#
39.00	54.70	139.39#
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	106	0.00
2		Dichlorodifluoromethane	20.000	15.600	22.0#	77	0.00
3	P	Chloromethane	20.000	17.682	11.6	94	0.00
4	C	Vinyl Chloride	20.000	18.735	6.3	91	0.00
5		Bromomethane	20.000	22.355	-11.8	117	0.00
6		Chloroethane	20.000	20.904	-4.5	108	0.00
7		Trichlorofluoromethane	20.000	18.699	6.5	87	-0.02
8		~~Ethanol~~	~~1250.000~~	~~3.390~~	~~99.7#~~	~~0~~	~~0.03~~
9	C	1,1-Dichloroethene	20.000	19.322	3.4	93	-0.01
10		Carbon Disulfide	20.000	21.244	-6.2	99	0.00
11		Freon 113	20.000	17.311	13.4	86	0.00
12		Iodomethane	20.000	15.093	24.5#	83	0.00
13		Acrolein	20.000	20.274	-1.4	107	0.00
14		Methylene Chloride	20.000	19.657	1.7	102	0.00
15		Acetone	40.000	39.228	1.9	103	0.00
16		t-1,2-Dichloroethene	20.000	19.998	0.0	100	0.00
17		n-Hexane	20.000	15.437	22.8#	76	0.00
18		Methyl-tert-butyl-ether	20.000	20.273	-1.4	101	0.00
19		~~tert-Butanol (TBA)~~	~~1250.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-4.83#~~
20		~~Diisopropyl ether (DIPE)~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-5.12#~~
21	P	1,1-Dichloroethane	20.000	21.763	-8.8	106	0.00
22		Acrylonitrile	20.000	20.025	-0.1	102	0.00
23		Vinyl Acetate	20.000	21.312	-6.6	134	-0.01
24		~~Ethyl tert-butyl ether (ETB~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-5.51#~~
25		c-1,2-Dichloroethene	20.000	19.908	0.5	99	0.00
26		2,2-Dichloropropane	20.000	18.322	8.4	87	0.00
27		Bromochloromethane	20.000	20.316	-1.6	101	0.00
28	C	Chloroform	20.000	20.290	-1.4	100	0.00
29		Carbon Tetrachloride	20.000	19.366	3.2	95	-0.01
30		Tetrahydrofuran	20.000	20.699	-3.5	102	-0.01
31		1,1,1-Trichloroethane	20.000	21.565	-7.8	101	0.00
32	S	Dibromofluoromethane (S)	50.000	51.639	-3.3	107	0.00
33		1,1-Dichloropropene	20.000	18.781	6.1	92	0.00
34		2-Butanone (MEK)	40.000	40.411	-1.0	102	-0.02
35		Benzene	20.000	18.950	5.3	98	-0.01
36		~~tert-Amyl methyl ether (TAM~~	~~5.000~~	~~0.035~~	~~99.3#~~	~~1~~	~~0.00~~
37		1,2-Dichloroethane (EDC)	20.000	20.529	-2.6	102	0.00
38		iso-Butyl Alcohol	500.000	610.149	-22.0#	113	-0.01
39	S	1,4-Difluorobenzene (S)	50.000	50.130	-0.3	107	0.00
40		Trichloroethene (TCE)	20.000	18.813	5.9	95	0.00
41		~~tert-Amyl ethyl ether (TAEE~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-7.71#~~
42		Dibromomethane	20.000	20.205	-1.0	101	0.00
43	C	1,2-Dichloropropane	20.000	20.554	-2.8	100	0.00
44		Bromodichloromethane	20.000	21.713	-8.6	102	0.01
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	108	0.00
46		2-Chloroethyl Vinyl Ether	20.000	19.879	0.6	98	0.00
47		c-1,3-Dichloropropene	20.000	19.821	0.9	100	0.00
48	S	Toluene-d8 (S)	50.000	49.694	0.6	108	0.00
49	C	Toluene	20.000	18.235	8.8	96	0.00
50		Tetrachloroethene (PCE)	20.000	17.160	14.2	90	0.00

9/30/2019

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	43.771	-9.4	103	-0.01
52		t-1,3-Dichloropropene	20.000	19.742	1.3	102	-0.01
53		1,1,2-Trichloroethane	20.000	20.299	-1.5	104	0.00
54		Dibromochloromethane	20.000	19.446	2.8	105	-0.01
55		1,3-Dichloropropane	20.000	20.032	-0.2	102	0.00
56		1,2-Dibromoethane (EDB)	20.000	20.848	-4.2	101	0.00
57		2-Hexanone	40.000	43.831	-9.6	104	0.00
58	P	Chlorobenzene	20.000	18.336	8.3	97	0.00
59	C	Ethylbenzene	20.000	18.244	8.8	93	0.00
60		1,1,1,2-Tetrachloroethane	20.000	19.809	1.0	101	0.00
61		m,p-Xylenes (2)	40.000	36.906	7.7	94	0.00
62		o-Xylene	20.000	19.287	3.6	96	0.00
63		Styrene	20.000	20.725	-3.6	97	-0.01
64	P	Bromoform	20.000	18.523	7.4	111	0.00
65		Isopropylbenzene	20.000	18.924	5.4	91	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	108	0.00
67	S	4-Bromofluorobenzene (S)	50.000	49.341	1.3	107	0.00
68		Bromobenzene	20.000	18.770	6.2	98	0.00
69		n-Propylbenzene	20.000	17.884	10.6	90	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	22.067	-10.3	110	0.00
71		2-Chlorotoluene	20.000	18.855	5.7	95	0.00
72		1,3,5-Trimethylbenzene	20.000	18.475	7.6	93	0.00
73		1,2,3-Trichloropropane	20.000	21.928	-9.6	105	-0.01
74		t-1,4-Dichloro-2-butene	20.000	17.477	12.6	93	0.00
75		4-Chlorotoluene	20.000	17.959	10.2	94	0.00
76		tert-Butylbenzene	20.000	18.516	7.4	92	0.00
77		1,2,4-Trimethylbenzene	20.000	18.576	7.1	94	0.00
78		sec-Butylbenzene	20.000	18.595	7.0	89	0.00
79		4-Isopropyltoluene	20.000	18.397	8.0	90	0.00
80		1,3-Dichlorobenzene	20.000	18.338	8.3	97	0.00
81		1,4-Dichlorobenzene	20.000	17.695	11.5	96	0.00
82		n-Butylbenzene	20.000	17.334	13.3	89	0.00
83		1,2-Dichlorobenzene	20.000	19.505	2.5	100	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	20.211	-1.1	114	0.00
85		Hexachlorobutadiene	20.000	18.636	6.8	88	0.00
86		1,2,4-Trichlorobenzene	20.000	19.202	4.0	98	0.00
87		Naphthalene	20.000	22.106	-10.5	104	0.00
88		1,2,3-Trichlorobenzene	20.000	21.125	-5.6	101	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	103	0.00
2		Dichlorodifluoromethane	20.000	0.210	98.9#	1	0.00
3	P	Chloromethane	20.000	0.323	98.4#	2	0.00
4	C	Vinyl Chloride	20.000	0.168	99.2#	1	0.00
5		Bromomethane	20.000	0.427	97.9#	2	0.00
6		Chloroethane	20.000	-1.000	105.0#	3	0.01
7		Trichlorofluoromethane	20.000	0.118	99.4#	1	0.00
8		Ethanol	1250.000	1370.489	-9.6	112	0.00
9	C	1,1-Dichloroethene	20.000	0.192	99.0#	1	0.00
10		Carbon Disulfide	20.000	0.487	97.6#	2	0.00
11		Freon 113	20.000	0.212	98.9#	1	0.01
12		Iodomethane	20.000	0.244	98.8#	2	0.00
13		Acrolein	20.000	0.024	99.9#	0	0.01
14		Methylene Chloride	20.000	1.477	92.6#	7	0.00
15		Acetone	40.000	1.168	97.1#	3	0.00
16		t-1,2-Dichloroethene	20.000	0.280	98.6#	1	0.00
17		n-Hexane	20.000	0.118	99.4#	1	0.01
18		Methyl-tert-butyl-ether	20.000	0.010	99.9#	0	0.01
19		tert-Butanol (TBA)	1250.000	1448.367	-15.9	106	0.00
20		Diisopropyl ether (DIPE)	5.000	5.342	-6.8	103	0.00
21	P	1,1-Dichloroethane	20.000	0.157	99.2#	1	0.00
22		Acrylonitrile	20.000	0.109	99.5#	1	0.01
23		Vinyl Acetate	20.000	2.344	88.3#	7	-0.02
24		Ethyl-tert-butyl ether (ETB	5.000	5.275	-5.5	102	0.01
25		c-1,2-Dichloroethene	20.000	0.170	99.1#	1	0.00
26		2,2-Dichloropropane	20.000	0.095	99.5#	0	0.00
27		Bromochloromethane	20.000	0.068	99.7#	0	0.00
28	C	Chloroform	20.000	0.139	99.3#	1	0.00
29		Carbon Tetrachloride	20.000	0.261	98.7#	0	-0.01
30		Tetrahydrofuran	20.000	0.026	99.9#	0	0.00
31		1,1,1-Trichloroethane	20.000	0.123	99.4#	1	0.00
32	S	Dibromofluoromethane (S)	50.000	49.053	1.9	99	0.00
33		1,1-Dichloropropene	20.000	0.231	98.8#	1	0.00
34		2-Butanone (MEK)	40.000	0.032	99.9#	0	0.00
35		Benzene	20.000	0.174	99.1#	1	0.00
36		tert-Amyl methyl ether (TAM	5.000	4.882	2.4	100	0.03
37		1,2-Dichloroethane (EDC)	20.000	0.045	99.8#	0	0.00
38		iso-Butyl Alcohol	500.000	0.428	99.9#	0	0.01
39	S	1,4-Difluorobenzene (S)	50.000	49.818	0.4	104	0.00
40		Trichloroethene (TCE)	20.000	0.224	98.9#	1	0.00
41		tert-Amyl ethyl ether (TAEE	5.000	5.151	-3.0	98	-0.01
42		Dibromomethane	20.000	0.038	99.8#	0	0.00
43	C	1,2-Dichloropropane	20.000	0.083	99.6#	0	0.00
44		Bromodichloromethane	20.000	0.051	99.7#	0	0.02
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	103	0.00
46		2-Chloroethyl Vinyl Ether	20.000	0.000	100.0#	0	-8.75#
47		c-1,3-Dichloropropene	20.000	0.187	99.1#	0	0.00
48	S	Toluene-d8 (S)	50.000	49.807	0.4	103	0.00
49	C	Toluene	20.000	0.192	99.0#	1	0.00
50		Tetrachloroethene (PCE)	20.000	0.288	98.6#	1	0.00

9/30/19 MM

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	0.049	99.9#	0	0.00
52		t-1,3-Dichloropropene	20.000	0.208	99.0#	0	0.00
53		1,1,2-Trichloroethane	20.000	0.031	99.8#	0	0.00
54		Dibromochloromethane	20.000	0.617	96.9#	0	0.00
55		1,3-Dichloropropane	20.000	0.036	99.8#	0	0.00
56		1,2-Dibromoethane (EDB)	20.000	0.036	99.8#	0	0.00
57		2-Hexanone	40.000	0.058	99.9#	0	0.01
58	P	Chlorobenzene	20.000	0.186	99.1#	1	0.00
59	C	Ethylbenzene	20.000	0.204	99.0#	1	0.00
60		1,1,1,2-Tetrachloroethane	20.000	0.178	99.1#	0	0.00
61		m,p-Xylenes (2)	40.000	0.432	98.9#	1	0.00
62		o-Xylene	20.000	0.158	99.2#	1	0.00
63		Styrene	20.000	0.153	99.2#	1	0.00
64	P	Bromoform	20.000	0.475	97.6#	0	0.00
65		Isopropylbenzene	20.000	0.186	99.1#	1	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	100	0.00
67	S	4-Bromofluorobenzene (S)	50.000	50.073	-0.1	101	0.00
68		Bromobenzene	20.000	0.163	99.2#	1	0.00
69		n-Propylbenzene	20.000	0.262	98.7#	1	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	0.024	99.9#	0	0.00
71		2-Chlorotoluene	20.000	0.218	98.9#	1	0.00
72		1,3,5-Trimethylbenzene	20.000	0.228	98.9#	1	0.00
73		1,2,3-Trichloropropane	20.000	0.000	100.0#	0	-11.72#
74		t-1,4-Dichloro-2-butene	20.000	0.000	100.0#	0	-11.74#
75		4-Chlorotoluene	20.000	0.266	98.7#	1	0.00
76		tert-Butylbenzene	20.000	0.194	99.0#	1	0.00
77		1,2,4-Trimethylbenzene	20.000	0.228	98.9#	1	0.00
78		sec-Butylbenzene	20.000	0.219	98.9#	1	0.00
79		4-Isopropyltoluene	20.000	0.267	98.7#	1	0.00
80		1,3-Dichlorobenzene	20.000	0.280	98.6#	1	0.00
81		1,4-Dichlorobenzene	20.000	0.326	98.4#	2	0.00
82		n-Butylbenzene	20.000	0.369	98.2#	2	0.00
83		1,2-Dichlorobenzene	20.000	0.194	99.0#	1	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	0.000	100.0#	0	-13.28#
85		Hexachlorobutadiene	20.000	0.441	97.8#	2	0.00
86		1,2,4-Trichlorobenzene	20.000	0.344	98.3#	2	0.00
87		Naphthalene	20.000	0.174	99.1#	1	0.00
88		1,2,3-Trichlorobenzene	20.000	0.291	98.5#	1	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26050

Analysis Included
8260C Full List
8260C Additional Cpds
8260C Oxygenates

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9I26050-TUN1	MS Tune	Water		A19F381	9/26/2019 6:03:00PM
9I26050-ICB1	Initial Cal Blank	Water		A19F381	9/26/2019 6:30:00PM
9I26050-CAL1	Cal Standard	Water	A19I319	"	9/26/2019 6:57:00PM
9I26050-CAL2	Cal Standard	Water	A19I320	"	9/26/2019 7:24:00PM
9I26050-CAL3	Cal Standard	Water	A19I321	"	9/26/2019 7:52:00PM
9I26050-CAL4	Cal Standard	Water	A19I322	"	9/26/2019 8:19:00PM
9I26050-CAL5	Cal Standard	Water	A19I323	"	9/26/2019 8:46:00PM
9I26050-CAL6	Cal Standard	Water	A19I324	"	9/26/2019 9:13:00PM
9I26050-CAL7	Cal Standard	Water	A19I325	"	9/26/2019 9:40:00PM
9I26050-CAL8	Cal Standard	Water	A19I326	"	9/26/2019 10:07:00PM
9I26050-CAL9	Cal Standard	Water	A19I327	"	9/26/2019 10:34:00PM
9I26050-CALA	Cal Standard	Water	A19I328	"	9/26/2019 11:28:00PM
9I26050-CALB	Cal Standard	Water	A19I329	"	9/27/2019 12:22:00AM
9I26050-ICV1	Initial Cal Check	Water	A19I330	"	9/27/2019 1:44:00AM
9I26050-ICV2	Initial Cal Check	Water	A19H365	"	9/27/2019 2:11:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: A9I3003 Instrument: VOA-GCMS7

8260C Full List Sequence: 9I26050 Matrix: Water

9I26050-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALB	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26050

Compounds listed above have recalculated recoveries outside 70-130% of the true values, and the calibration levels are above the reporting level. If no compounds are listed, all are OK. Please see the next section for quadatic fit compounds.

Analytes With Quadratic Curve Fits

Qualifier	iMDL	iMRL	Spike Amt	%Difference	OK?	Raise MRL to ?
				———	☐	☐ ———

Analytes listed above have quadratic curve fits. If they are using a weighting otpion, they must be checked against the requanted curve points to determine if the recalculated results are within limits (70-130 or as specified).

ICV RECOVERIES

Calibration: **A9I3003** Instrument: **VOA-GCMS7**

8260C Full List Sequence: **9I26050** Matrix: **Water**

9I26050-ICV1	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**
9I26050-ICV2	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

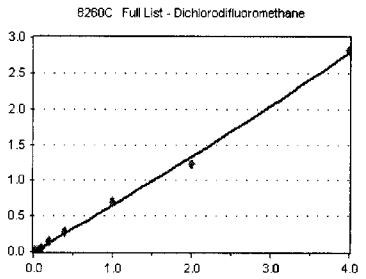
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Dichlorodifluoromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

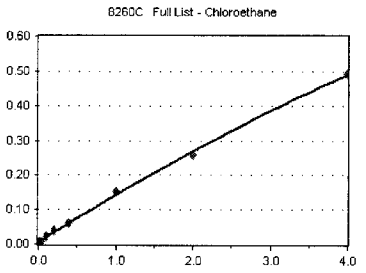


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~118~~	~~0.604~~	~~0.00~~
9I26050-CAL2	0.2	199	0.558	1.73
9I26050-CAL3	0.4	332	0.430	1.73
9I26050-CAL4	1	997	0.500	1.73
9I26050-CAL5	2	1819	0.470	1.73
9I26050-CAL6	5	5552	0.552	1.73
9I26050-CAL7	10	13110	0.695	1.73
9I26050-CAL8	20	25646	0.682	1.73
9I26050-CAL9	50	68608	0.698	1.73
9I26050-CALA	100	127237	0.613	1.73
9I26050-CALB	200	278761	0.706	1.73

AVE RF **0.590** RF RSD **17.47** AVE RT **1.73**

Chloroethane

Curve Fit: **QUADRATIC: Weighting: None, Origin: Ignore**

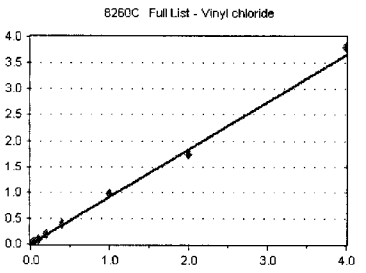


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~138~~	~~0.707~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.4	286	0.370	0.00
9I26050-CAL4	1	505	0.253	0.00
9I26050-CAL5	2	661	0.171	0.00
9I26050-CAL6	5	2298	0.229	2.74
9I26050-CAL7	10	3523	0.187	2.73
9I26050-CAL8	20	5888	0.157	2.73
9I26050-CAL9	50	15125	0.154	2.73
9I26050-CALA	100	26943	0.130	2.73
9I26050-CALB	200	48587	0.123	2.73

AVE RF **0.197** RF RSD **39.50** AVE RT **1.82**

Vinyl chloride

Curve Fit: **AVERAGE RF**

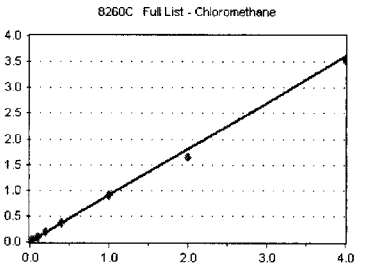


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	186	0.953	0.00
9I26050-CAL2	0.2	339	0.950	2.12
9I26050-CAL3	0.4	659	0.853	2.12
9I26050-CAL4	1	1718	0.861	2.12
9I26050-CAL5	2	3174	0.820	2.12
9I26050-CAL6	5	8444	0.840	2.12
9I26050-CAL7	10	18988	1.007	2.12
9I26050-CAL8	20	37326	0.993	2.12
9I26050-CAL9	50	95342	0.970	2.12
9I26050-CALA	100	178987	0.863	2.12
9I26050-CALB	200	376148	0.952	2.12

AVE RF **0.915** RF RSD **7.38** AVE RT **1.93**

Chloromethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~348~~	~~1.782~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~558~~	~~1.564~~	~~2.00~~
9I26050-CAL3	0.4	830	1.075	2.00
9I26050-CAL4	1	1871	0.938	2.00
9I26050-CAL5	2	3271	0.845	2.00
9I26050-CAL6	5	8350	0.830	2.00
9I26050-CAL7	10	17690	0.938	2.00
9I26050-CAL8	20	33757	0.898	2.00
9I26050-CAL9	50	88312	0.898	2.00
9I26050-CALA	100	169626	0.818	2.00
9I26050-CALB	200	350425	0.887	2.00

AVE RF **0.903** RF RSD **8.58** AVE RT **2.00**

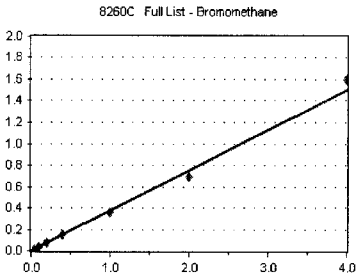
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Bromomethane

Curve Fit: **AVERAGE RF**

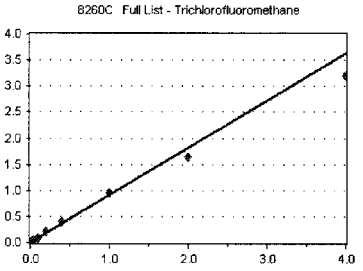


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~151~~	~~0.773~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~214~~	~~0.600~~	~~2.55~~
~~9I26050-CAL3~~	~~0.4~~	~~398~~	~~0.515~~	~~2.56~~
~~9I26050-CAL4~~	~~1~~	~~820~~	~~0.411~~	~~2.55~~
9I26050-CAL5	2	1514	0.391	2.56
9I26050-CAL6	5	3788	0.377	2.56
9I26050-CAL7	10	7207	0.382	2.56
9I26050-CAL8	20	14292	0.380	2.56
9I26050-CAL9	50	34844	0.355	2.56
9I26050-CALA	100	71878	0.346	2.56
9I26050-CALB	200	157531	0.399	2.56

AVE RF **0.376** RF RSD **5.03** AVE RT **2.56**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

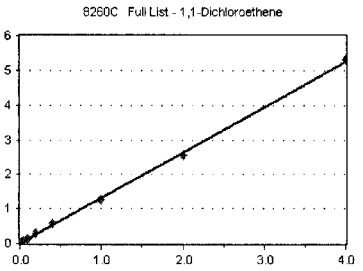


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	158	0.809	0.00
9I26050-CAL2	0.2	338	0.947	2.92
9I26050-CAL3	0.4	659	0.853	2.93
9I26050-CAL4	1	1896	0.950	2.92
9I26050-CAL5	2	3468	0.896	2.92
9I26050-CAL6	5	8591	0.854	2.93
9I26050-CAL7	10	19831	1.051	2.92
9I26050-CAL8	20	38898	1.034	2.92
9I26050-CAL9	50	94401	0.960	2.92
9I26050-CALA	100	171473	0.827	2.92
9I26050-CALB	200	315270	0.798	2.91

AVE RF **0.907** RF RSD **9.68** AVE RT **2.66**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

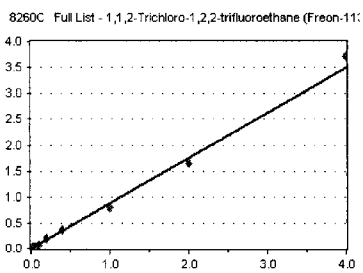


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	278	1.424	0.00
9I26050-CAL2	0.2	454	1.272	3.60
9I26050-CAL3	0.4	984	1.274	3.59
9I26050-CAL4	1	2543	1.275	3.59
9I26050-CAL5	2	4912	1.270	3.59
9I26050-CAL6	5	12096	1.203	3.59
9I26050-CAL7	10	26918	1.427	3.59
9I26050-CAL8	20	54233	1.442	3.59
9I26050-CAL9	50	122747	1.249	3.59
9I26050-CALA	100	266132	1.283	3.59
9I26050-CALB	200	526597	1.333	3.59

AVE RF **1.314** RF RSD **6.18** AVE RT **3.27**

1,1,2-Trichloro-1,2,2-trifluoroetha

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	204	1.045	0.00
9I26050-CAL2	0.2	347	0.972	3.67
9I26050-CAL3	0.4	607	0.786	3.67
9I26050-CAL4	1	1697	0.851	3.67
9I26050-CAL5	2	3243	0.838	3.66
9I26050-CAL6	5	7496	0.746	3.67
9I26050-CAL7	10	17532	0.929	3.67
9I26050-CAL8	20	34995	0.931	3.67
9I26050-CAL9	50	78614	0.800	3.67
9I26050-CALA	100	169878	0.819	3.66
9I26050-CALB	200	366447	0.928	3.66

AVE RF **0.877** RF RSD **10.37** AVE RT **3.33**

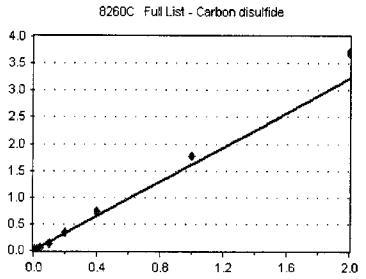
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Carbon disulfide

Curve Fit: **AVERAGE RF**

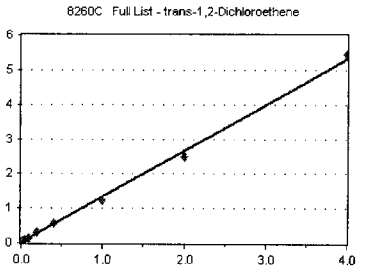


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~521~~	~~2.668~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~701~~	~~1.964~~	~~3.59~~
9I26050-CAL3	0.4	1236	1.600	3.59
9I26050-CAL4	1	2746	1.377	3.59
9I26050-CAL5	2	5204	1.345	3.59
9I26050-CAL6	5	13988	1.391	3.59
9I26050-CAL7	10	32528	1.724	3.59
9I26050-CAL8	20	68545	1.823	3.59
9I26050-CAL9	50	173305	1.763	3.59
9I26050-CALA	100	383024	1.846	3.59
~~9I26050-CALB~~	~~200~~	~~815367~~	~~2.064~~	~~3.58~~

AVE RF **1.609** RF RSD **13.09** AVE RT **3.59**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

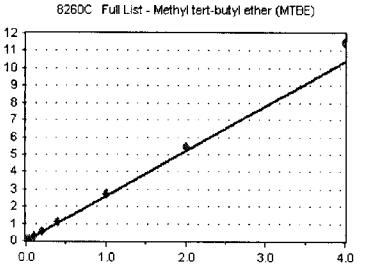


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	245	1.255	0.00
9I26050-CAL2	0.2	545	1.527	4.51
9I26050-CAL3	0.4	1035	1.340	4.51
9I26050-CAL4	1	2564	1.285	4.51
9I26050-CAL5	2	4953	1.280	4.51
9I26050-CAL6	5	12446	1.238	4.51
9I26050-CAL7	10	26538	1.407	4.51
9I26050-CAL8	20	52709	1.402	4.51
9I26050-CAL9	50	122320	1.244	4.51
9I26050-CALA	100	260343	1.255	4.51
9I26050-CALB	200	536785	1.359	4.51

AVE RF **1.327** RF RSD **6.84** AVE RT **4.10**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

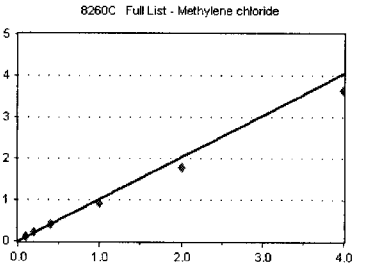


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	450	2.305	0.00
9I26050-CAL2	0.2	931	2.609	4.67
9I26050-CAL3	0.4	1884	2.439	4.67
9I26050-CAL4	1	5127	2.570	4.67
9I26050-CAL5	2	9311	2.406	4.67
9I26050-CAL6	5	24595	2.446	4.67
9I26050-CAL7	10	51504	2.730	4.67
9I26050-CAL8	20	103936	2.764	4.67
9I26050-CAL9	50	266202	2.708	4.67
9I26050-CALA	100	563807	2.718	4.67
9I26050-CALB	200	1131518	2.864	4.67

AVE RF **2.596** RF RSD **6.83** AVE RT **4.25**

Methylene chloride

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~5037~~	~~25.797~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~4360~~	~~12.218~~	~~4.33~~
~~9I26050-CAL3~~	~~0.4~~	~~3654~~	~~4.730~~	~~0.00~~
~~9I26050-CAL4~~	~~1~~	~~4845~~	~~2.429~~	~~4.33~~
~~9I26050-CAL5~~	~~2~~	~~6326~~	~~1.635~~	~~4.33~~
9I26050-CAL6	5	12220	1.215	4.33
9I26050-CAL7	10	21075	1.117	4.33
9I26050-CAL8	20	38696	1.029	4.33
9I26050-CAL9	50	89091	0.906	4.33
9I26050-CALA	100	185242	0.893	4.33
9I26050-CALB	200	359775	0.911	4.33

AVE RF **1.012** RF RSD **13.13** AVE RT **4.33**

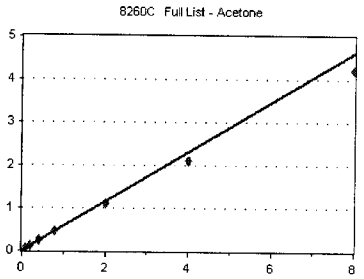
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Acetone

Curve Fit: **AVERAGE RF**

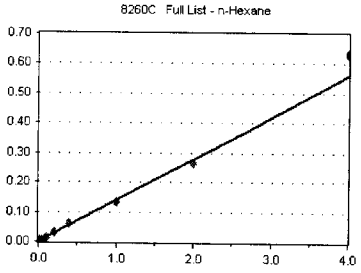


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.2~~	~~1919~~	~~4.914~~	~~0.00~~
~~9I26050-CAL2~~	~~0.4~~	~~1975~~	~~2.767~~	~~4.41~~
~~9I26050-CAL3~~	~~0.8~~	~~2004~~	~~1.297~~	~~4.41~~
~~9I26050-CAL4~~	~~2~~	~~3337~~	~~0.836~~	~~4.41~~
9I26050-CAL5	4	5535	0.715	4.41
9I26050-CAL6	10	11329	0.563	4.41
9I26050-CAL7	20	22156	0.587	4.41
9I26050-CAL8	40	44126	0.587	4.41
9I26050-CAL9	100	107597	0.547	4.41
9I26050-CALA	200	218701	0.527	4.41
9I26050-CALB	400	416008	0.527	4.41

AVE RF **0.579** RF RSD **11.23** AVE RT **4.41**

n-Hexane

Curve Fit: **AVERAGE RF**

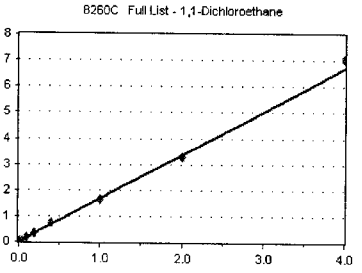


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~23~~	~~0.118~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~10~~	~~2.802~~	~~0.00~~
9I26050-CAL3	0.4	109	0.141	4.62
9I26050-CAL4	1	279	0.140	4.62
9I26050-CAL5	2	515	0.133	4.62
9I26050-CAL6	5	1240	0.123	4.62
9I26050-CAL7	10	2758	0.146	4.62
9I26050-CAL8	20	5672	0.151	4.61
9I26050-CAL9	50	12933	0.132	4.62
9I26050-CALA	100	27462	0.132	4.61
9I26050-CALB	200	62588	0.158	4.61

AVE RF **0.140** RF RSD **7.80** AVE RT **4.62**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

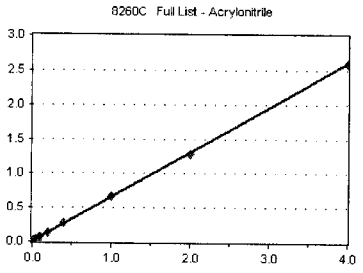


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	277	1.419	0.00
9I26050-CAL2	0.2	658	1.844	5.23
9I26050-CAL3	0.4	1228	1.590	5.22
9I26050-CAL4	1	3266	1.637	5.22
9I26050-CAL5	2	6235	1.611	5.22
9I26050-CAL6	5	16248	1.616	5.22
9I26050-CAL7	10	34182	1.812	5.22
9I26050-CAL8	20	68425	1.820	5.22
9I26050-CAL9	50	160396	1.632	5.22
9I26050-CALA	100	341680	1.647	5.22
9I26050-CALB	200	696479	1.763	5.22

AVE RF **1.672** RF RSD **7.58** AVE RT **4.75**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~10~~	~~5.121~~	~~0.00~~
9I26050-CAL2	0.2	217	0.608	5.30
9I26050-CAL3	0.4	541	0.700	5.30
9I26050-CAL4	1	1287	0.645	5.30
9I26050-CAL5	2	2497	0.645	5.30
9I26050-CAL6	5	6207	0.617	5.30
9I26050-CAL7	10	12922	0.685	5.30
9I26050-CAL8	20	25652	0.682	5.30
9I26050-CAL9	50	64736	0.659	5.30
9I26050-CALA	100	132559	0.639	5.30
9I26050-CALB	200	256006	0.648	5.30

AVE RF **0.653** RF RSD **4.50** AVE RT **5.30**

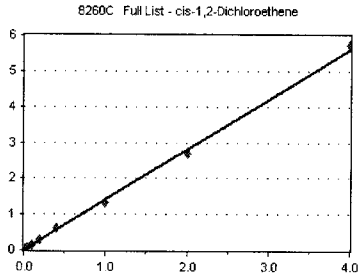
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

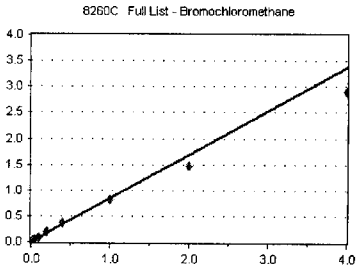


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	248	1.270	0.00
9I26050-CAL2	0.2	534	1.496	5.84
9I26050-CAL3	0.4	1034	1.339	5.83
9I26050-CAL4	1	2900	1.454	5.83
9I26050-CAL5	2	5314	1.373	5.83
9I26050-CAL6	5	13649	1.357	5.83
9I26050-CAL7	10	28583	1.515	5.83
9I26050-CAL8	20	56457	1.501	5.83
9I26050-CAL9	50	132230	1.345	5.83
9I26050-CALA	100	280134	1.350	5.83
9I26050-CALB	200	565657	1.432	5.83

AVE RF **1.403** RF RSD **5.76** AVE RT **5.30**

Bromochloromethane

Curve Fit: **AVERAGE RF**

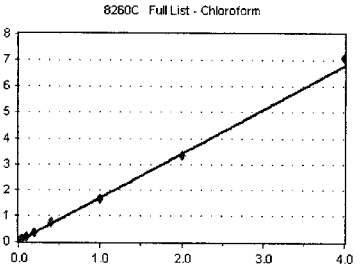


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	185	0.947	0.00
9I26050-CAL2	0.2	305	0.855	6.05
9I26050-CAL3	0.4	643	0.832	6.05
9I26050-CAL4	1	1700	0.852	6.05
9I26050-CAL5	2	3244	0.838	6.05
9I26050-CAL6	5	8514	0.847	6.04
9I26050-CAL7	10	17537	0.930	6.05
9I26050-CAL8	20	33748	0.897	6.04
9I26050-CAL9	50	80963	0.824	6.05
9I26050-CALA	100	152774	0.736	6.05
9I26050-CALB	200	286180	0.724	6.04

AVE RF **0.844** RF RSD **8.17** AVE RT **5.50**

Chloroform

Curve Fit: **AVERAGE RF**

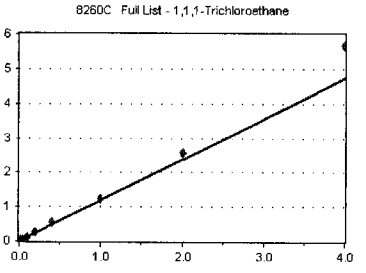


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	320	1.639	0.00
9I26050-CAL2	0.2	602	1.687	6.14
9I26050-CAL3	0.4	1282	1.660	6.14
9I26050-CAL4	1	3343	1.676	6.14
9I26050-CAL5	2	6362	1.644	6.14
9I26050-CAL6	5	16345	1.626	6.14
9I26050-CAL7	10	34166	1.811	6.14
9I26050-CAL8	20	68468	1.821	6.14
9I26050-CAL9	50	163489	1.663	6.14
9I26050-CALA	100	345779	1.667	6.14
9I26050-CALB	200	700225	1.772	6.14

AVE RF **1.697** RF RSD **4.14** AVE RT **5.58**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	183	0.937	0.00
9I26050-CAL2	0.2	380	1.065	6.35
9I26050-CAL3	0.4	847	1.097	6.35
9I26050-CAL4	1	2262	1.134	6.35
9I26050-CAL5	2	4202	1.086	6.34
9I26050-CAL6	5	10978	1.092	6.35
9I26050-CAL7	10	24708	1.310	6.35
9I26050-CAL8	20	50360	1.339	6.35
9I26050-CAL9	50	120842	1.229	6.35
9I26050-CALA	100	265702	1.281	6.35
9I26050-CALB	200	561072	1.420	6.35

AVE RF **1.181** RF RSD **12.28** AVE RT **5.77**

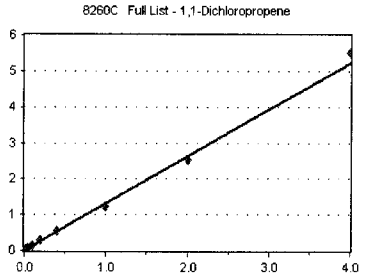
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

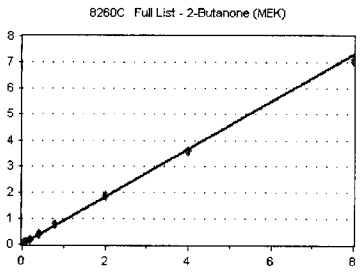


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	274	1.403	0.00
9I26050-CAL2	0.2	496	1.390	6.48
9I26050-CAL3	0.4	932	1.207	6.49
9I26050-CAL4	1	2496	1.251	6.49
9I26050-CAL5	2	4855	1.255	6.49
9I26050-CAL6	5	12139	1.207	6.49
9I26050-CAL7	10	26617	1.411	6.49
9I26050-CAL8	20	52962	1.408	6.48
9I26050-CAL9	50	120698	1.228	6.48
9I26050-CALA	100	261531	1.261	6.48
9I26050-CALB	200	543147	1.375	6.48

AVE RF **1.309** RF RSD **6.67** AVE RT **5.90**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**

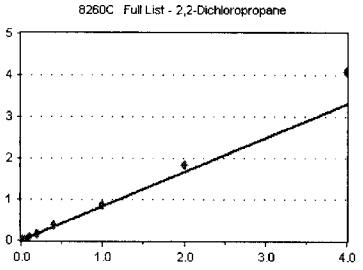


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.2	362	0.927	0.00
9I26050-CAL2	0.4	676	0.947	6.50
9I26050-CAL3	0.8	1419	0.919	6.50
9I26050-CAL4	2	3599	0.902	6.49
9I26050-CAL5	4	6651	0.859	6.49
9I26050-CAL6	10	17146	0.853	6.48
9I26050-CAL7	20	36000	0.954	6.48
9I26050-CAL8	40	71673	0.953	6.48
9I26050-CAL9	100	184368	0.938	6.48
9I26050-CALA	200	373834	0.901	6.48
9I26050-CALB	400	696929	0.882	6.48

AVE RF **0.912** RF RSD **3.96** AVE RT **5.90**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

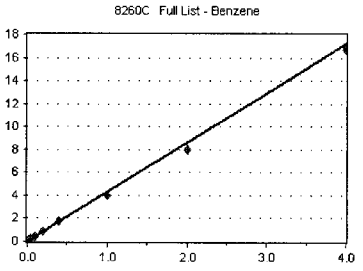


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~98~~	~~0.502~~	~~0.00~~
9I26050-CAL2	0.2	269	0.754	5.94
9I26050-CAL3	0.4	539	0.698	5.94
9I26050-CAL4	1	1485	0.744	5.94
9I26050-CAL5	2	2845	0.735	5.94
9I26050-CAL6	5	7434	0.739	5.94
9I26050-CAL7	10	16550	0.877	5.94
9I26050-CAL8	20	34568	0.919	5.94
9I26050-CAL9	50	85291	0.868	5.94
9I26050-CALA	100	189553	0.914	5.94
9I26050-CALB	200	402432	1.019	5.94

AVE RF **0.827** RF RSD **12.87** AVE RT **5.94**

Benzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	970	4.968	0.00
9I26050-CAL2	0.2	1691	4.739	6.76
9I26050-CAL3	0.4	3292	4.262	6.76
9I26050-CAL4	1	8398	4.210	6.76
9I26050-CAL5	2	16033	4.144	6.76
9I26050-CAL6	5	40141	3.992	6.76
9I26050-CAL7	10	83394	4.421	6.76
9I26050-CAL8	20	164958	4.387	6.76
9I26050-CAL9	50	387766	3.945	6.76
9I26050-CALA	100	823975	3.972	6.76
9I26050-CALB	200	1656328	4.193	6.76

AVE RF **4.294** RF RSD **7.49** AVE RT **6.15**

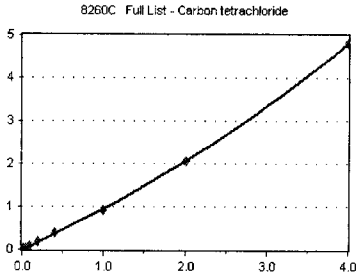
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Carbon tetrachloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

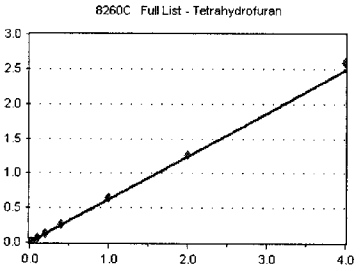


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~140~~	~~0.717~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~191~~	~~0.535~~	~~6.28~~
9I26050-CAL3	0.4	509	0.659	6.27
9I26050-CAL4	1	1445	0.724	6.27
9I26050-CAL5	2	2683	0.693	6.27
9I26050-CAL6	5	7037	0.700	6.27
9I26050-CAL7	10	16875	0.895	6.27
9I26050-CAL8	20	36147	0.961	6.27
9I26050-CAL9	50	90796	0.924	6.27
9I26050-CALA	100	213422	1.029	6.27
9I26050-CALB	200	474389	1.201	6.27

AVE RF **0.865** RF RSD **21.32** AVE RT **6.27**

Tetrahydrofuran

Curve Fit: **AVERAGE RF**

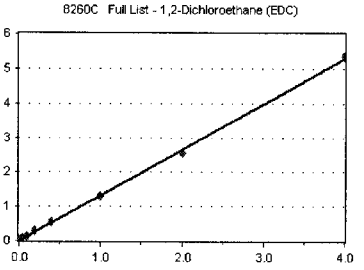


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~130~~	~~0.666~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~235~~	~~0.659~~	~~6.32~~
9I26050-CAL3	0.4	440	0.570	6.33
9I26050-CAL4	1	1203	0.603	6.32
9I26050-CAL5	2	2230	0.576	6.32
9I26050-CAL6	5	5884	0.585	6.31
9I26050-CAL7	10	12243	0.649	6.31
9I26050-CAL8	20	24948	0.663	6.31
9I26050-CAL9	50	63890	0.650	6.31
9I26050-CALA	100	131959	0.636	6.31
9I26050-CALB	200	256364	0.649	6.31

AVE RF **0.620** RF RSD **5.89** AVE RT **6.31**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**

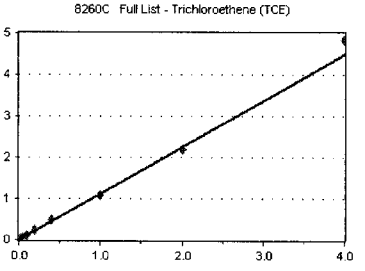


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	233	1.193	0.00
9I26050-CAL2	0.2	462	1.295	7.00
9I26050-CAL3	0.4	999	1.293	7.00
9I26050-CAL4	1	2739	1.373	6.99
9I26050-CAL5	2	5115	1.322	6.99
9I26050-CAL6	5	13178	1.311	6.99
9I26050-CAL7	10	26732	1.417	6.99
9I26050-CAL8	20	53000	1.409	6.99
9I26050-CAL9	50	126976	1.292	6.99
9I26050-CALA	100	264813	1.276	6.99
9I26050-CALB	200	527985	1.336	6.99

AVE RF **1.320** RF RSD **4.83** AVE RT **6.36**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	248	1.270	0.00
9I26050-CAL2	0.2	388	1.087	7.42
9I26050-CAL3	0.4	829	1.073	7.42
9I26050-CAL4	1	2241	1.123	7.42
9I26050-CAL5	2	4121	1.065	7.42
9I26050-CAL6	5	10301	1.024	7.42
9I26050-CAL7	10	21700	1.150	7.42
9I26050-CAL8	20	44576	1.185	7.42
9I26050-CAL9	50	107241	1.091	7.41
9I26050-CALA	100	227764	1.098	7.41
9I26050-CALB	200	476552	1.206	7.41

AVE RF **1.125** RF RSD **6.39** AVE RT **6.74**

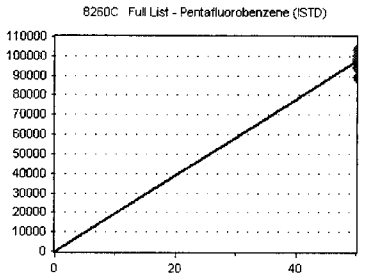
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

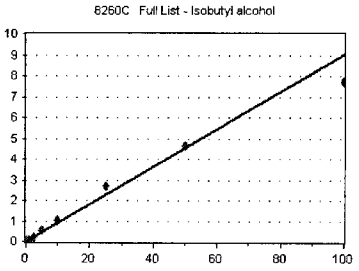


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	97629	1952.580	6.87
9I26050-CAL2	50	89211	1784.220	6.87
9I26050-CAL3	50	96555	1931.100	6.87
9I26050-CAL4	50	99744	1994.880	6.87
9I26050-CAL5	50	96729	1934.580	6.87
9I26050-CAL6	50	100549	2010.980	6.87
9I26050-CAL7	50	94319	1886.380	6.87
9I26050-CAL8	50	94013	1880.260	6.87
9I26050-CAL9	50	98290	1965.800	6.87
9I26050-CALA	50	103733	2074.660	6.87
9I26050-CALB	50	98765	1975.300	6.87

AVE RF **1944.613** RF RSD **3.94** AVE RT **6.87**

Isobutyl alcohol

Curve Fit: **AVERAGE RF**

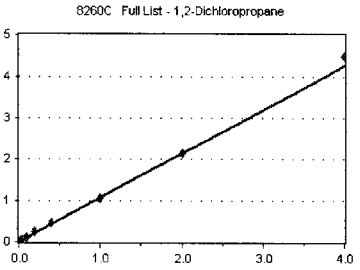


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~2.5~~	~~342~~	~~7.006~~	~~0.00~~
9I26050-CAL2	5	680	7.622	7.06
9I26050-CAL3	10	1591	8.239	7.06
9I26050-CAL4	25	4224	8.470	7.06
9I26050-CAL5	50	7745	8.007	7.05
9I26050-CAL6	125	23235	9.243	7.05
9I26050-CAL7	250	50963	0.108	7.04
9I26050-CAL8	500	96936	0.103	7.05
9I26050-CAL9	1250	265347	0.108	7.04
9I26050-CALA	2500	480675	9.268	7.05
9I26050-CALB	5000	760941	7.705	7.06

AVE RF **9.047** RF RSD **13.66** AVE RT **7.05**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

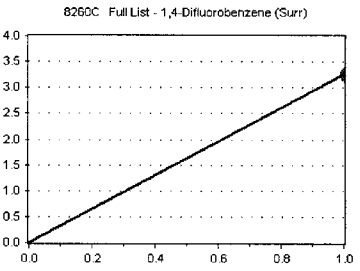


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	159	0.814	0.00
9I26050-CAL2	0.2	413	1.157	8.00
9I26050-CAL3	0.4	771	0.998	8.00
9I26050-CAL4	1	2157	1.081	8.00
9I26050-CAL5	2	4061	1.050	8.00
9I26050-CAL6	5	10615	1.056	8.00
9I26050-CAL7	10	21773	1.154	8.00
9I26050-CAL8	20	43677	1.161	8.00
9I26050-CAL9	50	103633	1.054	8.00
9I26050-CALA	100	221724	1.069	8.00
9I26050-CALB	200	443103	1.122	8.00

AVE RF **1.065** RF RSD **9.25** AVE RT **7.27**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	320302	3.281	7.46
9I26050-CAL2	50	291734	3.270	7.46
9I26050-CAL3	50	314912	3.261	7.46
9I26050-CAL4	50	323481	3.243	7.46
9I26050-CAL5	50	309764	3.202	7.46
9I26050-CAL6	50	327177	3.254	7.46
9I26050-CAL7	50	307261	3.258	7.46
9I26050-CAL8	50	303280	3.226	7.46
9I26050-CAL9	50	325260	3.309	7.46
9I26050-CALA	50	340927	3.287	7.46
9I26050-CALB	50	326203	3.303	7.46

AVE RF **3.263** RF RSD **0.98** AVE RT **7.46**

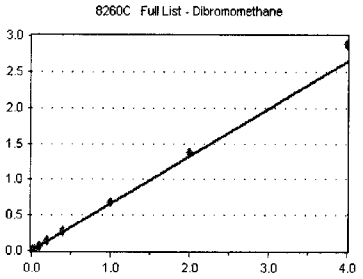
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Dibromomethane

Curve Fit: **AVERAGE RF**

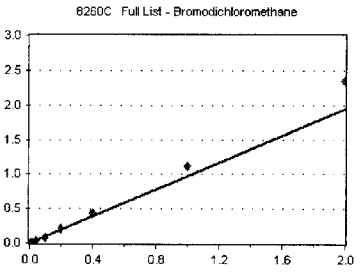


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~156~~	~~0.437~~	~~7.90~~
9I26050-CAL3	0.4	490	0.634	7.89
9I26050-CAL4	1	1232	0.618	7.89
9I26050-CAL5	2	2308	0.597	7.89
9I26050-CAL6	5	6245	0.621	7.89
9I26050-CAL7	10	13106	0.695	7.89
9I26050-CAL8	20	26409	0.702	7.89
9I26050-CAL9	50	67393	0.686	7.89
9I26050-CALA	100	142561	0.687	7.89
9I26050-CALB	200	285855	0.724	7.89

AVE RF **0.663** RF RSD **6.83** AVE RT **7.89**

Bromodichloromethane

Curve Fit: **AVERAGE RF**

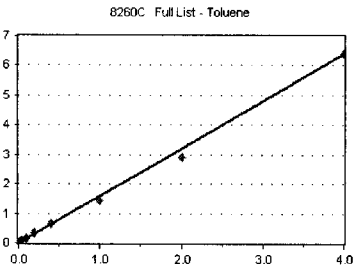


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~28~~	~~0.143~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~272~~	~~0.762~~	~~8.09~~
9I26050-CAL3	0.4	646	0.836	8.08
9I26050-CAL4	1	1723	0.864	8.09
9I26050-CAL5	2	3209	0.829	8.08
9I26050-CAL6	5	8604	0.856	8.08
9I26050-CAL7	10	19192	1.017	8.08
9I26050-CAL8	20	41298	1.098	8.08
9I26050-CAL9	50	109811	1.117	8.08
9I26050-CALA	100	243451	1.173	8.08
~~9I26050-CALB~~	~~200~~	~~511867~~	~~1.296~~	~~8.08~~

AVE RF **0.974** RF RSD **14.71** AVE RT **8.08**

Toluene

Curve Fit: **AVERAGE RF**

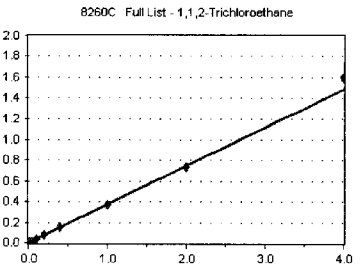


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	963	1.856	0.00
9I26050-CAL2	0.2	1693	1.783	9.05
9I26050-CAL3	0.4	3217	1.569	9.05
9I26050-CAL4	1	8510	1.599	9.05
9I26050-CAL5	2	16301	1.569	9.05
9I26050-CAL6	5	39843	1.481	9.05
9I26050-CAL7	10	82464	1.633	9.05
9I26050-CAL8	20	164491	1.625	9.05
9I26050-CAL9	50	383687	1.427	9.05
9I26050-CALA	100	822891	1.448	9.05
9I26050-CALB	200	1646511	1.603	9.05

AVE RF **1.599** RF RSD **8.15** AVE RT **8.23**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	170	0.328	0.00
9I26050-CAL2	0.2	360	0.379	9.63
9I26050-CAL3	0.4	739	0.360	9.63
9I26050-CAL4	1	2038	0.383	9.63
9I26050-CAL5	2	3670	0.353	9.63
9I26050-CAL6	5	9710	0.361	9.63
9I26050-CAL7	10	19896	0.394	9.63
9I26050-CAL8	20	39556	0.391	9.63
9I26050-CAL9	50	99796	0.371	9.63
9I26050-CALA	100	209430	0.369	9.63
9I26050-CALB	200	410673	0.400	9.63

AVE RF **0.372** RF RSD **5.62** AVE RT **8.75**

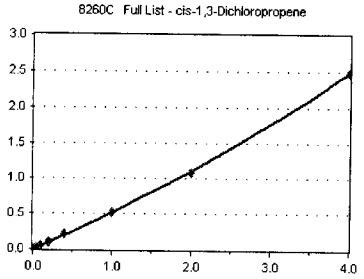
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

cis-1,3-Dichloropropene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

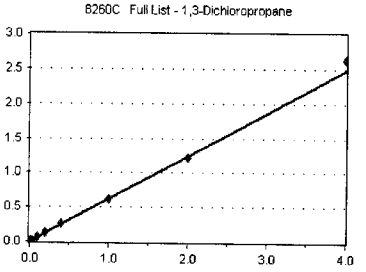


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~171~~	~~0.330~~	~~0.00~~
9I26050-CAL2	0.2	356	0.375	8.81
9I26050-CAL3	0.4	702	0.342	8.81
9I26050-CAL4	1	2001	0.376	8.80
9I26050-CAL5	2	3781	0.364	8.81
9I26050-CAL6	5	10945	0.407	8.81
9I26050-CAL7	10	24537	0.486	8.80
9I26050-CAL8	20	53435	0.528	8.80
9I26050-CAL9	50	141358	0.526	8.80
9I26050-CALA	100	310792	0.547	8.80
9I26050-CALB	200	639187	0.622	8.80

AVE RF **0.457** RF RSD **21.08** AVE RT **8.80**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

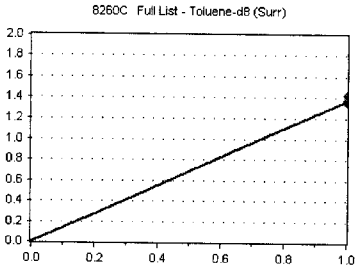


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	282	0.544	0.00
9I26050-CAL2	0.2	596	0.628	9.89
9I26050-CAL3	0.4	1260	0.614	9.89
9I26050-CAL4	1	3424	0.643	9.89
9I26050-CAL5	2	6255	0.602	9.89
9I26050-CAL6	5	16370	0.608	9.89
9I26050-CAL7	10	33668	0.667	9.88
9I26050-CAL8	20	66687	0.659	9.88
9I26050-CAL9	50	165027	0.614	9.88
9I26050-CALA	100	345330	0.608	9.88
9I26050-CALB	200	676588	0.659	9.88

AVE RF **0.622** RF RSD **5.62** AVE RT **8.98**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

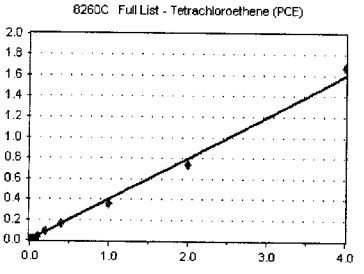


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	358933	1.384	9.00
9I26050-CAL2	50	329271	1.387	9.00
9I26050-CAL3	50	354137	1.382	9.00
9I26050-CAL4	50	366312	1.376	9.00
9I26050-CAL5	50	355642	1.369	9.00
9I26050-CAL6	50	370481	1.377	9.00
9I26050-CAL7	50	346726	1.373	9.00
9I26050-CAL8	50	346044	1.367	9.00
9I26050-CAL9	50	365802	1.360	9.00
9I26050-CALA	50	385560	1.357	9.00
9I26050-CALB	50	365376	1.423	9.00

AVE RF **1.378** RF RSD **1.27** AVE RT **9.00**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~310~~	~~0.598~~	~~0.00~~
9I26050-CAL2	0.2	470	0.495	9.45
9I26050-CAL3	0.4	787	0.384	9.44
9I26050-CAL4	1	2152	0.404	9.44
9I26050-CAL5	2	3931	0.378	9.43
9I26050-CAL6	5	9681	0.360	9.43
9I26050-CAL7	10	20775	0.411	9.43
9I26050-CAL8	20	41350	0.409	9.44
9I26050-CAL9	50	96836	0.360	9.44
9I26050-CALA	100	209940	0.369	9.43
9I26050-CALB	200	431076	0.420	9.43

AVE RF **0.399** RF RSD **10.05** AVE RT **9.44**

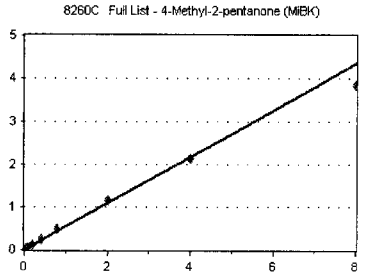
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**

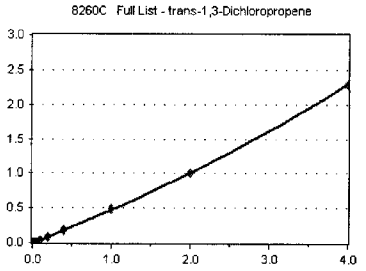


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.2~~	~~436~~	~~0.420~~	~~0.00~~
9I26050-CAL2	0.4	955	0.503	9.45
9I26050-CAL3	0.8	1948	0.475	9.45
9I26050-CAL4	2	5746	0.540	9.45
9I26050-CAL5	4	11030	0.531	9.45
9I26050-CAL6	10	29627	0.550	9.44
9I26050-CAL7	20	63160	0.625	9.44
9I26050-CAL8	40	126474	0.625	9.44
9I26050-CAL9	100	315362	0.586	9.44
9I26050-CALA	200	602850	0.530	9.44
9I26050-CALB	400	983725	0.479	9.44

AVE RF **0.544** RF RSD **9.88** AVE RT **9.44**

trans-1,3-Dichloropropene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

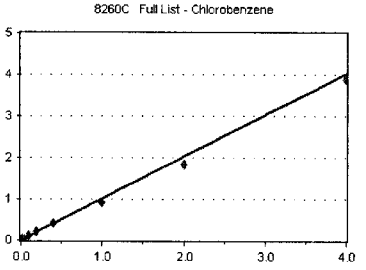


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~107~~	~~0.206~~	~~0.00~~
9I26050-CAL2	0.2	271	0.285	9.48
9I26050-CAL3	0.4	547	0.267	9.48
9I26050-CAL4	1	1611	0.303	9.48
9I26050-CAL5	2	3064	0.295	9.48
9I26050-CAL6	5	9350	0.347	9.48
9I26050-CAL7	10	21132	0.418	9.48
9I26050-CAL8	20	46862	0.463	9.48
9I26050-CAL9	50	128835	0.479	9.48
9I26050-CALA	100	286723	0.505	9.48
9I26050-CALB	200	588613	0.573	9.48

AVE RF **0.394** RF RSD **27.47** AVE RT **9.48**

Chlorobenzene

Curve Fit: **AVERAGE RF**

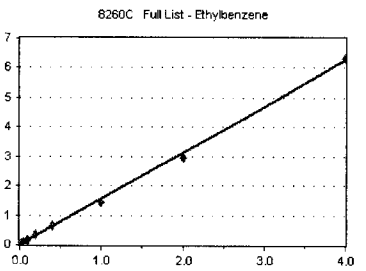


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	587	1.131	0.00
9I26050-CAL2	0.2	1065	1.121	10.47
9I26050-CAL3	0.4	2071	1.010	10.47
9I26050-CAL4	1	5519	1.037	10.47
9I26050-CAL5	2	10263	0.988	10.47
9I26050-CAL6	5	25651	0.953	10.47
9I26050-CAL7	10	51726	1.024	10.47
9I26050-CAL8	20	103573	1.023	10.47
9I26050-CAL9	50	247943	0.922	10.47
9I26050-CALA	100	524646	0.923	10.47
9I26050-CALB	200	1002146	0.975	10.47

AVE RF **1.010** RF RSD **6.89** AVE RT **9.52**

Ethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	839	1.617	0.00
9I26050-CAL2	0.2	1572	1.655	10.50
9I26050-CAL3	0.4	2986	1.456	10.50
9I26050-CAL4	1	8732	1.640	10.50
9I26050-CAL5	2	16502	1.588	10.50
9I26050-CAL6	5	39695	1.475	10.50
9I26050-CAL7	10	82999	1.643	10.49
9I26050-CAL8	20	166521	1.645	10.50
9I26050-CAL9	50	390083	1.451	10.50
9I26050-CALA	100	841526	1.481	10.50
9I26050-CALB	200	1627490	1.584	10.50

AVE RF **1.567** RF RSD **5.34** AVE RT **9.54**

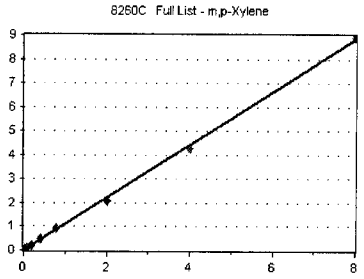
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

m,p-Xylene

Curve Fit: **AVERAGE RF**

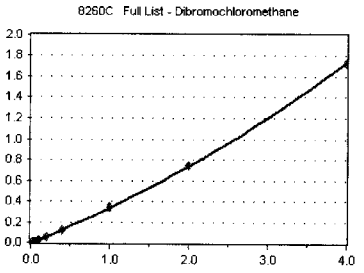


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.2	1282	1.236	0.00
9I26050-CAL2	0.4	2204	1.160	10.62
9I26050-CAL3	0.8	4223	1.030	10.62
9I26050-CAL4	2	11304	1.062	10.62
9I26050-CAL5	4	22167	1.067	10.62
9I26050-CAL6	10	55541	1.032	10.62
9I26050-CAL7	20	117930	1.168	10.62
9I26050-CAL8	40	236854	1.170	10.62
9I26050-CAL9	100	559567	1.040	10.62
9I26050-CALA	200	1222357	1.076	10.62
9I26050-CALB	400	2286592	1.113	10.62

AVE RF **1.105** RF RSD **6.25** AVE RT **9.65**

Dibromochloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

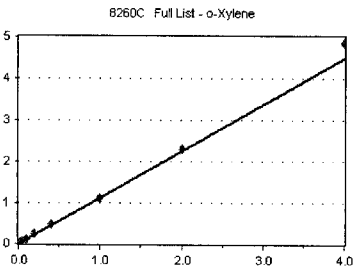


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~52~~	~~0.100~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~160~~	~~0.168~~	~~9.79~~
~~9I26050-CAL3~~	~~0.4~~	~~417~~	~~0.203~~	~~9.79~~
9I26050-CAL4	1	1077	0.202	9.79
9I26050-CAL5	2	2025	0.195	9.79
9I26050-CAL6	5	5996	0.223	9.79
9I26050-CAL7	10	13869	0.275	9.79
9I26050-CAL8	20	31158	0.308	9.79
9I26050-CAL9	50	91580	0.341	9.79
9I26050-CALA	100	211601	0.372	9.79
9I26050-CALB	200	444877	0.433	9.79

AVE RF **0.294** RF RSD **29.22** AVE RT **9.79**

o-Xylene

Curve Fit: **AVERAGE RF**

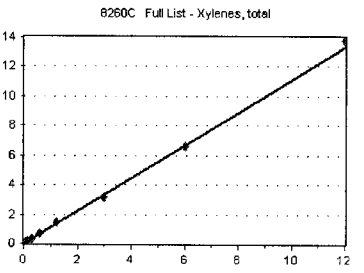


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	582	1.122	0.00
9I26050-CAL2	0.2	1046	1.101	10.98
9I26050-CAL3	0.4	2140	1.044	10.97
9I26050-CAL4	1	5733	1.077	10.97
9I26050-CAL5	2	11104	1.069	10.97
9I26050-CAL6	5	28275	1.051	10.97
9I26050-CAL7	10	60046	1.189	10.97
9I26050-CAL8	20	122339	1.209	10.97
9I26050-CAL9	50	295347	1.098	10.97
9I26050-CALA	100	653239	1.150	10.97
9I26050-CALB	200	1248565	1.215	10.97

AVE RF **1.120** RF RSD **5.54** AVE RT **9.97**

Xylenes, total

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.3	1864	1.198	0.00
9I26050-CAL2	0.6	3250	1.141	10.98
9I26050-CAL3	1.2	6363	1.034	10.97
9I26050-CAL4	3	17037	1.067	10.97
9I26050-CAL5	6	33271	1.068	10.97
9I26050-CAL6	15	83816	1.038	10.97
9I26050-CAL7	30	177976	1.175	10.97
9I26050-CAL8	60	359193	1.183	10.97
9I26050-CAL9	150	854914	1.060	10.97
9I26050-CALA	300	1875596	1.100	10.97
9I26050-CALB	600	3535157	1.147	10.97

AVE RF **1.110** RF RSD **5.45** AVE RT **9.97**

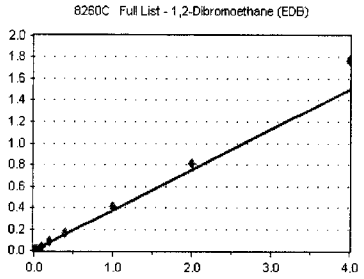
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,2-Dibromoethane (EDB)

Curve Fit: **AVERAGE RF**

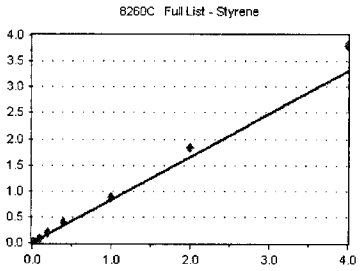


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~150~~	~~0.289~~	~~0.00~~
9I26050-CAL2	0.2	287	0.302	10.01
9I26050-CAL3	0.4	626	0.305	10.01
9I26050-CAL4	1	1907	0.358	10.01
9I26050-CAL5	2	3645	0.351	10.01
9I26050-CAL6	5	9704	0.361	10.01
9I26050-CAL7	10	20603	0.408	10.01
9I26050-CAL8	20	42383	0.419	10.01
9I26050-CAL9	50	109366	0.407	10.01
9I26050-CALA	100	231270	0.407	10.01
9I26050-CALB	200	456747	0.445	10.01

AVE RF **0.376** RF RSD **12.87** AVE RT **10.01**

Styrene

Curve Fit: **AVERAGE RF**

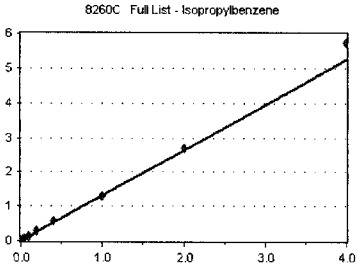


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	359	0.692	0.00
9I26050-CAL2	0.2	681	0.717	11.02
9I26050-CAL3	0.4	1435	0.700	11.02
9I26050-CAL4	1	4008	0.753	11.02
9I26050-CAL5	2	8216	0.791	11.01
9I26050-CAL6	5	21446	0.797	11.01
9I26050-CAL7	10	47265	0.936	11.01
9I26050-CAL8	20	95775	0.946	11.01
9I26050-CAL9	50	240354	0.894	11.01
9I26050-CALA	100	520960	0.917	11.01
9I26050-CALB	200	980108	0.954	11.01

AVE RF **0.827** RF RSD **12.62** AVE RT **10.01**

Isopropylbenzene

Curve Fit: **AVERAGE RF**

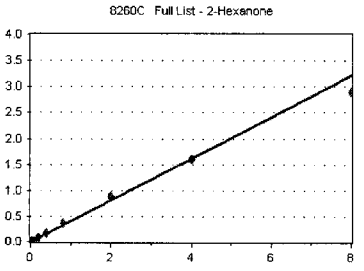


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	650	1.253	0.00
9I26050-CAL2	0.2	1203	1.267	11.23
9I26050-CAL3	0.4	2385	1.163	11.22
9I26050-CAL4	1	6575	1.235	11.22
9I26050-CAL5	2	13548	1.304	11.22
9I26050-CAL6	5	33272	1.236	11.22
9I26050-CAL7	10	72608	1.438	11.22
9I26050-CAL8	20	148612	1.468	11.22
9I26050-CAL9	50	352540	1.311	11.22
9I26050-CALA	100	768012	1.352	11.22
9I26050-CALB	200	1473949	1.435	11.22

AVE RF **1.315** RF RSD **7.46** AVE RT **10.20**

2-Hexanone

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.2~~	~~257~~	~~0.248~~	~~0.00~~
~~9I26050-CAL2~~	~~0.4~~	~~619~~	~~0.326~~	~~10.22~~
~~9I26050-CAL3~~	~~0.8~~	~~1224~~	~~0.298~~	~~10.22~~
9I26050-CAL4	2	3818	0.359	10.22
9I26050-CAL5	4	7520	0.362	10.21
9I26050-CAL6	10	20475	0.380	10.21
9I26050-CAL7	20	46260	0.458	10.22
9I26050-CAL8	40	92625	0.458	10.21
9I26050-CAL9	100	238194	0.443	10.22
9I26050-CALA	200	452638	0.398	10.21
9I26050-CALB	400	745676	0.363	10.21

AVE RF **0.403** RF RSD **10.86** AVE RT **10.22**

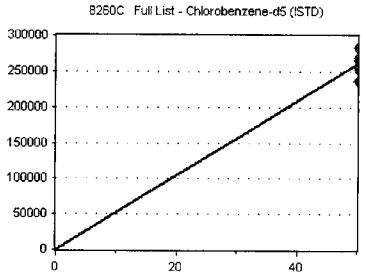
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

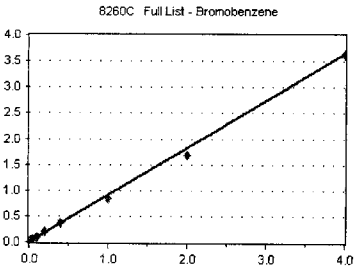


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	259392	5187.840	10.46
9I26050-CAL2	50	237439	4748.780	10.46
9I26050-CAL3	50	256341	5126.820	10.46
9I26050-CAL4	50	266167	5323.340	10.46
9I26050-CAL5	50	259713	5194.260	10.46
9I26050-CAL6	50	269093	5381.860	10.46
9I26050-CAL7	50	252515	5050.300	10.46
9I26050-CAL8	50	253060	5061.200	10.46
9I26050-CAL9	50	268919	5378.380	10.46
9I26050-CALA	50	284132	5682.640	10.46
9I26050-CALB	50	256844	5136.880	10.46

AVE RF **5206.573** RF RSD **4.57** AVE RT **10.46**

Bromobenzene

Curve Fit: **AVERAGE RF**

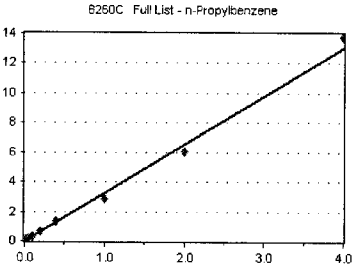


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	222	0.998	0.00
9I26050-CAL2	0.2	397	0.986	11.53
9I26050-CAL3	0.4	815	0.913	11.53
9I26050-CAL4	1	2151	0.926	11.53
9I26050-CAL5	2	4051	0.888	11.53
9I26050-CAL6	5	10396	0.894	11.53
9I26050-CAL7	10	21154	0.927	11.53
9I26050-CAL8	20	42680	0.939	11.53
9I26050-CAL9	50	107397	0.835	11.53
9I26050-CALA	100	227105	0.840	11.53
9I26050-CALB	200	411473	0.910	11.53

AVE RF **0.914** RF RSD **5.56** AVE RT **10.48**

n-Propylbenzene

Curve Fit: **AVERAGE RF**

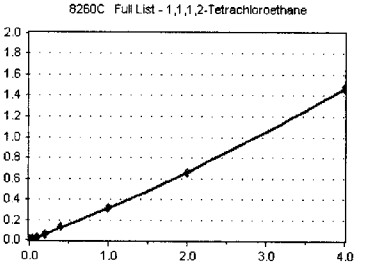


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	803	3.609	0.00
9I26050-CAL2	0.2	1379	3.424	11.55
9I26050-CAL3	0.4	2740	3.068	11.54
9I26050-CAL4	1	7288	3.136	11.54
9I26050-CAL5	2	14638	3.208	11.54
9I26050-CAL6	5	35827	3.081	11.54
9I26050-CAL7	10	78221	3.430	11.54
9I26050-CAL8	20	158775	3.492	11.54
9I26050-CAL9	50	373433	2.904	11.54
9I26050-CALA	100	818291	3.028	11.54
9I26050-CALB	200	1558293	3.445	11.54

AVE RF **3.257** RF RSD **7.09** AVE RT **10.49**

1,1,1,2-Tetrachloroethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~74~~	~~0.143~~	~~0.00~~
9I26050-CAL2	0.2	211	0.222	10.53
9I26050-CAL3	0.4	439	0.214	10.53
9I26050-CAL4	1	1236	0.232	10.53
9I26050-CAL5	2	2330	0.224	10.53
9I26050-CAL6	5	6601	0.245	10.53
9I26050-CAL7	10	14854	0.294	10.53
9I26050-CAL8	20	31743	0.314	10.53
9I26050-CAL9	50	84255	0.313	10.53
9I26050-CALA	100	186458	0.328	10.53
9I26050-CALB	200	378602	0.369	10.53

AVE RF **0.276** RF RSD **19.76** AVE RT **10.53**

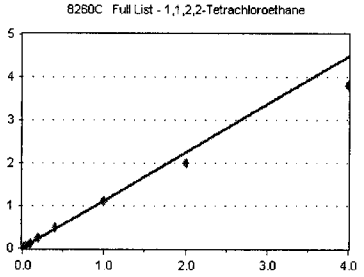
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

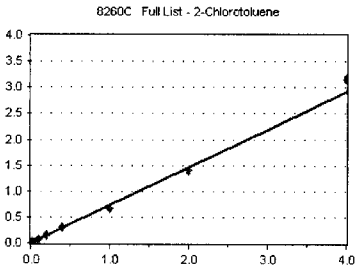


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	249	1.119	0.00
9I26050-CAL2	0.2	480	1.192	11.60
9I26050-CAL3	0.4	965	1.081	11.60
9I26050-CAL4	1	2692	1.158	11.60
9I26050-CAL5	2	5037	1.104	11.60
9I26050-CAL6	5	13680	1.176	11.60
9I26050-CAL7	10	28965	1.270	11.61
9I26050-CAL8	20	55114	1.212	11.60
9I26050-CAL9	50	142152	1.106	11.61
9I26050-CALA	100	270124	0.999	11.60
9I26050-CALB	200	430386	0.951	11.60

AVE RF **1.124** RF RSD **8.23** AVE RT **10.55**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**

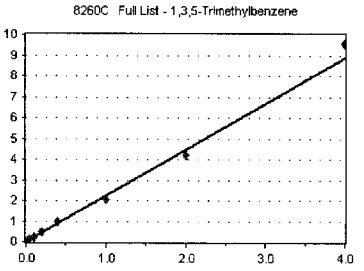


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	172	0.773	0.00
9I26050-CAL2	0.2	280	0.695	11.67
9I26050-CAL3	0.4	619	0.693	11.67
9I26050-CAL4	1	1662	0.715	11.67
9I26050-CAL5	2	3318	0.727	11.67
9I26050-CAL6	5	8197	0.705	11.67
9I26050-CAL7	10	17297	0.758	11.67
9I26050-CAL8	20	35153	0.773	11.67
9I26050-CAL9	50	86616	0.674	11.67
9I26050-CALA	100	189393	0.701	11.67
9I26050-CALB	200	356156	0.787	11.67

AVE RF **0.727** RF RSD **5.36** AVE RT **10.61**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**

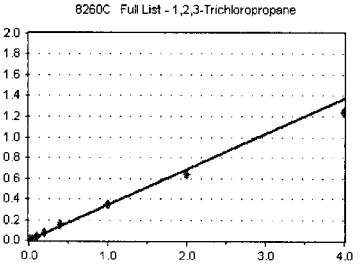


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	529	2.377	0.00
9I26050-CAL2	0.2	929	2.307	11.69
9I26050-CAL3	0.4	1829	2.048	11.69
9I26050-CAL4	1	5019	2.160	11.69
9I26050-CAL5	2	10019	2.196	11.69
9I26050-CAL6	5	24697	2.124	11.69
9I26050-CAL7	10	53273	2.336	11.69
9I26050-CAL8	20	108000	2.376	11.69
9I26050-CAL9	50	260970	2.030	11.69
9I26050-CALA	100	567837	2.101	11.69
9I26050-CALB	200	1084119	2.397	11.69

AVE RF **2.223** RF RSD **6.27** AVE RT **10.63**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	67	0.301	0.00
9I26050-CAL2	0.2	119	0.296	11.71
9I26050-CAL3	0.4	303	0.339	11.71
9I26050-CAL4	1	845	0.364	11.71
9I26050-CAL5	2	1630	0.357	11.71
9I26050-CAL6	5	4260	0.366	11.71
9I26050-CAL7	10	8901	0.390	11.71
9I26050-CAL8	20	17472	0.384	11.71
9I26050-CAL9	50	44728	0.348	11.71
9I26050-CALA	100	86038	0.318	11.71
9I26050-CALB	200	140832	0.311	11.71

AVE RF **0.343** RF RSD **9.56** AVE RT **10.64**

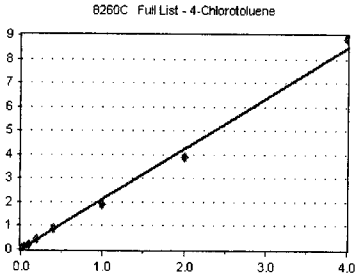
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**

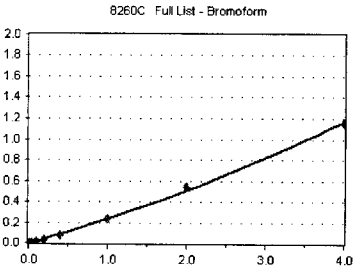


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	577	2.593	0.00
9I26050-CAL2	0.2	886	2.200	11.80
9I26050-CAL3	0.4	1795	2.010	11.80
9I26050-CAL4	1	4814	2.071	11.80
9I26050-CAL5	2	9331	2.045	11.79
9I26050-CAL6	5	23567	2.027	11.79
9I26050-CAL7	10	48533	2.128	11.79
9I26050-CAL8	20	98917	2.176	11.79
9I26050-CAL9	50	241498	1.878	11.79
9I26050-CALA	100	525963	1.946	11.79
9I26050-CALB	200	999096	2.209	11.79

AVE RF **2.117** RF RSD **8.94** AVE RT **10.72**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

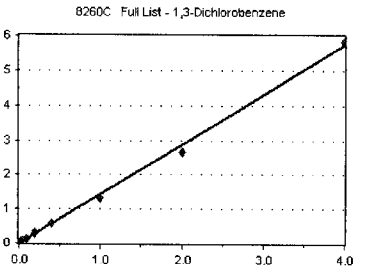


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.4	210	0.102	11.04
9I26050-CAL4	1	671	0.126	11.04
9I26050-CAL5	2	1255	0.121	11.04
9I26050-CAL6	5	3664	0.136	11.04
9I26050-CAL7	10	8520	0.169	11.04
9I26050-CAL8	20	19749	0.195	11.04
9I26050-CAL9	50	65348	0.243	11.04
9I26050-CALA	100	152546	0.268	11.04
9I26050-CALB	200	296965	0.289	11.04

AVE RF **0.183** RF RSD **37.75** AVE RT **11.04**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

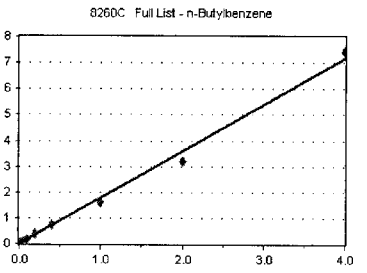


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	388	1.744	0.00
9I26050-CAL2	0.2	604	1.500	12.25
9I26050-CAL3	0.4	1282	1.436	12.25
9I26050-CAL4	1	3201	1.377	12.24
9I26050-CAL5	2	6241	1.368	12.24
9I26050-CAL6	5	15933	1.370	12.24
9I26050-CAL7	10	33016	1.448	12.24
9I26050-CAL8	20	66808	1.469	12.24
9I26050-CAL9	50	170199	1.324	12.24
9I26050-CALA	100	359335	1.330	12.24
9I26050-CALB	200	659898	1.459	12.24

AVE RF **1.439** RF RSD **8.13** AVE RT **11.13**

n-Butylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	507	2.278	0.00
9I26050-CAL2	0.2	735	1.825	12.49
9I26050-CAL3	0.4	1516	1.698	12.49
9I26050-CAL4	1	4162	1.791	12.49
9I26050-CAL5	2	8292	1.817	12.49
9I26050-CAL6	5	18765	1.614	12.49
9I26050-CAL7	10	41997	1.841	12.49
9I26050-CAL8	20	85671	1.884	12.49
9I26050-CAL9	50	203872	1.586	12.49
9I26050-CALA	100	433224	1.603	12.49
9I26050-CALB	200	840655	1.858	12.49

AVE RF **1.800** RF RSD **10.72** AVE RT **11.35**

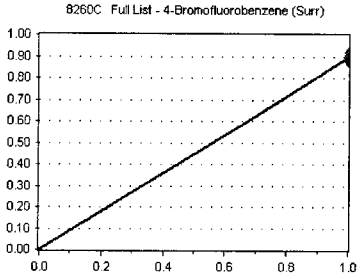
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

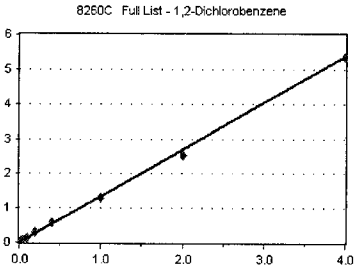


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	102373	0.920	11.45
9I26050-CAL2	50	91087	0.905	11.45
9I26050-CAL3	50	99765	0.894	11.45
9I26050-CAL4	50	104202	0.897	11.45
9I26050-CAL5	50	102067	0.895	11.45
9I26050-CAL6	50	105465	0.907	11.45
9I26050-CAL7	50	100472	0.881	11.45
9I26050-CAL8	50	101239	0.891	11.45
9I26050-CAL9	50	112962	0.879	11.45
9I26050-CALA	50	118613	0.878	11.45
9I26050-CALB	50	101968	0.902	11.45

AVE RF **0.895** RF RSD **1.46** AVE RT **11.45**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

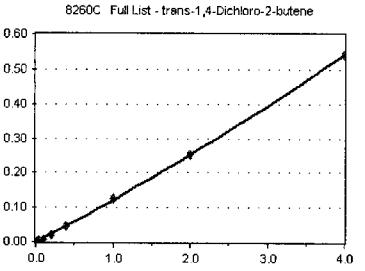


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	305	1.371	0.00
9I26050-CAL2	0.2	595	1.478	12.64
9I26050-CAL3	0.4	1109	1.242	12.64
9I26050-CAL4	1	3202	1.378	12.64
9I26050-CAL5	2	5948	1.304	12.64
9I26050-CAL6	5	15283	1.314	12.64
9I26050-CAL7	10	32172	1.411	12.64
9I26050-CAL8	20	64527	1.419	12.64
9I26050-CAL9	50	166516	1.295	12.64
9I26050-CALA	100	341621	1.264	12.64
9I26050-CALB	200	604858	1.337	12.64

AVE RF **1.347** RF RSD **5.33** AVE RT **11.49**

trans-1,4-Dichloro-2-butene

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

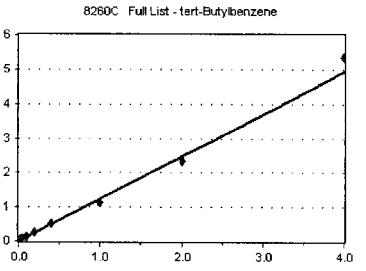


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~10~~	~~2.483~~	~~11.75~~
~~9I26050-CAL3~~	~~0.4~~	~~10~~	~~1.120~~	~~11.74~~
9I26050-CAL4	1	127	5.465	11.74
9I26050-CAL5	2	309	6.772	11.74
9I26050-CAL6	5	933	8.024	11.74
9I26050-CAL7	10	2230	9.777	11.74
9I26050-CAL8	20	5302	0.117	11.74
9I26050-CAL9	50	16073	0.125	11.74
9I26050-CALA	100	34347	0.127	11.74
9I26050-CALB	200	61240	0.135	11.74

AVE RF **0.101** RF RSD **30.02** AVE RT **11.74**

tert-Butylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~299~~	~~1.344~~	~~0.00~~
9I26050-CAL2	0.2	511	1.269	11.93
9I26050-CAL3	0.4	1033	1.157	11.93
9I26050-CAL4	1	2804	1.207	11.93
9I26050-CAL5	2	5653	1.239	11.93
9I26050-CAL6	5	13488	1.160	11.93
9I26050-CAL7	10	29811	1.307	11.93
9I26050-CAL8	20	60557	1.332	11.93
9I26050-CAL9	50	144481	1.124	11.93
9I26050-CALA	100	314345	1.163	11.93
9I26050-CALB	200	603794	1.335	11.93

AVE RF **1.229** RF RSD **6.39** AVE RT **11.93**

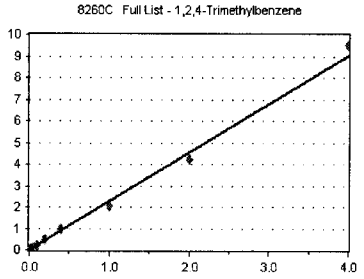
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,2,4-Trimethylbenzene

Curve Fit: **AVERAGE RF**

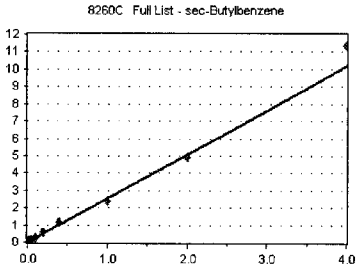


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~545~~	~~2.449~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~917~~	~~2.277~~	~~11.99~~
9I26050-CAL3	0.4	1971	2.207	11.99
9I26050-CAL4	1	5459	2.349	11.99
9I26050-CAL5	2	10397	2.279	11.98
9I26050-CAL6	5	25417	2.186	11.98
9I26050-CAL7	10	54454	2.388	11.98
9I26050-CAL8	20	109297	2.404	11.98
9I26050-CAL9	50	264950	2.061	11.98
9I26050-CALA	100	568689	2.104	11.98
9I26050-CALB	200	1077392	2.382	11.98

AVE RF **2.262** RF RSD **5.69** AVE RT **11.98**

sec-Butylbenzene

Curve Fit: **AVERAGE RF**

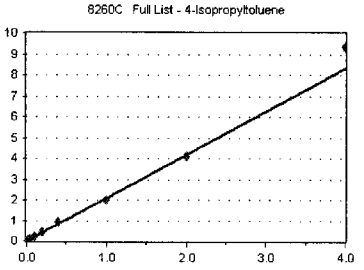


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~615~~	~~2.764~~	~~0.00~~
9I26050-CAL2	0.2	991	2.461	12.07
9I26050-CAL3	0.4	2017	2.259	12.07
9I26050-CAL4	1	5736	2.468	12.07
9I26050-CAL5	2	11614	2.545	12.07
9I26050-CAL6	5	27530	2.368	12.07
9I26050-CAL7	10	63068	2.765	12.06
9I26050-CAL8	20	129568	2.850	12.07
9I26050-CAL9	50	307160	2.389	12.06
9I26050-CALA	100	667202	2.469	12.06
9I26050-CALB	200	1284780	2.840	12.06

AVE RF **2.541** RF RSD **8.14** AVE RT **12.07**

4-Isopropyltoluene

Curve Fit: **AVERAGE RF**

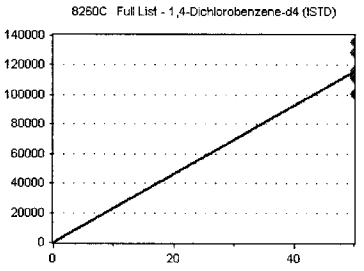


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~543~~	~~2.440~~	~~0.00~~
9I26050-CAL2	0.2	839	2.083	12.17
9I26050-CAL3	0.4	1663	1.862	12.17
9I26050-CAL4	1	4772	2.053	12.17
9I26050-CAL5	2	9351	2.049	12.17
9I26050-CAL6	5	22443	1.930	12.17
9I26050-CAL7	10	50508	2.215	12.17
9I26050-CAL8	20	103672	2.280	12.17
9I26050-CAL9	50	253892	1.975	12.17
9I26050-CALA	100	551870	2.042	12.17
9I26050-CALB	200	1059054	2.341	12.17

AVE RF **2.083** RF RSD **7.34** AVE RT **12.17**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	111263	2225.260	12.29
9I26050-CAL2	50	100676	2013.520	12.29
9I26050-CAL3	50	111622	2232.440	12.29
9I26050-CAL4	50	116197	2323.940	12.29
9I26050-CAL5	50	114070	2281.400	12.29
9I26050-CAL6	50	116280	2325.600	12.29
9I26050-CAL7	50	114038	2280.760	12.29
9I26050-CAL8	50	113658	2273.160	12.29
9I26050-CAL9	50	128582	2571.640	12.29
9I26050-CALA	50	135133	2702.660	12.29
9I26050-CALB	50	113094	2261.880	12.29

AVE RF **2317.478** RF RSD **7.83** AVE RT **12.29**

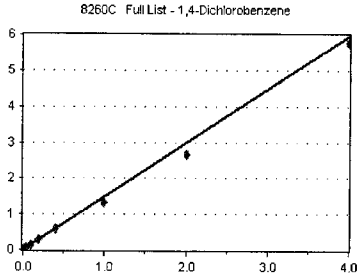
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

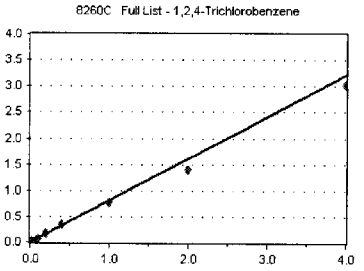


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~512~~	~~2.301~~	~~0.00~~
9I26050-CAL2	0.2	794	1.972	12.31
9I26050-CAL3	0.4	1431	1.603	12.31
9I26050-CAL4	1	3526	1.517	12.31
9I26050-CAL5	2	6450	1.414	12.31
9I26050-CAL6	5	16067	1.382	12.31
9I26050-CAL7	10	33297	1.460	12.31
9I26050-CAL8	20	67186	1.478	12.31
9I26050-CAL9	50	170066	1.323	12.31
9I26050-CALA	100	357713	1.324	12.31
9I26050-CALB	200	652930	1.443	12.31

AVE RF **1.491** RF RSD **12.68** AVE RT **12.31**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**

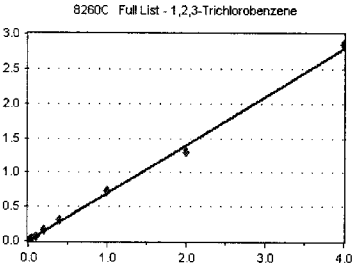


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	245	1.101	0.00
9I26050-CAL2	0.2	329	0.817	13.88
9I26050-CAL3	0.4	642	0.719	13.88
9I26050-CAL4	1	1785	0.768	13.88
9I26050-CAL5	2	3569	0.782	13.88
9I26050-CAL6	5	8740	0.752	13.88
9I26050-CAL7	10	19218	0.843	13.88
9I26050-CAL8	20	38616	0.849	13.88
9I26050-CAL9	50	99341	0.773	13.88
9I26050-CALA	100	189497	0.701	13.87
9I26050-CALB	200	341357	0.755	13.87

AVE RF **0.805** RF RSD **13.47** AVE RT **12.62**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**

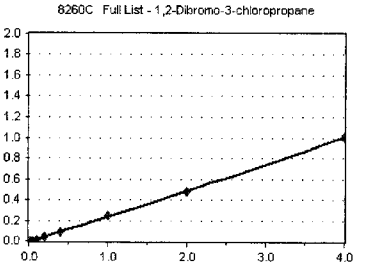


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	142	0.638	0.00
9I26050-CAL2	0.2	270	0.670	14.40
9I26050-CAL3	0.4	579	0.648	14.40
9I26050-CAL4	1	1637	0.704	14.40
9I26050-CAL5	2	2987	0.655	14.40
9I26050-CAL6	5	7964	0.685	14.40
9I26050-CAL7	10	17903	0.785	14.40
9I26050-CAL8	20	35770	0.787	14.40
9I26050-CAL9	50	93819	0.730	14.40
9I26050-CALA	100	176128	0.652	14.40
9I26050-CALB	200	322406	0.713	14.40

AVE RF **0.697** RF RSD **7.55** AVE RT **13.09**

1,2-Dibromo-3-chloropropane

Curve Fit: **QUADRATIC: Weighting: None, Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~10~~	~~4.494~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL3~~	~~0.4~~	~~71~~	~~7.951~~	~~13.29~~
9I26050-CAL4	1	312	0.134	13.29
9I26050-CAL5	2	589	0.129	13.28
9I26050-CAL6	5	1855	0.160	13.28
9I26050-CAL7	10	4459	0.196	13.28
9I26050-CAL8	20	9818	0.216	13.29
9I26050-CAL9	50	32261	0.251	13.28
9I26050-CALA	100	64148	0.237	13.28
9I26050-CALB	200	113563	0.251	13.28

AVE RF **0.197** RF RSD **25.61** AVE RT **13.28**

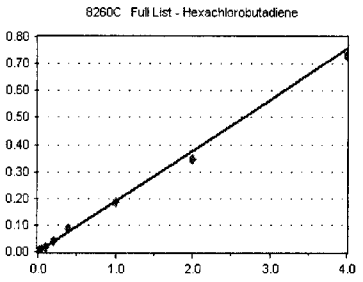
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VG190930W+.M VG190930(**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

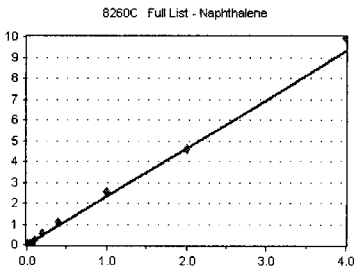


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.4	146	0.163	13.83
9I26050-CAL4	1	463	0.199	13.84
9I26050-CAL5	2	913	0.200	13.84
9I26050-CAL6	5	2004	0.172	13.84
9I26050-CAL7	10	4671	0.205	13.83
9I26050-CAL8	20	9787	0.215	13.84
9I26050-CAL9	50	23920	0.186	13.84
9I26050-CALA	100	46871	0.173	13.84
9I26050-CALB	200	82859	0.183	13.83

AVE RF **0.189** RF RSD **9.14** AVE RT **13.83**

Naphthalene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~436~~	~~1.959~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL3~~	~~0.4~~	~~1468~~	~~1.644~~	~~14.20~~
9I26050-CAL4	1	4456	1.917	14.20
9I26050-CAL5	2	8574	1.879	14.20
9I26050-CAL6	5	24760	2.129	14.20
9I26050-CAL7	10	59341	2.602	14.20
9I26050-CAL8	20	120918	2.660	14.20
9I26050-CAL9	50	329843	2.565	14.20
9I26050-CALA	100	622135	2.302	14.20
9I26050-CALB	200	1124699	2.486	14.20

AVE RF **2.318** RF RSD **13.41** AVE RT **14.20**

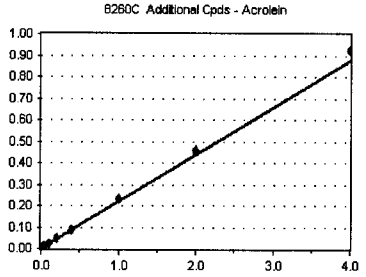
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **A9I3003**

Acrolein

Curve Fit: **AVERAGE RF**

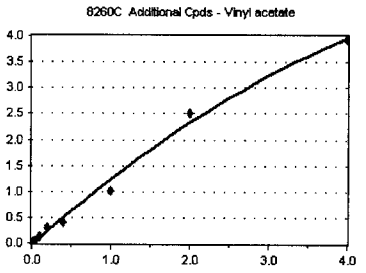


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~10~~	~~5.121~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.4	151	0.195	4.05
9I26050-CAL4	1	414	0.208	4.05
9I26050-CAL5	2	797	0.206	4.05
9I26050-CAL6	5	2111	0.210	4.05
9I26050-CAL7	10	4450	0.236	4.05
9I26050-CAL8	20	8246	0.219	4.05
9I26050-CAL9	50	22754	0.231	4.04
9I26050-CALA	100	47806	0.230	4.04
9I26050-CALB	200	91310	0.231	4.04

AVE RF **0.219** RF RSD **6.58** AVE RT **4.04**

Vinyl acetate

Curve Fit: **QUADRATIC: Weighting: None, Origin: Ignore**

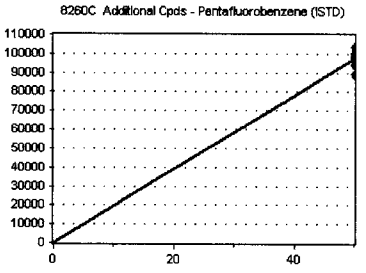


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~128~~	~~0.656~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~319~~	~~0.894~~	~~5.55~~
~~9I26050-CAL3~~	~~0.4~~	~~578~~	~~0.748~~	~~5.55~~
9I26050-CAL4	1	1605	0.805	5.54
9I26050-CAL5	2	3426	0.885	5.54
9I26050-CAL6	5	13087	1.302	5.54
9I26050-CAL7	10	29166	1.546	5.54
9I26050-CAL8	20	39086	1.039	5.53
9I26050-CAL9	50	99692	1.014	5.53
9I26050-CALA	100	259288	1.250	5.53
9I26050-CALB	200	388290	0.983	5.53

AVE RF **1.103** RF RSD **22.21** AVE RT **5.54**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

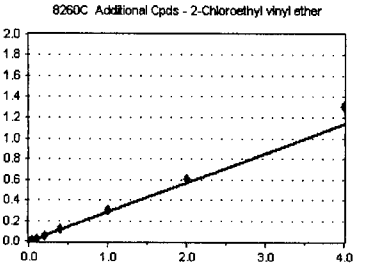


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	97629	1952.580	6.87
9I26050-CAL2	50	89211	1784.220	6.87
9I26050-CAL3	50	96555	1931.100	6.87
9I26050-CAL4	50	99744	1994.880	6.87
9I26050-CAL5	50	96729	1934.580	6.87
9I26050-CAL6	50	100549	2010.980	6.87
9I26050-CAL7	50	94319	1886.380	6.87
9I26050-CAL8	50	94013	1880.260	6.87
9I26050-CAL9	50	98290	1965.800	6.87
9I26050-CALA	50	103733	2074.660	6.87
9I26050-CALB	50	98765	1975.300	6.87

AVE RF **1944.613** RF RSD **3.94** AVE RT **6.87**

2-Chloroethyl vinyl ether

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.1~~	~~60~~	~~0.116~~	~~0.00~~
~~9I26050-CAL2~~	~~0.2~~	~~187~~	~~0.197~~	~~8.76~~
~~9I26050-CAL3~~	~~0.4~~	~~380~~	~~0.185~~	~~8.76~~
9I26050-CAL4	1	1292	0.243	8.75
9I26050-CAL5	2	2529	0.243	8.75
9I26050-CAL6	5	6916	0.257	8.75
9I26050-CAL7	10	14960	0.296	8.75
9I26050-CAL8	20	31258	0.309	8.75
9I26050-CAL9	50	80780	0.300	8.74
9I26050-CALA	100	170832	0.301	8.75
9I26050-CALB	200	336153	0.327	8.74

AVE RF **0.285** RF RSD **11.31** AVE RT **8.74**

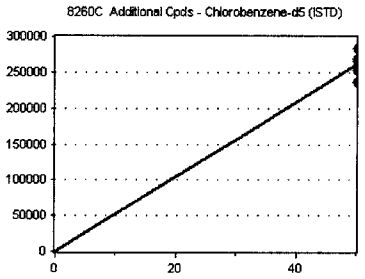
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **A9I3003**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	259392	5187.840	10.46
9I26050-CAL2	50	237439	4748.780	10.46
9I26050-CAL3	50	256341	5126.820	10.46
9I26050-CAL4	50	266167	5323.340	10.46
9I26050-CAL5	50	259713	5194.260	10.46
9I26050-CAL6	50	269093	5381.860	10.46
9I26050-CAL7	50	252515	5050.300	10.46
9I26050-CAL8	50	253060	5061.200	10.46
9I26050-CAL9	50	268919	5378.380	10.46
9I26050-CALA	50	284132	5682.640	10.46
9I26050-CALB	50	256844	5136.880	10.46

AVE RF **5206.573** RF RSD **4.57** AVE RT **10.46**

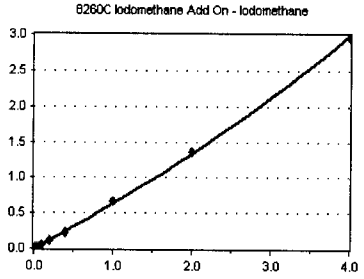
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Iodomethane Add On** Instrument Cal ID: **A9I3003**

Iodomethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

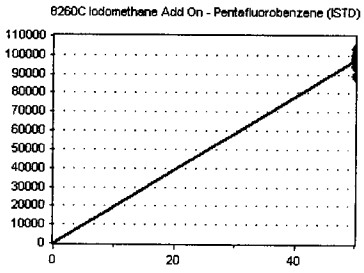


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	0.1	240	1.229	0.00
9I26050-CAL2	0.2	304	0.852	3.76
9I26050-CAL3	0.4	539	0.698	3.76
9I26050-CAL4	1	1042	0.522	3.76
9I26050-CAL5	2	1916	0.495	3.76
9I26050-CAL6	5	4369	0.435	3.76
9I26050-CAL7	10	10076	0.534	3.76
9I26050-CAL8	20	21802	0.580	3.76
9I26050-CAL9	50	65139	0.663	3.76
9I26050-CALA	100	140967	0.679	3.75
9I26050-CALB	200	293518	0.743	3.75

AVE RF **0.675** RF RSD **32.64** AVE RT **3.42**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	97629	1952.580	6.87
9I26050-CAL2	50	89211	1784.220	6.87
9I26050-CAL3	50	96555	1931.100	6.87
9I26050-CAL4	50	99744	1994.880	6.87
9I26050-CAL5	50	96729	1934.580	6.87
9I26050-CAL6	50	100549	2010.980	6.87
9I26050-CAL7	50	94319	1886.380	6.87
9I26050-CAL8	50	94013	1880.260	6.87
9I26050-CAL9	50	98290	1965.800	6.87
9I26050-CALA	50	103733	2074.660	6.87
9I26050-CALB	50	98765	1975.300	6.87

AVE RF **1944.613** RF RSD **3.94** AVE RT **6.87**

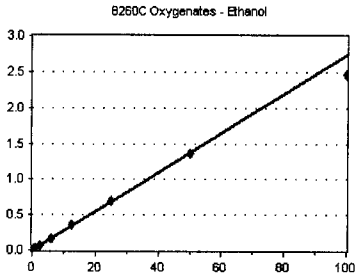
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **A9I3003**

Ethanol

Curve Fit: **AVERAGE RF**

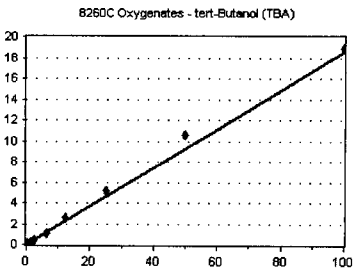


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	6.25	386	3.163	0.00
9I26050-CAL2	12.5	635	2.847	3.64
9I26050-CAL3	25	1311	2.716	3.64
9I26050-CAL4	62.5	3335	2.675	3.64
9I26050-CAL5	125	6105	2.525	3.65
9I26050-CAL6	312	16435	2.619	3.64
9I26050-CAL7	625	33979	2.882	3.64
9I26050-CAL8	1250	64915	2.762	3.65
9I26050-CAL9	2500	134499	2.737	3.64
9I26050-CALA	5000	256296	2.471	3.66

AVE RF **0.027** RF RSD **7.19** AVE RT **3.28**

tert-Butanol (TBA)

Curve Fit: **AVERAGE RF**

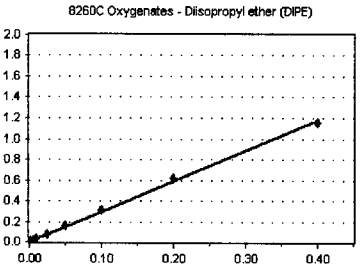


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	6.25	2003	0.164	0.00
9I26050-CAL2	12.5	3781	0.170	4.83
9I26050-CAL3	25	8203	0.170	4.83
9I26050-CAL4	62.5	22478	0.180	4.83
9I26050-CAL5	125	41156	0.170	4.83
9I26050-CAL6	312	113989	0.182	4.83
9I26050-CAL7	625	245440	0.208	4.83
9I26050-CAL8	1250	489576	0.208	4.83
9I26050-CAL9	2500	1046385	0.213	4.83
9I26050-CALA	5000	1967397	0.190	4.84

AVE RF **0.185** RF RSD **9.90** AVE RT **4.35**

Diisopropyl ether (DIPE)

Curve Fit: **AVERAGE RF**

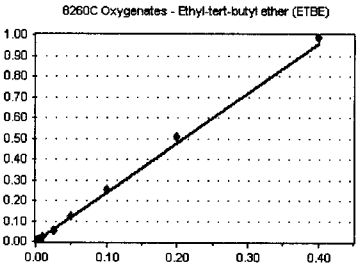


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.025~~	~~80~~	~~1.639~~	~~0.00~~
9I26050-CAL2	0.05	257	2.881	0.00
9I26050-CAL3	0.1	543	2.812	5.12
9I26050-CAL4	0.25	1426	2.859	5.12
9I26050-CAL5	0.5	2807	2.902	5.12
9I26050-CAL6	1.25	7166	2.851	5.12
9I26050-CAL7	2.5	14887	3.157	5.12
9I26050-CAL8	5	29643	3.153	5.12
9I26050-CAL9	10	60075	3.056	5.12
9I26050-CALA	20	120493	2.904	5.12

AVE RF **2.953** RF RSD **4.50** AVE RT **4.55**

Ethyl-tert-butyl ether (ETBE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.025~~	~~11~~	~~0.225~~	~~0.00~~
~~9I26050-CAL2~~	~~0.05~~	~~167~~	~~1.872~~	~~0.00~~
9I26050-CAL3	0.1	422	2.185	5.52
9I26050-CAL4	0.25	1196	2.398	5.53
9I26050-CAL5	0.5	2131	2.203	5.53
9I26050-CAL6	1.25	5705	2.270	5.53
9I26050-CAL7	2.5	11927	2.529	5.52
9I26050-CAL8	5	23874	2.539	5.53
9I26050-CAL9	10	49848	2.536	5.52
9I26050-CALA	20	102630	2.473	5.52

AVE RF **2.392** RF RSD **6.35** AVE RT **5.52**

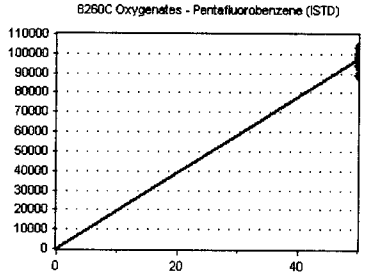
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **A9I3003**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

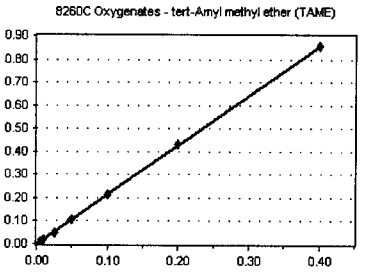


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	97629	1952.580	6.87
9I26050-CAL2	50	89211	1784.220	6.87
9I26050-CAL3	50	96555	1931.100	6.87
9I26050-CAL4	50	99744	1994.880	6.87
9I26050-CAL5	50	96729	1934.580	6.87
9I26050-CAL6	50	100549	2010.980	6.87
9I26050-CAL7	50	94319	1886.380	6.87
9I26050-CAL8	50	94013	1880.260	6.87
9I26050-CAL9	50	98290	1965.800	6.87
9I26050-CALA	50	103733	2074.660	6.87
9I26050-CALB	50	98765	1975.300	6.87

AVE RF **1944.613** RF RSD **3.94** AVE RT **6.87**

tert-Amyl methyl ether (TAME)

Curve Fit: **AVERAGE RF**

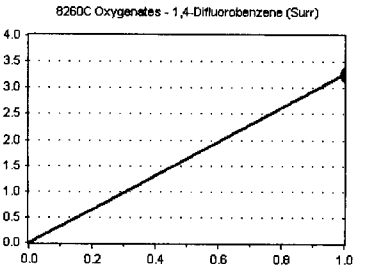


Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.025~~	~~181~~	~~3.708~~	~~0.00~~
~~9I26050-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26050-CAL3~~	~~0.1~~	~~532~~	~~2.755~~	~~6.90~~
9I26050-CAL4	0.25	1161	2.328	6.90
9I26050-CAL5	0.5	1931	1.996	6.90
9I26050-CAL6	1.25	4993	1.986	6.90
9I26050-CAL7	2.5	10246	2.173	6.90
9I26050-CAL8	5	20291	2.158	6.90
9I26050-CAL9	10	42764	2.175	6.90
9I26050-CALA	20	88578	2.135	6.90

AVE RF **2.136** RF RSD **5.48** AVE RT **6.90**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

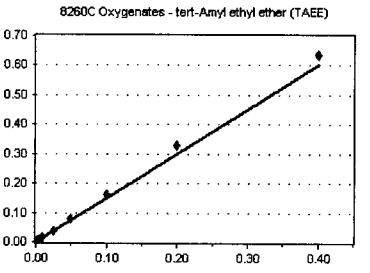


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	320302	3.281	7.46
9I26050-CAL2	50	291734	3.270	7.46
9I26050-CAL3	50	314912	3.261	7.46
9I26050-CAL4	50	323481	3.243	7.46
9I26050-CAL5	50	309764	3.202	7.46
9I26050-CAL6	50	327177	3.254	7.46
9I26050-CAL7	50	307261	3.258	7.46
9I26050-CAL8	50	303280	3.226	7.46
9I26050-CAL9	50	325260	3.309	7.46
9I26050-CALA	50	340927	3.287	7.46
9I26050-CALB	50	326203	3.303	7.46

AVE RF **3.263** RF RSD **0.98** AVE RT **7.46**

tert-Amyl ethyl ether (TAEE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26050-CAL1~~	~~0.025~~	~~11~~	~~0.225~~	~~0.00~~
~~9I26050-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
9I26050-CAL3	0.1	236	1.222	7.70
9I26050-CAL4	0.25	732	1.468	7.70
9I26050-CAL5	0.5	1360	1.406	7.70
9I26050-CAL6	1.25	3676	1.462	7.69
9I26050-CAL7	2.5	7612	1.614	7.69
9I26050-CAL8	5	15389	1.637	7.69
9I26050-CAL9	10	32246	1.640	7.69
9I26050-CALA	20	66103	1.593	7.69

AVE RF **1.505** RF RSD **9.67** AVE RT **7.69**

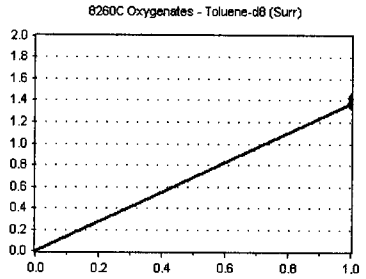
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **A9I3003**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

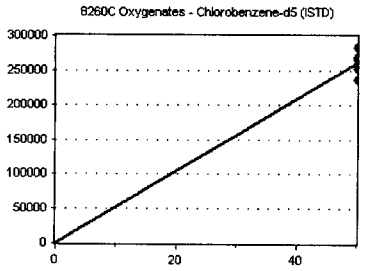


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	358933	1.384	9.00
9I26050-CAL2	50	329271	1.387	9.00
9I26050-CAL3	50	354137	1.382	9.00
9I26050-CAL4	50	366312	1.376	9.00
9I26050-CAL5	50	355642	1.369	9.00
9I26050-CAL6	50	370481	1.377	9.00
9I26050-CAL7	50	346726	1.373	9.00
9I26050-CAL8	50	346044	1.367	9.00
9I26050-CAL9	50	365802	1.360	9.00
9I26050-CALA	50	385560	1.357	9.00
9I26050-CALB	50	365376	1.423	9.00

AVE RF **1.378** RF RSD **1.27** AVE RT **9.00**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

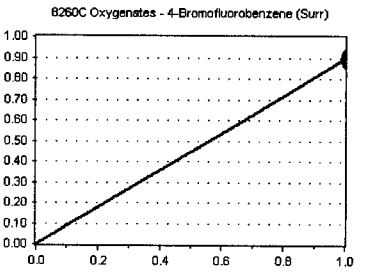


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	259392	5187.840	10.46
9I26050-CAL2	50	237439	4748.780	10.46
9I26050-CAL3	50	256341	5126.820	10.46
9I26050-CAL4	50	266167	5323.340	10.46
9I26050-CAL5	50	259713	5194.260	10.46
9I26050-CAL6	50	269093	5381.860	10.46
9I26050-CAL7	50	252515	5050.300	10.46
9I26050-CAL8	50	253060	5061.200	10.46
9I26050-CAL9	50	268919	5378.380	10.46
9I26050-CALA	50	284132	5682.640	10.46
9I26050-CALB	50	256844	5136.880	10.46

AVE RF **5206.573** RF RSD **4.57** AVE RT **10.46**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

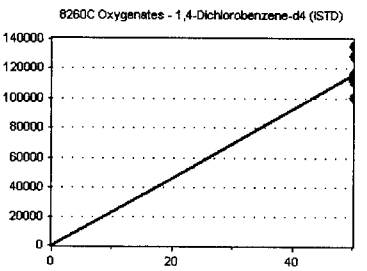


Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	102373	0.920	11.45
9I26050-CAL2	50	91087	0.905	11.45
9I26050-CAL3	50	99765	0.894	11.45
9I26050-CAL4	50	104202	0.897	11.45
9I26050-CAL5	50	102067	0.895	11.45
9I26050-CAL6	50	105465	0.907	11.45
9I26050-CAL7	50	100472	0.881	11.45
9I26050-CAL8	50	101239	0.891	11.45
9I26050-CAL9	50	112962	0.879	11.45
9I26050-CALA	50	118613	0.878	11.45
9I26050-CALB	50	101968	0.902	11.45

AVE RF **0.895** RF RSD **1.46** AVE RT **11.45**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CAL1	50	111263	2225.260	12.29
9I26050-CAL2	50	100676	2013.520	12.29
9I26050-CAL3	50	111622	2232.440	12.29
9I26050-CAL4	50	116197	2323.940	12.29
9I26050-CAL5	50	114070	2281.400	12.29
9I26050-CAL6	50	116280	2325.600	12.29
9I26050-CAL7	50	114038	2280.760	12.29
9I26050-CAL8	50	113658	2273.160	12.29
9I26050-CAL9	50	128582	2571.640	12.29
9I26050-CALA	50	135133	2702.660	12.29
9I26050-CALB	50	113094	2261.880	12.29

AVE RF **2317.478** RF RSD **7.83** AVE RT **12.29**

Calibration Status Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930G.M
Title : NWTPH-Gx by GC/MS
Last Update : Mon Sep 30 15:38:10 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	50	50	50	C:\msdchem\1\data\2019-09\9I26050\VG19092643.D
2	100	100	50	C:\msdchem\1\data\2019-09\9I26050\VG19092644.D
3	250	250	50	C:\msdchem\1\data\2019-09\9I26050\VG19092645.D
4	500	500	50	C:\msdchem\1\data\2019-09\9I26050\VG19092646.D
5	1000	1000	50	C:\msdchem\1\data\2019-09\9I26050\VG19092647.D
6	2500	2500	50	C:\msdchem\1\data\2019-09\9I26050\VG19092648.D
7	5000	5000	50	C:\msdchem\1\data\2019-09\9I26050\VG19092649.D
8	10K	10000	50	C:\msdchem\1\data\2019-09\9I26050\VG19092650.D

#	ID	Update Time	Quant Time	Acquisition Time
1	50	Sep 30 15:38 2019	Sep 30 15:38 2019	27 Sep 2019 4:54 am
2	100	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 5:21 am
3	250	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 5:48 am
4	500	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 6:16 am
5	1000	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 6:43 am
6	2500	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 7:10 am
7	5000	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 7:37 am
8	10K	Sep 30 15:38 2019	Sep 30 13:08 2019	27 Sep 2019 8:04 am

VG190930G.M Mon Sep 30 20:32:48 2019

Response Factor Report VOA-GCMS7

Method Path : C:\msdchem\1\methods\
Method File : VG190930G.M
Title : NWTPH-Gx by GC/MS
Last Update : Mon Sep 30 23:35:16 2019
Response Via : Initial Calibration

Calibration Files
50 =VG19092643.D 100 =VG19092644.D 250 =VG19092645.D 500 =VG19092646.D 1000=VG19092647.D 2500=VG19092648.D
5000=VG19092649.D 10K =VG19092650.D

		Compound	50	100	250	500	1000	2500	5000	10K	Avg	%RSD
1)	I	Pentafluorobenzene...	----------	----------	ISTD	----------	----------	----------	----------	----------		
2)	S	1,4-Difluorobe...	1.587	1.571	1.583	1.567	1.581	1.546	1.583	1.550	1.571	1.00
3)	S	4-Bromofluorob...	0.495	0.504	0.514	0.512	0.509	0.516	0.529	0.509	0.511	1.92
4)	H	NWTPH-Gx (TPH)	1.755	1.143	1.181	1.342	1.264	1.234	1.399	1.357	1.334	14.36
5)	H	TPHg (C5-C9)	3.490	2.248	1.791	1.815	1.685	1.516	1.686	1.610	1.980	32.73
6)	H	TPHg (C6-C10)	3.089	1.941	1.525	1.533	1.408	1.277	1.413	1.351	1.692	35.42
7)	H	CA-LUFT (C5-C12)	3.963	2.496	2.059	2.175	2.027	1.859	2.085	2.020	2.335	29.23
8)		Benzene (NR)									0.000	-1.00
9)	S	Toluene-d8 (NR)									0.000	-1.00
10)		Toluene (NR)									0.000	-1.00
11)	S	Chlorobenzene-...									0.000	-1.00
12)	S	1,4-Dichlorobe...									0.000	-1.00
13)		Naphthalene (NR)									0.000	-1.00

(#) = Out of Range

Compound List Report VOA-GCMS7

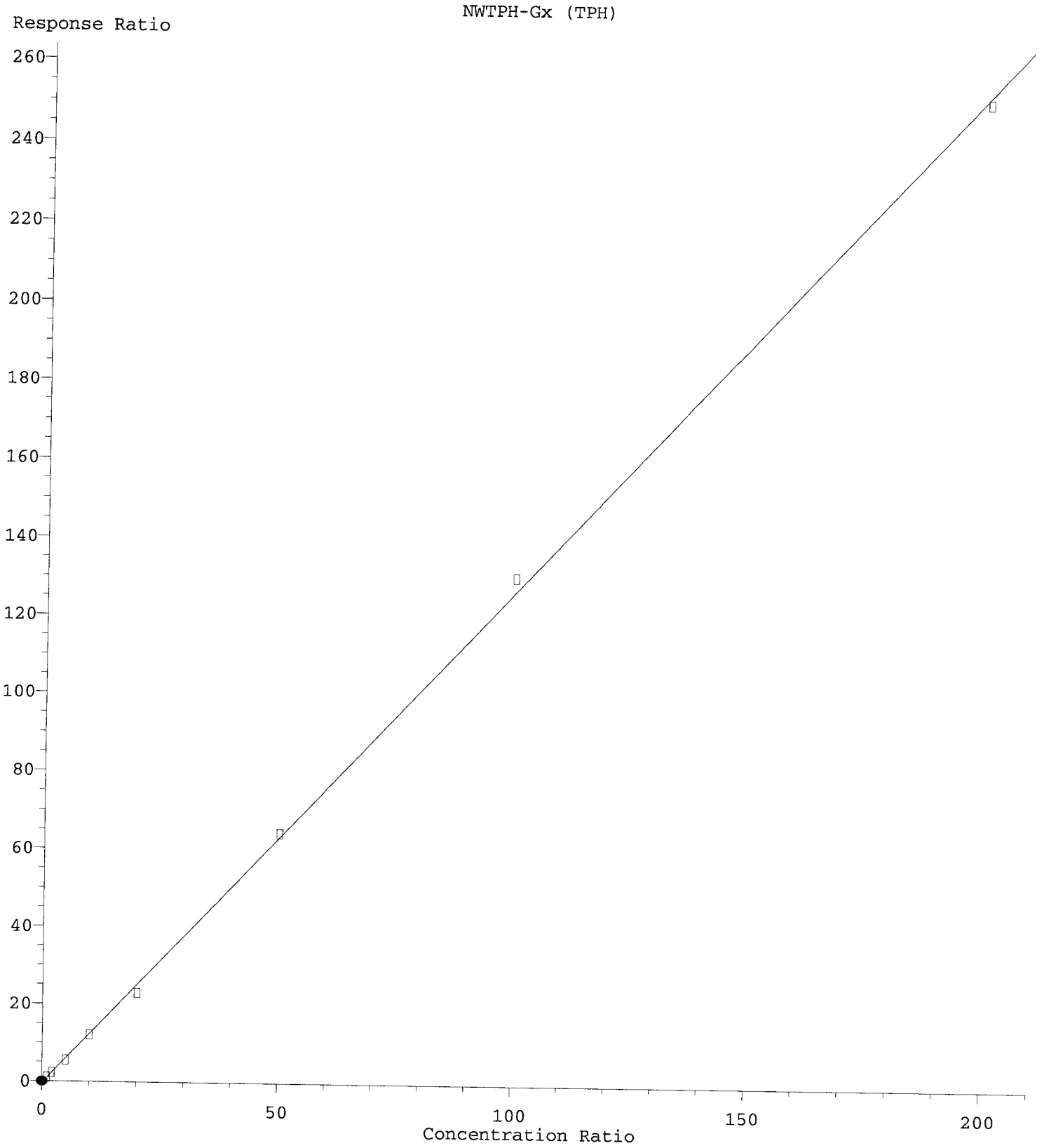
Method Path : C:\msdchem\1\methods\
Method File : VG190930G.M
Title : NWTPH-Gx by GC/MS
Last Update : Mon Sep 30 23:35:16 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.867	1.000	A	2	A	B
2	S	1,4-Difluorobenzene (Sur)	114	7.459	1.086	A	2	A	B
3	S	4-Bromofluorobenzene (Sur)	174	11.446	1.667	A	2	A	B
4	H	NWTPH-Gx (TPH)	TIC	9.440	1.375	Q	0	A	B
5	H	TPHg (C5-C9)	TIC	9.940	1.447	Q	0	A	B
6	H	TPHg (C6-C10)	TIC	9.940	1.447	Q	0	A	B
7	H	CA-LUFT (C5-C12)	TIC	9.940	1.447	Q	0	A	B
8		Benzene (NR)	78	6.764	0.985	A	2	A	B
9	S	Toluene-d8 (NR)	98	8.995	1.310	A	2	A	B
10		Toluene (NR)	91	9.050	1.318	A	2	A	B
11	S	Chlorobenzene-d5 (NR)	117	10.458	1.523	A	2	A	B
12	S	1,4-Dichlorobenzene-d4 (NR)	150	12.293	1.790	A	2	A	B
13		Naphthalene (NR)	128	14.208	2.069	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VG190930G.M Tue Oct 01 09:13:02 2019



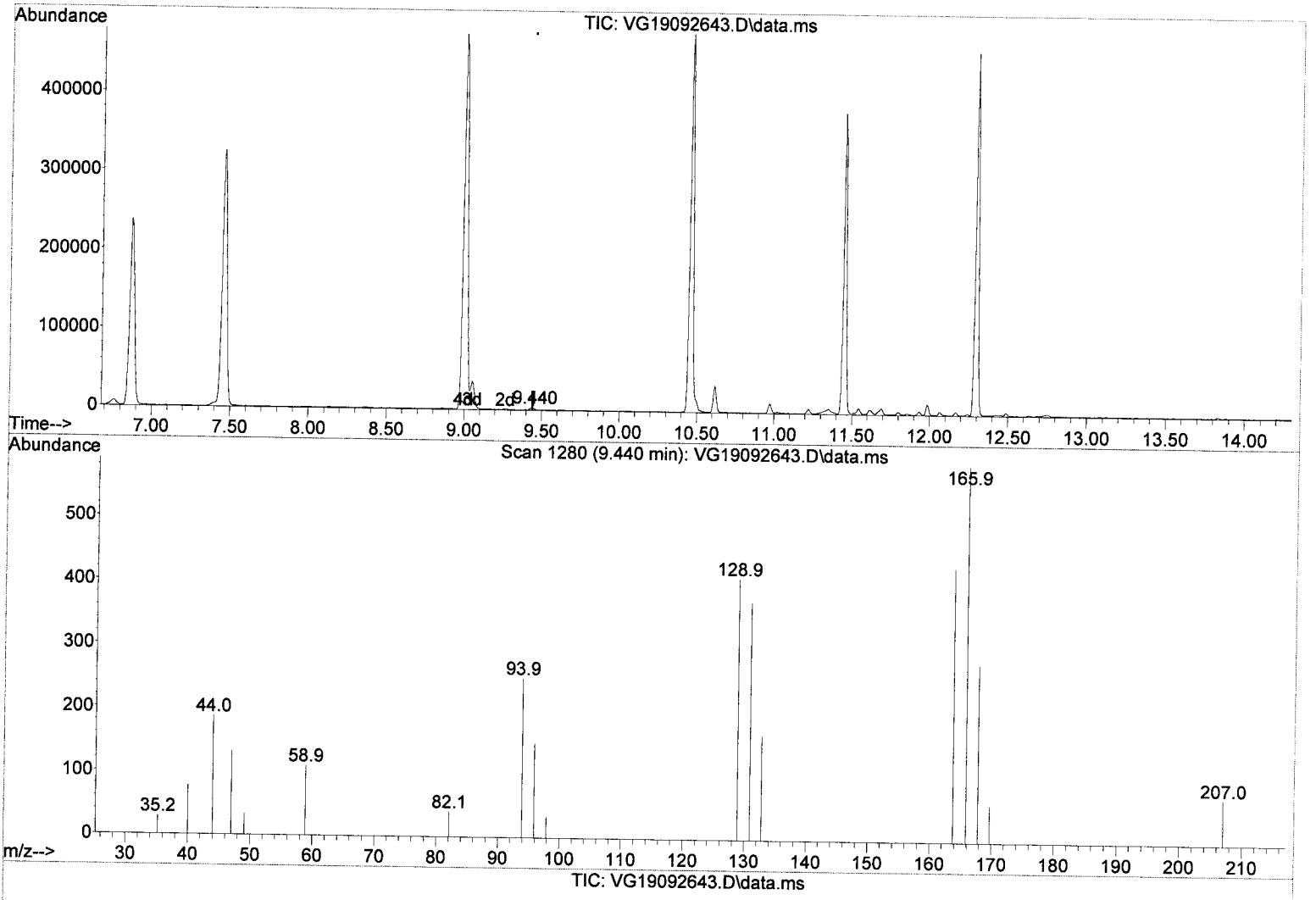
Intercept < MDL
9/30/19 MN

R = -4.67e-005 A*A + 1.28e+000 A - 4.15e-001
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG1909300G.M
Calibration Table Last Updated: Thu Aug 22 11:09:08 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\REQUANT\
Data File : VG19092643.D
Acq On : 27 Sep 2019 4:54 am
Operator : MM
Sample : 9I26050-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:49:33 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration

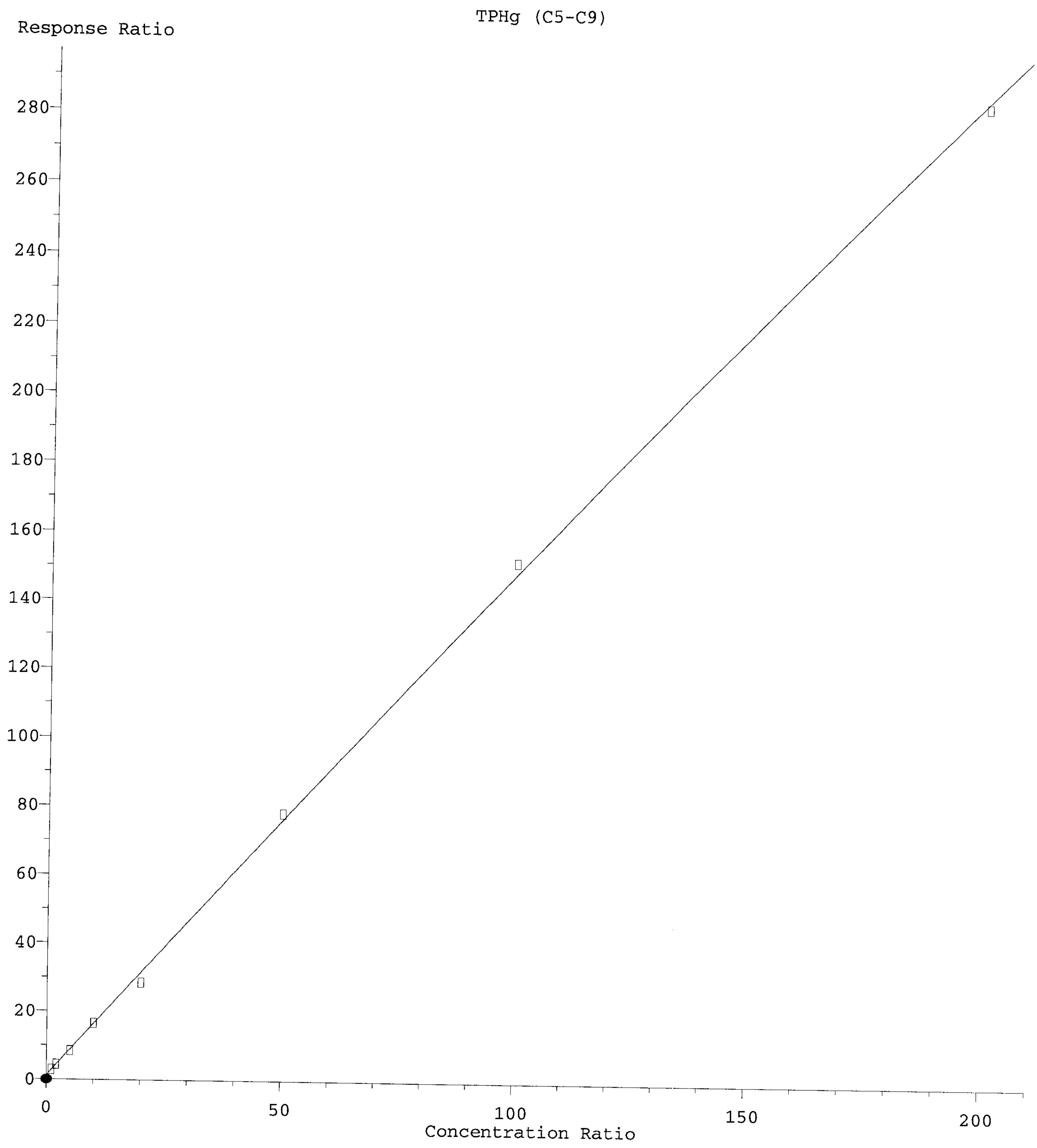


(4) NWTPH-Gx (TPH) (H)

9.440min (0.000) 17.95 ug/L m

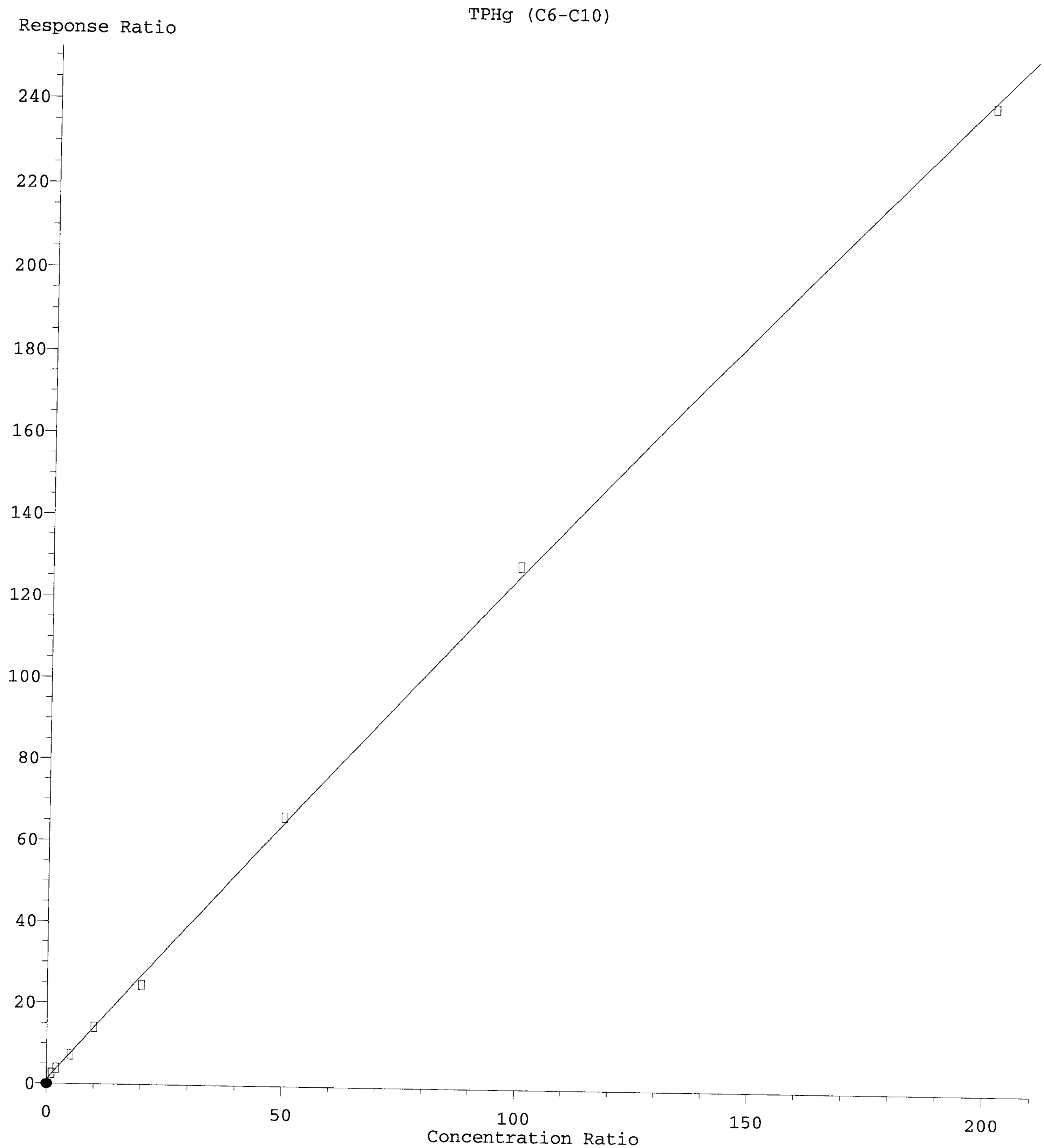
response 8408

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00



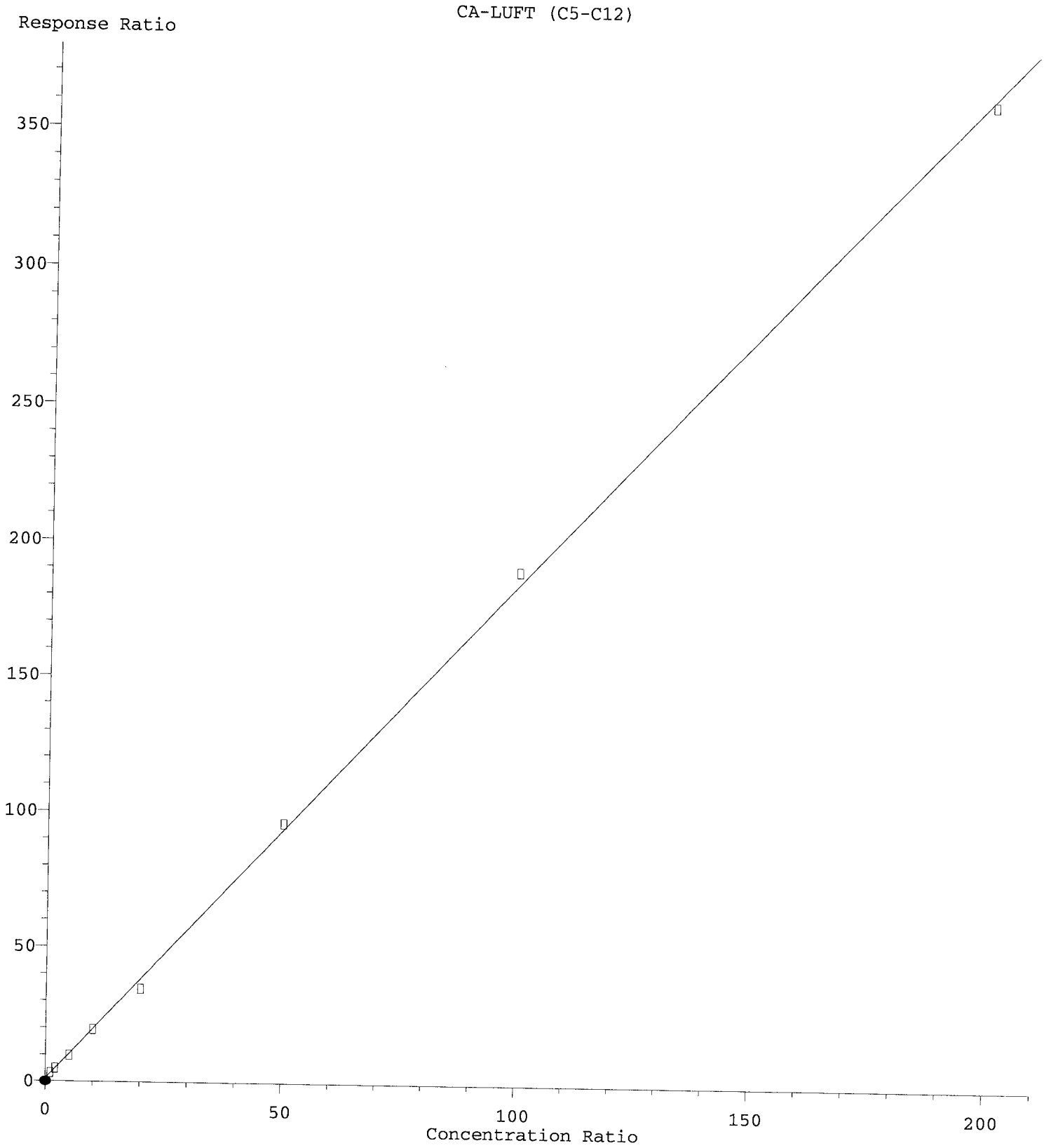
see ICB < MDL
~~9/2~~ 10/1/19

R = -5.50e-004 A*A + 1.53e+000 A + 1.18e+000
Coef of Det (r^2) = 0.999   Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG190930G.M
Calibration Table Last Updated: Thu Aug 22 11:09:08 2019



see ICB <MDL
10/1/19

R = -4.61e-004 A*A + 1.29e+000 A + 1.13e+000
Coef of Det (r^2) = 0.999   Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VG1909300.M
Calibration Table Last Updated: Thu Aug 22 11:09:08 2019



R = -2.80e-004 A*A + 1.87e+000 A + 9.92e-001
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\CA_LUFT_GASOLINE_DG 2019 - 4a-b. DOC-CAP Testing Cores Page 600 of 1505
Calibration Table Last Updated: Thu Aug 22 11:09:08 2019

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092653.D
Acq On : 27 Sep 2019 9:25 am
Operator : MM
Sample : 9I26050-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:47 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

9/30/19 bhy

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	102	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	49.460	1.1	101	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.650	0.7	101	0.00
4	H	NWTPH-Gx (TPH)	500.000	549.747	-9.9	108	0.00
5	H	TPHg (C5-C9)	500.000	531.427	-6.3	104	0.00
6	H	TPHg (C6-C10)	500.000	539.943	-8.0	105	0.00
7	H	CA-LUFT (C5-C12)	500.000	539.601	-7.9	105	0.00
8		Benzene (NR)	-1.000	0.000	0.0	104	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	102	0.00
10		Toluene (NR)	-1.000	0.000	0.0	108	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	101	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	99	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	110	0.00

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

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26050

Analysis Included

8015D-M Gas (C6-C10) Water Soluble Fraction
8015D-Mod Gasoline (C6-C10) by GC/MS
CA LUFT GRO
NWTPH-Gx

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed	
9I26050-TUN2	MS Tune	Water		A19F381	9/27/2019	3:05:00AM
9I26050-ICB2	Initial Cal Blank	Water		A19F381	9/27/2019	4:27:00AM
9I26050-CALC	Cal Standard	Water	A19I331	"	9/27/2019	4:54:00AM
9I26050-CALD	Cal Standard	Water	A19I332	"	9/27/2019	5:21:00AM
9I26050-CALE	Cal Standard	Water	A19I333	"	9/27/2019	5:48:00AM
9I26050-CALF	Cal Standard	Water	A19I334	"	9/27/2019	6:16:00AM
9I26050-CALG	Cal Standard	Water	A19H370	"	9/27/2019	6:43:00AM
9I26050-CALH	Cal Standard	Water	A19H371	"	9/27/2019	7:10:00AM
9I26050-CALI	Cal Standard	Water	A19H372	"	9/27/2019	7:37:00AM
9I26050-CALJ	Cal Standard	Water	A19H373	"	9/27/2019	8:04:00AM
9I26050-ICV3	Initial Cal Check	Water	A19G350	"	9/27/2019	9:25:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: A9I3003 Instrument: VOA-GCMS7

8015D-M Gas (C6-C10) Wate Sequence: 9I26050 Matrix: Water

9I26050-CALC	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALD	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALE	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALF	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALG	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALH	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALI	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26050-CALJ	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

Compounds listed above have recalculated recoveries outside 70-130% of the true values, and the calibration levels are above the reporting level. If no compounds are listed, all are OK. Please see the next section for quadatic fit compounds.

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26050

Analytes With Quadratic Curve Fits

Qualifier	iMDL	iMRL	Spike Amt	%Difference	OK?	Raise MRL to ?
				———	☐	☐ ———

Analytes listed above have quadratic curve fits. If they are using a weighting otpion, they must be checked against the requanted curve points to determine if the recalculated results are within limits (70-130 or as specified).

ICV RECOVERIES

Calibration: **A9I3003** Instrument: **VOA-GCMS7**

NWTPH-Gx Sequence: **9I26050** Matrix: **Water**

9I26050-ICV3	Inst. MRL	ICV Level	Result	%Rec.	Qual

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

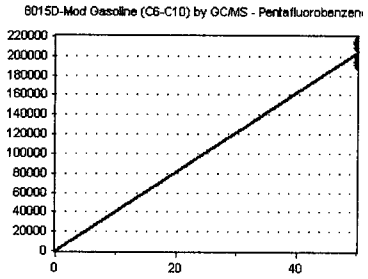
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **A9I3003**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

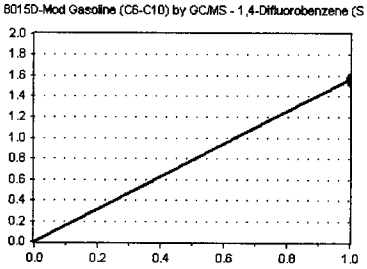


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	194820	3896.400	6.87
9I26050-CALD	50	214353	4287.060	6.87
9I26050-CALE	50	199682	3993.640	6.87
9I26050-CALF	50	209712	4194.240	6.87
9I26050-CALG	50	194045	3880.900	6.87
9I26050-CALH	50	212509	4250.180	6.87
9I26050-CALI	50	191180	3823.600	6.87
9I26050-CALJ	50	215030	4300.600	6.87

AVE RF **4078.328** RF RSD **4.90** AVE RT **6.87**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

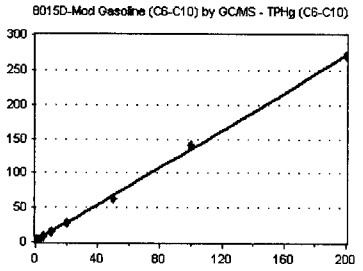


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	309122	1.587	7.46
9I26050-CALD	50	336830	1.571	7.46
9I26050-CALE	50	316029	1.583	7.46
9I26050-CALF	50	328552	1.567	7.46
9I26050-CALG	50	306690	1.581	7.46
9I26050-CALH	50	328443	1.546	7.46
9I26050-CALI	50	302676	1.583	7.46
9I26050-CALJ	50	333302	1.550	7.46

AVE RF **1.571** RF RSD **1.00** AVE RT **7.46**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

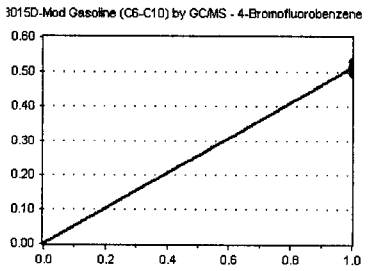


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	601882	3.089	0.00
9I26050-CALD	100	832167	1.941	9.94
9I26050-CALE	250	1523002	1.525	9.94
9I26050-CALF	500	3215445	1.533	9.94
9I26050-CALG	1000	5464695	1.408	9.94
9I26050-CALH	2500	1.356368E+07	1.277	9.94
9I26050-CALI	5000	2.702252E+07	1.413	9.94
9I26050-CALJ	10000	5.809762E+07	1.351	9.94

AVE RF **1.692** RF RSD **35.42** AVE RT **8.70**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	96407	0.495	11.45
9I26050-CALD	50	108081	0.504	11.45
9I26050-CALE	50	102655	0.514	11.45
9I26050-CALF	50	107283	0.512	11.45
9I26050-CALG	50	98676	0.509	11.45
9I26050-CALH	50	109685	0.516	11.45
9I26050-CALI	50	101117	0.529	11.45
9I26050-CALJ	50	109457	0.509	11.45

AVE RF **0.511** RF RSD **1.92** AVE RT **11.45**

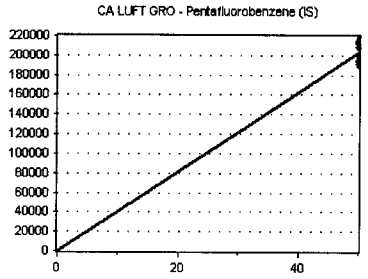
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **A9I3003**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

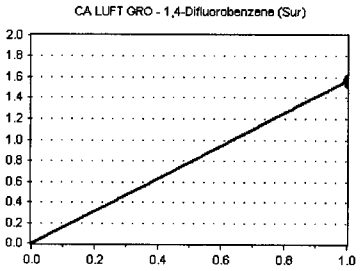


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	194820	3896.400	6.87
9I26050-CALD	50	214353	4287.060	6.87
9I26050-CALE	50	199682	3993.640	6.87
9I26050-CALF	50	209712	4194.240	6.87
9I26050-CALG	50	194045	3880.900	6.87
9I26050-CALH	50	212509	4250.180	6.87
9I26050-CALI	50	191180	3823.600	6.87
9I26050-CALJ	50	215030	4300.600	6.87

AVE RF **4078.328** RF RSD **4.90** AVE RT **6.87**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

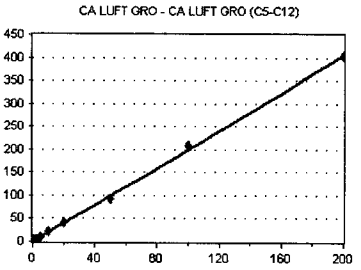


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	309122	1.587	7.46
9I26050-CALD	50	336830	1.571	7.46
9I26050-CALE	50	316029	1.583	7.46
9I26050-CALF	50	328552	1.567	7.46
9I26050-CALG	50	306690	1.581	7.46
9I26050-CALH	50	328443	1.546	7.46
9I26050-CALI	50	302676	1.583	7.46
9I26050-CALJ	50	333302	1.550	7.46

AVE RF **1.571** RF RSD **1.00** AVE RT **7.46**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

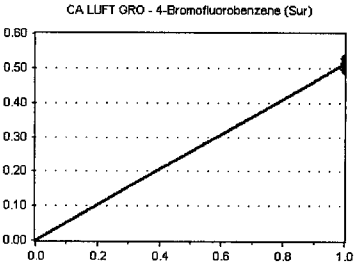


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	772051	3.963	0.00
9I26050-CALD	100	1070187	2.496	9.94
9I26050-CALE	250	2055987	2.059	9.94
9I26050-CALF	500	4560685	2.175	9.94
9I26050-CALG	1000	7865997	2.027	9.94
9I26050-CALH	2500	1.975041E+07	1.859	9.94
9I26050-CALI	5000	3.98633E+07	2.085	9.94
9I26050-CALJ	10000	8.686576E+07	2.020	9.94

AVE RF **2.335** RF RSD **29.23** AVE RT **8.70**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	96407	0.495	11.45
9I26050-CALD	50	108081	0.504	11.45
9I26050-CALE	50	102655	0.514	11.45
9I26050-CALF	50	107283	0.512	11.45
9I26050-CALG	50	98676	0.509	11.45
9I26050-CALH	50	109685	0.516	11.45
9I26050-CALI	50	101117	0.529	11.45
9I26050-CALJ	50	109457	0.509	11.45

AVE RF **0.511** RF RSD **1.92** AVE RT **11.45**

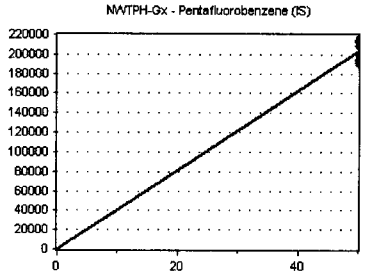
Element Calibration Review Sheet

Calibration ID: **A9I3003** Instrument: **VOA-GCMS7** Calibration Date: **09/30/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **A9I3003**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

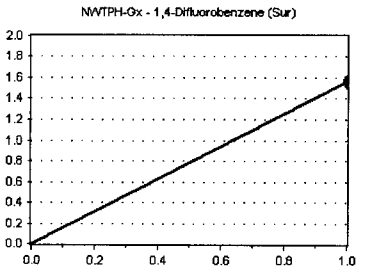


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	194820	3896.400	6.87
9I26050-CALD	50	214353	4287.060	6.87
9I26050-CALE	50	199682	3993.640	6.87
9I26050-CALF	50	209712	4194.240	6.87
9I26050-CALG	50	194045	3880.900	6.87
9I26050-CALH	50	212509	4250.180	6.87
9I26050-CALI	50	191180	3823.600	6.87
9I26050-CALJ	50	215030	4300.600	6.87

AVE RF **4078.328** RF RSD **4.90** AVE RT **6.87**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

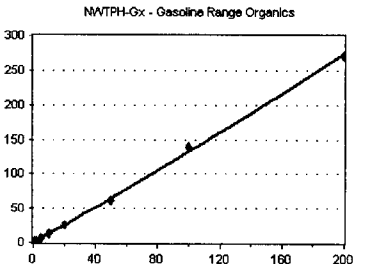


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	309122	1.587	7.46
9I26050-CALD	50	336830	1.571	7.46
9I26050-CALE	50	316029	1.583	7.46
9I26050-CALF	50	328552	1.567	7.46
9I26050-CALG	50	306690	1.581	7.46
9I26050-CALH	50	328443	1.546	7.46
9I26050-CALI	50	302676	1.583	7.46
9I26050-CALJ	50	333302	1.550	7.46

AVE RF **1.571** RF RSD **1.00** AVE RT **7.46**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

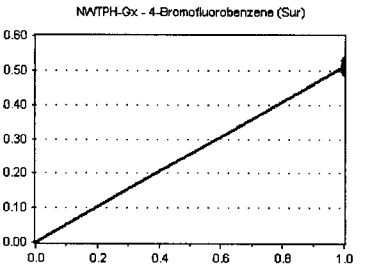


Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	341870	1.755	0.00
9I26050-CALD	100	489862	1.143	9.44
9I26050-CALE	250	1179313	1.181	9.44
9I26050-CALF	500	2815223	1.342	9.44
9I26050-CALG	1000	4905450	1.264	9.44
9I26050-CALH	2500	1.310679E+07	1.234	9.44
9I26050-CALI	5000	2.675072E+07	1.399	9.44
9I26050-CALJ	10000	5.836205E+07	1.357	9.44

AVE RF **1.334** RF RSD **14.36** AVE RT **8.26**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26050-CALC	50	96407	0.495	11.45
9I26050-CALD	50	108081	0.504	11.45
9I26050-CALE	50	102655	0.514	11.45
9I26050-CALF	50	107283	0.512	11.45
9I26050-CALG	50	98676	0.509	11.45
9I26050-CALH	50	109685	0.516	11.45
9I26050-CALI	50	101117	0.529	11.45
9I26050-CALJ	50	109457	0.509	11.45

AVE RF **0.511** RF RSD **1.92** AVE RT **11.45**

Injection Log

Directory: z:\data\2019-09\9I26050

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	Vg19092618.d	1.	9I26050-IBL1	1X 5mL DI	26 Sep 2019 17:36
2	2	Vg19092619.d	1.	9I26050-TUN1	A19F380 BFB (IS/...	26 Sep 2019 18:03
3	3	Vg19092620.d	1.	9I26050-ICB1	1X 5mL DI	26 Sep 2019 18:30
4	4	Vg19092621.d	1.	9I26050-CAL1	1X 5mL 0.1/0.2...	26 Sep 2019 18:57
5	5	Vg19092622.d	1.	9I26050-CAL2	1X 5mL 0.2/0.4...	26 Sep 2019 19:24
6	6	Vg19092623.d	1.	9I26050-CAL3	1X 5mL 0.5/1PP...	26 Sep 2019 19:52
7	7	Vg19092624.d	1.	9I26050-CAL4	1X 5mL 1/2PPB ...	26 Sep 2019 20:19
8	8	Vg19092625.d	1.	9I26050-CAL5	1X 5mL 2/4PPB ...	26 Sep 2019 20:46
9	9	Vg19092626.d	1.	9I26050-CAL6	1X 5mL 5/10PPB...	26 Sep 2019 21:13
10	10	Vg19092627.d	1.	9I26050-CAL7	1X 5mL 10/20PP...	26 Sep 2019 21:40
11	11	Vg19092628.d	1.	9I26050-CAL8	1X 5mL 20/40PP...	26 Sep 2019 22:07
12	12	Vg19092629.d	1.	9I26050-CAL9	1X 5mL 50/100P...	26 Sep 2019 22:34
13	13	Vg19092630.d	1.	9I26050-IBL2	1X 5mL DI	26 Sep 2019 23:01
14	14	Vg19092631.d	1.	9I26050-CALA	1X 5mL 100/200...	26 Sep 2019 23:28
15	15	Vg19092632.d	1.	9I26050-IBL3	1X 5mL DI	26 Sep 2019 23:55
16	16	Vg19092633.d	1.	9I26050-CALB	1X 5mL 200/400...	27 Sep 2019 00:22
17	17	Vg19092634.d	1.	9I26050-IBL4	1X 5mL DI	27 Sep 2019 00:50
18	18	Vg19092635.d	1.	9I26050-IBL5	1X 5mL DI	27 Sep 2019 01:17
19	19	Vg19092636.d	1.	9I26050-ICV1	1X 5mL 20/40PP...	27 Sep 2019 01:44
20	20	Vg19092637.d	1.	9I26050-ICV2	1X 5mL 5/1250P...	27 Sep 2019 02:11
21	21	Vg19092638.d	1.	9I26050-IBL6	1X 5mL DI	27 Sep 2019 02:38
22	22	Vg19092639.d	1.	9I26050-TUN2	A19F380 BFB (IS/...	27 Sep 2019 03:05
23	23	Vg19092640.d	1.	9I26050-RT1	A18A167 VPH RT STD	27 Sep 2019 03:33
24	24	Vg19092641.d	1.	9I26050-IBL7	1X 5mL DI	27 Sep 2019 04:00
25	25	Vg19092642.d	1.	9I26050-ICB2	1X 5mL DI	27 Sep 2019 04:27
26	26	Vg19092643.d	1.	9I26050-CALC	1X 5mL 50PPB GX	27 Sep 2019 04:54
27	27	Vg19092644.d	1.	9I26050-CALD	1X 5mL 100PPB GX	27 Sep 2019 05:21
28	28	Vg19092645.d	1.	9I26050-CALE	1X 5mL 250PPB GX	27 Sep 2019 05:48
29	29	Vg19092646.d	1.	9I26050-CALF	1X 5mL 500PPB GX	27 Sep 2019 06:16
30	30	Vg19092647.d	1.	9I26050-CALG	1X 5mL 1000PPB GX	27 Sep 2019 06:43
31	31	Vg19092648.d	1.	9I26050-CALH	1X 5mL 2500PPB GX	27 Sep 2019 07:10
32	32	Vg19092649.d	1.	9I26050-CALI	1X 5mL 5000PPB GX	27 Sep 2019 07:37
33	33	Vg19092650.d	1.	9I26050-CALJ	1X 5mL 10000PP...	27 Sep 2019 08:04
34	34	Vg19092651.d	1.	9I26050-IBL8	1X 5mL DI	27 Sep 2019 08:31
35	35	Vg19092652.d	1.	9I26050-IBL9	1X 5mL DI	27 Sep 2019 08:58
36	36	Vg19092653.d	1.	9I26050-ICV3	1X 5mL 500PPB GX	27 Sep 2019 09:25
37	37	Vg19092654.d	1.	9I26050-IBLA	1X 5mL DI	27 Sep 2019 09:53

9/30/19 KL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092618.D
Acq On : 26 Sep 2019 5:36 pm
Operator : MM
Sample : 9I26050-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:55:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	97438	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	253236	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	104047	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93286	48.41 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	316455	49.76 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	355511	50.95 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.452	174	96381	51.74 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	1.990	50	198	0.11 ug/L	69
4) Vinyl Chloride	0.000		0	N.D.	
5) Bromomethane	2.551	96	24	0.03 ug/L	69
6) Chloroethane	2.740	64	124	Below Cal #	47
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Ethanol	3.630	45	219	4.10 ug/L #	29
9) 1,1-Dichloroethene	3.600	61	10	0.00 ug/L #	54
10) Carbon Disulfide	3.594	76	429	0.14 ug/L	78
11) Freon 113	0.000		0	N.D.	
12) Iodomethane	3.764	142	177	0.09 ug/L	80
13) Acrolein	4.063	56	10	0.02 ug/L #	23
14) Methylene Chloride	4.325	84	7549	3.83 ug/L	99
15) Acetone	4.411	43	2900	2.57 ug/L	92
16) t-1,2-Dichloroethene	4.520	61	77	0.03 ug/L #	56
17) n-Hexane	0.000		0	N.D.	
18) Methyl-tert-butyl-ether	0.000		0	N.D.	
19) tert-Butanol (TBA)	4.837	59	209	0.58 ug/L #	43
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	0.000		0	N.D.	
22) Acrylonitrile	0.000		0	N.D.	
23) Vinyl Acetate	5.545	43	10	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	0.000		0	N.D.	
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	6.045	49	10	0.01 ug/L #	14
28) Chloroform	6.154	83	10	0.00 ug/L #	25
29) Carbon Tetrachloride	0.000		0	N.D.	
30) Tetrahydrofuran	6.380	42	10	0.01 ug/L #	30
31) 1,1,1-Trichloroethane	0.000		0	N.D.	
33) 1,1-Dichloropropene	0.000		0	N.D.	
34) 2-Butanone (MEK)	6.508	43	18	0.01 ug/L	52
35) Benzene	6.764	78	174	0.02 ug/L	56
36) tert-Amyl methyl ether...	6.861	73	126	0.03 ug/L #	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
38) iso-Butyl Alcohol	7.087	43	10	0.06 ug/L	70
40) Trichloroethene (TCE)	7.410	130	19	0.01 ug/L #	12
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	0.000		0	N.D.	
44) Bromodichloromethane	0.000		0	N.D.	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	
47) c-1,3-Dichloropropene	0.000		0	N.D.	

NR 9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092618.D
Acq On : 26 Sep 2019 5:36 pm
Operator : MM
Sample : 9I26050-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:55:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

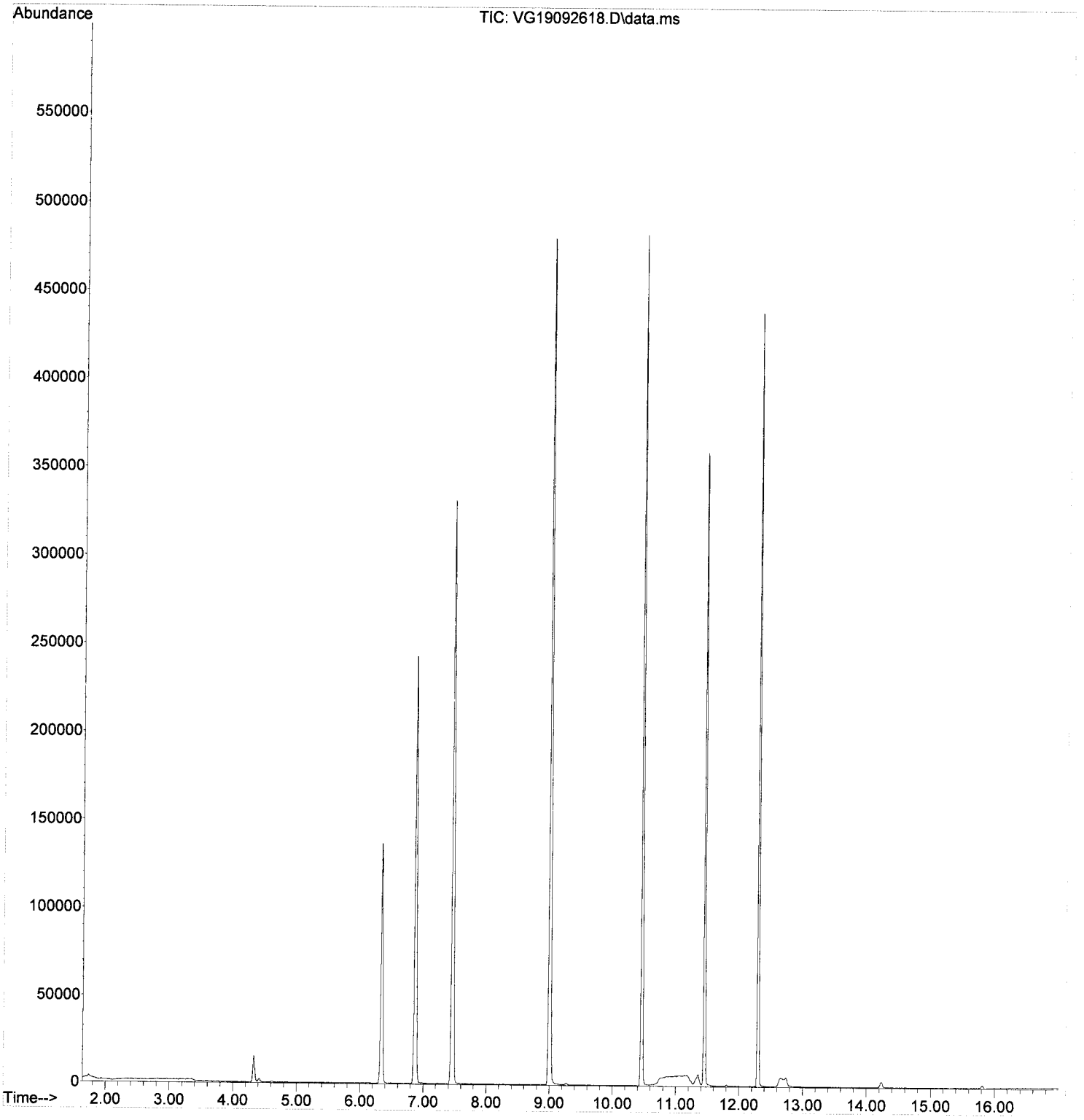
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	269	0.03 ug/L	93
50) Tetrachloroethene (PCE)	9.446	166	35	0.02 ug/L #	24
51) 4-Methyl-2-Pentanone (...	9.458	43	10	0.00 ug/L #	43
52) t-1,3-Dichloropropene	0.000		0	N.D.	
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	0.000		0	N.D.	
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
57) 2-Hexanone	10.227	43	27	0.01 ug/L #	32
58) Chlorobenzene	10.470	112	160	0.03 ug/L #	1
59) Ethylbenzene	10.501	91	171	0.02 ug/L #	50
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.629	91	251	0.04 ug/L	90
62) o-Xylene	10.976	91	105	0.02 ug/L #	35
63) Styrene	11.025	104	31	0.01 ug/L #	40
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.226	105	122	0.02 ug/L	86
68) Bromobenzene	11.543	156	11	0.01 ug/L #	50
69) n-Propylbenzene	11.550	91	181	0.03 ug/L	56
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71) 2-Chlorotoluene	0.000		0	N.D.	
72) 1,3,5-Trimethylbenzene	11.702	105	38	0.01 ug/L #	34
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.812	91	183	0.04 ug/L	86
76) tert-Butylbenzene	11.812	91	183	0.07 ug/L #	1
77) 1,2,4-Trimethylbenzene	11.995	105	129	0.03 ug/L #	36
78) sec-Butylbenzene	12.068	105	106	0.02 ug/L	58
79) 4-Isopropyltoluene	12.165	119	89	0.02 ug/L	51
80) 1,3-Dichlorobenzene	12.245	146	129	0.04 ug/L #	61
81) 1,4-Dichlorobenzene	12.305	146	204	0.07 ug/L #	1
82) n-Butylbenzene	12.494	91	142	0.04 ug/L #	68
83) 1,2-Dichlorobenzene	12.641	146	61	0.02 ug/L	88
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	0.000		0	N.D.	
86) 1,2,4-Trichlorobenzene	13.878	180	86	0.05 ug/L	71
87) Naphthalene	14.214	128	226	0.05 ug/L	79
88) 1,2,3-Trichlorobenzene	14.403	180	20	0.01 ug/L #	12

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092618.D
Acq On : 26 Sep 2019 5:36 pm
Operator : MM
Sample : 9I26050-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

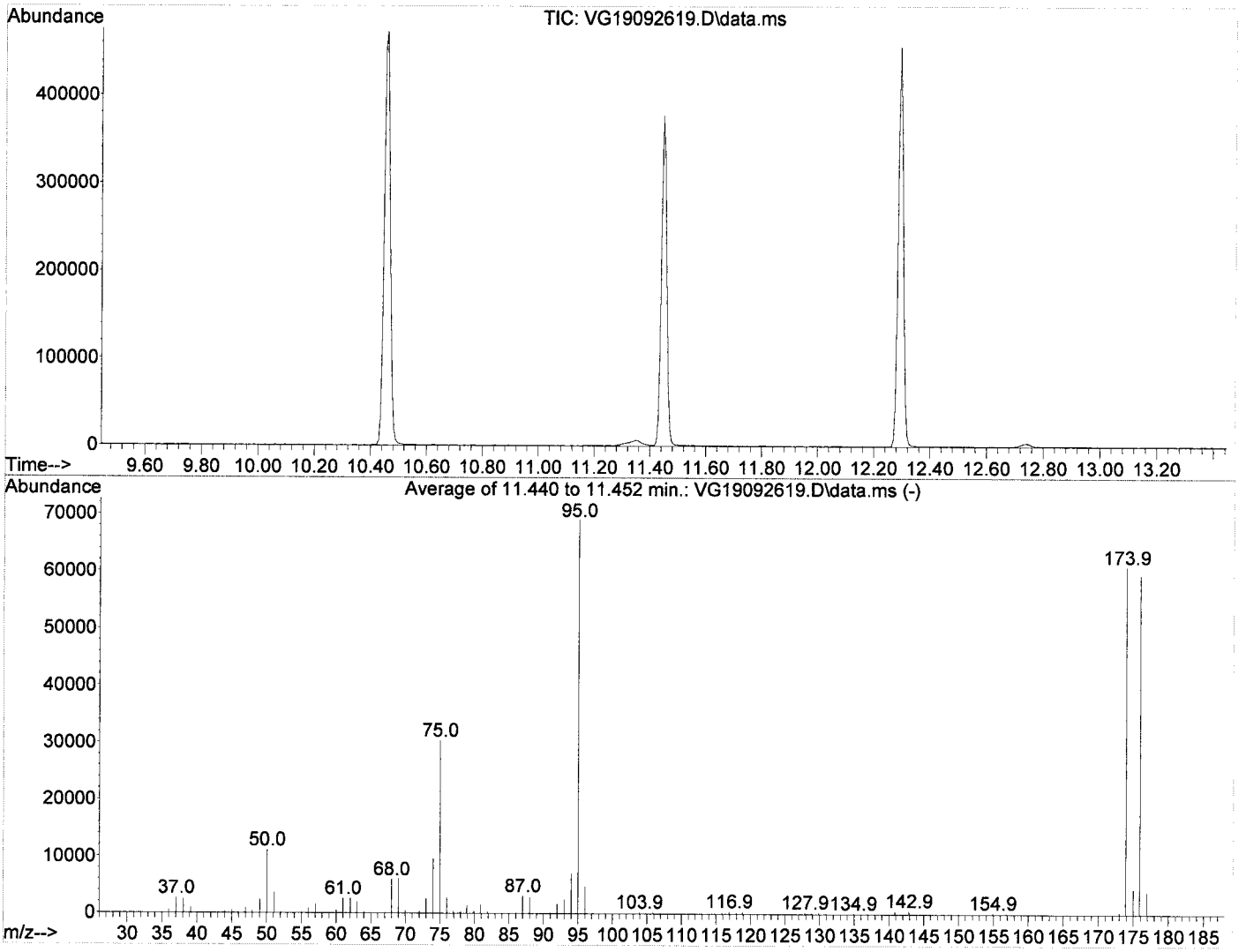
Quant Time: Sep 30 15:55:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092619.D
Acq On : 26 Sep 2019 6:03 pm
Operator : MM
Sample : 9I26050-TUN1
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019



AutoFind: Scans 1608, 1609, 1610; Background Corrected with Scan 1601

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	113.5	69179	PASS
96	95	5	9	6.8	4736	PASS
173	174	0.00	2	0.6	345	PASS
174	95	50	200	88.1	60968	PASS
175	174	5	9	7.2	4394	PASS
176	174	95	105	97.7	59536	PASS
177	176	5	10	6.6	3900	PASS

9/30/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092619.D
Acq On : 26 Sep 2019 6:03 pm
Operator : MM
Sample : 9I26050-TUN1
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

9/30/19 [handwritten initials]

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	96160	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	253251	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	106954	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	94102	49.48 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	314638	50.14 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	349316	50.06 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	98109	51.24 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	
3) Chloromethane	1.997	50	192	0.11 ug/L	79
4) Vinyl Chloride	0.000		0	N.D.	
5) Bromomethane	2.551	96	37	0.05 ug/L	85
6) Chloroethane	2.734	64	97	Below Cal #	47
7) Trichlorofluoromethane	0.000		0	N.D.	
8) Ethanol	0.000		0	N.D.	
9) 1,1-Dichloroethene	3.588	61	11	0.00 ug/L #	25
10) Carbon Disulfide	3.600	76	318	0.10 ug/L	78
11) Freon 113	3.667	101	30	0.02 ug/L #	73
12) Iodomethane	3.764	142	109	0.04 ug/L #	47
13) Acrolein	0.000		0	N.D.	
14) Methylene Chloride	4.331	84	9079	4.67 ug/L	96
15) Acetone	4.411	43	1542	1.38 ug/L	83
16) t-1,2-Dichloroethene	4.508	61	33	0.01 ug/L #	65
17) n-Hexane	4.618	86	10	0.04 ug/L #	45
18) Methyl-tert-butyl-ether	0.000		0	N.D.	
19) tert-Butanol (TBA)	4.831	59	442	1.24 ug/L #	21
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	0.000		0	N.D.	
22) Acrylonitrile	0.000		0	N.D.	
23) Vinyl Acetate	0.000		0	N.D.	
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	0.000		0	N.D.	
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	0.000		0	N.D.	
28) Chloroform	6.136	83	10	0.00 ug/L #	25
29) Carbon Tetrachloride	0.000		0	N.D.	
30) Tetrahydrofuran	6.325	42	10	0.01 ug/L #	30
31) 1,1,1-Trichloroethane	0.000		0	N.D.	
33) 1,1-Dichloropropene	6.502	75	10	0.00 ug/L #	39
34) 2-Butanone (MEK)	6.508	43	30	0.02 ug/L	52
35) Benzene	6.764	78	123	0.01 ug/L	56
36) tert-Amyl methyl ether...	6.861	73	94	0.02 ug/L #	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	
38) iso-Butyl Alcohol	7.087	43	19	0.11 ug/L #	55
40) Trichloroethene (TCE)	7.422	130	10	0.00 ug/L #	46
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	0.000		0	N.D.	
44) Bromodichloromethane	0.000		0	N.D.	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	
47) c-1,3-Dichloropropene	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092619.D
Acq On : 26 Sep 2019 6:03 pm
Operator : MM
Sample : 9I26050-TUN1
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

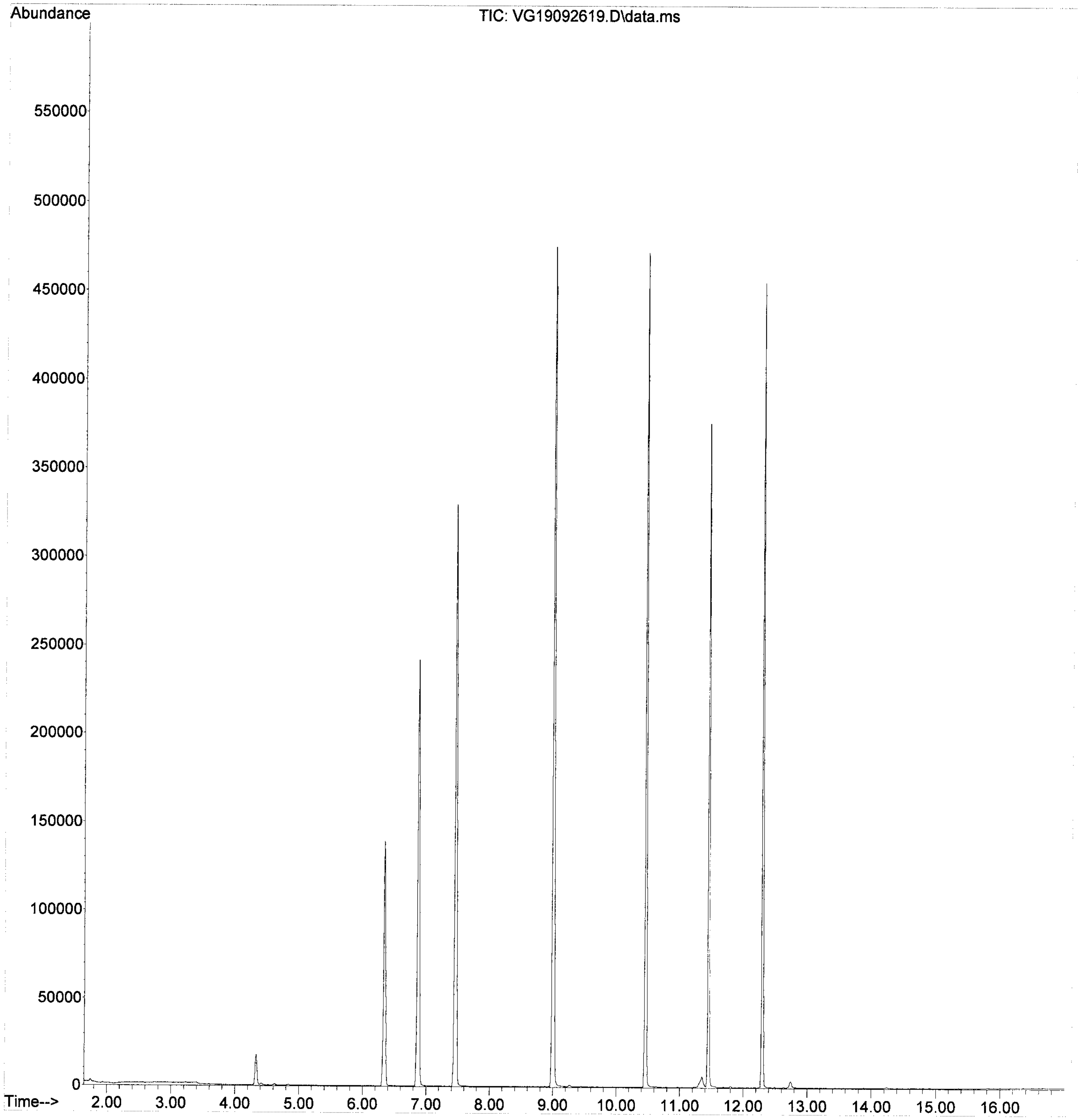
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	272	0.03 ug/L	92
50) Tetrachloroethene (PCE)	9.446	166	128	0.06 ug/L #	73
51) 4-Methyl-2-Pentanone (...	9.471	43	11	0.00 ug/L #	43
52) t-1,3-Dichloropropene	0.000		0	N.D.	
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	0.000		0	N.D.	
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
57) 2-Hexanone	10.233	43	29	0.01 ug/L #	32
58) Chlorobenzene	10.464	112	115	0.02 ug/L #	1
59) Ethylbenzene	10.501	91	214	0.03 ug/L #	50
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.629	91	376	0.07 ug/L	90
62) o-Xylene	10.976	91	129	0.02 ug/L #	35
63) Styrene	11.037	104	37	0.01 ug/L #	40
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.226	105	127	0.02 ug/L	53
68) Bromobenzene	11.525	156	13	0.01 ug/L #	50
69) n-Propylbenzene	11.550	91	256	0.04 ug/L	79
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71) 2-Chlorotoluene	0.000		0	N.D.	
72) 1,3,5-Trimethylbenzene	11.696	105	138	0.03 ug/L #	54
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.806	91	224	0.05 ug/L #	46
76) tert-Butylbenzene	11.934	91	47	0.02 ug/L #	83
77) 1,2,4-Trimethylbenzene	11.988	105	218	0.05 ug/L	89
78) sec-Butylbenzene	12.068	105	176	0.03 ug/L	69
79) 4-Isopropyltoluene	12.165	119	187	0.04 ug/L	85
80) 1,3-Dichlorobenzene	12.245	146	165	0.05 ug/L	88
81) 1,4-Dichlorobenzene	12.305	146	236	0.07 ug/L #	1
82) n-Butylbenzene	12.488	91	241	0.06 ug/L	80
83) 1,2-Dichlorobenzene	12.635	146	47	0.02 ug/L #	24
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	0.000		0	N.D.	
86) 1,2,4-Trichlorobenzene	13.878	180	116	0.07 ug/L #	50
87) Naphthalene	14.208	128	132	0.03 ug/L	79
88) 1,2,3-Trichlorobenzene	14.397	180	12	0.01 ug/L	72

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092619.D
Acq On : 26 Sep 2019 6:03 pm
Operator : MM
Sample : 9I26050-TUN1
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092620.D
Acq On : 26 Sep 2019 6:30 pm
Operator : MM
Sample : 9I26050-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	90656	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	236171	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	99907	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	89360	49.84 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	295069	49.87 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	329651	50.66 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	91308	51.05 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	1.997	50	233	0.14 ug/L	#	50
4) Vinyl Chloride	0.000		0	N.D.		
5) Bromomethane	2.557	96	10	0.01 ug/L	#	35
6) Chloroethane	2.746	64	72	Below Cal	#	47
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Ethanol	3.630	45	10	0.20 ug/L	#	29
9) 1,1-Dichloroethene	0.000		0	N.D.		
10) Carbon Disulfide	3.594	76	202	0.07 ug/L		78
11) Freon 113	3.649	101	10	0.01 ug/L	#	16
12) Iodomethane	3.758	142	155	0.09 ug/L	#	47
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	4.331	84	3001	1.64 ug/L		98
15) Acetone	4.411	43	1550	1.48 ug/L		94
16) t-1,2-Dichloroethene	4.520	61	10	0.00 ug/L	#	22
17) n-Hexane	4.630	86	10	0.04 ug/L	#	77
18) Methyl-tert-butyl-ether	0.000		0	N.D.		
19) tert-Butanol (TBA)	0.000		0	N.D.		
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.		
22) Acrylonitrile	0.000		0	N.D.		
23) Vinyl Acetate	0.000		0	N.D.		
24) Ethyl-tert-butyl ether...	0.000		0	N.D.		
25) c-1,2-Dichloroethene	0.000		0	N.D.		
26) 2,2-Dichloropropane	0.000		0	N.D.		
27) Bromochloromethane	0.000		0	N.D.		
28) Chloroform	0.000		0	N.D.		
29) Carbon Tetrachloride	0.000		0	N.D.		
30) Tetrahydrofuran	6.288	42	10	0.01 ug/L		30
31) 1,1,1-Trichloroethane	0.000		0	N.D.		
33) 1,1-Dichloropropene	0.000		0	N.D.		
34) 2-Butanone (MEK)	6.508	43	10	0.01 ug/L		52
35) Benzene	6.770	78	104	0.01 ug/L		56
36) tert-Amyl methyl ether...	6.868	73	119	0.03 ug/L	#	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.		
38) iso-Butyl Alcohol	7.063	43	19	0.12 ug/L	#	22
40) Trichloroethene (TCE)	0.000		0	N.D.		
41) tert-Amyl ethyl ether ...	0.000		0	N.D.		
42) Dibromomethane	0.000		0	N.D.		
43) 1,2-Dichloropropane	0.000		0	N.D.		
44) Bromodichloromethane	0.000		0	N.D.		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	0.000		0	N.D.		

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092620.D
Acq On : 26 Sep 2019 6:30 pm
Operator : MM
Sample : 9I26050-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

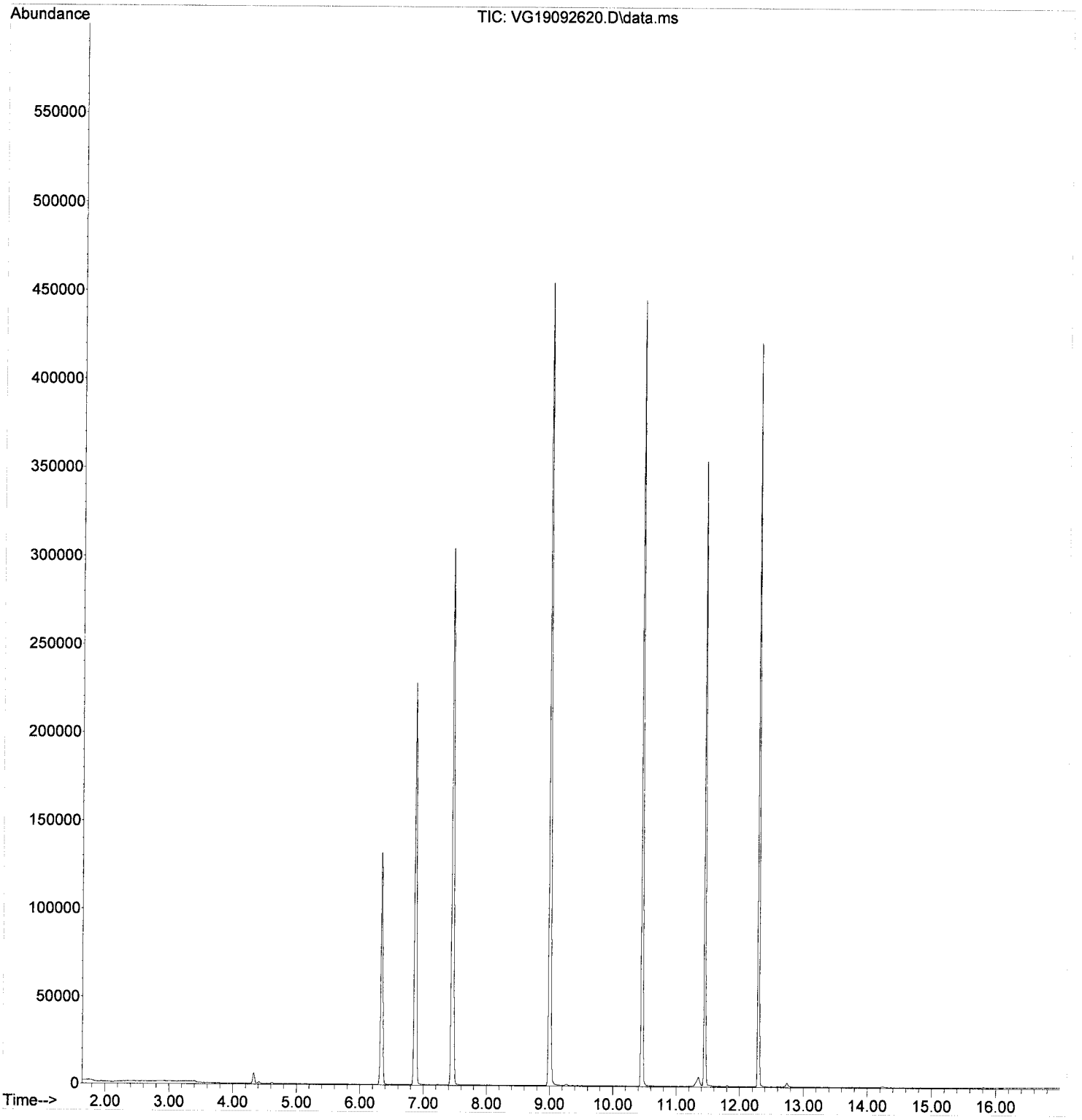
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	168	0.02 ug/L	90
50) Tetrachloroethene (PCE)	9.434	166	75	0.04 ug/L #	24
51) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	
52) t-1,3-Dichloropropene	0.000		0	N.D.	
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	0.000		0	N.D.	
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
57) 2-Hexanone	10.178	43	19	0.01 ug/L #	32
58) Chlorobenzene	10.470	112	52	0.01 ug/L #	1
59) Ethylbenzene	10.501	91	148	0.02 ug/L	86
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.623	91	234	0.04 ug/L	88
62) o-Xylene	10.976	91	43	0.01 ug/L	92
63) Styrene	0.000		0	N.D.	
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.226	105	89	0.01 ug/L	80
68) Bromobenzene	11.446	156	10	0.01 ug/L #	1
69) n-Propylbenzene	11.550	91	198	0.03 ug/L	56
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71) 2-Chlorotoluene	0.000		0	N.D.	
72) 1,3,5-Trimethylbenzene	11.696	105	101	0.02 ug/L	82
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.806	91	148	0.03 ug/L	81
76) tert-Butylbenzene	11.946	91	20	0.01 ug/L #	1
77) 1,2,4-Trimethylbenzene	11.988	105	130	0.03 ug/L	93
78) sec-Butylbenzene	12.068	105	127	0.03 ug/L	58
79) 4-Isopropyltoluene	12.165	119	129	0.03 ug/L	51
80) 1,3-Dichlorobenzene	12.245	146	100	0.03 ug/L #	72
81) 1,4-Dichlorobenzene	12.305	146	183	0.06 ug/L #	1
82) n-Butylbenzene	12.494	91	178	0.05 ug/L	70
83) 1,2-Dichlorobenzene	12.635	146	81	0.03 ug/L #	24
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	0.000		0	N.D.	
86) 1,2,4-Trichlorobenzene	13.872	180	11	0.01 ug/L #	11
87) Naphthalene	14.208	128	98	0.02 ug/L	79
88) 1,2,3-Trichlorobenzene	0.000		0	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092620.D
Acq On : 26 Sep 2019 6:30 pm
Operator : MM
Sample : 9I26050-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:22:03 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	97629	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	259392	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	111263	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93504	45.36 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	320302	47.82 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	358933	51.00 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.452	174	102373	52.46 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D. d	
3) Chloromethane	1.997	50	348	0.17 ug/L	90
4) Vinyl Chloride	2.118	62	186	0.10 ug/L	74
5) Bromomethane	2.557	96	151	0.17 ug/L	70
6) Chloroethane	2.734	64	138	Below Cal #	48
7) Trichlorofluoromethane	2.935	101	158	0.07 ug/L	72
8) Ethanol	3.636	45	386	8.26 ug/L	79
9) 1,1-Dichloroethene	3.600	61	278	0.12 ug/L	95
10) Carbon Disulfide	3.594	76	521	0.14 ug/L	78
11) Freon 113	3.661	101	204	0.10 ug/L	77
12) Iodomethane	3.764	142	240	1.56 ug/L #	47
13) Acrolein	0.000		0	N.D. d	
14) Methylene Chloride	4.325	84	5037	0.62 ug/L	99
15) Acetone	4.411	43	1919	1.89 ug/L	86
16) t-1,2-Dichloroethene	4.514	61	245	0.10 ug/L	86
17) n-Hexane	4.612	86	23	0.09 ug/L #	85
18) Methyl-tert-butyl-ether	0.000		0	N.D. d	
19) tert-Butanol (TBA)	4.831	59	2003	5.82 ug/L #	43
20) Diisopropyl ether (DIPE)	0.000		0	N.D. d	
21) 1,1-Dichloroethane	5.228	63	277	0.09 ug/L	84
22) Acrylonitrile	0.000		0	N.D. d	
23) Vinyl Acetate	0.000		0	N.D. d	
24) Ethyl-tert-butyl ether...	0.000		0	N.D. d	
25) c-1,2-Dichloroethene	5.825	61	248	0.10 ug/L	89
26) 2,2-Dichloropropane	5.941	77	98	0.07 ug/L #	49
27) Bromochloromethane	6.045	49	185	0.12 ug/L	74
28) Chloroform	6.142	83	320	0.09 ug/L	96
29) Carbon Tetrachloride	6.282	117	140	0.08 ug/L #	41
30) Tetrahydrofuran	0.000		0	N.D. d	
31) 1,1,1-Trichloroethane	6.349	97	183	0.08 ug/L #	58
33) 1,1-Dichloropropene	6.490	75	274	0.12 ug/L #	73
34) 2-Butanone (MEK)	0.000		0	N.D. d	
35) Benzene	6.770	78	970	0.12 ug/L	91
36) tert-Amyl methyl ether...	0.000		0	N.D. d	
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D. d	
38) iso-Butyl Alcohol	7.063	43	342	2.30 ug/L	91
40) Trichloroethene (TCE)	7.416	130	248	0.12 ug/L	92
41) tert-Amyl ethyl ether ...	0.000		0	N.D. d	
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	8.008	63	159	0.08 ug/L	87
44) Bromodichloromethane	0.000		0	N.D. d	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D. d	
47) c-1,3-Dichloropropene	8.806	75	171	0.09 ug/L #	60

9/30/19 MM

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:22:03 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	963	0.12 ug/L	97
50) Tetrachloroethene (PCE)	9.446	166	310	0.15 ug/L	84
51) 4-Methyl-2-Pentanone (...	9.452	43	436	0.19 ug/L	88
52) t-1,3-Dichloropropene	0.000		0	N.D. d	
53) 1,1,2-Trichloroethane	9.629	97	170	0.09 ug/L #	57
54) Dibromochloromethane	0.000		0	N.D. d	
55) 1,3-Dichloropropane	9.891	76	282	0.10 ug/L	95
56) 1,2-Dibromoethane (EDB)	10.013	107	150	0.08 ug/L	97
57) 2-Hexanone	10.221	43	257	0.15 ug/L	83
58) Chlorobenzene	10.470	112	587	0.11 ug/L #	1
59) Ethylbenzene	10.495	91	839	0.11 ug/L	96
60) 1,1,1,2-Tetrachloroethane	10.525	131	74	0.06 ug/L	78
61) m,p-Xylenes (2)	10.623	91	1282	0.33 ug/L	91
62) o-Xylene	10.976	91	582	0.19 ug/L	88
63) Styrene	11.025	104	359	0.19 ug/L	84
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.220	105	650	0.19 ug/L	94
68) Bromobenzene	11.531	156	222	0.11 ug/L	88
69) n-Propylbenzene	11.550	91	803	0.12 ug/L	96
70) 1,1,2,2-Tetrachloroethane	11.604	83	249	0.09 ug/L	90
71) 2-Chlorotoluene	11.671	126	172	0.11 ug/L #	76
72) 1,3,5-Trimethylbenzene	11.696	105	529	0.13 ug/L	96
73) 1,2,3-Trichloropropane	11.720	110	67	0.08 ug/L #	37
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.800	91	577	0.14 ug/L	95
76) tert-Butylbenzene	11.934	91	299	0.13 ug/L #	76
77) 1,2,4-Trimethylbenzene	11.988	105	545	0.13 ug/L	88
78) sec-Butylbenzene	12.068	105	615	0.12 ug/L	95
79) 4-Isopropyltoluene	12.165	119	543	0.14 ug/L	93
80) 1,3-Dichlorobenzene	12.245	146	388	0.12 ug/L	88
81) 1,4-Dichlorobenzene	12.306	146	512	0.15 ug/L #	32
82) n-Butylbenzene	12.488	91	507	0.15 ug/L	87
83) 1,2-Dichlorobenzene	12.641	146	305	0.10 ug/L	78
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D. d	
85) Hexachlorobutadiene	0.000		0	N.D.	
86) 1,2,4-Trichlorobenzene	13.878	180	245	0.16 ug/L #	69
87) Naphthalene	0.000		0	N.D. d	
88) 1,2,3-Trichlorobenzene	14.403	180	142	0.10 ug/L	71

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:44 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	97629	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	259392	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	111263	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93504	45.36 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	320302	47.82 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	358933	51.00 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.452	174	102373	52.46 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	118	~~0.08 ug/L #~~	51
3) Chloromethane	1.997	50	348	0.17 ug/L	90
4) Vinyl Chloride	2.118	62	186	0.10 ug/L	74
5) Bromomethane	2.557	96	151	0.17 ug/L	70
6) Chloroethane	2.734	64	138	Below Cal #	48
7) Trichlorofluoromethane	2.935	101	158	0.07 ug/L	72
8) Ethanol	3.636	45	386	8.26 ug/L	79
9) 1,1-Dichloroethene	3.600	61	278	0.12 ug/L	95
10) Carbon Disulfide	3.594	76	521	0.14 ug/L	78
11) Freon 113	3.661	101	204	0.10 ug/L	77
12) Iodomethane	3.764	142	240	1.56 ug/L #	47
13) Acrolein	4.039	56	10	~~0.02 ug/L #~~	~~23~~
14) Methylene Chloride	4.325	84	5037	0.62 ug/L	99
15) Acetone	4.411	43	1919	1.89 ug/L	86
16) t-1,2-Dichloroethene	4.514	61	245	0.10 ug/L	86
17) n-Hexane	4.612	86	23	0.09 ug/L #	85
18) Methyl-tert-butyl-ether	4.673	73	450	~~0.10 ug/L~~	~~87~~
19) tert-Butanol (TBA)	4.831	59	2003	5.82 ug/L #	43
20) Diisopropyl ether (DIPE)	5.118	45	80	~~0.02 ug/L #~~	~~33~~
21) 1,1-Dichloroethane	5.228	63	277	0.09 ug/L	84
22) Acrylonitrile	5.289	53	10	~~0.01 ug/L #~~	~~14~~
23) Vinyl Acetate	5.551	43	128	~~0.05 ug/L~~	~~74~~
24) Ethyl-tert-butyl ether...	5.514	59	11	~~0.00 ug/L #~~	~~38~~
25) c-1,2-Dichloroethene	5.825	61	248	0.10 ug/L	89
26) 2,2-Dichloropropane	5.941	77	98	0.07 ug/L #	49
27) Bromochloromethane	6.045	49	185	0.12 ug/L	74
28) Chloroform	6.142	83	320	0.09 ug/L	96
29) Carbon Tetrachloride	6.282	117	140	0.08 ug/L #	41
30) Tetrahydrofuran	6.325	42	130	~~0.13 ug/L #~~	~~30~~
31) 1,1,1-Trichloroethane	6.349	97	183	0.08 ug/L #	58
33) 1,1-Dichloropropene	6.490	75	274	0.12 ug/L #	73
34) 2-Butanone (MEK)	6.502	43	362	~~0.24 ug/L~~	~~52~~
35) Benzene	6.770	78	970	0.12 ug/L	91
36) tert-Amyl methyl ether...	6.874	73	181	~~0.04 ug/L #~~	~~1~~
37) 1,2-Dichloroethane (EDC)	6.989	62	233	~~0.09 ug/L #~~	~~49~~
38) iso-Butyl Alcohol	7.063	43	342	2.30 ug/L	91
40) Trichloroethene (TCE)	7.416	130	248	0.12 ug/L	92
41) tert-Amyl ethyl ether ...	7.709	59	11	~~0.00 ug/L #~~	~~21~~
42) Dibromomethane	0.000		0	N.D.	
43) 1,2-Dichloropropane	8.008	63	159	0.08 ug/L	87
44) Bromodichloromethane	8.069	83	28	~~0.01 ug/L~~	~~94~~
46) 2-Chloroethyl Vinyl Ether	8.751	63	60	~~0.41 ug/L #~~	~~1~~
47) c-1,3-Dichloropropene	8.806	75	171	0.09 ug/L #	60

9/30/19 [handwritten initials]

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:44 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

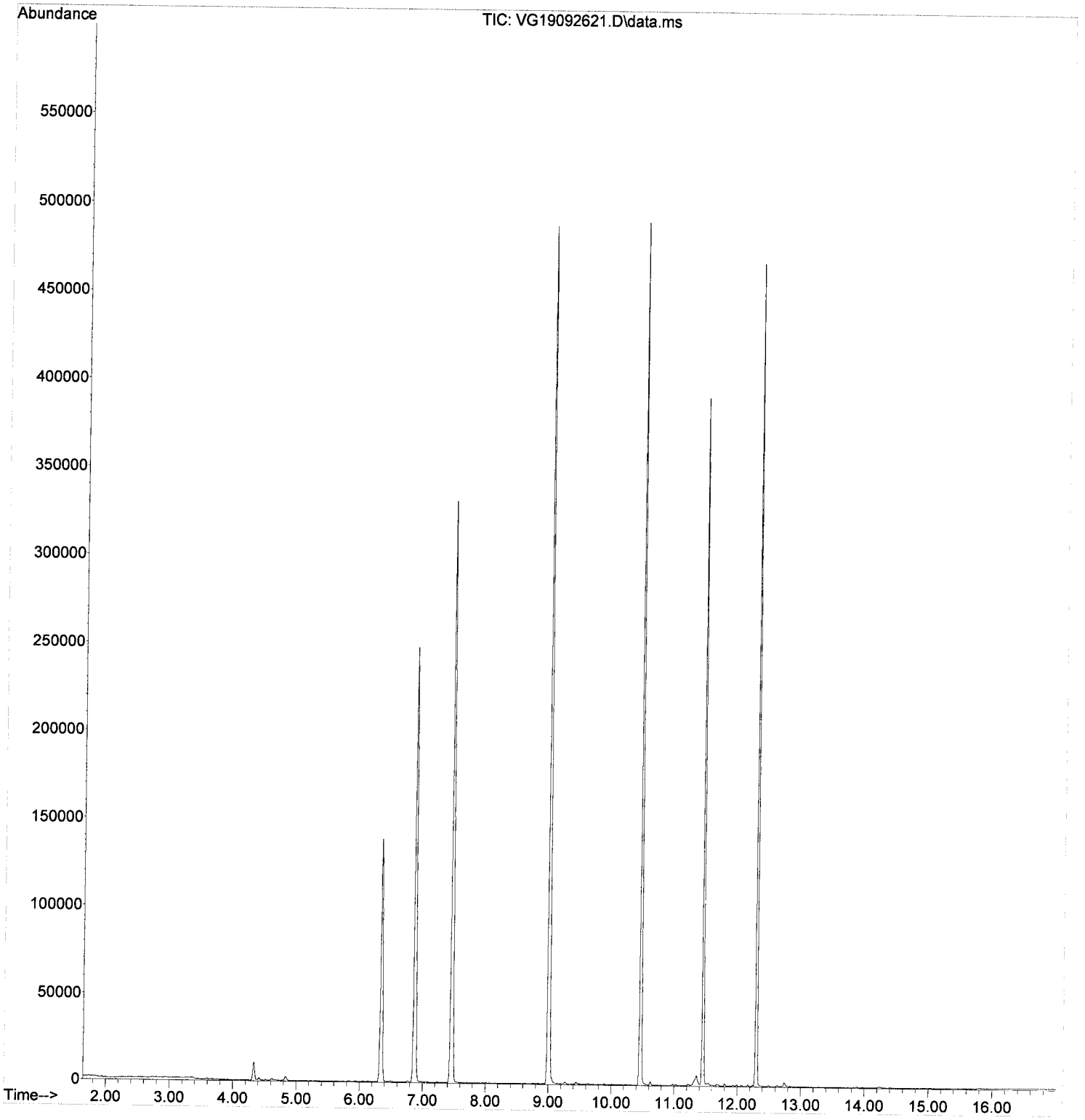
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	963	0.12	ug/L		97
50) Tetrachloroethene (PCE)	9.446	166	310	0.15	ug/L		84
51) 4-Methyl-2-Pentanone (...	9.452	43	436	0.19	ug/L		88
52) t-1,3-Dichloropropene	9.489	75	107	0.25	ug/L	#	45
53) 1,1,2-Trichloroethane	9.629	97	170	0.09	ug/L	#	57
54) Dibromochloromethane	9.806	129	52	0.04	ug/L	#	17
55) 1,3-Dichloropropane	9.891	76	282	0.10	ug/L		95
56) 1,2-Dibromoethane (EDB)	10.013	107	150	0.08	ug/L		97
57) 2-Hexanone	10.221	43	257	0.15	ug/L		83
58) Chlorobenzene	10.470	112	587	0.11	ug/L	#	1
59) Ethylbenzene	10.495	91	839	0.11	ug/L		96
60) 1,1,1,2-Tetrachloroethane	10.525	131	74	0.06	ug/L		78
61) m,p-Xylenes (2)	10.623	91	1282	0.33	ug/L		91
62) o-Xylene	10.976	91	582	0.19	ug/L		88
63) Styrene	11.025	104	359	0.19	ug/L		84
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	11.220	105	650	0.19	ug/L		94
68) Bromobenzene	11.531	156	222	0.11	ug/L		88
69) n-Propylbenzene	11.550	91	803	0.12	ug/L		96
70) 1,1,2,2-Tetrachloroethane	11.604	83	249	0.09	ug/L		90
71) 2-Chlorotoluene	11.671	126	172	0.11	ug/L	#	76
72) 1,3,5-Trimethylbenzene	11.696	105	529	0.13	ug/L		96
73) 1,2,3-Trichloropropane	11.720	110	67	0.08	ug/L	#	37
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
75) 4-Chlorotoluene	11.800	91	577	0.14	ug/L		95
76) tert-Butylbenzene	11.934	91	299	0.13	ug/L	#	76
77) 1,2,4-Trimethylbenzene	11.988	105	545	0.13	ug/L		88
78) sec-Butylbenzene	12.068	105	615	0.12	ug/L		95
79) 4-Isopropyltoluene	12.165	119	543	0.14	ug/L		93
80) 1,3-Dichlorobenzene	12.245	146	388	0.12	ug/L		88
81) 1,4-Dichlorobenzene	12.306	146	512	0.15	ug/L	#	32
82) n-Butylbenzene	12.488	91	507	0.15	ug/L		87
83) 1,2-Dichlorobenzene	12.641	146	305	0.10	ug/L		78
84) 1,2-Dibromo-3-Chloropr...	13.281	157	10	0.02	ug/L	#	23
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.878	180	245	0.16	ug/L	#	69
87) Naphthalene	14.208	128	436	0.88	ug/L		79
88) 1,2,3-Trichlorobenzene	14.403	180	142	0.10	ug/L		71

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092621.D
Acq On : 26 Sep 2019 6:57 pm
Operator : MM
Sample : 9I26050-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:44 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:31:30 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19mm

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.867	99	89211	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	237439	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	100676	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	86275	45.80	ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	291734	47.67	ug/L	0.00
48) Toluene-d8 (S)	8.995	98	329271	51.11	ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	91087	51.59	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.728	85	199	0.16	ug/L	84
3) Chloromethane	1.996	50	558	0.30	ug/L	90
4) Vinyl Chloride	2.118	62	339	0.20	ug/L	88
5) Bromomethane	2.551	96	214	0.26	ug/L	86
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	2.923	101	338	0.17	ug/L	88
8) Ethanol	3.636	45	635	14.86	ug/L	91
9) 1,1-Dichloroethene	3.600	61	454	0.21	ug/L	87
10) Carbon Disulfide	3.594	76	701	0.21	ug/L	78
11) Freon 113	3.667	101	347	0.19	ug/L	83
12) Iodomethane	3.758	142	304	1.76	ug/L	89
13) Acrolein	0.000		0	N.D.	d	
14) Methylene Chloride	4.325	84	4360	0.47	ug/L	97
15) Acetone	4.411	43	1975	2.12	ug/L	100
16) t-1,2-Dichloroethene	4.514	61	545	0.25	ug/L	95
17) n-Hexane	4.606	86	10	0.05	ug/L #	54
18) Methyl-tert-butyl-ether	4.673	73	931	0.23	ug/L	97
19) tert-Butanol (TBA)	4.831	59	3781	12.03	ug/L #	48
20) Diisopropyl ether (DIPE)	5.124	45	257	0.06	ug/L	71
21) 1,1-Dichloroethane	5.228	63	658	0.22	ug/L	92
22) Acrylonitrile	5.301	53	217	0.20	ug/L	78
23) Vinyl Acetate	5.551	43	319	0.13	ug/L	71
24) Ethyl-tert-butyl ether...	5.526	59	167	0.05	ug/L	84
25) c-1,2-Dichloroethene	5.837	61	534	0.25	ug/L	92
26) 2,2-Dichloropropane	5.941	77	269	0.20	ug/L #	35
27) Bromochloromethane	6.051	49	305	0.21	ug/L	85
28) Chloroform	6.142	83	602	0.19	ug/L	98
29) Carbon Tetrachloride	6.282	117	191	0.12	ug/L	75
30) Tetrahydrofuran	6.319	42	235	0.26	ug/L	84
31) 1,1,1-Trichloroethane	6.349	97	380	0.19	ug/L	93
33) 1,1-Dichloropropene	6.483	75	496	0.24	ug/L	91
34) 2-Butanone (MEK)	6.502	43	676	0.49	ug/L	94
35) Benzene	6.764	78	1691	0.24	ug/L	99
36) tert-Amyl methyl ether...	0.000		0	N.D.	d	
37) 1,2-Dichloroethane (EDC)	6.996	62	462	0.20	ug/L	88
38) iso-Butyl Alcohol	7.056	43	680	5.00	ug/L	81
40) Trichloroethene (TCE)	7.416	130	388	0.20	ug/L	86
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	d	
42) Dibromomethane	7.898	93	156	0.14	ug/L	82
43) 1,2-Dichloropropane	8.001	63	413	0.22	ug/L	86
44) Bromodichloromethane	8.087	83	272	0.15	ug/L	91
46) 2-Chloroethyl Vinyl Ether	8.757	63	187	0.55	ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	356	0.20	ug/L	91

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:31:30 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	1693	0.23 ug/L	91
50) Tetrachloroethene (PCE)	9.446	166	470	0.25 ug/L	91
51) 4-Methyl-2-Pentanone (...	9.446	43	955	0.46 ug/L	89
52) t-1,3-Dichloropropene	9.483	75	271	0.34 ug/L #	45
53) 1,1,2-Trichloroethane	9.629	97	360	0.21 ug/L	93
54) Dibromochloromethane	9.794	129	160	0.12 ug/L	91
55) 1,3-Dichloropropane	9.891	76	596	0.22 ug/L	89
56) 1,2-Dibromoethane (EDB)	10.013	107	287	0.17 ug/L	89
57) 2-Hexanone	10.220	43	619	0.40 ug/L	93
58) Chlorobenzene	10.470	112	1065	0.22 ug/L #	61
59) Ethylbenzene	10.495	91	1572	0.22 ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.531	131	211	0.18 ug/L #	75
61) m,p-Xylenes (2)	10.617	91	2204	0.53 ug/L	94
62) o-Xylene	10.976	91	1046	0.29 ug/L	94
63) Styrene	11.019	104	681	0.27 ug/L	96
64) Bromoform	0.000		0	N.D. d	
65) Isopropylbenzene	11.226	105	1203	0.29 ug/L	99
68) Bromobenzene	11.531	156	397	0.21 ug/L	88
69) n-Propylbenzene	11.550	91	1379	0.23 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	480	0.19 ug/L	86
71) 2-Chlorotoluene	11.671	126	280	0.20 ug/L	99
72) 1,3,5-Trimethylbenzene	11.690	105	929	0.24 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	119	0.16 ug/L	93
74) t-1,4-Dichloro-2-butene	11.745	88	10	0.42 ug/L #	39
75) 4-Chlorotoluene	11.799	91	886	0.24 ug/L	92
76) tert-Butylbenzene	11.934	91	511	0.25 ug/L	87
77) 1,2,4-Trimethylbenzene	11.988	105	917	0.23 ug/L	94
78) sec-Butylbenzene	12.068	105	991	0.21 ug/L	98
79) 4-Isopropyltoluene	12.165	119	839	0.25 ug/L	96
80) 1,3-Dichlorobenzene	12.245	146	604	0.21 ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	794	0.26 ug/L #	73
82) n-Butylbenzene	12.488	91	735	0.24 ug/L	85
83) 1,2-Dichlorobenzene	12.635	146	595	0.22 ug/L	91
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D. d	
85) Hexachlorobutadiene	0.000		0	N.D. d	
86) 1,2,4-Trichlorobenzene	13.878	180	329	0.24 ug/L	89
87) Naphthalene	0.000		0	N.D. d	
88) 1,2,3-Trichlorobenzene	14.397	180	270	0.21 ug/L	73

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:47 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	89211	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	237439	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	100676	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	86275	45.80 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	291734	47.67 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	329271	51.11 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	91087	51.59 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.728	85	199	0.16 ug/L	84
3) Chloromethane	1.996	50	558	0.30 ug/L	90
4) Vinyl Chloride	2.118	62	339	0.20 ug/L	88
5) Bromomethane	2.551	96	214	0.26 ug/L	86
6) Chloroethane	2.740	64	~~250~~	~~Below Cal~~	~~70~~
7) Trichlorofluoromethane	2.923	101	338	0.17 ug/L	88
8) Ethanol	3.636	45	635	14.86 ug/L	91
9) 1,1-Dichloroethene	3.600	61	454	0.21 ug/L	87
10) Carbon Disulfide	3.594	76	701	0.21 ug/L	78
11) Freon 113	3.667	101	347	0.19 ug/L	83
12) Iodomethane	3.758	142	304	1.76 ug/L	89
13) Acrolein	4.027	56	~~29~~	~~0.06 ug/L #~~	~~23~~
14) Methylene Chloride	4.325	84	4360	0.47 ug/L	97
15) Acetone	4.411	43	1975	2.12 ug/L	100
16) t-1,2-Dichloroethene	4.514	61	545	0.25 ug/L	95
17) n-Hexane	4.606	86	10	0.05 ug/L #	54
18) Methyl-tert-butyl-ether	4.673	73	931	0.23 ug/L	97
19) tert-Butanol (TBA)	4.831	59	3781	12.03 ug/L #	48
20) Diisopropyl ether (DIPE)	5.124	45	257	0.06 ug/L	71
21) 1,1-Dichloroethane	5.228	63	658	0.22 ug/L	92
22) Acrylonitrile	5.301	53	217	0.20 ug/L	78
23) Vinyl Acetate	5.551	43	319	0.13 ug/L	71
24) Ethyl-tert-butyl ether...	5.526	59	167	0.05 ug/L	84
25) c-1,2-Dichloroethene	5.837	61	534	0.25 ug/L	92
26) 2,2-Dichloropropane	5.941	77	269	0.20 ug/L #	35
27) Bromochloromethane	6.051	49	305	0.21 ug/L	85
28) Chloroform	6.142	83	602	0.19 ug/L	98
29) Carbon Tetrachloride	6.282	117	191	0.12 ug/L	75
30) Tetrahydrofuran	6.319	42	235	0.26 ug/L	84
31) 1,1,1-Trichloroethane	6.349	97	380	0.19 ug/L	93
33) 1,1-Dichloropropene	6.483	75	496	0.24 ug/L	91
34) 2-Butanone (MEK)	6.502	43	676	0.49 ug/L	94
35) Benzene	6.764	78	1691	0.24 ug/L	99
36) tert-Amyl methyl ether...	6.898	73	~~292~~	~~0.08 ug/L #~~	~~1~~
37) 1,2-Dichloroethane (EDC)	6.996	62	462	0.20 ug/L	88
38) iso-Butyl Alcohol	7.056	43	680	5.00 ug/L	81
40) Trichloroethene (TCE)	7.416	130	388	0.20 ug/L	86
41) tert-Amyl ethyl ether ...	7.703	59	~~94~~	~~0.04 ug/L #~~	~~49~~
42) Dibromomethane	7.898	93	156	0.14 ug/L	82
43) 1,2-Dichloropropane	8.001	63	413	0.22 ug/L	86
44) Bromodichloromethane	8.087	83	272	0.15 ug/L	91
46) 2-Chloroethyl Vinyl Ether	8.757	63	187	0.55 ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	356	0.20 ug/L	91

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:47 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

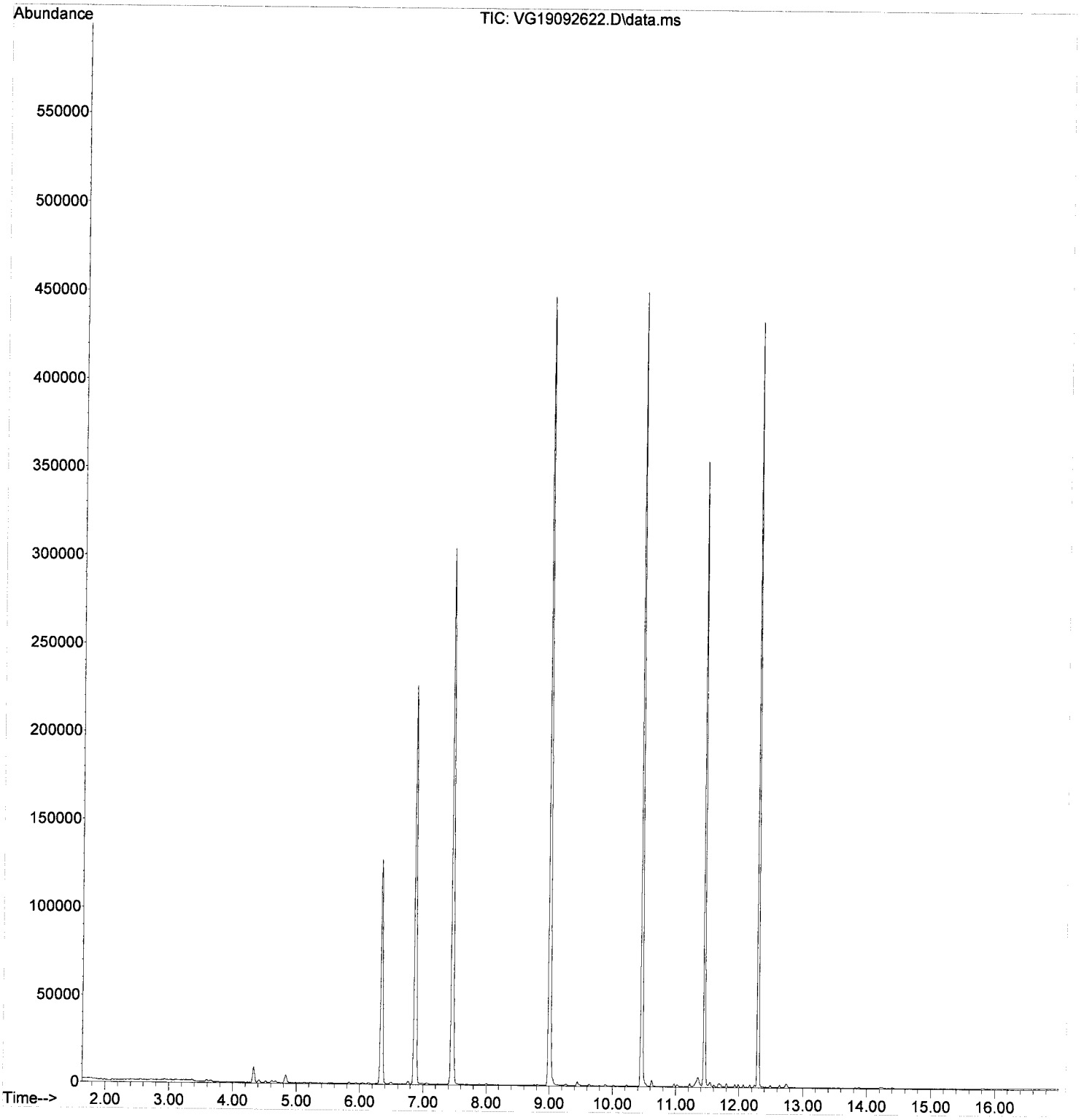
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	1693	0.23 ug/L	91
50) Tetrachloroethene (PCE)	9.446	166	470	0.25 ug/L	91
51) 4-Methyl-2-Pentanone (...	9.446	43	955	0.46 ug/L	89
52) t-1,3-Dichloropropene	9.483	75	271	0.34 ug/L #	45
53) 1,1,2-Trichloroethane	9.629	97	360	0.21 ug/L	93
54) Dibromochloromethane	9.794	129	160	0.12 ug/L	91
55) 1,3-Dichloropropane	9.891	76	596	0.22 ug/L	89
56) 1,2-Dibromoethane (EDB)	10.013	107	287	0.17 ug/L	89
57) 2-Hexanone	10.220	43	619	0.40 ug/L	93
58) Chlorobenzene	10.470	112	1065	0.22 ug/L #	61
59) Ethylbenzene	10.495	91	1572	0.22 ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.531	131	211	0.18 ug/L #	75
61) m,p-Xylenes (2)	10.617	91	2204	0.53 ug/L	94
62) o-Xylene	10.976	91	1046	0.29 ug/L	94
63) Styrene	11.019	104	681	0.27 ug/L	96
64) Bromoform	11.037	173	91	0.39 ug/L #	37
65) Isopropylbenzene	11.226	105	1203	0.29 ug/L	99
68) Bromobenzene	11.531	156	397	0.21 ug/L	88
69) n-Propylbenzene	11.550	91	1379	0.23 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	480	0.19 ug/L	86
71) 2-Chlorotoluene	11.671	126	280	0.20 ug/L	99
72) 1,3,5-Trimethylbenzene	11.690	105	929	0.24 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	119	0.16 ug/L	93
74) t-1,4-Dichloro-2-butene	11.745	88	10	0.42 ug/L #	39
75) 4-Chlorotoluene	11.799	91	886	0.24 ug/L	92
76) tert-Butylbenzene	11.934	91	511	0.25 ug/L	87
77) 1,2,4-Trimethylbenzene	11.988	105	917	0.23 ug/L	94
78) sec-Butylbenzene	12.068	105	991	0.21 ug/L	98
79) 4-Isopropyltoluene	12.165	119	839	0.25 ug/L	96
80) 1,3-Dichlorobenzene	12.245	146	604	0.21 ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	794	0.26 ug/L #	73
82) n-Butylbenzene	12.488	91	735	0.24 ug/L	85
83) 1,2-Dichlorobenzene	12.635	146	595	0.22 ug/L	91
84) 1,2-Dibromo-3-Chloropr...	13.275	157	29	0.07 ug/L #	18
85) Hexachlorobutadiene	13.823	223	19	0.05 ug/L #	46
86) 1,2,4-Trichlorobenzene	13.878	180	329	0.24 ug/L	89
87) Naphthalene	14.208	128	659	0.93 ug/L	79
88) 1,2,3-Trichlorobenzene	14.397	180	270	0.21 ug/L	73

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092622.D
Acq On : 26 Sep 2019 7:24 pm
Operator : MM
Sample : 9I26050-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:47 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19 mf

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.868	99	96555	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	256341	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	111622	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	93900	46.06	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	314912	47.54	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	354137	50.91	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	99765	50.96	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	332	0.24	ug/L		84
3) Chloromethane	1.997	50	830	0.42	ug/L		96
4) Vinyl Chloride	2.119	62	659	0.36	ug/L		93
5) Bromomethane	2.557	96	398	0.44	ug/L		87
6) Chloroethane	2.740	64	286	Below Cal			92
7) Trichlorofluoromethane	2.929	101	659	0.30	ug/L		97
8) Ethanol	3.636	45	1311	28.35	ug/L		74
9) 1,1-Dichloroethene	3.594	61	984	0.42	ug/L		94
10) Carbon Disulfide	3.594	76	1236	0.34	ug/L		92
11) Freon 113	3.667	101	607	0.30	ug/L		98
12) Iodomethane	3.758	142	539	2.20	ug/L		82
13) Acrolein	4.045	56	151	0.30	ug/L	#	64
14) Methylene Chloride	4.331	84	3654	Below Cal			99
15) Acetone	4.411	43	2004	1.99	ug/L		87
16) t-1,2-Dichloroethene	4.514	61	1035	0.44	ug/L		99
17) n-Hexane	4.618	86	109	0.46	ug/L	#	39
18) Methyl-tert-butyl-ether	4.673	73	1884	0.43	ug/L		91
19) tert-Butanol (TBA)	4.831	59	8203	24.12	ug/L	#	45
20) Diisopropyl ether (DIPE)	5.118	45	543	0.13	ug/L		82
21) 1,1-Dichloroethane	5.222	63	1228	0.39	ug/L		98
22) Acrylonitrile	5.301	53	541	0.46	ug/L		91
23) Vinyl Acetate	5.545	43	578	0.22	ug/L		74
24) Ethyl-tert-butyl ether...	5.520	59	422	0.11	ug/L		81
25) c-1,2-Dichloroethene	5.831	61	1034	0.44	ug/L		96
26) 2,2-Dichloropropane	5.941	77	539	0.37	ug/L		68
27) Bromochloromethane	6.045	49	643	0.41	ug/L		95
28) Chloroform	6.136	83	1282	0.38	ug/L		89
29) Carbon Tetrachloride	6.270	117	509	0.30	ug/L		91
30) Tetrahydrofuran	6.331	42	440	0.46	ug/L		92
31) 1,1,1-Trichloroethane	6.349	97	847	0.38	ug/L		95
33) 1,1-Dichloropropene	6.490	75	932	0.41	ug/L		87
34) 2-Butanone (MEK)	6.496	43	1419	0.94	ug/L		95
35) Benzene	6.764	78	3292	0.43	ug/L		96
36) tert-Amyl methyl ether...	6.904	73	532	0.13	ug/L	#	14
37) 1,2-Dichloroethane (EDC)	6.996	62	999	0.41	ug/L		93
38) iso-Butyl Alcohol	7.057	43	1591	10.81	ug/L		81
40) Trichloroethene (TCE)	7.422	130	829	0.40	ug/L		86
41) tert-Amyl ethyl ether ...	7.697	59	236	0.09	ug/L		91
42) Dibromomethane	7.892	93	490	0.41	ug/L		92
43) 1,2-Dichloropropane	8.002	63	771	0.38	ug/L		92
44) Bromodichloromethane	8.081	83	646	0.32	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.757	63	380	0.72	ug/L	#	1
47) c-1,3-Dichloropropene	8.806	75	702	0.37	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	9.050	91	3217	0.41	ug/L	91
50) Tetrachloroethene (PCE)	9.440	166	787	0.39	ug/L	97
51) 4-Methyl-2-Pentanone (...	9.446	43	1948	0.87	ug/L	95
52) t-1,3-Dichloropropene	9.483	75	547	0.47	ug/L	96
53) 1,1,2-Trichloroethane	9.629	97	739	0.39	ug/L	86
54) Dibromochloromethane	9.794	129	417	0.30	ug/L	90
55) 1,3-Dichloropropane	9.885	76	1260	0.43	ug/L	96
56) 1,2-Dibromoethane (EDB)	10.013	107	626	0.34	ug/L	98
57) 2-Hexanone	10.221	43	1224	0.73	ug/L	94
58) Chlorobenzene	10.471	112	2071	0.40	ug/L #	69
59) Ethylbenzene	10.495	91	2986	0.39	ug/L	96
60) 1,1,1,2-Tetrachloroethane	10.531	131	439	0.35	ug/L	95
61) m,p-Xylenes (2)	10.617	91	4223	0.86	ug/L	99
62) o-Xylene	10.970	91	2140	0.47	ug/L	92
63) Styrene	11.019	104	1435	0.43	ug/L	98
64) Bromoform	11.044	173	210	0.49	ug/L	85
65) Isopropylbenzene	11.220	105	2385	0.45	ug/L	96
68) Bromobenzene	11.531	156	815	0.39	ug/L	85
69) n-Propylbenzene	11.544	91	2740	0.40	ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	965	0.34	ug/L	98
71) 2-Chlorotoluene	11.672	126	619	0.41	ug/L	86
72) 1,3,5-Trimethylbenzene	11.690	105	1829	0.43	ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	303	0.37	ug/L #	81
74) t-1,4-Dichloro-2-butene	11.739	88	10	0.42	ug/L #	1
75) 4-Chlorotoluene	11.800	91	1795	0.43	ug/L	97
76) tert-Butylbenzene	11.934	91	1033	0.45	ug/L	83
77) 1,2,4-Trimethylbenzene	11.989	105	1971	0.45	ug/L	98
78) sec-Butylbenzene	12.068	105	2017	0.38	ug/L	96
79) 4-Isopropyltoluene	12.165	119	1663	0.44	ug/L	98
80) 1,3-Dichlorobenzene	12.245	146	1282	0.41	ug/L	94
81) 1,4-Dichlorobenzene	12.306	146	1431	0.42	ug/L	78
82) n-Butylbenzene	12.488	91	1516	0.45	ug/L	95
83) 1,2-Dichlorobenzene	12.635	146	1109	0.38	ug/L	96
84) 1,2-Dibromo-3-Chloropr...	13.287	157	71	0.16	ug/L	91
85) Hexachlorobutadiene	13.830	223	146	0.35	ug/L #	79
86) 1,2,4-Trichlorobenzene	13.878	180	642	0.42	ug/L	91
87) Naphthalene	14.202	128	1468	1.07	ug/L	97
88) 1,2,3-Trichlorobenzene	14.397	180	579	0.41	ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19 MM

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	96555	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	256341	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	111622	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	93900	46.06 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	314912	47.54 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	354137	50.91 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	99765	50.96 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	332	0.24 ug/L	84
3) Chloromethane	1.997	50	830	0.42 ug/L	96
4) Vinyl Chloride	2.119	62	659	0.36 ug/L	93
5) Bromomethane	2.557	96	398	0.44 ug/L	87
6) Chloroethane	2.740	64	286	Below Cal	92
7) Trichlorofluoromethane	2.929	101	659	0.30 ug/L	97
8) Ethanol	3.636	45	1311	28.35 ug/L	74
9) 1,1-Dichloroethene	3.594	61	984	0.42 ug/L	94
10) Carbon Disulfide	3.594	76	1236	0.34 ug/L	92
11) Freon 113	3.667	101	607	0.30 ug/L	98
12) Iodomethane	3.758	142	539	2.20 ug/L	82
13) Acrolein	4.045	56	151	0.30 ug/L #	64
14) Methylene Chloride	4.331	84	3654	Below Cal	99
15) Acetone	4.411	43	2004	1.99 ug/L	87
16) t-1,2-Dichloroethene	4.514	61	1035	0.44 ug/L	99
17) n-Hexane	4.618	86	109	0.46 ug/L #	39
18) Methyl-tert-butyl-ether	4.673	73	1884	0.43 ug/L	91
19) tert-Butanol (TBA)	4.831	59	8203	24.12 ug/L #	45
20) Diisopropyl ether (DIPE)	5.118	45	543	0.13 ug/L	82
21) 1,1-Dichloroethane	5.222	63	1228	0.39 ug/L	98
22) Acrylonitrile	5.301	53	541	0.46 ug/L	91
23) Vinyl Acetate	5.545	43	578	0.22 ug/L	74
24) Ethyl-tert-butyl ether...	5.520	59	422	0.11 ug/L	81
25) c-1,2-Dichloroethene	5.831	61	1034	0.44 ug/L	96
26) 2,2-Dichloropropane	5.941	77	539	0.37 ug/L	68
27) Bromochloromethane	6.045	49	643	0.41 ug/L	95
28) Chloroform	6.136	83	1282	0.38 ug/L	89
29) Carbon Tetrachloride	6.270	117	509	0.30 ug/L	91
30) Tetrahydrofuran	6.331	42	440	0.46 ug/L	92
31) 1,1,1-Trichloroethane	6.349	97	847	0.38 ug/L	95
33) 1,1-Dichloropropene	6.490	75	932	0.41 ug/L	87
34) 2-Butanone (MEK)	6.496	43	1419	0.94 ug/L	95
35) Benzene	6.764	78	3292	0.43 ug/L	96
36) tert-Amyl methyl ether...	6.904	73	532	0.13 ug/L #	14
37) 1,2-Dichloroethane (EDC)	6.996	62	999	0.41 ug/L	93
38) iso-Butyl Alcohol	7.057	43	1591	10.81 ug/L	81
40) Trichloroethene (TCE)	7.422	130	829	0.40 ug/L	86
41) tert-Amyl ethyl ether ...	7.697	59	236	0.09 ug/L	91
42) Dibromomethane	7.892	93	490	0.41 ug/L	92
43) 1,2-Dichloropropane	8.002	63	771	0.38 ug/L	92
44) Bromodichloromethane	8.081	83	646	0.32 ug/L	93
46) 2-Chloroethyl Vinyl Ether	8.757	63	380	0.72 ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	702	0.37 ug/L	98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

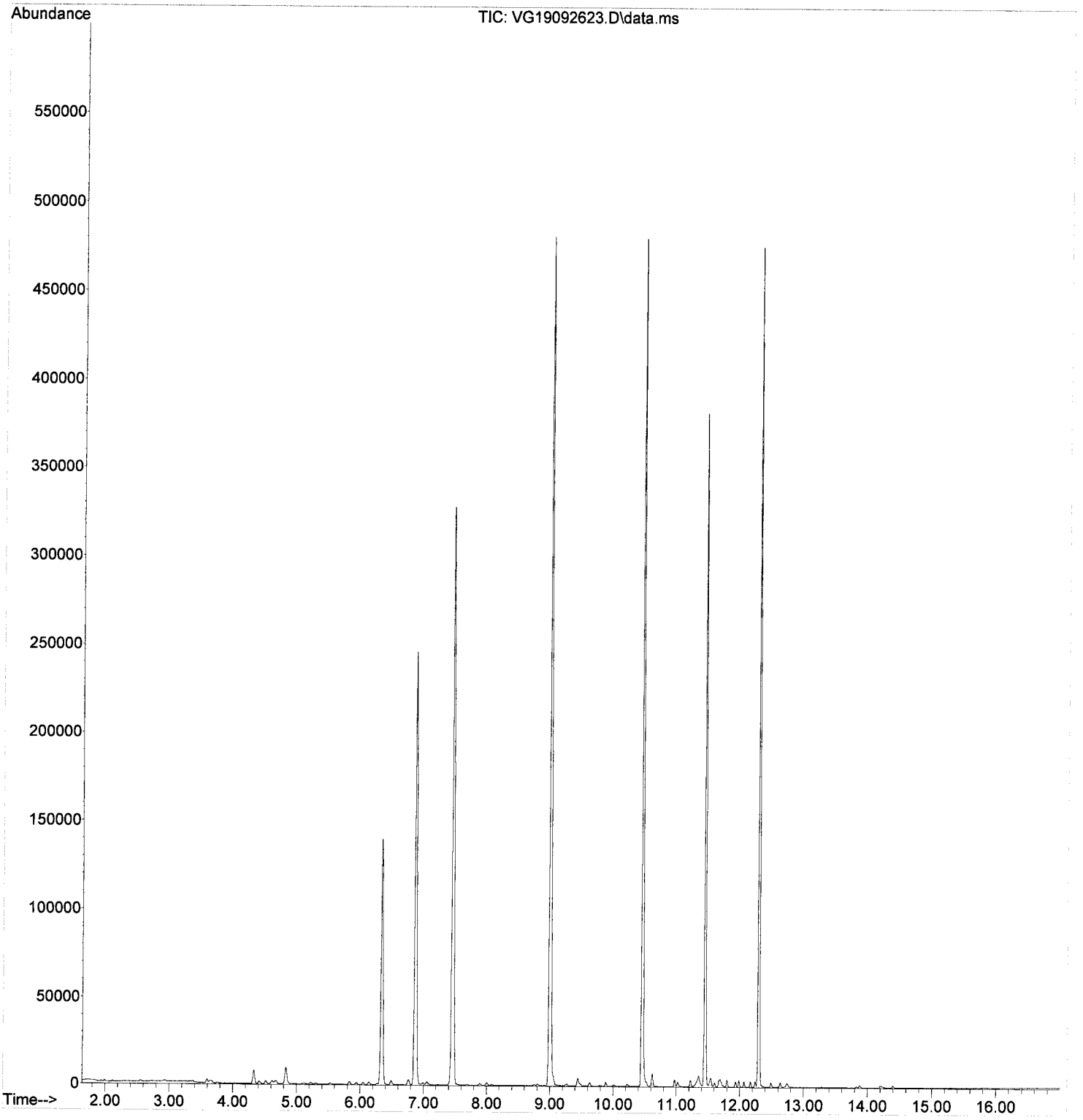
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	3217	0.41 ug/L	91
50) Tetrachloroethene (PCE)	9.440	166	787	0.39 ug/L	97
51) 4-Methyl-2-Pentanone (...	9.446	43	1948	0.87 ug/L	95
52) t-1,3-Dichloropropene	9.483	75	547	0.47 ug/L	96
53) 1,1,2-Trichloroethane	9.629	97	739	0.39 ug/L	86
54) Dibromochloromethane	9.794	129	417	0.30 ug/L	90
55) 1,3-Dichloropropane	9.885	76	1260	0.43 ug/L	96
56) 1,2-Dibromoethane (EDB)	10.013	107	626	0.34 ug/L	98
57) 2-Hexanone	10.221	43	1224	0.73 ug/L	94
58) Chlorobenzene	10.471	112	2071	0.40 ug/L #	69
59) Ethylbenzene	10.495	91	2986	0.39 ug/L	96
60) 1,1,1,2-Tetrachloroethane	10.531	131	439	0.35 ug/L	95
61) m,p-Xylenes (2)	10.617	91	4223	0.86 ug/L	99
62) o-Xylene	10.970	91	2140	0.47 ug/L	92
63) Styrene	11.019	104	1435	0.43 ug/L	98
64) Bromoform	11.044	173	210	0.49 ug/L	85
65) Isopropylbenzene	11.220	105	2385	0.45 ug/L	96
68) Bromobenzene	11.531	156	815	0.39 ug/L	85
69) n-Propylbenzene	11.544	91	2740	0.40 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	965	0.34 ug/L	98
71) 2-Chlorotoluene	11.672	126	619	0.41 ug/L	86
72) 1,3,5-Trimethylbenzene	11.690	105	1829	0.43 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	303	0.37 ug/L #	81
74) t-1,4-Dichloro-2-butene	11.739	88	10	0.42 ug/L #	1
75) 4-Chlorotoluene	11.800	91	1795	0.43 ug/L	97
76) tert-Butylbenzene	11.934	91	1033	0.45 ug/L	83
77) 1,2,4-Trimethylbenzene	11.989	105	1971	0.45 ug/L	98
78) sec-Butylbenzene	12.068	105	2017	0.38 ug/L	96
79) 4-Isopropyltoluene	12.165	119	1663	0.44 ug/L	98
80) 1,3-Dichlorobenzene	12.245	146	1282	0.41 ug/L	94
81) 1,4-Dichlorobenzene	12.306	146	1431	0.42 ug/L	78
82) n-Butylbenzene	12.488	91	1516	0.45 ug/L	95
83) 1,2-Dichlorobenzene	12.635	146	1109	0.38 ug/L	96
84) 1,2-Dibromo-3-Chloropr...	13.287	157	71	0.16 ug/L	91
85) Hexachlorobutadiene	13.830	223	146	0.35 ug/L #	79
86) 1,2,4-Trichlorobenzene	13.878	180	642	0.42 ug/L	91
87) Naphthalene	14.202	128	1468	1.07 ug/L	97
88) 1,2,3-Trichlorobenzene	14.397	180	579	0.41 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092623.D
Acq On : 26 Sep 2019 7:52 pm
Operator : MM
Sample : 9I26050-CAL3
Misc : 1X 5mL 0.5/1PPB VOCR
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:50 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:53 2019
Quant Method : C:\msdchem\1\methods\~~VG190930W+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19 MM

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.868	99	99744	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	266167	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	116197	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	94835	45.03	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	323481	47.27	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	366312	50.72	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	104202	51.13	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	997	0.69	ug/L		94
3) Chloromethane	1.997	50	1871	0.91	ug/L		98
4) Vinyl Chloride	2.119	62	1718	0.90	ug/L		93
5) Bromomethane	2.551	96	820	0.88	ug/L		88
6) Chloroethane	2.734	64	505	Below Cal		#	36
7) Trichlorofluoromethane	2.923	101	1896	0.85	ug/L		96
8) Ethanol	3.643	45	3335	69.82	ug/L		79
9) 1,1-Dichloroethene	3.594	61	2543	1.06	ug/L		99
10) Carbon Disulfide	3.594	76	2746	0.73	ug/L		100
11) Freon 113	3.673	101	1697	0.82	ug/L		95
12) Iodomethane	3.758	142	1042	3.19	ug/L		90
13) Acrolein	4.045	56	414	0.80	ug/L		84
14) Methylene Chloride	4.325	84	4845	0.46	ug/L		98
15) Acetone	4.411	43	3337	3.21	ug/L		100
16) t-1,2-Dichloroethene	4.514	61	2564	1.05	ug/L		98
17) n-Hexane	4.618	86	279	1.13	ug/L		95
18) Methyl-tert-butyl-ether	4.673	73	5127	1.14	ug/L		94
19) tert-Butanol (TBA)	4.831	59	22478	63.97	ug/L	#	50
20) Diisopropyl ether (DIPE)	5.118	45	1426	0.32	ug/L		94
21) 1,1-Dichloroethane	5.222	63	3266	0.99	ug/L		93
22) Acrylonitrile	5.301	53	1287	1.07	ug/L		88
23) Vinyl Acetate	5.539	43	1605	0.58	ug/L		91
24) Ethyl-tert-butyl ether...	5.526	59	1196	0.30	ug/L		96
25) c-1,2-Dichloroethene	5.831	61	2900	1.20	ug/L		97
26) 2,2-Dichloropropane	5.941	77	1485	0.98	ug/L	#	55
27) Bromochloromethane	6.051	49	1700	1.06	ug/L		96
28) Chloroform	6.142	83	3343	0.96	ug/L		98
29) Carbon Tetrachloride	6.270	117	1445	0.83	ug/L		97
30) Tetrahydrofuran	6.319	42	1203	1.21	ug/L		94
31) 1,1,1-Trichloroethane	6.349	97	2262	0.99	ug/L		95
33) 1,1-Dichloropropene	6.490	75	2496	1.07	ug/L		96
34) 2-Butanone (MEK)	6.490	43	3599	2.31	ug/L		99
35) Benzene	6.758	78	8398	1.05	ug/L		98
36) tert-Amyl methyl ether...	6.904	73	1161	0.28	ug/L	#	42
37) 1,2-Dichloroethane (EDC)	6.990	62	2739	1.08	ug/L		97
38) iso-Butyl Alcohol	7.057	43	4224	27.78	ug/L		90
40) Trichloroethene (TCE)	7.416	130	2241	1.04	ug/L		95
41) tert-Amyl ethyl ether ...	7.697	59	732	0.27	ug/L		83
42) Dibromomethane	7.892	93	1232	1.00	ug/L		97
43) 1,2-Dichloropropane	8.002	63	2157	1.04	ug/L		98
44) Bromodichloromethane	8.087	83	1723	0.84	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.745	63	1292	1.55	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	2001	1.00	ug/L		89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:53 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

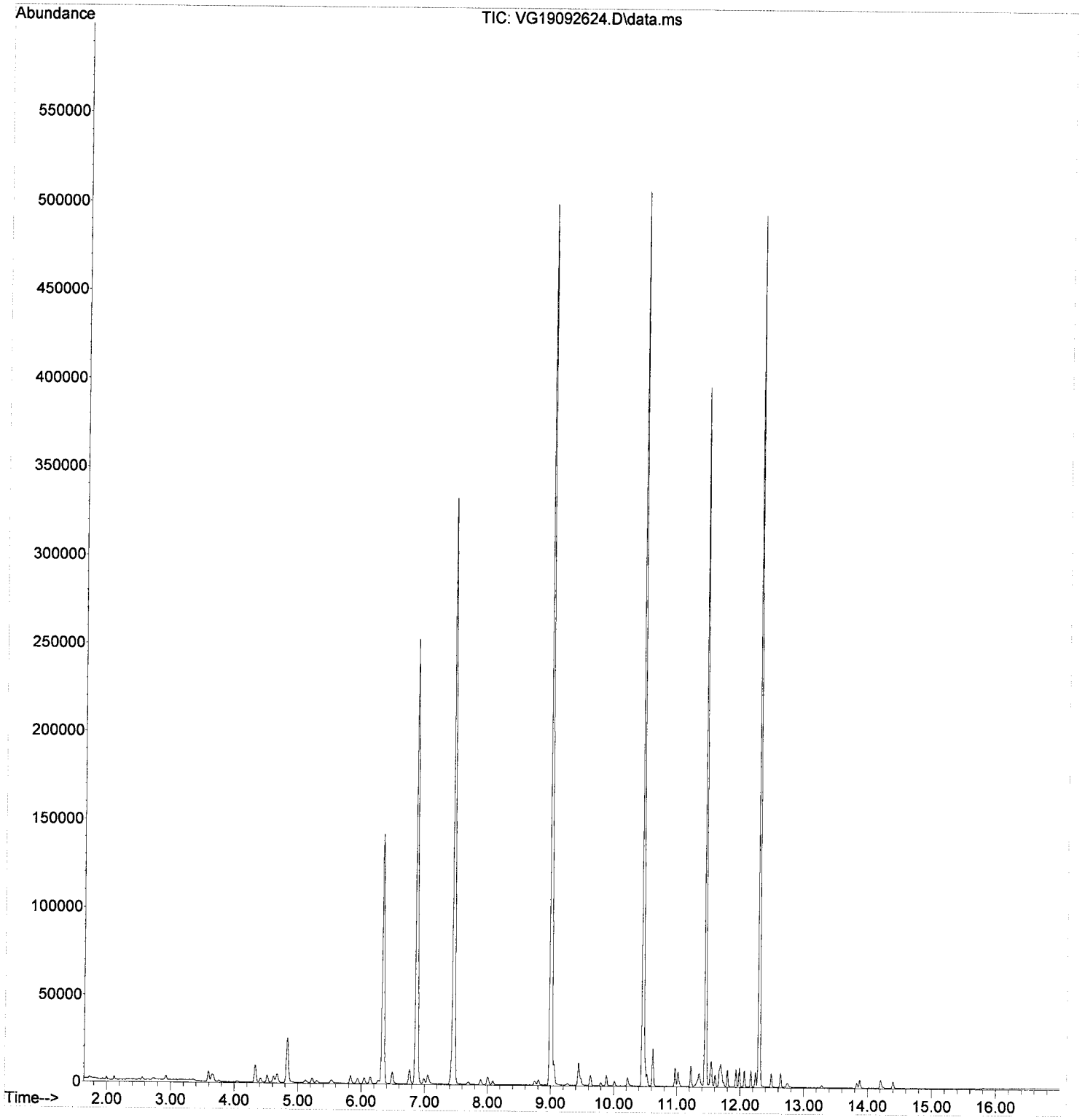
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	9.050	91	8510	1.05	ug/L	100
50) Tetrachloroethene (PCE)	9.440	166	2152	1.03	ug/L	94
51) 4-Methyl-2-Pentanone (...	9.446	43	5746	2.47	ug/L	97
52) t-1,3-Dichloropropene	9.483	75	1611	0.97	ug/L	95
53) 1,1,2-Trichloroethane	9.629	97	2038	1.04	ug/L	95
54) Dibromochloromethane	9.794	129	1077	0.75	ug/L	92
55) 1,3-Dichloropropane	9.885	76	3424	1.13	ug/L	96
56) 1,2-Dibromoethane (EDB)	10.013	107	1907	1.01	ug/L	98
57) 2-Hexanone	10.221	43	3818	2.18	ug/L	98
58) Chlorobenzene	10.471	112	5519	1.02	ug/L	92
59) Ethylbenzene	10.495	91	8732	1.11	ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.525	131	1236	0.94	ug/L	98
61) m,p-Xylenes (2)	10.617	91	11304	2.05	ug/L	98
62) o-Xylene	10.970	91	5733	1.10	ug/L	97
63) Styrene	11.019	104	4008	0.97	ug/L	97
64) Bromoform	11.044	173	671	0.87	ug/L	85
65) Isopropylbenzene	11.220	105	6575	1.04	ug/L	97
68) Bromobenzene	11.531	156	2151	0.99	ug/L	93
69) n-Propylbenzene	11.544	91	7288	1.03	ug/L	94
70) 1,1,2,2-Tetrachloroethane	11.604	83	2692	0.91	ug/L	99
71) 2-Chlorotoluene	11.672	126	1662	1.05	ug/L	96
72) 1,3,5-Trimethylbenzene	11.690	105	5019	1.14	ug/L	97
73) 1,2,3-Trichloropropane	11.708	110	845	1.00	ug/L	95
74) t-1,4-Dichloro-2-butene	11.739	88	127	0.92	ug/L #	51
75) 4-Chlorotoluene	11.800	91	4814	1.11	ug/L	98
76) tert-Butylbenzene	11.934	91	2804	1.19	ug/L	99
77) 1,2,4-Trimethylbenzene	11.989	105	5459	1.20	ug/L	97
78) sec-Butylbenzene	12.068	105	5736	1.05	ug/L	97
79) 4-Isopropyltoluene	12.165	119	4772	1.22	ug/L	96
80) 1,3-Dichlorobenzene	12.239	146	3201	0.98	ug/L	95
81) 1,4-Dichlorobenzene	12.306	146	3526	0.99	ug/L	91
82) n-Butylbenzene	12.488	91	4162	1.18	ug/L	97
83) 1,2-Dichlorobenzene	12.635	146	3202	1.05	ug/L	96
84) 1,2-Dibromo-3-Chloropr...	13.287	157	312	0.69	ug/L #	73
85) Hexachlorobutadiene	13.836	223	463	1.08	ug/L	90
86) 1,2,4-Trichlorobenzene	13.878	180	1785	1.13	ug/L	96
87) Naphthalene	14.202	128	4456	1.60	ug/L	97
88) 1,2,3-Trichlorobenzene	14.397	180	1637	1.11	ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092624.D
Acq On : 26 Sep 2019 8:19 pm
Operator : MM
Sample : 9I26050-CAL4
Misc : 1X 5mL 1/2PPB VOCR
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:53 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

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Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092625.D
Acq On    : 26 Sep 2019   8:46 pm
Operator  : MM
Sample    : 9I26050-CAL5
Misc      : 1X   5mL  2/4PPB VOCR
ALS Vial  : 8   Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title  : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration
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Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	96729	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	259713	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	114070	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	91562	44.83	ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	309764	46.68	ug/L	0.00
48) Toluene-d8 (S)	8.995	98	355642	50.47	ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	102067	51.02	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	1819	1.31	ug/L	97
3) Chloromethane	1.997	50	3271	1.64	ug/L	97
4) Vinyl Chloride	2.118	62	3174	1.72	ug/L	90
5) Bromomethane	2.557	96	1514	1.68	ug/L	98
6) Chloroethane	2.734	64	661	Below	Cal	77
7) Trichlorofluoromethane	2.923	101	3468	1.60	ug/L	97
8) Ethanol	3.649	45	6105	131.79	ug/L	85
9) 1,1-Dichloroethene	3.594	61	4912	2.11	ug/L	99
10) Carbon Disulfide	3.594	76	5204	1.43	ug/L	98
11) Freon 113	3.661	101	3243	1.61	ug/L	96
12) Iodomethane	3.758	142	1916	5.04	ug/L	95
13) Acrolein	4.045	56	797	1.59	ug/L	96
14) Methylene Chloride	4.325	84	6326	1.33	ug/L	99
15) Acetone	4.411	43	5535	5.49	ug/L	93
16) t-1,2-Dichloroethene	4.514	61	4953	2.10	ug/L	99
17) n-Hexane	4.618	86	515	2.15	ug/L #	85
18) Methyl-tert-butyl-ether	4.673	73	9311	2.13	ug/L	94
19) tert-Butanol (TBA)	4.831	59	41156	120.78	ug/L #	55
20) Diisopropyl ether (DIPE)	5.118	45	2807	0.65	ug/L	93
21) 1,1-Dichloroethane	5.222	63	6235	1.96	ug/L	99
22) Acrylonitrile	5.301	53	2497	2.13	ug/L	98
23) Vinyl Acetate	5.539	43	3426	1.28	ug/L	95
24) Ethyl-tert-butyl ether...	5.526	59	2131	0.54	ug/L	90
25) c-1,2-Dichloroethene	5.831	61	5314	2.27	ug/L	99
26) 2,2-Dichloropropane	5.935	77	2845	1.94	ug/L #	68
27) Bromochloromethane	6.045	49	3244	2.08	ug/L	97
28) Chloroform	6.142	83	6362	1.89	ug/L	95
29) Carbon Tetrachloride	6.270	117	2683	1.59	ug/L	98
30) Tetrahydrofuran	6.319	42	2230	2.31	ug/L	99
31) 1,1,1-Trichloroethane	6.343	97	4202	1.90	ug/L	93
33) 1,1-Dichloropropene	6.490	75	4855	2.14	ug/L	98
34) 2-Butanone (MEK)	6.490	43	6651	4.40	ug/L	98
35) Benzene	6.758	78	16033	2.08	ug/L	98
36) tert-Amyl methyl ether...	6.904	73	1931	0.48	ug/L #	61
37) 1,2-Dichloroethane (EDC)	6.989	62	5115	2.09	ug/L	94
38) iso-Butyl Alcohol	7.050	43	7745	52.52	ug/L	91
40) Trichloroethene (TCE)	7.416	130	4121	1.98	ug/L	97
41) tert-Amyl ethyl ether ...	7.697	59	1360	0.51	ug/L	91
42) Dibromomethane	7.892	93	2308	1.94	ug/L	98
43) 1,2-Dichloropropane	8.001	63	4061	2.01	ug/L	96
44) Bromodichloromethane	8.081	83	3209	1.61	ug/L	94
46) 2-Chloroethyl Vinyl Ether	8.745	63	2529	2.75	ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	3781	1.94	ug/L	92

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092625.D
Acq On : 26 Sep 2019 8:46 pm
Operator : MM
Sample : 9I26050-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

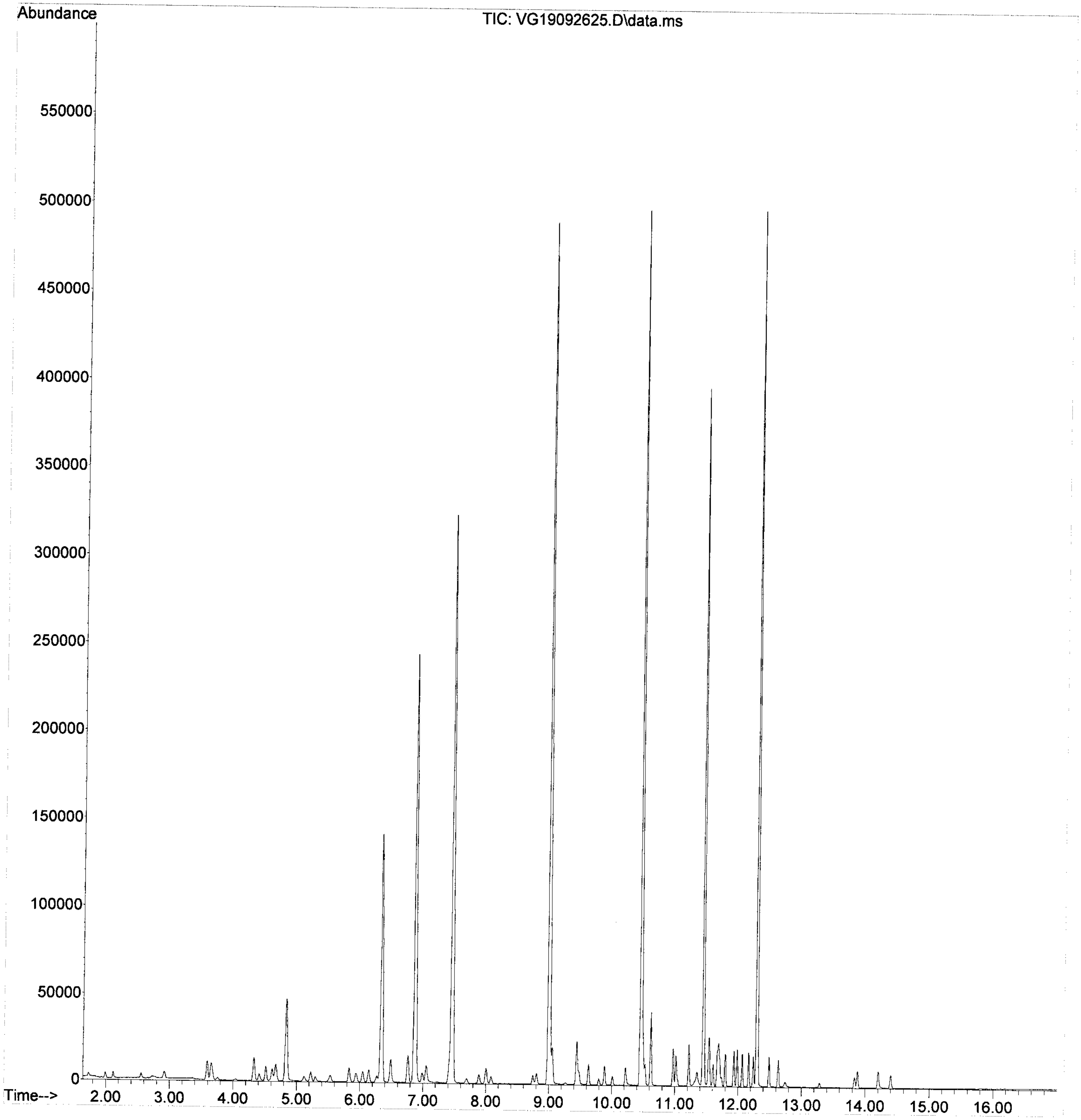
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	16301	2.05 ug/L	100
50) Tetrachloroethene (PCE)	9.434	166	3931	1.93 ug/L	98
51) 4-Methyl-2-Pentanone (...	9.446	43	11030	4.87 ug/L	97
52) t-1,3-Dichloropropene	9.477	75	3064	1.71 ug/L	97
53) 1,1,2-Trichloroethane	9.629	97	3670	1.92 ug/L	97
54) Dibromochloromethane	9.794	129	2025	1.44 ug/L	98
55) 1,3-Dichloropropane	9.885	76	6255	2.12 ug/L	98
56) 1,2-Dibromoethane (EDB)	10.007	107	3645	1.98 ug/L	96
57) 2-Hexanone	10.214	43	7520	4.41 ug/L	97
58) Chlorobenzene	10.470	112	10263	1.94 ug/L	95
59) Ethylbenzene	10.495	91	16502	2.15 ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.525	131	2330	1.81 ug/L	97
61) m,p-Xylenes (2)	10.617	91	22167	4.03 ug/L	99
62) o-Xylene	10.970	91	11104	2.10 ug/L	97
63) Styrene	11.013	104	8216	1.91 ug/L	98
64) Bromoform	11.044	173	1255	1.39 ug/L	96
65) Isopropylbenzene	11.220	105	13548	2.10 ug/L	96
68) Bromobenzene	11.531	156	4051	1.91 ug/L	86
69) n-Propylbenzene	11.543	91	14638	2.11 ug/L	98
70) 1,1,2,2-Tetrachloroethane	11.604	83	5037	1.73 ug/L	96
71) 2-Chlorotoluene	11.671	126	3318	2.13 ug/L	97
72) 1,3,5-Trimethylbenzene	11.690	105	10019	2.31 ug/L	95
73) 1,2,3-Trichloropropane	11.708	110	1630	1.97 ug/L	96
74) t-1,4-Dichloro-2-butene	11.739	88	309	1.71 ug/L #	43
75) 4-Chlorotoluene	11.793	91	9331	2.20 ug/L	96
76) tert-Butylbenzene	11.934	91	5653	2.43 ug/L	92
77) 1,2,4-Trimethylbenzene	11.982	105	10397	2.33 ug/L	98
78) sec-Butylbenzene	12.068	105	11614	2.17 ug/L	97
79) 4-Isopropyltoluene	12.165	119	9351	2.43 ug/L	97
80) 1,3-Dichlorobenzene	12.238	146	6241	1.95 ug/L	97
81) 1,4-Dichlorobenzene	12.306	146	6450	1.85 ug/L	94
82) n-Butylbenzene	12.488	91	8292	2.40 ug/L	97
83) 1,2-Dichlorobenzene	12.635	146	5948	1.98 ug/L	99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	589	1.33 ug/L #	56
85) Hexachlorobutadiene	13.836	223	913	2.17 ug/L	96
86) 1,2,4-Trichlorobenzene	13.878	180	3569	2.30 ug/L	94
87) Naphthalene	14.201	128	8574	2.37 ug/L	97
88) 1,2,3-Trichlorobenzene	14.397	180	2987	2.07 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092625.D
Acq On : 26 Sep 2019 8:46 pm
Operator : MM
Sample : 9I26050-CAL5
Misc : 1X 5mL 2/4PPB VOCR
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:56 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092626.D
Acq On : 26 Sep 2019 9:13 pm
Operator : MM
Sample : 9I26050-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/19MM

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.867	99	100549	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	269093	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	116280	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	98527	46.41	ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	327177	47.43	ug/L	0.00
48) Toluene-d8 (S)	8.995	98	370481	50.74	ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	105465	51.72	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	5552	3.84	ug/L	98
3) Chloromethane	1.996	50	8350	4.03	ug/L	98
4) Vinyl Chloride	2.118	62	8444	4.39	ug/L	95
5) Bromomethane	2.557	96	3788	4.04	ug/L	99
6) Chloroethane	2.740	64	2298	1.85	ug/L	91
7) Trichlorofluoromethane	2.929	101	8591	3.81	ug/L	98
8) Ethanol	3.636	45	16435	341.31	ug/L	82
9) 1,1-Dichloroethene	3.594	61	12096	5.00	ug/L	99
10) Carbon Disulfide	3.594	76	13988	3.70	ug/L	99
11) Freon 113	3.667	101	7496	3.58	ug/L	96
12) Iodomethane	3.758	142	4369	9.50	ug/L	96
13) Acrolein	4.045	56	2111	4.05	ug/L	96
14) Methylene Chloride	4.325	84	12220	4.25	ug/L	98
15) Acetone	4.411	43	11329	10.81	ug/L	96
16) t-1,2-Dichloroethene	4.514	61	12446	5.07	ug/L	99
17) n-Hexane	4.618	86	1240	4.97	ug/L #	40
18) Methyl-tert-butyl-ether	4.673	73	24595	5.40	ug/L	98
19) tert-Butanol (TBA)	4.825	59	113989	321.80	ug/L #	62
20) Diisopropyl ether (DIPE)	5.118	45	7166	1.61	ug/L	93
21) 1,1-Dichloroethane	5.221	63	16248	4.91	ug/L	98
22) Acrylonitrile	5.295	53	6207	5.10	ug/L	93
23) Vinyl Acetate	5.538	43	13087	4.69	ug/L	98
24) Ethyl-tert-butyl ether...	5.526	59	5705	1.40	ug/L	91
25) c-1,2-Dichloroethene	5.831	61	13649	5.60	ug/L	97
26) 2,2-Dichloropropane	5.941	77	7434	4.89	ug/L #	60
27) Bromochloromethane	6.044	49	8514	5.25	ug/L	98
28) Chloroform	6.142	83	16345	4.68	ug/L	99
29) Carbon Tetrachloride	6.270	117	7037	4.01	ug/L	95
30) Tetrahydrofuran	6.313	42	5884	5.88	ug/L	92
31) 1,1,1-Trichloroethane	6.349	97	10978	4.77	ug/L	94
33) 1,1-Dichloropropene	6.489	75	12139	5.14	ug/L	97
34) 2-Butanone (MEK)	6.483	43	17146	10.92	ug/L	100
35) Benzene	6.764	78	40141	5.00	ug/L	98
36) tert-Amyl methyl ether...	6.904	73	4993	1.19	ug/L	66
37) 1,2-Dichloroethane (EDC)	6.989	62	13178	5.17	ug/L	98
38) iso-Butyl Alcohol	7.050	43	23235	151.59	ug/L	95
40) Trichloroethene (TCE)	7.416	130	10301	4.76	ug/L	98
41) tert-Amyl ethyl ether ...	7.690	59	3676	1.32	ug/L	89
42) Dibromomethane	7.886	93	6245	5.04	ug/L	94
43) 1,2-Dichloropropane	8.001	63	10615	5.06	ug/L	98
44) Bromodichloromethane	8.081	83	8604	4.15	ug/L	97
46) 2-Chloroethyl Vinyl Ether	8.745	63	6916	6.64	ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	10945	5.42	ug/L	96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092626.D
Acq On : 26 Sep 2019 9:13 pm
Operator : MM
Sample : 9I26050-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

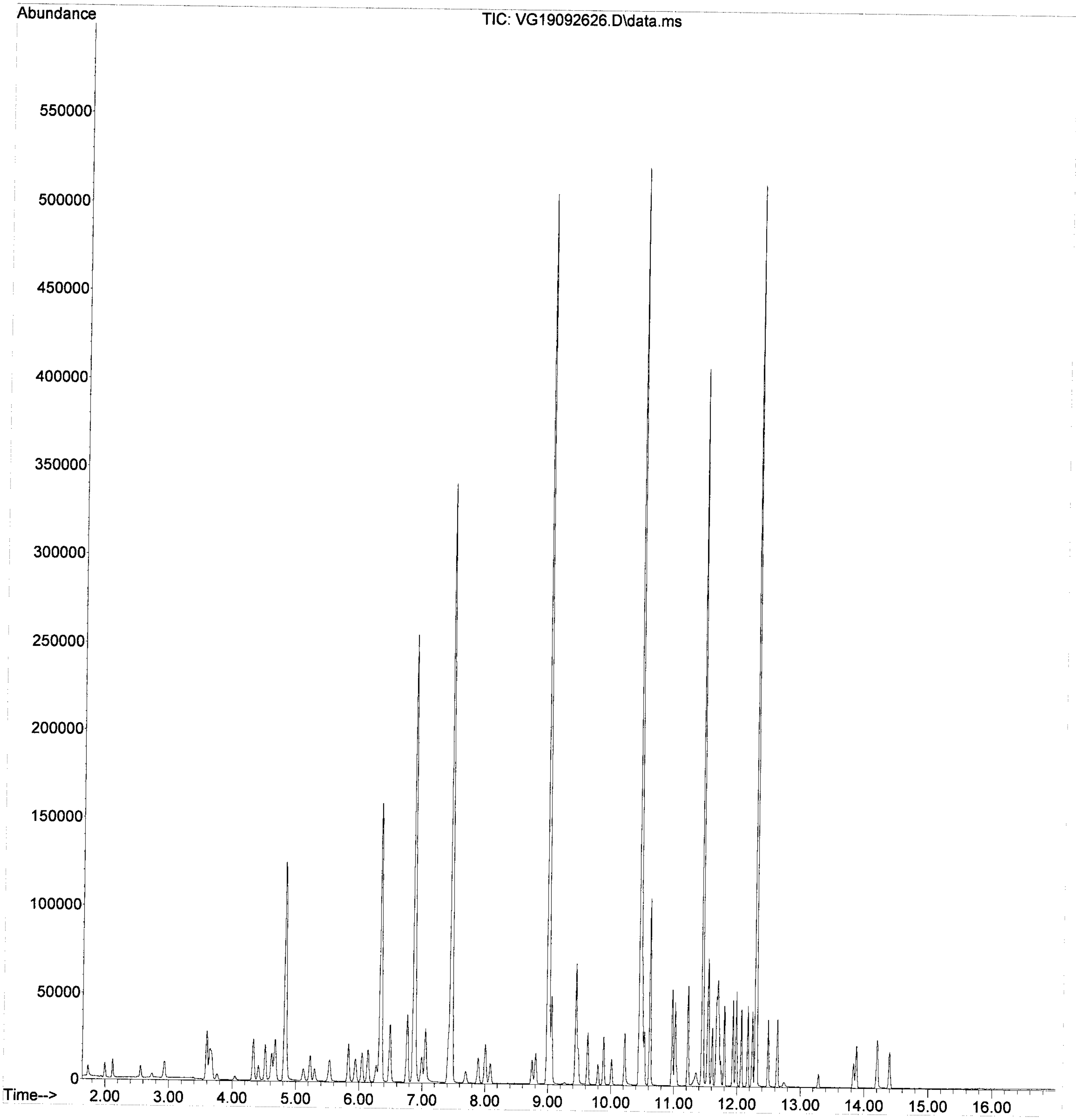
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	39843	4.85 ug/L	99
50) Tetrachloroethene (PCE)	9.434	166	9681	4.59 ug/L	97
51) 4-Methyl-2-Pentanone (...	9.440	43	29627	12.62 ug/L	98
52) t-1,3-Dichloropropene	9.477	75	9350	4.64 ug/L	96
53) 1,1,2-Trichloroethane	9.629	97	9710	4.90 ug/L	97
54) Dibromochloromethane	9.794	129	5996	4.11 ug/L	95
55) 1,3-Dichloropropane	9.885	76	16370	5.37 ug/L	98
56) 1,2-Dibromoethane (EDB)	10.007	107	9704	5.08 ug/L	98
57) 2-Hexanone	10.214	43	20475	11.58 ug/L	99
58) Chlorobenzene	10.470	112	25651	4.68 ug/L	99
59) Ethylbenzene	10.495	91	39695	5.00 ug/L	99
60) 1,1,1,2-Tetrachloroethane	10.525	131	6601	4.95 ug/L	96
61) m,p-Xylenes (2)	10.617	91	55541	9.60 ug/L	98
62) o-Xylene	10.970	91	28275	5.04 ug/L	99
63) Styrene	11.013	104	21446	4.66 ug/L	99
64) Bromoform	11.043	173	3664	3.36 ug/L	98
65) Isopropylbenzene	11.220	105	33272	4.85 ug/L	99
68) Bromobenzene	11.531	156	10396	4.80 ug/L	94
69) n-Propylbenzene	11.543	91	35827	5.08 ug/L	98
70) 1,1,2,2-Tetrachloroethane	11.604	83	13680	4.62 ug/L	96
71) 2-Chlorotoluene	11.671	126	8197	5.15 ug/L	98
72) 1,3,5-Trimethylbenzene	11.690	105	24697	5.59 ug/L	94
73) 1,2,3-Trichloropropane	11.708	110	4260	5.06 ug/L	85
74) t-1,4-Dichloro-2-butene	11.738	88	933	4.33 ug/L #	60
75) 4-Chlorotoluene	11.793	91	23567	5.45 ug/L	97
76) tert-Butylbenzene	11.934	91	13488	5.70 ug/L	94
77) 1,2,4-Trimethylbenzene	11.982	105	25417	5.59 ug/L	98
78) sec-Butylbenzene	12.068	105	27530	5.04 ug/L	97
79) 4-Isopropyltoluene	12.165	119	22443	5.72 ug/L	98
80) 1,3-Dichlorobenzene	12.238	146	15933	4.89 ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	16067	4.53 ug/L	96
82) n-Butylbenzene	12.488	91	18765	5.34 ug/L	96
83) 1,2-Dichlorobenzene	12.635	146	15283	4.98 ug/L	99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	1855	4.11 ug/L	82
85) Hexachlorobutadiene	13.836	223	2004	4.67 ug/L	88
86) 1,2,4-Trichlorobenzene	13.878	180	8740	5.52 ug/L	97
87) Naphthalene	14.201	128	24760	5.24 ug/L	99
88) 1,2,3-Trichlorobenzene	14.396	180	7964	5.41 ug/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092626.D
Acq On : 26 Sep 2019 9:13 pm
Operator : MM
Sample : 9I26050-CAL6
Misc : 1X 5mL 5/10PPB VOCR
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:07:59 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092627.D
Acq On : 26 Sep 2019 9:40 pm
Operator : MM
Sample : 9I26050-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	94319	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	252515	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	114038	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	94296	47.35 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	307261	47.48 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	346726	50.60 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	100472	50.24 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	13110	9.66 ug/L	98
3) Chloromethane	1.997	50	17690	9.10 ug/L	99
4) Vinyl Chloride	2.119	62	18988	10.52 ug/L	94
5) Bromomethane	2.557	96	7207	8.20 ug/L	95
6) Chloroethane	2.728	64	3523	7.61 ug/L	85
7) Trichlorofluoromethane	2.923	101	19831	9.37 ug/L	97
8) Ethanol	3.643	45	33979	752.26 ug/L	83
9) 1,1-Dichloroethene	3.594	61	26918	11.87 ug/L	99
10) Carbon Disulfide	3.594	76	32528	9.18 ug/L	98
11) Freon 113	3.667	101	17532	8.92 ug/L	98
12) Iodomethane	3.758	142	10076	20.26 ug/L	99
13) Acrolein	4.045	56	4450	9.09 ug/L	98
14) Methylene Chloride	4.325	84	21075	9.57 ug/L	99
15) Acetone	4.405	43	22156	22.54 ug/L	98
16) t-1,2-Dichloroethene	4.514	61	26538	11.51 ug/L	99
17) n-Hexane	4.618	86	2758	11.79 ug/L #	55
18) Methyl-tert-butyl-ether	4.667	73	51504	12.06 ug/L	96
19) tert-Butanol (TBA)	4.831	59	245440	738.67 ug/L #	71
20) Diisopropyl ether (DIPE)	5.118	45	14887	3.56 ug/L	93
21) 1,1-Dichloroethane	5.222	63	34182	11.01 ug/L	99
22) Acrylonitrile	5.295	53	12922	11.33 ug/L	99
23) Vinyl Acetate	5.539	43	29166	11.13 ug/L	96
24) Ethyl-tert-butyl ether...	5.520	59	11927	3.11 ug/L	96
25) c-1,2-Dichloroethene	5.831	61	28583	12.50 ug/L	97
26) 2,2-Dichloropropane	5.941	77	16550	11.60 ug/L	69
27) Bromochloromethane	6.045	49	17537	11.53 ug/L	97
28) Chloroform	6.142	83	34166	10.43 ug/L	97
29) Carbon Tetrachloride	6.270	117	16875	10.26 ug/L	94
30) Tetrahydrofuran	6.313	42	12243	13.03 ug/L	98
31) 1,1,1-Trichloroethane	6.349	97	24708	11.45 ug/L	96
33) 1,1-Dichloropropene	6.490	75	26617	12.01 ug/L	98
34) 2-Butanone (MEK)	6.484	43	36000	24.44 ug/L	99
35) Benzene	6.758	78	83394	11.08 ug/L	99
36) tert-Amyl methyl ether...	6.904	73	10246	2.61 ug/L	74
37) 1,2-Dichloroethane (EDC)	6.990	62	26732	11.19 ug/L	98
38) iso-Butyl Alcohol	7.044	43	50963	354.45 ug/L	97
40) Trichloroethene (TCE)	7.416	130	21700	10.70 ug/L	98
41) tert-Amyl ethyl ether ...	7.691	59	7612	2.92 ug/L	90
42) Dibromomethane	7.886	93	13106	11.27 ug/L	95
43) 1,2-Dichloropropane	8.002	63	21773	11.07 ug/L	92
44) Bromodichloromethane	8.081	83	19192	9.86 ug/L	96
46) 2-Chloroethyl Vinyl Ether	8.745	63	14960	14.72 ug/L #	1
47) c-1,3-Dichloropropene	8.800	75	24537	12.96 ug/L	95

9/30/19 [handwritten initials]

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092627.D
Acq On : 26 Sep 2019 9:40 pm
Operator : MM
Sample : 9I26050-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

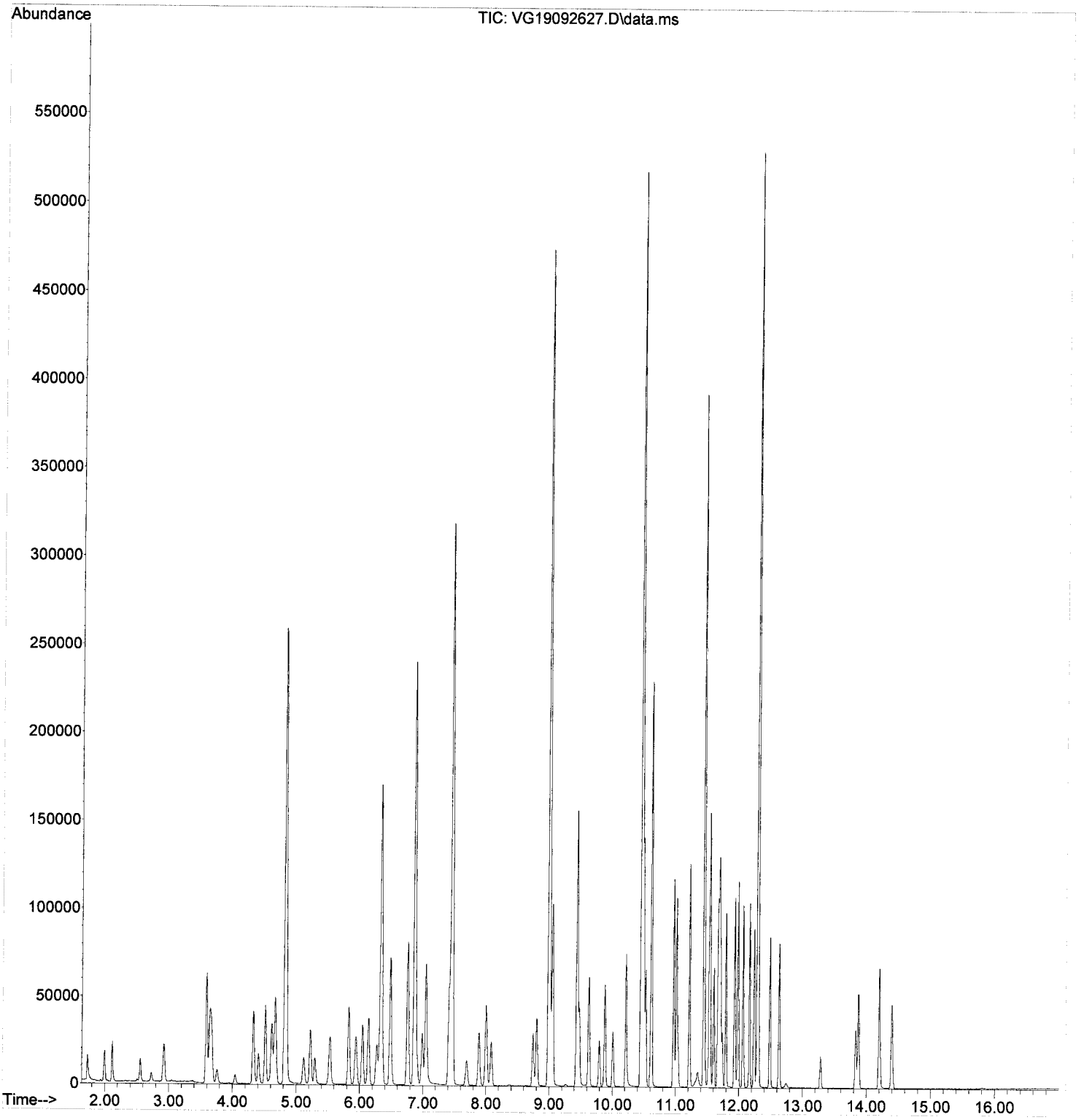
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	82464	10.69	ug/L		99
50) Tetrachloroethene (PCE)	9.434	166	20775	10.49	ug/L		95
51) 4-Methyl-2-Pentanone (...	9.440	43	63160	28.67	ug/L		97
52) t-1,3-Dichloropropene	9.477	75	21132	10.82	ug/L		99
53) 1,1,2-Trichloroethane	9.629	97	19896	10.70	ug/L		97
54) Dibromochloromethane	9.794	129	13869	10.13	ug/L		100
55) 1,3-Dichloropropane	9.879	76	33668	11.76	ug/L		99
56) 1,2-Dibromoethane (EDB)	10.007	107	20603	11.50	ug/L		99
57) 2-Hexanone	10.215	43	46260	27.89	ug/L		99
58) Chlorobenzene	10.471	112	51726	10.06	ug/L		100
59) Ethylbenzene	10.489	91	82999	11.14	ug/L		99
60) 1,1,1,2-Tetrachloroethane	10.525	131	14854	11.86	ug/L		96
61) m,p-Xylenes (2)	10.617	91	117930	21.62	ug/L		98
62) o-Xylene	10.970	91	60046	11.26	ug/L		97
63) Styrene	11.013	104	47265	10.77	ug/L		98
64) Bromoform	11.038	173	8520	7.83	ug/L		98
65) Isopropylbenzene	11.220	105	72608	11.13	ug/L		99
68) Bromobenzene	11.531	156	21154	9.96	ug/L		94
69) n-Propylbenzene	11.544	91	78221	11.30	ug/L		97
70) 1,1,2,2-Tetrachloroethane	11.605	83	28965	9.97	ug/L		98
71) 2-Chlorotoluene	11.672	126	17297	11.09	ug/L		97
72) 1,3,5-Trimethylbenzene	11.690	105	53273	12.30	ug/L		96
73) 1,2,3-Trichloropropane	11.708	110	8901	10.78	ug/L		91
74) t-1,4-Dichloro-2-butene	11.739	88	2230	9.94	ug/L	#	73
75) 4-Chlorotoluene	11.793	91	48533	11.45	ug/L		97
76) tert-Butylbenzene	11.934	91	29811	12.84	ug/L		96
77) 1,2,4-Trimethylbenzene	11.982	105	54454	12.22	ug/L		96
78) sec-Butylbenzene	12.062	105	63068	11.77	ug/L		96
79) 4-Isopropyltoluene	12.165	119	50508	13.13	ug/L		99
80) 1,3-Dichlorobenzene	12.239	146	33016	10.33	ug/L		97
81) 1,4-Dichlorobenzene	12.306	146	33297	9.57	ug/L		98
82) n-Butylbenzene	12.488	91	41997	12.18	ug/L		97
83) 1,2-Dichlorobenzene	12.635	146	32172	10.70	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	4459	10.07	ug/L		76
85) Hexachlorobutadiene	13.830	223	4671	11.09	ug/L		94
86) 1,2,4-Trichlorobenzene	13.878	180	19218	12.38	ug/L		98
87) Naphthalene	14.202	128	59341	11.63	ug/L		99
88) 1,2,3-Trichlorobenzene	14.397	180	17903	12.39	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092627.D
Acq On : 26 Sep 2019 9:40 pm
Operator : MM
Sample : 9I26050-CAL7
Misc : 1X 5mL 10/20PPB VOCR
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:02 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092628.D
Acq On : 26 Sep 2019 10:07 pm
Operator : MM
Sample : 9I26050-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

9/30/2019

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.867	99	94013	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	253060	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	113658	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	94936	47.82	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	303280	47.02	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	346044	50.39	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	101239	50.79	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	25646	18.96	ug/L		98
3) Chloromethane	1.996	50	33757	17.42	ug/L		99
4) Vinyl Chloride	2.118	62	37326	20.75	ug/L		95
5) Bromomethane	2.557	96	14292	16.32	ug/L		98
6) Chloroethane	2.728	64	5888	17.67	ug/L		92
7) Trichlorofluoromethane	2.923	101	38898	18.43	ug/L		99
8) Ethanol	3.649	45	64915	1441.82	ug/L		84
9) 1,1-Dichloroethene	3.588	61	54233	24.00	ug/L		98
10) Carbon Disulfide	3.594	76	68545	19.40	ug/L		99
11) Freon 113	3.667	101	34995	17.86	ug/L		98
12) Iodomethane	3.758	142	21802	38.14	ug/L		97
13) Acrolein	4.045	56	8246	16.90	ug/L		99
14) Methylene Chloride	4.325	84	38696	19.45	ug/L		99
15) Acetone	4.411	43	44126	45.04	ug/L		98
16) t-1,2-Dichloroethene	4.514	61	52709	22.94	ug/L		97
17) n-Hexane	4.612	86	5672	24.32	ug/L	#	53
18) Methyl-tert-butyl-ether	4.667	73	103936	24.42	ug/L		78
19) tert-Butanol (TBA)	4.831	59	489576	1478.21	ug/L	#	76
20) Diisopropyl ether (DIPE)	5.118	45	29643	7.11	ug/L		94
21) 1,1-Dichloroethane	5.221	63	68425	22.11	ug/L		100
22) Acrylonitrile	5.295	53	25652	22.56	ug/L		99
23) Vinyl Acetate	5.532	43	39086	14.97	ug/L		96
24) Ethyl-tert-butyl ether...	5.526	59	23874	6.25	ug/L		94
25) c-1,2-Dichloroethene	5.831	61	56457	24.77	ug/L		98
26) 2,2-Dichloropropane	5.941	77	34568	24.31	ug/L		76
27) Bromochloromethane	6.044	49	33748	22.26	ug/L		98
28) Chloroform	6.142	83	68468	20.97	ug/L		97
29) Carbon Tetrachloride	6.270	117	36147	22.05	ug/L		93
30) Tetrahydrofuran	6.313	42	24948	26.64	ug/L		95
31) 1,1,1-Trichloroethane	6.349	97	50360	23.42	ug/L		96
33) 1,1-Dichloropropene	6.483	75	52962	23.98	ug/L		99
34) 2-Butanone (MEK)	6.483	43	71673	48.82	ug/L		98
35) Benzene	6.758	78	164958	21.98	ug/L		99
36) tert-Amyl methyl ether...	6.904	73	20291	5.18	ug/L		78
37) 1,2-Dichloroethane (EDC)	6.989	62	53000	22.25	ug/L		98
38) iso-Butyl Alcohol	7.050	43	96936	676.38	ug/L		96
40) Trichloroethene (TCE)	7.416	130	44576	22.05	ug/L		99
41) tert-Amyl ethyl ether ...	7.690	59	15389	5.93	ug/L		88
42) Dibromomethane	7.892	93	26409	22.78	ug/L		97
43) 1,2-Dichloropropane	8.001	63	43677	22.28	ug/L		94
44) Bromodichloromethane	8.081	83	41298	21.28	ug/L		99
46) 2-Chloroethyl Vinyl Ether	8.745	63	31258	29.82	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	53435	28.15	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092628.D
Acq On : 26 Sep 2019 10:07 pm
Operator : MM
Sample : 9I26050-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

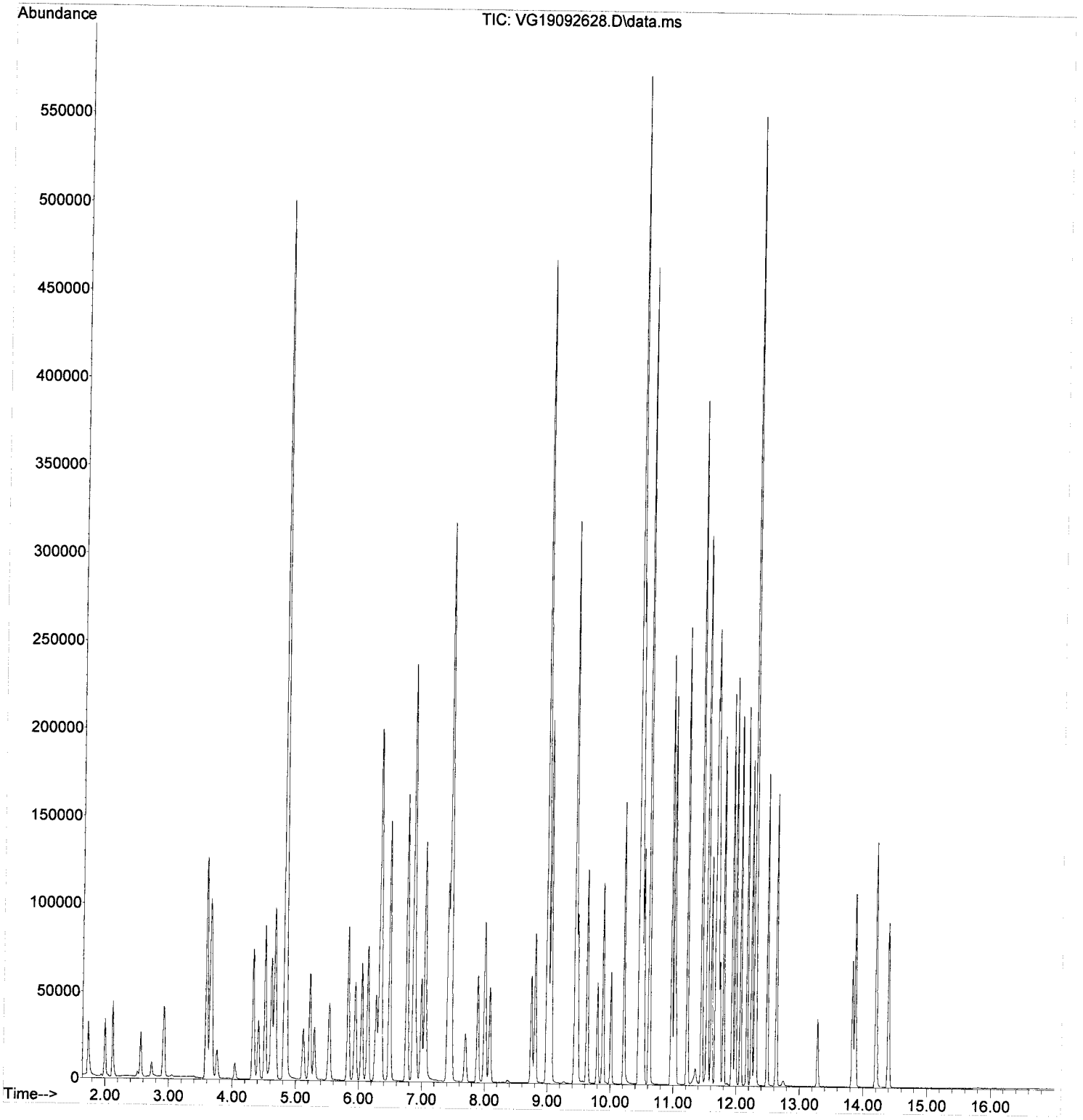
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	164491	21.27	ug/L		100
50) Tetrachloroethene (PCE)	9.440	166	41350	20.84	ug/L		98
51) 4-Methyl-2-Pentanone (...	9.440	43	126474	57.29	ug/L		96
52) t-1,3-Dichloropropene	9.477	75	46862	23.33	ug/L		98
53) 1,1,2-Trichloroethane	9.629	97	39556	21.23	ug/L		96
54) Dibromochloromethane	9.794	129	31158	22.71	ug/L		99
55) 1,3-Dichloropropane	9.879	76	66687	23.25	ug/L		99
56) 1,2-Dibromoethane (EDB)	10.007	107	42383	23.60	ug/L		100
57) 2-Hexanone	10.214	43	92625	55.72	ug/L		99
58) Chlorobenzene	10.470	112	103573	20.10	ug/L		100
59) Ethylbenzene	10.495	91	166521	22.30	ug/L		99
60) 1,1,1,2-Tetrachloroethane	10.525	131	31743	25.30	ug/L		98
61) m,p-Xylenes (2)	10.617	91	236854	43.28	ug/L		99
62) o-Xylene	10.970	91	122339	22.70	ug/L		97
63) Styrene	11.013	104	95775	21.62	ug/L		98
64) Bromoform	11.043	173	19749	17.48	ug/L		98
65) Isopropylbenzene	11.220	105	148612	22.55	ug/L		98
68) Bromobenzene	11.531	156	42680	20.16	ug/L		92
69) n-Propylbenzene	11.543	91	158775	23.01	ug/L		97
70) 1,1,2,2-Tetrachloroethane	11.604	83	55114	19.04	ug/L		97
71) 2-Chlorotoluene	11.671	126	35153	22.61	ug/L		97
72) 1,3,5-Trimethylbenzene	11.690	105	108000	25.02	ug/L		93
73) 1,2,3-Trichloropropane	11.708	110	17472	21.24	ug/L		89
74) t-1,4-Dichloro-2-butene	11.738	88	5302	22.84	ug/L	#	85
75) 4-Chlorotoluene	11.793	91	98917	23.41	ug/L		97
76) tert-Butylbenzene	11.934	91	60557	26.18	ug/L		96
77) 1,2,4-Trimethylbenzene	11.982	105	109297	24.61	ug/L		97
78) sec-Butylbenzene	12.068	105	129568	24.25	ug/L		97
79) 4-Isopropyltoluene	12.165	119	103672	27.04	ug/L		99
80) 1,3-Dichlorobenzene	12.238	146	66808	20.98	ug/L		98
81) 1,4-Dichlorobenzene	12.305	146	67186	19.38	ug/L		97
82) n-Butylbenzene	12.488	91	85671	24.93	ug/L		98
83) 1,2-Dichlorobenzene	12.635	146	64527	21.53	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	13.287	157	9818	22.24	ug/L		96
85) Hexachlorobutadiene	13.836	223	9787	23.32	ug/L		97
86) 1,2,4-Trichlorobenzene	13.878	180	38616	24.97	ug/L		97
87) Naphthalene	14.201	128	120918	22.87	ug/L		99
88) 1,2,3-Trichlorobenzene	14.397	180	35770	24.84	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092628.D
Acq On : 26 Sep 2019 10:07 pm
Operator : MM
Sample : 9I26050-CAL8
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:05 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092629.D
Acq On : 26 Sep 2019 10:34 pm
Operator : MM
Sample : 9I26050-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.868	99	98290	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	268919	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	128582	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	102495	49.39	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	325260	48.24	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	365802	50.13	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	112962	50.09	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.734	85	68608	48.52	ug/L		97
3) Chloromethane	1.997	50	88312	43.60	ug/L		99
4) Vinyl Chloride	2.119	62	95342	50.70	ug/L		96
5) Bromomethane	2.558	96	34844	38.06	ug/L		99
6) Chloroethane	2.728	64	15125	54.21	ug/L		92
7) Trichlorofluoromethane	2.923	101	94401	42.79	ug/L		97
8) Ethanol	3.643	45	134499	2857.36	ug/L		84
9) 1,1-Dichloroethene	3.594	61	122747	51.95	ug/L		98
10) Carbon Disulfide	3.594	76	173305	46.91	ug/L		99
11) Freon 113	3.667	101	78614	38.37	ug/L		99
12) Iodomethane	3.758	142	65139	83.70	ug/L		95
13) Acrolein	4.039	56	22754	44.60	ug/L		97
14) Methylene Chloride	4.325	84	89091	45.79	ug/L		99
15) Acetone	4.405	43	107597	105.04	ug/L		97
16) t-1,2-Dichloroethene	4.514	61	122320	50.93	ug/L		98
17) n-Hexane	4.618	86	12933	53.04	ug/L	#	51
18) Methyl-tert-butyl-ether	4.667	73	266202	59.83	ug/L		97
19) tert-Butanol (TBA)	4.831	59	1046385	3021.93	ug/L	#	87
20) Diisopropyl ether (DIPE)	5.118	45	60075	13.78	ug/L		94
21) 1,1-Dichloroethane	5.222	63	160396	49.57	ug/L		100
22) Acrylonitrile	5.295	53	64736	54.45	ug/L		97
23) Vinyl Acetate	5.533	43	99692	36.52	ug/L		97
24) Ethyl-tert-butyl ether...	5.520	59	49848	12.49	ug/L		97
25) c-1,2-Dichloroethene	5.831	61	132230	55.50	ug/L		95
26) 2,2-Dichloropropane	5.941	77	85291	57.36	ug/L		86
27) Bromochloromethane	6.045	49	80963	51.08	ug/L		93
28) Chloroform	6.142	83	163489	47.89	ug/L		96
29) Carbon Tetrachloride	6.270	117	90796	52.99	ug/L		96
30) Tetrahydrofuran	6.307	42	63890	65.26	ug/L		97
31) 1,1,1-Trichloroethane	6.349	97	120842	53.74	ug/L		98
33) 1,1-Dichloropropene	6.484	75	120698	52.26	ug/L		99
34) 2-Butanone (MEK)	6.484	43	184368	120.12	ug/L		98
35) Benzene	6.758	78	387766	49.43	ug/L		98
36) tert-Amyl methyl ether...	6.904	73	42764	10.44	ug/L		83
37) 1,2-Dichloroethane (EDC)	6.990	62	126976	51.00	ug/L		99
38) iso-Butyl Alcohol	7.044	43	265347	1770.92	ug/L		99
40) Trichloroethene (TCE)	7.410	130	107241	50.73	ug/L		99
41) tert-Amyl ethyl ether ...	7.691	59	32246	11.89	ug/L		90
42) Dibromomethane	7.886	93	67393	55.61	ug/L		97
43) 1,2-Dichloropropane	8.002	63	103633	50.57	ug/L		94
44) Bromodichloromethane	8.081	83	109811	54.12	ug/L		95
46) 2-Chloroethyl Vinyl Ether	8.739	63	80780	69.12	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	141358	70.09	ug/L		94

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092629.D
Acq On : 26 Sep 2019 10:34 pm
Operator : MM
Sample : 9I26050-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

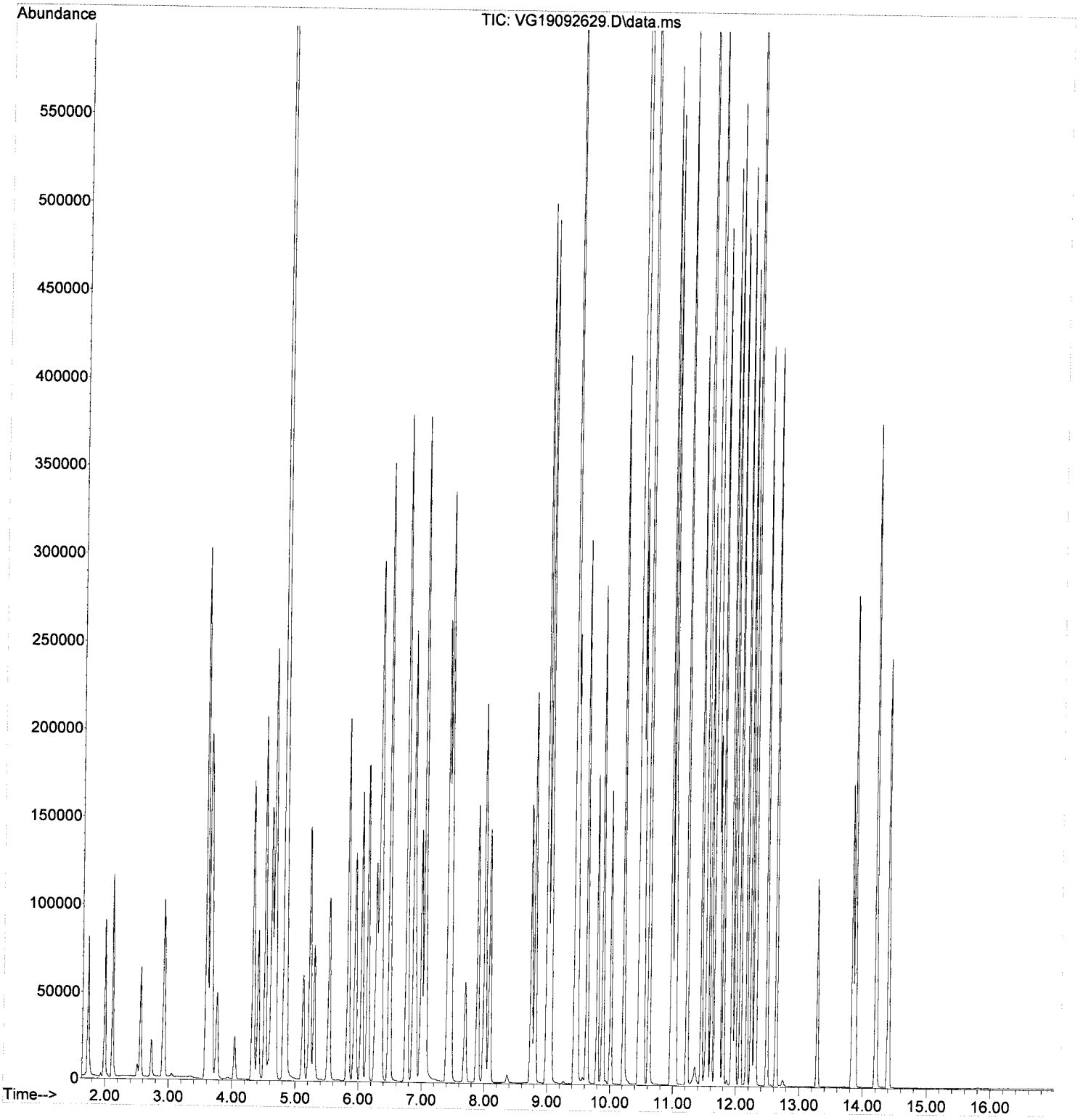
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	9.050	91	383687	46.69	ug/L	99
50) Tetrachloroethene (PCE)	9.440	166	96836	45.92	ug/L	98
51) 4-Methyl-2-Pentanone (...	9.440	43	315362	134.43	ug/L	94
52) t-1,3-Dichloropropene	9.477	75	128835	57.53	ug/L	99
53) 1,1,2-Trichloroethane	9.629	97	99796	50.40	ug/L	96
54) Dibromochloromethane	9.794	129	91580	62.82	ug/L	99
55) 1,3-Dichloropropane	9.879	76	165027	54.14	ug/L	99
56) 1,2-Dibromoethane (EDB)	10.007	107	109366	57.31	ug/L	99
57) 2-Hexanone	10.215	43	238194	134.85	ug/L	96
58) Chlorobenzene	10.471	112	247943	45.28	ug/L	99
59) Ethylbenzene	10.495	91	390083	49.16	ug/L	98
60) 1,1,1,2-Tetrachloroethane	10.525	131	84255	63.18	ug/L	97
61) m,p-Xylenes (2)	10.617	91	559567	96.44	ug/L	99
62) o-Xylene	10.970	91	295347	50.84	ug/L	98
63) Styrene	11.013	104	240354	50.56	ug/L	97
64) Bromoform	11.044	173	65348	51.43	ug/L	99
65) Isopropylbenzene	11.220	105	352540	49.81	ug/L	99
68) Bromobenzene	11.531	156	107397	44.84	ug/L	96
69) n-Propylbenzene	11.544	91	373433	47.84	ug/L	98
70) 1,1,2,2-Tetrachloroethane	11.605	83	142152	43.40	ug/L	97
71) 2-Chlorotoluene	11.672	126	86616	49.25	ug/L	94
72) 1,3,5-Trimethylbenzene	11.690	105	260970	53.44	ug/L	94
73) 1,2,3-Trichloropropane	11.708	110	44728	48.05	ug/L	87
74) t-1,4-Dichloro-2-butene	11.739	88	16073	58.18	ug/L	94
75) 4-Chlorotoluene	11.794	91	241498	50.53	ug/L	98
76) tert-Butylbenzene	11.934	91	144481	55.21	ug/L	99
77) 1,2,4-Trimethylbenzene	11.983	105	264950	52.74	ug/L	98
78) sec-Butylbenzene	12.062	105	307160	50.82	ug/L	98
79) 4-Isopropyltoluene	12.165	119	253892	58.54	ug/L	99
80) 1,3-Dichlorobenzene	12.239	146	170199	47.24	ug/L	98
81) 1,4-Dichlorobenzene	12.306	146	170066	43.35	ug/L	97
82) n-Butylbenzene	12.489	91	203872	52.44	ug/L	98
83) 1,2-Dichlorobenzene	12.635	146	166516	49.12	ug/L	98
84) 1,2-Dibromo-3-Chloropr...	13.281	157	32261	64.61	ug/L	92
85) Hexachlorobutadiene	13.836	223	23920	50.39	ug/L	98
86) 1,2,4-Trichlorobenzene	13.878	180	99341	56.77	ug/L	98
87) Naphthalene	14.202	128	329843	53.52	ug/L	99
88) 1,2,3-Trichlorobenzene	14.397	180	93819	57.58	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092629.D
Acq On : 26 Sep 2019 10:34 pm
Operator : MM
Sample : 9I26050-CAL9
Misc : 1X 5mL 50/100PPB VOCR
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092630.D
Acq On : 26 Sep 2019 11:01 pm
Operator : MM
Sample : 9I26050-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	95552	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	254822	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	109709	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	91836	48.59 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	310594	49.81 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	351651	50.08 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	99900	50.86 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	178	0.24 ug/L #	51
3) Chloromethane	1.997	50	317	0.18 ug/L	80
4) Vinyl Chloride	2.118	62	165	0.09 ug/L	71
5) Bromomethane	2.551	96	133	0.19 ug/L	92
6) Chloroethane	2.746	64	150	Below Cal #	47
7) Trichlorofluoromethane	2.929	101	139	0.08 ug/L	65
8) Ethanol	3.636	45	81	1.55 ug/L	84
9) 1,1-Dichloroethene	3.594	61	221	0.09 ug/L #	74
10) Carbon Disulfide	3.594	76	1151	0.37 ug/L	93
11) Freon 113	3.673	101	288	0.17 ug/L	79
12) Iodomethane	3.758	142	194	0.11 ug/L #	47
13) Acrolein	0.000		0	N.D.	
14) Methylene Chloride	4.325	84	3692	1.91 ug/L	95
15) Acetone	4.411	43	1838	1.66 ug/L	94
16) t-1,2-Dichloroethene	4.514	61	422	0.17 ug/L	87
17) n-Hexane	0.000		0	N.D.	
18) Methyl-tert-butyl-ether	0.000		0	N.D.	
19) tert-Butanol (TBA)	4.837	59	400	1.13 ug/L #	42
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	5.234	63	53	0.02 ug/L #	50
22) Acrylonitrile	5.301	53	10	0.01 ug/L #	14
23) Vinyl Acetate	5.557	43	11	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	5.831	61	190	0.07 ug/L	92
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	6.045	49	63	0.04 ug/L #	47
28) Chloroform	6.136	83	40	0.01 ug/L	87
29) Carbon Tetrachloride	6.282	117	10	0.17 ug/L #	13
30) Tetrahydrofuran	6.313	42	11	0.01 ug/L #	37
31) 1,1,1-Trichloroethane	6.343	97	168	0.07 ug/L #	40
33) 1,1-Dichloropropene	6.483	75	329	0.13 ug/L	81
34) 2-Butanone (MEK)	6.483	43	10	0.01 ug/L	52
35) Benzene	6.770	78	423	0.05 ug/L	69
36) tert-Amyl methyl ether...	6.861	73	110	0.03 ug/L #	1
37) 1,2-Dichloroethane (EDC)	6.989	62	53	0.02 ug/L #	49
38) iso-Butyl Alcohol	7.063	43	153	0.88 ug/L	92
40) Trichloroethene (TCE)	7.416	130	256	0.12 ug/L	88
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	7.904	93	29	0.02 ug/L #	1
43) 1,2-Dichloropropane	0.000		0	N.D.	
44) Bromodichloromethane	0.000		0	N.D.	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	
47) c-1,3-Dichloropropene	0.000		0	N.D.	

NR 9/30/2019

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092630.D
Acq On : 26 Sep 2019 11:01 pm
Operator : MM
Sample : 9I26050-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

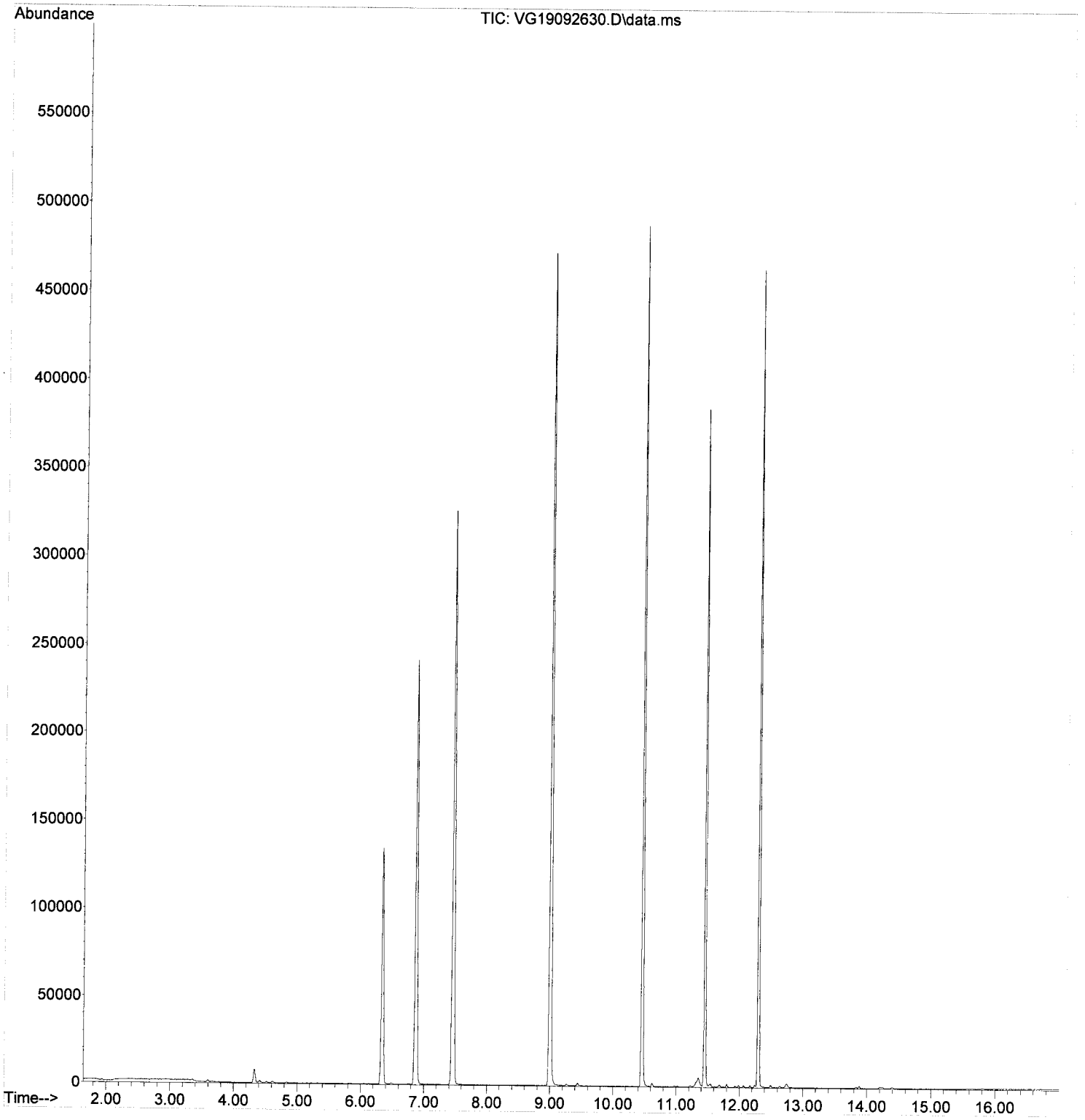
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	760	0.09 ug/L	93
50) Tetrachloroethene (PCE)	9.434	166	463	0.23 ug/L	91
51) 4-Methyl-2-Pentanone (...	9.452	43	214	0.08 ug/L #	43
52) t-1,3-Dichloropropene	9.489	75	58	0.19 ug/L #	45
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	9.885	76	79	0.02 ug/L #	28
56) 1,2-Dibromoethane (EDB)	10.019	107	48	0.03 ug/L #	7
57) 2-Hexanone	10.227	43	149	0.07 ug/L #	32
58) Chlorobenzene	10.470	112	477	0.09 ug/L #	15
59) Ethylbenzene	10.495	91	918	0.11 ug/L	97
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.617	91	1229	0.22 ug/L	88
62) o-Xylene	10.976	91	426	0.07 ug/L	94
63) Styrene	11.025	104	315	0.07 ug/L	95
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.226	105	568	0.08 ug/L	92
68) Bromobenzene	11.531	156	195	0.10 ug/L #	81
69) n-Propylbenzene	11.550	91	1038	0.15 ug/L	95
70) 1,1,2,2-Tetrachloroethane	11.604	83	51	0.02 ug/L	81
71) 2-Chlorotoluene	11.665	126	139	0.09 ug/L #	81
72) 1,3,5-Trimethylbenzene	11.690	105	652	0.13 ug/L	90
73) 1,2,3-Trichloropropane	11.720	110	10	0.01 ug/L #	1
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.799	91	760	0.16 ug/L	94
76) tert-Butylbenzene	11.934	91	270	0.10 ug/L	93
77) 1,2,4-Trimethylbenzene	11.988	105	795	0.16 ug/L	86
78) sec-Butylbenzene	12.068	105	838	0.15 ug/L	99
79) 4-Isopropyltoluene	12.165	119	745	0.16 ug/L	92
80) 1,3-Dichlorobenzene	12.245	146	696	0.22 ug/L	92
81) 1,4-Dichlorobenzene	12.305	146	820	0.25 ug/L #	55
82) n-Butylbenzene	12.494	91	962	0.24 ug/L	95
83) 1,2-Dichlorobenzene	12.635	146	405	0.14 ug/L	99
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.830	223	160	0.39 ug/L #	79
86) 1,2,4-Trichlorobenzene	13.878	180	594	0.34 ug/L	86
87) Naphthalene	14.208	128	1054	0.21 ug/L	87
88) 1,2,3-Trichlorobenzene	14.397	180	372	0.24 ug/L	80

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092630.D
Acq On : 26 Sep 2019 11:01 pm
Operator : MM
Sample : 9I26050-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:08 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092631.D
Acq On : 26 Sep 2019 11:28 pm
Operator : MM
Sample : 9I26050-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.868	99	103733	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	284132	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	135133	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	106783	48.75	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	340927	47.91	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	385560	50.01	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	118613	50.05	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.728	85	127237	85.26	ug/L		98
3) Chloromethane	1.997	50	169626	79.34	ug/L		100
4) Vinyl Chloride	2.119	62	178987	90.19	ug/L		95
5) Bromomethane	2.557	96	71878	74.38	ug/L		99
6) Chloroethane	2.728	64	26943	97.01	ug/L		96
7) Trichlorofluoromethane	2.917	101	171473	73.64	ug/L		97
8) Ethanol	3.655	45	256296	5159.16	ug/L		84
9) 1,1-Dichloroethene	3.588	61	266132	106.73	ug/L		98
10) Carbon Disulfide	3.588	76	383024	98.24	ug/L		98
11) Freon 113	3.661	101	169878	78.56	ug/L		98
12) Iodomethane	3.752	142	140967	136.23	ug/L		95
13) Acrolein	4.039	56	47806	88.80	ug/L		97
14) Methylene Chloride	4.325	84	185242	94.03	ug/L		98
15) Acetone	4.405	43	218701	202.29	ug/L		97
16) t-1,2-Dichloroethene	4.514	61	260343	102.71	ug/L		97
17) n-Hexane	4.612	86	27462	106.72	ug/L	#	43
18) Methyl-tert-butyl-ether	4.667	73	563807	120.08	ug/L		90
19) tert-Butanol (TBA)	4.838	59	1967397	5383.66	ug/L	#	93
20) Diisopropyl ether (DIPE)	5.118	45	120493	26.18	ug/L		94
21) 1,1-Dichloroethane	5.222	63	341680	100.05	ug/L		99
22) Acrylonitrile	5.295	53	132559	105.64	ug/L		98
23) Vinyl Acetate	5.532	43	259288	90.01	ug/L		98
24) Ethyl-tert-butyl ether...	5.520	59	102630	24.36	ug/L		96
25) c-1,2-Dichloroethene	5.825	61	280134	111.40	ug/L		97
26) 2,2-Dichloropropane	5.941	77	189553	120.80	ug/L		89
27) Bromochloromethane	6.045	49	152774	91.32	ug/L		95
28) Chloroform	6.142	83	345779	95.97	ug/L		96
29) Carbon Tetrachloride	6.270	117	213422	118.01	ug/L		96
30) Tetrahydrofuran	6.307	42	131959	127.72	ug/L		96
31) 1,1,1-Trichloroethane	6.349	97	265702	111.97	ug/L		98
33) 1,1-Dichloropropene	6.484	75	261531	107.30	ug/L		99
34) 2-Butanone (MEK)	6.484	43	373834	230.78	ug/L		97
35) Benzene	6.758	78	823975	99.52	ug/L		98
36) tert-Amyl methyl ether...	6.904	73	88578	20.48	ug/L		86
37) 1,2-Dichloroethane (EDC)	6.990	62	264813	100.77	ug/L		99
38) iso-Butyl Alcohol	7.050	43	480675	3039.68	ug/L		99
40) Trichloroethene (TCE)	7.410	130	227764	102.09	ug/L		99
41) tert-Amyl ethyl ether ...	7.691	59	66103	23.09	ug/L		90
42) Dibromomethane	7.886	93	142561	111.46	ug/L		98
43) 1,2-Dichloropropane	8.002	63	221724	102.52	ug/L		93
44) Bromodichloromethane	8.081	83	243451	113.69	ug/L		96
46) 2-Chloroethyl Vinyl Ether	8.745	63	170832	129.89	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	310792	145.84	ug/L		93

9/30/2019

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092631.D
Acq On : 26 Sep 2019 11:28 pm
Operator : MM
Sample : 9I26050-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

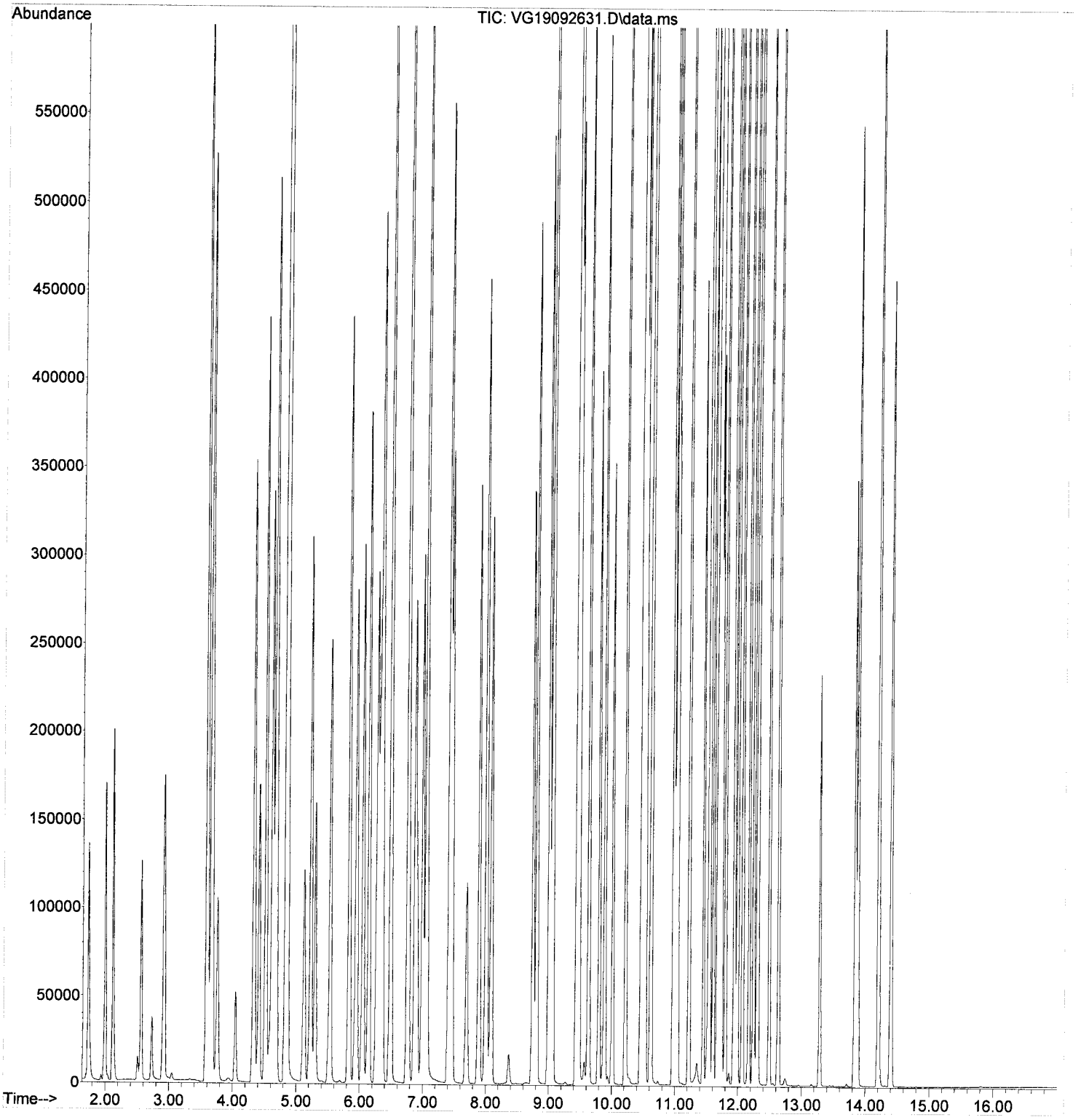
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49)	Toluene	9.050	91	822891	94.77	ug/L	99
50)	Tetrachloroethene (PCE)	9.434	166	209940	94.22	ug/L	97
51)	4-Methyl-2-Pentanone (...	9.440	43	602850	243.21	ug/L	93
52)	t-1,3-Dichloropropene	9.477	75	286723	113.22	ug/L	98
53)	1,1,2-Trichloroethane	9.629	97	209430	100.10	ug/L	95
54)	Dibromochloromethane	9.794	129	211601	137.37	ug/L	99
55)	1,3-Dichloropropane	9.879	76	345330	107.22	ug/L	97
56)	1,2-Dibromoethane (EDB)	10.007	107	231270	114.70	ug/L	98
57)	2-Hexanone	10.214	43	452638	242.53	ug/L	95
58)	Chlorobenzene	10.471	112	524646	90.68	ug/L	98
59)	Ethylbenzene	10.495	91	841526	100.38	ug/L	97
60)	1,1,1,2-Tetrachloroethane	10.525	131	186458	132.33	ug/L	96
61)	m,p-Xylenes (2)	10.617	91	1222357	200.66	ug/L	99
62)	o-Xylene	10.970	91	653239	103.92	ug/L	98
63)	Styrene	11.013	104	520960	102.41	ug/L	96
64)	Bromoform	11.038	173	152546	105.76	ug/L	98
65)	Isopropylbenzene	11.220	105	768012	101.05	ug/L	99
68)	Bromobenzene	11.531	156	227105	90.22	ug/L	99
69)	n-Propylbenzene	11.544	91	818291	99.75	ug/L	99
70)	1,1,2,2-Tetrachloroethane	11.604	83	270124	78.48	ug/L	98
71)	2-Chlorotoluene	11.672	126	189393	102.46	ug/L	92
72)	1,3,5-Trimethylbenzene	11.690	105	567837	110.64	ug/L	94
73)	1,2,3-Trichloropropane	11.708	110	86038	87.95	ug/L	88
74)	t-1,4-Dichloro-2-butene	11.739	88	34347	111.27	ug/L	94
75)	4-Chlorotoluene	11.793	91	525963	104.71	ug/L	98
76)	tert-Butylbenzene	11.934	91	314345	114.30	ug/L	99
77)	1,2,4-Trimethylbenzene	11.982	105	568689	107.72	ug/L	98
78)	sec-Butylbenzene	12.062	105	667202	105.05	ug/L	97
79)	4-Isopropyltoluene	12.165	119	551870	121.08	ug/L	99
80)	1,3-Dichlorobenzene	12.239	146	359335	94.91	ug/L	99
81)	1,4-Dichlorobenzene	12.306	146	357713	86.76	ug/L	98
82)	n-Butylbenzene	12.488	91	433224	106.03	ug/L	99
83)	1,2-Dichlorobenzene	12.635	146	341621	95.88	ug/L	98
84)	1,2-Dibromo-3-Chloropr...	13.281	157	64148	122.24	ug/L	94
85)	Hexachlorobutadiene	13.836	223	46871	93.95	ug/L	98
86)	1,2,4-Trichlorobenzene	13.872	180	189497	103.04	ug/L	97
87)	Naphthalene	14.202	128	622135	94.23	ug/L	98
88)	1,2,3-Trichlorobenzene	14.397	180	176128	102.86	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092631.D
Acq On : 26 Sep 2019 11:28 pm
Operator : MM
Sample : 9I26050-CALA
Misc : 1X 5mL 100/200PPB VOCR
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092632.D
Acq On : 26 Sep 2019 11:55 pm
Operator : MM
Sample : 9I26050-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	93279	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	247673	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	105766	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	90666	49.14 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	302967	49.77 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	344181	50.43 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.452	174	96410	50.91 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	300	0.35 ug/L	98
3) Chloromethane	1.996	50	348	0.21 ug/L	94
4) Vinyl Chloride	2.118	62	221	0.13 ug/L	73
5) Bromomethane	2.551	96	180	0.26 ug/L #	67
6) Chloroethane	2.728	64	224	Below Cal #	47
7) Trichlorofluoromethane	2.929	101	226	0.13 ug/L	83
8) Ethanol	3.636	45	154	3.01 ug/L #	29
9) 1,1-Dichloroethene	3.594	61	412	0.17 ug/L	84
10) Carbon Disulfide	3.594	76	2077	0.69 ug/L	100
11) Freon 113	3.673	101	451	0.28 ug/L	89
12) Iodomethane	3.752	142	215	0.14 ug/L #	47
13) Acrolein	4.045	56	10	0.02 ug/L #	23
14) Methylene Chloride	4.331	84	4504	2.39 ug/L	95
15) Acetone	4.411	43	1842	1.71 ug/L	97
16) t-1,2-Dichloroethene	4.520	61	700	0.28 ug/L	97
17) n-Hexane	4.612	86	43	0.17 ug/L #	61
18) Methyl-tert-butyl-ether	4.654	73	10	0.00 ug/L	57
19) tert-Butanol (TBA)	4.837	59	778	2.25 ug/L #	34
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	5.221	63	82	0.03 ug/L #	50
22) Acrylonitrile	5.295	53	30	0.02 ug/L #	14
23) Vinyl Acetate	5.575	43	10	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	5.837	61	330	0.13 ug/L	95
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	6.057	49	153	0.10 ug/L #	67
28) Chloroform	6.148	83	155	0.05 ug/L #	33
29) Carbon Tetrachloride	6.264	117	41	0.19 ug/L #	65
30) Tetrahydrofuran	6.325	42	53	0.05 ug/L #	30
31) 1,1,1-Trichloroethane	6.355	97	21	0.01 ug/L #	57
33) 1,1-Dichloropropene	6.490	75	645	0.26 ug/L	93
34) 2-Butanone (MEK)	6.496	43	144	0.08 ug/L	52
35) Benzene	6.770	78	624	0.08 ug/L	86
36) tert-Amyl methyl ether...	6.867	73	105	0.03 ug/L #	1
37) 1,2-Dichloroethane (EDC)	6.996	62	116	0.05 ug/L #	49
38) iso-Butyl Alcohol	7.056	43	244	1.45 ug/L	67
40) Trichloroethene (TCE)	7.422	130	496	0.24 ug/L	82
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	7.898	93	126	0.10 ug/L	82
43) 1,2-Dichloropropane	7.995	63	29	0.01 ug/L #	40
44) Bromodichloromethane	8.087	83	10	0.01 ug/L #	26
46) 2-Chloroethyl Vinyl Ether	8.770	63	20	0.01 ug/L #	1
47) c-1,3-Dichloropropene	8.812	75	149	0.18 ug/L #	75

NK 9/30/1904

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092632.D
Acq On : 26 Sep 2019 11:55 pm
Operator : MM
Sample : 9I26050-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

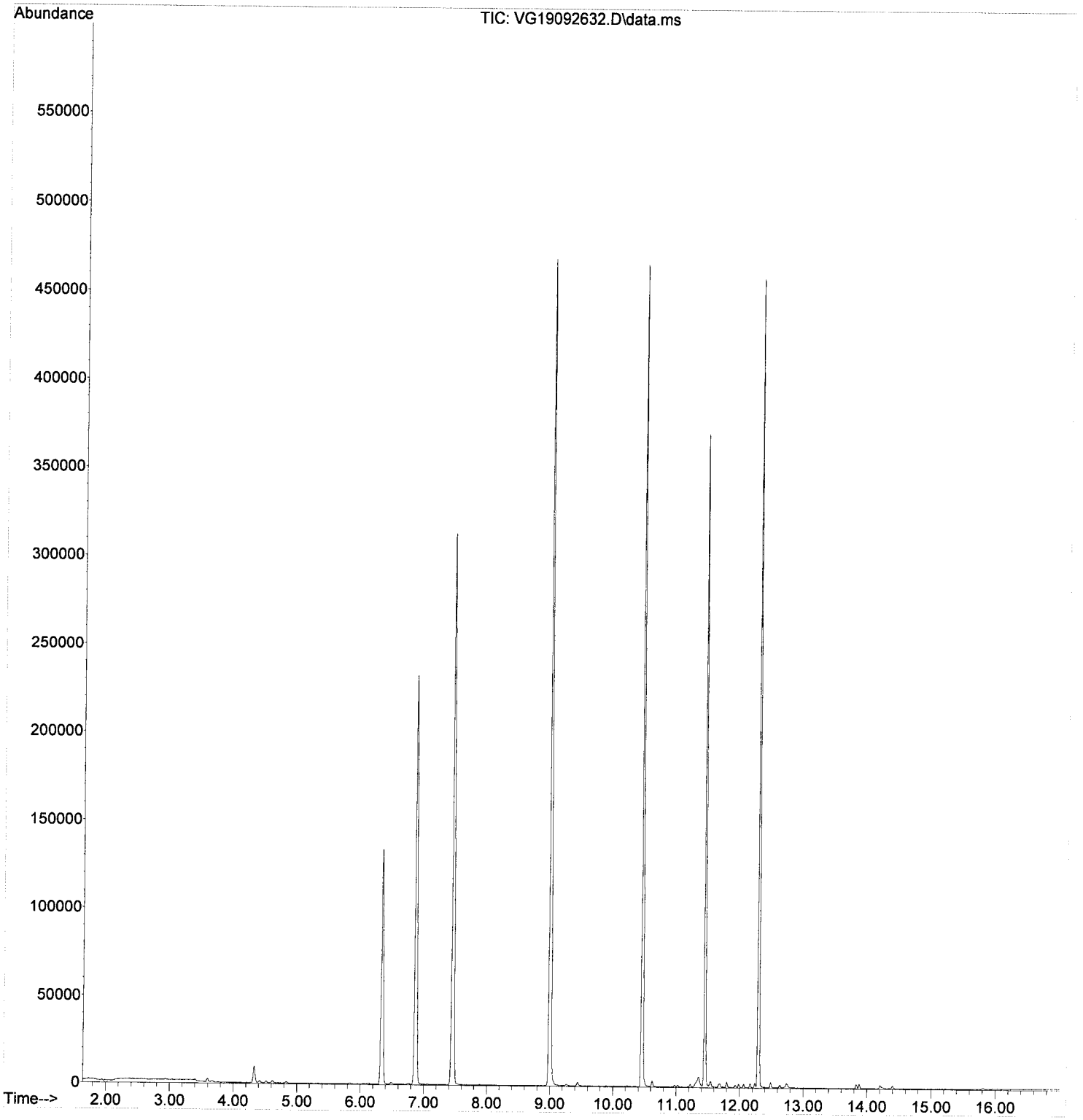
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.056	91	999	0.13 ug/L	94
50) Tetrachloroethene (PCE)	9.440	166	637	0.32 ug/L	85
51) 4-Methyl-2-Pentanone (...	9.452	43	282	0.10 ug/L	79
52) t-1,3-Dichloropropene	9.489	75	174	0.25 ug/L	72
53) 1,1,2-Trichloroethane	9.629	97	25	0.01 ug/L #	12
54) Dibromochloromethane	9.794	129	10	0.61 ug/L #	17
55) 1,3-Dichloropropane	9.885	76	106	0.03 ug/L #	60
56) 1,2-Dibromoethane (EDB)	10.019	107	126	0.07 ug/L	79
57) 2-Hexanone	10.227	43	331	0.17 ug/L	83
58) Chlorobenzene	10.470	112	787	0.16 ug/L #	32
59) Ethylbenzene	10.495	91	1282	0.17 ug/L	97
60) 1,1,1,2-Tetrachloroethane	10.531	131	10	0.12 ug/L #	21
61) m,p-Xylenes (2)	10.623	91	2095	0.38 ug/L	87
62) o-Xylene	10.976	91	632	0.11 ug/L	87
63) Styrene	11.025	104	498	0.12 ug/L	90
64) Bromoform	11.050	173	11	0.48 ug/L #	37
65) Isopropylbenzene	11.226	105	960	0.15 ug/L	95
68) Bromobenzene	11.531	156	353	0.18 ug/L	96
69) n-Propylbenzene	11.550	91	1966	0.29 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.604	83	90	0.04 ug/L	82
71) 2-Chlorotoluene	11.671	126	271	0.18 ug/L	89
72) 1,3,5-Trimethylbenzene	11.696	105	909	0.19 ug/L	96
73) 1,2,3-Trichloropropane	11.714	110	30	0.04 ug/L #	77
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.799	91	1389	0.31 ug/L	93
76) tert-Butylbenzene	11.934	91	473	0.18 ug/L	95
77) 1,2,4-Trimethylbenzene	11.988	105	1149	0.24 ug/L	96
78) sec-Butylbenzene	12.068	105	1481	0.28 ug/L	97
79) 4-Isopropyltoluene	12.165	119	1328	0.30 ug/L	93
80) 1,3-Dichlorobenzene	12.244	146	1166	0.38 ug/L	95
81) 1,4-Dichlorobenzene	12.305	146	1320	0.42 ug/L #	74
82) n-Butylbenzene	12.488	91	1769	0.46 ug/L	97
83) 1,2-Dichlorobenzene	12.635	146	712	0.25 ug/L	96
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.836	223	373	0.93 ug/L	87
86) 1,2,4-Trichlorobenzene	13.878	180	996	0.58 ug/L	90
87) Naphthalene	14.201	128	2036	0.42 ug/L	95
88) 1,2,3-Trichlorobenzene	14.397	180	717	0.49 ug/L	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092632.D
Acq On : 26 Sep 2019 11:55 pm
Operator : MM
Sample : 9I26050-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:11 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092633.D
Acq On : 27 Sep 2019 12:22 am
Operator : MM
Sample : 9I26050-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.867	99	98765	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	256844	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	113094	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	6.337	111	100891	48.38	ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	326203	48.14	ug/L		0.00
48) Toluene-d8 (S)	8.995	98	365376	52.43	ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	101968	51.41	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.728	85	278761	196.19	ug/L		98
3) Chloromethane	1.996	50	350425	172.16	ug/L		99
4) Vinyl Chloride	2.118	62	376148	199.07	ug/L		95
5) Bromomethane	2.557	96	157531	171.23	ug/L		99
6) Chloroethane	2.728	64	48587	192.51	ug/L		95
7) Trichlorofluoromethane	2.911	101	315270	142.21	ug/L		97
8) Ethanol	3.673	45	734	15.52	ug/L		91
9) 1,1-Dichloroethene	3.588	61	526597	221.81	ug/L		96
10) Carbon Disulfide	3.581	76	815367	219.65	ug/L		98
11) Freon 113	3.661	101	366447	178.00	ug/L		99
12) Iodomethane	3.752	142	293518	222.76	ug/L		95
13) Acrolein	4.039	56	91310	178.13	ug/L		96
14) Methylene Chloride	4.325	84	359775	202.83	ug/L		97
15) Acetone	4.411	43	416008	404.15	ug/L		96
16) t-1,2-Dichloroethene	4.508	61	536785	222.41	ug/L		97
17) n-Hexane	4.612	86	62588	256.45	ug/L	#	53
18) Methyl-tert-butyl-ether	4.667	73	1131518	253.10	ug/L		96
19) tert-Butanol (TBA)	4.850	59	191	0.55	ug/L	#	1
20) Diisopropyl ether (DIPE)	5.112	45	375	0.09	ug/L		60
21) 1,1-Dichloroethane	5.221	63	696479	214.19	ug/L		100
22) Acrylonitrile	5.295	53	256006	214.27	ug/L		98
23) Vinyl Acetate	5.532	43	388290	141.57	ug/L		97
24) Ethyl-tert-butyl ether...	5.532	59	180	0.04	ug/L	#	1
25) c-1,2-Dichloroethene	5.825	61	565657	236.27	ug/L		96
26) 2,2-Dichloropropane	5.941	77	402432	269.86	ug/L		93
27) Bromochloromethane	6.044	49	286180	179.67	ug/L		94
28) Chloroform	6.136	83	700225	204.13	ug/L		96
29) Carbon Tetrachloride	6.270	117	474389	275.51	ug/L		96
30) Tetrahydrofuran	6.307	42	256364	260.61	ug/L		95
31) 1,1,1-Trichloroethane	6.349	97	561072	248.33	ug/L		97
33) 1,1-Dichloropropene	6.483	75	543147	234.05	ug/L		98
34) 2-Butanone (MEK)	6.483	43	696929	451.88	ug/L		96
35) Benzene	6.758	78	1656328	210.12	ug/L		98
36) tert-Amyl methyl ether...	6.910	73	11	0.00	ug/L	#	1
37) 1,2-Dichloroethane (EDC)	6.989	62	527985	211.03	ug/L		100
38) iso-Butyl Alcohol	7.056	43	760941	5054.07	ug/L		99
40) Trichloroethene (TCE)	7.410	130	476552	224.36	ug/L		99
41) tert-Amyl ethyl ether ...	7.697	59	125	0.05	ug/L		89
42) Dibromomethane	7.886	93	285855	234.73	ug/L		98
43) 1,2-Dichloropropane	8.001	63	443103	215.20	ug/L		95
44) Bromodichloromethane	8.081	83	511867	251.07	ug/L		97
46) 2-Chloroethyl Vinyl Ether	8.739	63	336153	252.41	ug/L	#	1
47) c-1,3-Dichloropropene	8.800	75	639187	331.82	ug/L		94

9/30/19 KL

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092633.D
Acq On : 27 Sep 2019 12:22 am
Operator : MM
Sample : 9I26050-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration

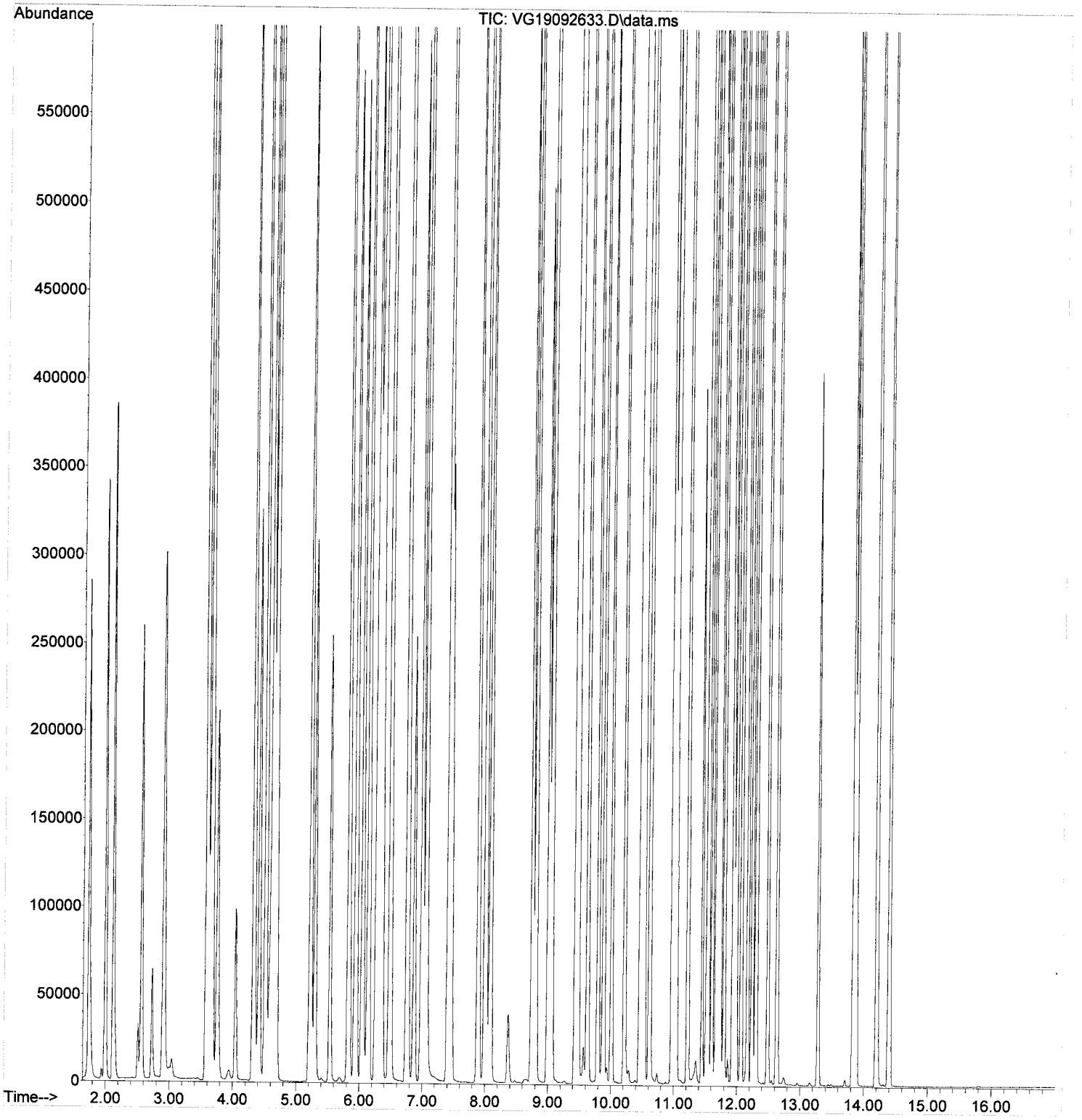
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	9.050	91	1646511	209.78	ug/L	99
50) Tetrachloroethene (PCE)	9.434	166	431076	214.01	ug/L	98
51) 4-Methyl-2-Pentanone (...	9.440	43	983725	439.04	ug/L	92
52) t-1,3-Dichloropropene	9.477	75	588613	227.13	ug/L	98
53) 1,1,2-Trichloroethane	9.629	97	410673	217.14	ug/L	95
54) Dibromochloromethane	9.794	129	444877	319.51	ug/L	99
55) 1,3-Dichloropropane	9.879	76	676588	232.40	ug/L	98
56) 1,2-Dibromoethane (EDB)	10.007	107	456747	250.60	ug/L	99
57) 2-Hexanone	10.214	43	745676	442.00	ug/L	94
58) Chlorobenzene	10.470	112	1002146	191.61	ug/L	99
59) Ethylbenzene	10.495	91	1627490	214.75	ug/L	97
60) 1,1,1,2-Tetrachloroethane	10.525	131	378602	297.25	ug/L	97
61) m,p-Xylenes (2)	10.617	91	2286592	421.30	ug/L	98
62) o-Xylene	10.970	91	1248565	210.11	ug/L	99
63) Styrene	11.013	104	980108	208.07	ug/L	96
64) Bromoform	11.043	173	296965	203.24	ug/L	99
65) Isopropylbenzene	11.220	105	1473949	207.84	ug/L	100
68) Bromobenzene	11.531	156	411473	195.32	ug/L	99
69) n-Propylbenzene	11.543	91	1558293	226.97	ug/L	100
70) 1,1,2,2-Tetrachloroethane	11.604	83	430386	149.41	ug/L	98
71) 2-Chlorotoluene	11.671	126	356156	230.24	ug/L	90
72) 1,3,5-Trimethylbenzene	11.690	105	1084119	252.39	ug/L	94
73) 1,2,3-Trichloropropane	11.708	110	140832	172.02	ug/L	90
74) t-1,4-Dichloro-2-butene	11.738	88	61240	213.45	ug/L	92
75) 4-Chlorotoluene	11.793	91	999096	237.67	ug/L	98
76) tert-Butylbenzene	11.934	91	603794	262.33	ug/L	97
77) 1,2,4-Trimethylbenzene	11.982	105	1077392	243.84	ug/L	98
78) sec-Butylbenzene	12.062	105	1284780	241.70	ug/L	98
79) 4-Isopropyltoluene	12.165	119	1059054	277.63	ug/L	99
80) 1,3-Dichlorobenzene	12.238	146	659898	208.26	ug/L	98
81) 1,4-Dichlorobenzene	12.305	146	652930	189.23	ug/L	97
82) n-Butylbenzene	12.488	91	840655	245.85	ug/L	99
83) 1,2-Dichlorobenzene	12.635	146	604858	202.85	ug/L	99
84) 1,2-Dibromo-3-Chloropr...	13.281	157	113563	258.59	ug/L	93
85) Hexachlorobutadiene	13.829	223	82859	198.46	ug/L	98
86) 1,2,4-Trichlorobenzene	13.872	180	341357	221.79	ug/L	97
87) Naphthalene	14.201	128	1124699	196.45	ug/L	99
88) 1,2,3-Trichlorobenzene	14.396	180	322406	224.98	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092633.D
Acq On : 27 Sep 2019 12:22 am
Operator : MM
Sample : 9I26050-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 13:08:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Tue Aug 27 13:51:53 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092634.D
Acq On : 27 Sep 2019 12:50 am
Operator : MM
Sample : 9I26050-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	101639	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	267659	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	114374	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	99656	49.57 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	330485	49.82 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	371122	50.32 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	104492	51.03 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	704	0.64 ug/L	76
3) Chloromethane	1.996	50	558	0.30 ug/L	94
4) Vinyl Chloride	2.118	62	472	0.25 ug/L	93
5) Bromomethane	2.557	96	320	0.42 ug/L	91
6) Chloroethane	2.734	64	290	Below Cal	66
7) Trichlorofluoromethane	2.935	101	654	0.35 ug/L	97
8) Ethanol	3.649	45	69	1.24 ug/L #	29
9) 1,1-Dichloroethene	3.594	61	823	0.31 ug/L	95
10) Carbon Disulfide	3.594	76	4814	1.47 ug/L	97
11) Freon 113	3.667	101	1021	0.57 ug/L	94
12) Iodomethane	3.758	142	319	0.21 ug/L	85
13) Acrolein	4.039	56	37	0.08 ug/L #	5
14) Methylene Chloride	4.325	84	7222	3.51 ug/L	99
15) Acetone	4.411	43	3629	3.08 ug/L	91
16) t-1,2-Dichloroethene	4.514	61	1564	0.58 ug/L	96
17) n-Hexane	4.612	86	180	0.63 ug/L #	90
18) Methyl-tert-butyl-ether	4.673	73	26	0.00 ug/L	57
19) tert-Butanol (TBA)	4.819	59	11	0.03 ug/L #	46
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	5.227	63	279	0.08 ug/L	86
22) Acrylonitrile	5.313	53	223	0.17 ug/L	94
23) Vinyl Acetate	5.575	43	12	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	5.831	61	708	0.25 ug/L	96
26) 2,2-Dichloropropane	5.935	77	12	0.01 ug/L #	32
27) Bromochloromethane	6.044	49	291	0.17 ug/L	82
28) Chloroform	6.148	83	378	0.11 ug/L	82
29) Carbon Tetrachloride	6.264	117	248	0.31 ug/L	89
30) Tetrahydrofuran	6.319	42	136	0.11 ug/L	89
31) 1,1,1-Trichloroethane	6.343	97	219	0.09 ug/L #	69
33) 1,1-Dichloropropene	6.489	75	1263	0.47 ug/L	92
34) 2-Butanone (MEK)	6.502	43	541	0.29 ug/L	93
35) Benzene	6.764	78	1247	0.14 ug/L	97
36) tert-Amyl methyl ether...	6.861	73	135	0.03 ug/L #	1
37) 1,2-Dichloroethane (EDC)	6.989	62	326	0.12 ug/L	77
38) iso-Butyl Alcohol	7.063	43	646	3.51 ug/L	87
40) Trichloroethene (TCE)	7.416	130	996	0.44 ug/L	87
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	7.886	93	253	0.19 ug/L	76
43) 1,2-Dichloropropane	8.001	63	156	0.07 ug/L	85
44) Bromodichloromethane	8.081	83	123	0.06 ug/L	95
46) 2-Chloroethyl Vinyl Ether	8.745	63	30	0.02 ug/L #	1
47) c-1,3-Dichloropropene	8.812	75	322	0.24 ug/L	93

NR 9/30/19 AM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092634.D
Acq On : 27 Sep 2019 12:50 am
Operator : MM
Sample : 9I26050-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

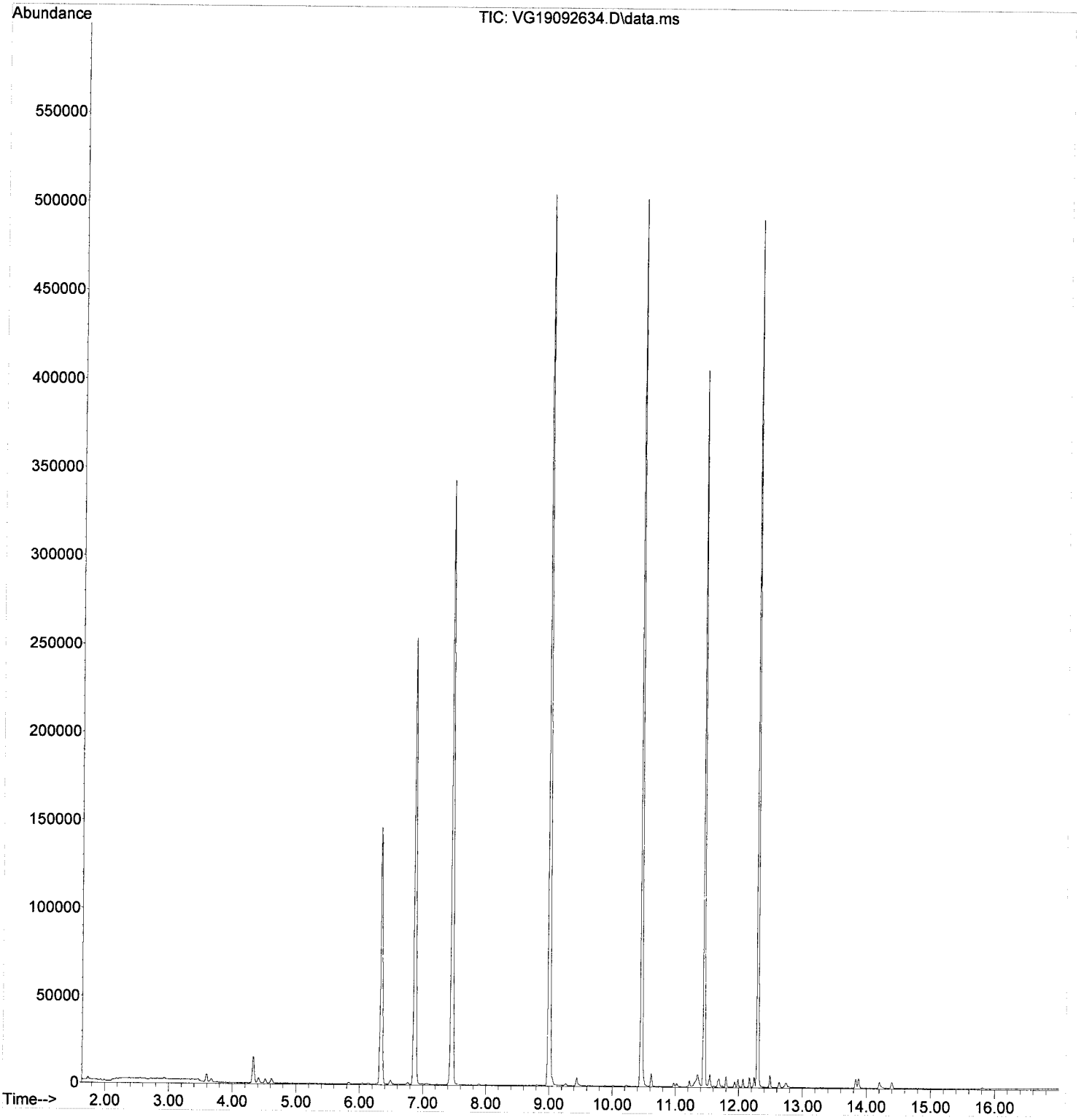
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	1956	0.23 ug/L	98
50) Tetrachloroethene (PCE)	9.440	166	1414	0.66 ug/L	98
51) 4-Methyl-2-Pentanone (...	9.446	43	701	0.24 ug/L	83
52) t-1,3-Dichloropropene	9.483	75	358	0.32 ug/L	88
53) 1,1,2-Trichloroethane	9.629	97	115	0.06 ug/L #	61
54) Dibromochloromethane	9.794	129	103	0.67 ug/L #	50
55) 1,3-Dichloropropane	9.885	76	279	0.08 ug/L	94
56) 1,2-Dibromoethane (EDB)	10.013	107	334	0.17 ug/L	86
57) 2-Hexanone	10.227	43	621	0.29 ug/L	87
58) Chlorobenzene	10.470	112	1698	0.31 ug/L #	72
59) Ethylbenzene	10.495	91	2599	0.31 ug/L	92
60) 1,1,1,2-Tetrachloroethane	10.525	131	60	0.15 ug/L	83
61) m,p-Xylenes (2)	10.617	91	4289	0.73 ug/L	93
62) o-Xylene	10.976	91	1250	0.21 ug/L	99
63) Styrene	11.019	104	1144	0.26 ug/L	98
64) Bromoform	11.043	173	81	0.54 ug/L #	37
65) Isopropylbenzene	11.220	105	2176	0.31 ug/L	96
68) Bromobenzene	11.531	156	691	0.33 ug/L	94
69) n-Propylbenzene	11.543	91	4145	0.56 ug/L	96
70) 1,1,2,2-Tetrachloroethane	11.604	83	214	0.08 ug/L	82
71) 2-Chlorotoluene	11.671	126	684	0.41 ug/L #	78
72) 1,3,5-Trimethylbenzene	11.690	105	2171	0.43 ug/L	91
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	11.738	88	34	0.92 ug/L #	50
75) 4-Chlorotoluene	11.799	91	2806	0.58 ug/L	99
76) tert-Butylbenzene	11.934	91	1095	0.39 ug/L	86
77) 1,2,4-Trimethylbenzene	11.988	105	2430	0.47 ug/L	95
78) sec-Butylbenzene	12.068	105	3144	0.54 ug/L	95
79) 4-Isopropyltoluene	12.165	119	3014	0.63 ug/L	96
80) 1,3-Dichlorobenzene	12.238	146	2300	0.70 ug/L	97
81) 1,4-Dichlorobenzene	12.305	146	2767	0.81 ug/L	87
82) n-Butylbenzene	12.488	91	3630	0.88 ug/L	96
83) 1,2-Dichlorobenzene	12.635	146	1451	0.47 ug/L	97
84) 1,2-Dibromo-3-Chloropr...	13.287	157	14	1.03 ug/L #	47
85) Hexachlorobutadiene	13.829	223	742	1.72 ug/L	96
86) 1,2,4-Trichlorobenzene	13.878	180	2184	1.19 ug/L	93
87) Naphthalene	14.201	128	3706	0.70 ug/L	96
88) 1,2,3-Trichlorobenzene	14.396	180	1570	0.98 ug/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092634.D
Acq On : 27 Sep 2019 12:50 am
Operator : MM
Sample : 9I26050-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:14 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092635.D
Acq On : 27 Sep 2019 1:17 am
Operator : MM
Sample : 9I26050-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.868	99	98274	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	263169	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	113880	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	95020	48.89 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	321119	50.07 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	363495	50.13 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	102881	50.46 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	335	0.36 ug/L	93
3) Chloromethane	1.990	50	349	0.20 ug/L	90
4) Vinyl Chloride	2.119	62	169	0.09 ug/L #	46
5) Bromomethane	2.557	96	242	0.33 ug/L	75
6) Chloroethane	2.740	64	95	Below Cal #	47
7) Trichlorofluoromethane	2.935	101	240	0.13 ug/L	81
8) Ethanol	3.643	45	25	0.46 ug/L #	29
9) 1,1-Dichloroethene	3.594	61	299	0.12 ug/L	83
10) Carbon Disulfide	3.594	76	1840	0.58 ug/L	96
11) Freon 113	3.667	101	529	0.31 ug/L	91
12) Iodomethane	3.758	142	176	0.09 ug/L #	47
13) Acrolein	0.000		0	N.D.	
14) Methylene Chloride	4.332	84	6743	3.39 ug/L	97
15) Acetone	4.411	43	1472	1.29 ug/L	98
16) t-1,2-Dichloroethene	4.520	61	603	0.23 ug/L	98
17) n-Hexane	4.618	86	11	0.04 ug/L #	49
18) Methyl-tert-butyl-ether	0.000		0	N.D.	
19) tert-Butanol (TBA)	4.838	59	185	0.51 ug/L #	30
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	5.222	63	47	0.01 ug/L #	50
22) Acrylonitrile	5.319	53	10	0.01 ug/L #	14
23) Vinyl Acetate	5.636	43	10	1.37 ug/L	74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	5.837	61	217	0.08 ug/L	85
26) 2,2-Dichloropropane	0.000		0	N.D.	
27) Bromochloromethane	6.045	49	103	0.06 ug/L #	63
28) Chloroform	6.136	83	114	0.03 ug/L #	56
29) Carbon Tetrachloride	6.258	117	69	0.21 ug/L #	13
30) Tetrahydrofuran	6.331	42	20	0.02 ug/L #	34
31) 1,1,1-Trichloroethane	6.349	97	55	0.02 ug/L #	25
33) 1,1-Dichloropropene	6.490	75	539	0.21 ug/L	98
34) 2-Butanone (MEK)	6.508	43	162	0.09 ug/L	77
35) Benzene	6.770	78	532	0.06 ug/L	81
36) tert-Amyl methyl ether...	6.862	73	93	0.02 ug/L #	1
37) 1,2-Dichloroethane (EDC)	6.996	62	52	0.02 ug/L #	49
38) iso-Butyl Alcohol	7.063	43	108	0.61 ug/L	67
40) Trichloroethene (TCE)	7.416	130	403	0.18 ug/L	93
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	7.898	93	56	0.04 ug/L #	44
43) 1,2-Dichloropropane	0.000		0	N.D.	
44) Bromodichloromethane	8.081	83	12	0.01 ug/L #	26
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	
47) c-1,3-Dichloropropene	8.812	75	29	0.13 ug/L #	33

NR 9/30/19tm

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092635.D
Acq On : 27 Sep 2019 1:17 am
Operator : MM
Sample : 9I26050-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

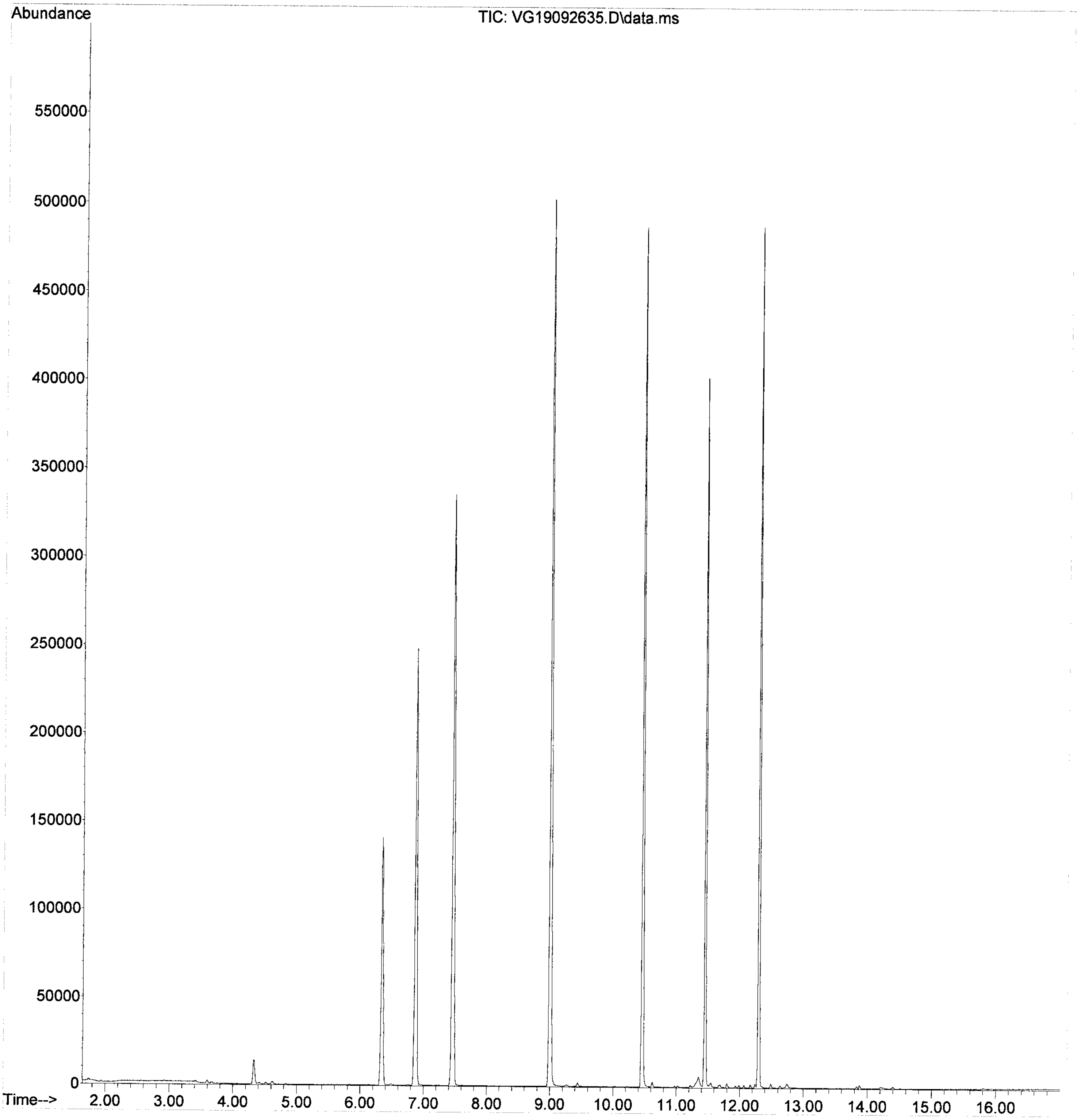
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	864	0.10 ug/L	94
50) Tetrachloroethene (PCE)	9.440	166	620	0.30 ug/L	89
51) 4-Methyl-2-Pentanone (...	9.452	43	221	0.08 ug/L #	43
52) t-1,3-Dichloropropene	9.489	75	151	0.23 ug/L	75
53) 1,1,2-Trichloroethane	9.629	97	11	0.01 ug/L #	12
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	9.885	76	98	0.03 ug/L #	79
56) 1,2-Dibromoethane (EDB)	10.019	107	117	0.06 ug/L	99
57) 2-Hexanone	10.227	43	198	0.09 ug/L	75
58) Chlorobenzene	10.471	112	718	0.14 ug/L #	31
59) Ethylbenzene	10.495	91	1025	0.12 ug/L	93
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.617	91	1730	0.30 ug/L	94
62) o-Xylene	10.977	91	524	0.09 ug/L	92
63) Styrene	11.025	104	448	0.10 ug/L	96
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.227	105	806	0.12 ug/L	97
68) Bromobenzene	11.531	156	289	0.14 ug/L #	84
69) n-Propylbenzene	11.544	91	1622	0.22 ug/L	94
70) 1,1,2,2-Tetrachloroethane	11.611	83	47	0.02 ug/L #	24
71) 2-Chlorotoluene	11.672	126	224	0.14 ug/L	93
72) 1,3,5-Trimethylbenzene	11.690	105	792	0.16 ug/L	93
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.800	91	1120	0.23 ug/L	84
76) tert-Butylbenzene	11.934	91	313	0.11 ug/L	86
77) 1,2,4-Trimethylbenzene	11.989	105	910	0.18 ug/L	92
78) sec-Butylbenzene	12.068	105	1098	0.19 ug/L	94
79) 4-Isopropyltoluene	12.165	119	1106	0.23 ug/L	97
80) 1,3-Dichlorobenzene	12.245	146	882	0.27 ug/L	93
81) 1,4-Dichlorobenzene	12.306	146	1174	0.35 ug/L #	65
82) n-Butylbenzene	12.488	91	1516	0.37 ug/L	98
83) 1,2-Dichlorobenzene	12.635	146	495	0.16 ug/L	85
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.836	223	210	0.49 ug/L	86
86) 1,2,4-Trichlorobenzene	13.878	180	810	0.44 ug/L	98
87) Naphthalene	14.202	128	1087	0.21 ug/L	89
88) 1,2,3-Trichlorobenzene	14.403	180	471	0.30 ug/L	88

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092635.D
Acq On : 27 Sep 2019 1:17 am
Operator : MM
Sample : 9I26050-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:17 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.867	99	99594	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	10.458	117	272148	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	122354	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	6.337	111	101717	51.64 ug/L	0.00
39) 1,4-Difluorobenzene (S)	7.459	114	325832	50.13 ug/L	0.00
48) Toluene-d8 (S)	8.995	98	372645	49.69 ug/L	0.00
67) 4-Bromofluorobenzene (S)	11.446	174	108084	49.34 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.734	85	19743	15.60 ug/L	97
3) Chloromethane	1.996	50	31803	17.68 ug/L	99
4) Vinyl Chloride	2.118	62	34132	18.73 ug/L	95
5) Bromomethane	2.557	96	16729	22.35 ug/L	97
6) Chloroethane	2.728	64	6386	20.90 ug/L	92
7) Trichlorofluoromethane	2.917	101	33796	18.70 ug/L	97
8) Ethanol	3.667	45	185	3.39 ug/L #	29
9) 1,1-Dichloroethene	3.588	61	50562	19.32 ug/L	99
10) Carbon Disulfide	3.594	76	68070	21.24 ug/L	98
11) Freon 113	3.661	101	30229	17.31 ug/L	96
12) Iodomethane	3.758	142	18007	15.09 ug/L	96
13) Acrolein	4.045	56	8827	20.27 ug/L	96
14) Methylene Chloride	4.325	84	39622	19.66 ug/L	99
15) Acetone	4.411	43	45247	39.23 ug/L	97
16) t-1,2-Dichloroethene	4.514	61	52839	20.00 ug/L	98
17) n-Hexane	4.612	86	4294	15.44 ug/L #	54
18) Methyl-tert-butyl-ether	4.673	73	104841	20.27 ug/L	96
19) tert-Butanol (TBA)	0.000		0	N.D.	
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	
21) 1,1-Dichloroethane	5.221	63	72473	21.76 ug/L	99
22) Acrylonitrile	5.295	53	26043	20.03 ug/L	96
23) Vinyl Acetate	5.538	43	52518	21.31 ug/L	98
24) Ethyl-tert-butyl ether...	0.000		0	N.D.	
25) c-1,2-Dichloroethene	5.831	61	55638	19.91 ug/L	98
26) 2,2-Dichloropropane	5.941	77	30172	18.32 ug/L	76
27) Bromochloromethane	6.044	49	34153	20.32 ug/L	99
28) Chloroform	6.142	83	68580	20.29 ug/L	95
29) Carbon Tetrachloride	6.270	117	34210	19.37 ug/L	93
30) Tetrahydrofuran	6.313	42	25570	20.70 ug/L	95
31) 1,1,1-Trichloroethane	6.349	97	50725	21.57 ug/L	97
33) 1,1-Dichloropropene	6.483	75	48958	18.78 ug/L	98
34) 2-Butanone (MEK)	6.483	43	73431	40.41 ug/L	99
35) Benzene	6.758	78	162072	18.95 ug/L	99
36) tert-Amyl methyl ether...	6.867	73	150	0.04 ug/L #	1
37) 1,2-Dichloroethane (EDC)	6.989	62	53969	20.53 ug/L	99
38) iso-Butyl Alcohol	7.050	43	109951	610.15 ug/L	98
40) Trichloroethene (TCE)	7.416	130	42156	18.81 ug/L	100
41) tert-Amyl ethyl ether ...	0.000		0	N.D.	
42) Dibromomethane	7.885	93	26665	20.21 ug/L	95
43) 1,2-Dichloropropane	8.001	63	43609	20.55 ug/L	94
44) Bromodichloromethane	8.081	83	42122	21.71 ug/L	98
46) 2-Chloroethyl Vinyl Ether	8.745	63	30788	19.88 ug/L #	1
47) c-1,3-Dichloropropene	8.806	75	53503	19.82 ug/L	93

9/30/2019

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

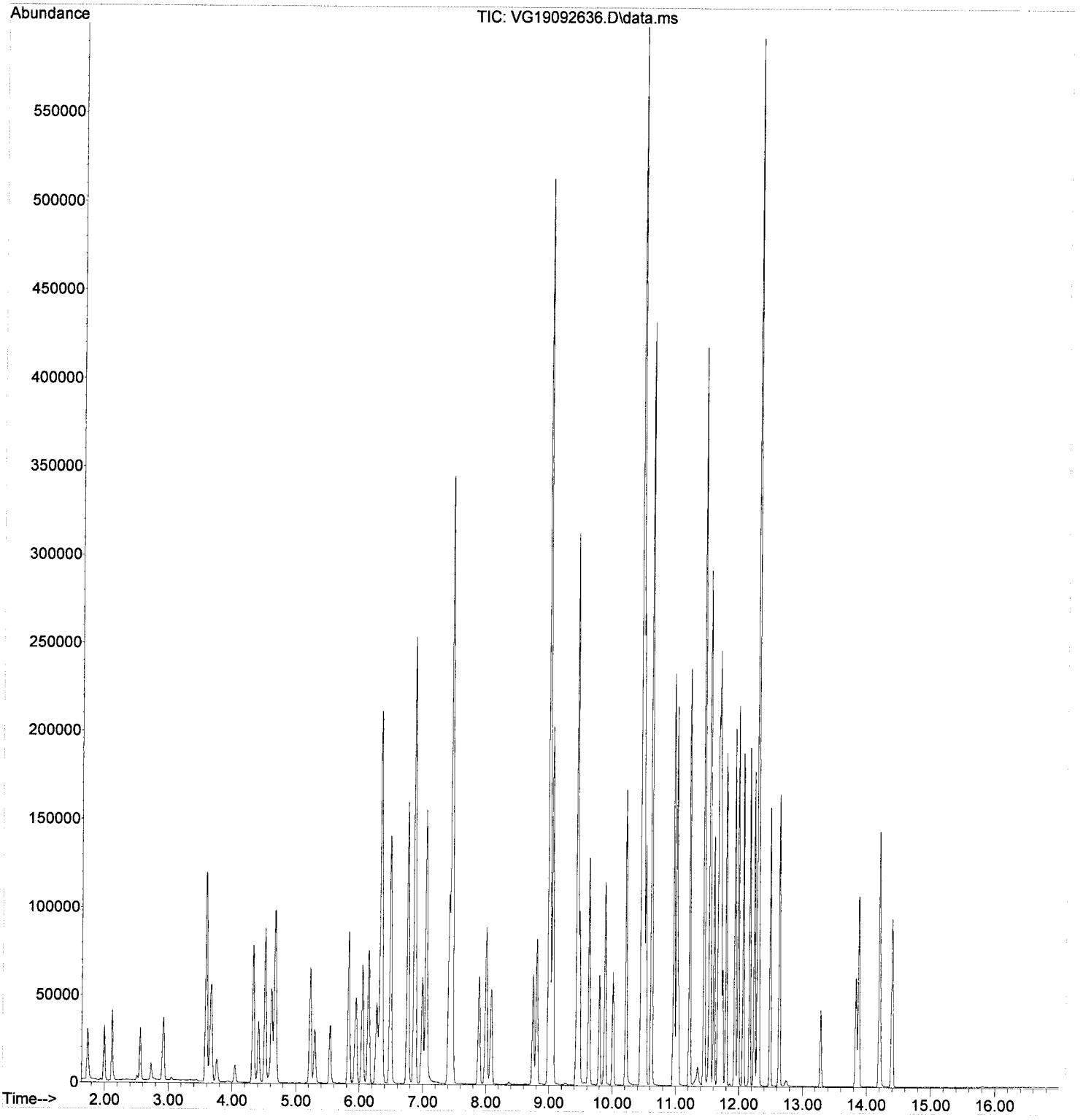
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	9.050	91	158723	18.23	ug/L		100
50) Tetrachloroethene (PCE)	9.440	166	37268	17.16	ug/L		96
51) 4-Methyl-2-Pentanone (...	9.440	43	129707	43.77	ug/L		96
52) t-1,3-Dichloropropene	9.477	75	47833	19.74	ug/L		98
53) 1,1,2-Trichloroethane	9.629	97	41063	20.30	ug/L		95
54) Dibromochloromethane	9.794	129	32698	19.45	ug/L		99
55) 1,3-Dichloropropane	9.885	76	67844	20.03	ug/L		98
56) 1,2-Dibromoethane (EDB)	10.007	107	42689	20.85	ug/L		98
57) 2-Hexanone	10.214	43	96042	43.83	ug/L		99
58) Chlorobenzene	10.470	112	100789	18.34	ug/L		99
59) Ethylbenzene	10.489	91	155597	18.24	ug/L		99
60) 1,1,1,2-Tetrachloroethane	10.525	131	32120	19.81	ug/L		97
61) m,p-Xylenes (2)	10.617	91	221924	36.91	ug/L		98
62) o-Xylene	10.970	91	117614	19.29	ug/L		98
63) Styrene	11.013	104	93279	20.72	ug/L		98
64) Bromoform	11.043	173	21904	18.52	ug/L		98
65) Isopropylbenzene	11.220	105	135415	18.92	ug/L		99
68) Bromobenzene	11.531	156	41985	18.77	ug/L		94
69) n-Propylbenzene	11.543	91	142532	17.88	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.604	83	60721	22.07	ug/L		99
71) 2-Chlorotoluene	11.671	126	33565	18.86	ug/L		96
72) 1,3,5-Trimethylbenzene	11.690	105	100490	18.48	ug/L		94
73) 1,2,3-Trichloropropane	11.708	110	18416	21.93	ug/L	#	84
74) t-1,4-Dichloro-2-butene	11.738	88	4909	17.48	ug/L	#	83
75) 4-Chlorotoluene	11.793	91	93022	17.96	ug/L		96
76) tert-Butylbenzene	11.933	91	55694	18.52	ug/L		96
77) 1,2,4-Trimethylbenzene	11.982	105	102828	18.58	ug/L		96
78) sec-Butylbenzene	12.062	105	115640	18.59	ug/L		96
79) 4-Isopropyltoluene	12.165	119	93781	18.40	ug/L		98
80) 1,3-Dichlorobenzene	12.238	146	64551	18.34	ug/L		98
81) 1,4-Dichlorobenzene	12.305	146	64578	17.69	ug/L		96
82) n-Butylbenzene	12.488	91	76336	17.33	ug/L		97
83) 1,2-Dichlorobenzene	12.635	146	64271	19.51	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	13.281	157	11196	20.21	ug/L		88
85) Hexachlorobutadiene	13.836	223	8603	18.64	ug/L		96
86) 1,2,4-Trichlorobenzene	13.878	180	37844	19.20	ug/L		98
87) Naphthalene	14.201	128	125372	22.11	ug/L		99
88) 1,2,3-Trichlorobenzene	14.396	180	36030	21.13	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092636.D
Acq On : 27 Sep 2019 1:44 am
Operator : MM
Sample : 9I26050-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:20 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.867	99	96909	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	260255	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	113704	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	94018	49.05 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	315070	49.82 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	357168	49.81 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.452	174	101932	50.07 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	142	0.21 ug/L	#	51
3) Chloromethane	1.996	50	566	0.32 ug/L		77
4) Vinyl Chloride	2.118	62	297	0.17 ug/L		89
5) Bromomethane	2.557	96	311	0.43 ug/L		80
6) Chloroethane	2.746	64	150	Below Cal	#	47
7) Trichlorofluoromethane	2.935	101	208	0.12 ug/L		79
8) Ethanol	3.643	45	72771	1370.49 ug/L		85
9) 1,1-Dichloroethene	3.594	61	490	0.19 ug/L		89
10) Carbon Disulfide	3.594	76	1519	0.49 ug/L		93
11) Freon 113	3.673	101	361	0.21 ug/L		83
12) Iodomethane	3.758	142	345	0.24 ug/L		85
13) Acrolein	4.051	56	10	0.02 ug/L	#	23
14) Methylene Chloride	4.331	84	2897	1.48 ug/L		97
15) Acetone	4.411	43	1311	1.17 ug/L		90
16) t-1,2-Dichloroethene	4.508	61	720	0.28 ug/L		80
17) n-Hexane	4.624	86	32	0.12 ug/L	#	47
18) Methyl-tert-butyl-ether	4.685	73	49	0.01 ug/L		57
19) tert-Butanol (TBA)	4.831	59	520675	1448.37 ug/L	#	78
20) Diisopropyl ether (DIPE)	5.118	45	30570	5.34 ug/L		93
21) 1,1-Dichloroethane	5.228	63	508	0.16 ug/L		91
22) Acrylonitrile	5.301	53	138	0.11 ug/L		82
23) Vinyl Acetate	5.526	43	2582	2.34 ug/L		57
24) Ethyl-tert-butyl ether...	5.526	59	24451	5.27 ug/L		96
25) c-1,2-Dichloroethene	5.825	61	463	0.17 ug/L		91
26) 2,2-Dichloropropane	5.935	77	152	0.09 ug/L		82
27) Bromochloromethane	6.045	49	112	0.07 ug/L	#	65
28) Chloroform	6.136	83	457	0.14 ug/L		88
29) Carbon Tetrachloride	6.270	117	160	0.26 ug/L	#	40
30) Tetrahydrofuran	6.325	42	31	0.03 ug/L	#	36
31) 1,1,1-Trichloroethane	6.349	97	282	0.12 ug/L		88
33) 1,1-Dichloropropene	6.490	75	585	0.23 ug/L		88
34) 2-Butanone (MEK)	6.508	43	57	0.03 ug/L		52
35) Benzene	6.764	78	1445	0.17 ug/L		96
36) tert-Amyl methyl ether...	6.904	73	20209	4.88 ug/L		76
37) 1,2-Dichloroethane (EDC)	6.989	62	116	0.05 ug/L	#	49
38) iso-Butyl Alcohol	7.075	43	75	0.43 ug/L	#	22
40) Trichloroethene (TCE)	7.416	130	489	0.22 ug/L		97
41) tert-Amyl ethyl ether ...	7.697	59	15030	5.15 ug/L		90
42) Dibromomethane	7.892	93	49	0.04 ug/L	#	1
43) 1,2-Dichloropropane	8.008	63	172	0.08 ug/L	#	40
44) Bromodichloromethane	8.093	83	96	0.05 ug/L		73
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	8.812	75	170	0.19 ug/L	#	72

NR NR NR

9/30/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

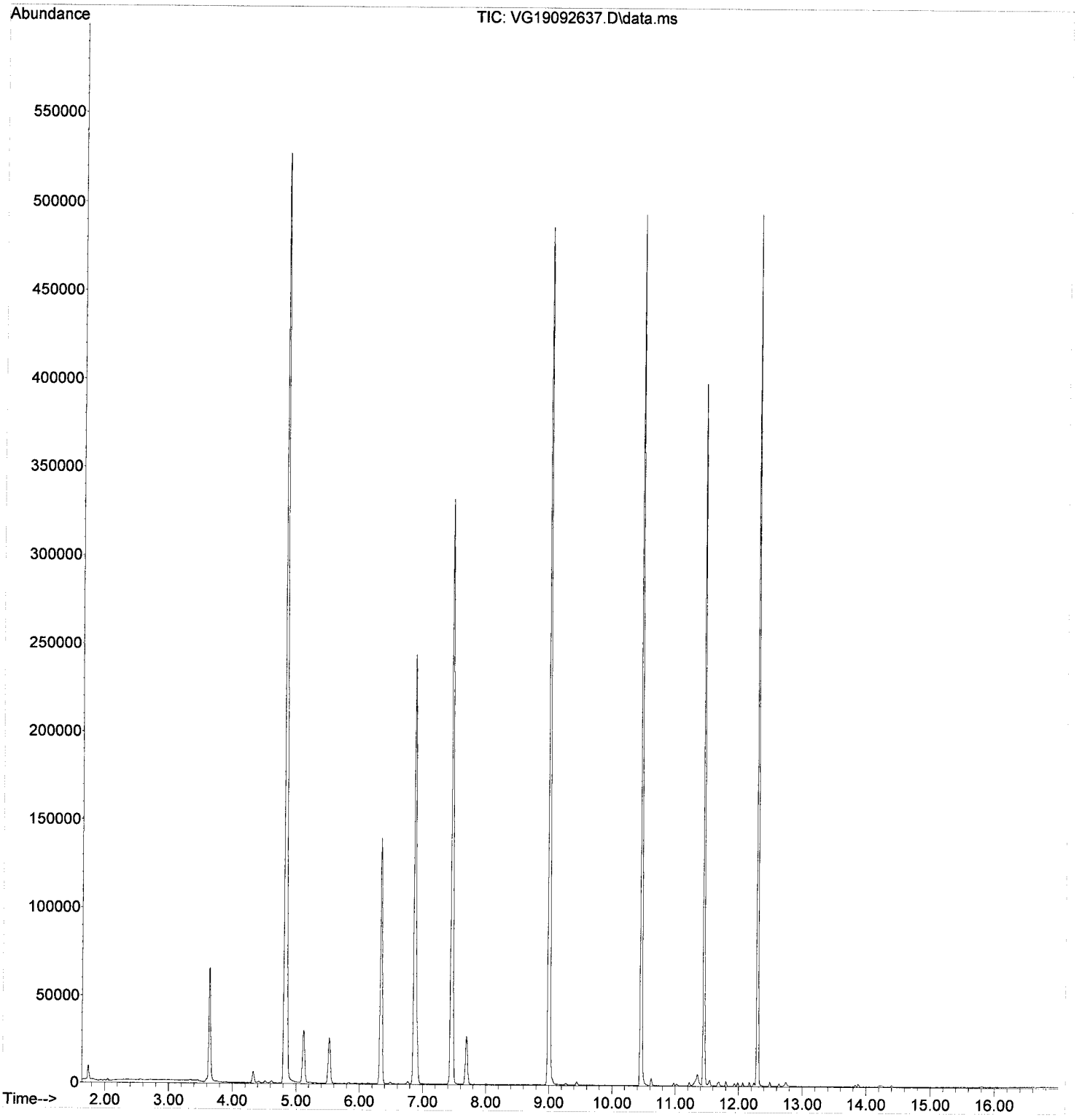
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.056	91	1597	0.19 ug/L	99
50) Tetrachloroethene (PCE)	9.440	166	598	0.29 ug/L	90
51) 4-Methyl-2-Pentanone (...	9.452	43	140	0.05 ug/L #	43
52) t-1,3-Dichloropropene	9.489	75	91	0.21 ug/L #	45
53) 1,1,2-Trichloroethane	9.635	97	60	0.03 ug/L #	38
54) Dibromochloromethane	9.800	129	19	0.62 ug/L #	55
55) 1,3-Dichloropropane	9.891	76	116	0.04 ug/L #	68
56) 1,2-Dibromoethane (EDB)	10.019	107	71	0.04 ug/L	93
57) 2-Hexanone	10.233	43	122	0.06 ug/L	73
58) Chlorobenzene	10.470	112	977	0.19 ug/L #	44
59) Ethylbenzene	10.495	91	1662	0.20 ug/L	96
60) 1,1,1,2-Tetrachloroethane	10.519	131	97	0.18 ug/L #	75
61) m,p-Xylenes (2)	10.617	91	2486	0.43 ug/L	95
62) o-Xylene	10.976	91	919	0.16 ug/L	94
63) Styrene	11.019	104	658	0.15 ug/L	91
64) Bromoform	11.044	173	10	0.48 ug/L #	37
65) Isopropylbenzene	11.220	105	1275	0.19 ug/L	97
68) Bromobenzene	11.531	156	338	0.16 ug/L	98
69) n-Propylbenzene	11.543	91	1941	0.26 ug/L	92
70) 1,1,2,2-Tetrachloroethane	11.604	83	61	0.02 ug/L	66
71) 2-Chlorotoluene	11.671	126	361	0.22 ug/L	86
72) 1,3,5-Trimethylbenzene	11.690	105	1150	0.23 ug/L	90
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.799	91	1281	0.27 ug/L	98
76) tert-Butylbenzene	11.934	91	542	0.19 ug/L	85
77) 1,2,4-Trimethylbenzene	11.988	105	1171	0.23 ug/L	97
78) sec-Butylbenzene	12.068	105	1264	0.22 ug/L	95
79) 4-Isopropyltoluene	12.165	119	1264	0.27 ug/L	93
80) 1,3-Dichlorobenzene	12.238	146	915	0.28 ug/L	95
81) 1,4-Dichlorobenzene	12.305	146	1105	0.33 ug/L #	67
82) n-Butylbenzene	12.488	91	1510	0.37 ug/L	96
83) 1,2-Dichlorobenzene	12.635	146	594	0.19 ug/L	93
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.830	223	189	0.44 ug/L #	83
86) 1,2,4-Trichlorobenzene	13.878	180	630	0.34 ug/L	93
87) Naphthalene	14.208	128	919	0.17 ug/L	79
88) 1,2,3-Trichlorobenzene	14.397	180	462	0.29 ug/L	91

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092637.D
Acq On : 27 Sep 2019 2:11 am
Operator : MM
Sample : 9I26050-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:23 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092638.D
Acq On : 27 Sep 2019 2:38 am
Operator : MM
Sample : 9I26050-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:26 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	103333	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	277181	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	120377	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	99507	48.69 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	338557	50.20 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	380103	49.77 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	108807	50.49 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	102	0.17 ug/L	#	51
3) Chloromethane	1.991	50	263	0.14 ug/L		85
4) Vinyl Chloride	2.125	62	30	0.02 ug/L	#	46
5) Bromomethane	2.558	96	149	0.19 ug/L		88
6) Chloroethane	2.734	64	65	Below Cal	#	47
7) Trichlorofluoromethane	2.923	101	63	0.03 ug/L		82
8) Ethanol	0.000		0	N.D.		
9) 1,1-Dichloroethene	3.588	61	98	0.04 ug/L	#	49
10) Carbon Disulfide	3.594	76	753	0.23 ug/L		91
11) Freon 113	3.661	101	215	0.12 ug/L	#	59
12) Iodomethane	3.758	142	154	0.07 ug/L	#	47
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	4.332	84	10193	4.87 ug/L		96
15) Acetone	4.411	43	2939	2.46 ug/L		99
16) t-1,2-Dichloroethene	4.521	61	232	0.08 ug/L		93
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.		
19) tert-Butanol (TBA)	4.831	59	273	0.71 ug/L	#	22
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.		
22) Acrylonitrile	0.000		0	N.D.		
23) Vinyl Acetate	5.563	43	11	1.37 ug/L		74
24) Ethyl-tert-butyl ether...	0.000		0	N.D.		
25) c-1,2-Dichloroethene	5.831	61	65	0.02 ug/L	#	29
26) 2,2-Dichloropropane	0.000		0	N.D.		
27) Bromochloromethane	0.000		0	N.D.		
28) Chloroform	6.136	83	19	0.01 ug/L	#	25
29) Carbon Tetrachloride	0.000		0	N.D.		
30) Tetrahydrofuran	0.000		0	N.D.		
31) 1,1,1-Trichloroethane	0.000		0	N.D.		
33) 1,1-Dichloropropene	6.496	75	243	0.09 ug/L		78
34) 2-Butanone (MEK)	6.490	43	11	0.01 ug/L		52
35) Benzene	6.764	78	238	0.03 ug/L		68
36) tert-Amyl methyl ether...	6.855	73	107	0.02 ug/L	#	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.		
38) iso-Butyl Alcohol	0.000		0	N.D.		
40) Trichloroethene (TCE)	7.416	130	125	0.05 ug/L	#	54
41) tert-Amyl ethyl ether ...	0.000		0	N.D.		
42) Dibromomethane	0.000		0	N.D.		
43) 1,2-Dichloropropane	0.000		0	N.D.		
44) Bromodichloromethane	0.000		0	N.D.		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	8.818	75	10	0.12 ug/L	#	33

NR 9/30/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092638.D
Acq On : 27 Sep 2019 2:38 am
Operator : MM
Sample : 9I26050-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:26 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

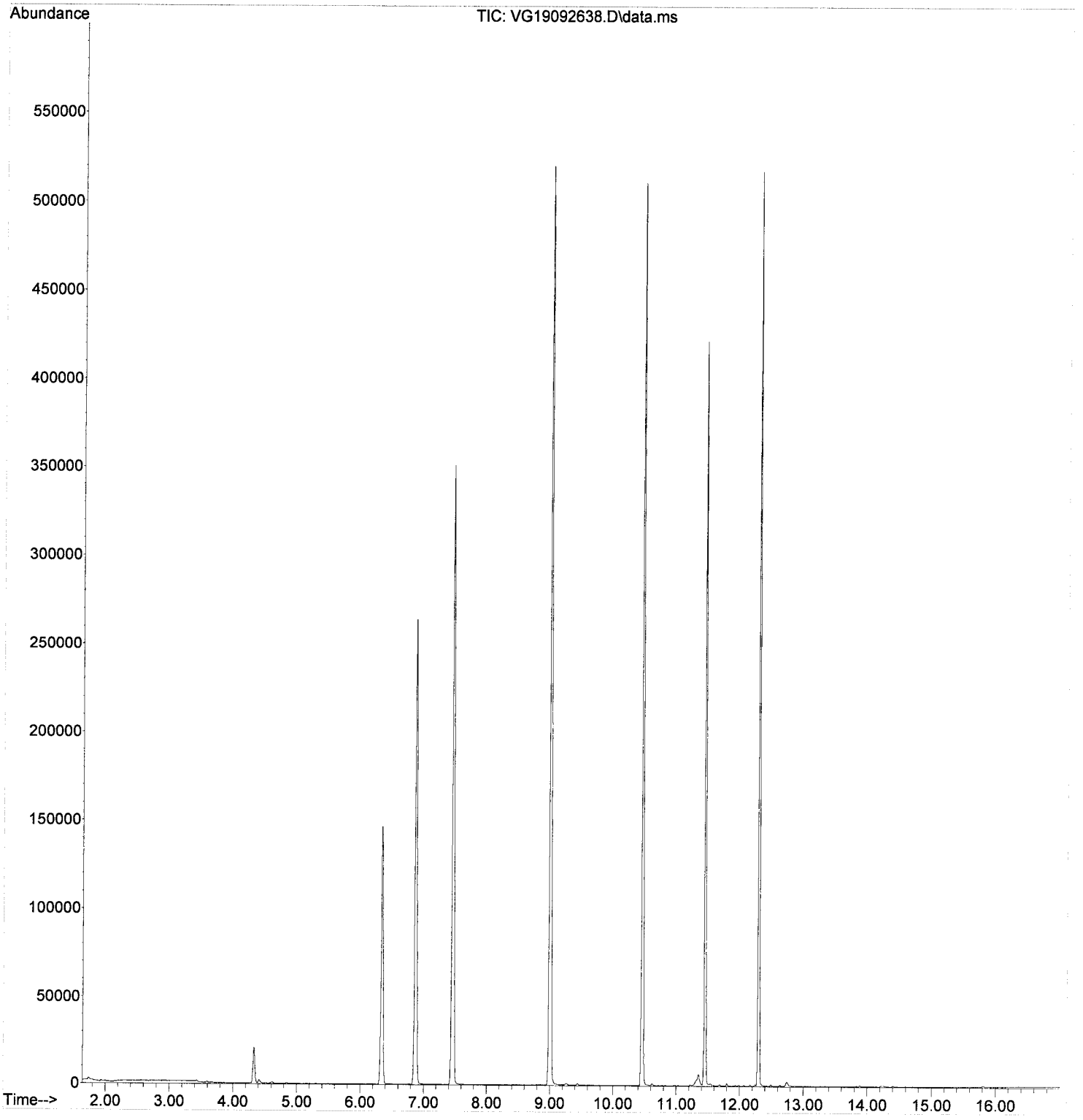
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	472	0.05 ug/L	82
50) Tetrachloroethene (PCE)	9.446	166	266	0.12 ug/L	92
51) 4-Methyl-2-Pentanone (...	9.452	43	32	0.01 ug/L #	43
52) t-1,3-Dichloropropene	9.477	75	10	0.17 ug/L #	45
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	9.891	76	20	0.01 ug/L #	28
56) 1,2-Dibromoethane (EDB)	10.026	107	10	0.00 ug/L	95
57) 2-Hexanone	10.239	43	31	0.01 ug/L #	32
58) Chlorobenzene	10.464	112	317	0.06 ug/L #	1
59) Ethylbenzene	10.501	91	455	0.05 ug/L	96
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.623	91	783	0.13 ug/L	95
62) o-Xylene	10.977	91	224	0.04 ug/L	82
63) Styrene	11.031	104	189	0.04 ug/L #	40
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.227	105	342	0.05 ug/L	69
68) Bromobenzene	11.531	156	131	0.06 ug/L #	72
69) n-Propylbenzene	11.544	91	696	0.09 ug/L	86
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71) 2-Chlorotoluene	11.672	126	101	0.06 ug/L #	73
72) 1,3,5-Trimethylbenzene	11.690	105	337	0.06 ug/L	86
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.800	91	530	0.10 ug/L	96
76) tert-Butylbenzene	11.934	91	168	0.06 ug/L #	68
77) 1,2,4-Trimethylbenzene	11.982	105	423	0.08 ug/L	82
78) sec-Butylbenzene	12.068	105	428	0.07 ug/L	90
79) 4-Isopropyltoluene	12.165	119	455	0.09 ug/L	82
80) 1,3-Dichlorobenzene	12.245	146	435	0.13 ug/L	84
81) 1,4-Dichlorobenzene	12.306	146	569	0.16 ug/L #	33
82) n-Butylbenzene	12.495	91	629	0.15 ug/L	92
83) 1,2-Dichlorobenzene	12.641	146	231	0.07 ug/L	95
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	13.848	223	10	0.02 ug/L #	1
86) 1,2,4-Trichlorobenzene	13.885	180	351	0.18 ug/L	83
87) Naphthalene	14.208	128	432	0.08 ug/L	79
88) 1,2,3-Trichlorobenzene	14.403	180	204	0.12 ug/L	79

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092638.D
Acq On : 27 Sep 2019 2:38 am
Operator : MM
Sample : 9I26050-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

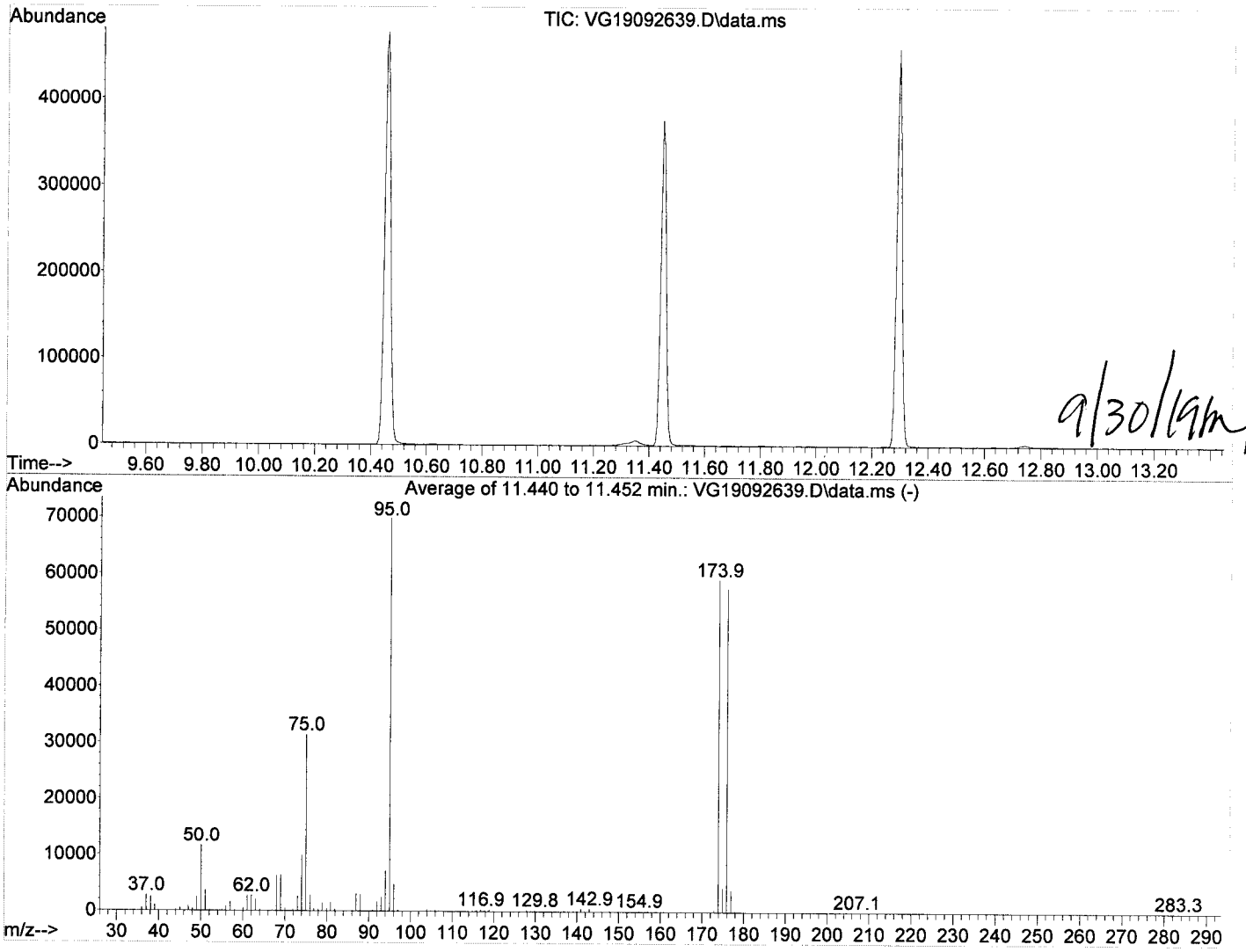
Quant Time: Sep 30 15:56:26 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092639.D
Acq On : 27 Sep 2019 3:05 am
Operator : MM
Sample : 9I26050-TUN2
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VG190930W+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Mon Sep 30 14:12:46 2019



9/30/19 MM

AutoFind: Scans 1608, 1609, 1610; Background Corrected with Scan 1601

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	118.3	69915	PASS
96	95	5	9	6.8	4777	PASS
173	174	0.00	2	0.6	329	PASS
174	95	50	200	84.5	59101	PASS
175	174	5	9	7.2	4234	PASS
176	174	95	105	97.3	57499	PASS
177	176	5	10	6.6	3809	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092639.D
Acq On : 27 Sep 2019 3:05 am
Operator : MM
Sample : 9I26050-TUN2
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:29 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.868	99	94294	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	10.458	117	250236	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	12.293	152	105598	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	6.337	111	91679	49.16 ug/L		0.00
39) 1,4-Difluorobenzene (S)	7.459	114	307502	49.97 ug/L		0.00
48) Toluene-d8 (S)	8.995	98	347308	50.37 ug/L		0.00
67) 4-Bromofluorobenzene (S)	11.446	174	96250	50.91 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.734	85	34	0.12 ug/L	#	32
3) Chloromethane	1.997	50	255	0.15 ug/L		75
4) Vinyl Chloride	2.125	62	19	0.01 ug/L	#	46
5) Bromomethane	2.551	96	102	0.14 ug/L		79
6) Chloroethane	2.710	64	78	Below Cal	#	26
7) Trichlorofluoromethane	2.929	101	22	0.01 ug/L	#	27
8) Ethanol	3.649	45	10	0.19 ug/L	#	29
9) 1,1-Dichloroethene	3.600	61	51	0.02 ug/L	#	25
10) Carbon Disulfide	3.594	76	518	0.17 ug/L		76
11) Freon 113	3.673	101	153	0.09 ug/L		83
12) Iodomethane	3.771	142	42	Below Cal	#	47
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	4.325	84	8587	4.50 ug/L		98
15) Acetone	4.417	43	1154	1.06 ug/L		90
16) t-1,2-Dichloroethene	4.521	61	116	0.05 ug/L		90
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.		
19) tert-Butanol (TBA)	4.838	59	64	0.18 ug/L	#	1
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.		
22) Acrylonitrile	0.000		0	N.D.		
23) Vinyl Acetate	0.000		0	N.D.		
24) Ethyl-tert-butyl ether...	0.000		0	N.D.		
25) c-1,2-Dichloroethene	5.831	61	12	0.00 ug/L	#	18
26) 2,2-Dichloropropane	0.000		0	N.D.		
27) Bromochloromethane	6.063	49	20	0.01 ug/L	#	14
28) Chloroform	0.000		0	N.D.		
29) Carbon Tetrachloride	6.270	117	10	0.17 ug/L	#	13
30) Tetrahydrofuran	6.319	42	10	0.01 ug/L	#	30
31) 1,1,1-Trichloroethane	0.000		0	N.D.		
33) 1,1-Dichloropropene	6.496	75	135	0.05 ug/L		91
34) 2-Butanone (MEK)	6.508	43	10	0.01 ug/L		52
35) Benzene	6.764	78	179	0.02 ug/L		56
36) tert-Amyl methyl ether...	6.868	73	121	0.03 ug/L	#	1
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.		
38) iso-Butyl Alcohol	7.148	43	10	0.06 ug/L	#	22
40) Trichloroethene (TCE)	7.416	130	103	0.05 ug/L		87
41) tert-Amyl ethyl ether ...	0.000		0	N.D.		
42) Dibromomethane	7.892	93	11	0.01 ug/L	#	1
43) 1,2-Dichloropropane	0.000		0	N.D.		
44) Bromodichloromethane	0.000		0	N.D.		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	0.000		0	N.D.		

9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092639.D
Acq On : 27 Sep 2019 3:05 am
Operator : MM
Sample : 9I26050-TUN2
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:29 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration

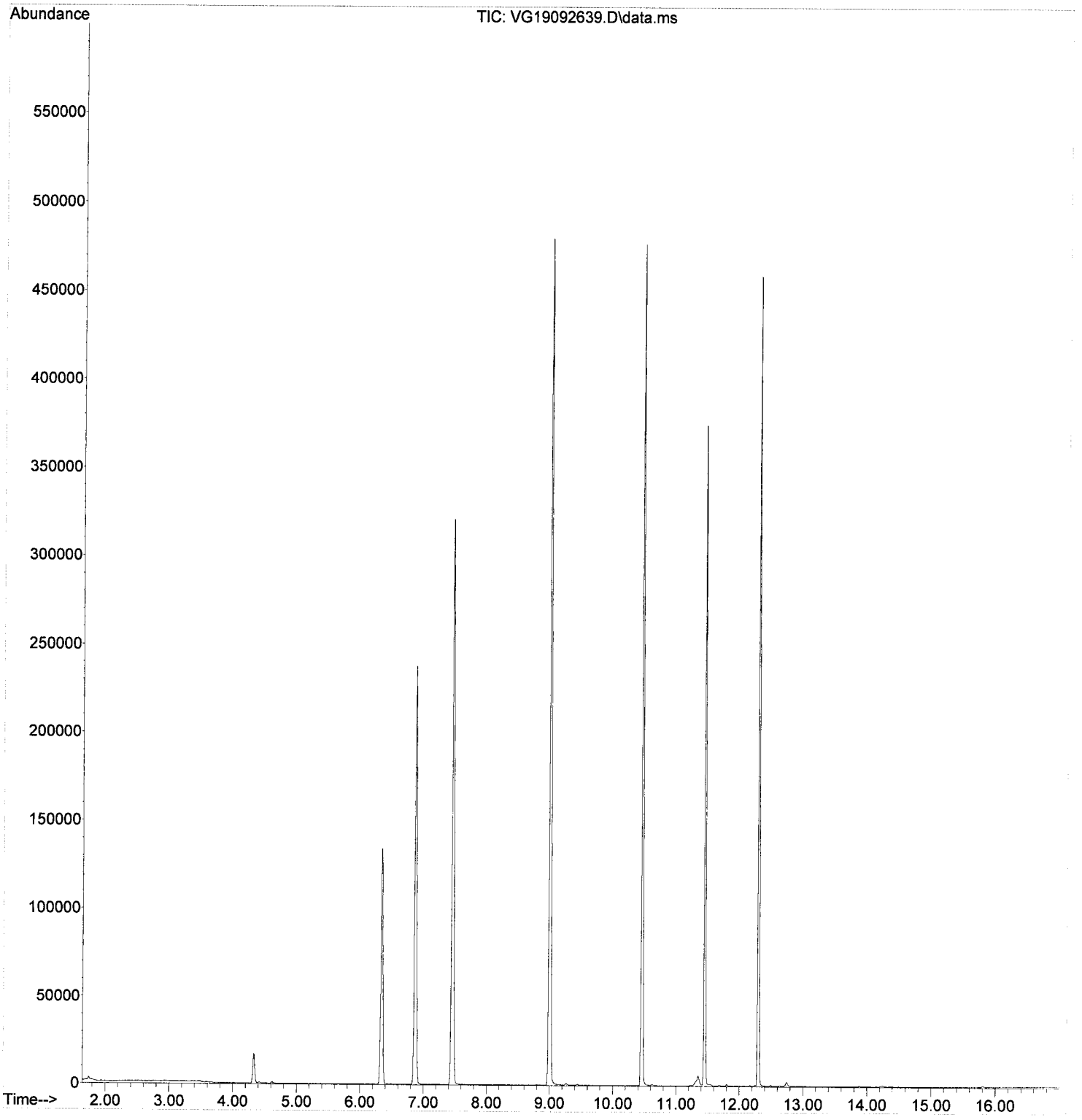
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) Toluene	9.050	91	329	0.04 ug/L	95
50) Tetrachloroethene (PCE)	9.440	166	226	0.11 ug/L #	77
51) 4-Methyl-2-Pentanone (...	9.440	43	11	0.00 ug/L #	43
52) t-1,3-Dichloropropene	0.000		0	N.D.	
53) 1,1,2-Trichloroethane	0.000		0	N.D.	
54) Dibromochloromethane	0.000		0	N.D.	
55) 1,3-Dichloropropane	0.000		0	N.D.	
56) 1,2-Dibromoethane (EDB)	10.019	107	12	0.01 ug/L #	7
57) 2-Hexanone	10.245	43	11	0.01 ug/L #	32
58) Chlorobenzene	10.471	112	235	0.05 ug/L #	1
59) Ethylbenzene	10.501	91	338	0.04 ug/L	91
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
61) m,p-Xylenes (2)	10.617	91	562	0.10 ug/L	96
62) o-Xylene	10.977	91	166	0.03 ug/L #	35
63) Styrene	11.031	104	121	0.03 ug/L	71
64) Bromoform	0.000		0	N.D.	
65) Isopropylbenzene	11.220	105	225	0.03 ug/L	54
68) Bromobenzene	11.537	156	68	0.04 ug/L #	78
69) n-Propylbenzene	11.550	91	486	0.07 ug/L	93
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.	
71) 2-Chlorotoluene	11.672	126	29	0.02 ug/L #	24
72) 1,3,5-Trimethylbenzene	11.690	105	259	0.06 ug/L	77
73) 1,2,3-Trichloropropane	0.000		0	N.D.	
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
75) 4-Chlorotoluene	11.806	91	357	0.08 ug/L	89
76) tert-Butylbenzene	11.934	91	85	0.03 ug/L #	62
77) 1,2,4-Trimethylbenzene	11.989	105	305	0.06 ug/L	91
78) sec-Butylbenzene	12.068	105	363	0.07 ug/L	83
79) 4-Isopropyltoluene	12.171	119	347	0.08 ug/L	93
80) 1,3-Dichlorobenzene	12.245	146	271	0.09 ug/L	95
81) 1,4-Dichlorobenzene	12.306	146	429	0.14 ug/L #	30
82) n-Butylbenzene	12.495	91	400	0.11 ug/L	92
83) 1,2-Dichlorobenzene	12.641	146	170	0.06 ug/L #	65
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
85) Hexachlorobutadiene	0.000		0	N.D.	
86) 1,2,4-Trichlorobenzene	13.878	180	208	0.12 ug/L	79
87) Naphthalene	14.208	128	312	0.06 ug/L	79
88) 1,2,3-Trichlorobenzene	14.403	180	100	0.07 ug/L	72

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092639.D
Acq On : 27 Sep 2019 3:05 am
Operator : MM
Sample : 9I26050-TUN2
Misc : A19F380 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:56:29 2019
Quant Method : C:\msdchem\1\methods\VG190930W+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Mon Sep 30 14:12:46 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092640.D
Acq On : 27 Sep 2019 3:33 am
Operator : MM
Sample : 9I26050-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:57:01 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration

9/30/19 bm

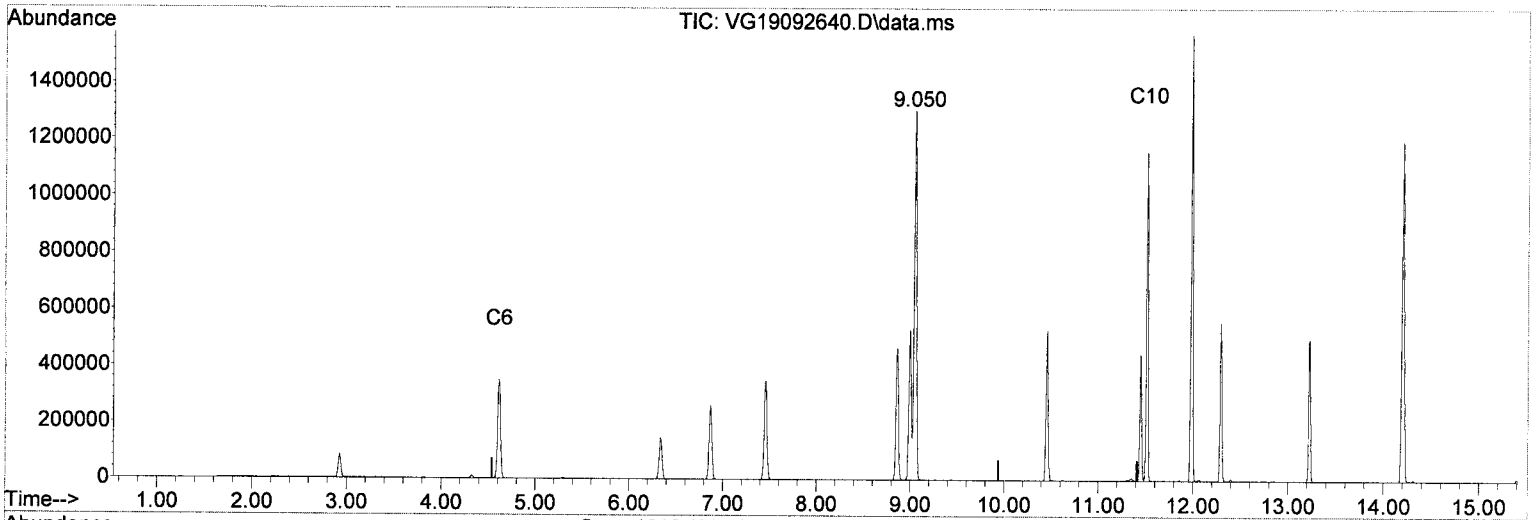
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.867	168	215271	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	333590	48.91	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	113681	50.14	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	384166	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	279966	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	205118	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	9406992m	1731.33	ug/L	
5) TPHg (C5-C9)	9.940	TIC	4541576m	655.47	ug/L	
6) TPHg (C6-C10)	9.940	TIC	4334325m	738.56	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	8681524m	1056.62	ug/L	

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092640.D
Acq On : 27 Sep 2019 3:33 am
Operator : MM
Sample : 9I26050-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:57:01 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration



TIC: VG19092640.D\data.ms

(6) TPHg (C6-C10) (H)

9.940min (0.000) 738.56 ug/L m

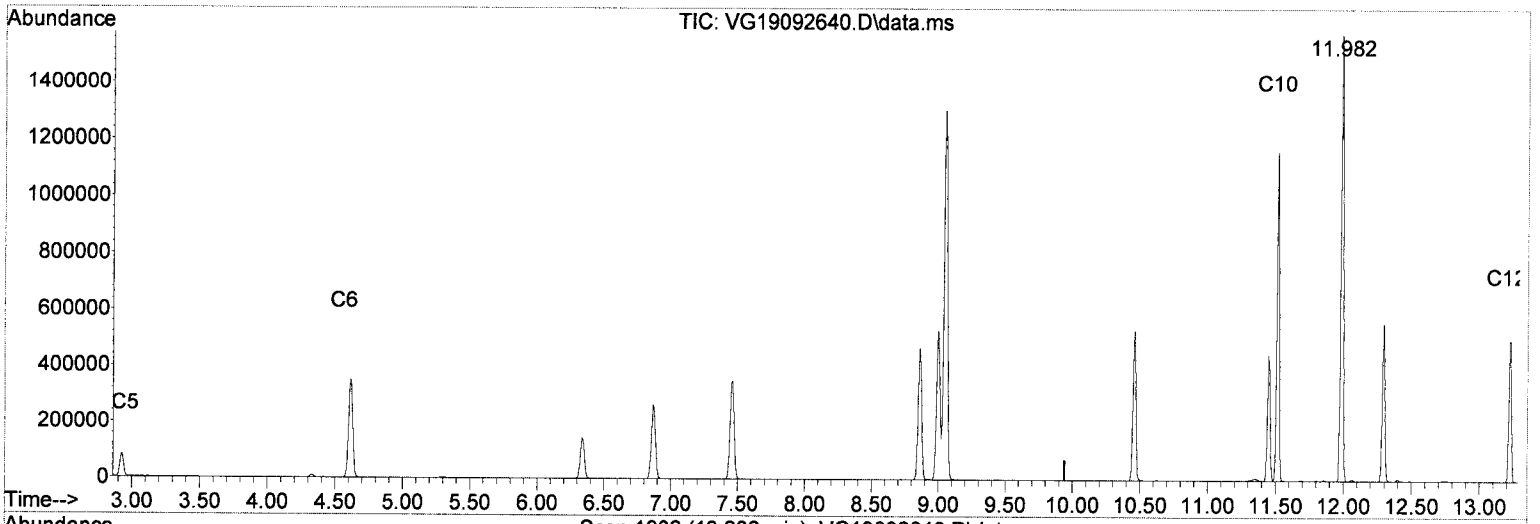
response 4334325

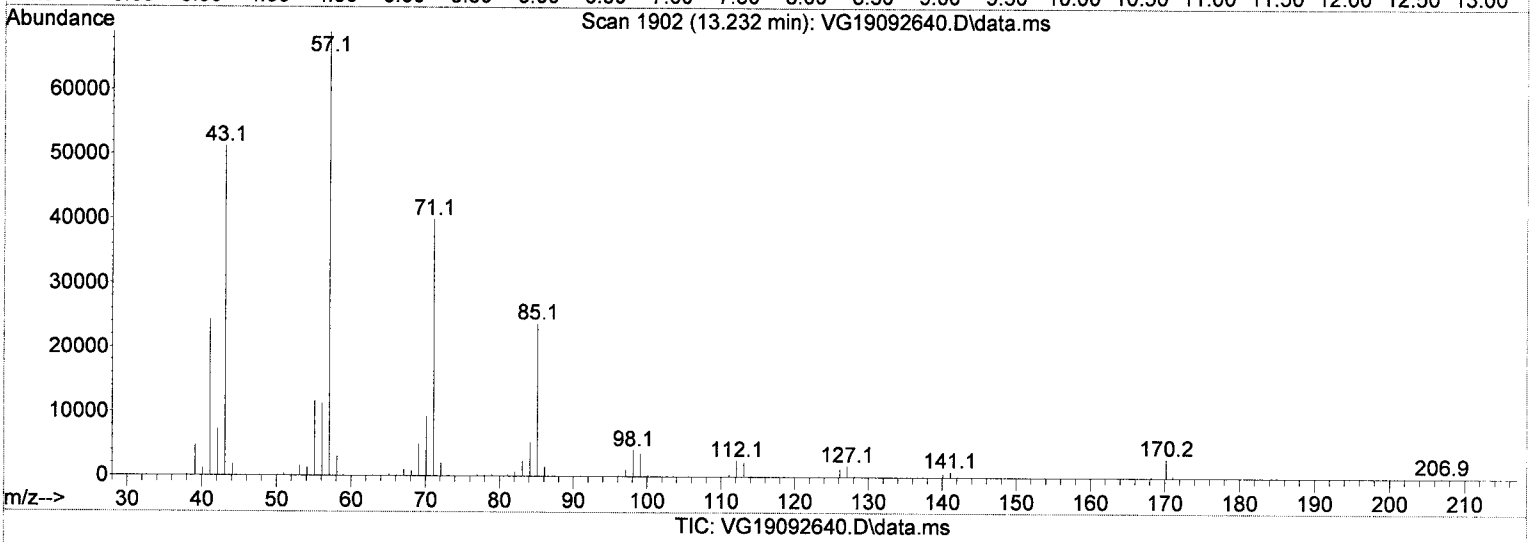
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.85#
0.00	0.00	1.35#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092640.D
Acq On : 27 Sep 2019 3:33 am
Operator : MM
Sample : 9I26050-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:57:01 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration





TIC: VG19092640.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.940min (0.000) 1056.62 ug/L m

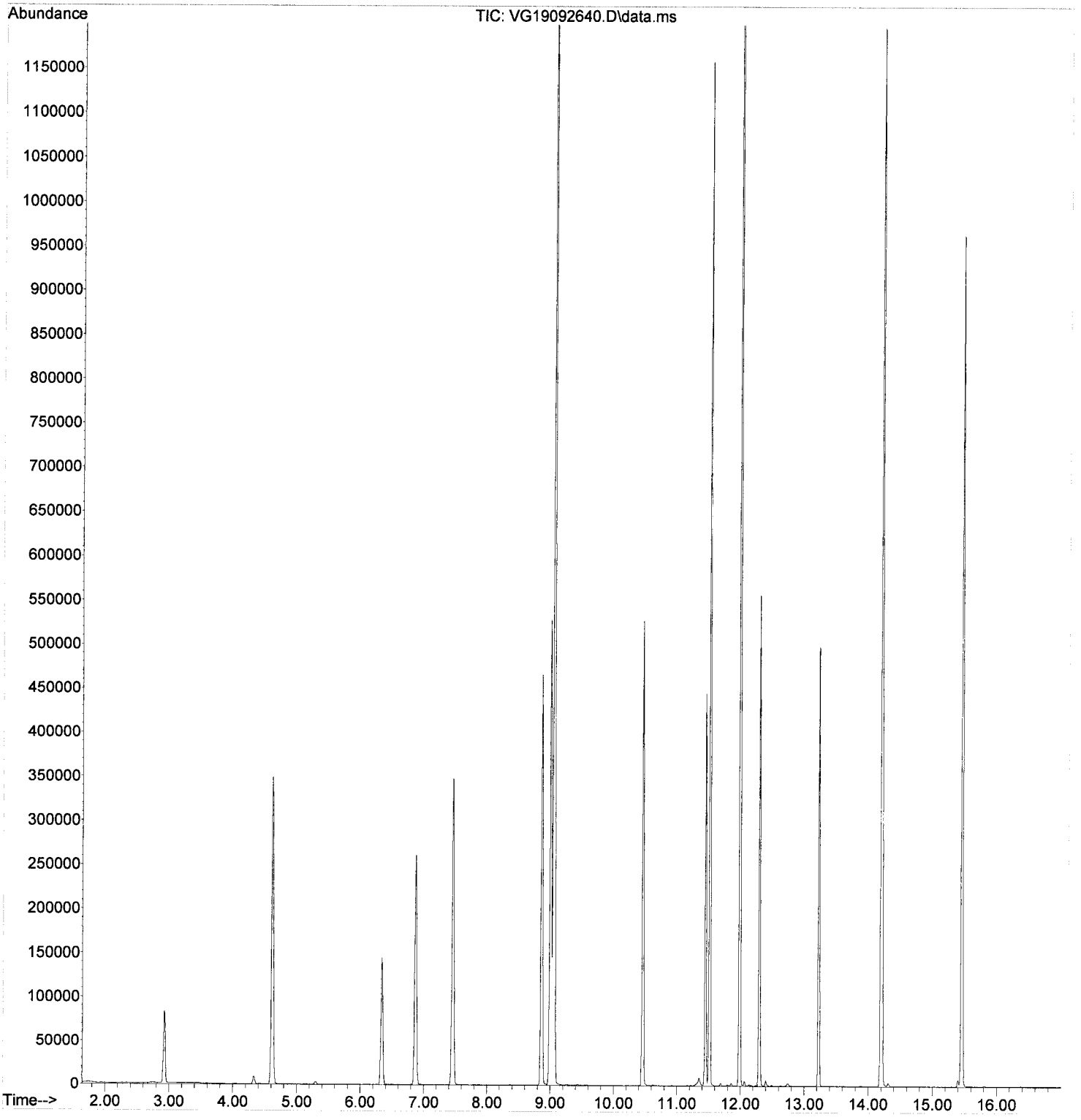
response 8681524

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.92#
0.00	0.00	0.67#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092640.D
Acq On : 27 Sep 2019 3:33 am
Operator : MM
Sample : 9I26050-RT1
Misc : A18A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 15:57:01 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 15:38:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092641.D
Acq On : 27 Sep 2019 4:00 am
Operator : MM
Sample : 9I26050-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:39 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.867	168	186216	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	294259	50.30	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	92059	48.38	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	331978	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	239302	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	159410	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	95279m	14.76	ug/L	
5) TPHg (C5-C9)	9.940	TIC	357756m	8.11	ug/L	
6) TPHg (C6-C10)	9.940	TIC	305639m	3.72	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	413413m	14.99	ug/L	

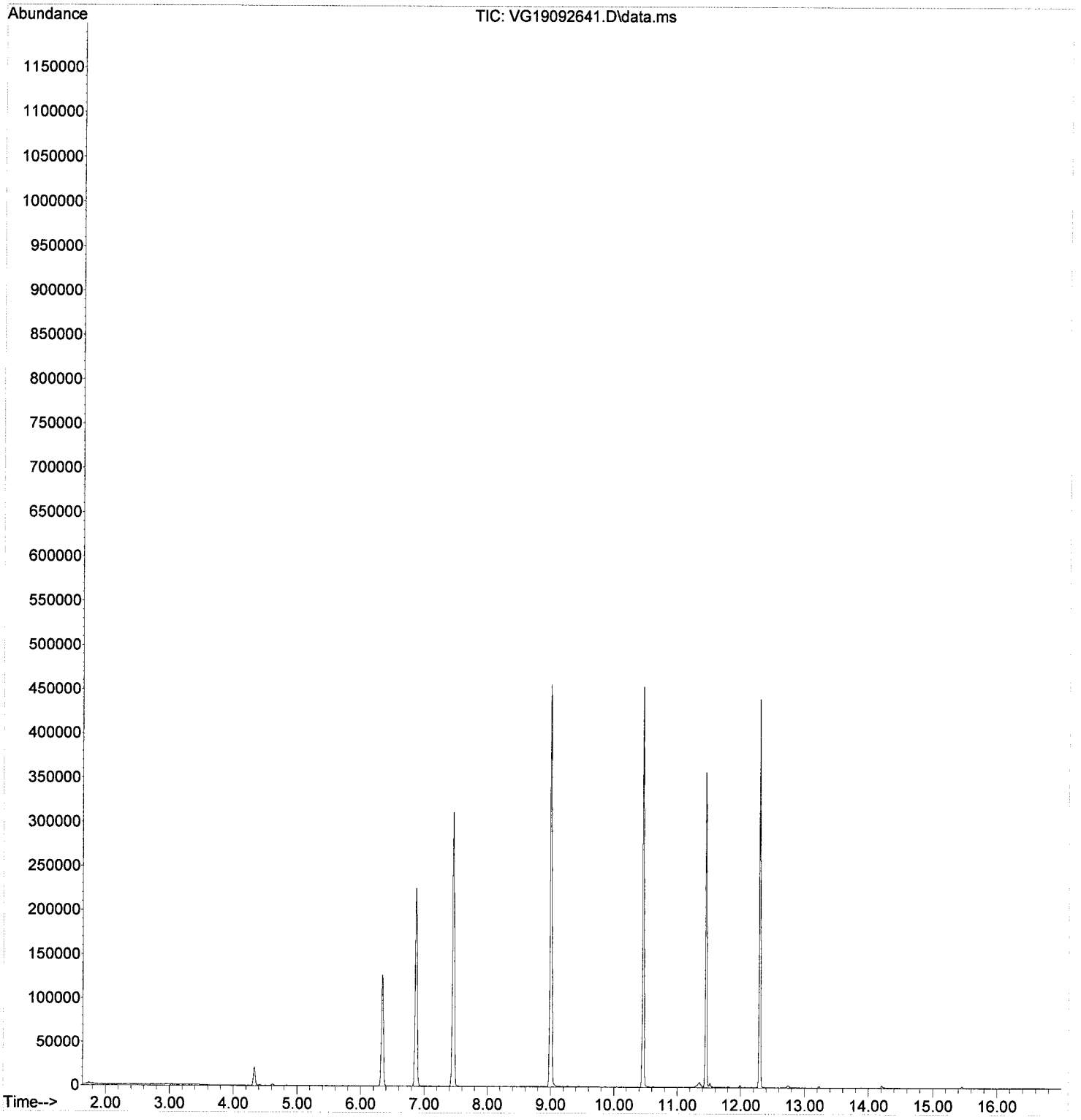
(#) = qualifier out of range (m) = manual integration (+) = signals summed

NK 9/30/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092641.D
Acq On : 27 Sep 2019 4:00 am
Operator : MM
Sample : 9I26050-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:39 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092642.D
Acq On : 27 Sep 2019 4:27 am
Operator : MM
Sample : 9I26050-ICB2
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:41 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.867	168	211299	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	7.459	114	331177	49.89 ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	104505	48.40 ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	373160	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	270284	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	180385	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	80100m	9.59 ug/L	
5) TPHg (C5-C9)	9.940	TIC	362047m	1.54 ug/L	
6) TPHg (C6-C10)	9.940	TIC	334290m	1.47 ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	410996m	7.84 ug/L	

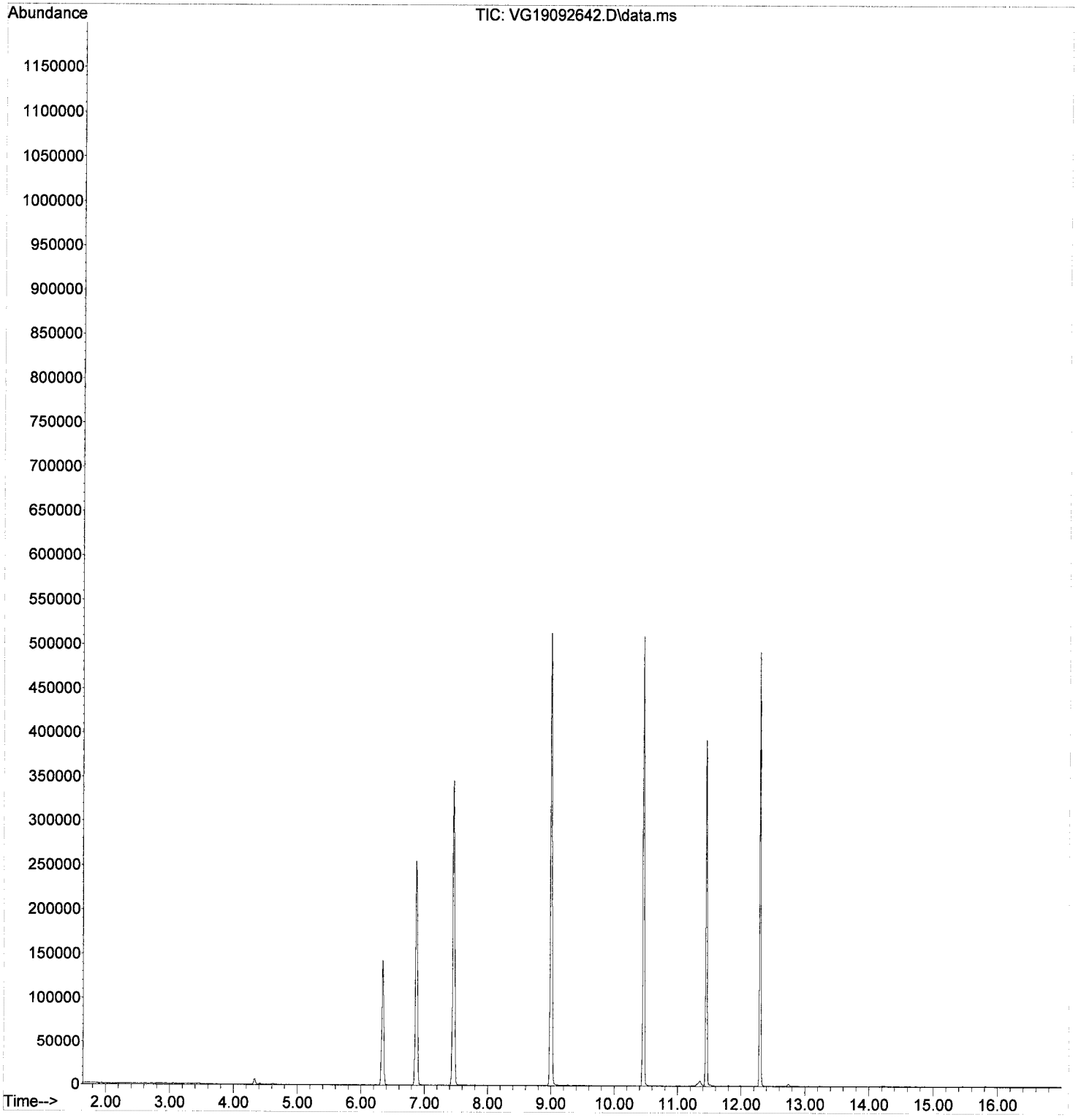
9/30/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092642.D
Acq On : 27 Sep 2019 4:27 am
Operator : MM
Sample : 9I26050-ICB2
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:41 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092643.D
Acq On : 27 Sep 2019 4:54 am
Operator : MM
Sample : 9I26050-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

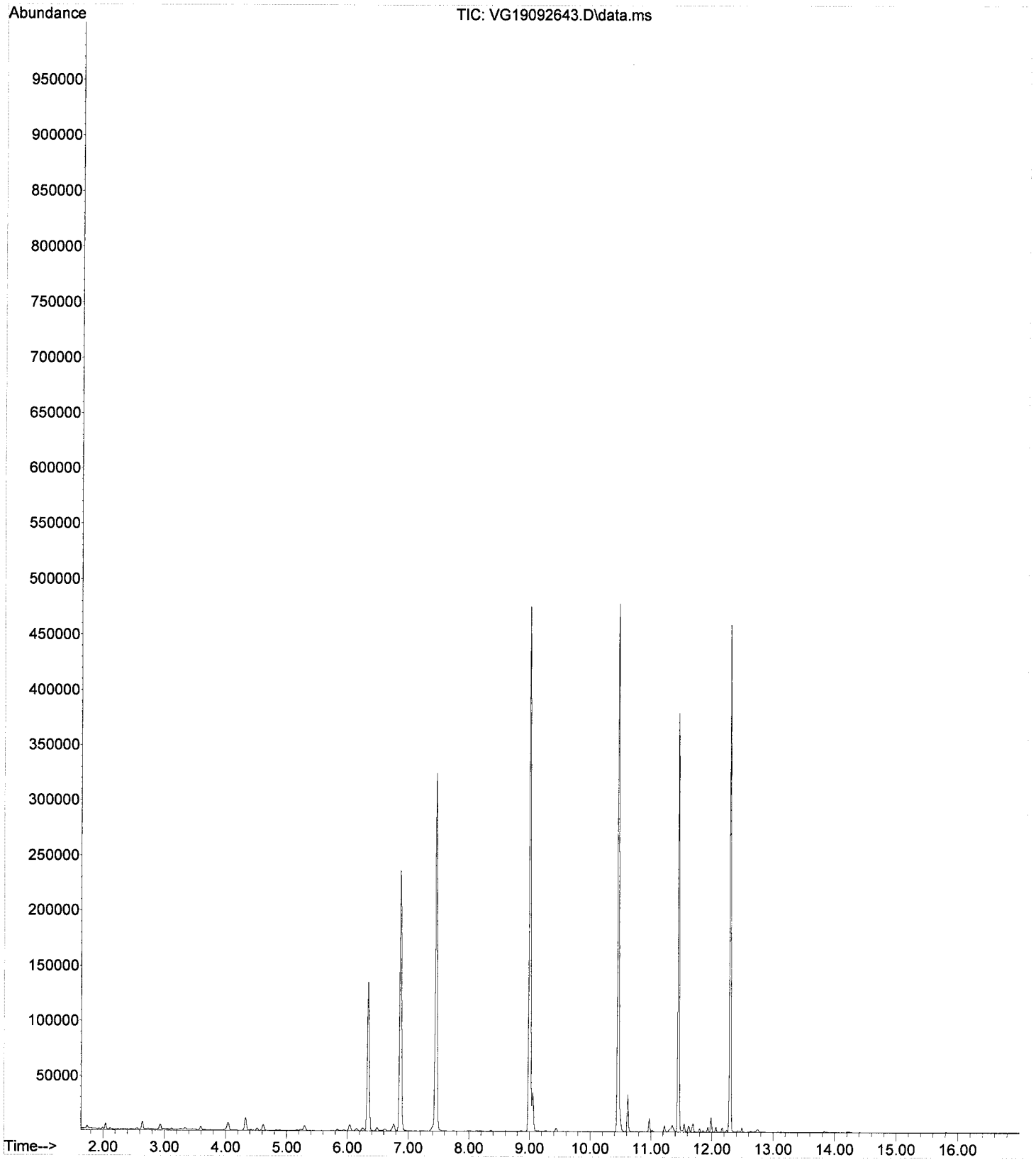
Quant Time: Sep 30 13:08:39 2019
Quant Method : C:\msdchem\1\methods\~~VG190930G.M~~
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.867	168	194820	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	309122	50.08	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	96407	46.99	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	348916	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	253278	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	168661	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	341870m	85.05	ug/L	
5) TPHg (C5-C9)	9.940	TIC	679865m	75.82	ug/L	
6) TPHg (C6-C10)	9.940	TIC	601882m	75.93	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	772051m	79.56	ug/L	

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

9/30/19 AL

File :C:\msdchem\1\data\2019-09\9I26050\VG19092643.D
Operator : MM
Acquired : 27 Sep 2019 4:54 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALC
Misc Info : 1X 5mL 50PPB GX
Vial Number: 26



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092644.D
Acq On : 27 Sep 2019 5:21 am
Operator : MM
Sample : 9I26050-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

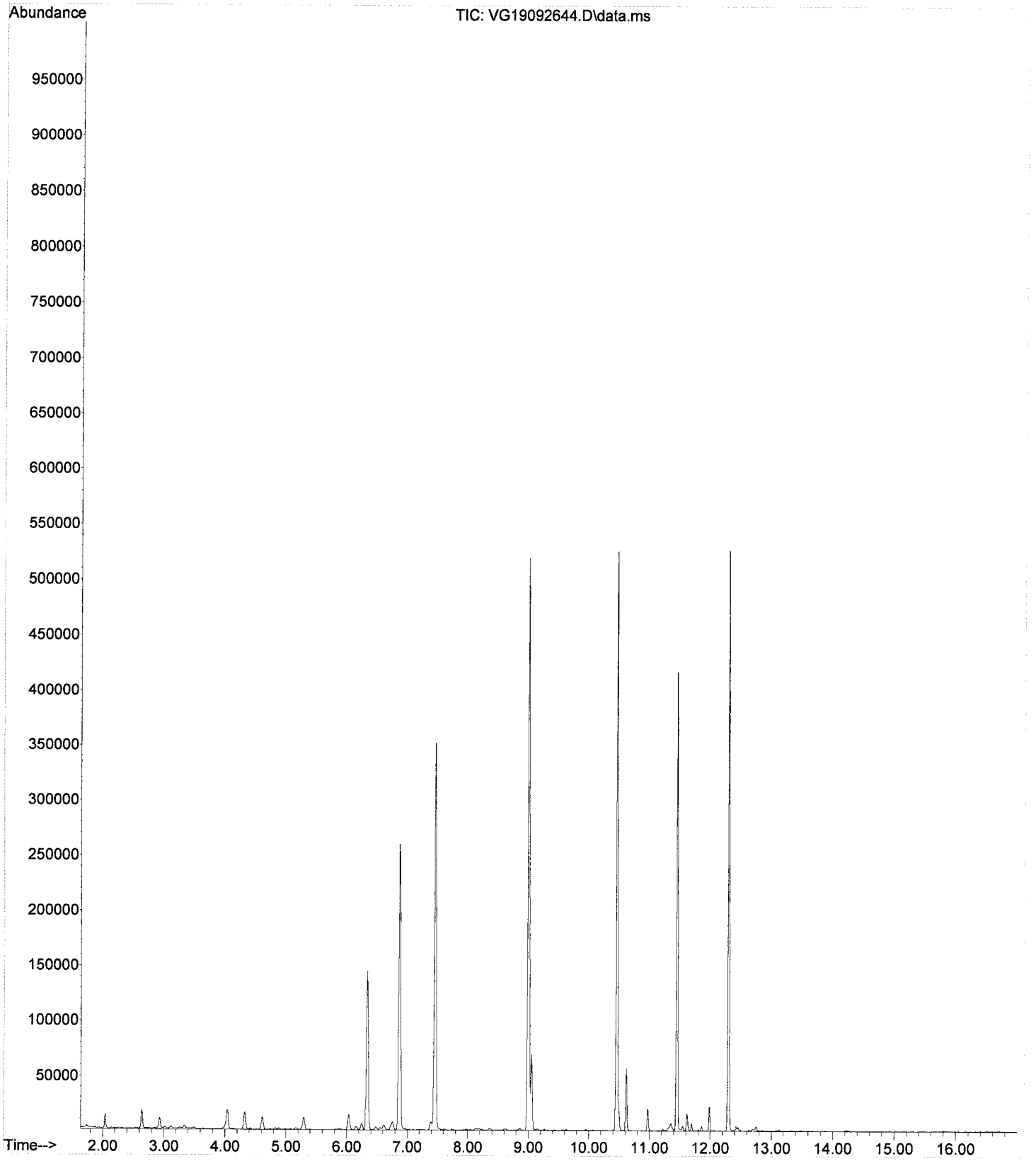
Quant Time: Sep 30 13:08:42 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.868	168	214353	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	336830	49.60	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	108081	47.88	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	379052	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	275768	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	189134	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	489862m	105.85	ug/L	
5) TPHg (C5-C9)	9.940	TIC	963864m	108.84	ug/L	
6) TPHg (C6-C10)	9.940	TIC	832167m	106.61	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	1070187m	107.15	ug/L	

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

9/30/19 tz

File :C:\msdchem\1\data\2019-09\9I26050\VG19092644.D
Operator : MM
Acquired : 27 Sep 2019 5:21 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALD
Misc Info : 1X 5mL 100PPB GX
Vial Number: 27



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092645.D
Acq On : 27 Sep 2019 5:48 am
Operator : MM
Sample : 9I26050-CALE
Misc : 1X 5mL 250PPB GX
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

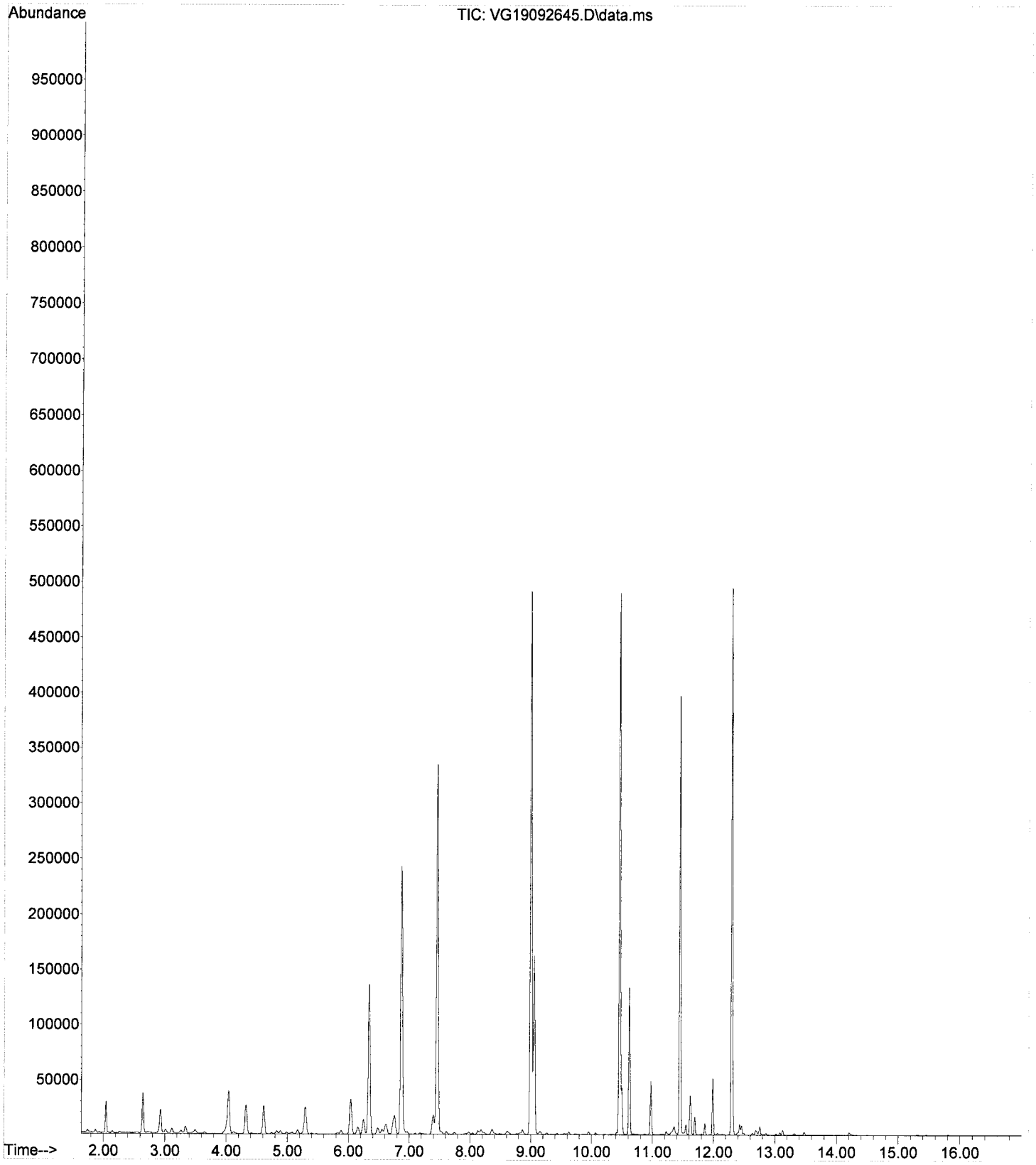
Quant Time: Sep 30 13:08:45 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.868	168	199682	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	316029	49.96	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	102655	48.81	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	359017	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	260060	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	179897	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	1179313m	247.80	ug/L	
5) TPHg (C5-C9)	9.940	TIC	1788514m	255.28	ug/L	
6) TPHg (C6-C10)	9.940	TIC	1523002m	251.72	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	2055987m	249.31	ug/L	

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

9/30/19

File :C:\msdchem\1\data\2019-09\9I26050\VG19092645.D
Operator : MM
Acquired : 27 Sep 2019 5:48 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALE
Misc Info : 1X 5mL 250PPB GX
Vial Number: 28



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092646.D
Acq On : 27 Sep 2019 6:16 am
Operator : MM
Sample : 9I26050-CALF
Misc : 1X 5mL 500PPB GX
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

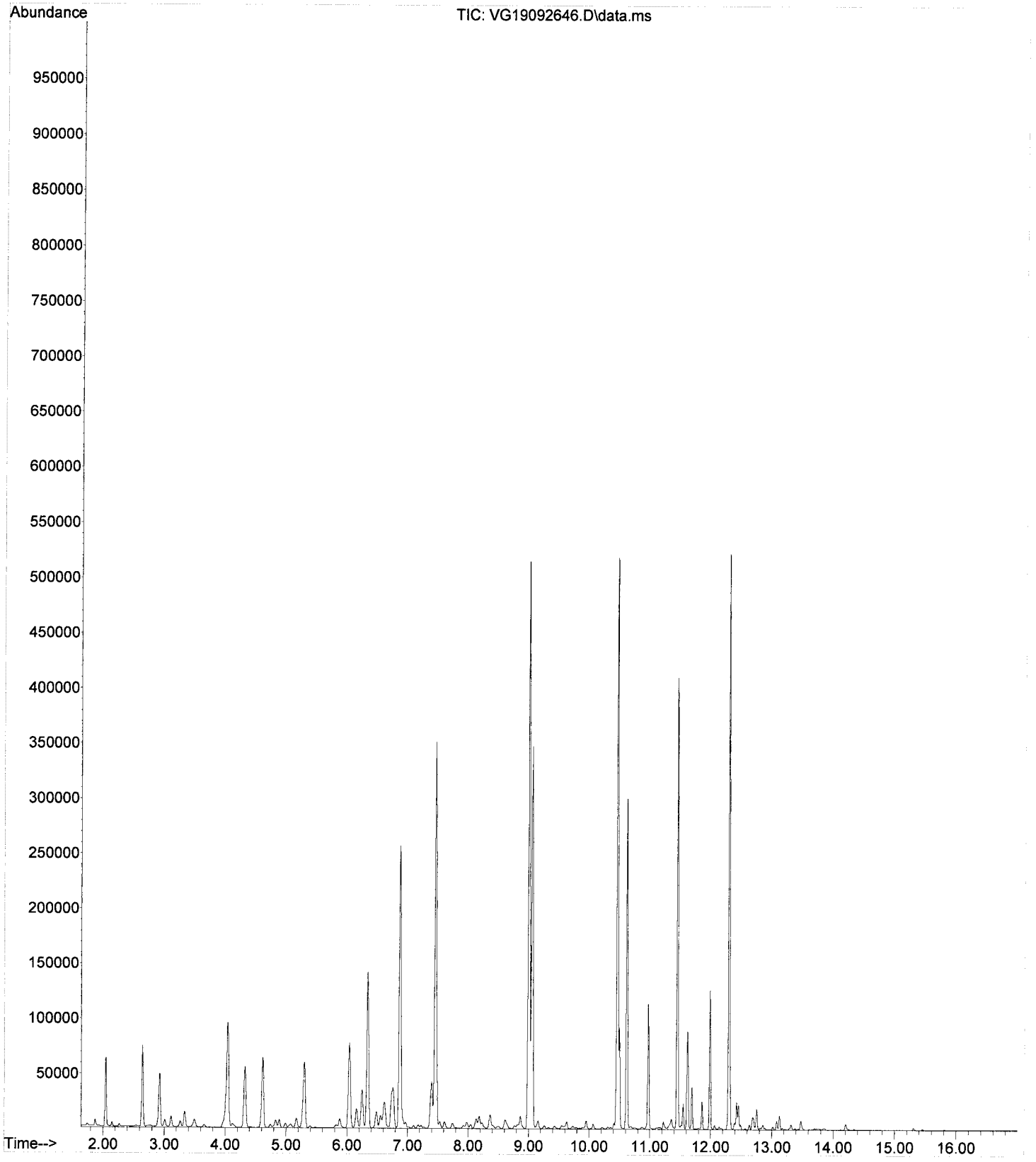
Quant Time: Sep 30 13:08:48 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.868	168	209712	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	328552	49.45	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	107283	48.57	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	373900	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	272185	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	190515	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	2815223m	542.67	ug/L	
5) TPHg (C5-C9)	9.940	TIC	3807092m	558.24	ug/L	
6) TPHg (C6-C10)	9.940	TIC	3215445m	551.26	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	4560685m	556.67	ug/L	

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

9/30/19 KM

File :C:\msdchem\1\data\2019-09\9I26050\VG19092646.D
Operator : MM
Acquired : 27 Sep 2019 6:16 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALF
Misc Info : 1X 5mL 500PPB GX
Vial Number: 29



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092647.D
Acq On : 27 Sep 2019 6:43 am
Operator : MM
Sample : 9I26050-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

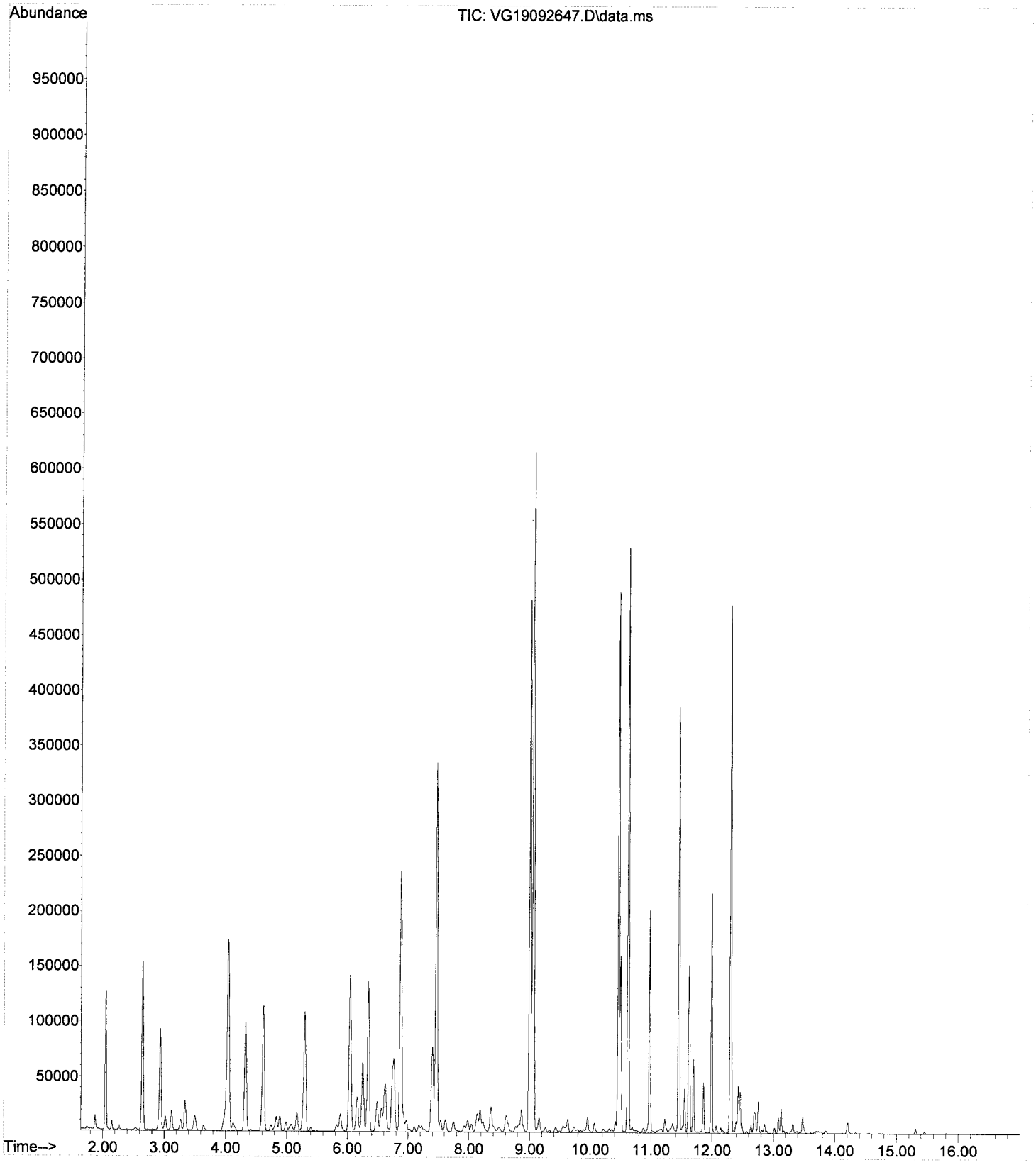
Quant Time: Sep 30 13:08:51 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	194045	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	306690	49.89	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	98676	48.28	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	349606	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	253073	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	175028	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	4905450m	1007.92	ug/L	
5) TPHg (C5-C9)	9.940	TIC	6540537m	1073.60	ug/L	
6) TPHg (C6-C10)	9.940	TIC	5464695m	1052.85	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	7865997m	1062.24	ug/L	

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

9/30/19

File :C:\msdchem\1\data\2019-09\9I26050\VG19092647.D
Operator : MM
Acquired : 27 Sep 2019 6:43 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALG
Misc Info : 1X 5mL 1000PPB GX
Vial Number: 30



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092648.D
Acq On : 27 Sep 2019 7:10 am
Operator : MM
Sample : 9I26050-CALH
Misc : 1X 5mL 2500PPB GX
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

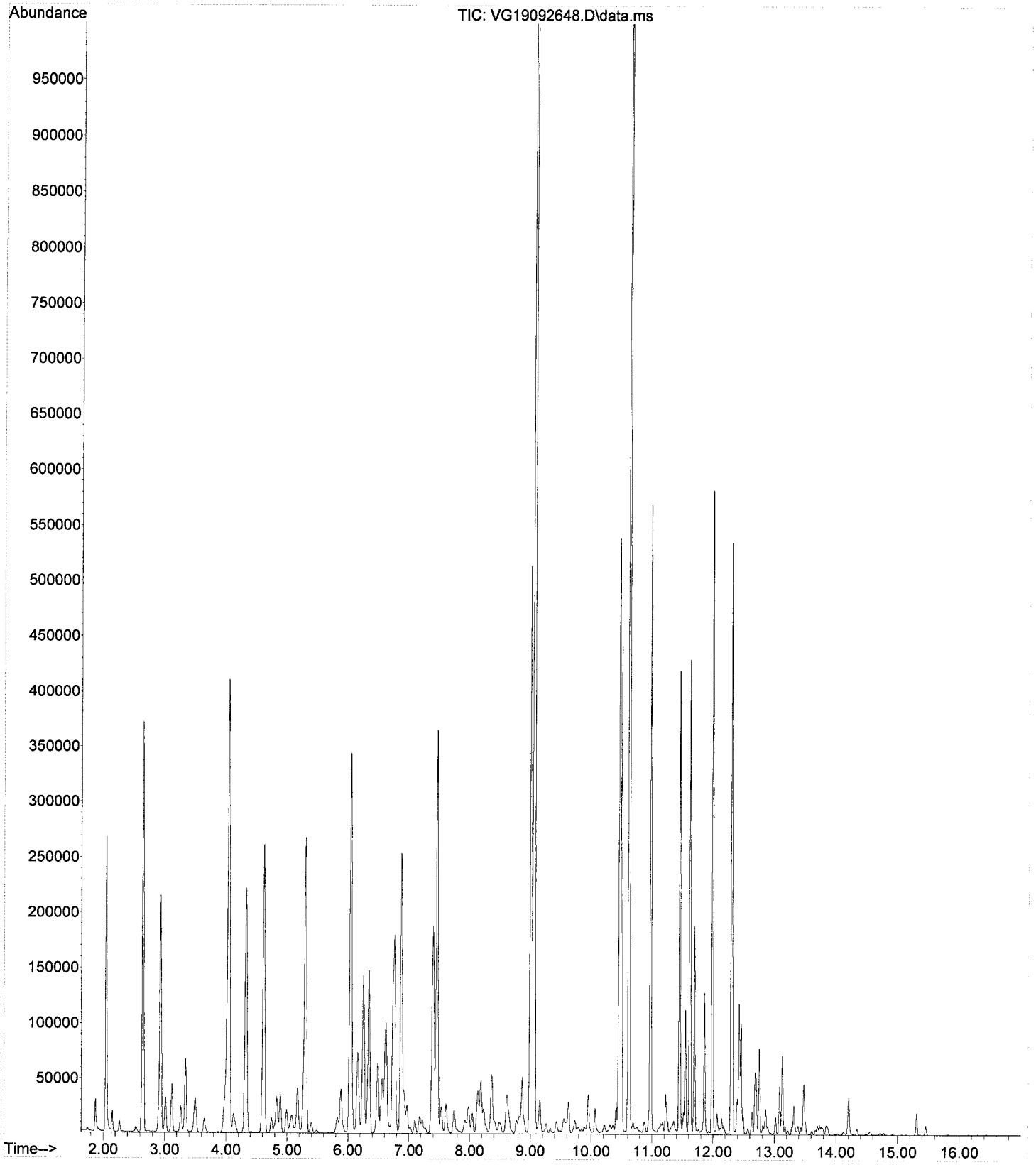
Quant Time: Sep 30 13:08:53 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.873	168	212509	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	328443	48.78	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	109685	49.01	ug/L	0.00
9) Toluene-d8 (NR)	9.001	98	375286	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	277525	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	194037	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	13106790m	2438.18	ug/L	
5) TPHg (C5-C9)	9.940	TIC	16105357m	2487.93	ug/L	
6) TPHg (C6-C10)	9.940	TIC	13563681m	2466.78	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	19750411m	2480.46	ug/L	

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

9/30/19 hw

File :C:\msdchem\1\data\2019-09\9I26050\VG19092648.D
Operator : MM
Acquired : 27 Sep 2019 7:10 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALH
Misc Info : 1X 5mL 2500PPB GX
Vial Number: 31



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092649.D
Acq On : 27 Sep 2019 7:37 am
Operator : MM
Sample : 9I26050-CALI
Misc : 1X 5mL 5000PPB GX
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

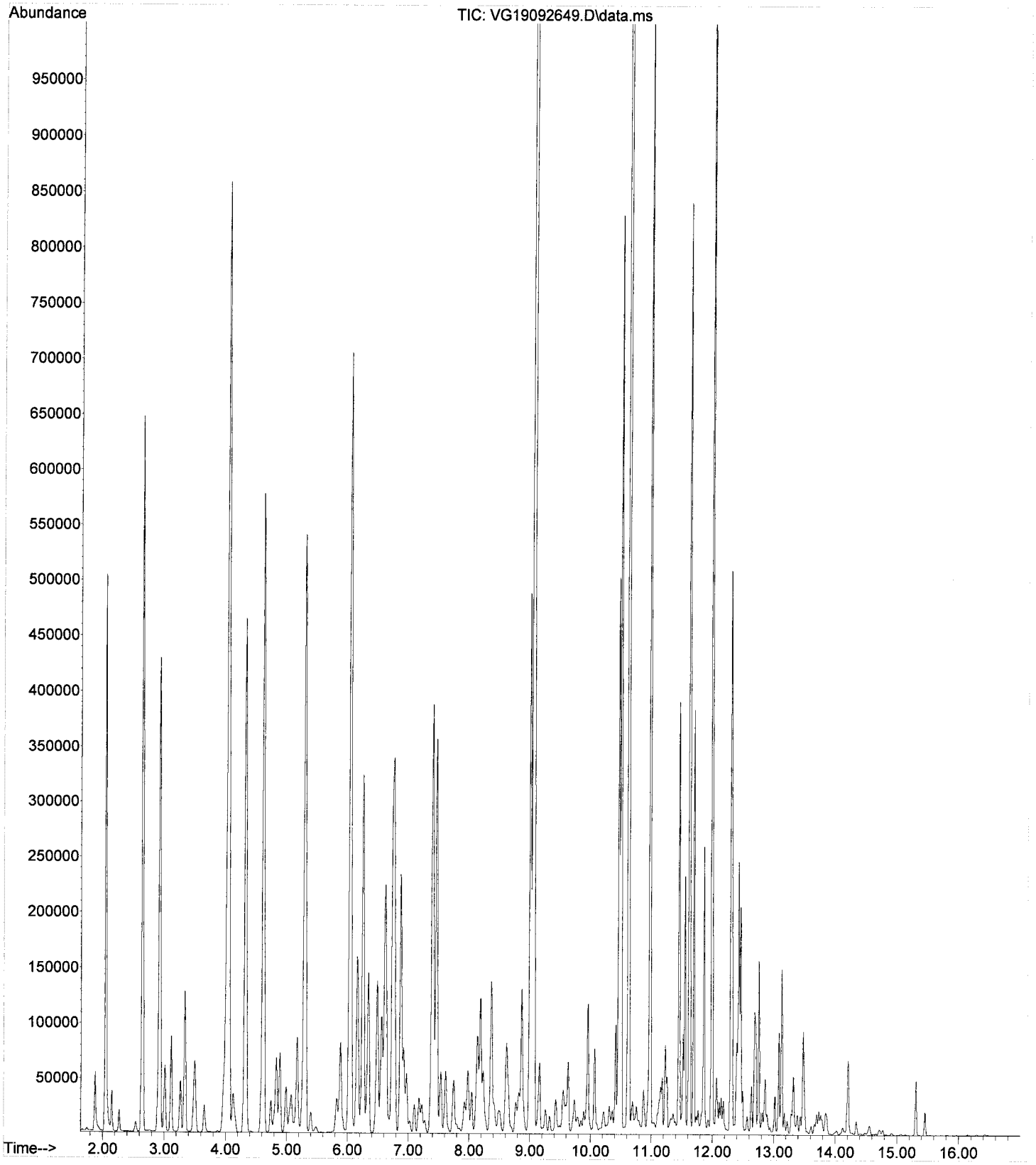
Quant Time: Sep 30 13:08:55 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	191180	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	302676	49.97	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	101117	50.22	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	346469	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	251919	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	179373	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	26750722m	5523.31	ug/L	
5) TPHg (C5-C9)	9.940	TIC	32242370m	5720.16	ug/L	
6) TPHg (C6-C10)	9.940	TIC	27022524m	5646.98	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	39863299m	5652.54	ug/L	

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

9/30/19 tw

File :C:\msdchem\1\data\2019-09\9I26050\VG19092649.D
Operator : MM
Acquired : 27 Sep 2019 7:37 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALI
Misc Info : 1X 5mL 5000PPB GX
Vial Number: 32



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092650.D
Acq On : 27 Sep 2019 8:04 am
Operator : MM
Sample : 9I26050-CALJ
Misc : 1X 5mL 10000PPB GX
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

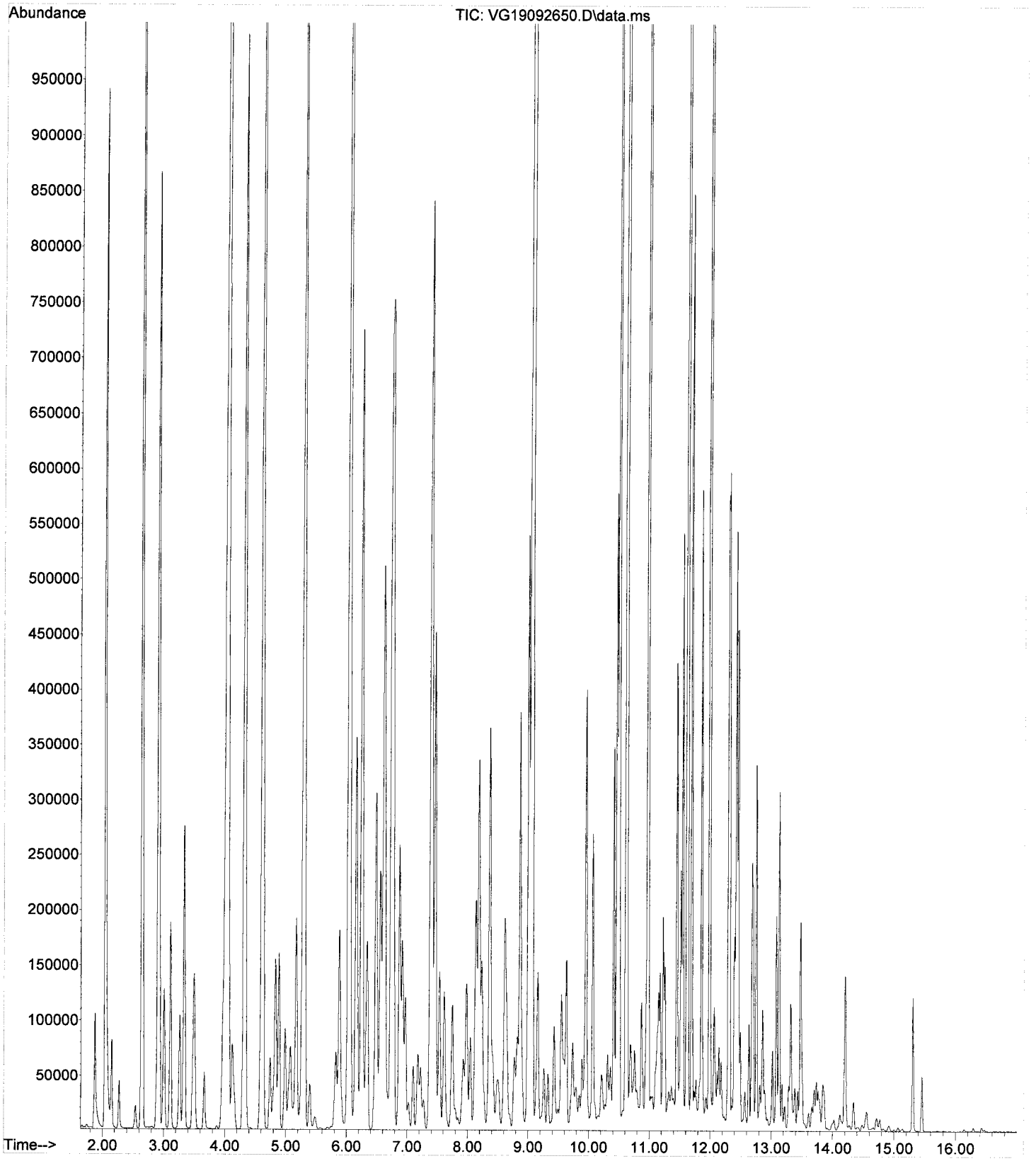
Quant Time: Sep 30 13:08:57 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue Aug 20 15:47:43 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	215030	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	333302	48.93	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	109457	48.33	ug/L	0.00
9) Toluene-d8 (NR)	9.001	98	375346	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	272079	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	195043	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	58362046m	10739.53	ug/L	
5) TPHg (C5-C9)	9.940	TIC	69221082m	11447.91	ug/L	
6) TPHg (C6-C10)	9.940	TIC	58097624m	11311.84	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	86865763m	11164.54	ug/L	

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

9/30/19 hm

File :C:\msdchem\1\data\2019-09\9I26050\VG19092650.D
Operator : MM
Acquired : 27 Sep 2019 8:04 am using AcqMethod VG1808RUN.M
Instrument : VOA-GCMS7
Sample Name: 9I26050-CALJ
Misc Info : 1X 5mL 10000PPB GX
Vial Number: 33



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092651.D
Acq On : 27 Sep 2019 8:31 am
Operator : MM
Sample : 9I26050-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:43 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	212524	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	330368	49.48	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	103753	47.78	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	368916	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	266546	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	177100	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	154348m	23.13	ug/L	
5) TPHg (C5-C9)	9.940	TIC	492098m	20.59	ug/L	
6) TPHg (C6-C10)	9.940	TIC	425203m	17.32	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	549059m	24.44	ug/L	

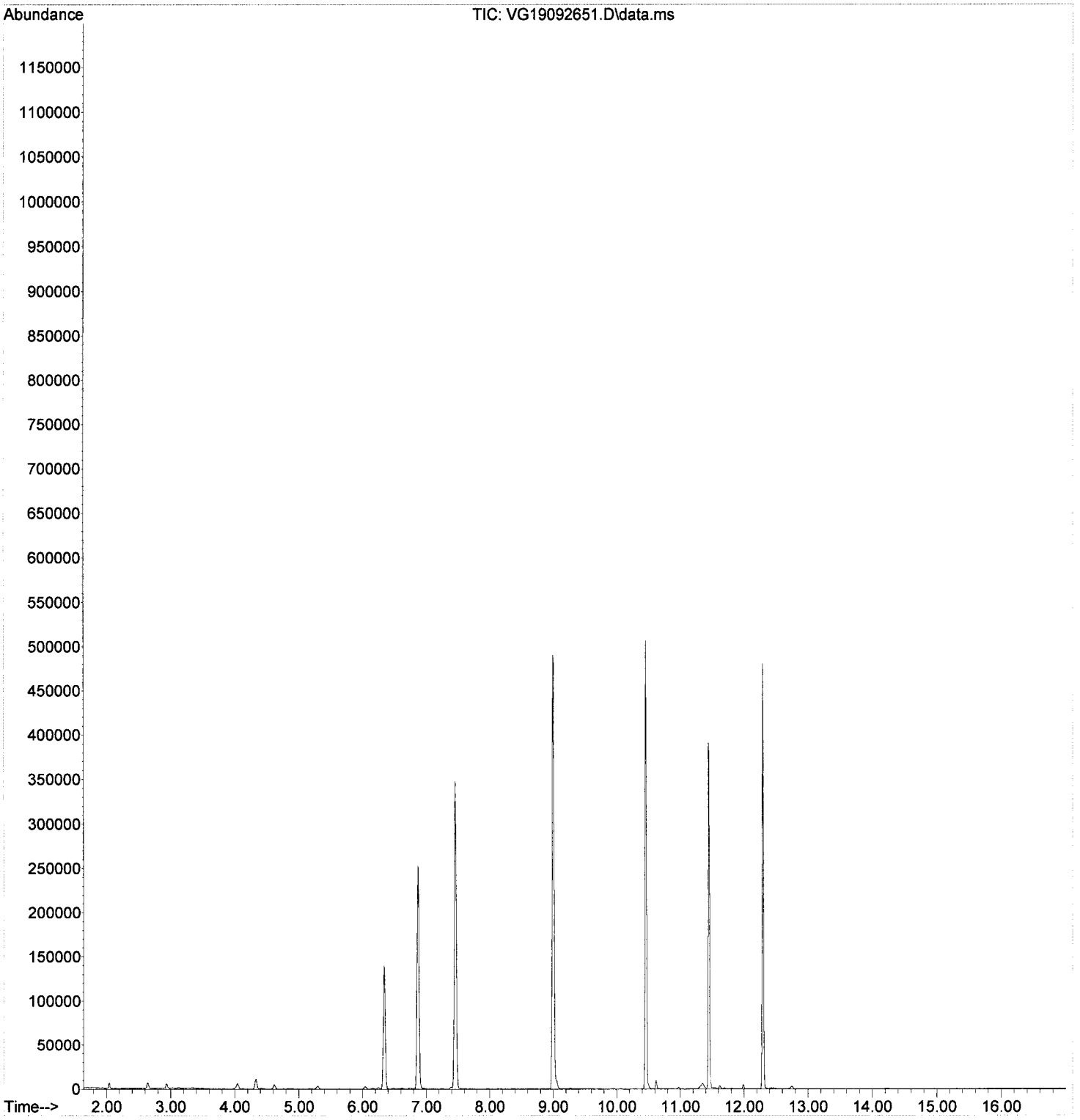
NR 9/30/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092651.D
Acq On : 27 Sep 2019 8:31 am
Operator : MM
Sample : 9I26050-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:43 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092652.D
Acq On : 27 Sep 2019 8:58 am
Operator : MM
Sample : 9I26050-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:45 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	203408	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	322487	50.46	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	101271	48.72	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	363403	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	260869	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	175566	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	104138m	14.77	ug/L	
5) TPHg (C5-C9)	9.940	TIC	422183m	13.00	ug/L	
6) TPHg (C6-C10)	9.940	TIC	363126m	9.16	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	468735m	17.18	ug/L	

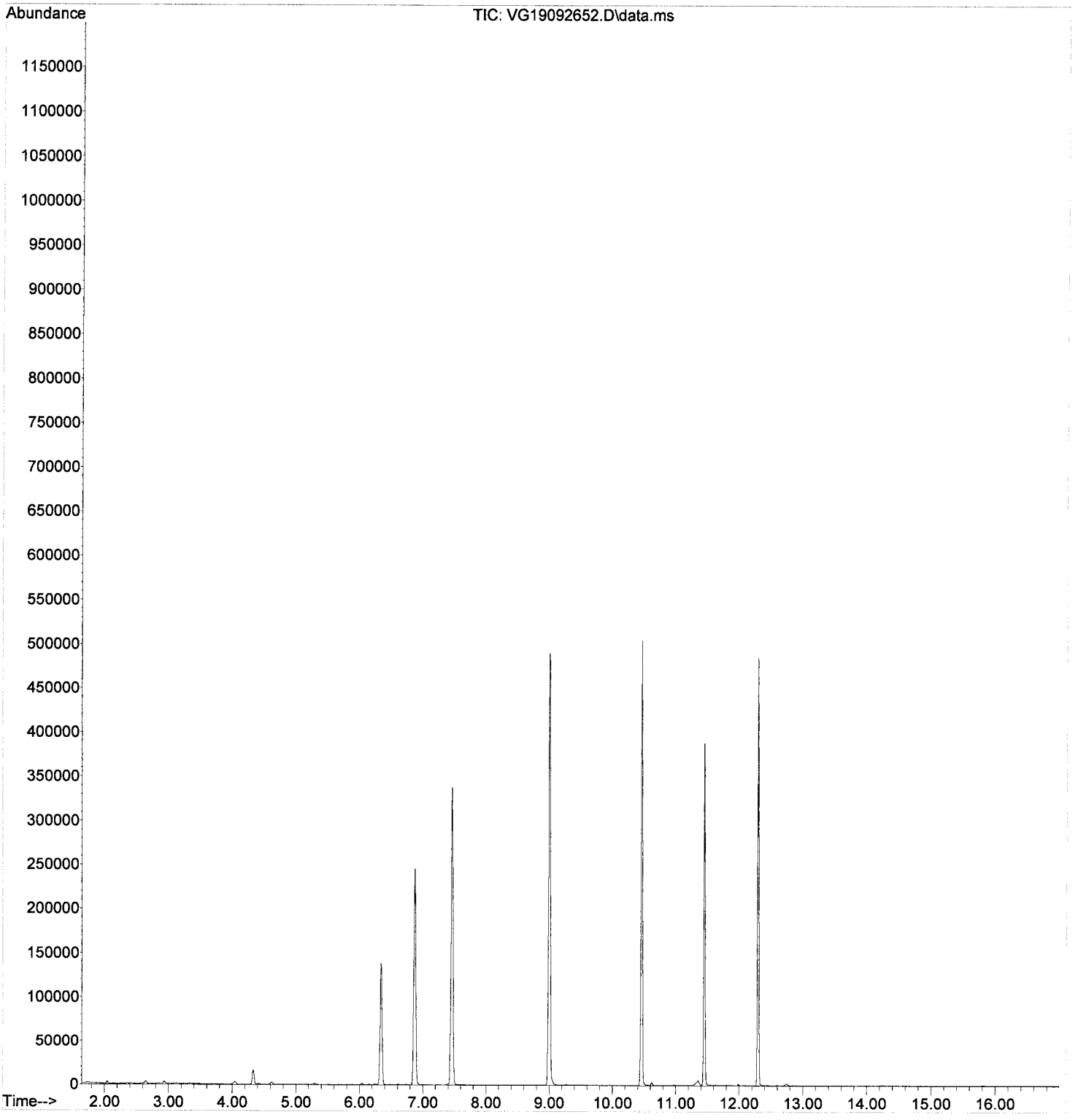
NR
9/30/19 MM

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092652.D
Acq On : 27 Sep 2019 8:58 am
Operator : MM
Sample : 9I26050-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:45 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092653.D
Acq On : 27 Sep 2019 9:25 am
Operator : MM
Sample : 9I26050-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:47 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	213783	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	332192	49.46	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.452	174	108461	49.65	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	380274	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	276182	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	188859	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	3052322m	549.75	ug/L	
5) TPHg (C5-C9)	9.940	TIC	3949725m	531.43	ug/L	
6) TPHg (C6-C10)	9.940	TIC	3383126m	539.94	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	4800578m	539.60	ug/L	

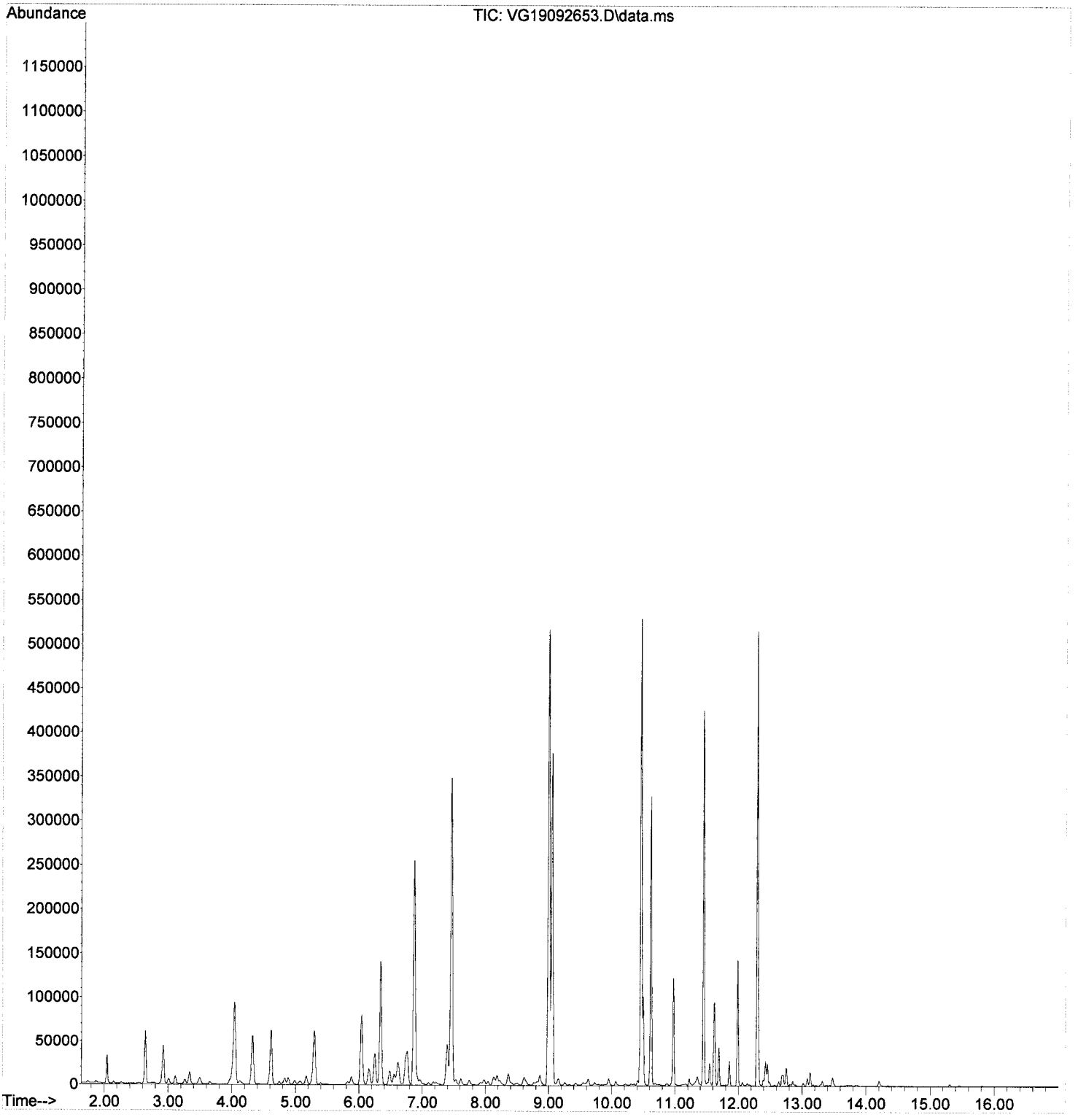
9/30/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092653.D
Acq On : 27 Sep 2019 9:25 am
Operator : MM
Sample : 9I26050-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:47 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092654.D
Acq On : 27 Sep 2019 9:53 am
Operator : MM
Sample : 9I26050-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:49 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.874	168	213740	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	7.459	114	334644	49.84	ug/L	0.00
3) 4-Bromofluorobenzene (...	11.446	174	103304	47.30	ug/L	0.00
9) Toluene-d8 (NR)	8.995	98	375574	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	10.458	117	271064	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	12.293	150	179121	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.440	TIC	55812m	4.98	ug/L	
5) TPHg (C5-C9)	9.940	TIC	426669m	10.49	ug/L	
6) TPHg (C6-C10)	9.940	TIC	364382m	6.12	ug/L	
7) CA-LUFT (C5-C12)	9.940	TIC	425579m	9.03	ug/L	

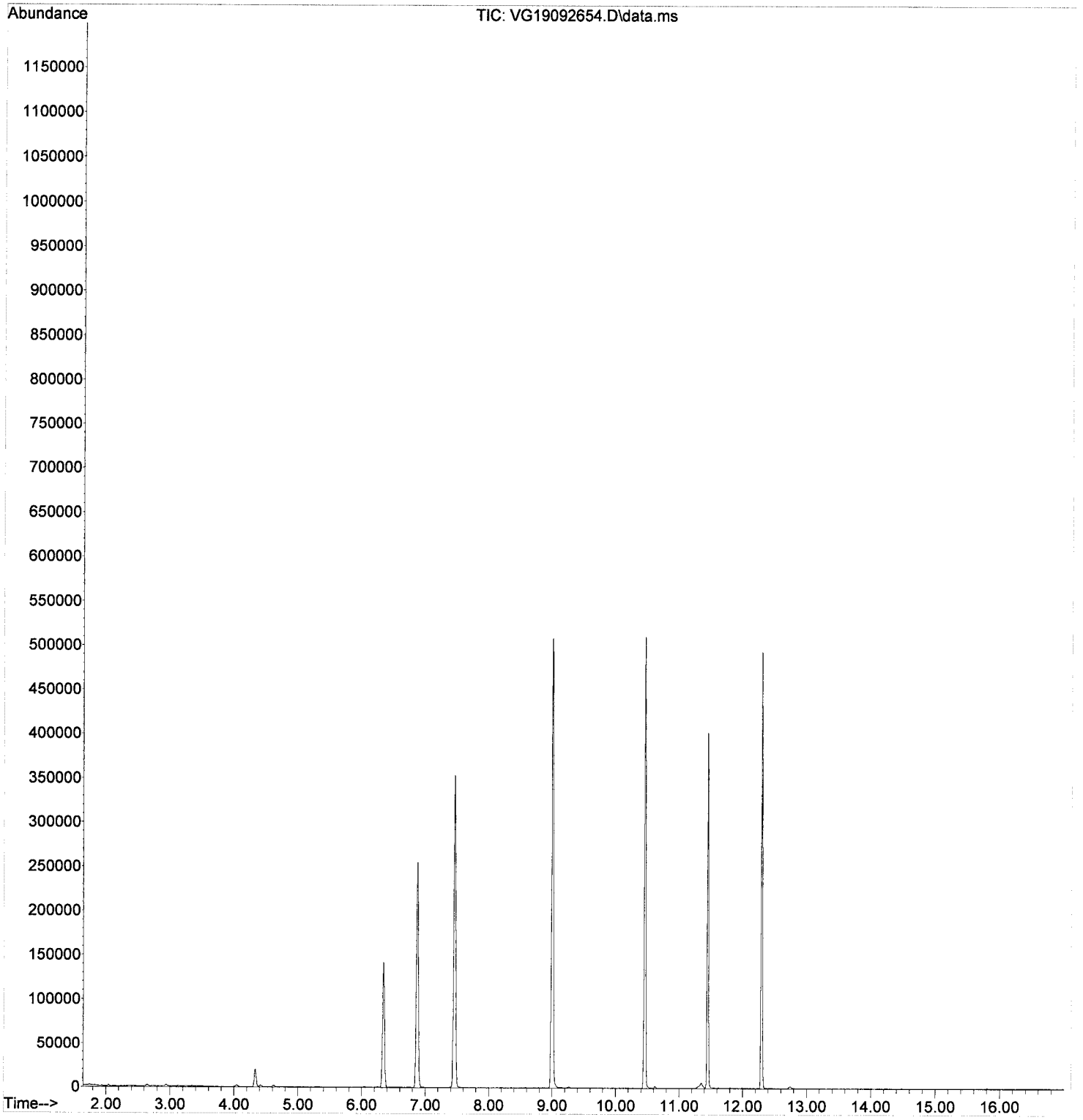
(#) = qualifier out of range (m) = manual integration (+) = signals summed

NR 9/30/19 MM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26050\
Data File : VG19092654.D
Acq On : 27 Sep 2019 9:53 am
Operator : MM
Sample : 9I26050-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VG1808RUN.M

Quant Time: Sep 30 23:39:49 2019
Quant Method : C:\msdchem\1\methods\VG190930G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Mon Sep 30 23:35:16 2019
Response via : Initial Calibration



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

Selected Volatile Organic Compounds by EPA 8260C
Calibration Data

Sequence 9I26051 (Cal ID A9I2702) VOA-GCMS10

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9I26051** Instrument: **VOA-GCMS10**

Date: **09/26/19 19:18** Calibration: **A9I2702**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9I26051-IBL1	Soil	QC	QC			A19G118	
2	9I26051-TUN1	Soil	QC	QC			A19G118	
3	9I26051-ICB1	Soil	QC	QC			A19G118	
4	9I26051-CAL1	Soil	QC	QC			A19G118	A19I319
5	9I26051-CAL2	Soil	QC	QC			A19G118	A19I320
6	9I26051-CAL3	Soil	QC	QC			A19G118	A19I321
7	9I26051-CAL4	Soil	QC	QC			A19G118	A19I322
8	9I26051-CAL5	Soil	QC	QC			A19G118	A19I323
9	9I26051-CAL6	Soil	QC	QC			A19G118	A19I324
10	9I26051-CAL7	Soil	QC	QC			A19G118	A19I325
11	9I26051-CAL8	Soil	QC	QC			A19G118	A19I326
12	9I26051-CAL9	Soil	QC	QC			A19G118	A19I327
13	9I26051-IBL2	Soil	QC	QC			A19G118	
14	9I26051-CALA	Soil	QC	QC			A19G118	A19I328
15	9I26051-IBL3	Soil	QC	QC			A19G118	
16	9I26051-CALB	Soil	QC	QC			A19G118	A19I329
17	9I26051-IBL4	Soil	QC	QC			A19G118	
18	9I26051-IBL5	Soil	QC	QC			A19G118	
19	9I26051-ICV1	Soil	QC	QC			A19G118	A19I330
20	9I26051-ICV2	Soil	QC	QC			A19G118	A19E195
21	9I26051-IBL6	Soil	QC	QC			A19G118	
22	9I26051-TUN2	Soil	QC	QC			A19G118	
23	9I26051-IBL7	Soil	QC	QC			A19G118	
24	9I26051-ICB2	Soil	QC	QC			A19G118	
25	9I26051-CALC	Soil	QC	QC			A19G118	A19I331
26	9I26051-CALD	Soil	QC	QC			A19G118	A19I332
27	9I26051-CALE	Soil	QC	QC			A19G118	A19I333
28	9I26051-CALF	Soil	QC	QC			A19G118	A19I334
29	9I26051-CALG	Soil	QC	QC			A19G118	A19H370
30	9I26051-CALH	Soil	QC	QC			A19G118	A19H371
31	9I26051-CALI	Soil	QC	QC			A19G118	A19H372
32	9I26051-CALJ	Soil	QC	QC			A19G118	A19H373
33	9I26051-IBL8	Soil	QC	QC			A19G118	
34	9I26051-IBL9	Soil	QC	QC			A19G118	
35	9I26051-ICV3	Soil	QC	QC			A19G118	A19G350
36	9I26051-IBLA	Soil	QC	QC			A19G118	

Data Entered By: 9/27/19

Data Reviewed By: MW 9/30/19

Comments: Iodomethane failed high on ICV ~~ICC~~ 9/27/19 ECS

Calibration Status Report VOA-GCMS10

Method Path : C:\msdchem\1\methods\
Method File : VJ190926S+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Fri Sep 27 13:24:27 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	1	-1	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092628.D
2	2	0	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092629.D
3	3	0	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092630.D
4	4	1	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092631.D
5	5	2	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092632.D
6	6	5	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092633.D
7	7	10	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092634.D
8	8	20	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092635.D
9	9	50	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092636.D
10	10	100	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092638.D
11	1a	200	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092640.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1	Sep 27 13:24 2019	Sep 27 11:04 2019	26 Sep 2019 9:28 pm
2	2	Sep 27 13:24 2019	Sep 27 11:11 2019	26 Sep 2019 9:55 pm
3	3	Sep 27 13:24 2019	Sep 27 11:16 2019	26 Sep 2019 10:22 pm
4	4	Sep 27 13:24 2019	Sep 27 11:17 2019	26 Sep 2019 10:49 pm
5	5	Sep 27 13:24 2019	Sep 27 13:11 2019	26 Sep 2019 11:15 pm
6	6	Sep 27 13:24 2019	Sep 27 13:15 2019	26 Sep 2019 11:42 pm
7	7	Sep 27 13:24 2019	Sep 27 13:16 2019	27 Sep 2019 12:09 am
8	8	Sep 27 13:24 2019	Sep 27 13:18 2019	27 Sep 2019 12:35 am
9	9	Sep 27 13:24 2019	Sep 27 13:19 2019	27 Sep 2019 1:02 am
10	10	Sep 27 13:24 2019	Sep 27 13:20 2019	27 Sep 2019 1:56 am
11	1a	Sep 27 13:24 2019	Sep 27 13:21 2019	27 Sep 2019 2:49 am

VJ190926S+.M Fri Sep 27 14:36:39 2019

A9I2702

Iodomethane EOS

Compound List Report VOA-GCMS10

Method Path : C:\msdchem\1\methods\
Method File : VJ190926S+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Fri Sep 27 13:24:27 2019
Response Via : Initial Calibration

Total Cpnds : 85

PK#	Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1 I	Pentafluorobenzene (I)	99	6.095	1.000	A	2	A	R
2	Dichlorodifluoromethane	85	1.697	0.278	A	2	A	R
3 P	Chloromethane	50	1.898	0.311	A	2	A	R
4 C	Vinyl Chloride	62	2.007	0.329	A	2	A	R
5	Bromomethane	96	2.347	0.385	Q 1/a	2	A	R
6	Chloroethane	64	2.469	0.405	Q 1/a²	2	A	R
7	Trichlorofluoromethane	101	2.597	0.426	A	2	A	R
8	Ethanol	45	3.321	0.545	L 1/a	1	A	R
9 C	1,1-Dichloroethene	61	3.139	0.515	A	2	A	R
10	Carbon Disulfide	76	3.151	0.517	A	2	A	R
11	Freon 113	101	3.194	0.524	A	2	A	R
12	Iodomethane	142	3.290	0.540	Q 1/a	2	A	R
13	Methylene Chloride	84	3.783	0.621	Q 1/a	2	A	R
14	Acetone	43	3.881	0.637	L 1/a	1	A	R
15	t-1,2-Dichloroethene	61	3.948	0.648	A	2	A	R
16	n-Hexane	86	4.039	0.663	A	3	A	R
17	Methyl-tert-butyl-ether	73	4.112	0.675	A	3	A	R
18	tert-Butanol (TBA)	59	4.276	0.702	A	1	A	R
19	Diisopropyl ether (DIPE)	45	4.514	0.741	A	2	A	R
20 P	1,1-Dichloroethane	63	4.581	0.752	A	2	A	R
21	Acrylonitrile	53	4.641	0.762	A	2	A	R
22	Ethyl-tert-butyl ether (ETBE)	59	4.879	0.800	A	2	A	R
23	c-1,2-Dichloroethene	61	5.134	0.842	A	2	A	R
24	2,2-Dichloropropane	77	5.244	0.860	A	2	A	R
25	Bromochloromethane	49	5.335	0.875	A	2	A	R
26 C	Chloroform	83	5.420	0.889	A	2	A	R
27	Carbon Tetrachloride	117	5.560	0.912	A	2	A	R
28	Tetrahydrofuran	42	5.597	0.918	A	2	A	R
29	1,1,1-Trichloroethane	97	5.627	0.923	A	2	A	R
30 S	Dibromofluoromethane (S)	111	5.603	0.919	A	2	A	R
31	1,1-Dichloropropene	75	5.755	0.944	A	2	A	R
32	2-Butanone (MEK)	43	5.743	0.942	A	2	A	R
33	Benzene	78	6.010	0.986	A	2	A	R
34	tert-Amyl methyl ether (TAME)	73	6.156	1.010	Q 1/a	2	A	R
35	1,2-Dichloroethane (EDC)	62	6.217	1.020	A	2	A	R
36	iso-Butyl Alcohol	43	6.314	1.036	A	2	A	R
37 S	1,4-Difluorobenzene (S)	114	6.661	1.093	A	2	A	R
38	Trichloroethene (TCE)	130	6.625	1.087	A	2	A	R
39	tert-Amyl ethyl ether (TAEE)	59	6.911	1.134	A	2	A	R
40	Dibromomethane	93	7.068	1.160	A	2	A	R
41 C	1,2-Dichloropropane	63	7.178	1.178	A	2	A	R
42	Bromodichloromethane	83	7.257	1.191	Q 1/a²	2	A	R
43 I	Chlorobenzene-d5 (I)	117	9.813	1.000	A	2	A	R
44	c-1,3-Dichloropropene	75	7.957	0.811	A	2	A	R
45 S	Toluene-d8 (S)	98	8.176	0.833	A	2	A	R
46 C	Toluene	91	8.237	0.839	A	2	A	R
47	Tetrachloroethene (PCE)	166	8.681	0.885	A	2	A	R
48	4-Methyl-2-Pentanone (MIBK)	43	8.681	0.885	A	2	A	R
49	t-1,3-Dichloropropene	75	8.705	0.887	A	2	A	R
50	1,1,2-Trichloroethane	97	8.882	0.905	A	2	A	R
51	Dibromochloromethane	129	9.070	0.924	Q 1/a	2	A	R
52	1,3-Dichloropropane	76	9.168	0.934	A	2	A	R
53	1,2-Dibromoethane (EDB)	107	9.308	0.949	A	2	A	R
54	2-Hexanone	43	9.551	[illegible]	A	2	A	R

55	P	Chlorobenzene	112	9.831	1.002	A	2	A	R
56	C	Ethylbenzene	91	9.867	1.006	A	2	A	R
57		1,1,1,2-Tetrachloroethane	131	9.892	1.008	A	2	A	R
58		m,p-Xylenes (2)	91	10.001	1.019	A	2	A	R
59		o-Xylene	91	10.384	1.058	A	2	A	R
60		Styrene	104	10.427	1.063	A	2	A	R
61	P	Bromoform	173	10.445	1.064	Q 1/a2	2	A	R
62		Isopropylbenzene	105	10.658	1.086	A	2	A	R
63	I	1,4-Dichlorobenzene-d4 (I)	152	11.771	1.000	A	2	A	R
64	S	4-Bromofluorobenzene (S)	174	10.883	0.925	A	2	A	R
65		Bromobenzene	156	10.968	0.932	A	2	A	R
66		n-Propylbenzene	91	10.999	0.934	A	2	A	R
67	P	1,1,2,2-Tetrachloroethane	83	11.054	0.939	A	2	A	R
68		2-Chlorotoluene	126	11.120	0.945	A	2	A	R
69		1,3,5-Trimethylbenzene	105	11.163	0.948	A	2	A	R
70		1,2,3-Trichloropropane	110	11.157	0.948	A	2	A	R
71		t-1,4-Dichloro-2-butene	88	11.193	0.951	A	3	A	R
72		4-Chlorotoluene	91	11.254	0.956	A	2	A	R
73		tert-Butylbenzene	91	11.413	0.970	A	2	A	R
74		1,2,4-Trimethylbenzene	105	11.467	0.974	A	2	A	R
75		sec-Butylbenzene	105	11.552	0.981	A	2	A	R
76		4-Isopropyltoluene	119	11.662	0.991	A	2	A	R
77		1,3-Dichlorobenzene	146	11.711	0.995	A	2	A	R
78		1,4-Dichlorobenzene	146	11.784	1.001	A	2	A	R
79		n-Butylbenzene	91	11.978	1.018	A	2	A	R
80		1,2-Dichlorobenzene	146	12.100	1.028	A	2	A	R
81		1,2-Dibromo-3-Chloropropane	157	12.702	1.079	A	2	A	R
82		Hexachlorobutadiene	223	13.225	1.124	A	3	A	R
83		1,2,4-Trichlorobenzene	180	13.244	1.125	A	2	A	R
84		Naphthalene	128	13.517	1.148	A	2	A	R
85		1,2,3-Trichlorobenzene	180	13.682	1.162	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

VJ190926S+.M Fri Sep 27 14:36:46 2019

Response Factor Report VOA-GCMS10

Method Path : C:\msdchem\1\methods\
Method File : VJ190926S+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Fri Sep 27 13:24:27 2019
Response Via : Initial Calibration

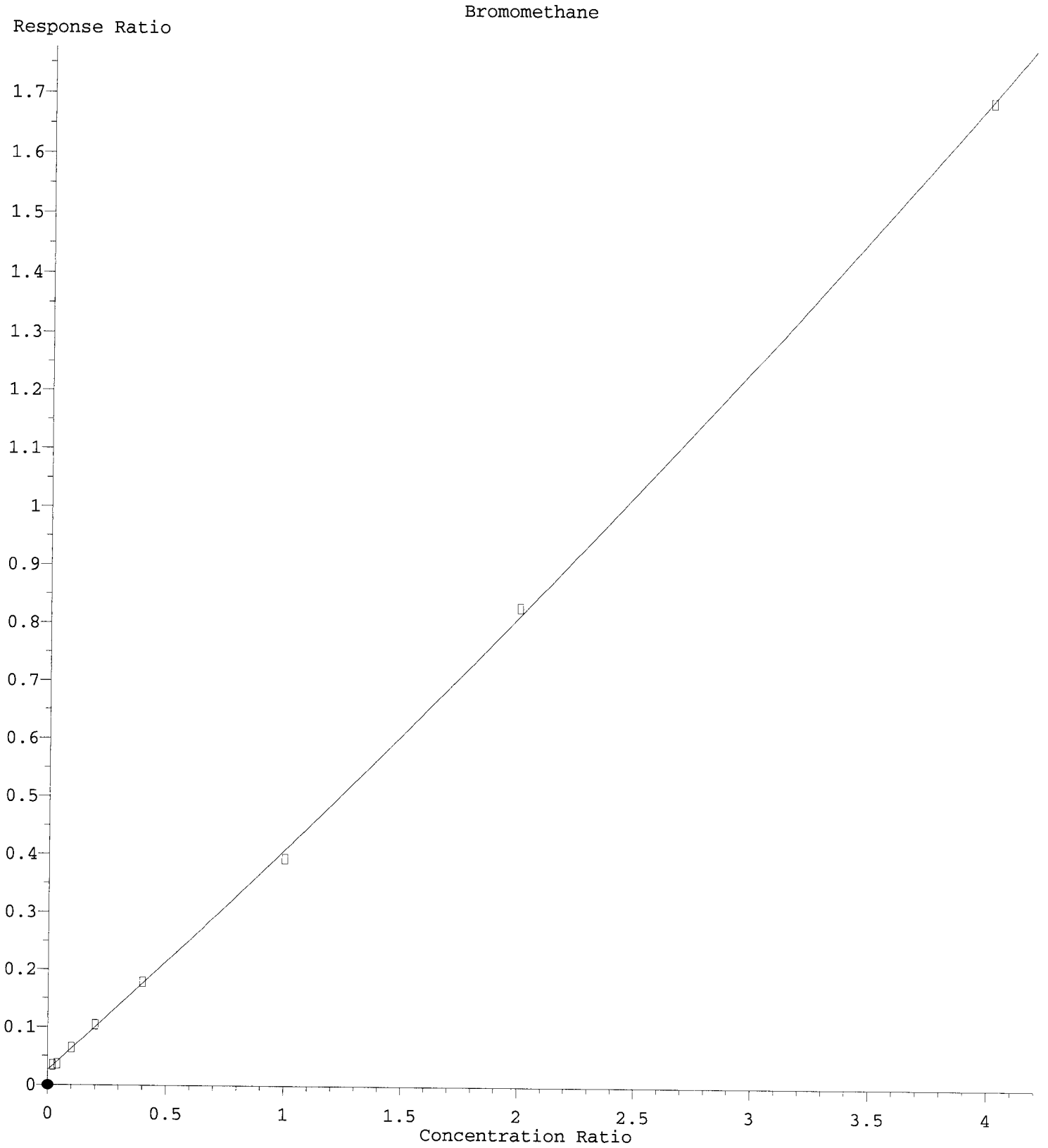
Calibration Files
1 =VJ19092628.D 2 =VJ19092629.D 3 =VJ19092630.D 4 =VJ19092631.D 5 =VJ19092632.D 6 =VJ19092633.D
7 =VJ19092634.D 8 =VJ19092635.D 9 =VJ19092636.D 10 =VJ19092638.D 1a =VJ19092640.D

		Compound	1	2	3	4	5	6	7	8	9	10	1a	Avg	%RSD
1)	I	Pentafluorobenzene...	ISTD												
2)		Dichlorodifluo...				0.851	0.744	0.941	0.942	0.967	0.913	0.949	1.031	0.917	9.40
3)	P	Chloromethane				1.585	1.239	1.250	1.324	1.294	1.260	1.329	1.354	1.329	8.36
4)	C	Vinyl Chloride			1.048	0.962	0.937	0.966	1.021	1.016	0.985	1.059	1.088	1.009	4.99
5)		Bromomethane				1.721	0.908	0.643	0.522	0.446	0.393	0.414	0.423	0.684	66.23
6)		Chloroethane						0.155	0.127	0.150	0.167	0.201	0.218	0.170	20.08
7)		Trichlorofluor...					0.422	0.419	0.462	0.453	0.446	0.473	0.471	0.449	4.86
8)		Ethanol				0.080	0.061	0.042	0.042	0.039	0.044	0.046		0.051	29.31
9)	C	1,1-Dichloroet...		1.519	1.418	1.423	1.414	1.444	1.473	1.471	1.437	1.492	1.516	1.461	2.69
10)		Carbon Disulfide		2.462	1.986	1.895	1.858	1.976	2.023	2.039	2.049	2.228	2.318	2.083	9.24
11)		Freon 113			0.624	0.794	0.755	0.760	0.807	0.818	0.789	0.845	0.859	0.783	8.80
12)		Iodomethane			1.225	0.587	0.355	0.315	0.300	0.312	0.355	0.456	0.515	0.491	59.65
13)		Methylene Chlo...					2.077	1.352	1.154	0.992	0.882	0.912	0.916	1.184	36.19
14)		Acetone					1.291	0.815	0.885	0.786	0.731	0.765	0.769	0.863	22.56
15)		t-1,2-Dichloro...		1.384	1.249	1.376	1.518	1.467	1.529	1.525	1.462	1.514	1.518	1.454	6.31
16)		n-Hexane					0.233	0.230	0.234	0.245	0.215	0.228	0.234	0.231	3.90
17)		Methyl-tert-bu...			5.142	4.920	4.516	4.110	4.306	4.209	4.019	4.153	4.214	4.399	8.82
18)		tert-Butanol (...			0.404	0.407	0.407	0.387	0.444	0.425	0.498			0.425	8.75
19)		Diisopropyl et...				3.976	3.923	3.817	4.058	3.939	4.708	4.987		4.201	10.82
20)	P	1,1-Dichloroet...		1.863	1.612	1.581	1.614	1.609	1.661	1.600	1.588	1.628	1.631	1.639	5.01
21)		Acrylonitrile				0.582	0.609	0.726	0.794	0.752	0.739	0.785	0.788	0.722	11.38
22)		Ethyl-tert-but...				4.328	4.115	3.827	4.117	4.147	4.770	5.036		4.334	9.74
23)		c-1,2-Dichloro...		1.824	1.381	1.605	1.606	1.581	1.687	1.593	1.564	1.628	1.622	1.609	6.81
24)		2,2-Dichloropr...			2.189	1.938	1.919	1.761	1.824	1.794	1.690	1.747	1.704	1.840	8.50
25)		Bromochloromet...			0.897	0.921	0.903	0.903	0.998	0.944	0.895	0.912	0.911	0.920	3.54
26)	C	Chloroform		2.189	1.863	1.847	1.877	1.932	2.031	1.963	1.907	2.014	1.991	1.962	5.21
27)		Carbon Tetrach...				1.233	1.171	1.213	1.289	1.360	1.387	1.527	1.589	1.346	11.17
28)		Tetrahydrofuran				1.103	1.097	0.933	0.962	0.922	0.871	0.915	0.893	0.962	9.29
29)		1,1,1-Trichlor...		1.339	1.780	1.867	1.801	1.796	1.834	1.908	1.854	1.955	1.945	1.808	9.72
30)	S	Dibromofluorom...	0.690	0.700	0.697	0.687	0.695	0.716	0.708	0.715	0.743	0.748	0.757	0.714	3.43
31)		1,1-Dichloropr...			1.610	1.708	1.701	1.637	1.632	1.678	1.634	1.722	1.705	1.670	2.49
32)		2-Butanone (MEK)				1.716	1.434	1.216	1.270	1.190	1.153	1.247	1.225	1.306	14.19
33)		Benzene	5.459	5.508	5.014	4.785	4.782	4.496	4.726	4.771	4.502	4.803	4.757	4.873	6.85
34)		tert-Amyl meth...				6.035	5.302	4.197	4.232	3.894	4.521	4.705		4.698	15.78
35)		1,2-Dichloroet...			1.743	1.802	1.861	1.829	1.976	1.930	1.821	1.923	1.875	1.862	3.89
36)		iso-Butyl Alcohol					0.158	0.142	0.162	0.158	0.147	0.160	0.156	0.155	4.79
37)	S	1,4-Difluorobe...	2.705	2.702	2.678	2.651	2.666	2.650	2.640	2.647	2.662	2.675	2.701	2.671	0.88
38)		Trichloroethen...		0.680	0.912	1.012	1.115	1.100	1.133	1.134	1.100	1.179	1.189	1.055	14.69
39)		tert-Amyl ethy...				2.793	3.170	2.808	3.102	3.019	3.676	3.850		3.203	12.82
40)		Dibromomethane				0.589	0.705	0.674	0.707	0.702	0.678	0.722	0.703	0.685	6.12

Method Path : C:\msdchem\1\methods\
Method File : VJ190926S+.M
Title : EPA 8260C: Volatile Organic Compounds

41)	C	1,2-Dichloropr...			1.157	1.215	1.171	1.175	1.240	1.232	1.189	1.273	1.248	1.211	3.30
42)		Bromodichlorom...			0.781	1.029	1.064	1.081	1.238	1.285	1.351	1.538	1.596	1.218	21.26
43)		Chlorobenzene-d5 (I)	----------ISTD----------												
44)		c-1,3-Dichloro...		0.534	0.678	0.753	0.745	0.709	0.789	0.799	0.788	0.866	0.869	0.753	13.01
45)	S	Toluene-d8 (S)	1.399	1.395	1.399	1.397	1.382	1.406	1.411	1.422	1.400	1.404	1.409	1.402	0.73
46)	C	Toluene	2.587	2.509	2.250	2.190	2.153	2.034	2.144	2.139	2.011	2.113	2.099	2.203	8.35
47)		Tetrachloroeth...			0.357	0.445	0.444	0.456	0.480	0.468	0.452	0.474	0.475	0.450	8.28
48)		4-Methyl-2-Pen...			0.953	0.903	0.896	0.825	0.937	0.889	0.835	0.881	0.834	0.884	5.13
49)		t-1,3-Dichloro...			0.680	0.722	0.715	0.701	0.762	0.773	0.770	0.843	0.834	0.756	7.53
50)		1,1,2-Trichlor...		0.335	0.429	0.426	0.449	0.419	0.450	0.436	0.422	0.454	0.451	0.427	8.17
51)		Dibromochlorom...				0.213	0.260	0.252	0.309	0.321	0.359	0.430	0.461	0.326	26.71
52)		1,3-Dichloropr...		0.736	0.774	0.806	0.893	0.798	0.893	0.855	0.817	0.880	0.861	0.831	6.46
53)		1,2-Dibromoeth...			0.380	0.430	0.473	0.442	0.497	0.482	0.465	0.504	0.500	0.464	8.74
54)		2-Hexanone		0.891	0.745	0.699	0.643	0.634	0.708	0.688	0.660	0.703	0.681	0.705	10.37
55)	P	Chlorobenzene	0.900	1.224	1.254	1.217	1.268	1.203	1.286	1.268	1.198	1.257	1.237	1.210	8.81
56)	C	Ethylbenzene	2.592	2.595	2.365	2.240	2.318	2.203	2.379	2.374	2.229	2.344	2.307	2.359	5.53
57)		1,1,1,2-Tetrac...			0.283	0.370	0.370	0.354	0.408	0.411	0.415	0.452	0.445	0.390	13.41
58)		m,p-Xylenes (2)	1.934	1.917	1.707	1.739	1.715	1.670	1.785	1.783	1.687	1.787	1.758	1.771	4.86
59)		o-Xylene	2.065	2.016	1.793	1.718	1.757	1.683	1.816	1.808	1.712	1.822	1.797	1.817	6.61
60)		Styrene				1.196	1.197	1.141	1.292	1.280	1.256	1.362	1.341	1.258	6.04
61)	P	Bromoform				0.134	0.145	0.151	0.190	0.188	0.213	0.265	0.287	0.197	28.51
62)		Isopropylbenzene	2.505	2.088	1.950	2.149	2.108	2.001	2.174	2.194	2.076	2.212	2.158	2.147	6.68
63)	I	1,4-Dichlorobenzen...	----------ISTD----------												
64)	S	4-Bromofluorob...	0.777	0.772	0.787	0.784	0.784	0.787	0.773	0.771	0.764	0.750	0.746	0.772	1.81
65)		Bromobenzene		0.737	0.961	0.972	0.995	0.986	1.058	1.025	0.983	1.009	0.996	0.972	8.97
66)		n-Propylbenzene	5.882	6.140	5.189	5.324	5.247	5.074	5.353	5.356	5.062	5.220	5.092	5.358	6.43
67)	P	1,1,2,2-Tetrac...		1.387	1.190	1.324	1.331	1.255	1.387	1.349	1.266	1.339	1.255	1.308	4.92
68)		2-Chlorotoluene		0.798	0.911	0.917	0.973	0.914	0.993	0.985	0.920	0.963	0.946	0.932	6.03
69)		1,3,5-Trimethy...	4.083	3.868	3.427	3.685	3.579	3.445	3.621	3.652	3.492	3.610	3.541	3.637	5.29
70)		1,2,3-Trichlor...			0.510	0.527	0.520	0.498	0.571	0.527	0.484	0.503	0.492	0.515	5.06
71)		t-1,4-Dichloro...						0.185	0.239	0.226	0.234	0.260	0.260	0.234	11.85
72)		4-Chlorotoluene	3.781	3.575	3.246	3.297	3.192	3.166	3.372	3.235	3.061	3.177	3.090	3.290	6.54
73)		tert-Butylbenzene	2.590	2.679	2.309	2.287	2.217	2.120	2.253	2.248	2.081	2.150	2.106	2.276	8.50
74)		1,2,4-Trimethy...	4.242	3.653	3.551	3.629	3.671	3.527	3.703	3.710	3.489	3.632	3.555	3.669	5.54
75)		sec-Butylbenzene	4.708	4.527	4.282	4.266	4.421	4.151	4.391	4.464	4.233	4.362	4.251	4.369	3.62
76)		4-Isopropyltol...	3.775	3.553	3.638	3.643	3.592	3.481	3.654	3.728	3.562	3.710	3.614	3.632	2.34
77)		1,3-Dichlorobe...	1.986	2.074	1.796	1.777	1.816	1.755	1.934	1.846	1.761	1.841	1.779	1.851	5.59
78)		1,4-Dichlorobe...	1.569	1.870	1.764	1.912	1.901	1.783	1.956	1.855	1.768	1.850	1.791	1.820	5.74
79)		n-Butylbenzene	4.066	3.363	3.320	3.335	3.310	3.066	3.229	3.260	3.095	3.216	3.135	3.309	8.17
80)		1,2-Dichlorobe...		1.672	1.679	1.726	1.739	1.671	1.825	1.753	1.653	1.739	1.686	1.714	3.05
81)		1,2-Dibromo-3-...						0.260	0.307	0.319	0.339	0.382	0.395	0.334	14.99
82)		Hexachlorobuta...				0.244	0.248	0.255	0.267	0.262	0.245	0.259	0.249	0.254	3.28
83)		1,2,4-Trichlor...		1.197	1.099	1.021	1.168	1.030	1.178	1.167	1.094	1.154	1.124	1.123	5.46
84)		Naphthalene			4.072	4.387	4.188	4.021	4.617	4.536	4.281	4.512	4.474	4.343	4.91
85)		1,2,3-Trichlor...		1.007	1.069	1.145	1.125	1.040	1.185	1.126	1.083	1.117	1.117	1.102	4.74

(#) = Out of Range



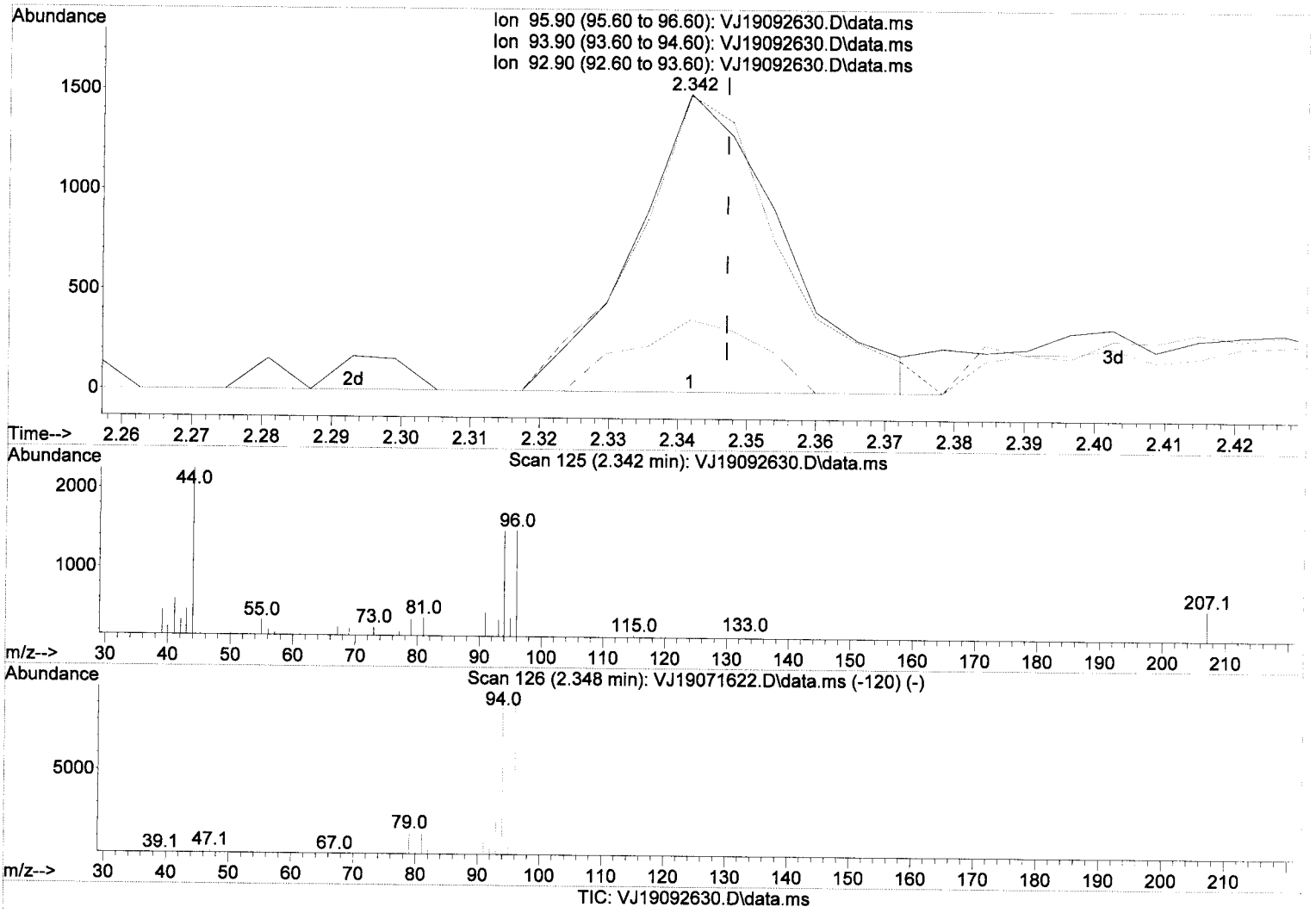
Int = (-)

R = 1.13e-002 A*A + 3.72e-001 A + 2.55e-002
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\Vu190926s+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



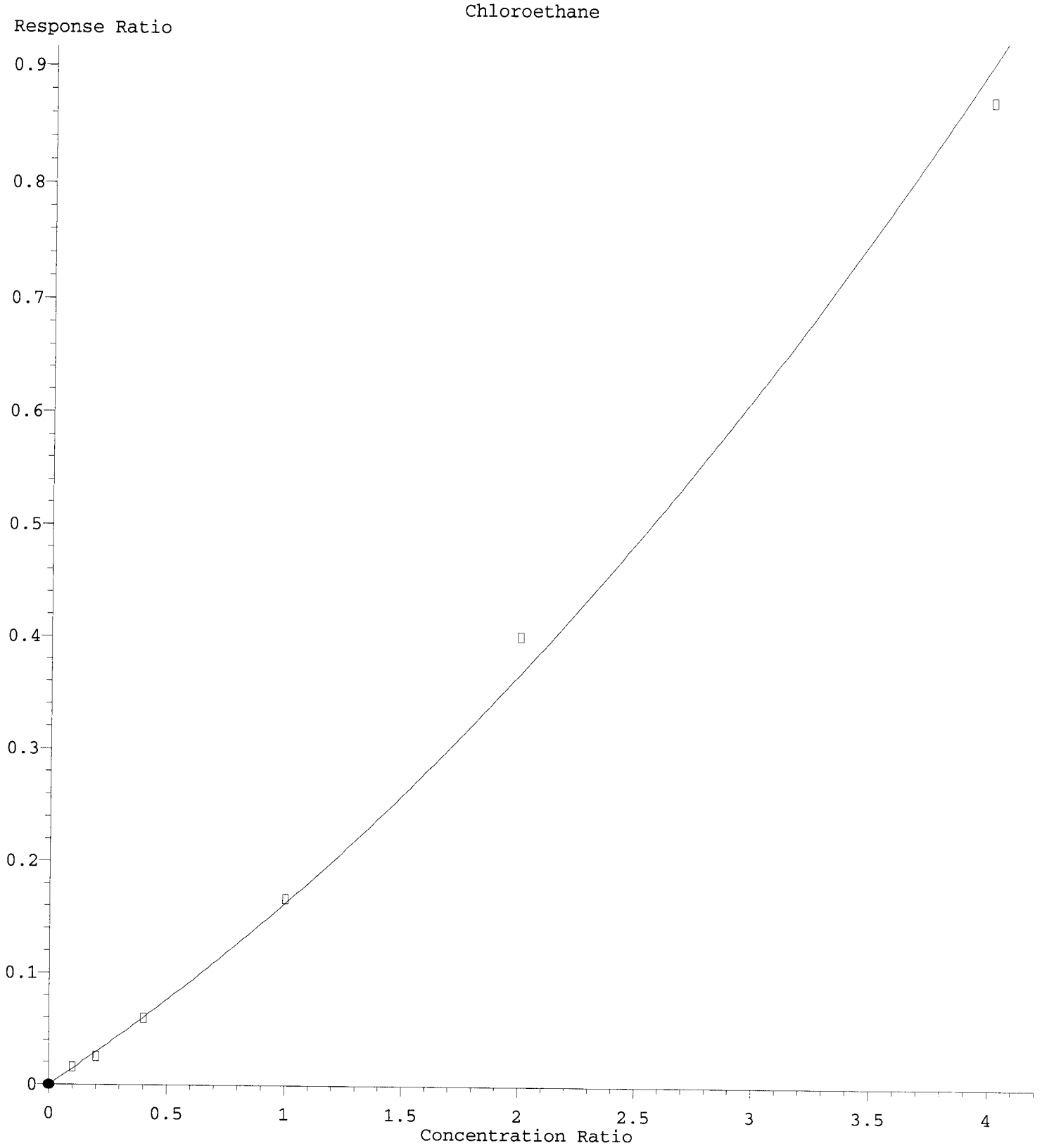
TIC: VJ19092630.D\data.ms

(5) Bromomethane

2.342min (-0.005) 0.10 ug/L m

response 2218

Ion	Exp%	Act%
95.90	100.00	100.00
93.90	106.80	99.53
92.90	22.80	24.24
0.00	0.00	0.00



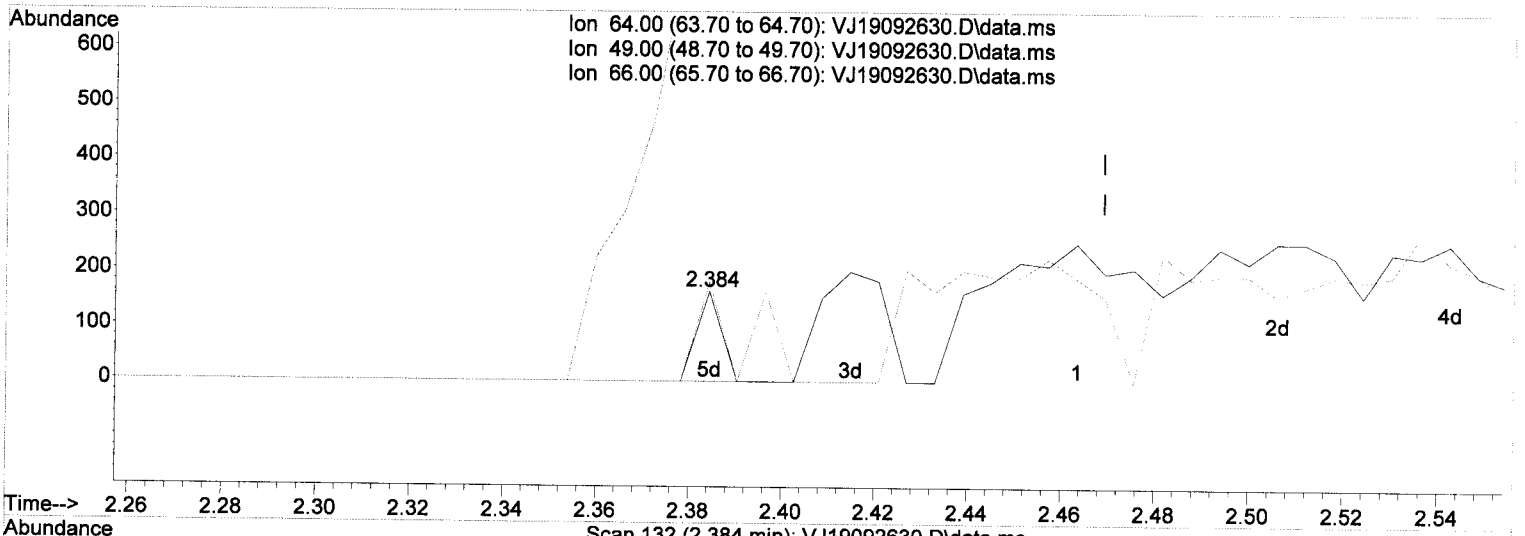
Int = 0.18

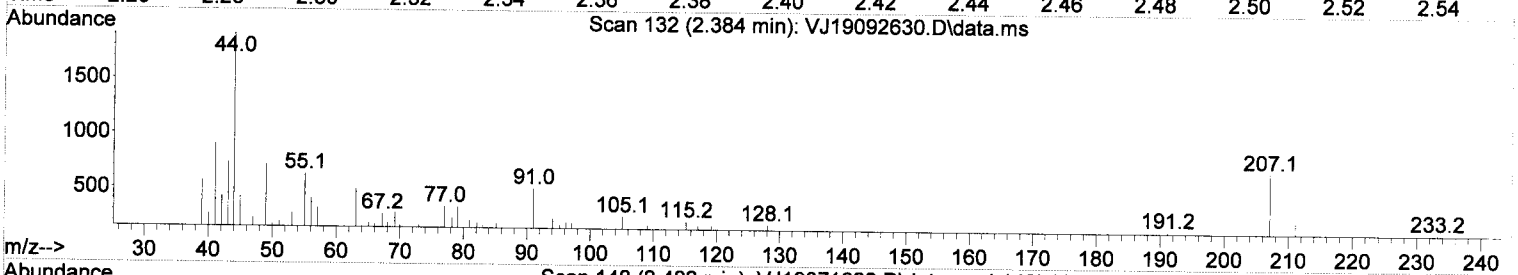
R = 2.12e-002 A*A + 1.42e-001 A + 1.87e-004
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\v0190263+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

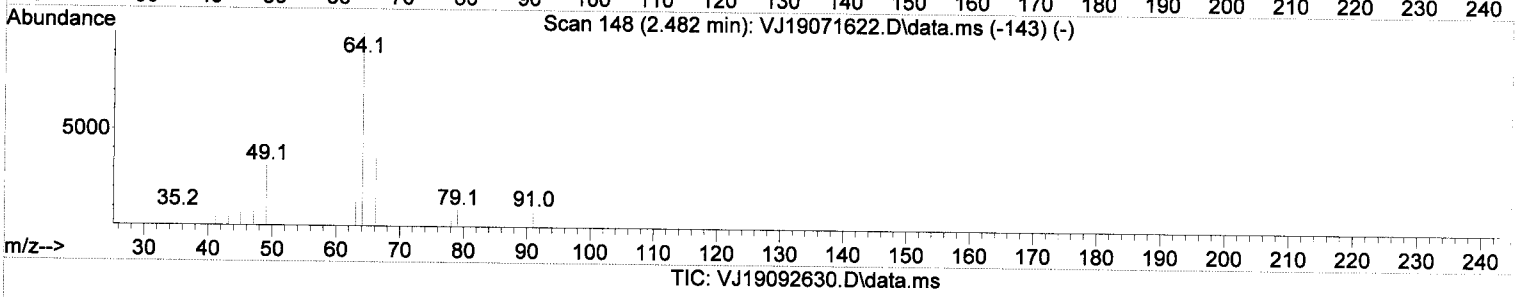
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







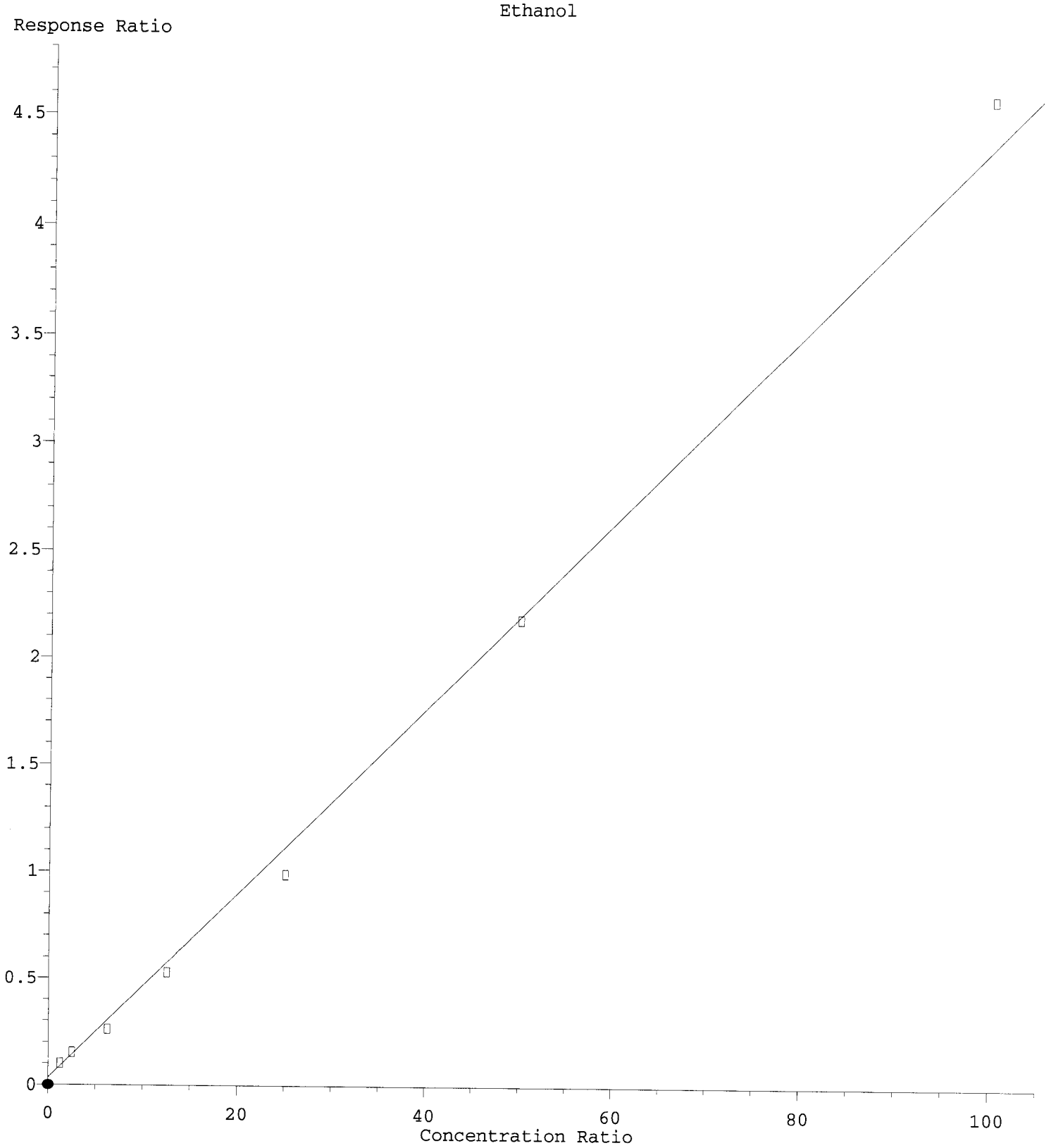
TIC: VJ19092630.D\data.ms

(6) Chloroethane

2.384min (-0.085) 0.18 ug/L m

response 59

Ion	Exp%	Act%
64.00	100.00	100.00
49.00	24.30	436.20#
66.00	31.30	110.43#
0.00	0.00	0.00



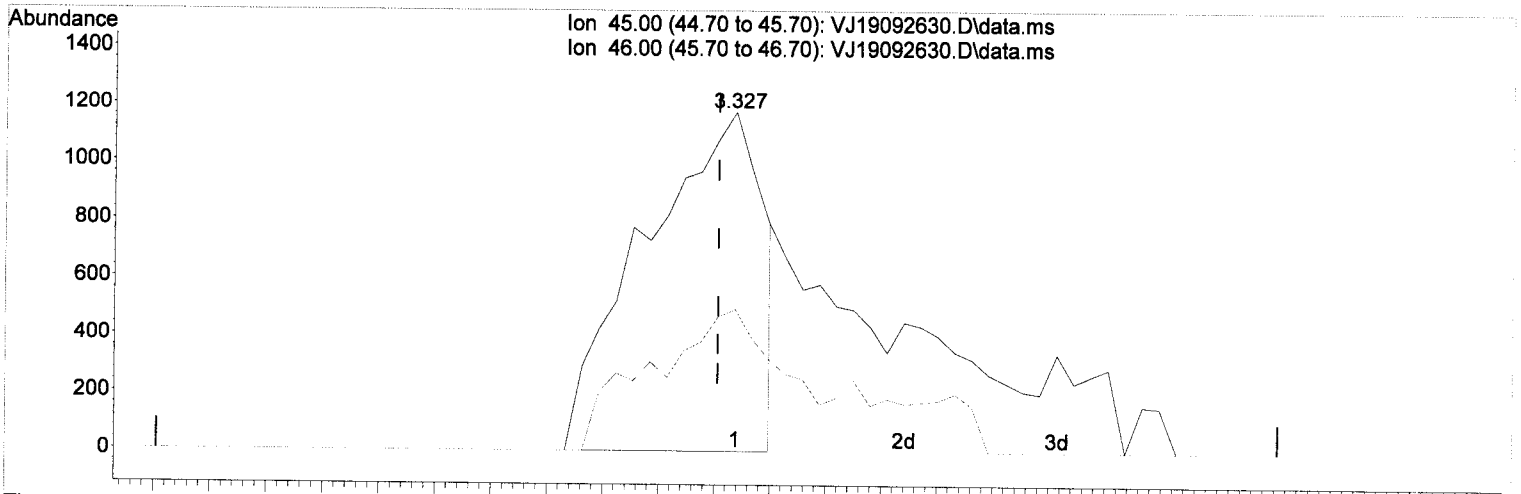
Int = (-)

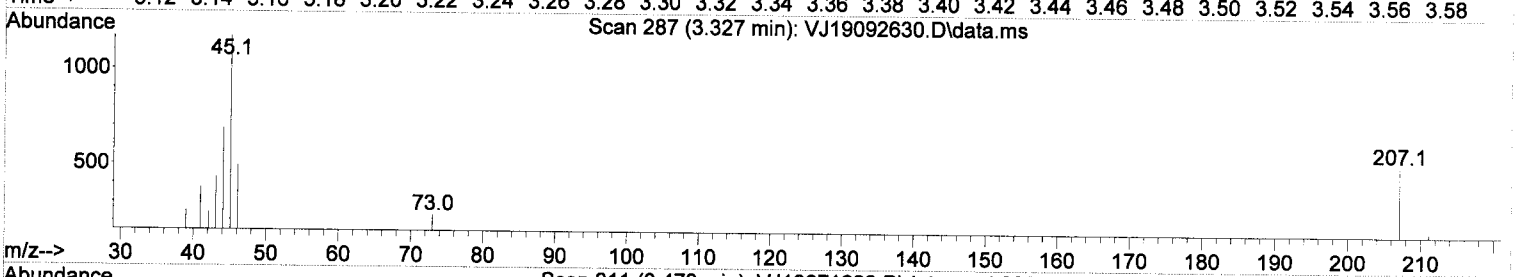
Resp Ratio = 4.33e-002 * Amt + 3.36e-002
Coef of Det (r^2) = 0.994 Curve Fit: wlr(1/a)
Method Name: C:\msdchem\1\methods\VJ190926S+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

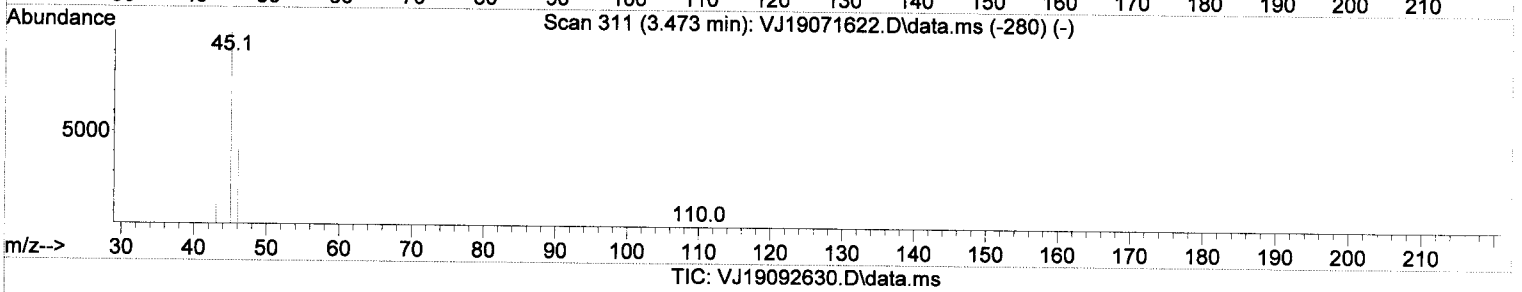
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







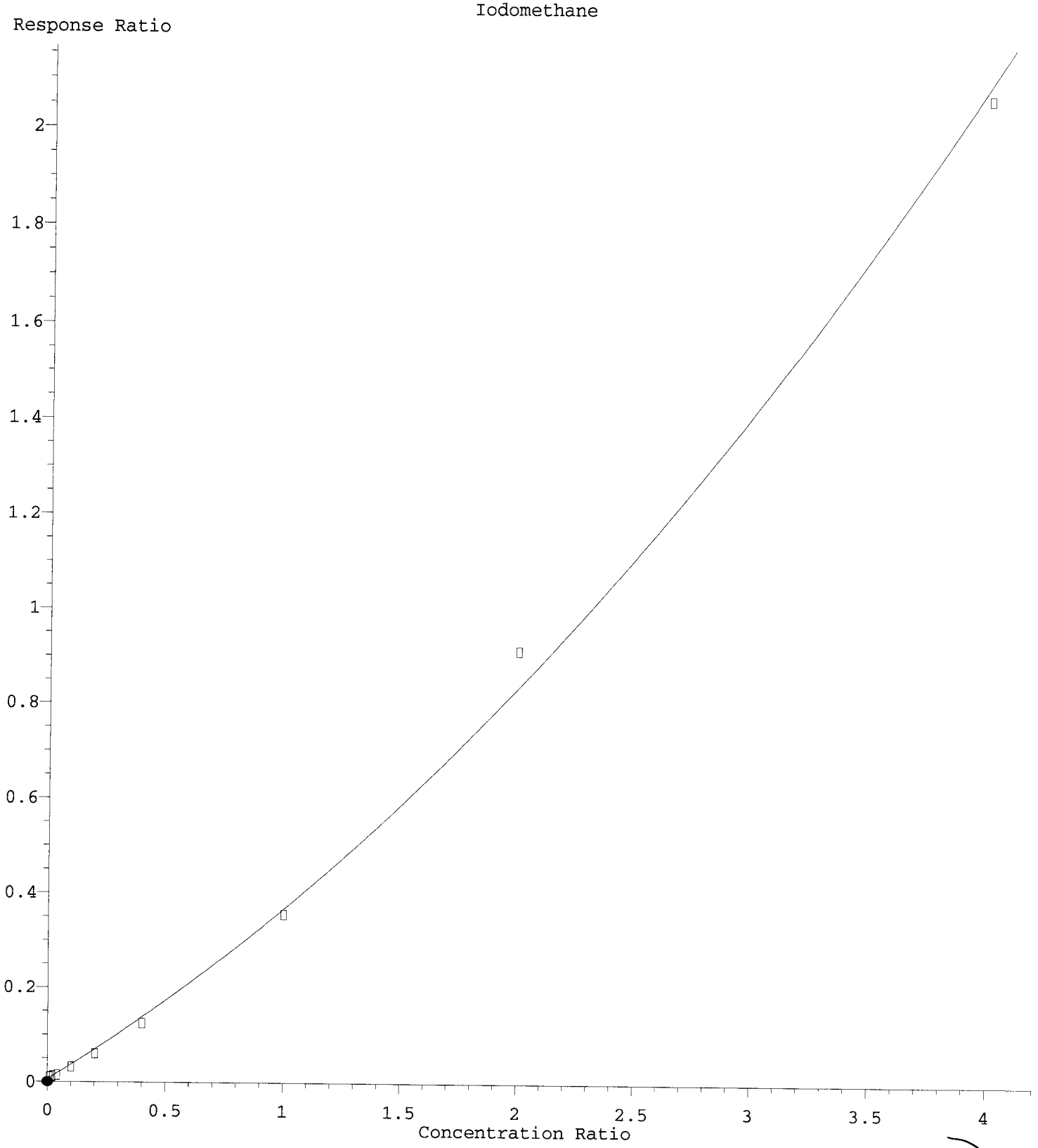
TIC: VJ19092630.D\data.ms

(8) Ethanol

3.327min (+ 0.006) 8.56 ug/L m

response 3461

Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	41.99
0.00	0.00	0.00
0.00	0.00	0.00



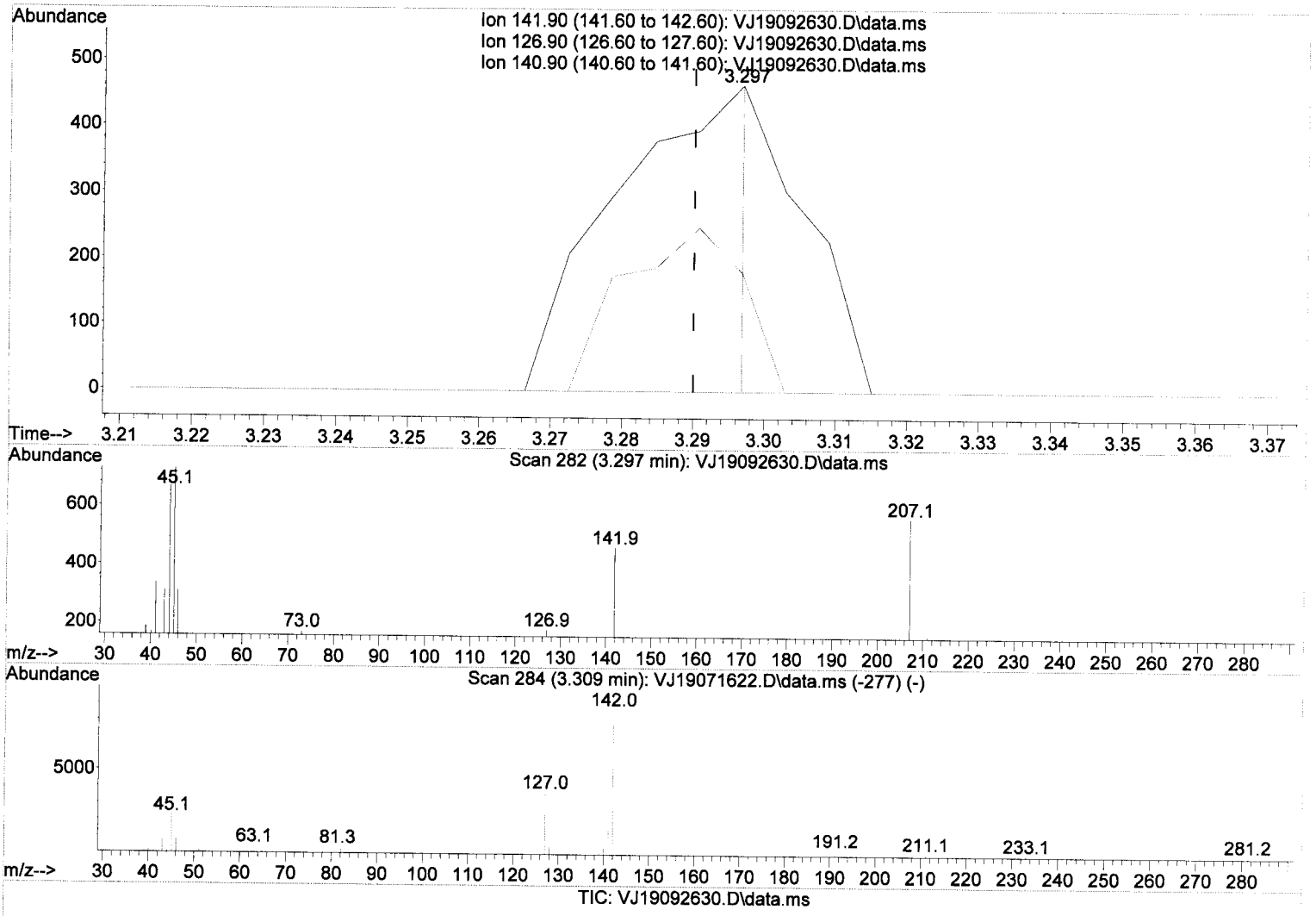
Int = 0.31 (—)

R = 5.31e-002 A*A + 3.09e-001 A + 5.58e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VJ190926S+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

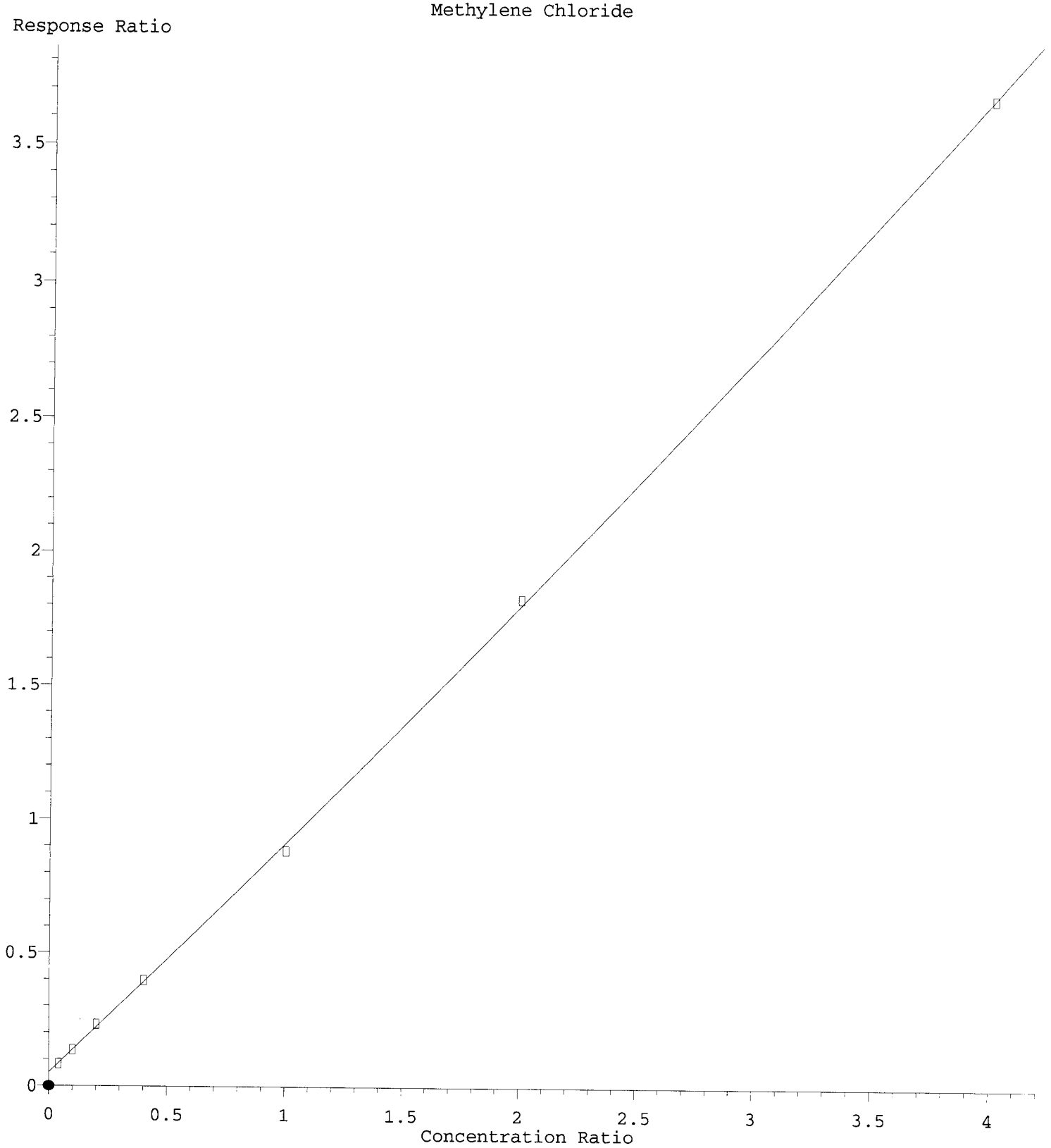


(12) Iodomethane

3.297min (+ 0.007) 0.31 ug/L m

response 635

Ion	Exp%	Act%
141.90	100.00	100.00
126.90	34.80	38.88
140.90	15.30	0.00
0.00	0.00	0.00



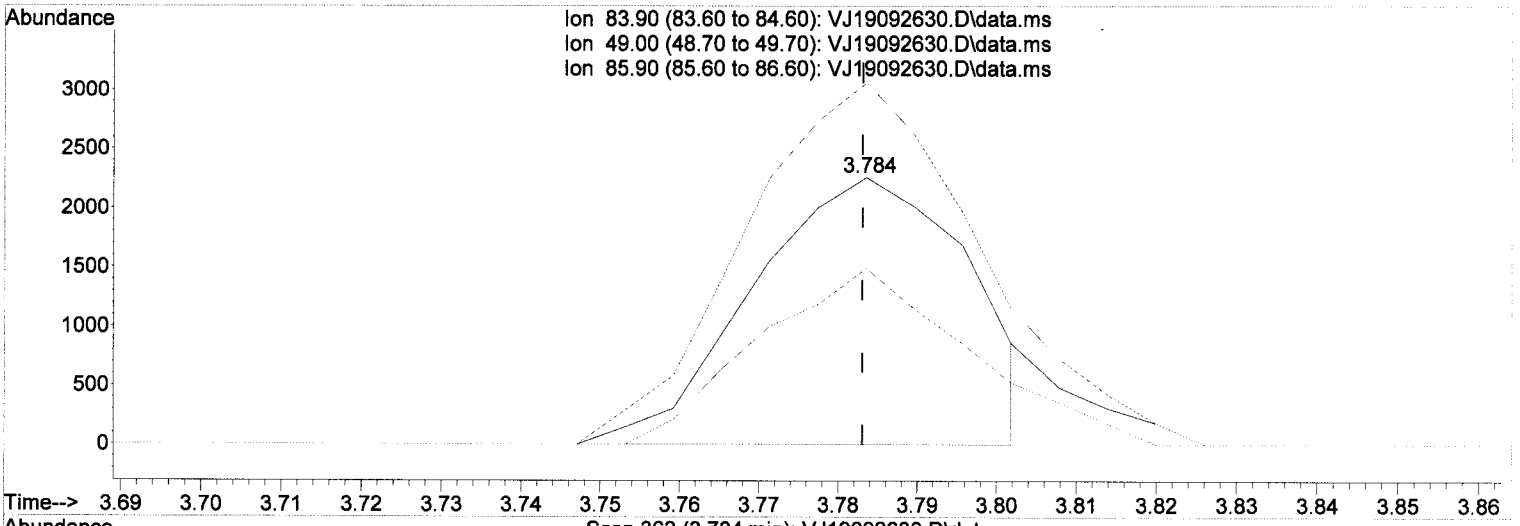
Int =(—)

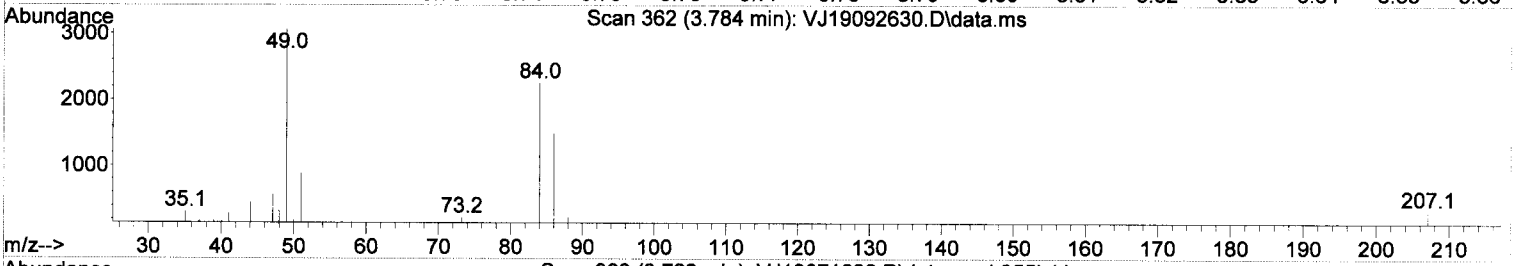
R = 1.42e-002 A*A + 8.48e-001 A + 5.07e-002
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VJ190926S+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

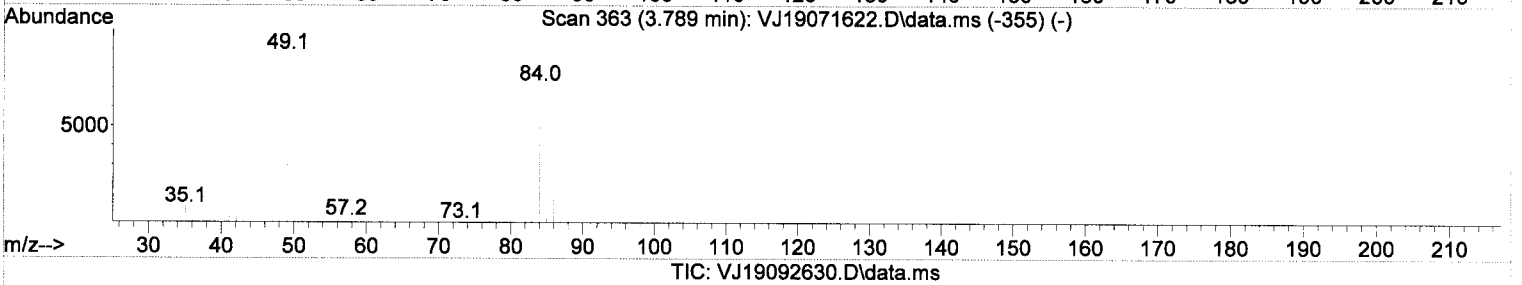
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







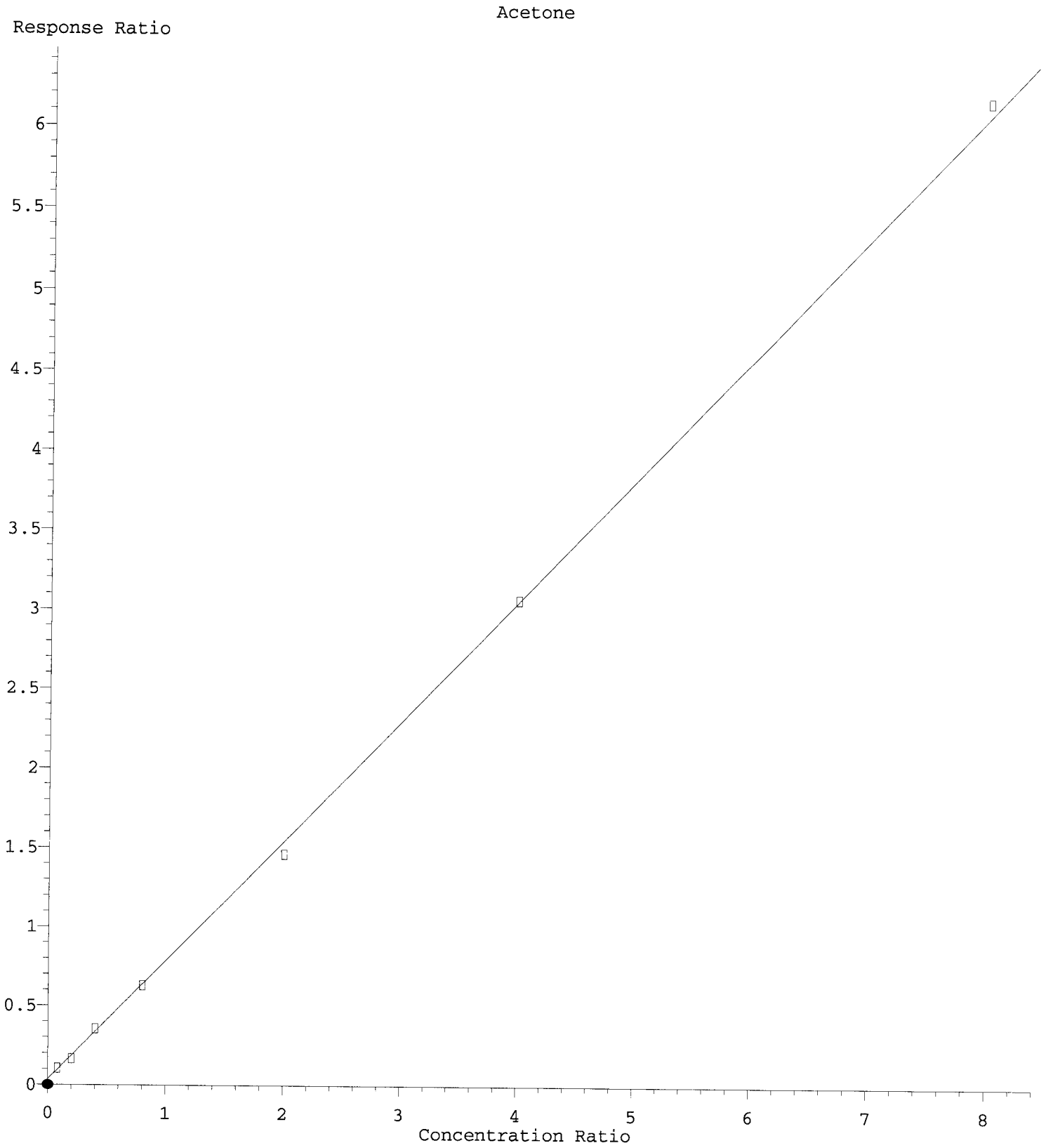
TIC: VJ19092630.D\data.ms

(13) Methylene Chloride

3.784min (+ 0.001) 0.02 ug/L m

response 4304

Ion	Exp%	Act%
83.90	100.00	100.00
49.00	123.30	135.46
85.90	63.90	66.09
0.00	0.00	0.00



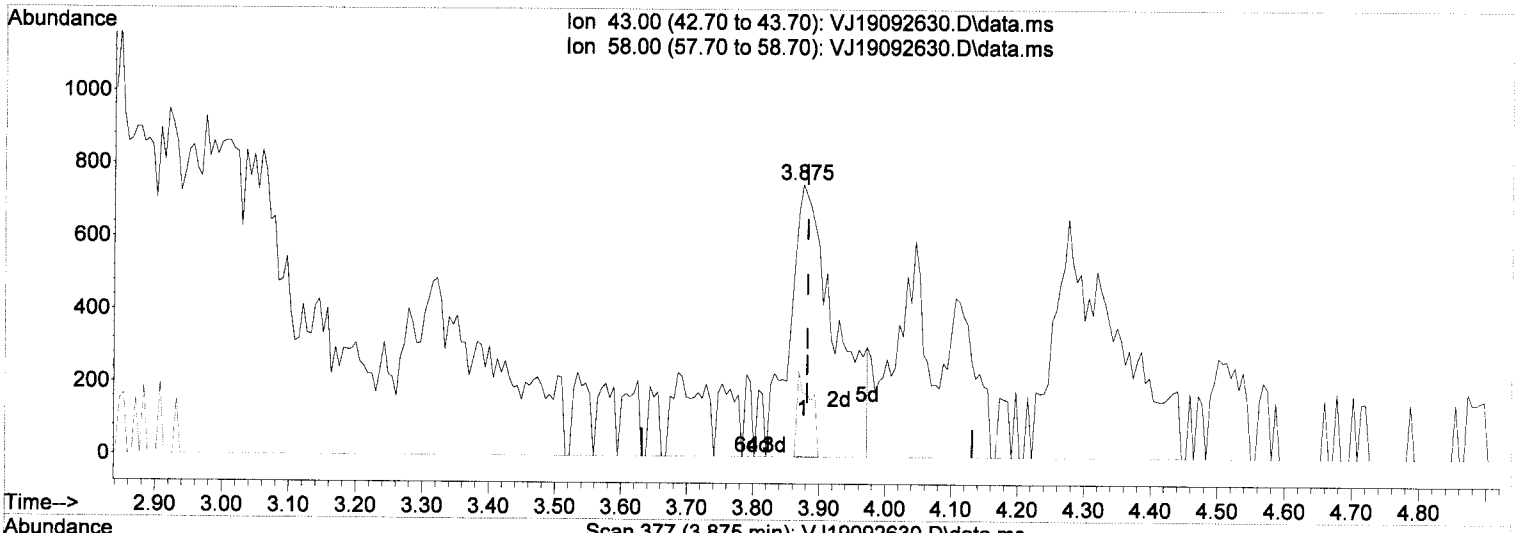
Int = 0

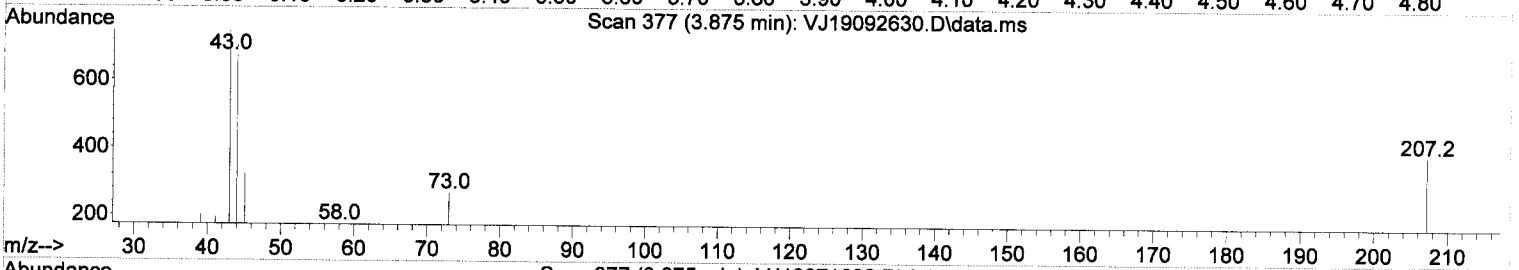
Resp Ratio = 7.55e-001 * Amt + 3.42e-002
Coef of Det (r^2) = 0.999 Curve Fit: wlr(1/a)
Method Name: C:\msdchem\1\methods\Va190926s+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

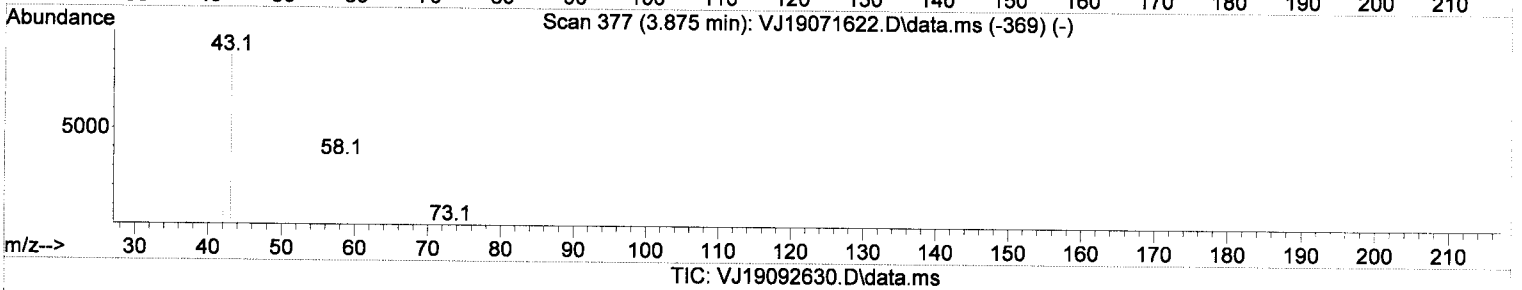
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







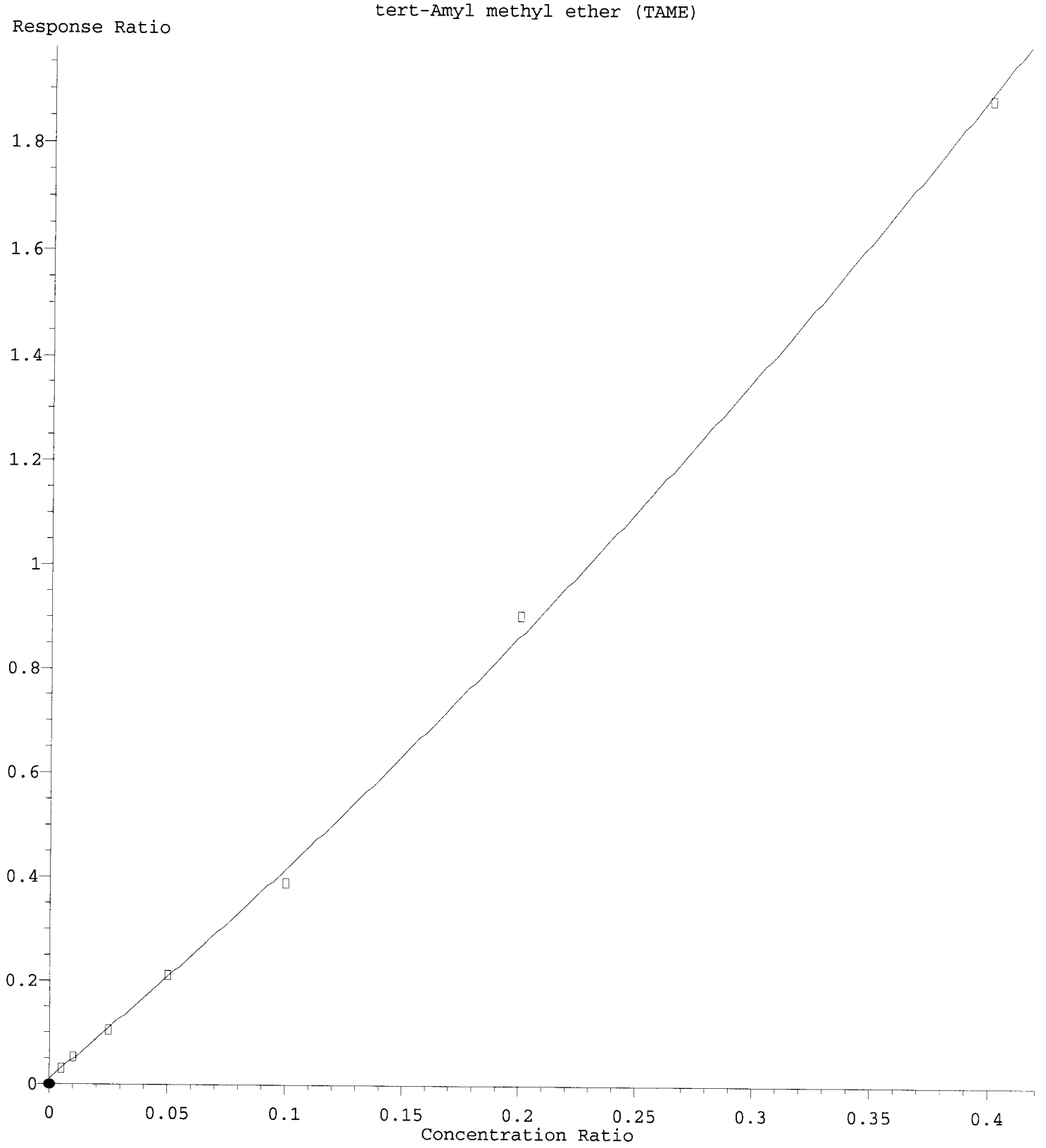
TIC: VJ19092630.D\data.ms

(14) Acetone

3.875min (-0.006) 0.58 ug/L m

response 3626

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	23.29
0.00	0.00	0.00
0.00	0.00	0.00



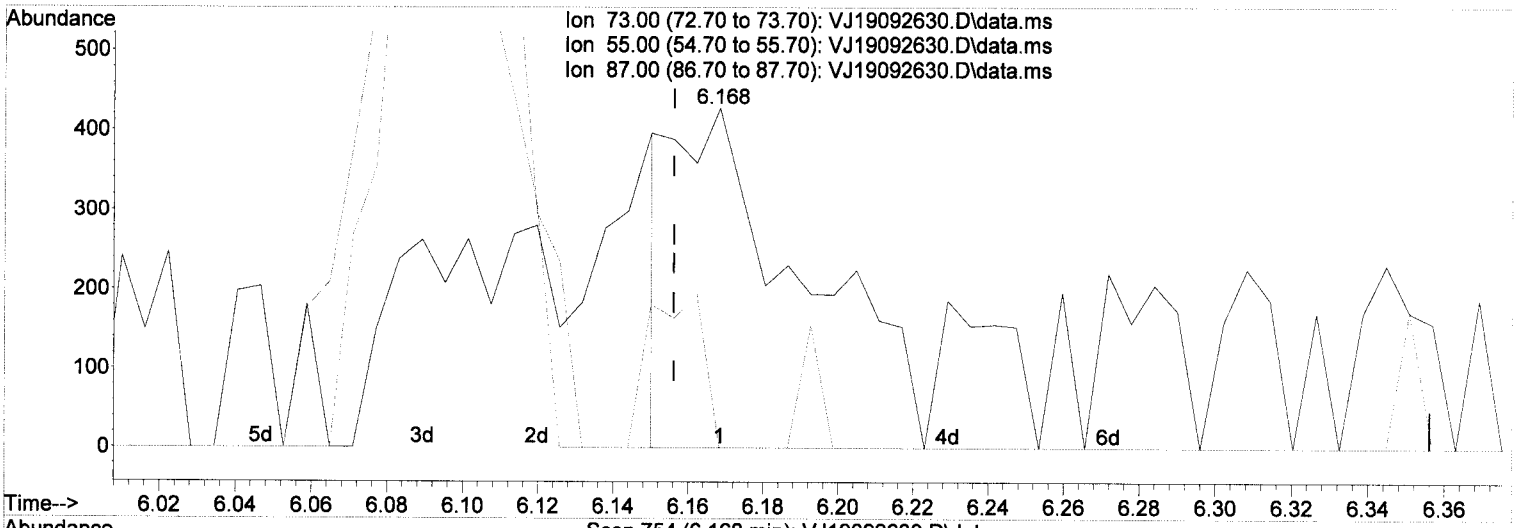
Int = (-)

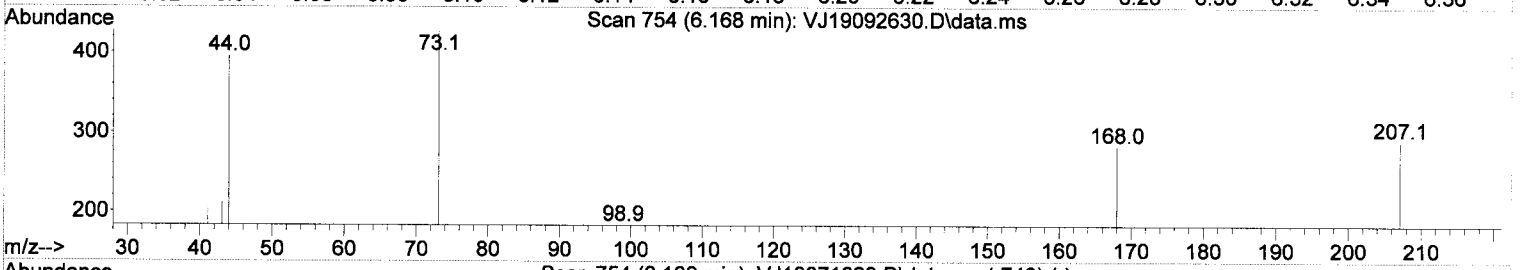
R = 2.18e+000 A*A + 3.84e+000 A + 1.14e-002
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V0190926s+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

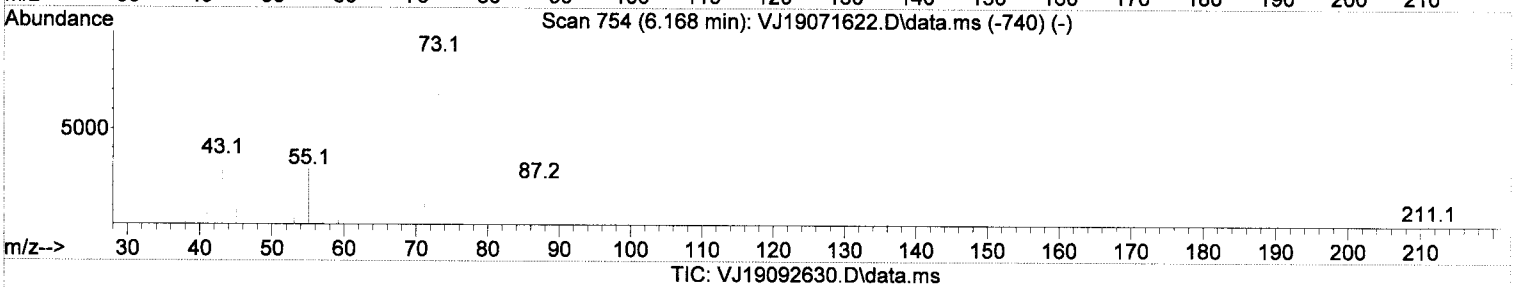
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







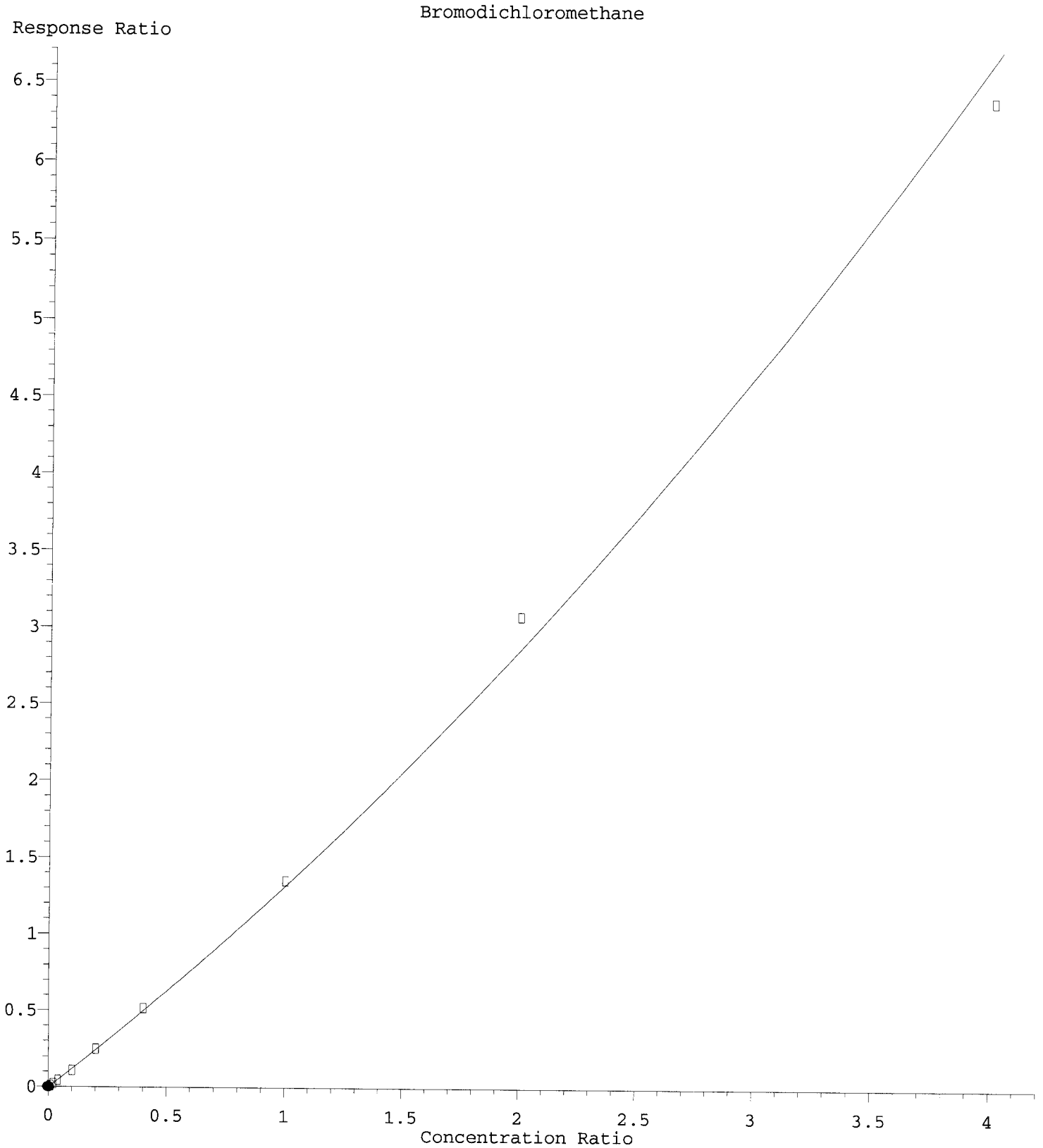
TIC: VJ19092630.D\data.ms

(34) tert-Amyl methyl ether (TAME)

6.168min (+ 0.012) 0.01 ug/L m

response 1040

Ion	Exp%	Act%
73.00	100.00	100.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00



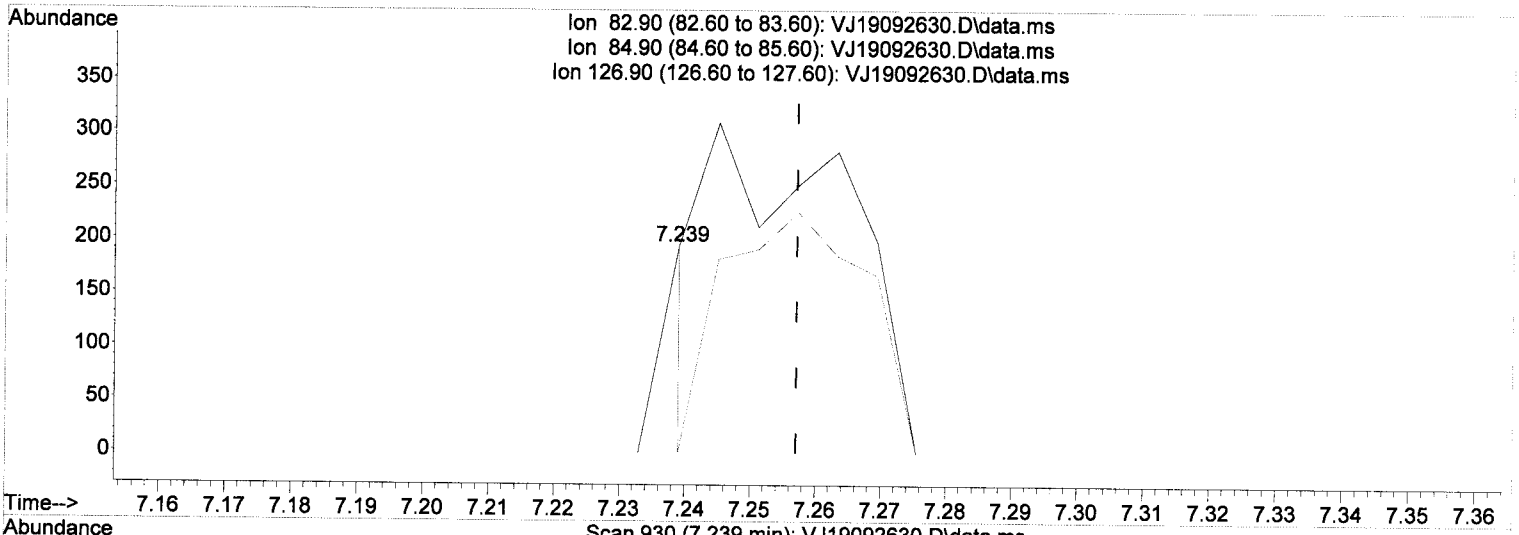
Int = 0.18

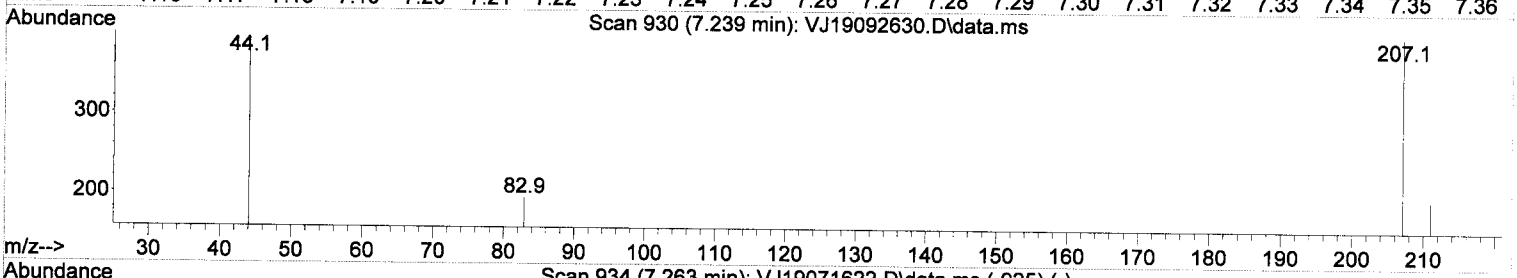
R = 1.14e-001 A*A + 1.21e+000 A - 3.56e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\VOA1902[illegible].M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

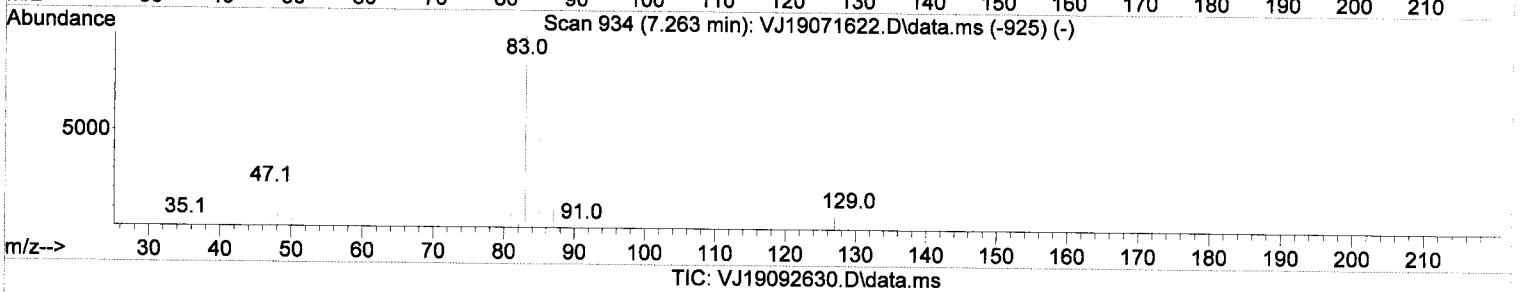
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







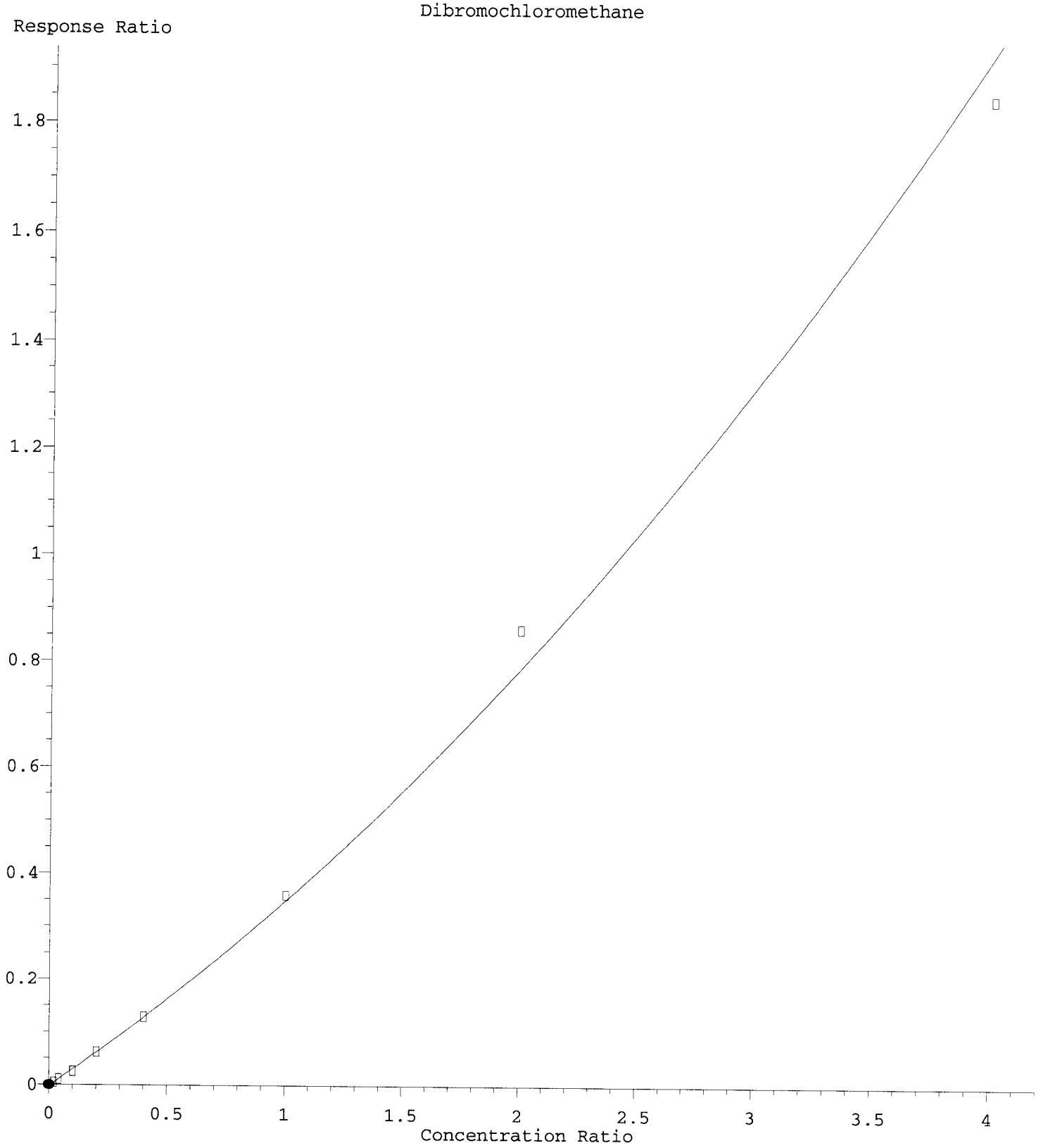
TIC: VJ19092630.D\data.ms

(42) Bromodichloromethane

7.239min (-0.018) 0.18 ug/L m

response 71

Ion	Exp%	Act%
82.90	100.00	100.00
84.90	61.80	0.00#
126.90	8.30	0.00
0.00	0.00	0.00



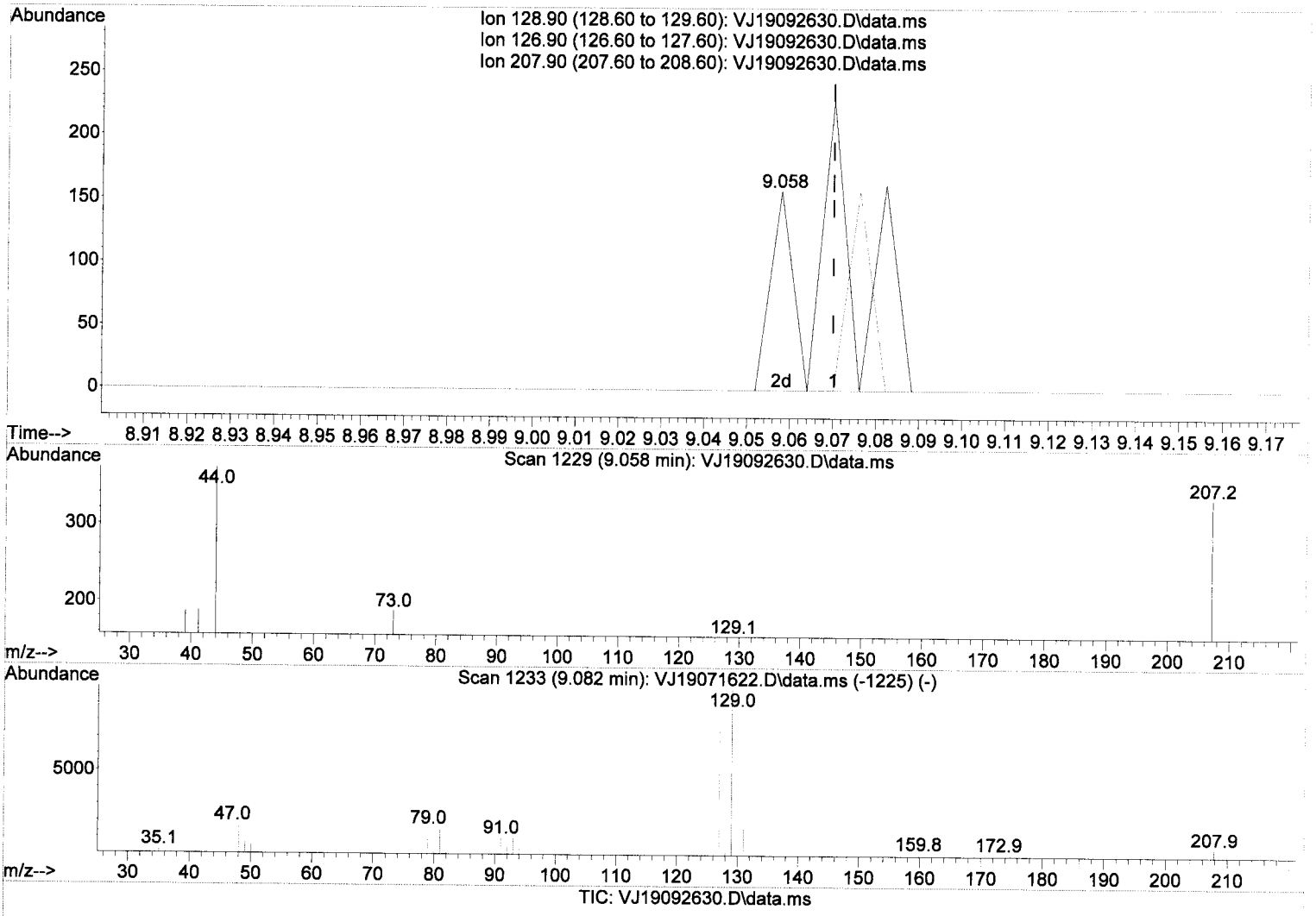
Int = 0.38

R = 4.36e-002 A*A + 3.07e-001 A - 2.02e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\V01909263+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

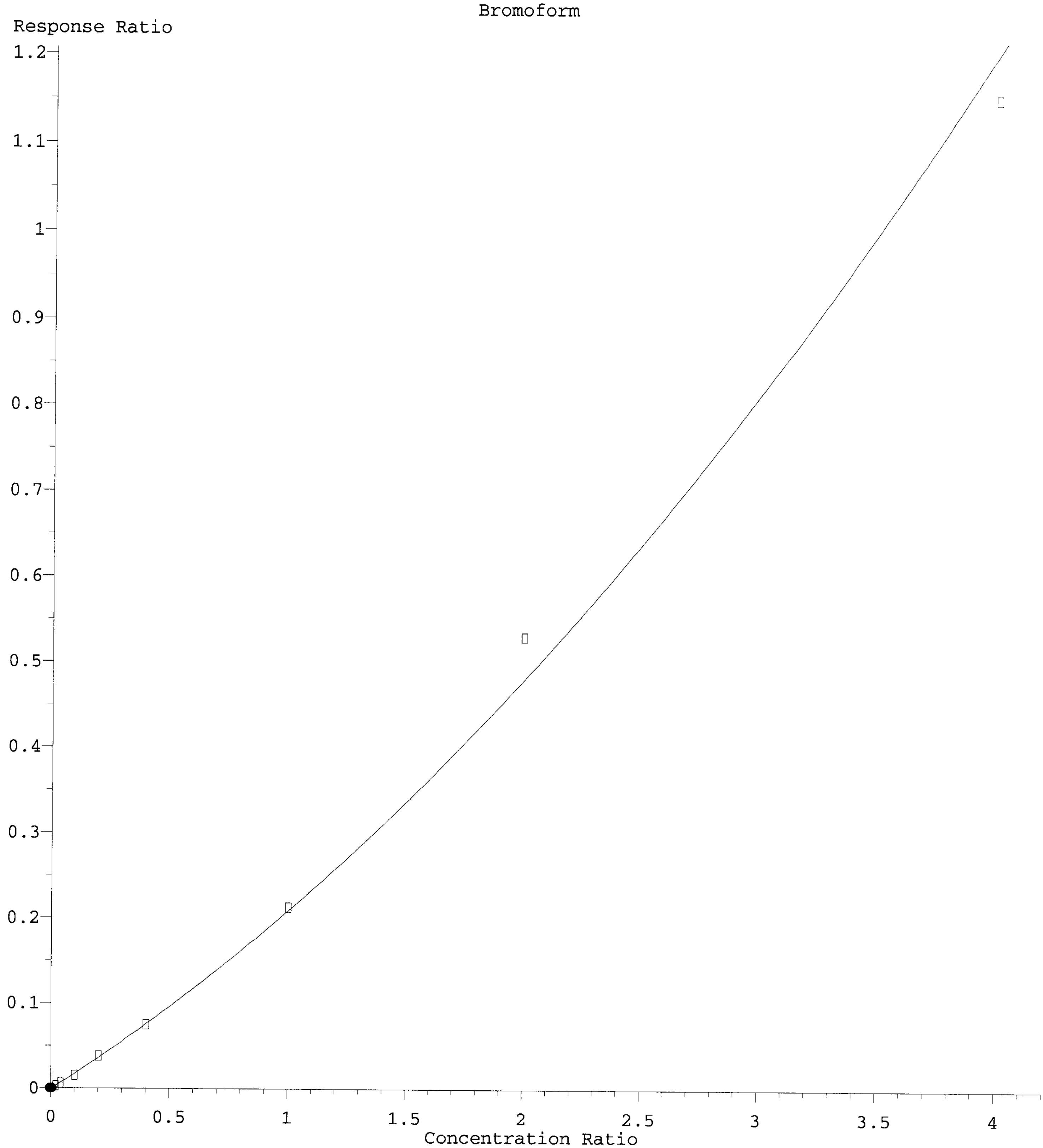


(51) Dibromochloromethane

9.058min (-0.012) 0.38 ug/L m

response 57

Ion	Exp%	Act%
128.90	100.00	100.00
126.90	77.40	0.00#
207.90	7.30	0.00
0.00	0.00	0.00



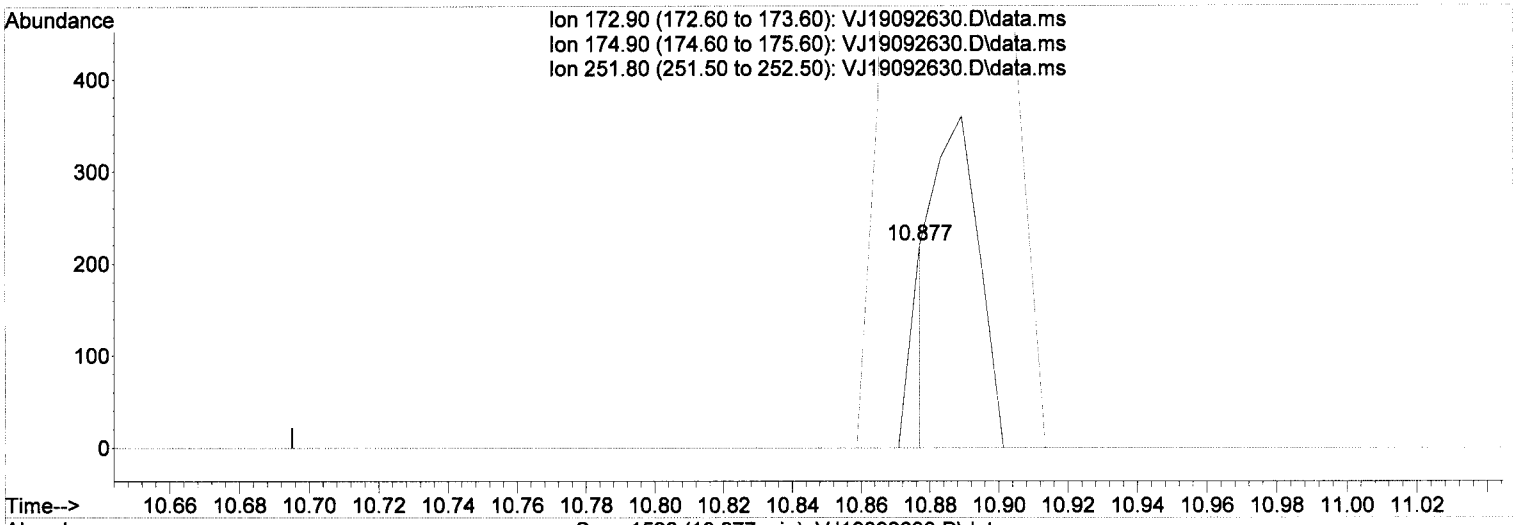
Int = 0.42

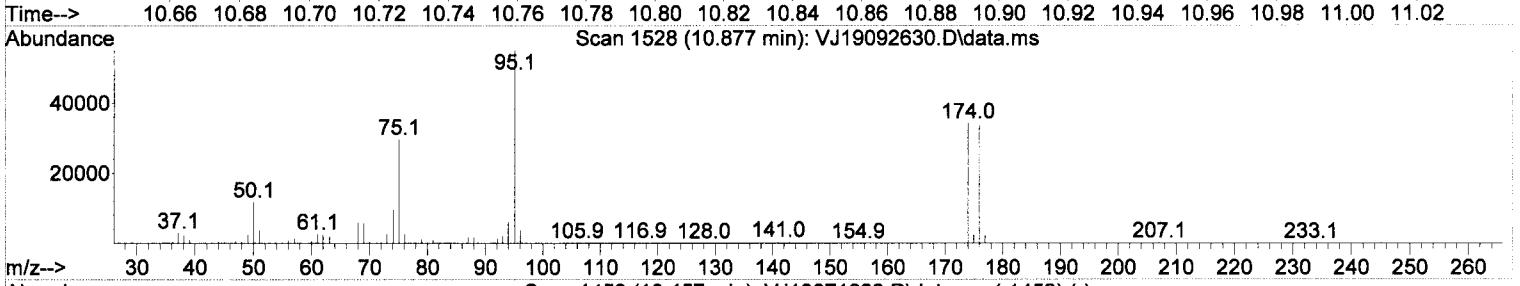
R = 3.01e-002 A*A + 1.80e-001 A - 1.10e-003
Coef of Det (r^2) = 0.995   Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\methods\VJ190926S+.M
Calibration Table Last Updated: Fri Sep 27 13:56:57 2019

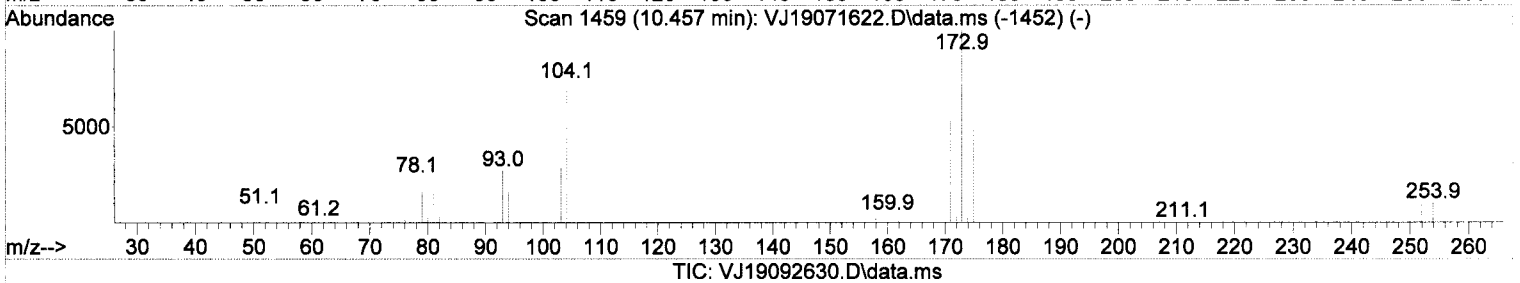
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\REQUANT\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 13:57:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19092630.D\data.ms

(61) Bromoform (P)

10.877min (+ 0.432) 0.42 ug/L m

response 80

Ion	Exp%	Act%
172.90	100.00	100.00
174.90	48.50	1135.91#
251.80	13.90	0.00
0.00	0.00	0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26051

Analysis Included
8260C Full List
8260C Iodomethane Add On
8260C Oxygenates

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed
9I26051-TUN1	MS Tune	Soil		A19G118	9/26/2019 8:35:00PM
9I26051-ICB1	Initial Cal Blank	Soil		A19G118	9/26/2019 9:02:00PM
9I26051-CAL1	Cal Standard	Soil	A19I319	"	9/26/2019 9:28:00PM
9I26051-CAL2	Cal Standard	Soil	A19I320	"	9/26/2019 9:55:00PM
9I26051-CAL3	Cal Standard	Soil	A19I321	"	9/26/2019 10:22:00PM
9I26051-CAL4	Cal Standard	Soil	A19I322	"	9/26/2019 10:49:00PM
9I26051-CAL5	Cal Standard	Soil	A19I323	"	9/26/2019 11:15:00PM
9I26051-CAL6	Cal Standard	Soil	A19I324	"	9/26/2019 11:42:00PM
9I26051-CAL7	Cal Standard	Soil	A19I325	"	9/27/2019 12:09:00AM
9I26051-CAL8	Cal Standard	Soil	A19I326	"	9/27/2019 12:35:00AM
9I26051-CAL9	Cal Standard	Soil	A19I327	"	9/27/2019 1:02:00AM
9I26051-CALA	Cal Standard	Soil	A19I328	"	9/27/2019 1:56:00AM
9I26051-CALB	Cal Standard	Soil	A19I329	"	9/27/2019 2:49:00AM
9I26051-ICV1	Initial Cal Check	Soil	A19I330	"	9/27/2019 4:10:00AM
9I26051-ICV2	Initial Cal Check	Soil	A19E195	"	9/27/2019 4:36:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: A9I2702 Instrument: VOA-GCMS10

8260C Full List Sequence: 9I26051 Matrix: Soil

9I26051-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CALB	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26051

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: **A9I2702** Instrument: **VOA-GCMS10**

8260C Full List Sequence: **9I26051** Matrix: **Soil**

9I26051-ICV1	Inst. MRL	ICV Level	Result	%Rec.	Qual
Iodomethane	20	20.0	**26.23**	131	E-05
9I26051-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.

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 27 15:46:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

9/27/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	103	0.00
2		Dichlorodifluoromethane	20.000	15.187	24.1	74	0.00
3	P	Chloromethane	20.000	17.775	11.1	94	0.00
4	C	Vinyl Chloride	20.000	19.127	4.4	98	0.00
5		Bromomethane	20.000	25.634	-28.2	126	0.00
6		Chloroethane	20.000	19.246	3.8	99	0.00
7		Trichlorofluoromethane	20.000	18.211	8.9	93	0.00
8		~~Ethanol~~	~~1250.000~~	~~47.114~~	~~96.2#~~	~~8~~	~~0.00~~
9	C	1,1-Dichloroethene	20.000	20.143	-0.7	103	0.00
10		Carbon Disulfide	20.000	21.554	-7.8	113	0.00
11		Freon 113	20.000	20.426	-2.1	100	0.00
12		Iodomethane	20.000	26.227	-31.1#	150	0.00
13		Methylene Chloride	20.000	19.453	2.7	99	0.00
14		Acetone	40.000	38.376	4.1	100	0.00
15		t-1,2-Dichloroethene	20.000	21.696	-8.5	106	0.00
16		n-Hexane	20.000	18.464	7.7	90	0.00
17		Methyl-tert-butyl-ether	20.000	18.684	6.6	100	0.00
18		~~tert-Butanol (TBA)~~	~~1250.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-4.28#~~
19		~~Diisopropyl ether (DIPE)~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-4.51#~~
20	P	1,1-Dichloroethane	20.000	21.397	-7.0	113	0.00
21		Acrylonitrile	20.000	20.543	-2.7	101	0.00
22		~~Ethyl-tert-butyl ether (ETB~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~-4.88#~~
23		c-1,2-Dichloroethene	20.000	20.217	-1.1	105	0.00
24		2,2-Dichloropropane	20.000	17.138	14.3	90	0.00
25		Bromochloromethane	20.000	20.207	-1.0	101	0.00
26	C	Chloroform	20.000	20.211	-1.1	104	0.00
27		Carbon Tetrachloride	20.000	20.003	-0.0	102	0.00
28		Tetrahydrofuran	20.000	18.391	8.0	98	0.00
29		1,1,1-Trichloroethane	20.000	21.703	-8.5	106	0.00
30	S	Dibromofluoromethane (S)	50.000	51.116	-2.2	105	0.00
31		1,1-Dichloropropene	20.000	19.816	0.9	101	0.00
32		2-Butanone (MEK)	40.000	34.686	13.3	98	0.00
33		Benzene	20.000	19.220	3.9	101	0.00
34		~~tert-Amyl methyl ether (TAM~~	~~5.000~~	~~-1.000~~	~~120.0#~~	~~2~~	~~0.00~~
35		1,2-Dichloroethane (EDC)	20.000	20.431	-2.2	101	0.00
36		iso-Butyl Alcohol	500.000	526.419	-5.3	106	-0.01
37	S	1,4-Difluorobenzene (S)	50.000	49.661	0.7	103	0.00
38		Trichloroethene (TCE)	20.000	22.868	-14.3	109	0.00
39		~~tert-Amyl ethyl ether (TAEE~~	~~5.000~~	~~0.000~~	~~100.0#~~	~~0~~	~~6.91#~~
40		Dibromomethane	20.000	19.785	1.1	99	0.00
41	C	1,2-Dichloropropane	20.000	19.922	0.4	101	0.00
42		Bromodichloromethane	20.000	21.139	-5.7	105	0.00
43		Chlorobenzene-d5 (I)	50.000	50.000	0.0	102	0.00
44		c-1,3-Dichloropropene	20.000	20.608	-3.0	99	0.00
45	S	Toluene-d8 (S)	50.000	50.604	-1.2	102	0.00
46	C	Toluene	20.000	19.305	3.5	102	0.00
47		Tetrachloroethene (PCE)	20.000	20.960	-4.8	103	0.00
48		4-Methyl-2-Pentanone (MIBK)	40.000	38.504	3.7	98	0.00
49		t-1,3-Dichloropropene	20.000	20.294	-1.5	102	0.00
50		1,1,2-Trichloroethane	20.000	21.021	-5.1	105	0.00

E05

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 27 15:46:44 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		Dibromochloromethane	20.000	21.231	-6.2	109	0.00
52		1,3-Dichloropropane	20.000	20.342	-1.7	101	0.00
53		1,2-Dibromoethane (EDB)	20.000	20.731	-3.7	102	0.00
54		2-Hexanone	40.000	38.194	4.5	100	0.00
55	P	Chlorobenzene	20.000	20.833	-4.2	102	0.00
56	C	Ethylbenzene	20.000	19.800	1.0	101	0.00
57		1,1,1,2-Tetrachloroethane	20.000	21.470	-7.3	104	0.00
58		m,p-Xylenes (2)	40.000	39.684	0.8	101	0.00
59		o-Xylene	20.000	19.753	1.2	102	0.00
60		Styrene	20.000	20.480	-2.4	103	0.00
61	P	Bromoform	20.000	22.425	-12.1	117	0.00
62		Isopropylbenzene	20.000	20.195	-1.0	101	0.00
63	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	103	0.00
64	S	4-Bromofluorobenzene (S)	50.000	49.460	1.1	102	0.00
65		Bromobenzene	20.000	21.268	-6.3	104	0.00
66		n-Propylbenzene	20.000	19.746	1.3	102	0.00
67	P	1,1,2,2-Tetrachloroethane	20.000	19.805	1.0	99	0.00
68		2-Chlorotoluene	20.000	21.027	-5.1	103	0.00
69		1,3,5-Trimethylbenzene	20.000	20.090	-0.4	103	0.00
70		1,2,3-Trichloropropane	20.000	20.250	-1.3	102	0.00
71		t-1,4-Dichloro-2-butene	20.000	17.675	11.6	94	0.00
72		4-Chlorotoluene	20.000	20.085	-0.4	105	0.00
73		tert-Butylbenzene	20.000	19.357	3.2	101	0.00
74		1,2,4-Trimethylbenzene	20.000	20.205	-1.0	103	0.00
75		sec-Butylbenzene	20.000	20.587	-2.9	104	0.00
76		4-Isopropyltoluene	20.000	20.944	-4.7	105	0.00
77		1,3-Dichlorobenzene	20.000	20.450	-2.2	106	0.00
78		1,4-Dichlorobenzene	20.000	20.809	-4.0	105	0.00
79		n-Butylbenzene	20.000	20.366	-1.8	107	0.00
80		1,2-Dichlorobenzene	20.000	20.804	-4.0	105	0.00
81		1,2-Dibromo-3-Chloropropane	20.000	19.792	1.0	107	0.00
82		Hexachlorobutadiene	20.000	22.969	-14.8	115	0.00
83		1,2,4-Trichlorobenzene	20.000	21.516	-7.6	107	0.00
84		Naphthalene	20.000	21.423	-7.1	106	0.00
85		1,2,3-Trichlorobenzene	20.000	21.585	-7.9	109	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092644.D
Acq On : 27 Sep 2019 4:36 am
Operator : TB
Sample : 9I26051-ICV2
Misc : 1X 5mL OXY ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 27 15:40:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

9/27/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	102	0.00
2		Dichlorodifluoromethane	20.000	0.000	100.0#	0	-1.70#
3	P	Chloromethane	20.000	0.880	95.6#	5	0.00
4	C	Vinyl Chloride	20.000	0.158	99.2#	1	0.00
5		Bromomethane	20.000	3.726	81.4#	30	0.00
6		Chloroethane	20.000	1.803	91.0#	9	0.02
7		Trichlorofluoromethane	20.000	0.000	100.0#	0	-2.60#
8		Ethanol	1250.000	1090.118	12.8	101	0.00
9	C	1,1-Dichloroethene	20.000	0.162	99.2#	1	0.00
10		Carbon Disulfide	20.000	0.495	97.5#	3	0.00
11		Freon 113	20.000	0.041	99.8#	0	0.00
12		Iodomethane	20.000	7.510	62.5#	43	0.00
13		Methylene Chloride	20.000	-1.000	105.0#	10	0.00
14		Acetone	40.000	-0.443	101.1#	4	0.00
15		t-1,2-Dichloroethene	20.000	0.289	98.6#	1	0.00
16		n-Hexane	20.000	0.000	100.0#	0	-4.04#
17		Methyl-tert-butyl-ether	20.000	0.251	98.7#	1	0.00
18		tert-Butanol (TBA)	1250.000	1273.723	-1.9	104	0.00
19		Diisopropyl ether (DIPE)	5.000	5.069	-1.4	110	0.00
20	P	1,1-Dichloroethane	20.000	0.157	99.2#	1	0.00
21		Acrylonitrile	20.000	0.000	100.0#	0	-4.64#
22		Ethyl-tert-butyl ether (ETB	5.000	5.047	-0.9	107	0.00
23		c-1,2-Dichloroethene	20.000	0.212	98.9#	1	0.00
24		2,2-Dichloropropane	20.000	0.170	99.1#	1	0.00
25		Bromochloromethane	20.000	0.037	99.8#	0	0.00
26	C	Chloroform	20.000	0.169	99.2#	1	0.00
27		Carbon Tetrachloride	20.000	0.000	100.0#	0	-5.56#
28		Tetrahydrofuran	20.000	0.255	98.7#	1	0.00
29		1,1,1-Trichloroethane	20.000	0.134	99.3#	1	0.00
30	S	Dibromofluoromethane (S)	50.000	50.764	-1.5	103	0.00
31		1,1-Dichloropropene	20.000	0.285	98.6#	1	0.00
32		2-Butanone (MEK)	40.000	0.587	98.5#	2	0.01
33		Benzene	20.000	0.231	98.8#	1	0.00
34		tert-Amyl methyl ether (TAM	5.000	4.989	0.2	109	0.00
35		1,2-Dichloroethane (EDC)	20.000	0.058	99.7#	0	0.00
36		iso-Butyl Alcohol	500.000	2.778	99.4#	1	0.01
37	S	1,4-Difluorobenzene (S)	50.000	50.038	-0.1	103	0.00
38		Trichloroethene (TCE)	20.000	0.286	98.6#	1	0.00
39		tert-Amyl ethyl ether (TAEE	5.000	4.955	0.9	107	0.00
40		Dibromomethane	20.000	0.000	100.0#	0	-7.07#
41	C	1,2-Dichloropropane	20.000	0.092	99.5#	0	0.00
42		Bromodichloromethane	20.000	0.000	100.0#	0	-7.26#
43		Chlorobenzene-d5 (I)	50.000	50.000	0.0	102	0.00
44		c-1,3-Dichloropropene	20.000	0.152	99.2#	1	0.00
45	S	Toluene-d8 (S)	50.000	50.562	-1.1	101	0.00
46	C	Toluene	20.000	0.245	98.8#	1	0.00
47		Tetrachloroethene (PCE)	20.000	0.269	98.7#	1	0.00
48		4-Methyl-2-Pentanone (MIBK)	40.000	0.017	100.0#	0	0.00
49		t-1,3-Dichloropropene	20.000	0.114	99.4#	1	0.00
50		1,1,2-Trichloroethane	20.000	0.000	100.0#	0	-8.88#

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092644.D
Acq On : 27 Sep 2019 4:36 am
Operator : TB
Sample : 9I26051-ICV2
Misc : 1X 5mL OXY ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 27 15:40:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		Dibromochloromethane	20.000	0.000	100.0#	0	-9.07#
52		1,3-Dichloropropane	20.000	0.047	99.8#	0	0.00
53		1,2-Dibromoethane (EDB)	20.000	0.000	100.0#	0	-9.31#
54		2-Hexanone	40.000	0.046	99.9#	0	0.00
55	P	Chlorobenzene	20.000	0.253	98.7#	1	0.00
56	C	Ethylbenzene	20.000	0.253	98.7#	1	0.00
57		1,1,1,2-Tetrachloroethane	20.000	0.038	99.8#	0	-0.01
58		m,p-Xylenes (2)	40.000	0.562	98.6#	1	0.00
59		o-Xylene	20.000	0.241	98.8#	1	0.00
60		Styrene	20.000	0.213	98.9#	1	0.00
61	P	Bromoform	20.000	0.000	100.0#	0	-10.45#
62		Isopropylbenzene	20.000	0.257	98.7#	1	0.00
63	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	96	0.00
64	S	4-Bromofluorobenzene (S)	50.000	51.994	-4.0	100	0.00
65		Bromobenzene	20.000	0.223	98.9#	1	0.00
66		n-Propylbenzene	20.000	0.361	98.2#	2	0.00
67	P	1,1,2,2-Tetrachloroethane	20.000	0.053	99.7#	0	0.00
68		2-Chlorotoluene	20.000	0.282	98.6#	1	0.00
69		1,3,5-Trimethylbenzene	20.000	0.298	98.5#	1	0.00
70		1,2,3-Trichloropropane	20.000	0.000	100.0#	0	-11.16#
71		t-1,4-Dichloro-2-butene	20.000	0.000	100.0#	0	-11.19#
72		4-Chlorotoluene	20.000	0.367	98.2#	2	0.00
73		tert-Butylbenzene	20.000	0.248	98.8#	1	0.00
74		1,2,4-Trimethylbenzene	20.000	0.334	98.3#	2	0.00
75		sec-Butylbenzene	20.000	0.333	98.3#	2	0.00
76		4-Isopropyltoluene	20.000	0.395	98.0#	2	0.00
77		1,3-Dichlorobenzene	20.000	0.407	98.0#	2	0.00
78		1,4-Dichlorobenzene	20.000	0.405	98.0#	2	0.00
79		n-Butylbenzene	20.000	0.498	97.5#	2	0.00
80		1,2-Dichlorobenzene	20.000	0.260	98.7#	1	0.00
81		1,2-Dibromo-3-Chloropropane	20.000	0.000	100.0#	0	-12.70#
82		Hexachlorobutadiene	20.000	0.705	96.5#	3	0.00
83		1,2,4-Trichlorobenzene	20.000	0.592	97.0#	3	0.00
84		Naphthalene	20.000	0.220	98.9#	1	0.00
85		1,2,3-Trichlorobenzene	20.000	0.462	97.7#	2	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

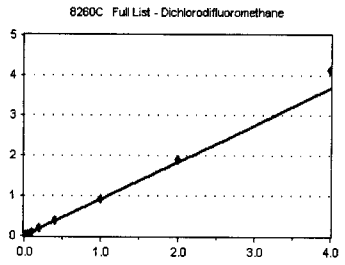
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Dichlorodifluoromethane

Curve Fit: **AVERAGE RF**

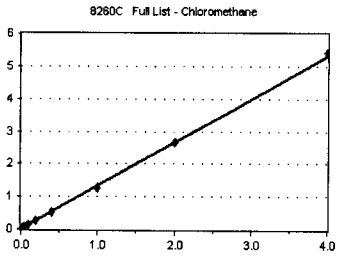


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	1	1395	0.851	1.70
9I26051-CAL5	2	2407	0.744	1.69
9I26051-CAL6	5	7777	0.941	1.70
9I26051-CAL7	10	15186	0.942	1.69
9I26051-CAL8	20	32574	0.967	1.70
9I26051-CAL9	50	80374	0.913	1.69
9I26051-CALA	100	165982	0.949	1.69
9I26051-CALB	200	361804	1.031	1.70

AVE RF **0.917** RF RSD **9.39** AVE RT **1.69**

Chloromethane

Curve Fit: **AVERAGE RF**

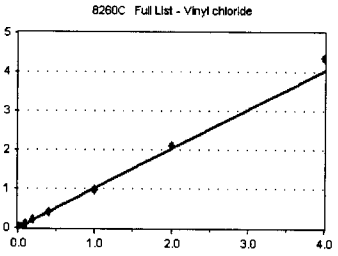


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~1044~~	~~3.127~~	~~1.89~~
~~9I26051-CAL3~~	~~0.4~~	~~1467~~	~~2.171~~	~~1.90~~
9I26051-CAL4	1	2599	1.585	1.90
9I26051-CAL5	2	4009	1.239	1.89
9I26051-CAL6	5	10328	1.250	1.90
9I26051-CAL7	10	21347	1.324	1.90
9I26051-CAL8	20	43595	1.294	1.90
9I26051-CAL9	50	110944	1.260	1.90
9I26051-CALA	100	232480	1.329	1.90
9I26051-CALB	200	475243	1.354	1.90

AVE RF **1.329** RF RSD **8.36** AVE RT **1.90**

Vinyl chloride

Curve Fit: **AVERAGE RF**

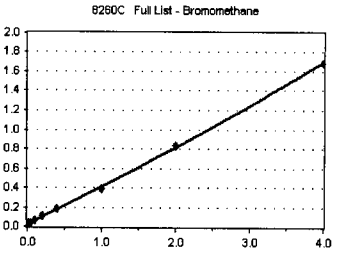


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	708	1.048	2.00
9I26051-CAL4	1	1578	0.962	2.01
9I26051-CAL5	2	3030	0.937	1.99
9I26051-CAL6	5	7983	0.966	2.01
9I26051-CAL7	10	16459	1.021	2.01
9I26051-CAL8	20	34233	1.016	2.01
9I26051-CAL9	50	86780	0.985	2.00
9I26051-CALA	100	185157	1.059	2.00
9I26051-CALB	200	382094	1.088	2.00

AVE RF **1.009** RF RSD **4.99** AVE RT **2.00**

Bromomethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~2014~~	~~11.835~~	~~2.34~~
~~9I26051-CAL2~~	~~0.2~~	~~2043~~	~~6.119~~	~~2.34~~
~~9I26051-CAL3~~	~~0.4~~	~~2374~~	~~3.513~~	~~2.34~~
9I26051-CAL4	1	2822	1.721	2.35
9I26051-CAL5	2	2937	0.908	2.34
9I26051-CAL6	5	5311	0.643	2.35
9I26051-CAL7	10	8414	0.522	2.35
9I26051-CAL8	20	15032	0.446	2.35
9I26051-CAL9	50	34647	0.393	2.34
9I26051-CALA	100	72442	0.414	2.34
9I26051-CALB	200	148437	0.423	2.35

AVE RF **0.684** RF RSD **66.23** AVE RT **2.35**

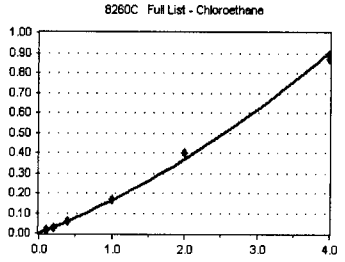
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Chloroethane

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

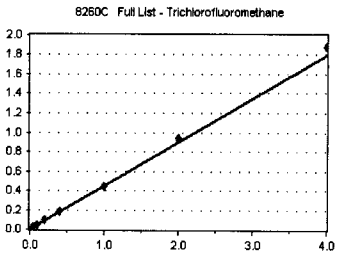


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL5~~	~~2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL6	5	1284	0.155	2.47
9I26051-CAL7	10	2040	0.127	2.46
9I26051-CAL8	20	5042	0.150	2.47
9I26051-CAL9	50	14728	0.167	2.47
9I26051-CALA	100	35122	0.201	2.47
9I26051-CALB	200	76606	0.218	2.48

AVE RF **0.170** RF RSD **20.08** AVE RT **2.47**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

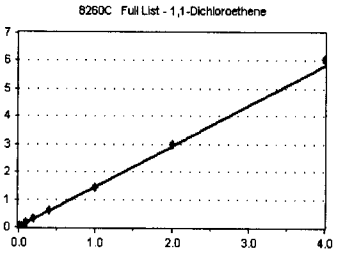


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL5	2	1366	0.422	2.59
9I26051-CAL6	5	3460	0.419	2.60
9I26051-CAL7	10	7442	0.462	2.60
9I26051-CAL8	20	15256	0.453	2.60
9I26051-CAL9	50	39290	0.446	2.60
9I26051-CALA	100	82683	0.473	2.60
9I26051-CALB	200	165428	0.471	2.60

AVE RF **0.449** RF RSD **4.86** AVE RT **2.60**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

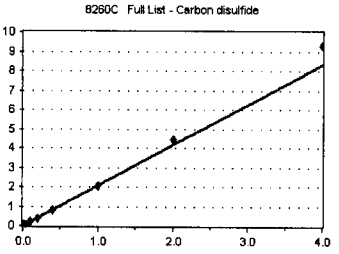


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	507	1.519	3.14
9I26051-CAL3	0.4	958	1.418	3.14
9I26051-CAL4	1	2333	1.423	3.15
9I26051-CAL5	2	4576	1.414	3.13
9I26051-CAL6	5	11926	1.444	3.15
9I26051-CAL7	10	23758	1.473	3.14
9I26051-CAL8	20	49575	1.471	3.14
9I26051-CAL9	50	126525	1.437	3.14
9I26051-CALA	100	260855	1.492	3.14
9I26051-CALB	200	532245	1.516	3.15

AVE RF **1.461** RF RSD **2.69** AVE RT **3.14**

Carbon disulfide

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	822	2.462	3.15
9I26051-CAL3	0.4	1342	1.986	3.15
9I26051-CAL4	1	3107	1.895	3.16
9I26051-CAL5	2	6011	1.858	3.15
9I26051-CAL6	5	16321	1.976	3.16
9I26051-CAL7	10	32614	2.023	3.15
9I26051-CAL8	20	68694	2.039	3.15
9I26051-CAL9	50	180413	2.049	3.15
9I26051-CALA	100	389633	2.228	3.15
9I26051-CALB	200	813775	2.318	3.15

AVE RF **2.083** RF RSD **9.24** AVE RT **3.15**

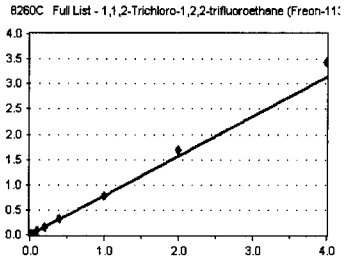
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

1,1,2-Trichloro-1,2,2-trifluoroeth

Curve Fit: **AVERAGE RF**

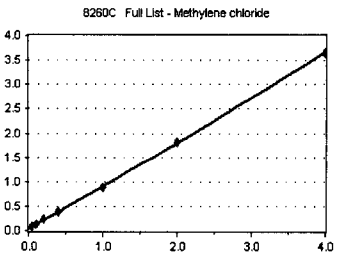


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	422	0.624	3.20
9I26051-CAL4	1	1302	0.794	3.20
9I26051-CAL5	2	2441	0.755	3.19
9I26051-CAL6	5	6278	0.760	3.20
9I26051-CAL7	10	13011	0.807	3.20
9I26051-CAL8	20	27543	0.818	3.19
9I26051-CAL9	50	69489	0.789	3.19
9I26051-CALA	100	147776	0.845	3.19
9I26051-CALB	200	301617	0.859	3.20

AVE RF **0.783** RF RSD **8.80** AVE RT **3.20**

Methylene chloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

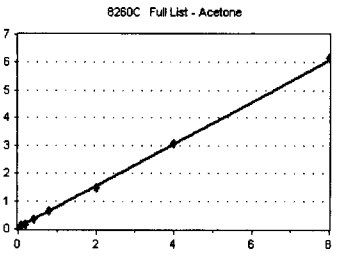


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~2577~~	~~15.144~~	~~3.78~~
~~9I26051-CAL2~~	~~0.2~~	~~4596~~	~~13.766~~	~~3.78~~
~~9I26051-CAL3~~	~~0.4~~	~~4661~~	~~6.897~~	~~3.78~~
~~9I26051-CAL4~~	~~1~~	~~3800~~	~~2.318~~	~~3.78~~
9I26051-CAL5	2	6720	2.077	3.78
9I26051-CAL6	5	11168	1.352	3.78
9I26051-CAL7	10	18608	1.154	3.78
9I26051-CAL8	20	33415	0.992	3.78
9I26051-CAL9	50	77692	0.882	3.78
9I26051-CALA	100	159473	0.912	3.78
9I26051-CALB	200	321520	0.916	3.78

AVE RF **1.184** RF RSD **36.19** AVE RT **3.78**

Acetone

Curve Fit: **LINEAR: Weighting: (1/a), Origin: Ignore**

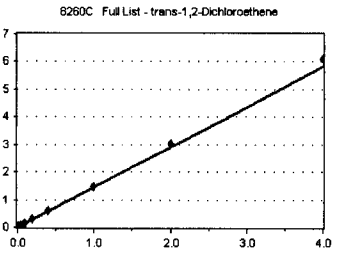


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL4~~	~~2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL5	4	8350	1.291	3.87
9I26051-CAL6	10	13465	0.815	3.88
9I26051-CAL7	20	28539	0.885	3.88
9I26051-CAL8	40	52930	0.786	3.88
9I26051-CAL9	100	128682	0.731	3.88
9I26051-CALA	200	267638	0.765	3.87
9I26051-CALB	400	540074	0.769	3.88

AVE RF **0.863** RF RSD **22.56** AVE RT **3.88**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	462	1.384	3.95
9I26051-CAL3	0.4	844	1.249	3.95
9I26051-CAL4	1	2257	1.376	3.95
9I26051-CAL5	2	4912	1.518	3.94
9I26051-CAL6	5	12117	1.467	3.95
9I26051-CAL7	10	24655	1.529	3.95
9I26051-CAL8	20	51376	1.525	3.95
9I26051-CAL9	50	128795	1.462	3.95
9I26051-CALA	100	264663	1.514	3.95
9I26051-CALB	200	533073	1.518	3.95

AVE RF **1.454** RF RSD **6.31** AVE RT **3.95**

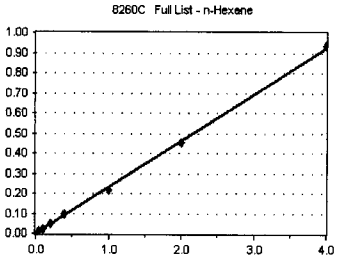
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

n-Hexane

Curve Fit: **AVERAGE RF**

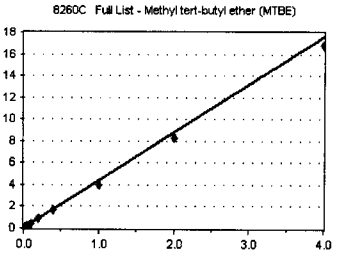


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL4~~	~~1~~	~~420~~	~~0.256~~	~~4.04~~
9I26051-CAL5	2	754	0.233	4.03
9I26051-CAL6	5	1898	0.230	4.05
9I26051-CAL7	10	3777	0.234	4.05
9I26051-CAL8	20	8248	0.245	4.04
9I26051-CAL9	50	18920	0.215	4.04
9I26051-CALA	100	39871	0.228	4.05
9I26051-CALB	200	82276	0.234	4.05

AVE RF **0.231** RF RSD **3.90** AVE RT **4.04**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

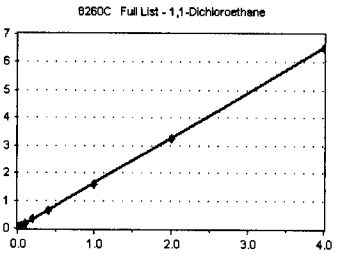


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	3475	5.142	4.11
9I26051-CAL4	1	8067	4.920	4.12
9I26051-CAL5	2	14610	4.516	4.11
9I26051-CAL6	5	33952	4.110	4.12
9I26051-CAL7	10	69438	4.306	4.12
9I26051-CAL8	20	141796	4.209	4.11
9I26051-CAL9	50	353962	4.019	4.11
9I26051-CALA	100	726160	4.153	4.11
9I26051-CALB	200	1479305	4.214	4.11

AVE RF **4.399** RF RSD **8.82** AVE RT **4.11**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

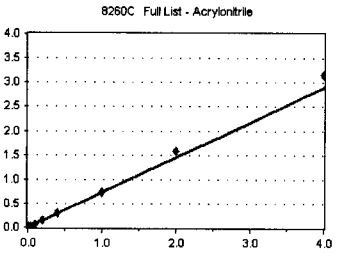


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	622	1.863	4.59
9I26051-CAL3	0.4	1089	1.612	4.59
9I26051-CAL4	1	2592	1.581	4.58
9I26051-CAL5	2	5221	1.614	4.58
9I26051-CAL6	5	13288	1.609	4.59
9I26051-CAL7	10	26789	1.661	4.59
9I26051-CAL8	20	53896	1.600	4.58
9I26051-CAL9	50	139892	1.588	4.58
9I26051-CALA	100	284678	1.628	4.58
9I26051-CALB	200	572397	1.631	4.59

AVE RF **1.639** RF RSD **5.01** AVE RT **4.58**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	1	954	0.582	4.64
9I26051-CAL5	2	1969	0.609	4.63
9I26051-CAL6	5	6000	0.726	4.65
9I26051-CAL7	10	12807	0.794	4.65
9I26051-CAL8	20	25339	0.752	4.64
9I26051-CAL9	50	65047	0.739	4.64
9I26051-CALA	100	137247	0.785	4.64
9I26051-CALB	200	276579	0.788	4.64

AVE RF **0.722** RF RSD **11.38** AVE RT **4.64**

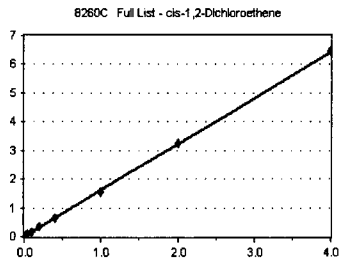
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

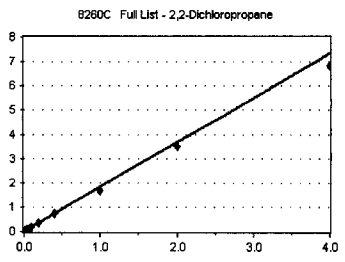


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	609	1.824	5.13
9I26051-CAL3	0.4	933	1.381	5.13
9I26051-CAL4	1	2632	1.605	5.13
9I26051-CAL5	2	5194	1.606	5.13
9I26051-CAL6	5	13062	1.581	5.13
9I26051-CAL7	10	27201	1.687	5.13
9I26051-CAL8	20	53679	1.593	5.13
9I26051-CAL9	50	137723	1.564	5.13
9I26051-CALA	100	284599	1.628	5.13
9I26051-CALB	200	569504	1.622	5.13

AVE RF **1.609** RF RSD **6.81** AVE RT **5.13**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

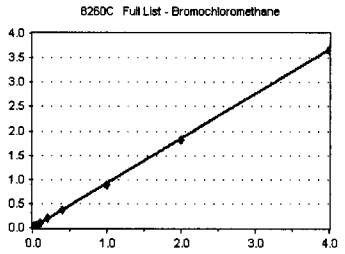


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	1479	2.189	5.24
9I26051-CAL4	1	3177	1.938	5.24
9I26051-CAL5	2	6209	1.919	5.24
9I26051-CAL6	5	14543	1.761	5.24
9I26051-CAL7	10	29404	1.824	5.24
9I26051-CAL8	20	60427	1.794	5.24
9I26051-CAL9	50	148869	1.690	5.24
9I26051-CALA	100	305440	1.747	5.24
9I26051-CALB	200	598046	1.704	5.24

AVE RF **1.840** RF RSD **8.50** AVE RT **5.24**

Bromochloromethane

Curve Fit: **AVERAGE RF**

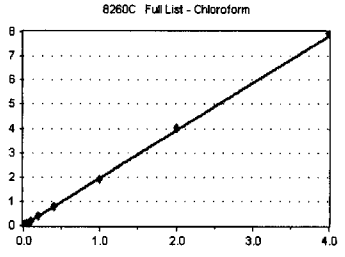


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	606	0.897	5.34
9I26051-CAL4	1	1510	0.921	5.34
9I26051-CAL5	2	2920	0.903	5.34
9I26051-CAL6	5	7462	0.903	5.34
9I26051-CAL7	10	16085	0.998	5.34
9I26051-CAL8	20	31790	0.944	5.34
9I26051-CAL9	50	78798	0.895	5.34
9I26051-CALA	100	159504	0.912	5.34
9I26051-CALB	200	319850	0.911	5.34

AVE RF **0.920** RF RSD **3.54** AVE RT **5.34**

Chloroform

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	731	2.189	5.43
9I26051-CAL3	0.4	1259	1.863	5.43
9I26051-CAL4	1	3029	1.847	5.42
9I26051-CAL5	2	6073	1.877	5.42
9I26051-CAL6	5	15960	1.932	5.42
9I26051-CAL7	10	32742	2.031	5.42
9I26051-CAL8	20	66134	1.963	5.42
9I26051-CAL9	50	167945	1.907	5.42
9I26051-CALA	100	352255	2.014	5.42
9I26051-CALB	200	699080	1.991	5.42

AVE RF **1.962** RF RSD **5.21** AVE RT **5.42**

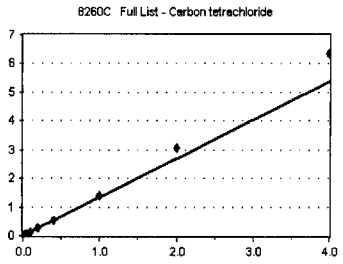
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Carbon tetrachloride

Curve Fit: **AVERAGE RF**

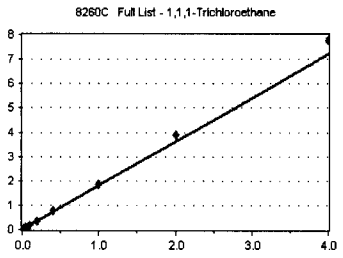


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~370~~	~~1.108~~	~~5.56~~
~~9I26051-CAL3~~	~~0.4~~	~~711~~	~~1.052~~	~~5.56~~
9I26051-CAL4	1	2021	1.233	5.57
9I26051-CAL5	2	3787	1.171	5.56
9I26051-CAL6	5	10019	1.213	5.56
9I26051-CAL7	10	20786	1.289	5.56
9I26051-CAL8	20	45804	1.360	5.56
9I26051-CAL9	50	122184	1.387	5.56
9I26051-CALA	100	267011	1.527	5.56
9I26051-CALB	200	557712	1.589	5.56

AVE RF **1.346** RF RSD **11.17** AVE RT **5.56**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**

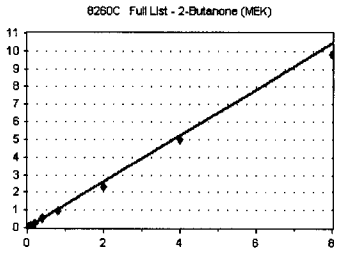


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	447	1.339	5.62
9I26051-CAL3	0.4	1203	1.780	5.63
9I26051-CAL4	1	3061	1.867	5.62
9I26051-CAL5	2	5828	1.801	5.62
9I26051-CAL6	5	14839	1.796	5.63
9I26051-CAL7	10	29578	1.834	5.63
9I26051-CAL8	20	64265	1.908	5.63
9I26051-CAL9	50	163298	1.854	5.63
9I26051-CALA	100	341926	1.955	5.63
9I26051-CALB	200	682795	1.945	5.63

AVE RF **1.808** RF RSD **9.72** AVE RT **5.63**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**

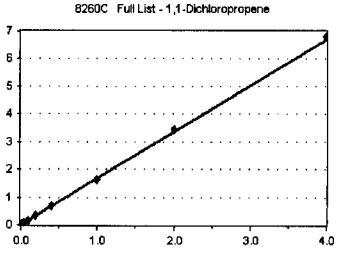


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	2	5626	1.716	5.75
9I26051-CAL5	4	9277	1.434	5.74
9I26051-CAL6	10	20088	1.216	5.74
9I26051-CAL7	20	40941	1.270	5.75
9I26051-CAL8	40	80216	1.190	5.74
9I26051-CAL9	100	203004	1.153	5.74
9I26051-CALA	200	436266	1.247	5.74
9I26051-CALB	400	859752	1.225	5.74

AVE RF **1.306** RF RSD **14.19** AVE RT **5.74**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	1088	1.610	5.76
9I26051-CAL4	1	2801	1.708	5.76
9I26051-CAL5	2	5503	1.701	5.75
9I26051-CAL6	5	13524	1.637	5.76
9I26051-CAL7	10	26315	1.632	5.76
9I26051-CAL8	20	56524	1.678	5.76
9I26051-CAL9	50	143921	1.634	5.76
9I26051-CALA	100	301123	1.722	5.76
9I26051-CALB	200	598593	1.705	5.76

AVE RF **1.670** RF RSD **2.49** AVE RT **5.76**

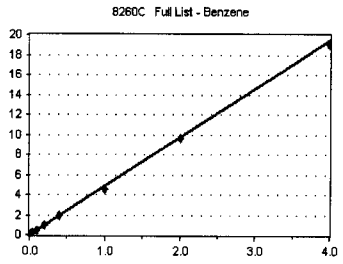
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Benzene

Curve Fit: **AVERAGE RF**

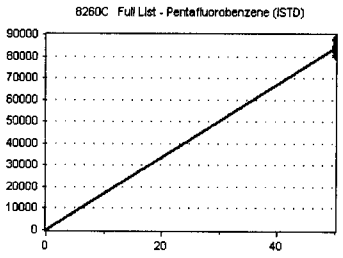


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	929	5.459	6.01
9I26051-CAL2	0.2	1839	5.508	6.01
9I26051-CAL3	0.4	3388	5.014	6.00
9I26051-CAL4	1	7846	4.785	6.01
9I26051-CAL5	2	15470	4.782	6.00
9I26051-CAL6	5	37138	4.496	6.01
9I26051-CAL7	10	76211	4.726	6.01
9I26051-CAL8	20	160743	4.771	6.01
9I26051-CAL9	50	396436	4.502	6.01
9I26051-CALA	100	839847	4.803	6.01
9I26051-CALB	200	1669999	4.757	6.01

AVE RF **4.873** RF RSD **6.85** AVE RT **6.01**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

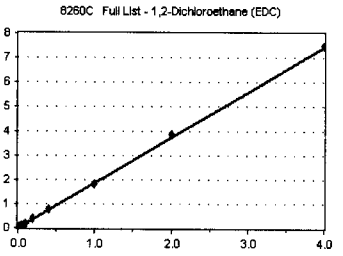


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	85083	1701.660	6.10
9I26051-CAL2	50	83469	1669.380	6.10
9I26051-CAL3	50	84470	1689.400	6.10
9I26051-CAL4	50	81984	1639.680	6.10
9I26051-CAL5	50	80878	1617.560	6.09
9I26051-CAL6	50	82605	1652.100	6.10
9I26051-CAL7	50	80621	1612.420	6.10
9I26051-CAL8	50	84226	1684.520	6.10
9I26051-CAL9	50	88066	1761.320	6.10
9I26051-CALA	50	87434	1748.680	6.10
9I26051-CALB	50	87764	1755.280	6.10

AVE RF **1684.727** RF RSD **3.16** AVE RT **6.10**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**

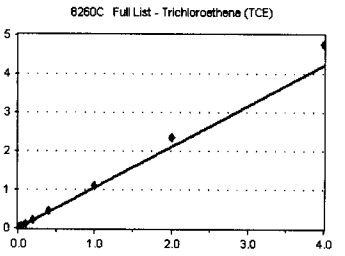


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	1178	1.743	6.21
9I26051-CAL4	1	2955	1.802	6.22
9I26051-CAL5	2	6019	1.861	6.21
9I26051-CAL6	5	15109	1.829	6.22
9I26051-CAL7	10	31858	1.976	6.22
9I26051-CAL8	20	65007	1.930	6.22
9I26051-CAL9	50	160338	1.821	6.21
9I26051-CALA	100	336326	1.923	6.21
9I26051-CALB	200	658074	1.875	6.22

AVE RF **1.862** RF RSD **3.89** AVE RT **6.21**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	227	0.680	6.63
9I26051-CAL3	0.4	616	0.912	6.63
9I26051-CAL4	1	1660	1.012	6.63
9I26051-CAL5	2	3608	1.115	6.63
9I26051-CAL6	5	9083	1.100	6.63
9I26051-CAL7	10	18272	1.133	6.62
9I26051-CAL8	20	38197	1.134	6.63
9I26051-CAL9	50	96909	1.100	6.63
9I26051-CALA	100	206156	1.179	6.63
9I26051-CALB	200	417510	1.189	6.63

AVE RF **1.055** RF RSD **14.69** AVE RT **6.63**

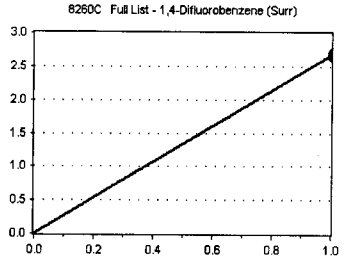
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

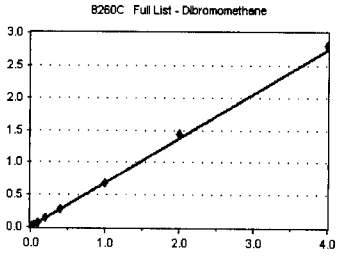


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	230170	2.705	6.66
9I26051-CAL2	50	225508	2.702	6.66
9I26051-CAL3	50	226191	2.678	6.66
9I26051-CAL4	50	217352	2.651	6.66
9I26051-CAL5	50	215594	2.666	6.66
9I26051-CAL6	50	218916	2.650	6.66
9I26051-CAL7	50	212867	2.640	6.66
9I26051-CAL8	50	222976	2.647	6.66
9I26051-CAL9	50	234393	2.662	6.66
9I26051-CALA	50	233929	2.675	6.66
9I26051-CALB	50	237056	2.701	6.66

AVE RF **2.671** RF RSD **0.88** AVE RT **6.66**

Dibromomethane

Curve Fit: **AVERAGE RF**

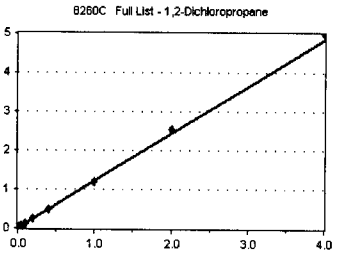


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~307~~	~~0.454~~	~~7.07~~
9I26051-CAL4	1	965	0.589	7.07
9I26051-CAL5	2	2282	0.705	7.06
9I26051-CAL6	5	5570	0.674	7.08
9I26051-CAL7	10	11394	0.707	7.07
9I26051-CAL8	20	23659	0.702	7.07
9I26051-CAL9	50	59717	0.678	7.07
9I26051-CALA	100	126198	0.722	7.07
9I26051-CALB	200	246771	0.703	7.07

AVE RF **0.685** RF RSD **6.12** AVE RT **7.07**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

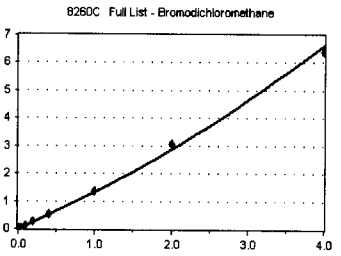


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	782	1.157	7.18
9I26051-CAL4	1	1993	1.215	7.18
9I26051-CAL5	2	3788	1.171	7.18
9I26051-CAL6	5	9704	1.175	7.18
9I26051-CAL7	10	19994	1.240	7.18
9I26051-CAL8	20	41500	1.232	7.18
9I26051-CAL9	50	104745	1.189	7.18
9I26051-CALA	100	222657	1.273	7.18
9I26051-CALB	200	438077	1.248	7.18

AVE RF **1.211** RF RSD **3.30** AVE RT **7.18**

Bromodichloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	528	0.781	7.25
9I26051-CAL4	1	1688	1.029	7.26
9I26051-CAL5	2	3441	1.064	7.25
9I26051-CAL6	5	8928	1.081	7.26
9I26051-CAL7	10	19966	1.238	7.26
9I26051-CAL8	20	43276	1.285	7.26
9I26051-CAL9	50	118981	1.351	7.25
9I26051-CALA	100	268967	1.538	7.25
9I26051-CALB	200	560307	1.596	7.26

AVE RF **1.218** RF RSD **21.26** AVE RT **7.25**

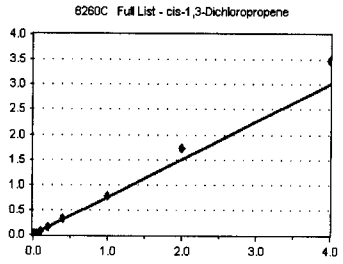
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

cis-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

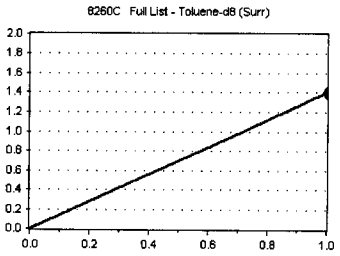


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	424	0.534	7.96
9I26051-CAL3	0.4	1074	0.678	7.96
9I26051-CAL4	1	2900	0.753	7.96
9I26051-CAL5	2	5722	0.745	7.96
9I26051-CAL6	5	13551	0.709	7.96
9I26051-CAL7	10	29366	0.789	7.96
9I26051-CAL8	20	62124	0.799	7.96
9I26051-CAL9	50	162503	0.788	7.96
9I26051-CALA	100	353925	0.866	7.96
9I26051-CALB	200	710362	0.869	7.96

AVE RF **0.753** RF RSD **13.01** AVE RT **7.96**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

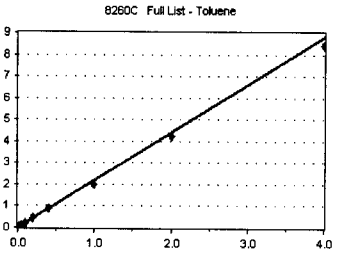


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	281171	1.399	8.18
9I26051-CAL2	50	276884	1.395	8.18
9I26051-CAL3	50	276952	1.399	8.18
9I26051-CAL4	50	268905	1.397	8.18
9I26051-CAL5	50	265160	1.382	8.18
9I26051-CAL6	50	268875	1.406	8.18
9I26051-CAL7	50	262548	1.411	8.18
9I26051-CAL8	50	276211	1.422	8.18
9I26051-CAL9	50	288797	1.400	8.18
9I26051-CALA	50	286934	1.404	8.18
9I26051-CALB	50	287974	1.409	8.18

AVE RF **1.402** RF RSD **0.73** AVE RT **8.18**

Toluene

Curve Fit: **AVERAGE RF**

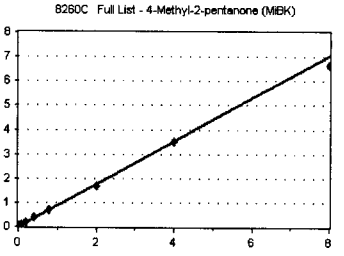


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	1040	2.587	8.24
9I26051-CAL2	0.2	1992	2.509	8.24
9I26051-CAL3	0.4	3563	2.250	8.24
9I26051-CAL4	1	8435	2.190	8.24
9I26051-CAL5	2	16529	2.153	8.23
9I26051-CAL6	5	38895	2.034	8.24
9I26051-CAL7	10	79804	2.144	8.24
9I26051-CAL8	20	166207	2.139	8.24
9I26051-CAL9	50	414816	2.011	8.24
9I26051-CALA	100	863625	2.113	8.24
9I26051-CALB	200	1715656	2.099	8.24

AVE RF **2.203** RF RSD **8.35** AVE RT **8.24**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.8	3017	0.953	8.68
9I26051-CAL4	2	6953	0.903	8.68
9I26051-CAL5	4	13755	0.896	8.68
9I26051-CAL6	10	31569	0.825	8.68
9I26051-CAL7	20	69718	0.937	8.68
9I26051-CAL8	40	138153	0.889	8.68
9I26051-CAL9	100	344303	0.835	8.68
9I26051-CALA	200	720189	0.881	8.68
9I26051-CALB	400	1363153	0.834	8.68

AVE RF **0.884** RF RSD **5.13** AVE RT **8.68**

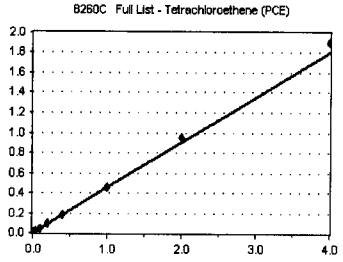
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

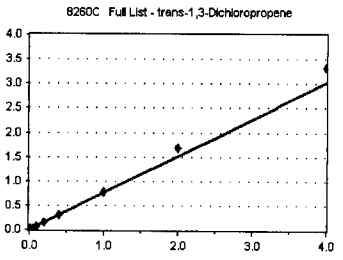


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	566	0.357	8.68
9I26051-CAL4	1	1713	0.445	8.69
9I26051-CAL5	2	3405	0.444	8.69
9I26051-CAL6	5	8724	0.456	8.69
9I26051-CAL7	10	17871	0.480	8.68
9I26051-CAL8	20	36365	0.468	8.68
9I26051-CAL9	50	93225	0.452	8.68
9I26051-CALA	100	193661	0.474	8.68
9I26051-CALB	200	388598	0.475	8.68

AVE RF **0.450** RF RSD **8.28** AVE RT **8.68**

trans-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

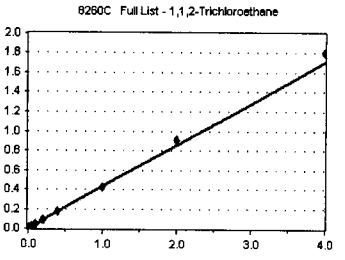


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	1076	0.680	8.71
9I26051-CAL4	1	2780	0.722	8.71
9I26051-CAL5	2	5491	0.715	8.71
9I26051-CAL6	5	13406	0.701	8.71
9I26051-CAL7	10	28378	0.762	8.71
9I26051-CAL8	20	60103	0.773	8.71
9I26051-CAL9	50	158766	0.770	8.71
9I26051-CALA	100	344644	0.843	8.71
9I26051-CALB	200	681628	0.834	8.71

AVE RF **0.756** RF RSD **7.53** AVE RT **8.71**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**

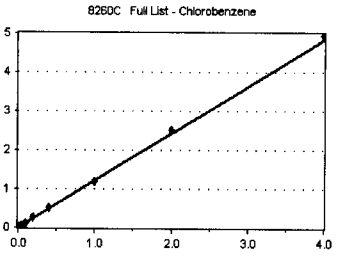


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	266	0.335	8.88
9I26051-CAL3	0.4	680	0.429	8.88
9I26051-CAL4	1	1642	0.426	8.88
9I26051-CAL5	2	3449	0.449	8.88
9I26051-CAL6	5	8022	0.419	8.88
9I26051-CAL7	10	16739	0.450	8.88
9I26051-CAL8	20	33910	0.436	8.88
9I26051-CAL9	50	86973	0.422	8.88
9I26051-CALA	100	185564	0.454	8.88
9I26051-CALB	200	368854	0.451	8.88

AVE RF **0.427** RF RSD **8.17** AVE RT **8.88**

Chlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	362	0.900	0.00
9I26051-CAL2	0.2	972	1.224	9.83
9I26051-CAL3	0.4	1986	1.254	9.83
9I26051-CAL4	1	4686	1.217	9.82
9I26051-CAL5	2	9732	1.268	9.83
9I26051-CAL6	5	23005	1.203	9.83
9I26051-CAL7	10	47850	1.286	9.83
9I26051-CAL8	20	98547	1.268	9.83
9I26051-CAL9	50	247216	1.198	9.83
9I26051-CALA	100	513937	1.257	9.83
9I26051-CALB	200	1010988	1.237	9.83

AVE RF **1.210** RF RSD **8.81** AVE RT **8.94**

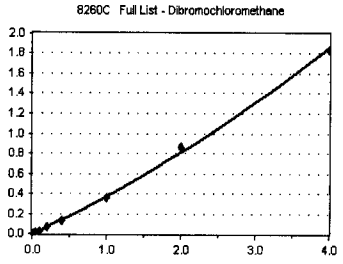
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Dibromochloromethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

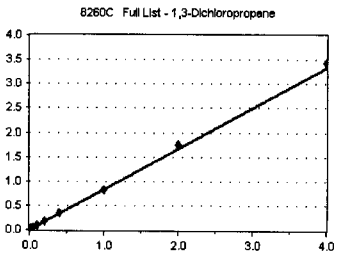


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	1	821	0.213	9.07
9I26051-CAL5	2	1996	0.260	9.08
9I26051-CAL6	5	4814	0.252	9.08
9I26051-CAL7	10	11509	0.309	9.08
9I26051-CAL8	20	24936	0.321	9.07
9I26051-CAL9	50	74074	0.359	9.07
9I26051-CALA	100	175802	0.430	9.07
9I26051-CALB	200	376420	0.461	9.07

AVE RF **0.326** RF RSD **26.71** AVE RT **9.07**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

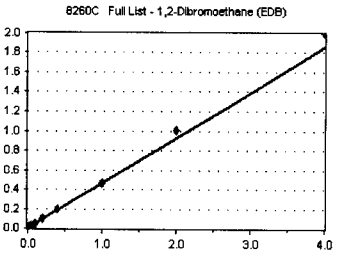


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	584	0.736	9.16
9I26051-CAL3	0.4	1225	0.774	9.17
9I26051-CAL4	1	3103	0.806	9.17
9I26051-CAL5	2	6858	0.893	9.17
9I26051-CAL6	5	15269	0.798	9.17
9I26051-CAL7	10	33253	0.893	9.17
9I26051-CAL8	20	66481	0.855	9.17
9I26051-CAL9	50	168512	0.817	9.17
9I26051-CALA	100	359607	0.880	9.17
9I26051-CALB	200	703679	0.861	9.17

AVE RF **0.831** RF RSD **6.46** AVE RT **9.17**

1,2-Dibromoethane (EDB)

Curve Fit: **AVERAGE RF**

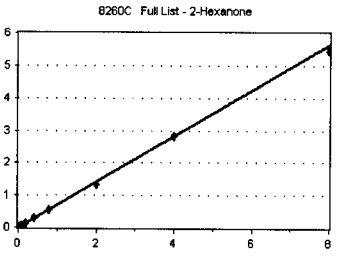


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	601	0.380	9.31
9I26051-CAL4	1	1656	0.430	9.31
9I26051-CAL5	2	3632	0.473	9.31
9I26051-CAL6	5	8459	0.442	9.31
9I26051-CAL7	10	18498	0.497	9.31
9I26051-CAL8	20	37447	0.482	9.31
9I26051-CAL9	50	96020	0.465	9.31
9I26051-CALA	100	206062	0.504	9.31
9I26051-CALB	200	408690	0.500	9.31

AVE RF **0.464** RF RSD **8.74** AVE RT **9.31**

2-Hexanone

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.4	1415	0.891	9.56
9I26051-CAL3	0.8	2359	0.745	9.55
9I26051-CAL4	2	5387	0.699	9.55
9I26051-CAL5	4	9874	0.643	9.55
9I26051-CAL6	10	24240	0.634	9.55
9I26051-CAL7	20	52678	0.708	9.55
9I26051-CAL8	40	106926	0.688	9.55
9I26051-CAL9	100	272153	0.660	9.55
9I26051-CALA	200	574722	0.703	9.55
9I26051-CALB	400	1112936	0.681	9.55

AVE RF **0.705** RF RSD **10.37** AVE RT **9.55**

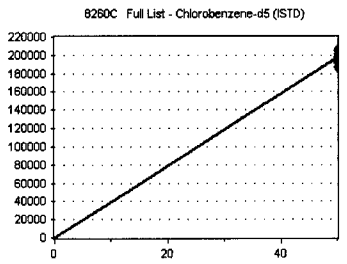
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

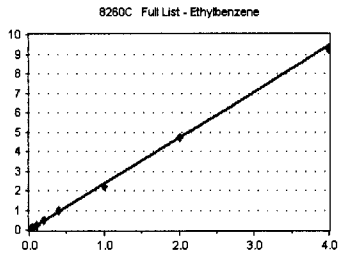


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	201011	4020.220	9.81
9I26051-CAL2	50	198493	3969.860	9.81
9I26051-CAL3	50	197907	3958.140	9.81
9I26051-CAL4	50	192549	3850.980	9.81
9I26051-CAL5	50	191897	3837.940	9.81
9I26051-CAL6	50	191233	3824.660	9.81
9I26051-CAL7	50	186111	3722.220	9.81
9I26051-CAL8	50	194298	3885.960	9.81
9I26051-CAL9	50	206278	4125.560	9.81
9I26051-CALA	50	204365	4087.300	9.81
9I26051-CALB	50	204350	4087.000	9.81

AVE RF **3942.713** RF RSD **3.28** AVE RT **9.81**

Ethylbenzene

Curve Fit: **AVERAGE RF**

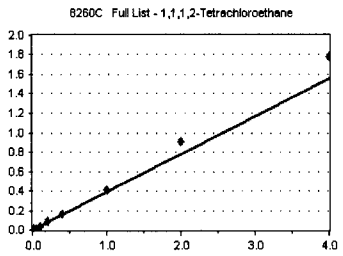


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	1042	2.592	9.86
9I26051-CAL2	0.2	2060	2.595	9.87
9I26051-CAL3	0.4	3745	2.365	9.86
9I26051-CAL4	1	8628	2.240	9.87
9I26051-CAL5	2	17794	2.318	9.86
9I26051-CAL6	5	42121	2.203	9.86
9I26051-CAL7	10	88556	2.379	9.87
9I26051-CAL8	20	184475	2.374	9.87
9I26051-CAL9	50	459802	2.229	9.86
9I26051-CALA	100	957875	2.344	9.86
9I26051-CALB	200	1886129	2.307	9.87

AVE RF **2.359** RF RSD **5.53** AVE RT **9.86**

1,1,1,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

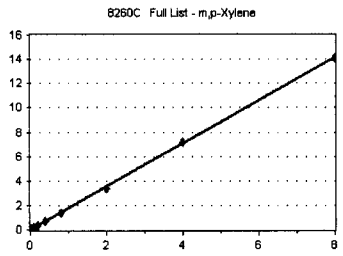


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	448	0.283	9.89
9I26051-CAL4	1	1424	0.370	9.89
9I26051-CAL5	2	2840	0.370	9.89
9I26051-CAL6	5	6772	0.354	9.89
9I26051-CAL7	10	15195	0.408	9.89
9I26051-CAL8	20	31953	0.411	9.89
9I26051-CAL9	50	85576	0.415	9.89
9I26051-CALA	100	184671	0.452	9.89
9I26051-CALB	200	364099	0.445	9.89

AVE RF **0.390** RF RSD **13.41** AVE RT **9.89**

m,p-Xylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.2	1555	1.934	10.00
9I26051-CAL2	0.4	3044	1.917	10.00
9I26051-CAL3	0.8	5405	1.707	10.00
9I26051-CAL4	2	13397	1.739	10.00
9I26051-CAL5	4	26333	1.715	10.00
9I26051-CAL6	10	63865	1.670	10.00
9I26051-CAL7	20	132898	1.785	10.00
9I26051-CAL8	40	277116	1.783	10.00
9I26051-CAL9	100	695927	1.687	10.00
9I26051-CALA	200	1460708	1.787	10.00
9I26051-CALB	400	2874751	1.758	10.00

AVE RF **1.771** RF RSD **4.86** AVE RT **10.00**

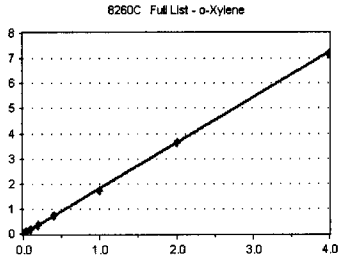
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

o-Xylene

Curve Fit: **AVERAGE RF**

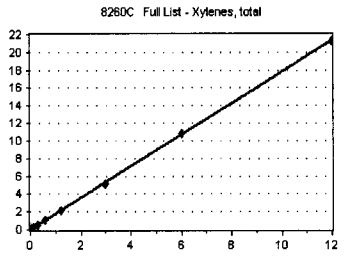


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	830	2.065	10.38
9I26051-CAL2	0.2	1601	2.016	10.38
9I26051-CAL3	0.4	2839	1.793	10.38
9I26051-CAL4	1	6615	1.718	10.38
9I26051-CAL5	2	13487	1.757	10.38
9I26051-CAL6	5	32191	1.683	10.38
9I26051-CAL7	10	67580	1.816	10.38
9I26051-CAL8	20	140549	1.808	10.38
9I26051-CAL9	50	353145	1.712	10.38
9I26051-CALA	100	744608	1.822	10.38
9I26051-CALB	200	1469028	1.797	10.38

AVE RF **1.817** RF RSD **6.61** AVE RT **10.38**

Xylenes, total

Curve Fit: **AVERAGE RF**

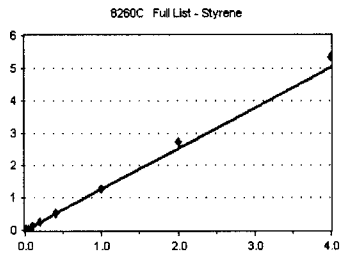


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.3	2385	1.978	10.38
9I26051-CAL2	0.6	4645	1.950	10.38
9I26051-CAL3	1.2	8244	1.736	10.38
9I26051-CAL4	3	20012	1.732	10.38
9I26051-CAL5	6	39820	1.729	10.38
9I26051-CAL6	15	96056	1.674	10.38
9I26051-CAL7	30	200478	1.795	10.38
9I26051-CAL8	60	417665	1.791	10.38
9I26051-CAL9	150	1049072	1.695	10.38
9I26051-CALA	300	2205316	1.799	10.38
9I26051-CALB	600	4343779	1.771	10.38

AVE RF **1.786** RF RSD **5.41** AVE RT **10.38**

Styrene

Curve Fit: **AVERAGE RF**

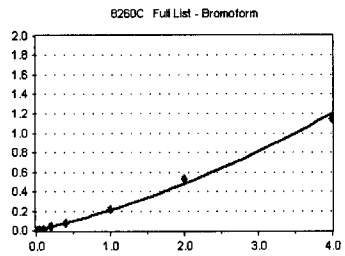


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~376~~	~~0.935~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~954~~	~~1.202~~	~~10.43~~
~~9I26051-CAL3~~	~~0.4~~	~~1810~~	~~1.143~~	~~10.43~~
9I26051-CAL4	1	4607	1.196	10.43
9I26051-CAL5	2	9190	1.197	10.43
9I26051-CAL6	5	21816	1.141	10.43
9I26051-CAL7	10	48081	1.292	10.43
9I26051-CAL8	20	99474	1.280	10.43
9I26051-CAL9	50	259072	1.256	10.43
9I26051-CALA	100	556502	1.362	10.43
9I26051-CALB	200	1096249	1.341	10.43

AVE RF **1.258** RF RSD **6.04** AVE RT **10.43**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	1	516	0.134	10.44
9I26051-CAL5	2	1110	0.145	10.44
9I26051-CAL6	5	2886	0.151	10.44
9I26051-CAL7	10	7072	0.190	10.45
9I26051-CAL8	20	14599	0.188	10.45
9I26051-CAL9	50	43917	0.213	10.45
9I26051-CALA	100	108191	0.265	10.45
9I26051-CALB	200	234918	0.287	10.45

AVE RF **0.197** RF RSD **28.51** AVE RT **10.44**

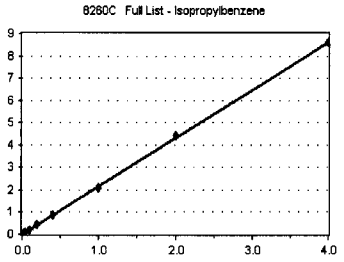
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Isopropylbenzene

Curve Fit: **AVERAGE RF**

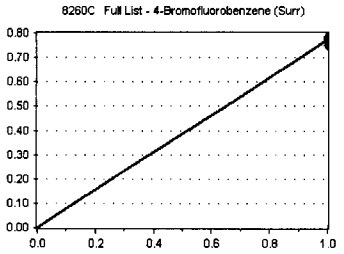


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	1007	2.505	10.65
9I26051-CAL2	0.2	1658	2.088	10.66
9I26051-CAL3	0.4	3087	1.950	10.66
9I26051-CAL4	1	8277	2.149	10.66
9I26051-CAL5	2	16179	2.108	10.66
9I26051-CAL6	5	38274	2.001	10.66
9I26051-CAL7	10	80907	2.174	10.66
9I26051-CAL8	20	170525	2.194	10.66
9I26051-CAL9	50	428305	2.076	10.66
9I26051-CALA	100	904070	2.212	10.66
9I26051-CALB	200	1763744	2.158	10.66

AVE RF **2.147** RF RSD **6.68** AVE RT **10.66**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

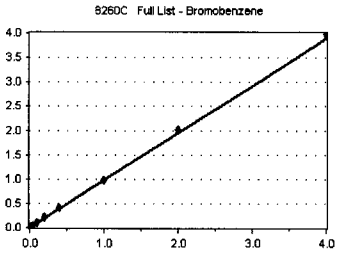


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	70815	0.777	10.88
9I26051-CAL2	50	69195	0.772	10.88
9I26051-CAL3	50	70019	0.787	10.88
9I26051-CAL4	50	67920	0.784	10.88
9I26051-CAL5	50	68748	0.784	10.88
9I26051-CAL6	50	68344	0.787	10.88
9I26051-CAL7	50	66326	0.773	10.88
9I26051-CAL8	50	69443	0.771	10.88
9I26051-CAL9	50	73705	0.764	10.88
9I26051-CALA	50	74165	0.750	10.88
9I26051-CALB	50	73514	0.746	10.88

AVE RF **0.772** RF RSD **1.81** AVE RT **10.88**

Bromobenzene

Curve Fit: **AVERAGE RF**

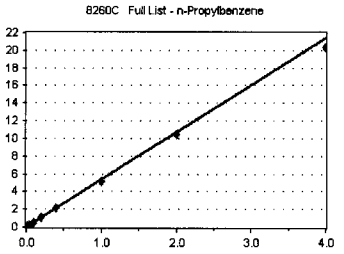


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	264	0.737	10.97
9I26051-CAL3	0.4	684	0.961	10.97
9I26051-CAL4	1	1684	0.972	10.97
9I26051-CAL5	2	3490	0.995	10.97
9I26051-CAL6	5	8558	0.986	10.97
9I26051-CAL7	10	18146	1.058	10.97
9I26051-CAL8	20	36937	1.025	10.97
9I26051-CAL9	50	94775	0.983	10.97
9I26051-CALA	100	199479	1.009	10.97
9I26051-CALB	200	392384	0.996	10.97

AVE RF **0.972** RF RSD **8.97** AVE RT **10.97**

n-Propylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	1072	5.882	11.01
9I26051-CAL2	0.2	2200	6.140	11.00
9I26051-CAL3	0.4	3693	5.189	11.01
9I26051-CAL4	1	9220	5.324	11.00
9I26051-CAL5	2	18414	5.247	11.00
9I26051-CAL6	5	44060	5.074	11.00
9I26051-CAL7	10	91848	5.353	11.00
9I26051-CAL8	20	192925	5.356	11.00
9I26051-CAL9	50	488095	5.062	11.00
9I26051-CALA	100	1031816	5.220	11.00
9I26051-CALB	200	2006523	5.092	11.00

AVE RF **5.358** RF RSD **6.43** AVE RT **11.00**

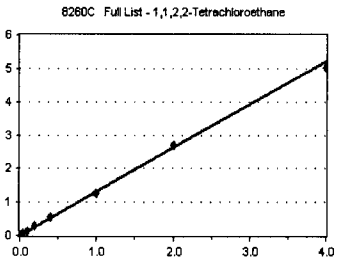
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

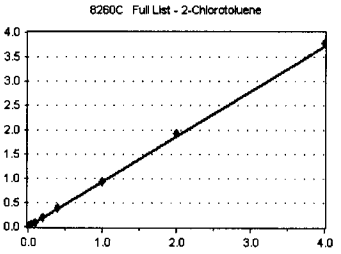


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	497	1.387	11.06
9I26051-CAL3	0.4	847	1.190	11.05
9I26051-CAL4	1	2293	1.324	11.05
9I26051-CAL5	2	4672	1.331	11.05
9I26051-CAL6	5	10901	1.255	11.05
9I26051-CAL7	10	23806	1.387	11.05
9I26051-CAL8	20	48593	1.349	11.05
9I26051-CAL9	50	122049	1.266	11.05
9I26051-CALA	100	264703	1.339	11.05
9I26051-CALB	200	494430	1.255	11.05

AVE RF **1.308** RF RSD **4.92** AVE RT **11.05**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**

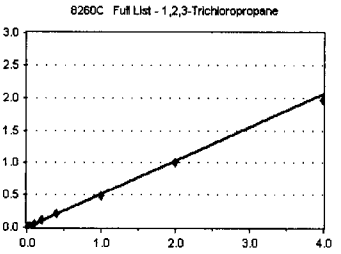


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	286	0.798	11.12
9I26051-CAL3	0.4	648	0.911	11.13
9I26051-CAL4	1	1588	0.917	11.12
9I26051-CAL5	2	3415	0.973	11.12
9I26051-CAL6	5	7936	0.914	11.12
9I26051-CAL7	10	17033	0.993	11.13
9I26051-CAL8	20	35482	0.985	11.12
9I26051-CAL9	50	88716	0.920	11.12
9I26051-CALA	100	190292	0.963	11.12
9I26051-CALB	200	372893	0.946	11.12

AVE RF **0.932** RF RSD **6.03** AVE RT **11.12**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**

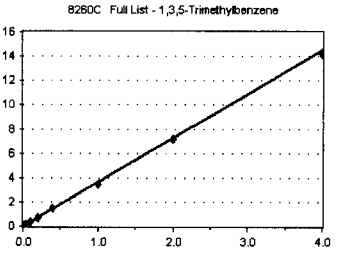


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	363	0.510	11.16
9I26051-CAL4	1	913	0.527	11.16
9I26051-CAL5	2	1824	0.520	11.16
9I26051-CAL6	5	4325	0.498	11.16
9I26051-CAL7	10	9803	0.571	11.16
9I26051-CAL8	20	18996	0.527	11.16
9I26051-CAL9	50	46667	0.484	11.16
9I26051-CALA	100	99386	0.503	11.16
9I26051-CALB	200	194027	0.492	11.16

AVE RF **0.515** RF RSD **5.06** AVE RT **11.16**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	744	4.083	11.16
9I26051-CAL2	0.2	1386	3.868	11.16
9I26051-CAL3	0.4	2439	3.427	11.16
9I26051-CAL4	1	6381	3.685	11.16
9I26051-CAL5	2	12560	3.579	11.16
9I26051-CAL6	5	29913	3.445	11.16
9I26051-CAL7	10	62130	3.621	11.16
9I26051-CAL8	20	131543	3.652	11.16
9I26051-CAL9	50	336773	3.492	11.16
9I26051-CALA	100	713639	3.610	11.16
9I26051-CALB	200	1395512	3.541	11.16

AVE RF **3.637** RF RSD **5.29** AVE RT **11.16**

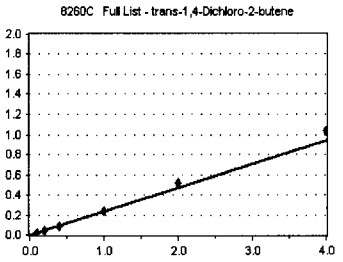
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

trans-1,4-Dichloro-2-butene

Curve Fit: **AVERAGE RF**

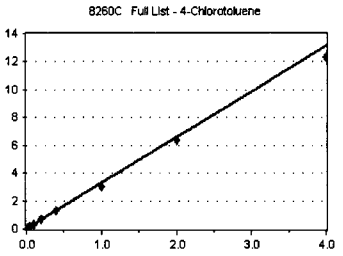


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL4~~	~~1~~	~~315~~	~~0.182~~	~~11.19~~
~~9I26051-CAL5~~	~~2~~	~~608~~	~~0.173~~	~~11.19~~
9I26051-CAL6	5	1607	0.185	11.19
9I26051-CAL7	10	4102	0.239	11.19
9I26051-CAL8	20	8149	0.226	11.19
9I26051-CAL9	50	22577	0.234	11.19
9I26051-CALA	100	51404	0.260	11.19
9I26051-CALB	200	102544	0.260	11.19

AVE RF **0.234** RF RSD **11.85** AVE RT **11.19**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**

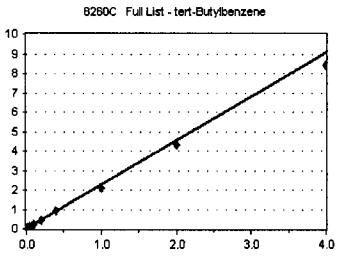


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	689	3.781	11.25
9I26051-CAL2	0.2	1281	3.575	11.25
9I26051-CAL3	0.4	2310	3.246	11.25
9I26051-CAL4	1	5709	3.297	11.25
9I26051-CAL5	2	11203	3.192	11.25
9I26051-CAL6	5	27493	3.166	11.25
9I26051-CAL7	10	57856	3.372	11.25
9I26051-CAL8	20	116547	3.235	11.25
9I26051-CAL9	50	295189	3.061	11.25
9I26051-CALA	100	628088	3.177	11.25
9I26051-CALB	200	1217721	3.090	11.25

AVE RF **3.290** RF RSD **6.54** AVE RT **11.25**

tert-Butylbenzene

Curve Fit: **AVERAGE RF**

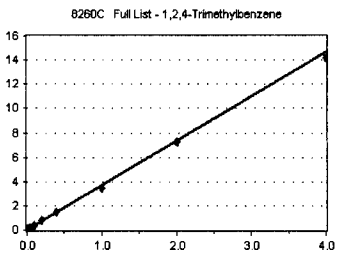


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	472	2.590	11.41
9I26051-CAL2	0.2	960	2.679	11.41
9I26051-CAL3	0.4	1643	2.309	11.41
9I26051-CAL4	1	3961	2.287	11.41
9I26051-CAL5	2	7779	2.217	11.41
9I26051-CAL6	5	18406	2.120	11.41
9I26051-CAL7	10	38652	2.253	11.41
9I26051-CAL8	20	80995	2.248	11.41
9I26051-CAL9	50	200688	2.081	11.41
9I26051-CALA	100	424964	2.150	11.41
9I26051-CALB	200	829909	2.106	11.41

AVE RF **2.276** RF RSD **8.50** AVE RT **11.41**

1,2,4-Trimethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	773	4.242	11.47
9I26051-CAL2	0.2	1309	3.653	11.47
9I26051-CAL3	0.4	2527	3.551	11.47
9I26051-CAL4	1	6284	3.629	11.47
9I26051-CAL5	2	12884	3.671	11.47
9I26051-CAL6	5	30622	3.527	11.47
9I26051-CAL7	10	63543	3.703	11.47
9I26051-CAL8	20	133658	3.710	11.47
9I26051-CAL9	50	336446	3.489	11.47
9I26051-CALA	100	718002	3.632	11.47
9I26051-CALB	200	1400728	3.555	11.47

AVE RF **3.669** RF RSD **5.54** AVE RT **11.47**

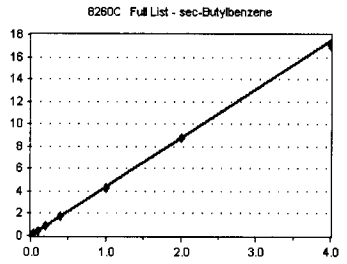
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

sec-Butylbenzene

Curve Fit: **AVERAGE RF**

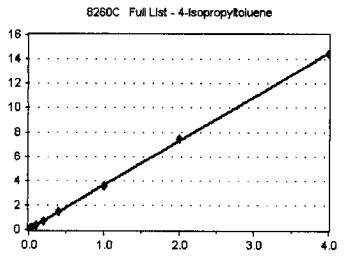


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	858	4.708	11.55
9I26051-CAL2	0.2	1622	4.527	11.55
9I26051-CAL3	0.4	3047	4.282	11.55
9I26051-CAL4	1	7388	4.266	11.55
9I26051-CAL5	2	15516	4.421	11.55
9I26051-CAL6	5	36041	4.151	11.55
9I26051-CAL7	10	75345	4.391	11.55
9I26051-CAL8	20	160793	4.464	11.55
9I26051-CAL9	50	408152	4.233	11.55
9I26051-CALA	100	862284	4.362	11.55
9I26051-CALB	200	1675162	4.251	11.55

AVE RF **4.369** RF RSD **3.62** AVE RT **11.55**

4-Isopropyltoluene

Curve Fit: **AVERAGE RF**

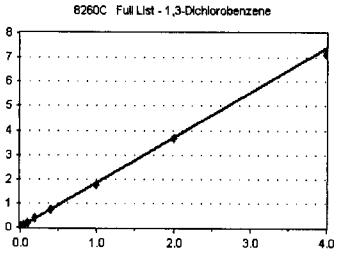


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	688	3.775	11.66
9I26051-CAL2	0.2	1273	3.553	11.66
9I26051-CAL3	0.4	2589	3.638	11.66
9I26051-CAL4	1	6309	3.643	11.66
9I26051-CAL5	2	12605	3.592	11.66
9I26051-CAL6	5	30228	3.481	11.66
9I26051-CAL7	10	62690	3.654	11.66
9I26051-CAL8	20	134275	3.728	11.66
9I26051-CAL9	50	343433	3.562	11.66
9I26051-CALA	100	733345	3.710	11.66
9I26051-CALB	200	1424200	3.614	11.66

AVE RF **3.632** RF RSD **2.34** AVE RT **11.66**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

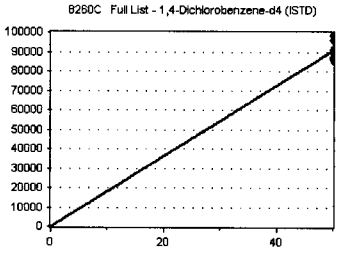


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	362	1.986	11.72
9I26051-CAL2	0.2	743	2.074	11.71
9I26051-CAL3	0.4	1278	1.796	11.72
9I26051-CAL4	1	3078	1.777	11.72
9I26051-CAL5	2	6372	1.816	11.72
9I26051-CAL6	5	15238	1.755	11.72
9I26051-CAL7	10	33185	1.934	11.72
9I26051-CAL8	20	66504	1.846	11.71
9I26051-CAL9	50	169819	1.761	11.72
9I26051-CALA	100	363861	1.841	11.72
9I26051-CALB	200	701151	1.779	11.72

AVE RF **1.851** RF RSD **5.59** AVE RT **11.72**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	91119	1822.380	11.77
9I26051-CAL2	50	89580	1791.600	11.77
9I26051-CAL3	50	88955	1779.100	11.77
9I26051-CAL4	50	86589	1731.780	11.77
9I26051-CAL5	50	87731	1754.620	11.77
9I26051-CAL6	50	86829	1736.580	11.77
9I26051-CAL7	50	85791	1715.820	11.77
9I26051-CAL8	50	90055	1801.100	11.77
9I26051-CAL9	50	96429	1928.580	11.77
9I26051-CALA	50	98834	1976.680	11.77
9I26051-CALB	50	98513	1970.260	11.77

AVE RF **1818.955** RF RSD **5.26** AVE RT **11.77**

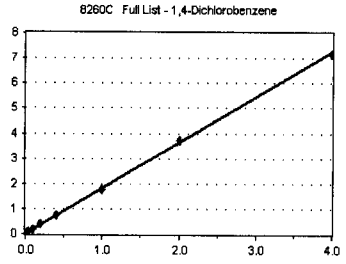
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

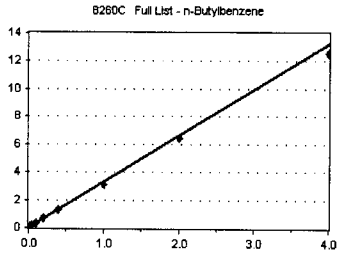


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	286	1.569	11.78
9I26051-CAL2	0.2	670	1.870	11.78
9I26051-CAL3	0.4	1255	1.764	11.78
9I26051-CAL4	1	3311	1.912	11.78
9I26051-CAL5	2	6672	1.901	11.78
9I26051-CAL6	5	15485	1.783	11.78
9I26051-CAL7	10	33561	1.956	11.78
9I26051-CAL8	20	66830	1.855	11.78
9I26051-CAL9	50	170510	1.768	11.78
9I26051-CALA	100	365594	1.850	11.78
9I26051-CALB	200	705926	1.791	11.78

AVE RF **1.820** RF RSD **5.74** AVE RT **11.78**

n-Butylbenzene

Curve Fit: **AVERAGE RF**

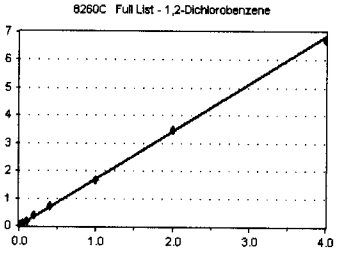


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	0.1	741	4.066	11.98
9I26051-CAL2	0.2	1205	3.363	11.98
9I26051-CAL3	0.4	2363	3.320	11.98
9I26051-CAL4	1	5776	3.335	11.98
9I26051-CAL5	2	11616	3.310	11.98
9I26051-CAL6	5	26618	3.066	11.98
9I26051-CAL7	10	55398	3.229	11.98
9I26051-CAL8	20	117444	3.260	11.98
9I26051-CAL9	50	298416	3.095	11.98
9I26051-CALA	100	635653	3.216	11.98
9I26051-CALB	200	1235413	3.135	11.98

AVE RF **3.309** RF RSD **8.17** AVE RT **11.98**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

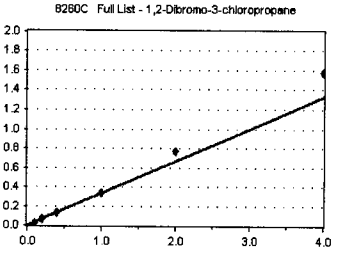


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	599	1.672	12.09
9I26051-CAL3	0.4	1195	1.679	12.09
9I26051-CAL4	1	2989	1.726	12.09
9I26051-CAL5	2	6103	1.739	12.09
9I26051-CAL6	5	14508	1.671	12.10
9I26051-CAL7	10	31314	1.825	12.10
9I26051-CAL8	20	63143	1.753	12.10
9I26051-CAL9	50	159412	1.653	12.09
9I26051-CALA	100	343702	1.739	12.09
9I26051-CALB	200	664539	1.686	12.10

AVE RF **1.714** RF RSD **3.05** AVE RT **12.10**

1,2-Dibromo-3-chloropropane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL4~~	~~1~~	~~429~~	~~0.248~~	~~12.70~~
~~9I26051-CAL5~~	~~2~~	~~817~~	~~0.233~~	~~12.70~~
9I26051-CAL6	5	2255	0.260	12.70
9I26051-CAL7	10	5269	0.307	12.70
9I26051-CAL8	20	11496	0.319	12.70
9I26051-CAL9	50	32650	0.339	12.70
9I26051-CALA	100	75525	0.382	12.70
9I26051-CALB	200	155589	0.395	12.70

AVE RF **0.334** RF RSD **14.99** AVE RT **12.70**

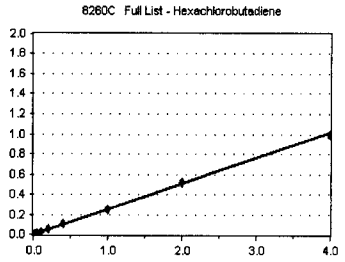
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VJ190926S+ VJ190926G**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

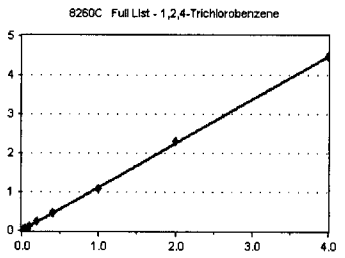


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	1	423	0.244	13.22
9I26051-CAL5	2	871	0.248	13.23
9I26051-CAL6	5	2217	0.255	13.23
9I26051-CAL7	10	4581	0.267	13.23
9I26051-CAL8	20	9438	0.262	13.23
9I26051-CAL9	50	23672	0.245	13.23
9I26051-CALA	100	51222	0.259	13.22
9I26051-CALB	200	98168	0.249	13.23

AVE RF **0.254** RF RSD **3.28** AVE RT **13.22**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**

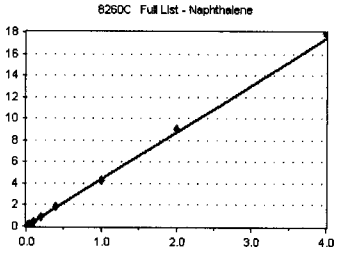


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	429	1.197	13.24
9I26051-CAL3	0.4	782	1.099	13.24
9I26051-CAL4	1	1768	1.021	13.24
9I26051-CAL5	2	4100	1.168	13.24
9I26051-CAL6	5	8947	1.030	13.24
9I26051-CAL7	10	20212	1.178	13.24
9I26051-CAL8	20	42045	1.167	13.24
9I26051-CAL9	50	105528	1.094	13.24
9I26051-CALA	100	228156	1.154	13.24
9I26051-CALB	200	442755	1.124	13.24

AVE RF **1.123** RF RSD **5.46** AVE RT **13.24**

Naphthalene

Curve Fit: **AVERAGE RF**

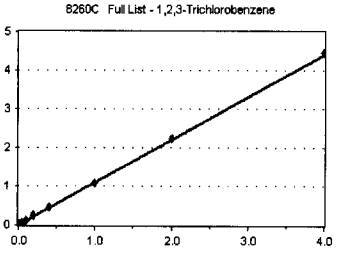


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	2898	4.072	13.52
9I26051-CAL4	1	7597	4.387	13.52
9I26051-CAL5	2	14697	4.188	13.52
9I26051-CAL6	5	34918	4.021	13.52
9I26051-CAL7	10	79213	4.617	13.52
9I26051-CAL8	20	163412	4.536	13.52
9I26051-CAL9	50	412833	4.281	13.52
9I26051-CALA	100	891841	4.512	13.52
9I26051-CALB	200	1762865	4.474	13.52

AVE RF **4.343** RF RSD **4.91** AVE RT **13.52**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL2	0.2	361	1.007	13.68
9I26051-CAL3	0.4	761	1.069	13.68
9I26051-CAL4	1	1983	1.145	13.68
9I26051-CAL5	2	3947	1.125	13.68
9I26051-CAL6	5	9031	1.040	13.68
9I26051-CAL7	10	20337	1.185	13.68
9I26051-CAL8	20	40577	1.126	13.68
9I26051-CAL9	50	104398	1.083	13.68
9I26051-CALA	100	220874	1.117	13.68
9I26051-CALB	200	440028	1.117	13.68

AVE RF **1.102** RF RSD **4.74** AVE RT **13.68**

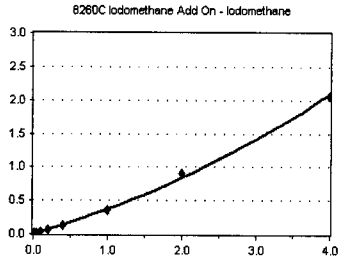
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Iodomethane Add On** Instrument Cal ID: **VJ190926S+ VJ190926G**

Iodomethane

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

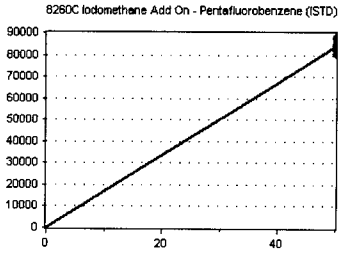


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL3	0.4	828	1.225	3.30
9I26051-CAL4	1	963	0.587	3.29
9I26051-CAL5	2	1150	0.355	3.29
9I26051-CAL6	5	2598	0.315	3.29
9I26051-CAL7	10	4837	0.300	3.29
9I26051-CAL8	20	10496	0.312	3.29
9I26051-CAL9	50	31306	0.355	3.29
9I26051-CALA	100	79827	0.456	3.29
9I26051-CALB	200	180775	0.515	3.30

AVE RF **0.491** RF RSD **59.65** AVE RT **3.29**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	85083	1701.660	6.10
9I26051-CAL2	50	83469	1669.380	6.10
9I26051-CAL3	50	84470	1689.400	6.10
9I26051-CAL4	50	81984	1639.680	6.10
9I26051-CAL5	50	80878	1617.560	6.09
9I26051-CAL6	50	82605	1652.100	6.10
9I26051-CAL7	50	80621	1612.420	6.10
9I26051-CAL8	50	84226	1684.520	6.10
9I26051-CAL9	50	88066	1761.320	6.10
9I26051-CALA	50	87434	1748.680	6.10
9I26051-CALB	50	87764	1755.280	6.10

AVE RF **1684.727** RF RSD **3.16** AVE RT **6.10**

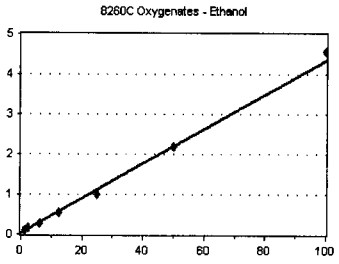
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VJ190926S+ VJ190926G**

Ethanol

Curve Fit: **LINEAR: Weighting: (1/a), Origin: Ignore**

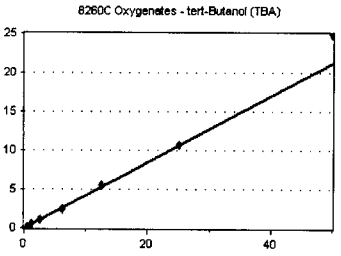


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~6.25~~	~~5365~~	~~0.504~~	~~3.32~~
~~9I26051-CAL2~~	~~12.5~~	~~5460~~	~~0.262~~	~~3.32~~
~~9I26051-CAL3~~	~~25~~	~~6227~~	~~0.147~~	~~3.33~~
9I26051-CAL4	62.5	8207	8.008	3.33
9I26051-CAL5	125	12266	6.066	3.30
9I26051-CAL6	312	21522	4.175	3.32
9I26051-CAL7	625	42586	4.226	3.32
9I26051-CAL8	1250	83151	3.949	3.32
9I26051-CAL9	2500	191989	4.360	3.32
9I26051-CALA	5000	399756	4.572	3.30

AVE RF **5.051** RF RSD **29.31** AVE RT **3.32**

tert-Butanol (TBA)

Curve Fit: **AVERAGE RF**

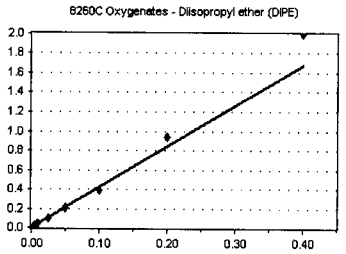


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~6.25~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~12.5~~	~~8847~~	~~0.424~~	~~4.27~~
9I26051-CAL3	25	17073	0.404	4.28
9I26051-CAL4	62.5	41742	0.407	4.28
9I26051-CAL5	125	82253	0.407	4.26
9I26051-CAL6	312	199371	0.387	4.28
9I26051-CAL7	625	447585	0.444	4.28
9I26051-CAL8	1250	893967	0.425	4.28
9I26051-CAL9	2500	2194652	0.498	4.28
~~9I26051-CALA~~	~~5000~~	~~4691502~~	~~0.537~~	~~4.26~~

AVE RF **0.425** RF RSD **8.75** AVE RT **4.28**

Diisopropyl ether (DIPE)

Curve Fit: **AVERAGE RF**

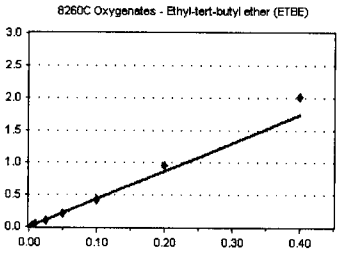


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	0.25	1630	3.976	4.51
9I26051-CAL5	0.5	3173	3.923	4.51
9I26051-CAL6	1.25	7883	3.817	4.51
9I26051-CAL7	2.5	16358	4.058	4.51
9I26051-CAL8	5	33179	3.939	4.51
9I26051-CAL9	10	82918	4.708	4.51
9I26051-CALA	20	174428	4.987	4.51

AVE RF **4.201** RF RSD **10.82** AVE RT **4.51**

Ethyl-tert-butyl ether (ETBE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	0.25	1774	4.328	4.87
9I26051-CAL5	0.5	3328	4.115	4.87
9I26051-CAL6	1.25	7904	3.827	4.88
9I26051-CAL7	2.5	16594	4.117	4.88
9I26051-CAL8	5	34932	4.147	4.88
9I26051-CAL9	10	84010	4.770	4.88
9I26051-CALA	20	176142	5.036	4.88

AVE RF **4.334** RF RSD **9.74** AVE RT **4.88**

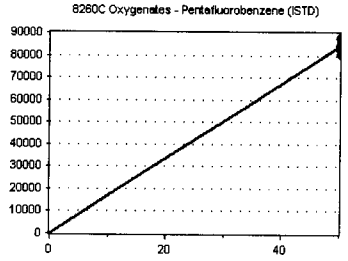
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VJ190926S+ VJ190926G**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

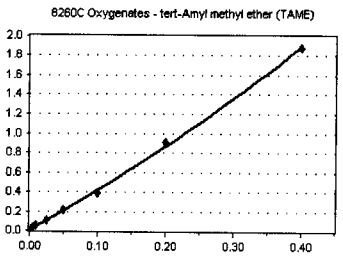


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	85083	1701.660	6.10
9I26051-CAL2	50	83469	1669.380	6.10
9I26051-CAL3	50	84470	1689.400	6.10
9I26051-CAL4	50	81984	1639.680	6.10
9I26051-CAL5	50	80878	1617.560	6.09
9I26051-CAL6	50	82605	1652.100	6.10
9I26051-CAL7	50	80621	1612.420	6.10
9I26051-CAL8	50	84226	1684.520	6.10
9I26051-CAL9	50	88066	1761.320	6.10
9I26051-CALA	50	87434	1748.680	6.10
9I26051-CALB	50	87764	1755.280	6.10

AVE RF **1684.727** RF RSD **3.16** AVE RT **6.10**

tert-Amyl methyl ether (TAME)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

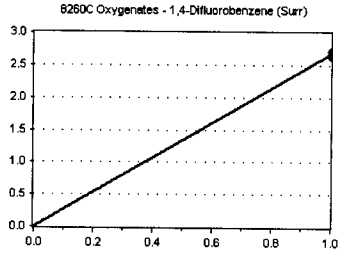


Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	0.25	2474	6.035	6.16
9I26051-CAL5	0.5	4288	5.302	6.15
9I26051-CAL6	1.25	8667	4.197	6.16
9I26051-CAL7	2.5	17059	4.232	6.16
9I26051-CAL8	5	32799	3.894	6.16
9I26051-CAL9	10	79624	4.521	6.16
9I26051-CALA	20	164564	4.705	6.16

AVE RF **4.698** RF RSD **15.78** AVE RT **6.16**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

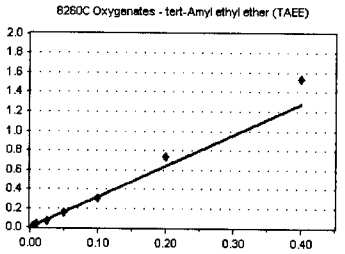


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	230170	2.705	6.66
9I26051-CAL2	50	225508	2.702	6.66
9I26051-CAL3	50	226191	2.678	6.66
9I26051-CAL4	50	217352	2.651	6.66
9I26051-CAL5	50	215594	2.666	6.66
9I26051-CAL6	50	218916	2.650	6.66
9I26051-CAL7	50	212867	2.640	6.66
9I26051-CAL8	50	222976	2.647	6.66
9I26051-CAL9	50	234393	2.662	6.66
9I26051-CALA	50	233929	2.675	6.66
9I26051-CALB	50	237056	2.701	6.66

AVE RF **2.671** RF RSD **0.88** AVE RT **6.66**

tert-Amyl ethyl ether (TAEE)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9I26051-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9I26051-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9I26051-CAL4	0.25	1145	2.793	6.91
9I26051-CAL5	0.5	2564	3.170	6.92
9I26051-CAL6	1.25	5798	2.808	6.91
9I26051-CAL7	2.5	12505	3.102	6.92
9I26051-CAL8	5	25425	3.019	6.91
9I26051-CAL9	10	64746	3.676	6.91
9I26051-CALA	20	134637	3.850	6.91

AVE RF **3.203** RF RSD **12.82** AVE RT **6.91**

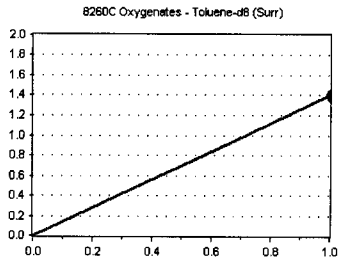
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VJ190926S+ VJ190926G**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

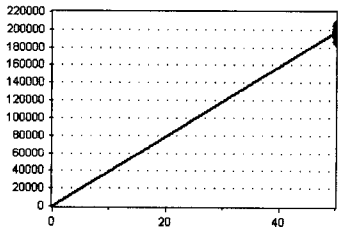


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	281171	1.399	8.18
9I26051-CAL2	50	276884	1.395	8.18
9I26051-CAL3	50	276952	1.399	8.18
9I26051-CAL4	50	268905	1.397	8.18
9I26051-CAL5	50	265160	1.382	8.18
9I26051-CAL6	50	268875	1.406	8.18
9I26051-CAL7	50	262548	1.411	8.18
9I26051-CAL8	50	276211	1.422	8.18
9I26051-CAL9	50	288797	1.400	8.18
9I26051-CALA	50	286934	1.404	8.18
9I26051-CALB	50	287974	1.409	8.18

AVE RF **1.402** RF RSD **0.73** AVE RT **8.18**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

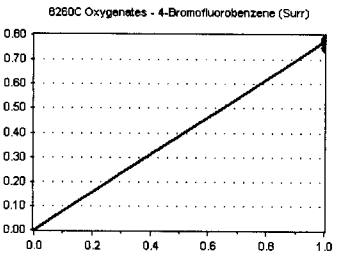


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	201011	4020.220	9.81
9I26051-CAL2	50	198493	3969.860	9.81
9I26051-CAL3	50	197907	3958.140	9.81
9I26051-CAL4	50	192549	3850.980	9.81
9I26051-CAL5	50	191897	3837.940	9.81
9I26051-CAL6	50	191233	3824.660	9.81
9I26051-CAL7	50	186111	3722.220	9.81
9I26051-CAL8	50	194298	3885.960	9.81
9I26051-CAL9	50	206278	4125.560	9.81
9I26051-CALA	50	204365	4087.300	9.81
9I26051-CALB	50	204350	4087.000	9.81

AVE RF **3942.713** RF RSD **3.28** AVE RT **9.81**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

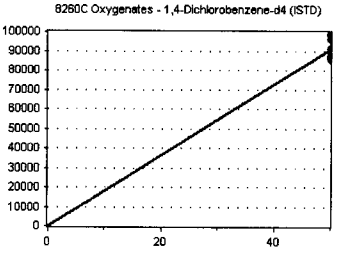


Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	70815	0.777	10.88
9I26051-CAL2	50	69195	0.772	10.88
9I26051-CAL3	50	70019	0.787	10.88
9I26051-CAL4	50	67920	0.784	10.88
9I26051-CAL5	50	68748	0.784	10.88
9I26051-CAL6	50	68344	0.787	10.88
9I26051-CAL7	50	66326	0.773	10.88
9I26051-CAL8	50	69443	0.771	10.88
9I26051-CAL9	50	73705	0.764	10.88
9I26051-CALA	50	74165	0.750	10.88
9I26051-CALB	50	73514	0.746	10.88

AVE RF **0.772** RF RSD **1.81** AVE RT **10.88**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CAL1	50	91119	1822.380	11.77
9I26051-CAL2	50	89580	1791.600	11.77
9I26051-CAL3	50	88955	1779.100	11.77
9I26051-CAL4	50	86589	1731.780	11.77
9I26051-CAL5	50	87731	1754.620	11.77
9I26051-CAL6	50	86829	1736.580	11.77
9I26051-CAL7	50	85791	1715.820	11.77
9I26051-CAL8	50	90055	1801.100	11.77
9I26051-CAL9	50	96429	1928.580	11.77
9I26051-CALA	50	98834	1976.680	11.77
9I26051-CALB	50	98513	1970.260	11.77

AVE RF **1818.955** RF RSD **5.26** AVE RT **11.77**

Calibration Status Report VOA-GCMS10

Method Path : C:\msdchem\1\methods\
Method File : VJ190926G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Sep 27 15:17:10 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	50	50	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092650.D
2	100	100	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092651.D
3	250	250	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092652.D
4	500	500	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092653.D
5	1000	1000	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092654.D
6	2500	2500	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092655.D
7	5000	5000	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092656.D
8	10K	10000	50	C:\msdchem\1\data\2019-09\9I26051\VJ19092657.D

#	ID	Update Time	Quant Time	Acquisition Time
1	50	Sep 27 15:17 2019	Sep 27 15:12 2019	27 Sep 2019 7:17 am
2	100	Sep 27 15:17 2019	Sep 27 15:12 2019	27 Sep 2019 7:44 am
3	250	Sep 27 15:17 2019	Sep 27 15:13 2019	27 Sep 2019 8:10 am
4	500	Sep 27 15:17 2019	Sep 27 15:13 2019	27 Sep 2019 8:37 am
5	1000	Sep 27 15:17 2019	Sep 27 15:13 2019	27 Sep 2019 9:04 am
6	2500	Sep 27 15:17 2019	Sep 27 15:13 2019	27 Sep 2019 9:31 am
7	5000	Sep 27 15:17 2019	Sep 27 15:13 2019	27 Sep 2019 9:57 am
8	10K	Sep 27 15:17 2019	Sep 27 15:13 2019	27 Sep 2019 10:24 am

VJ190926G.M Fri Sep 27 15:56:27 2019

Method Path : C:\msdchem\1\methods\
Method File : VJ190926G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Sep 27 15:17:10 2019
Response Via : Initial Calibration

Calibration Files
50 =VJ19092650.D 100 =VJ19092651.D 250 =VJ19092652.D 500 =VJ19092653.D 1000=VJ19092654.D 2500=VJ19092655.D
5000=VJ19092656.D 10K =VJ19092657.D

		Compound	50	100	250	500	1000	2500	5000	10K	Avg	%RSD
1)	I	Pentafluorobenzene...	----------ISTD----------									
2)	S	1,4-Difluorobe...	1.768	1.766	1.771	1.785	1.777	1.773	1.764	1.763	1.771	0.41
3)	S	4-Bromofluorob...	0.548	0.536	0.542	0.547	0.549	0.551	0.545	0.538	0.544	0.99
4)	H	NWTPH-Gx (TPH)	2.833	2.530	2.400	2.544	2.411	2.449	2.632	2.579	2.547	5.56
5)	H	TPHg (C5-C9)	4.843	3.858	3.847	3.528	3.014	2.933	3.058	2.932	3.502	19.09
6)	H	TPHg (C6-C10)	4.332	3.464	2.779	2.833	2.605	2.569	2.668	2.564	2.977	20.88
7)	H	CA-LUFT (C5-C12)	5.565	4.497	4.477	4.188	3.641	3.550	3.742	3.584	4.155	16.61
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-GCMS10

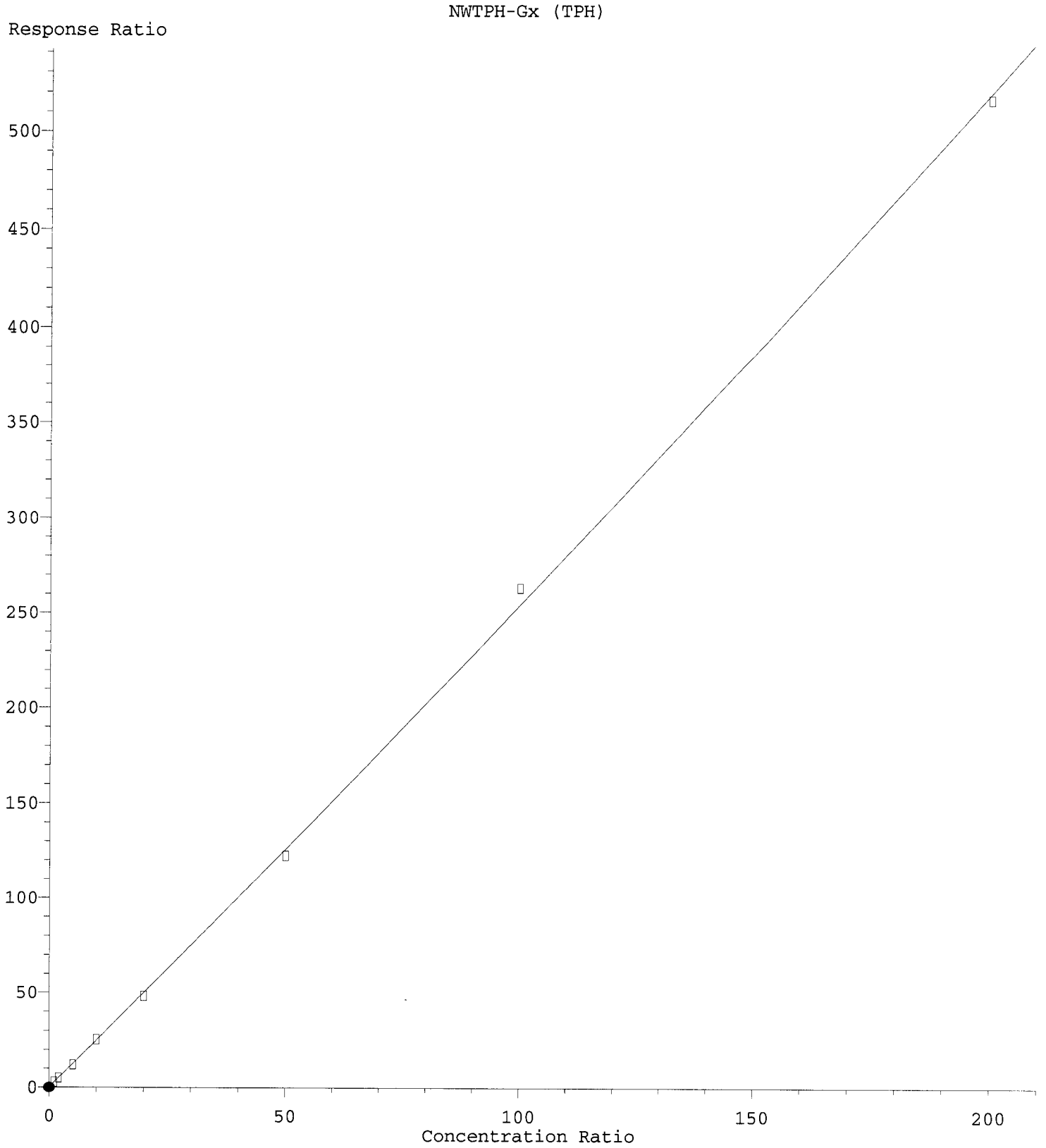
Method Path : C:\msdchem\1\methods\
Method File : VJ190926G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Sep 27 15:17:10 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.107	1.000	A	2	A	B
2	S	1,4-Difluorobenzene (Sur)	114	6.667	1.092	A	2	A	B
3	S	4-Bromofluorobenzene (Sur)	174	10.889	1.783	A	2	A	B
4	H	NWTPH-Gx (TPH)	TIC	8.739	1.431	Q 1/4	0	A	B
5	H	TPHg (C5-C9)	TIC	9.239	1.513	Q	0	A	B
6	H	TPHg (C6-C10)	TIC	9.239	1.513	Q	0	A	B
7	H	CA-LUFT (C5-C12)	TIC	9.239	1.513	Q	0	A	B
8		Benzene (NR)	78	6.016	0.985	A	2	A	B
9	S	Toluene-d8 (NR)	98	8.188	1.341	A	2	A	B
10		Toluene (NR)	91	8.243	1.350	A	2	A	B
11	S	Chlorobenzene-d5 (NR)	117	9.818	1.608	A	2	A	B
12	S	1,4-Dichlorobenzene-d4 (NR)	150	11.777	1.928	A	2	A	B
13		Naphthalene (NR)	128	13.529	2.215	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

VJ190926G.M Fri Sep 27 15:56:36 2019



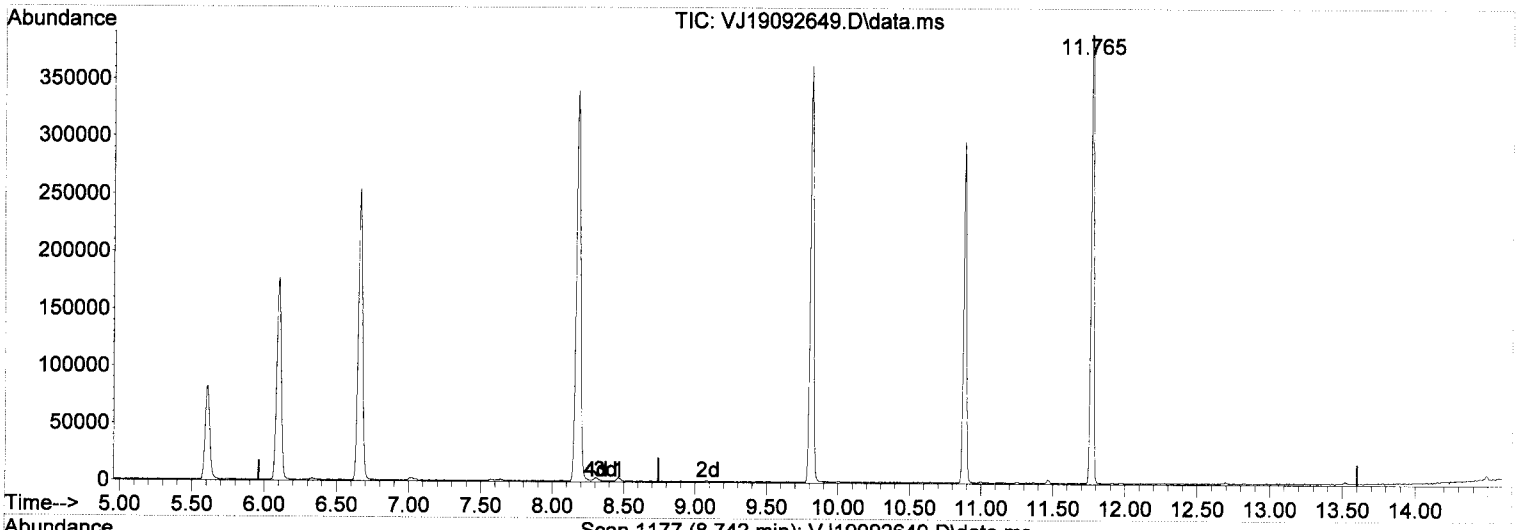
Int = 11.66

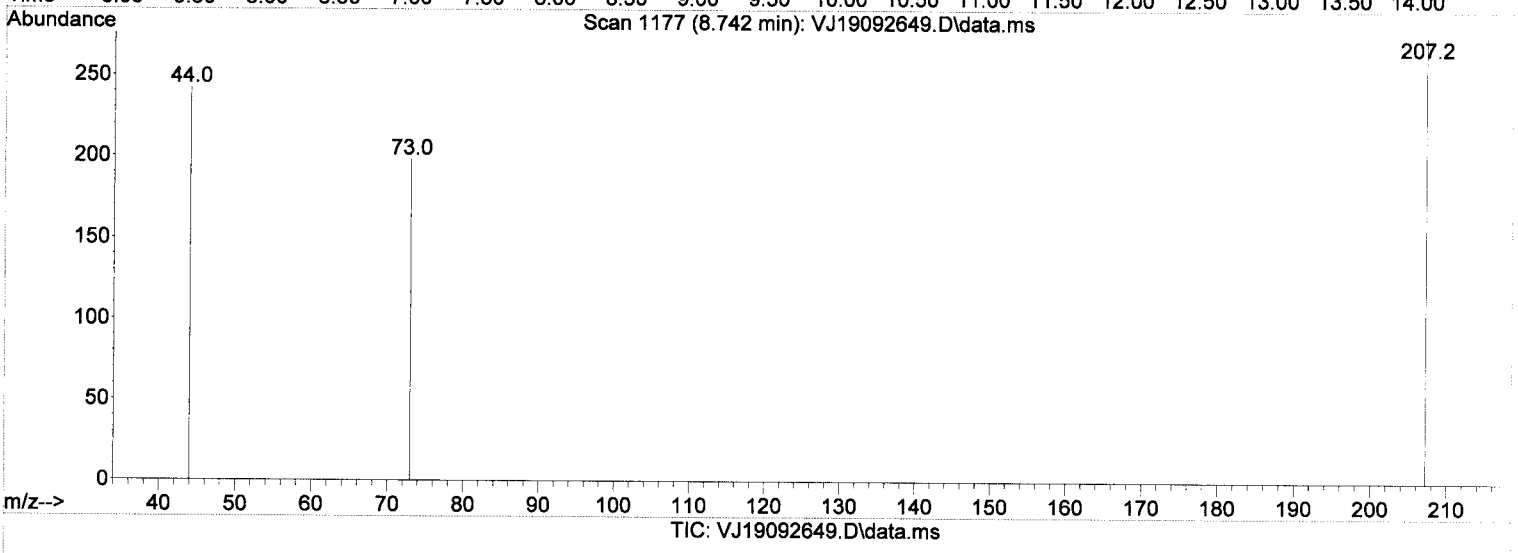
R = 5.26e-004 A*A + 2.49e+000 A + 1.37e-001
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VJ190926G.M
Calibration Table Last Updated: Fri Sep 27 15:17:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092649.D
Acq On : 27 Sep 2019 6:50 am
Operator : TB
Sample : 9I26051-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 27 15:41:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



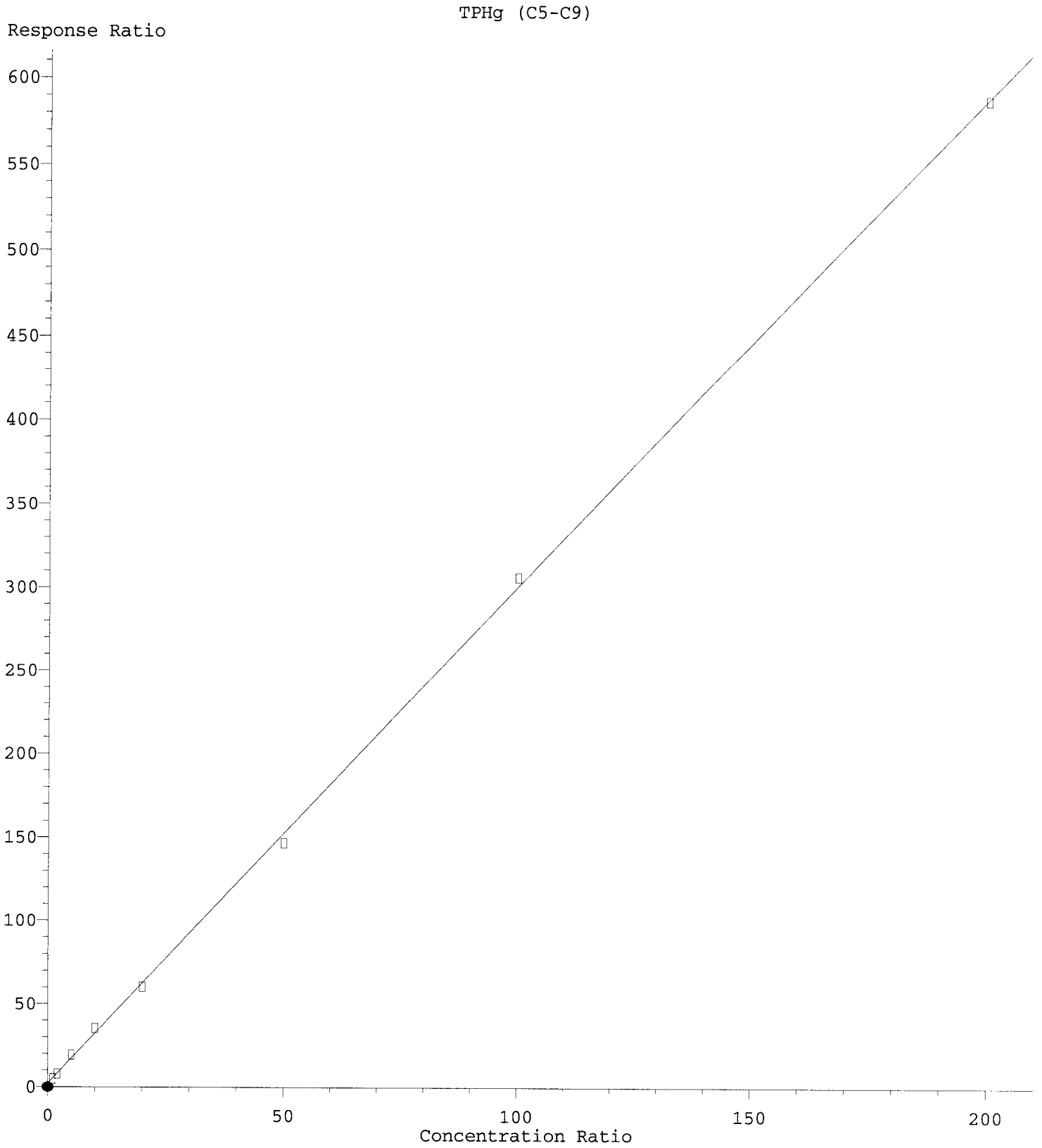


(4) NWTPH-Gx (TPH) (H)

8.739min (0.000) 11.66 ug/L m

response 85582

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



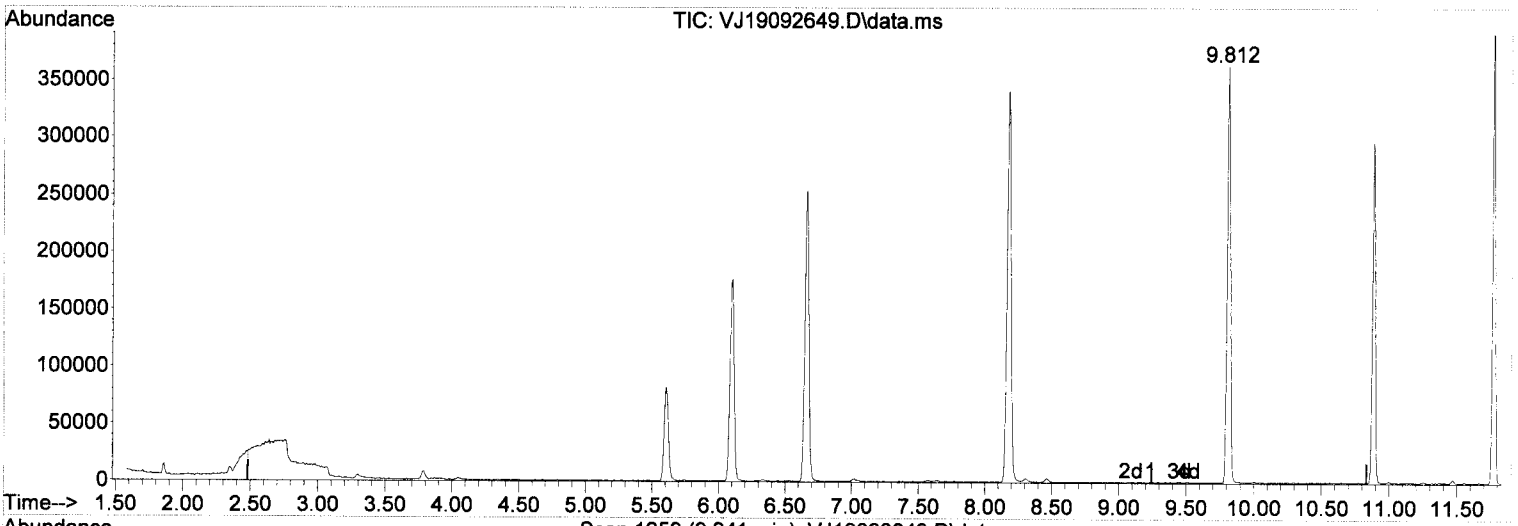
Int = 4.61

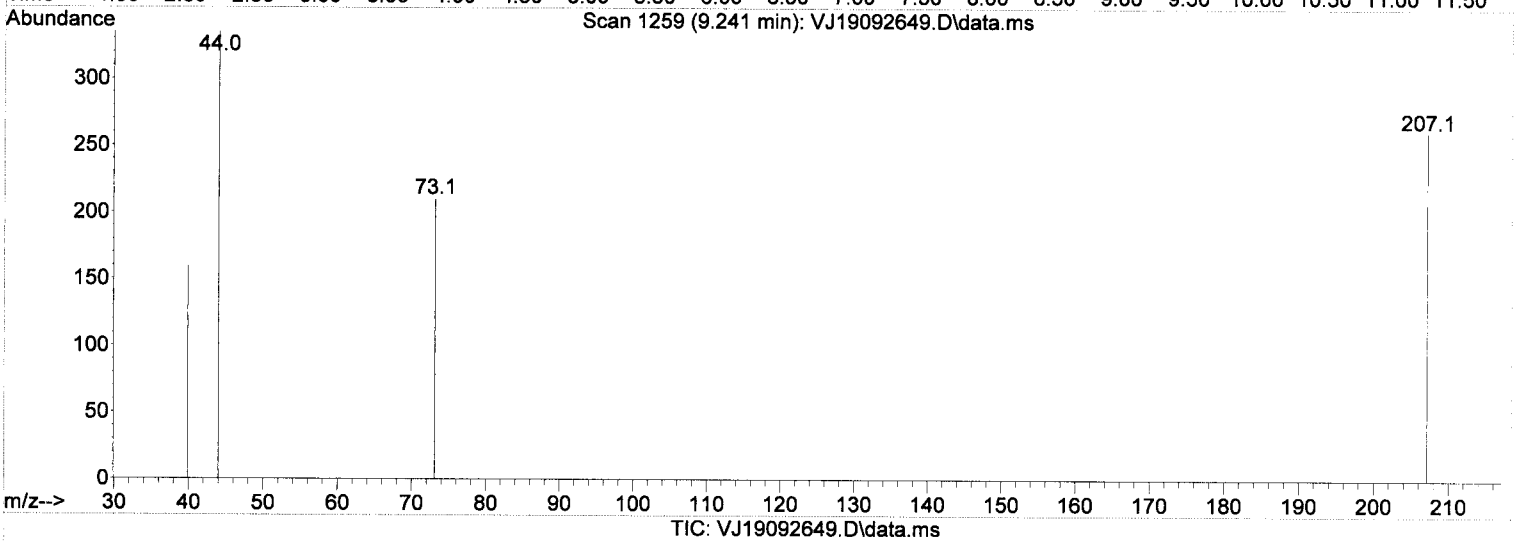
R = -5.66e-004 A*A + 3.04e+000 A + 2.08e+000
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VU190926G.M
Calibration Table Last Updated: Fri Sep 27 15:17:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092649.D
Acq On : 27 Sep 2019 6:50 am
Operator : TB
Sample : 9I26051-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 27 15:41:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration





TIC: VJ19092649.D\data.ms

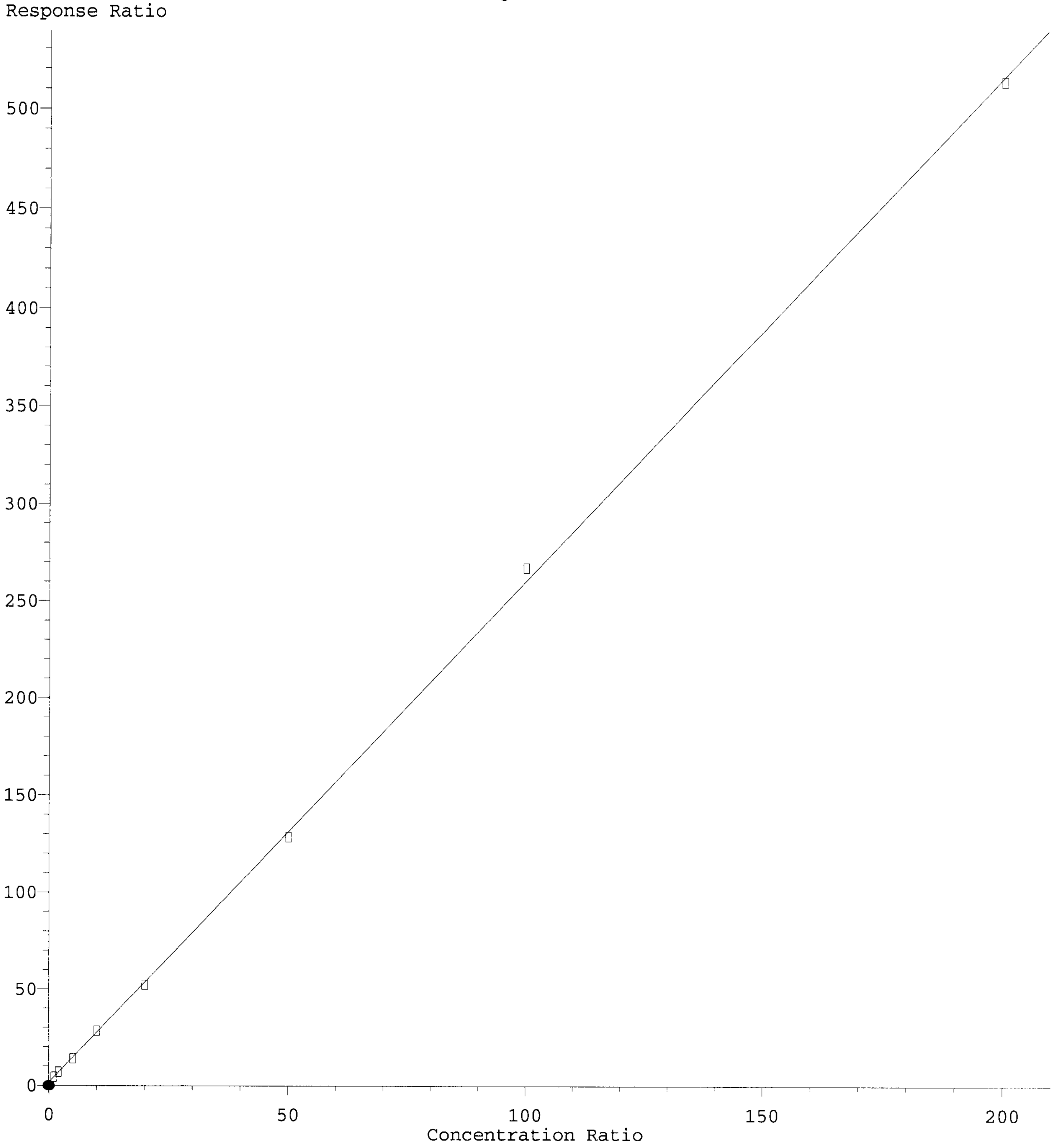
(5) TPHg (C5-C9) (H)

9.239min (0.000) 4.61 ug/L m

response 281021

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

TPHg (C6-C10)



Int = 8.87

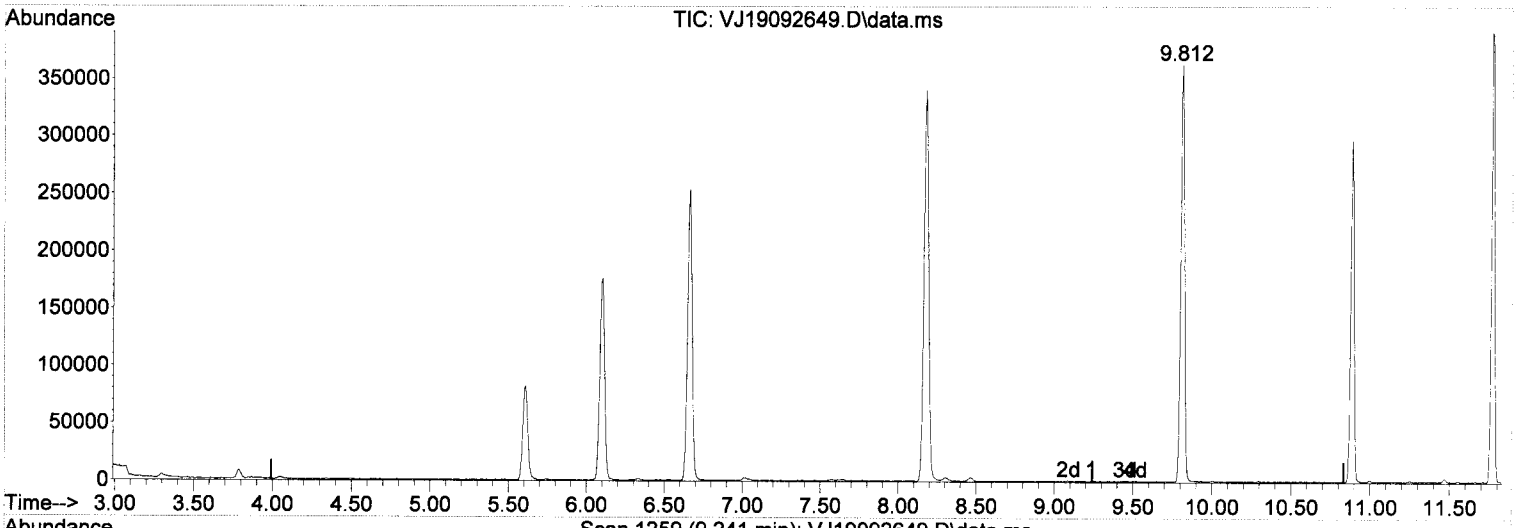
R = -1.67e-004 A*A + 2.60e+000 A + 1.63e+000
Coef of Det (r^2) = 1.000   Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VJ190926G.M

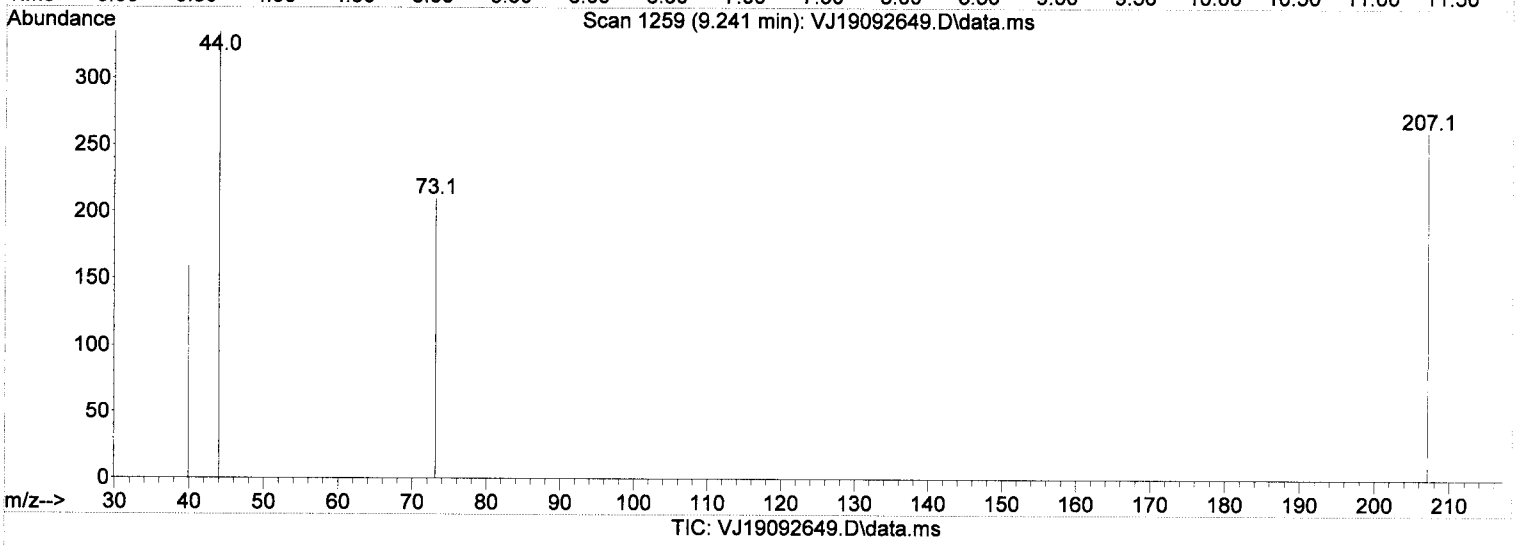
Calibration Table Last Updated: Fri Sep 27 15:17:54 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092649.D
Acq On : 27 Sep 2019 6:50 am
Operator : TB
Sample : 9I26051-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 27 15:41:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration





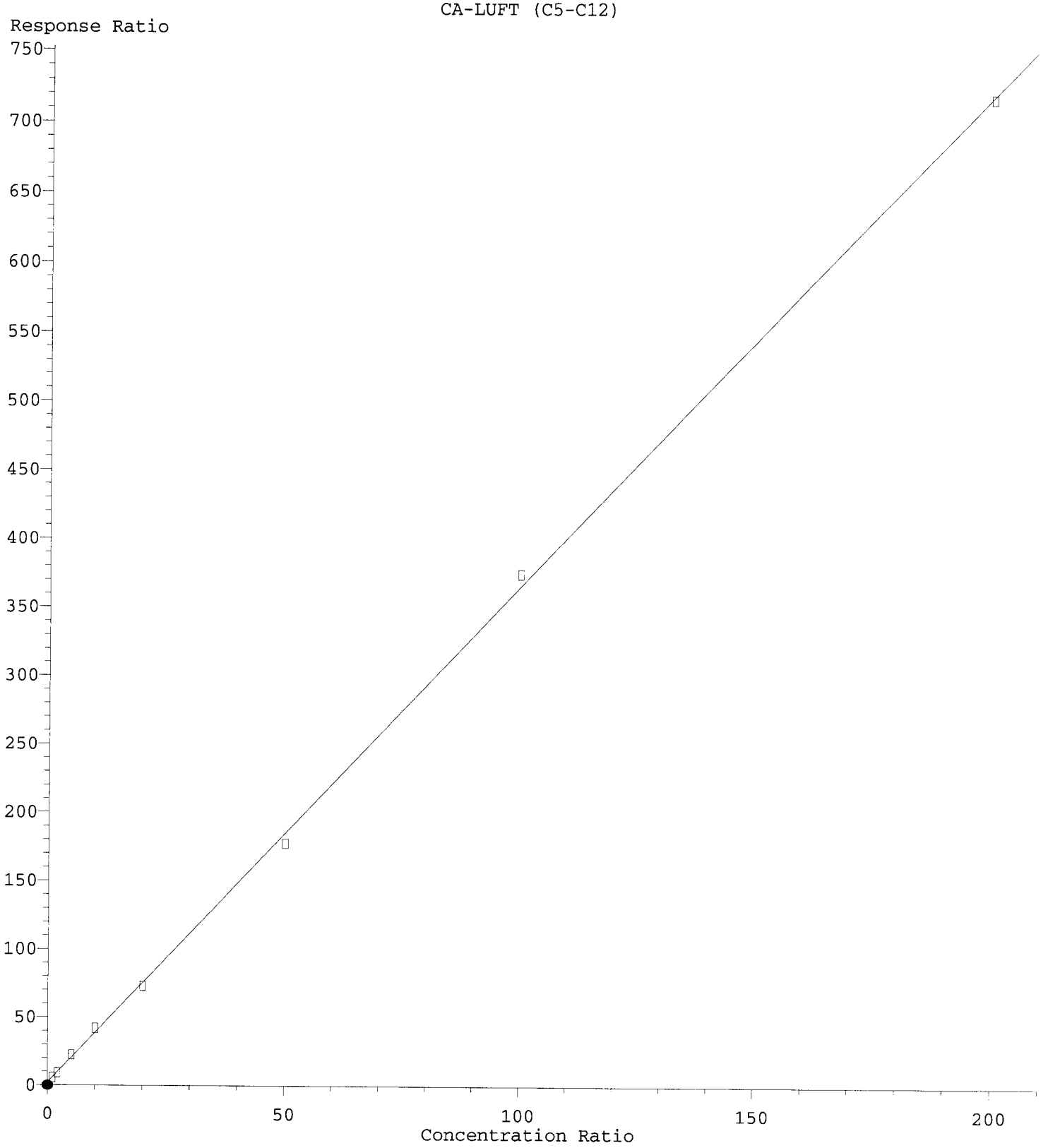
TIC: VJ19092649.D\data.ms

(6) TPHg (C6-C10) (H)

9.239min (0.000) 8.87 ug/L m

response 249005

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



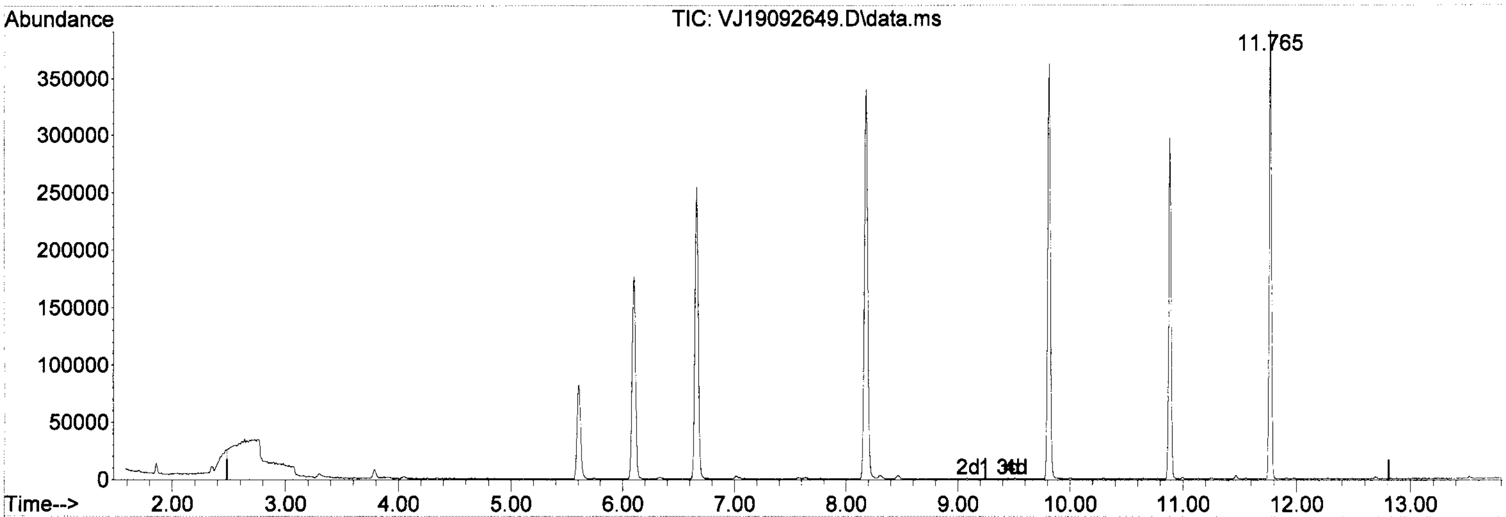
INT = 6.35

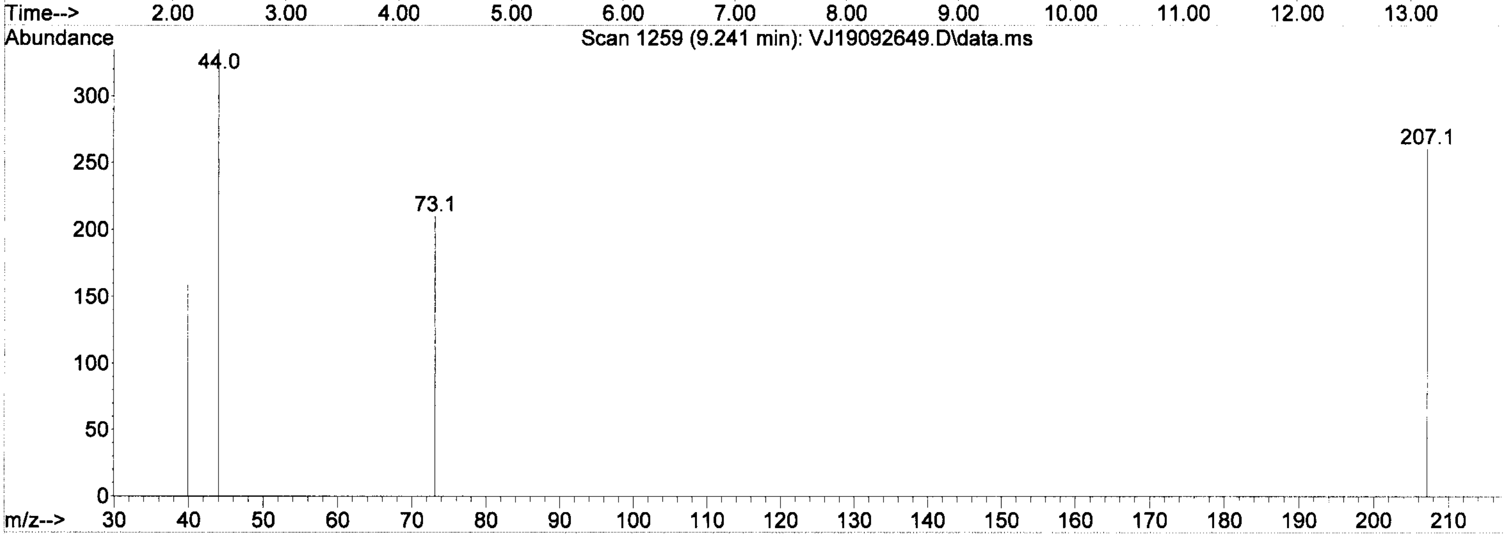
R = -5.04e-004 A*A + 3.69e+000 A + 2.10e+000
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VOI190926C.M
Calibration Table Last Updated: Fri Sep 27 15:17:54 2019

Quantitation Report (Qedit)

```
Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092649.D
Acq On    : 27 Sep 2019   6:50 am
Operator  : TB
Sample    : 9I26051-ICB2
Misc      : 1X  5mL  DI+MeOH
ALS Vial  : 25   Sample Multiplier: 1

Quant Time: Sep 27 15:41:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title  : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration
```





TIC: VJ19092649.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.239min (0.000) 6.35 ug/L m

response 306027

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

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I26051

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
9I26051-TUN2	MS Tune	Soil		A19G118	9/27/2019 5:30:00AM
9I26051-ICB2	Initial Cal Blank	Soil		A19G118	9/27/2019 6:50:00AM
9I26051-CALC	Cal Standard	Soil	A19I331	"	9/27/2019 7:17:00AM
9I26051-CALD	Cal Standard	Soil	A19I332	"	9/27/2019 7:44:00AM
9I26051-CALE	Cal Standard	Soil	A19I333	"	9/27/2019 8:10:00AM
9I26051-CALF	Cal Standard	Soil	A19I334	"	9/27/2019 8:37:00AM
9I26051-CALG	Cal Standard	Soil	A19H370	"	9/27/2019 9:04:00AM
9I26051-CALH	Cal Standard	Soil	A19H371	"	9/27/2019 9:31:00AM
9I26051-CALI	Cal Standard	Soil	A19H372	"	9/27/2019 9:57:00AM
9I26051-CALJ	Cal Standard	Soil	A19H373	"	9/27/2019 10:24:00AM
9I26051-ICV3	Initial Cal Check	Soil	A19G350	"	9/27/2019 11:45:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9I2702** Instrument: **VOA-GCMS10**

8015D-Mod Gasoline (C6-C1(Sequence: **9I26051** Matrix: **Soil**

9I26051-CALC	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CALD	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CALE	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CALF	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CALG	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CALH	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-CALI	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I26051-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: 9I26051

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: **A9I2702** Instrument: **VOA-GCMS10**

NWTPH-Gx Sequence: **9I26051** Matrix: **Soil**

9I26051-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.

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092660.D
Acq On : 27 Sep 2019 11:45 am
Operator : TB
Sample : 9I26051-ICV3
Misc : 1X 5mL 500PPB GX+MeOH
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Sep 27 15:41:08 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

9/27/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	126	-0.01
2	S	1,4-Difluorobenzene (Sur)	50.000	49.229	1.5	123	-0.01
3	S	4-Bromofluorobenzene (Sur)	50.000	48.300	3.4	121	0.00
4	H	NWTPH-Gx (TPH)	500.000	458.274	8.3	114	0.00
5	H	TPHg (C5-C9)	500.000	466.695	6.7	109	0.00
6	H	TPHg (C6-C10)	500.000	448.869	10.2	111	0.00
7	H	CA-LUFT (C5-C12)	500.000	467.023	6.6	110	0.00
8		Benzene (NR)	-1.000	0.000	0.0	119	-0.01
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	122	-0.01
10		Toluene (NR)	-1.000	0.000	0.0	120	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	123	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	119	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	122	-0.01

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

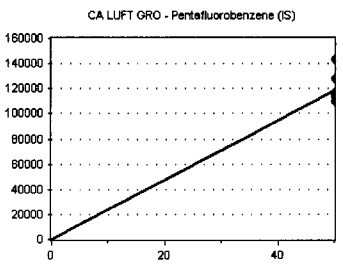
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **VJ190926S+ VJ190926G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

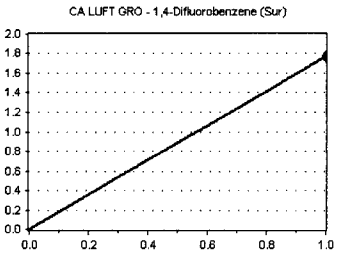


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	113074	2261.480	6.10
9I26051-CALD	50	115073	2301.460	6.10
9I26051-CALE	50	109981	2199.620	6.10
9I26051-CALF	50	109511	2190.220	6.10
9I26051-CALG	50	113434	2268.680	6.10
9I26051-CALH	50	116493	2329.860	6.10
9I26051-CALI	50	127905	2558.100	6.10
9I26051-CALJ	50	143951	2879.020	6.10

AVE RF **2373.555** RF RSD **9.87** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

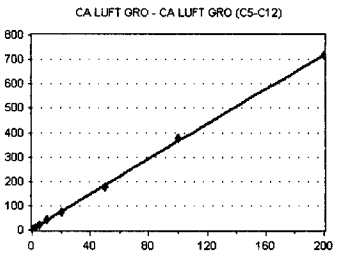


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	199925	1.768	6.66
9I26051-CALD	50	203204	1.766	6.66
9I26051-CALE	50	194788	1.771	6.66
9I26051-CALF	50	195473	1.785	6.66
9I26051-CALG	50	201528	1.777	6.66
9I26051-CALH	50	206587	1.773	6.66
9I26051-CALI	50	225634	1.764	6.66
9I26051-CALJ	50	253792	1.763	6.66

AVE RF **1.771** RF RSD **0.41** AVE RT **6.66**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

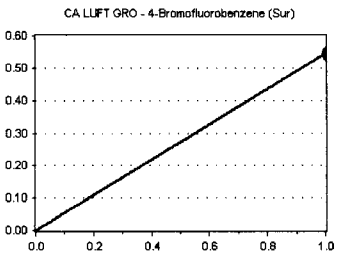


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	629208	5.565	9.24
9I26051-CALD	100	1035063	4.497	9.24
9I26051-CALE	250	2461965	4.477	9.24
9I26051-CALF	500	4586468	4.188	9.24
9I26051-CALG	1000	8260112	3.641	9.24
9I26051-CALH	2500	2.067643E+07	3.550	9.24
9I26051-CALI	5000	4.785885E+07	3.742	9.24
9I26051-CALJ	10000	1.031852E+08	3.584	9.24

AVE RF **4.155** RF RSD **16.61** AVE RT **9.24**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	61945	0.548	10.88
9I26051-CALD	50	61650	0.536	10.88
9I26051-CALE	50	59627	0.542	10.88
9I26051-CALF	50	59929	0.547	10.88
9I26051-CALG	50	62285	0.549	10.88
9I26051-CALH	50	64135	0.551	10.88
9I26051-CALI	50	69662	0.545	10.88
9I26051-CALJ	50	77412	0.538	10.88

AVE RF **0.544** RF RSD **0.99** AVE RT **10.88**

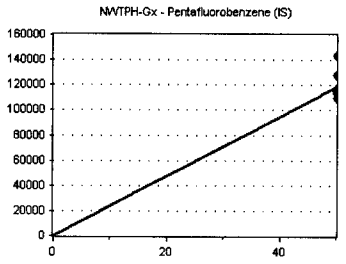
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **VJ190926S+ VJ190926G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

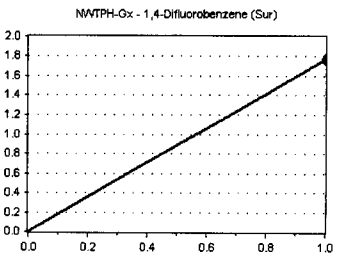


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	113074	2261.480	6.10
9I26051-CALD	50	115073	2301.460	6.10
9I26051-CALE	50	109981	2199.620	6.10
9I26051-CALF	50	109511	2190.220	6.10
9I26051-CALG	50	113434	2268.680	6.10
9I26051-CALH	50	116493	2329.860	6.10
9I26051-CALI	50	127905	2558.100	6.10
9I26051-CALJ	50	143951	2879.020	6.10

AVE RF **2373.555** RF RSD **9.87** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

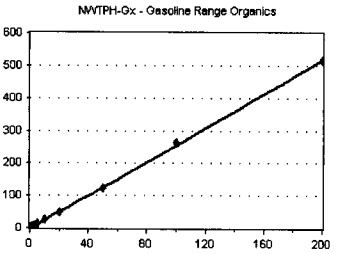


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	199925	1.768	6.66
9I26051-CALD	50	203204	1.766	6.66
9I26051-CALE	50	194788	1.771	6.66
9I26051-CALF	50	195473	1.785	6.66
9I26051-CALG	50	201528	1.777	6.66
9I26051-CALH	50	206587	1.773	6.66
9I26051-CALI	50	225634	1.764	6.66
9I26051-CALJ	50	253792	1.763	6.66

AVE RF **1.771** RF RSD **0.41** AVE RT **6.66**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

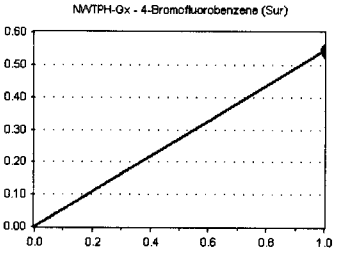


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	320378	2.833	8.74
9I26051-CALD	100	582275	2.530	8.74
9I26051-CALE	250	1319842	2.400	8.74
9I26051-CALF	500	2785925	2.544	8.74
9I26051-CALG	1000	5469213	2.411	8.74
9I26051-CALH	2500	1.426509E+07	2.449	8.74
9I26051-CALI	5000	3.366642E+07	2.632	8.74
9I26051-CALJ	10000	7.423594E+07	2.579	8.74

AVE RF **2.547** RF RSD **5.56** AVE RT **8.74**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	61945	0.548	10.88
9I26051-CALD	50	61650	0.536	10.88
9I26051-CALE	50	59627	0.542	10.88
9I26051-CALF	50	59929	0.547	10.88
9I26051-CALG	50	62285	0.549	10.88
9I26051-CALH	50	64135	0.551	10.88
9I26051-CALI	50	69662	0.545	10.88
9I26051-CALJ	50	77412	0.538	10.88

AVE RF **0.544** RF RSD **0.99** AVE RT **10.88**

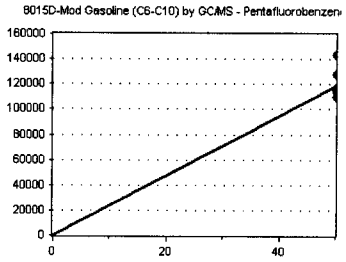
Element Calibration Review Sheet

Calibration ID: **A9I2702** Instrument: **VOA-GCMS10** Calibration Date: **09/26/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **VJ190926S+ VJ190926G**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

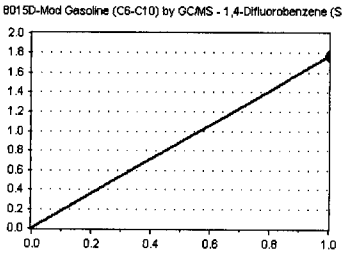


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	113074	2261.480	6.10
9I26051-CALD	50	115073	2301.460	6.10
9I26051-CALE	50	109981	2199.620	6.10
9I26051-CALF	50	109511	2190.220	6.10
9I26051-CALG	50	113434	2268.680	6.10
9I26051-CALH	50	116493	2329.860	6.10
9I26051-CALI	50	127905	2558.100	6.10
9I26051-CALJ	50	143951	2879.020	6.10

AVE RF **2373.555** RF RSD **9.87** AVE RT **6.10**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

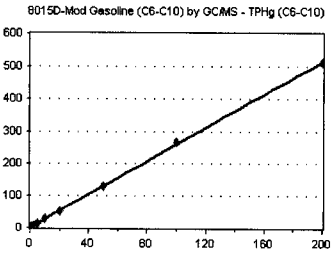


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	199925	1.768	6.66
9I26051-CALD	50	203204	1.766	6.66
9I26051-CALE	50	194788	1.771	6.66
9I26051-CALF	50	195473	1.785	6.66
9I26051-CALG	50	201528	1.777	6.66
9I26051-CALH	50	206587	1.773	6.66
9I26051-CALI	50	225634	1.764	6.66
9I26051-CALJ	50	253792	1.763	6.66

AVE RF **1.771** RF RSD **0.41** AVE RT **6.66**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

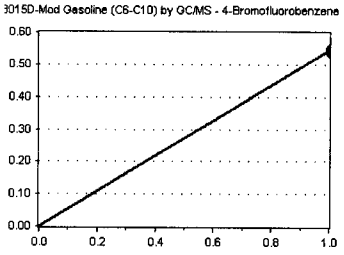


Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	489865	4.332	9.24
9I26051-CALD	100	797203	3.464	9.24
9I26051-CALE	250	1528260	2.779	9.24
9I26051-CALF	500	3102369	2.833	9.24
9I26051-CALG	1000	5909770	2.605	9.24
9I26051-CALH	2500	1.496215E+07	2.569	9.24
9I26051-CALI	5000	3.412665E+07	2.668	9.24
9I26051-CALJ	10000	7.381909E+07	2.564	9.24

AVE RF **2.977** RF RSD **20.88** AVE RT **9.24**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9I26051-CALC	50	61945	0.548	10.88
9I26051-CALD	50	61650	0.536	10.88
9I26051-CALE	50	59627	0.542	10.88
9I26051-CALF	50	59929	0.547	10.88
9I26051-CALG	50	62285	0.549	10.88
9I26051-CALH	50	64135	0.551	10.88
9I26051-CALI	50	69662	0.545	10.88
9I26051-CALJ	50	77412	0.538	10.88

AVE RF **0.544** RF RSD **0.99** AVE RT **10.88**

Injection Log

Directory: w:\data\2019-09\9I26051

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	Vj19092625.d	1.	9I26051-IBL1	1X 5mL DI+MeOH	26 Sep 2019 20:08
2	2	Vj19092626.d	1.	9I26051-TUN1	A19G118 BFB (IS/...	26 Sep 2019 20:35
3	3	Vj19092627.d	1.	9I26051-ICB1	1X 5mL DI+MeOH	26 Sep 2019 21:02
4	4	Vj19092628.d	1.	9I26051-CAL1	1X 5mL 0.1/0.2P...	26 Sep 2019 21:28
5	5	Vj19092629.d	1.	9I26051-CAL2	1X 5mL 0.2/0.4P...	26 Sep 2019 21:55
6	6	Vj19092630.d	1.	9I26051-CAL3	1X 5mL 0.4/0.8P...	26 Sep 2019 22:22
7	7	Vj19092631.d	1.	9I26051-CAL4	1X 5mL 1/2PPB V...	26 Sep 2019 22:49
8	8	Vj19092632.d	1.	9I26051-CAL5	1X 5mL 2/4PPB V...	26 Sep 2019 23:15
9	9	Vj19092633.d	1.	9I26051-CAL6	1X 5mL 5/10PPB ...	26 Sep 2019 23:42
10	10	Vj19092634.d	1.	9I26051-CAL7	1X 5mL 10/20PPB...	27 Sep 2019 00:09
11	11	Vj19092635.d	1.	9I26051-CAL8	1X 5mL 20/40PPB...	27 Sep 2019 00:35
12	12	Vj19092636.d	1.	9I26051-CAL9	1X 5mL 50/100PP...	27 Sep 2019 01:02
13	13	Vj19092637.d	1.	9I26051-IBL2	1X 5mL DI+MeOH	27 Sep 2019 01:29
14	14	Vj19092638.d	1.	9I26051-CALA	1X 5mL 100/200P...	27 Sep 2019 01:56
15	15	Vj19092639.d	1.	9I26051-IBL3	1X 5mL DI+MeOH	27 Sep 2019 02:22
16	16	Vj19092640.d	1.	9I26051-CALB	1X 5mL 200/400P...	27 Sep 2019 02:49
17	17	Vj19092641.d	1.	9I26051-IBL4	1X 5mL DI+MeOH	27 Sep 2019 03:16
18	18	Vj19092642.d	1.	9I26051-IBL5	1X 5mL DI+MeOH	27 Sep 2019 03:43
19	19	Vj19092643.d	1.	9I26051-ICV1	1X 5mL 20/40PPB...	27 Sep 2019 04:10
20	20	Vj19092644.d	1.	9I26051-ICV2	1X 5mL OXY ICV	27 Sep 2019 04:36
21	21	Vj19092645.d	1.	9I26051-IBL6	1X 5mL DI+MeOH	27 Sep 2019 05:03
22	22	Vj19092646.d	1.	9I26051-TUN2	A19G118 BFB (IS/...	27 Sep 2019 05:30
23	23	Vj19092647.d	1.	9I26051-RT	1X 5mL DI+MeOH	27 Sep 2019 05:57
24	24	Vj19092648.d	1.	9I26051-IBL7	1X 5mL DI+MeOH	27 Sep 2019 06:23
25	25	Vj19092649.d	1.	9I26051-ICB2	1X 5mL DI+MeOH	27 Sep 2019 06:50
26	26	Vj19092650.d	1.	9I26051-CALC	1X 5mL 50PPB GX...	27 Sep 2019 07:17
27	27	Vj19092651.d	1.	9I26051-CALD	1X 5mL 100PPB GX...	27 Sep 2019 07:44
28	28	Vj19092652.d	1.	9I26051-CALE	1X 5mL 250PPB G...	27 Sep 2019 08:10
29	29	Vj19092653.d	1.	9I26051-CALF	1X 5mL 500PPB G...	27 Sep 2019 08:37
30	30	Vj19092654.d	1.	9I26051-CALG	1X 5mL 1000PPB ...	27 Sep 2019 09:04
31	31	Vj19092655.d	1.	9I26051-CALH	1X 5mL 2500PPB G...	27 Sep 2019 09:31
32	32	Vj19092656.d	1.	9I26051-CALI	1X 5mL 5000PPB ...	27 Sep 2019 09:57
33	33	Vj19092657.d	1.	9I26051-CALJ	1X 5mL 10000PPB...	27 Sep 2019 10:24
34	34	Vj19092658.d	1.	9I26051-IBL8	1X 5mL DI+MeOH	27 Sep 2019 10:51
35	35	Vj19092659.d	1.	9I26051-IBL9	1X 5mL DI+MeOH	27 Sep 2019 11:18
36	36	Vj19092660.d	1.	9I26051-ICV3	1X 5mL 500PPB G...	27 Sep 2019 11:45
37	37	Vj19092661.d	1.	9I26051-IBLA	1X 5mL DI+MeOH	27 Sep 2019 12:11

9/27/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092625.D
Acq On : 26 Sep 2019 8:08 pm
Operator : TB
Sample : 9I26051-IBL1
Misc : 1X 5mL DI+MeOH
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 27 15:39:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

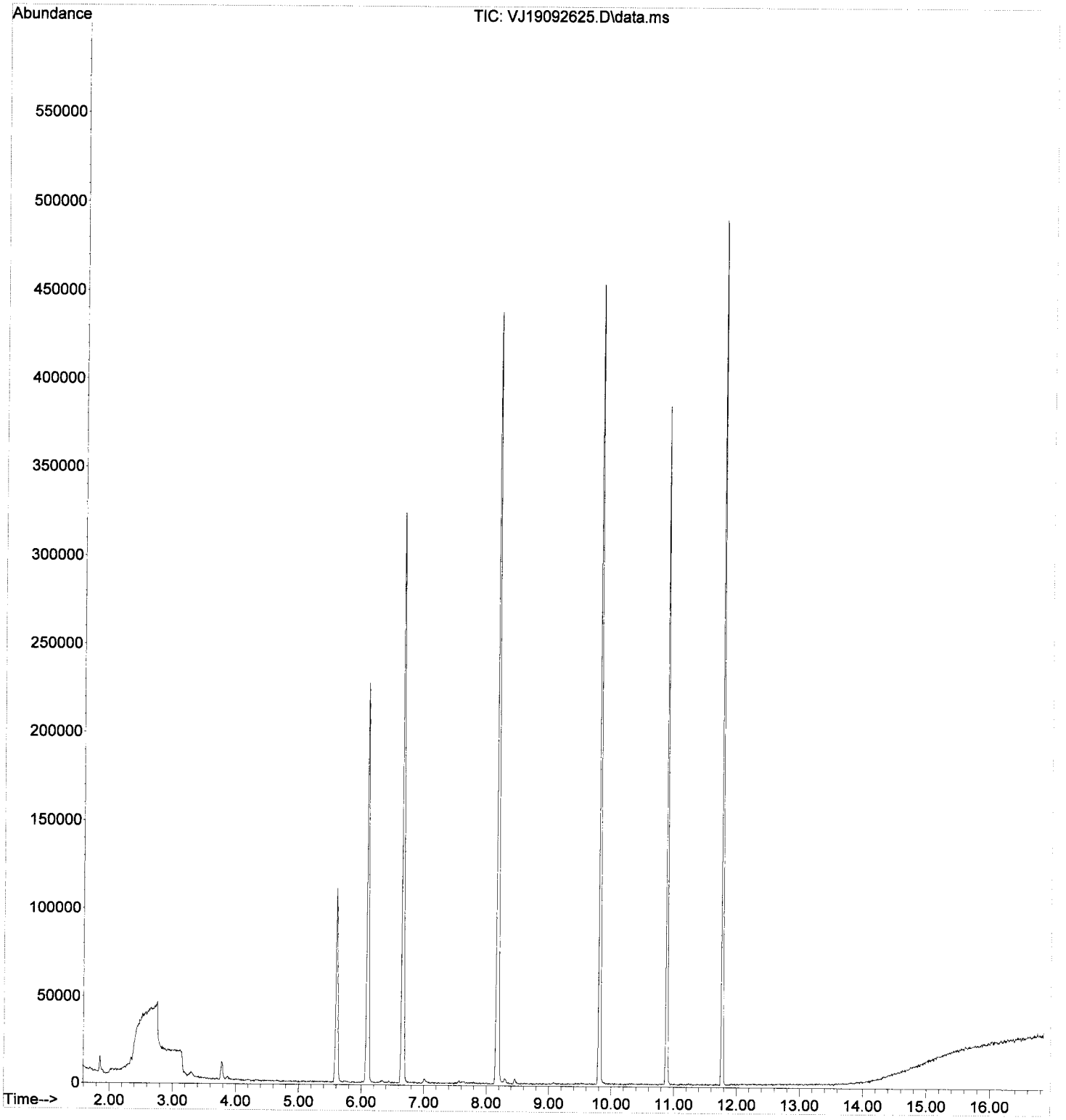
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	100766	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	244424	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	108570	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	75388	52.38	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	276747	51.42	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	339498	49.53	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	85744	51.12	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.898	50	819	0.31	ug/L		80
5) Bromomethane	2.342	96	2387	Below Cal			99
6) Chloroethane	2.457	64	377	1.25	ug/L		65
8) Ethanol	3.297	45	3917	6.13	ug/L		78
12) Iodomethane	3.297	142	1086	0.84	ug/L		71
14) Acetone	3.863	43	2333	Below Cal			98
28) Tetrahydrofuran	5.597	42	430	0.22	ug/L	#	34
32) 2-Butanone (MEK)	5.743	43	1402	0.53	ug/L		52
34) tert-Amyl methyl ether...	6.174	73	354	Below Cal		#	46
36) iso-Butyl Alcohol	6.314	43	762	2.45	ug/L		87

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092625.D
Acq On : 26 Sep 2019 8:08 pm
Operator : TB
Sample : 9I26051-IBL1
Misc : 1X 5mL DI+MeOH
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Sep 27 15:39:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

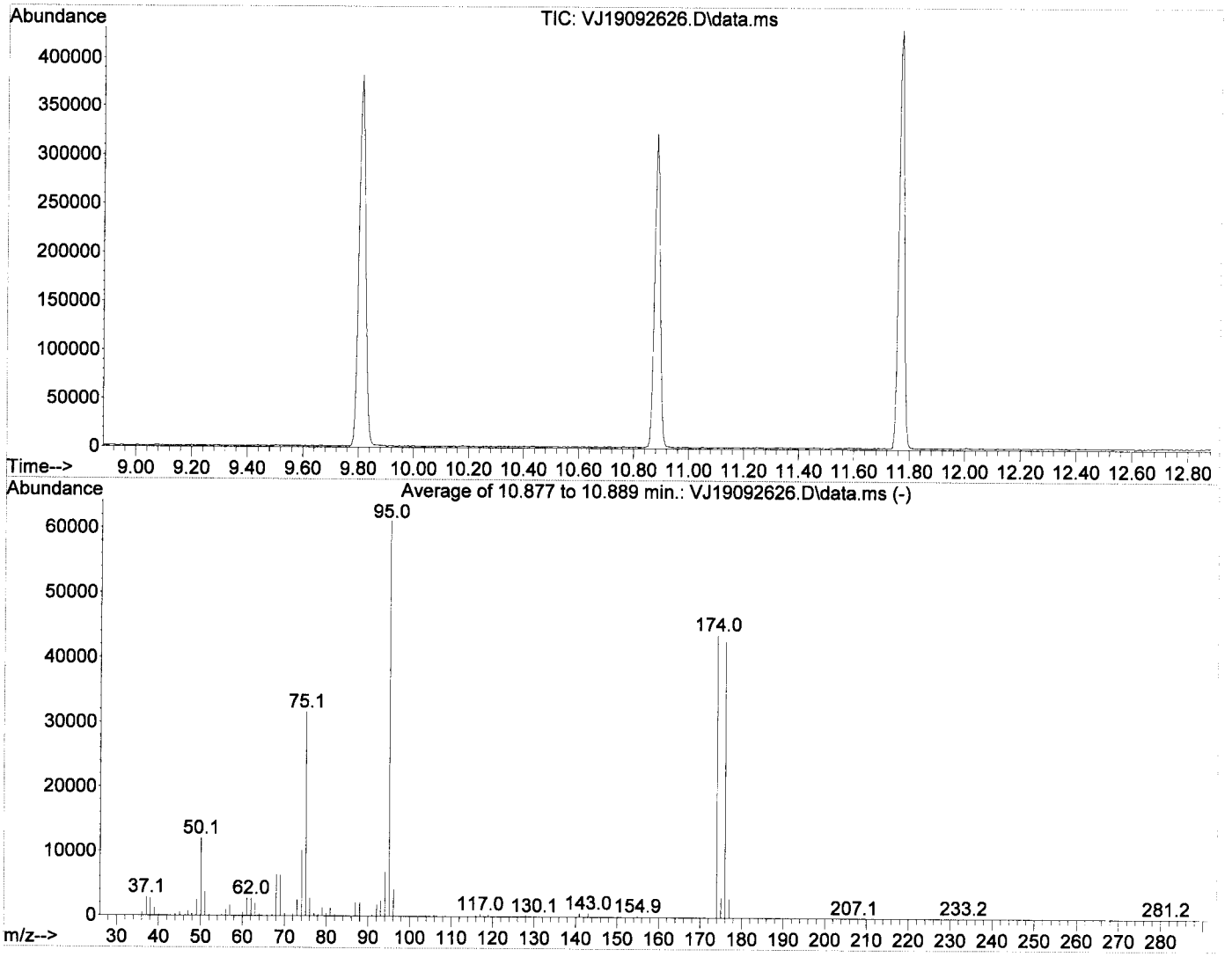


Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092626.D
Acq On : 26 Sep 2019 8:35 pm
Operator : TB
Sample : 9I26051-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VJ190926S+.M
Title : EPA 8260C: Volatile Organic Compounds
Last Update : Fri Sep 27 13:24:27 2019

9/27/19



AutoFind: Scans 1528, 1529, 1530; Background Corrected with Scan 1521

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	139.7	61197	PASS
96	95	5	9	6.8	4133	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	200	71.6	43797	PASS
175	174	5	9	7.1	3111	PASS
176	174	95	105	97.4	42675	PASS
177	176	5	10	6.7	2860	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092626.D
Acq On : 26 Sep 2019 8:35 pm
Operator : TB
Sample : 9I26051-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 27 15:39:55 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

9/27/19

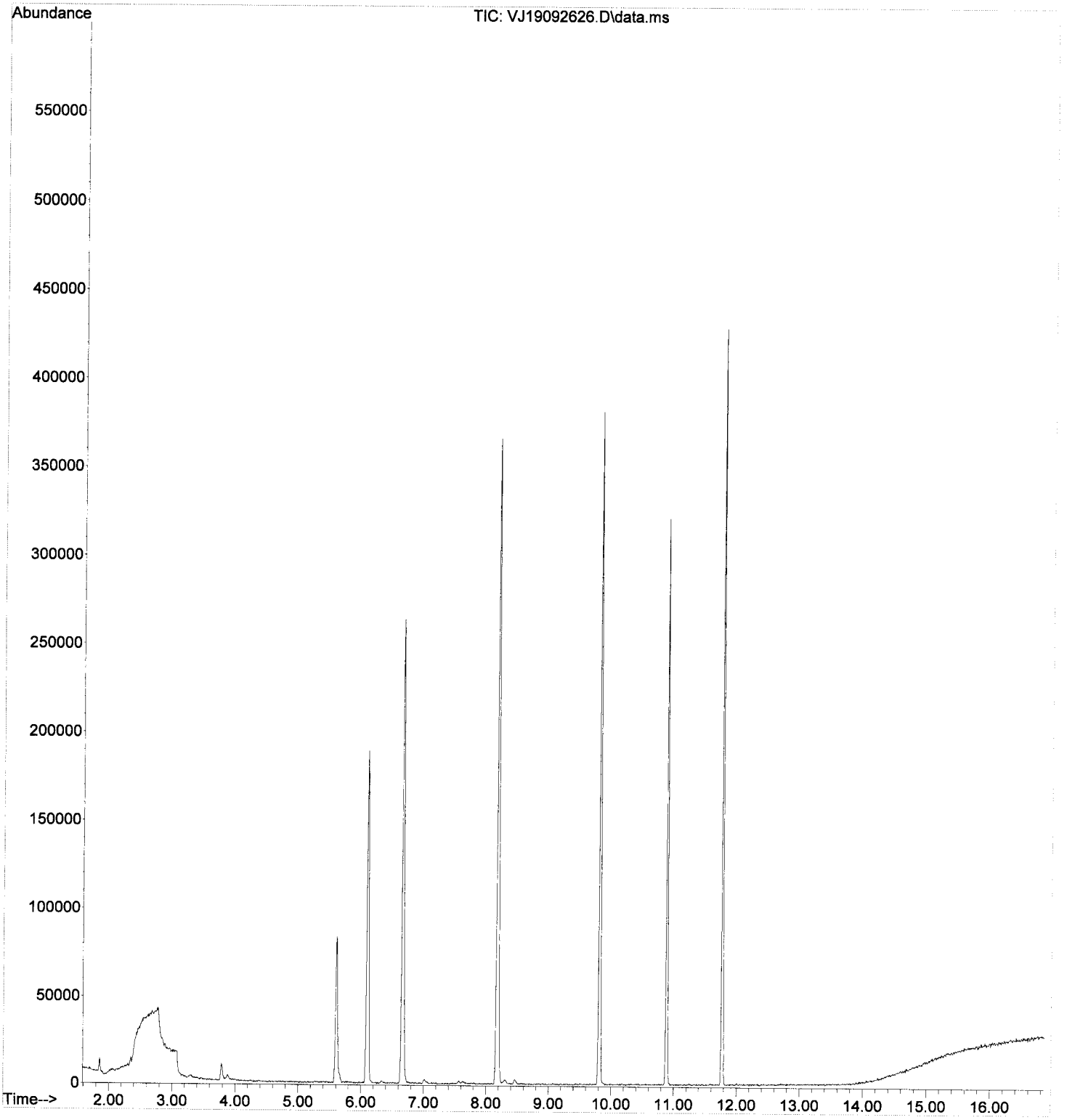
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	85074	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	204856	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	92614	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	60907	50.12	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	232451	51.15	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	283054	49.27	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	71954	50.29	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.904	50	808	0.36	ug/L		84
5) Bromomethane	2.348	96	2116	Below Cal			97
6) Chloroethane	2.463	64	296	1.16	ug/L		71
8) Ethanol	3.315	45	1380	Below Cal			78
12) Iodomethane	3.303	142	848	0.71	ug/L		72
13) Methylene Chloride	3.790	84	4476	0.11	ug/L		96
14) Acetone	3.881	43	3691	0.61	ug/L		94
28) Tetrahydrofuran	5.596	42	190	0.12	ug/L	#	66
32) 2-Butanone (MEK)	5.755	43	766	0.34	ug/L		52
34) tert-Amyl methyl ether...	6.162	73	152	Below Cal		#	46
36) iso-Butyl Alcohol	6.339	43	960	3.65	ug/L		90

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092626.D
Acq On : 26 Sep 2019 8:35 pm
Operator : TB
Sample : 9I26051-TUN1
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Sep 27 15:39:55 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092627.D
Acq On : 26 Sep 2019 9:02 pm
Operator : TB
Sample : 9I26051-ICB1
Misc : 1X 5mL DI+MeOH
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 27 15:39:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

BJ 9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	84032	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.813	117	200485	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	90162	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	61292	51.07	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	231159	51.50	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	281954	50.15	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	71137	51.07	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.892	50	655	0.29	ug/L		75
5) Bromomethane	2.342	96	2279	0.21	ug/L		96
6) Chloroethane	2.476	64	380	1.52	ug/L	#	47
8) Ethanol	3.321	45	4339	20.88	ug/L		82
12) Iodomethane	3.291	142	839	0.71	ug/L		74
14) Acetone	3.875	43	2097	Below Cal		#	42
28) Tetrahydrofuran	5.603	42	589	0.36	ug/L	#	57
32) 2-Butanone (MEK)	5.761	43	1241	0.57	ug/L		52
34) tert-Amyl methyl ether...	6.162	73	88	Below Cal		#	46
36) iso-Butyl Alcohol	6.321	43	1015	3.91	ug/L		65

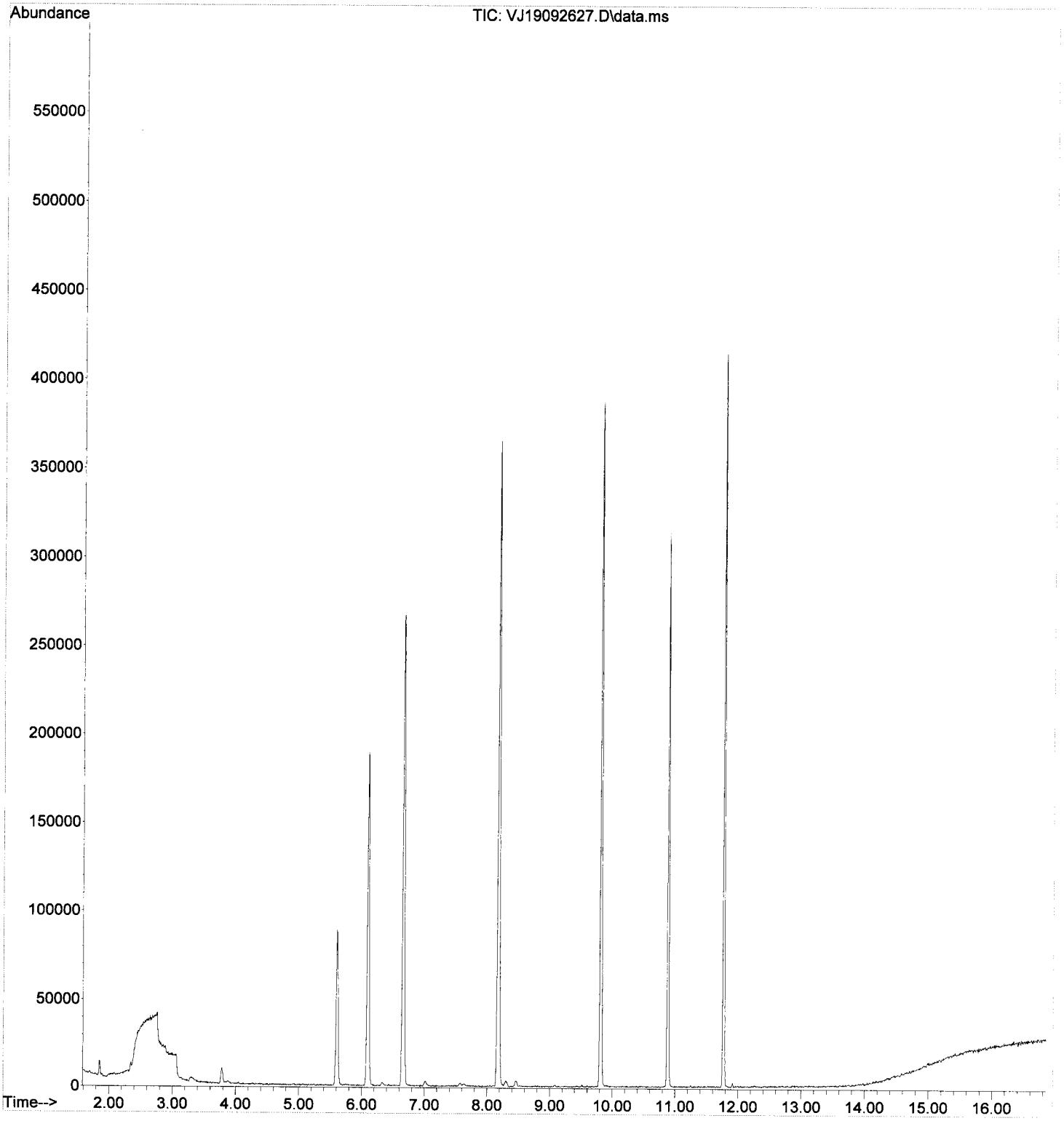
LWOC

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092627.D
Acq On : 26 Sep 2019 9:02 pm
Operator : TB
Sample : 9I26051-ICB1
Misc : 1X 5mL DI+MeOH
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Sep 27 15:39:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092628.D
Acq On : 26 Sep 2019 9:28 pm
Operator : TB
Sample : 9I26051-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCO+MeOH
ALS Vial : 4 Sample Multiplier: 1

post
9/27/19

Quant Time: Sep 27 11:04:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.095	99	85083	50.00	ug/L	0.00
43) Chlorobenzene-d5 (I)	9.812	117	201011	50.00	ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	91119	50.00	ug/L	0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.603	111	58707	48.22	ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.655	114	230170	51.09	ug/L	0.00
45) Toluene-d8 (S)	8.176	98	281171	49.20	ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.883	174	70815	50.39	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.		
3) Chloromethane	0.000		0	N.D.	d	
4) Vinyl Chloride	0.000		0	N.D.	d	
5) Bromomethane	2.342	96	2014	2.65	ug/L	87
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Ethanol	3.315	45	5365	80.38	ug/L	89
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.	d	
13) Methylene Chloride	3.784	84	2577	1.53	ug/L	88
14) Acetone	0.000		0	N.D.	d	
15) t-1,2-Dichloroethene	0.000		0	N.D.	d	
16) n-Hexane	0.000		0	N.D.		
17) Methyl-tert-butyl-ether	0.000		0	N.D.	d	
18) tert-Butanol (TBA)	0.000		0	N.D.	d	
19) Diisopropyl ether (DIPE)	0.000		0	N.D.	d	
20) 1,1-Dichloroethane	0.000		0	N.D.	d	
21) Acrylonitrile	0.000		0	N.D.		
22) Ethyl-tert-butyl ether...	0.000		0	N.D.	d	
23) c-1,2-Dichloroethene	0.000		0	N.D.	d	
24) 2,2-Dichloropropane	0.000		0	N.D.	d	
25) Bromochloromethane	0.000		0	N.D.		
26) Chloroform	0.000		0	N.D.	d	
27) Carbon Tetrachloride	0.000		0	N.D.		
28) Tetrahydrofuran	0.000		0	N.D.	d	
29) 1,1,1-Trichloroethane	0.000		0	N.D.	d	
31) 1,1-Dichloropropene	0.000		0	N.D.	d	
32) 2-Butanone (MEK)	0.000		0	N.D.	d	
33) Benzene	6.010	78	929	0.11	ug/L	62
34) tert-Amyl methyl ether...	0.000		0	N.D.	d	
35) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	d	
36) iso-Butyl Alcohol	0.000		0	N.D.	d	
38) Trichloroethene (TCE)	0.000		0	N.D.		
39) tert-Amyl ethyl ether ...	0.000		0	N.D.		
40) Dibromomethane	0.000		0	N.D.		
41) 1,2-Dichloropropane	0.000		0	N.D.	d	
42) Bromodichloromethane	0.000		0	N.D.		
44) c-1,3-Dichloropropene	0.000		0	N.D.	d	
46) Toluene	8.237	91	1040	0.12	ug/L	95
47) Tetrachloroethene (PCE)	0.000		0	N.D.		
48) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092628.D
Acq On : 26 Sep 2019 9:28 pm
Operator : TB
Sample : 9I26051-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCO+MeOH
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 27 11:04:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

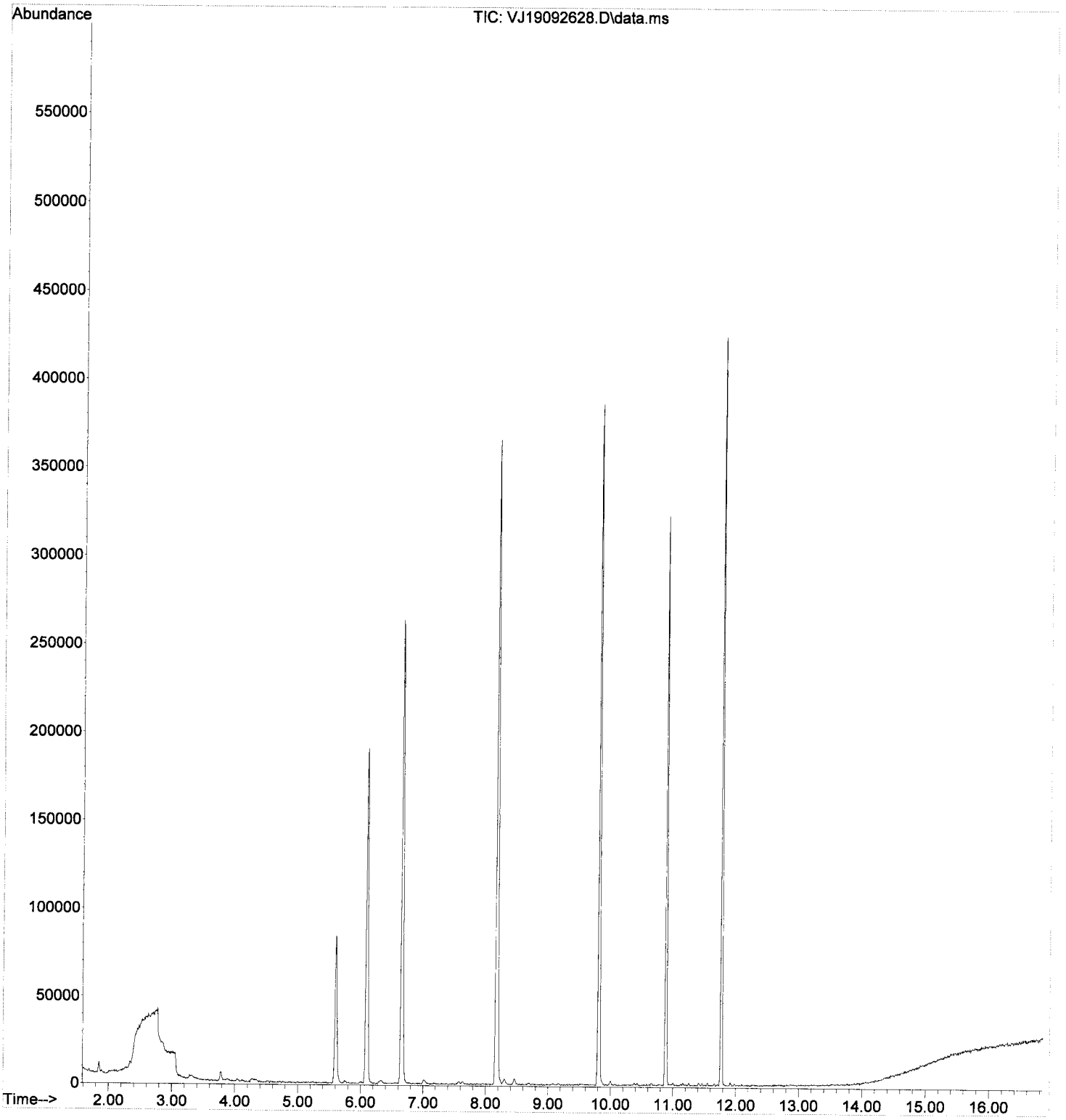
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) t-1,3-Dichloropropene	0.000		0	N.D. d	
50) 1,1,2-Trichloroethane	0.000		0	N.D.	
51) Dibromochloromethane	0.000		0	N.D.	
52) 1,3-Dichloropropane	0.000		0	N.D. d	
53) 1,2-Dibromoethane (EDB)	0.000		0	N.D.	
54) 2-Hexanone	0.000		0	N.D. d	
55) Chlorobenzene	9.831	112	362	0.07 ug/L #	60
56) Ethylbenzene	9.861	91	1042	0.11 ug/L	93
57) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.	
58) m,p-Xylenes (2)	10.001	91	1555	0.22 ug/L	84
59) o-Xylene	10.384	91	830	0.11 ug/L	70
60) Styrene	10.427	104	376	0.07 ug/L	67
61) Bromoform	0.000		0	N.D.	
62) Isopropylbenzene	10.652	105	1007	0.11 ug/L	77
65) Bromobenzene	0.000		0	N.D. d	
66) n-Propylbenzene	11.005	91	1072	0.11 ug/L	84
67) 1,1,2,2-Tetrachloroethane	0.000		0	N.D. d	
68) 2-Chlorotoluene	0.000		0	N.D.	
69) 1,3,5-Trimethylbenzene	11.157	105	744	0.11 ug/L	83
70) 1,2,3-Trichloropropane	0.000		0	N.D.	
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
72) 4-Chlorotoluene	11.254	91	689	0.12 ug/L	89
73) tert-Butylbenzene	11.406	91	472	0.12 ug/L #	67
74) 1,2,4-Trimethylbenzene	11.467	105	773	0.11 ug/L	63
75) sec-Butylbenzene	11.552	105	858	0.11 ug/L	62
76) 4-Isopropyltoluene	11.662	119	688	0.10 ug/L	75
77) 1,3-Dichlorobenzene	11.717	146	362	0.11 ug/L #	73
78) 1,4-Dichlorobenzene	11.784	146	286	0.08 ug/L #	34
79) n-Butylbenzene	11.978	91	741	0.12 ug/L	96
80) 1,2-Dichlorobenzene	0.000		0	N.D. d	
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
82) Hexachlorobutadiene	0.000		0	N.D.	
83) 1,2,4-Trichlorobenzene	0.000		0	N.D. d	
84) Naphthalene	0.000		0	N.D. d	
85) 1,2,3-Trichlorobenzene	0.000		0	N.D. d	

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092628.D
Acq On : 26 Sep 2019 9:28 pm
Operator : TB
Sample : 9I26051-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCO+MeOH
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 27 11:04:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092628.D
Acq On : 26 Sep 2019 9:28 pm
Operator : TB
Sample : 9I26051-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCO+MeOH
ALS Vial : 4 Sample Multiplier: 1

pre
9/27/19

Quant Time: Sep 27 10:51:40 2019
Quant Method : C:\msdchem\1\methods\~~VJ190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	85083	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	201011	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	91119	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	58707	48.22	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	230170	51.09	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	281171	49.20	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	70815	50.39	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	1.892	50	980	0.45	ug/L		92
4) Vinyl Chloride	2.001	62	58	0.03	ug/L	#	46
5) Bromomethane	2.342	96	2014	2.65	ug/L		87
6) Chloroethane	2.482	64	188	0.74	ug/L	#	35
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.315	45	5365	80.38	ug/L		89
9) 1,1-Dichloroethene	3.145	61	62	0.02	ug/L	#	25
10) Carbon Disulfide	3.145	76	466	0.13	ug/L		78
11) Freon 113	0.000		0	N.D.			
12) Iodomethane	3.285	142	640	1.21	ug/L		66
13) Methylene Chloride	3.784	84	2577	1.53	ug/L		88
14) Acetone	3.881	43	1945	1.45	ug/L	#	42
15) t-1,2-Dichloroethene	3.954	61	82	0.03	ug/L	#	71
16) n-Hexane	0.000		0	N.D.			
17) Methyl-tert-butyl-ether	4.106	73	1636	0.23	ug/L		57
18) tert-Butanol (TBA)	4.276	59	4662	6.45	ug/L	#	86
19) Diisopropyl ether (DIPE)	4.514	45	57	0.01	ug/L	#	2
20) 1,1-Dichloroethane	4.581	63	196	0.07	ug/L	#	50
21) Acrylonitrile	0.000		0	N.D.			
22) Ethyl-tert-butyl ether...	4.879	59	60	0.01	ug/L	#	38
23) c-1,2-Dichloroethene	5.140	61	126	0.05	ug/L	#	35
24) 2,2-Dichloropropane	5.250	77	414	0.14	ug/L		64
25) Bromochloromethane	0.000		0	N.D.			
26) Chloroform	5.420	83	216	0.06	ug/L	#	25
27) Carbon Tetrachloride	0.000		0	N.D.			
28) Tetrahydrofuran	5.615	42	776	0.49	ug/L	#	55
29) 1,1,1-Trichloroethane	5.615	97	123	0.04	ug/L	#	25
31) 1,1-Dichloropropene	5.743	75	239	0.08	ug/L	#	26
32) 2-Butanone (MEK)	5.749	43	2129	1.05	ug/L		52
33) Benzene	6.010	78	929	0.11	ug/L		62
34) tert-Amyl methyl ether...	6.156	73	255	0.04	ug/L	#	46
35) 1,2-Dichloroethane (EDC)	6.217	62	83	0.03	ug/L	#	49
36) iso-Butyl Alcohol	6.327	43	1578	5.88	ug/L		80
38) Trichloroethene (TCE)	0.000		0	N.D.			
39) tert-Amyl ethyl ether ...	0.000		0	N.D.			
40) Dibromomethane	0.000		0	N.D.			
41) 1,2-Dichloropropane	7.172	63	62	0.03	ug/L	#	40
42) Bromodichloromethane	0.000		0	N.D.			
44) c-1,3-Dichloropropene	7.957	75	124	0.04	ug/L	#	4
46) Toluene	8.237	91	1040	0.12	ug/L		95
47) Tetrachloroethene (PCE)	0.000		0	N.D.			
48) 4-Methyl-2-Pentanone (...	8.675	43	1032	0.29	ug/L	#	43

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092628.D
Acq On : 26 Sep 2019 9:28 pm
Operator : TB
Sample : 9I26051-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCO+MeOH
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 27 10:51:40 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

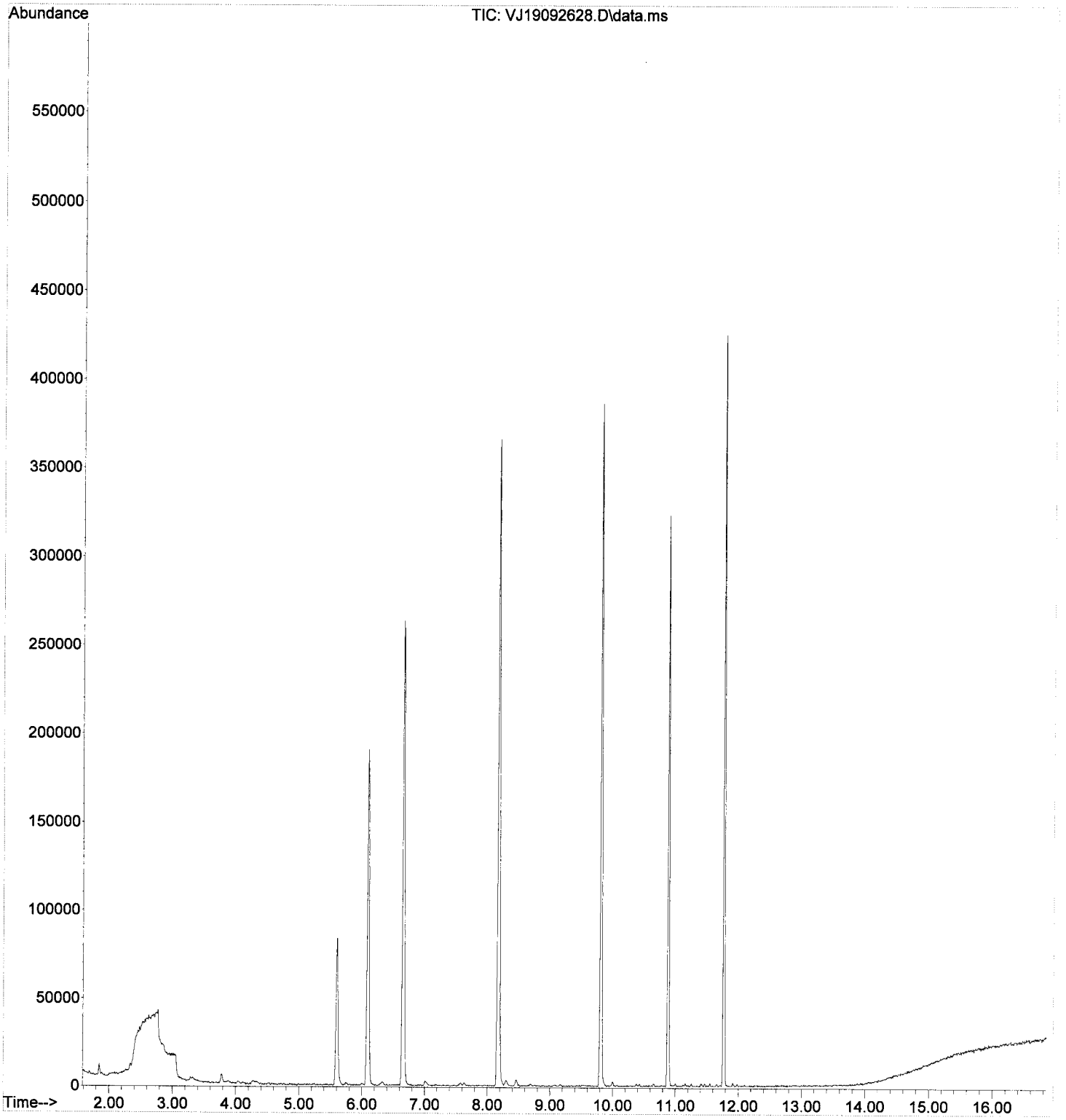
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	69	0.02	ug/L #	45
50) 1,1,2-Trichloroethane	0.000		0	N.D.		
51) Dibromochloromethane	0.000		0	N.D.		
52) 1,3-Dichloropropane	9.168	76	220	0.06	ug/L #	50
53) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
54) 2-Hexanone	9.551	43	746	0.27	ug/L #	32
55) Chlorobenzene	9.831	112	362	0.07	ug/L #	60
56) Ethylbenzene	9.861	91	1042	0.11	ug/L	93
57) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
58) m,p-Xylenes (2)	10.001	91	1555	0.22	ug/L	84
59) o-Xylene	10.384	91	830	0.11	ug/L	70
60) Styrene	10.427	104	376	0.07	ug/L	67
61) Bromoform	0.000		0	N.D.		
62) Isopropylbenzene	10.652	105	1007	0.11	ug/L	77
65) Bromobenzene	10.974	156	59	0.03	ug/L #	28
66) n-Propylbenzene	11.005	91	1072	0.11	ug/L	84
67) 1,1,2,2-Tetrachloroethane	11.053	83	268	0.11	ug/L #	24
68) 2-Chlorotoluene	0.000		0	N.D.		
69) 1,3,5-Trimethylbenzene	11.157	105	744	0.11	ug/L	83
70) 1,2,3-Trichloropropane	0.000		0	N.D.		
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
72) 4-Chlorotoluene	11.254	91	689	0.12	ug/L	89
73) tert-Butylbenzene	11.406	91	472	0.12	ug/L #	67
74) 1,2,4-Trimethylbenzene	11.467	105	773	0.11	ug/L	63
75) sec-Butylbenzene	11.552	105	858	0.11	ug/L	62
76) 4-Isopropyltoluene	11.662	119	688	0.10	ug/L	75
77) 1,3-Dichlorobenzene	11.717	146	362	0.11	ug/L #	73
78) 1,4-Dichlorobenzene	11.784	146	286	0.08	ug/L #	34
79) n-Butylbenzene	11.978	91	741	0.12	ug/L	96
80) 1,2-Dichlorobenzene	12.100	146	239	0.07	ug/L #	24
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
82) Hexachlorobutadiene	0.000		0	N.D.		
83) 1,2,4-Trichlorobenzene	13.244	180	80	0.04	ug/L	76
84) Naphthalene	13.517	128	819	0.10	ug/L	79
85) 1,2,3-Trichlorobenzene	13.682	180	141	0.07	ug/L #	12

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092628.D
Acq On : 26 Sep 2019 9:28 pm
Operator : TB
Sample : 9I26051-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCO+MeOH
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Sep 27 10:51:40 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

post
9/27/19

Quant Time: Sep 27 11:11:23 2019
Quant Method : C:\msdchem\1\methods\~~VJ190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	83469	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	198493	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	89580	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	58455	48.95	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	225508	51.03	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	276884	49.06	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	69195	50.09	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	1.892	50	1044	0.48	ug/L		92
4) Vinyl Chloride	0.000		0	N.D.	d		
5) Bromomethane	2.342	96	2043	2.74	ug/L		95
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	0.000		0	N.D.	d		
8) Ethanol	3.315	45	5460m	83.39	ug/L		
9) 1,1-Dichloroethene	3.139	61	507	0.21	ug/L		98
10) Carbon Disulfide	3.145	76	822	0.24	ug/L		78
11) Freon 113	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.	d		
13) Methylene Chloride	3.777	84	4596	2.78	ug/L		97
14) Acetone	0.000		0	N.D.	d		
15) t-1,2-Dichloroethene	3.948	61	462	0.18	ug/L		86
16) n-Hexane	0.000		0	N.D.			
17) Methyl-tert-butyl-ether	0.000		0	N.D.	d		
18) tert-Butanol (TBA)	4.270	59	8847m	12.47	ug/L		
19) Diisopropyl ether (DIPE)	0.000		0	N.D.	d		
20) 1,1-Dichloroethane	4.587	63	622	0.23	ug/L		66
21) Acrylonitrile	0.000		0	N.D.	d		
22) Ethyl-tert-butyl ether...	0.000		0	N.D.	d		
23) c-1,2-Dichloroethene	5.128	61	609	0.23	ug/L	#	75
24) 2,2-Dichloropropane	0.000		0	N.D.	d		
25) Bromochloromethane	0.000		0	N.D.	d		
26) Chloroform	5.426	83	731	0.22	ug/L		76
27) Carbon Tetrachloride	5.560	117	370	0.16	ug/L		90
28) Tetrahydrofuran	5.603	42	792	0.51	ug/L	#	55
29) 1,1,1-Trichloroethane	5.621	97	447	0.14	ug/L	#	67
31) 1,1-Dichloropropene	0.000		0	N.D.	d		
32) 2-Butanone (MEK)	0.000		0	N.D.	d		
33) Benzene	6.010	78	1839	0.23	ug/L		88
34) tert-Amyl methyl ether...	0.000		0	N.D.	d		
35) 1,2-Dichloroethane (EDC)	0.000		0	N.D.	d		
36) iso-Butyl Alcohol	0.000		0	N.D.	d		
38) Trichloroethene (TCE)	6.631	130	227	0.12	ug/L	#	54
39) tert-Amyl ethyl ether ...	0.000		0	N.D.	d		
40) Dibromomethane	0.000		0	N.D.	d		
41) 1,2-Dichloropropane	0.000		0	N.D.	d		
42) Bromodichloromethane	0.000		0	N.D.	d		
44) c-1,3-Dichloropropene	7.957	75	424	0.13	ug/L	#	23
46) Toluene	8.237	91	1992	0.23	ug/L		90
47) Tetrachloroethene (PCE)	0.000		0	N.D.	d		
48) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 27 11:11:23 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

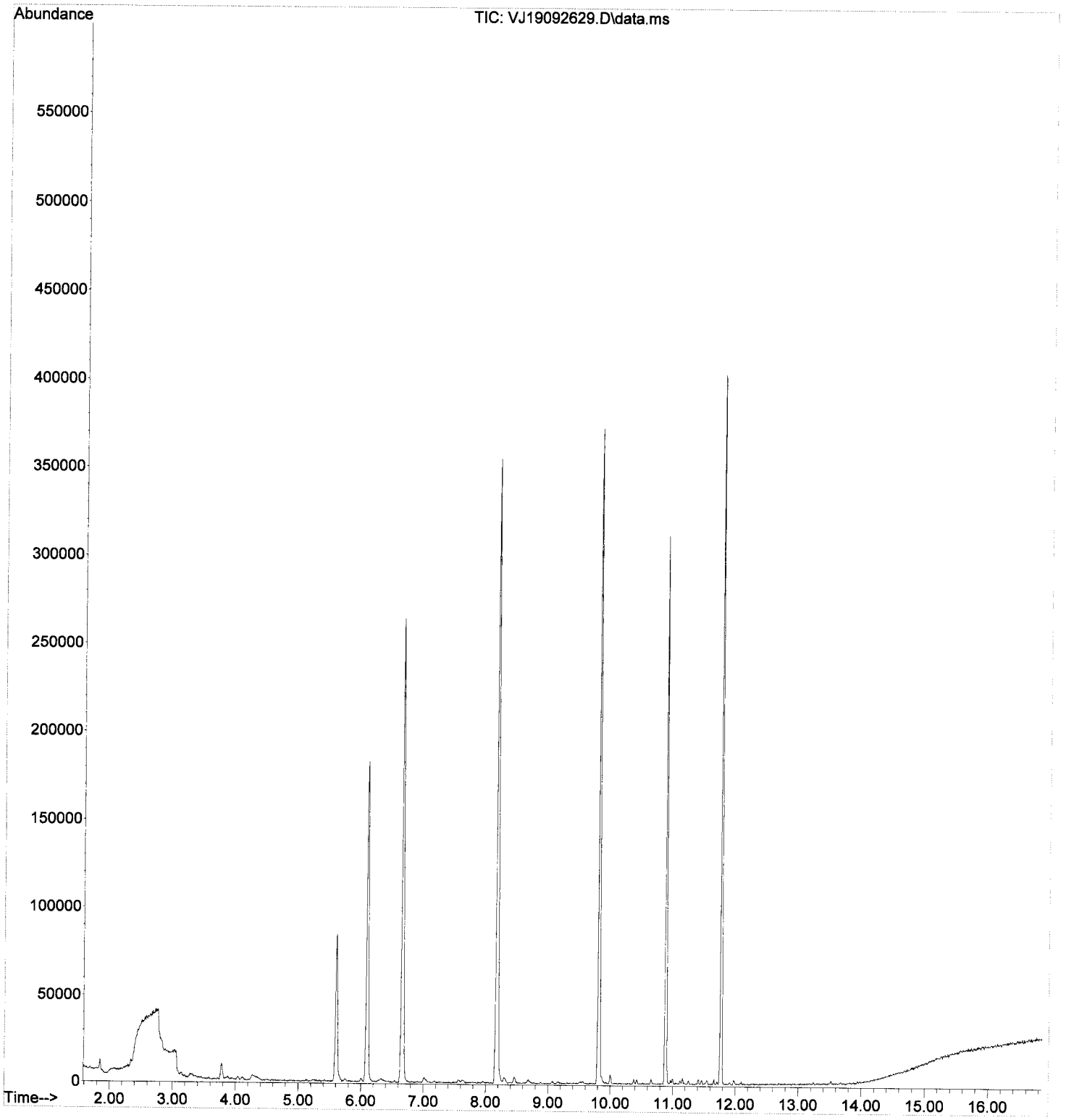
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) t-1,3-Dichloropropene	0.000		0	N.D. d	
50) 1,1,2-Trichloroethane	8.876	97	266	0.15 ug/L #	55
51) Dibromochloromethane	0.000		0	N.D.	
52) 1,3-Dichloropropane	9.161	76	584	0.17 ug/L #	74
53) 1,2-Dibromoethane (EDB)	0.000		0	N.D. d	
54) 2-Hexanone	9.557	43	1415	0.52 ug/L	84
55) Chlorobenzene	9.825	112	972	0.19 ug/L #	51
56) Ethylbenzene	9.867	91	2060	0.22 ug/L	87
57) 1,1,1,2-Tetrachloroethane	0.000		0	N.D. d	
58) m,p-Xylenes (2)	10.001	91	3044	0.43 ug/L	93
59) o-Xylene	10.378	91	1601	0.22 ug/L	87
60) Styrene	10.427	104	954	0.19 ug/L	82
61) Bromoform	0.000		0	N.D.	
62) Isopropylbenzene	10.658	105	1658	0.19 ug/L	87
65) Bromobenzene	10.968	156	264	0.14 ug/L	89
66) n-Propylbenzene	10.999	91	2200	0.23 ug/L	95
67) 1,1,2,2-Tetrachloroethane	11.060	83	497	0.21 ug/L	85
68) 2-Chlorotoluene	11.120	126	286	0.16 ug/L #	45
69) 1,3,5-Trimethylbenzene	11.163	105	1386	0.21 ug/L	77
70) 1,2,3-Trichloropropane	0.000		0	N.D. d	
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.	
72) 4-Chlorotoluene	11.254	91	1281	0.22 ug/L	91
73) tert-Butylbenzene	11.412	91	960	0.24 ug/L	81
74) 1,2,4-Trimethylbenzene	11.467	105	1309	0.20 ug/L	89
75) sec-Butylbenzene	11.552	105	1622	0.20 ug/L	87
76) 4-Isopropyltoluene	11.662	119	1273	0.19 ug/L	94
77) 1,3-Dichlorobenzene	11.710	146	743	0.22 ug/L	93
78) 1,4-Dichlorobenzene	11.783	146	670	0.20 ug/L #	41
79) n-Butylbenzene	11.978	91	1205	0.21 ug/L	94
80) 1,2-Dichlorobenzene	12.094	146	599	0.19 ug/L	89
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	
82) Hexachlorobutadiene	0.000		0	N.D.	
83) 1,2,4-Trichlorobenzene	13.244	180	429	0.21 ug/L #	69
84) Naphthalene	0.000		0	N.D. d	
85) 1,2,3-Trichlorobenzene	13.682	180	361	0.18 ug/L	72

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

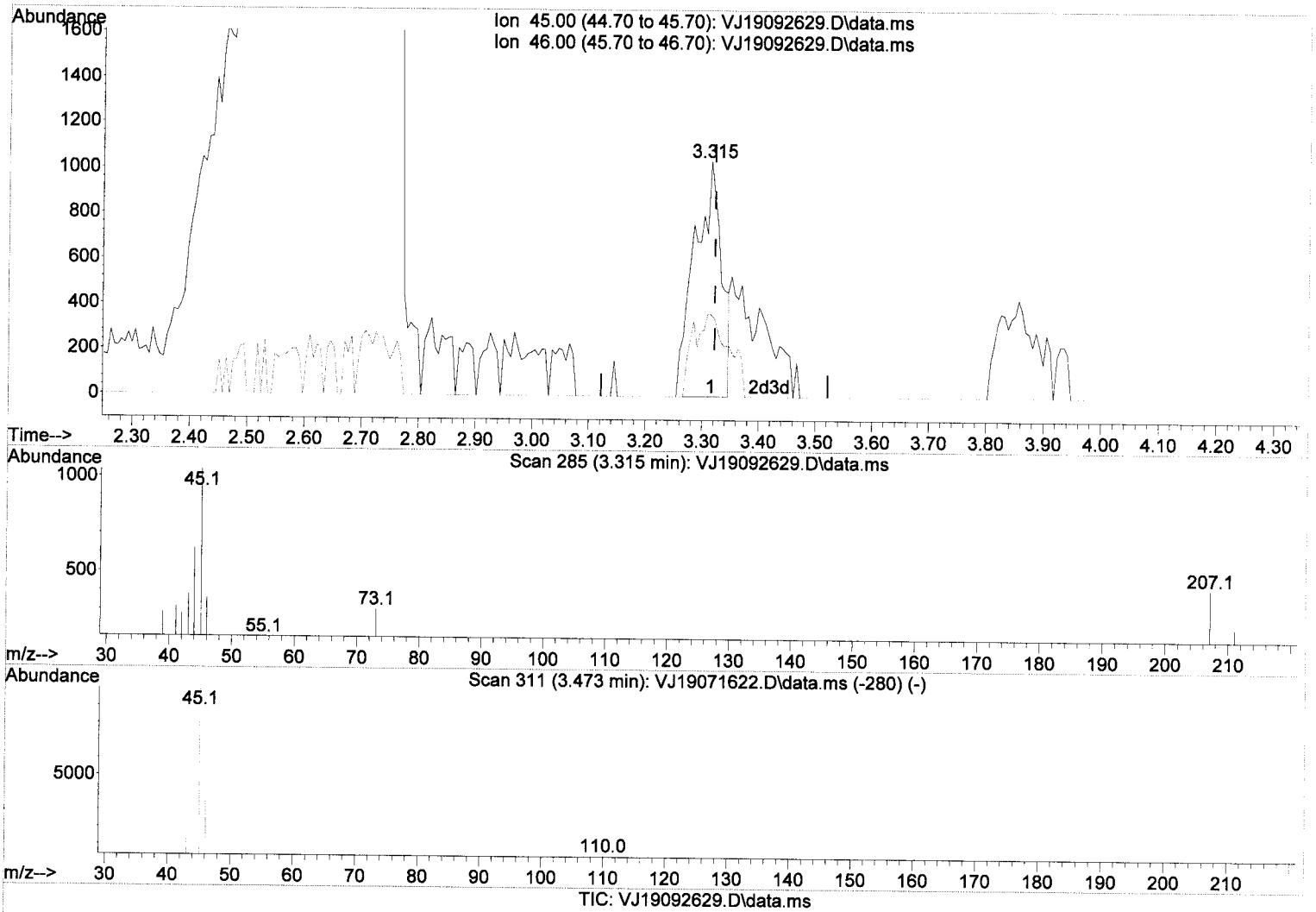
Quant Time: Sep 27 11:11:23 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 27 11:06:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092629.D\data.ms

(8) Ethanol

3.315min (-0.006) 51.70 ug/L

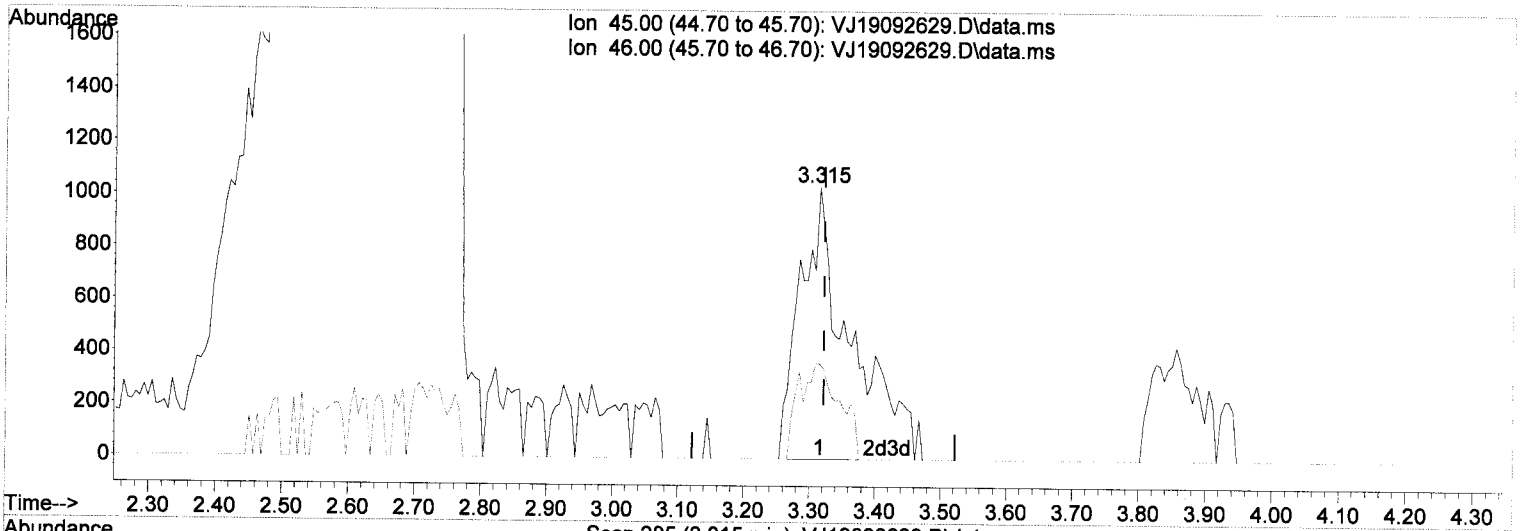
response 3385

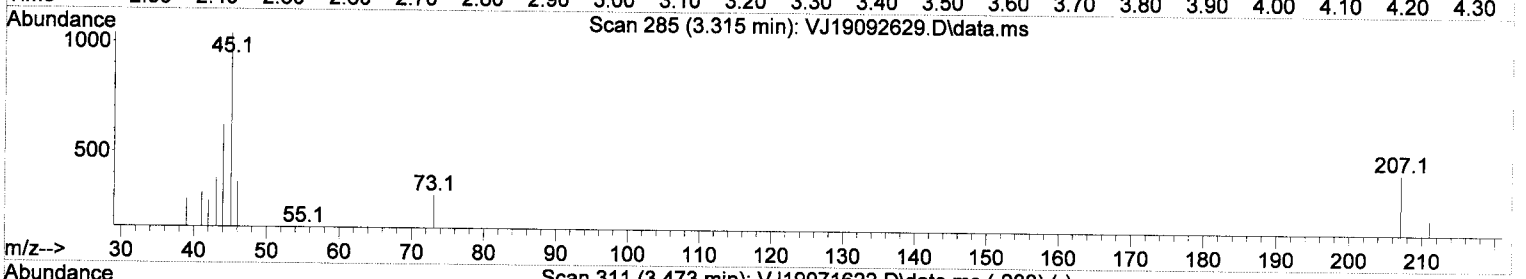
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	34.91
0.00	0.00	0.00
0.00	0.00	0.00

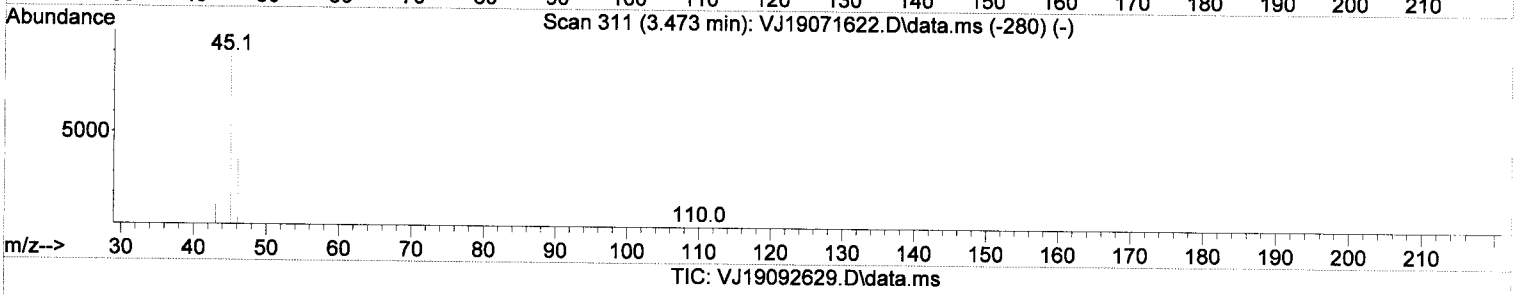
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 27 11:06:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092629.D\data.ms

(8) Ethanol

3.315min (-0.006) 83.39 ug/L m

9/27/19

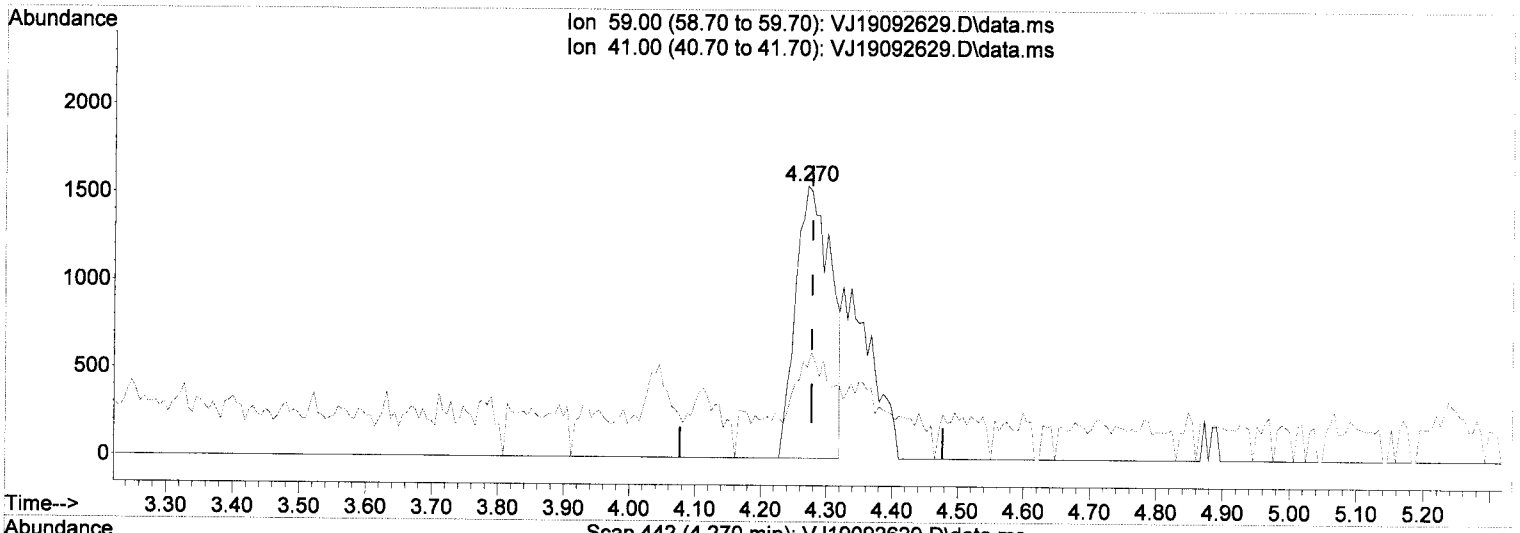
response 5460

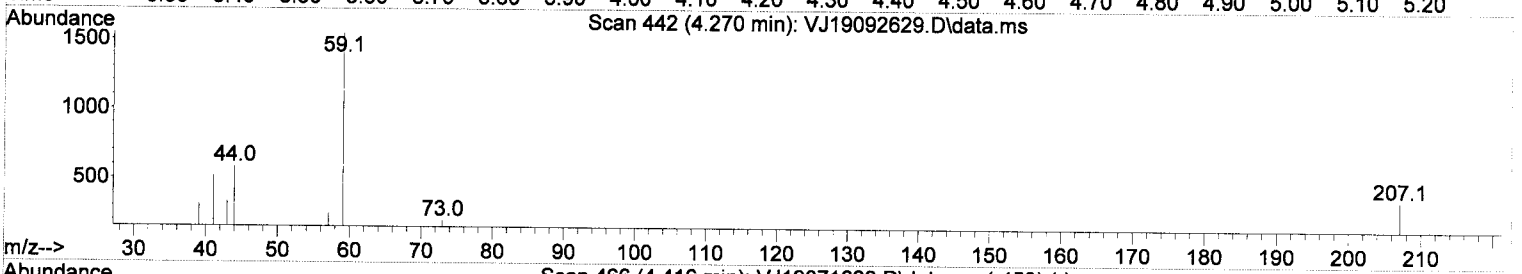
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	34.91
0.00	0.00	0.00
0.00	0.00	0.00

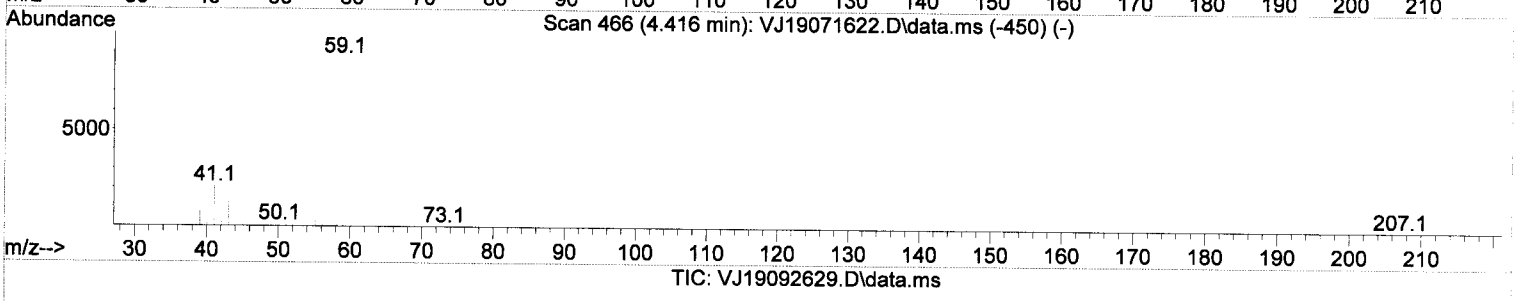
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 27 11:06:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092629.D\data.ms

(18) tert-Butanol (TBA)

4.270min (-0.006) 8.16 ug/L

response 5787

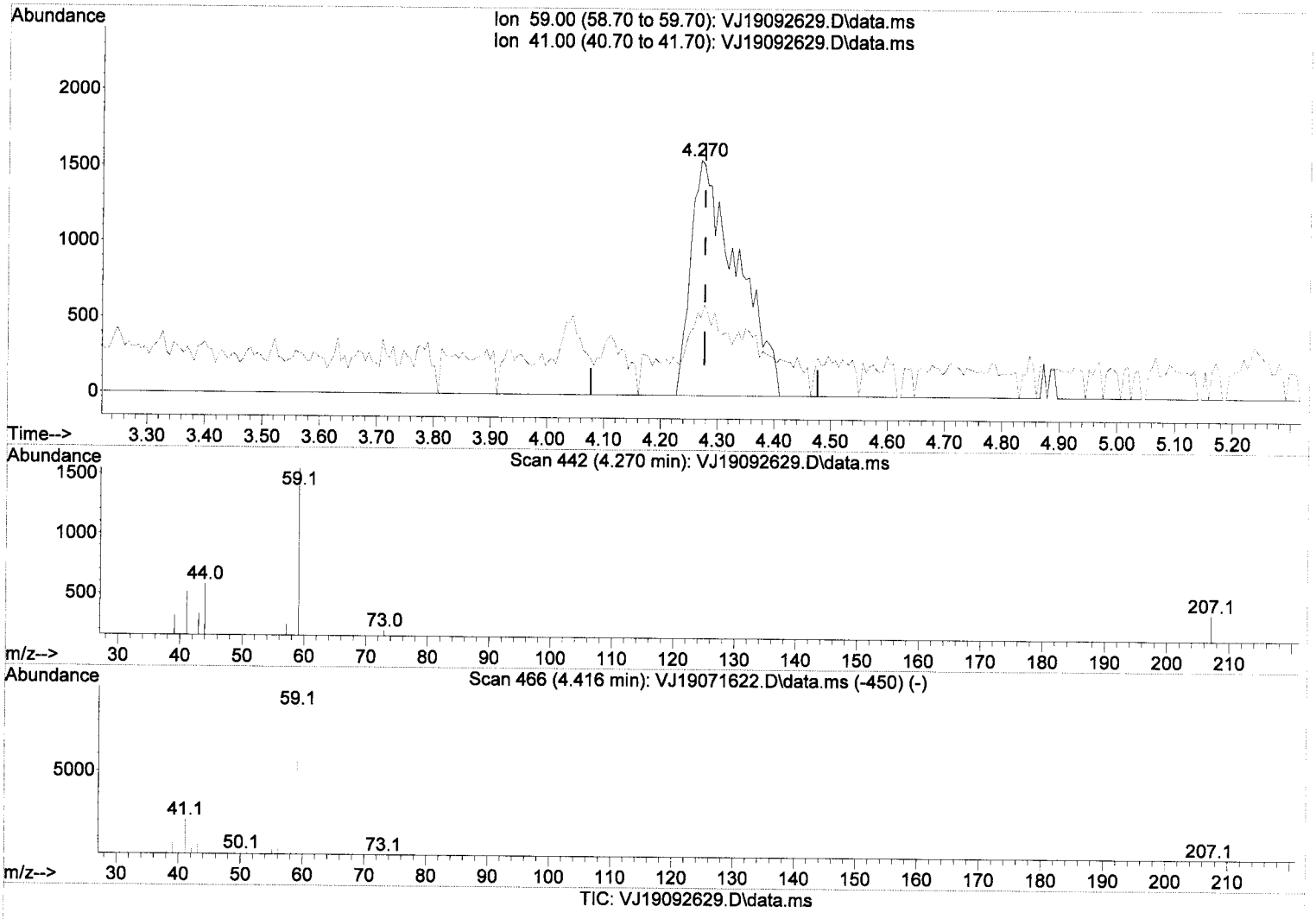
Ion	Exp%	Act%
59.00	100.00	100.00
41.00	28.80	33.31#
0.00	0.00	0.00
0.00	0.00	0.00

MI

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 27 11:06:26 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092629.D\data.ms

(18) tert-Butanol (TBA)

4.270min (-0.006) 12.47 ug/L m

9/27/19

response 8847

Ion	Exp%	Act%
59.00	100.00	100.00
41.00	28.80	33.31#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

pre
9/27/19

Quant Time: Sep 27 10:51:43 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	83469	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	198493	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	89580	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	58455	48.95	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	225508	51.03	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	276884	49.06	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	69195	50.09	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.			
3) Chloromethane	1.892	50	1044	0.48	ug/L		92
4) Vinyl Chloride	2.013	62	115	0.07	ug/L	#	46
5) Bromomethane	2.342	96	2043	2.74	ug/L		95
6) Chloroethane	2.470	64	383	1.53	ug/L	#	32
7) Trichlorofluoromethane	2.591	101	117	0.15	ug/L	#	61
8) Ethanol	3.315	45	3385	51.70	ug/L		81
9) 1,1-Dichloroethene	3.139	61	507	0.21	ug/L		98
10) Carbon Disulfide	3.145	76	822	0.24	ug/L		78
11) Freon 113	0.000		0	N.D.			
12) Iodomethane	3.291	142	570	1.10	ug/L	#	47
13) Methylene Chloride	3.777	84	4596	2.78	ug/L		97
14) Acetone	3.869	43	2902	2.21	ug/L		94
15) t-1,2-Dichloroethene	3.948	61	462	0.18	ug/L		86
16) n-Hexane	0.000		0	N.D.			
17) Methyl-tert-butyl-ether	4.118	73	2538	0.36	ug/L		57
18) tert-Butanol (TBA)	4.270	59	5787	8.16	ug/L	#	92
19) Diisopropyl ether (DIPE)	4.501	45	253	0.04	ug/L	#	53
20) 1,1-Dichloroethane	4.587	63	622	0.23	ug/L		66
21) Acrylonitrile	4.641	53	55	0.04	ug/L	#	14
22) Ethyl-tert-butyl ether...	4.873	59	84	0.01	ug/L	#	38
23) c-1,2-Dichloroethene	5.128	61	609	0.23	ug/L	#	75
24) 2,2-Dichloropropane	5.244	77	1019	0.34	ug/L		71
25) Bromochloromethane	5.329	49	207	0.13	ug/L	#	14
26) Chloroform	5.426	83	731	0.22	ug/L		76
27) Carbon Tetrachloride	5.560	117	370	0.16	ug/L		90
28) Tetrahydrofuran	5.603	42	792	0.51	ug/L	#	55
29) 1,1,1-Trichloroethane	5.621	97	447	0.14	ug/L	#	67
31) 1,1-Dichloropropene	5.755	75	473	0.17	ug/L	#	53
32) 2-Butanone (MEK)	5.755	43	1670	0.84	ug/L		52
33) Benzene	6.010	78	1839	0.28	ug/L		88
34) tert-Amyl methyl ether...	6.150	73	447	0.07	ug/L	#	46
35) 1,2-Dichloroethane (EDC)	6.217	62	466	0.15	ug/L	#	49
36) iso-Butyl Alcohol	6.326	43	1792	6.80	ug/L		82
38) Trichloroethene (TCE)	6.631	130	227	0.12	ug/L	#	54
39) tert-Amyl ethyl ether ...	6.910	59	128	0.03	ug/L	#	20
40) Dibromomethane	7.063	93	57	0.05	ug/L	#	1
41) 1,2-Dichloropropane	7.178	63	314	0.15	ug/L	#	40
42) Bromodichloromethane	7.245	83	62	0.03	ug/L	#	26
44) c-1,3-Dichloropropene	7.957	75	424	0.13	ug/L	#	23
46) Toluene	8.237	91	1992	0.23	ug/L		90
47) Tetrachloroethene (PCE)	8.687	166	233	0.13	ug/L	#	75
48) 4-Methyl-2-Pentanone (...	8.675	43	1853	0.53	ug/L		89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 27 10:51:43 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

9/27/19

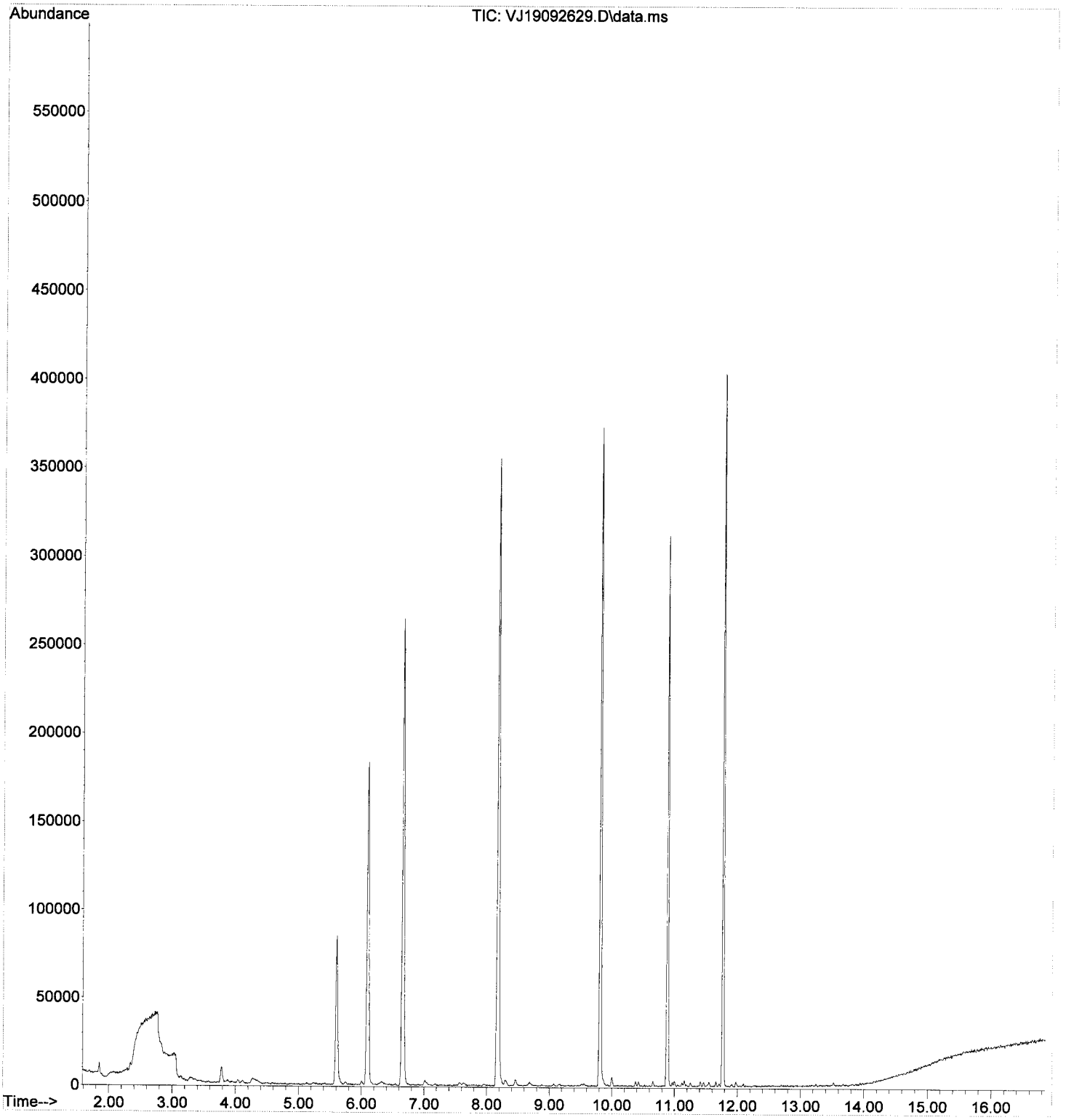
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.699	75	443	0.14	ug/L	#	45
50) 1,1,2-Trichloroethane	8.876	97	266	0.15	ug/L	#	55
51) Dibromochloromethane	0.000		0	N.D.			
52) 1,3-Dichloropropane	9.161	76	584	0.17	ug/L	#	74
53) 1,2-Dibromoethane (EDB)	9.301	107	159	0.08	ug/L	#	7
54) 2-Hexanone	9.557	43	1415	0.52	ug/L		84
55) Chlorobenzene	9.825	112	972	0.19	ug/L	#	51
56) Ethylbenzene	9.867	91	2060	0.22	ug/L		87
57) 1,1,1,2-Tetrachloroethane	9.885	131	57	0.03	ug/L	#	51
58) m,p-Xylenes (2)	10.001	91	3044	0.43	ug/L		93
59) o-Xylene	10.378	91	1601	0.22	ug/L		87
60) Styrene	10.427	104	954	0.19	ug/L		82
61) Bromoform	0.000		0	N.D.			
62) Isopropylbenzene	10.658	105	1658	0.19	ug/L		87
65) Bromobenzene	10.968	156	264	0.14	ug/L		89
66) n-Propylbenzene	10.999	91	2200	0.23	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.060	83	497	0.21	ug/L		85
68) 2-Chlorotoluene	11.120	126	286	0.16	ug/L	#	45
69) 1,3,5-Trimethylbenzene	11.163	105	1386	0.21	ug/L		77
70) 1,2,3-Trichloropropane	11.157	110	60	0.06	ug/L	#	76
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
72) 4-Chlorotoluene	11.254	91	1281	0.22	ug/L		91
73) tert-Butylbenzene	11.412	91	960	0.24	ug/L		81
74) 1,2,4-Trimethylbenzene	11.467	105	1309	0.20	ug/L		89
75) sec-Butylbenzene	11.552	105	1622	0.20	ug/L		87
76) 4-Isopropyltoluene	11.662	119	1273	0.19	ug/L		94
77) 1,3-Dichlorobenzene	11.710	146	743	0.22	ug/L		93
78) 1,4-Dichlorobenzene	11.783	146	670	0.20	ug/L	#	41
79) n-Butylbenzene	11.978	91	1205	0.21	ug/L		94
80) 1,2-Dichlorobenzene	12.094	146	599	0.19	ug/L		89
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
82) Hexachlorobutadiene	0.000		0	N.D.			
83) 1,2,4-Trichlorobenzene	13.244	180	429	0.21	ug/L	#	69
84) Naphthalene	13.517	128	1519	0.19	ug/L		79
85) 1,2,3-Trichlorobenzene	13.682	180	361	0.18	ug/L		72

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092629.D
Acq On : 26 Sep 2019 9:55 pm
Operator : TB
Sample : 9I26051-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCO+MeOH
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Sep 27 10:51:43 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

post
[initials] 9/27/19

Quant Time: Sep 27 11:16:21 2019
Quant Method : C:\msdchem\1\methods\V~~J190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.095	99	84470	50.00 ug/L	0.00
43) Chlorobenzene-d5 (I)	9.812	117	197907	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	88955	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.603	111	58835	48.68 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.661	114	226191	50.57 ug/L	0.00
45) Toluene-d8 (S)	8.176	98	276952	49.22 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.883	174	70019	51.04 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D. d	
3) Chloromethane	1.898	50	1467	0.67 ug/L	93
4) Vinyl Chloride	2.001	62	708	0.41 ug/L #	46
5) Bromomethane	2.342	96	2374	3.15 ug/L	94
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D. d	
8) Ethanol	3.327	45	6227m	93.97 ug/L	
9) 1,1-Dichloroethene	3.139	61	958	0.39 ug/L	89
10) Carbon Disulfide	3.151	76	1342	0.39 ug/L	69
11) Freon 113	3.200	101	422	0.31 ug/L #	16
12) Iodomethane	3.297	142	828	1.57 ug/L	84
13) Methylene Chloride	3.784	84	4661	2.78 ug/L	92
14) Acetone	0.000		0	N.D. d	
15) t-1,2-Dichloroethene	3.948	61	844	0.33 ug/L	93
16) n-Hexane	0.000		0	N.D.	
17) Methyl-tert-butyl-ether	4.112	73	3475	0.49 ug/L	94
18) tert-Butanol (TBA)	4.276	59	17073m	23.78 ug/L	
19) Diisopropyl ether (DIPE)	0.000		0	N.D. d	
20) 1,1-Dichloroethane	4.587	63	1089	0.40 ug/L	85
21) Acrylonitrile	0.000		0	N.D. d	
22) Ethyl-tert-butyl ether...	0.000		0	N.D. d	
23) c-1,2-Dichloroethene	5.134	61	933	0.35 ug/L	90
24) 2,2-Dichloropropane	5.237	77	1479	0.49 ug/L	84
25) Bromochloromethane	5.335	49	606	0.38 ug/L	94
26) Chloroform	5.426	83	1259	0.38 ug/L	86
27) Carbon Tetrachloride	5.560	117	711	0.31 ug/L	76
28) Tetrahydrofuran	0.000		0	N.D. d	
29) 1,1,1-Trichloroethane	5.633	97	1203	0.37 ug/L	80
31) 1,1-Dichloropropene	5.755	75	1088	0.38 ug/L	92
32) 2-Butanone (MEK)	0.000		0	N.D. d	
33) Benzene	6.004	78	3388	0.42 ug/L	89
34) tert-Amyl methyl ether...	0.000		0	N.D. d	
35) 1,2-Dichloroethane (EDC)	6.211	62	1178	0.36 ug/L	86
36) iso-Butyl Alcohol	0.000		0	N.D. d	
38) Trichloroethene (TCE)	6.631	130	616	0.32 ug/L	83
39) tert-Amyl ethyl ether ...	0.000		0	N.D. d	
40) Dibromomethane	7.069	93	307	0.26 ug/L #	81
41) 1,2-Dichloropropane	7.178	63	782	0.38 ug/L	76
42) Bromodichloromethane	7.245	83	528	0.24 ug/L	94
44) c-1,3-Dichloropropene	7.957	75	1074	0.34 ug/L #	44
46) Toluene	8.237	91	3563	0.42 ug/L	95
47) Tetrachloroethene (PCE)	8.681	166	566	0.31 ug/L	81
48) 4-Methyl-2-Pentanone (...	8.681	43	3017	0.86 ug/L	85

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 11:16:21 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

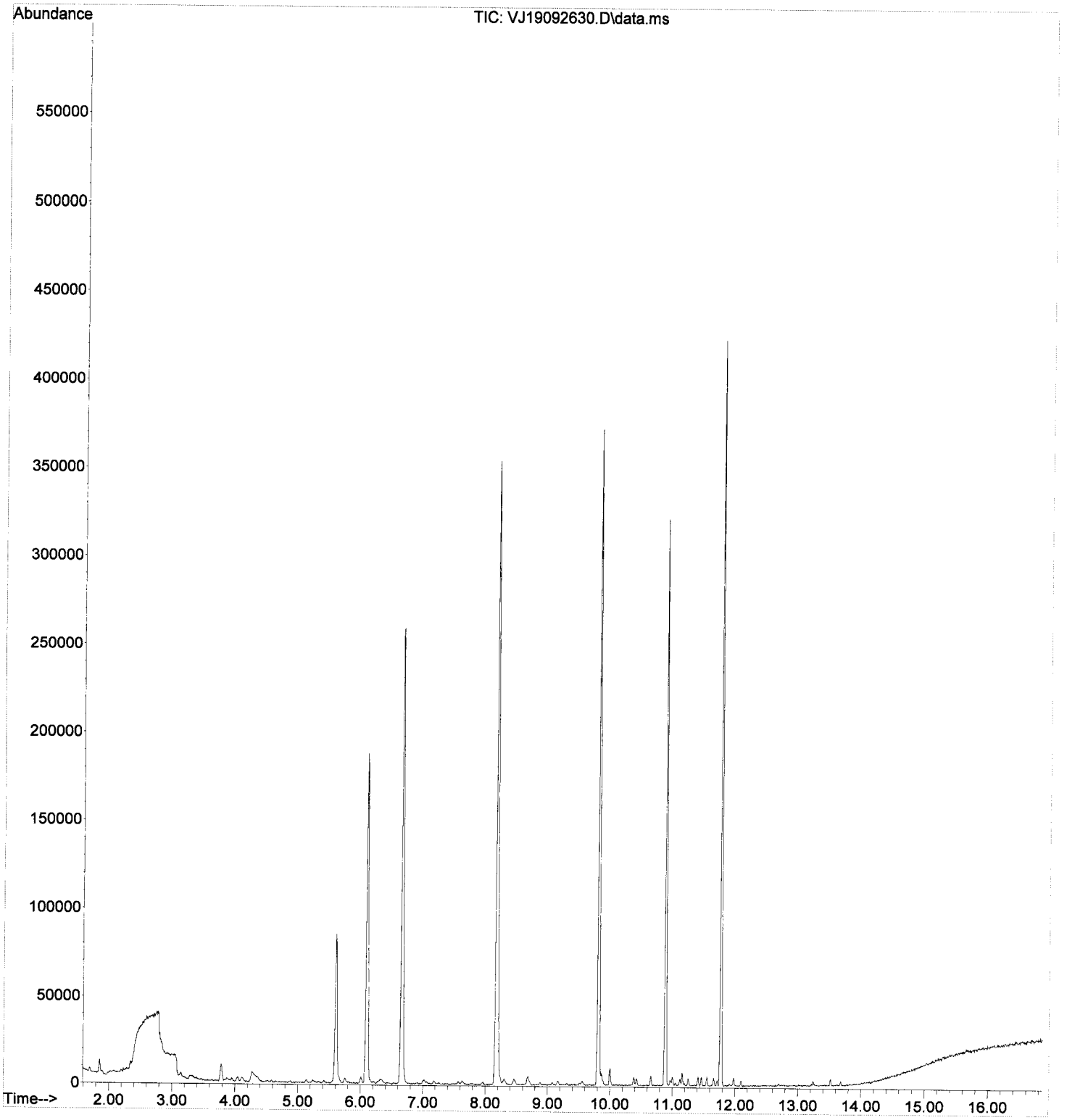
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	1076	0.35	ug/L		69
50) 1,1,2-Trichloroethane	8.882	97	680	0.39	ug/L		89
51) Dibromochloromethane	0.000		0	N.D.	d		
52) 1,3-Dichloropropane	9.174	76	1225	0.36	ug/L		84
53) 1,2-Dibromoethane (EDB)	9.307	107	601	0.32	ug/L		96
54) 2-Hexanone	9.551	43	2359	0.87	ug/L		75
55) Chlorobenzene	9.831	112	1986	0.40	ug/L		95
56) Ethylbenzene	9.861	91	3745	0.40	ug/L		99
57) 1,1,1,2-Tetrachloroethane	9.891	131	448	0.28	ug/L		78
58) m,p-Xylenes (2)	10.001	91	5405	0.77	ug/L		94
59) o-Xylene	10.384	91	2839	0.40	ug/L		89
60) Styrene	10.427	104	1810	0.36	ug/L		75
61) Bromoform	0.000		0	N.D.			
62) Isopropylbenzene	10.658	105	3087	0.36	ug/L		91
65) Bromobenzene	10.968	156	684	0.37	ug/L		91
66) n-Propylbenzene	11.005	91	3693	0.39	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.047	83	847	0.35	ug/L		91
68) 2-Chlorotoluene	11.126	126	648	0.37	ug/L		92
69) 1,3,5-Trimethylbenzene	11.163	105	2439	0.38	ug/L		92
70) 1,2,3-Trichloropropane	11.157	110	363	0.39	ug/L		87
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
72) 4-Chlorotoluene	11.254	91	2310	0.40	ug/L		92
73) tert-Butylbenzene	11.412	91	1643	0.41	ug/L	#	77
74) 1,2,4-Trimethylbenzene	11.467	105	2527	0.38	ug/L		92
75) sec-Butylbenzene	11.552	105	3047	0.38	ug/L		98
76) 4-Isopropyltoluene	11.656	119	2589	0.39	ug/L		94
77) 1,3-Dichlorobenzene	11.717	146	1278	0.39	ug/L		85
78) 1,4-Dichlorobenzene	11.783	146	1255	0.38	ug/L		90
79) n-Butylbenzene	11.978	91	2363	0.41	ug/L		95
80) 1,2-Dichlorobenzene	12.094	146	1195	0.38	ug/L		87
81) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	d		
82) Hexachlorobutadiene	0.000		0	N.D.			
83) 1,2,4-Trichlorobenzene	13.243	180	782	0.38	ug/L		86
84) Naphthalene	13.517	128	2898	0.36	ug/L		94
85) 1,2,3-Trichlorobenzene	13.682	180	761	0.38	ug/L		90

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

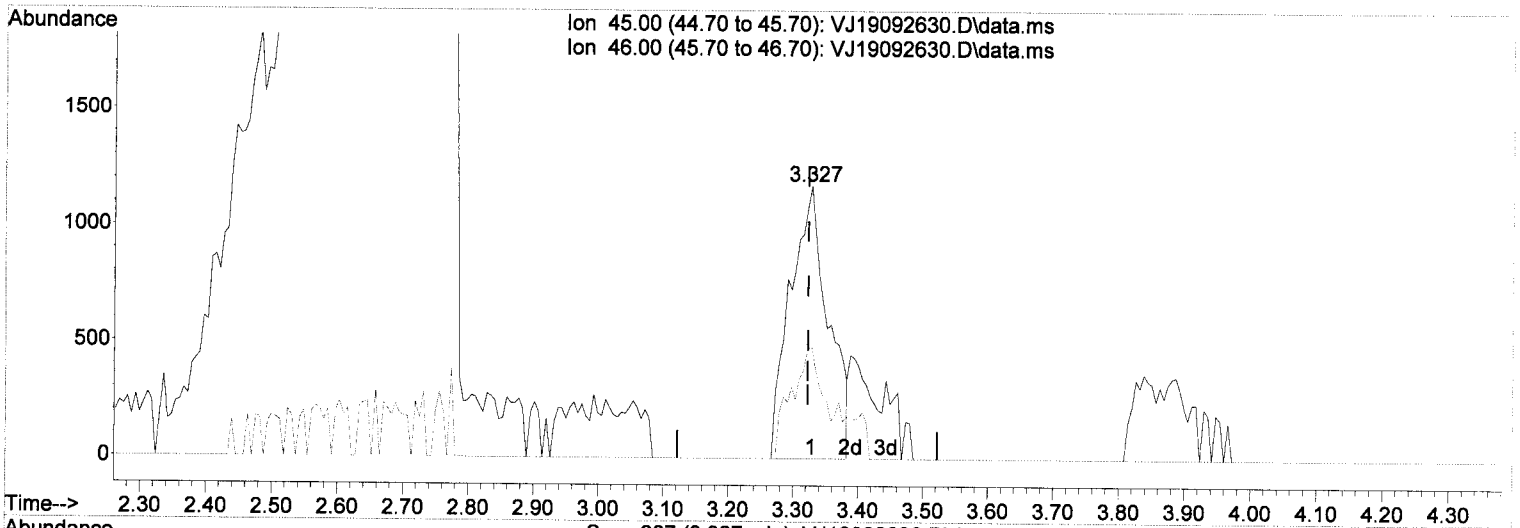
Quant Time: Sep 27 11:16:21 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

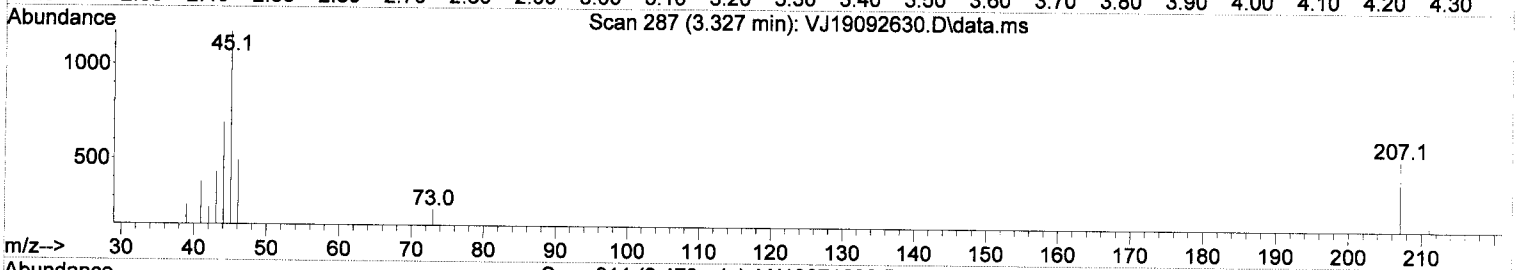


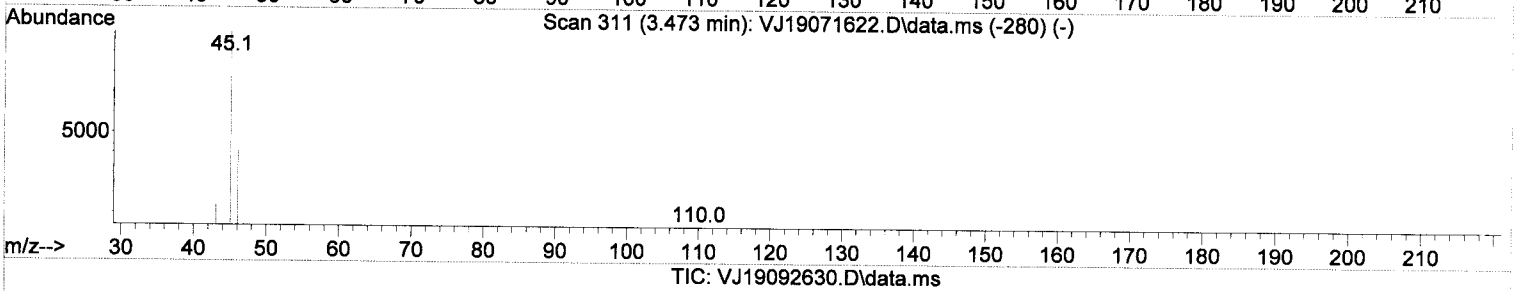
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 10:51:46 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092630.D\data.ms

(8) Ethanol

3.327min (+ 0.006) 72.00 ug/L

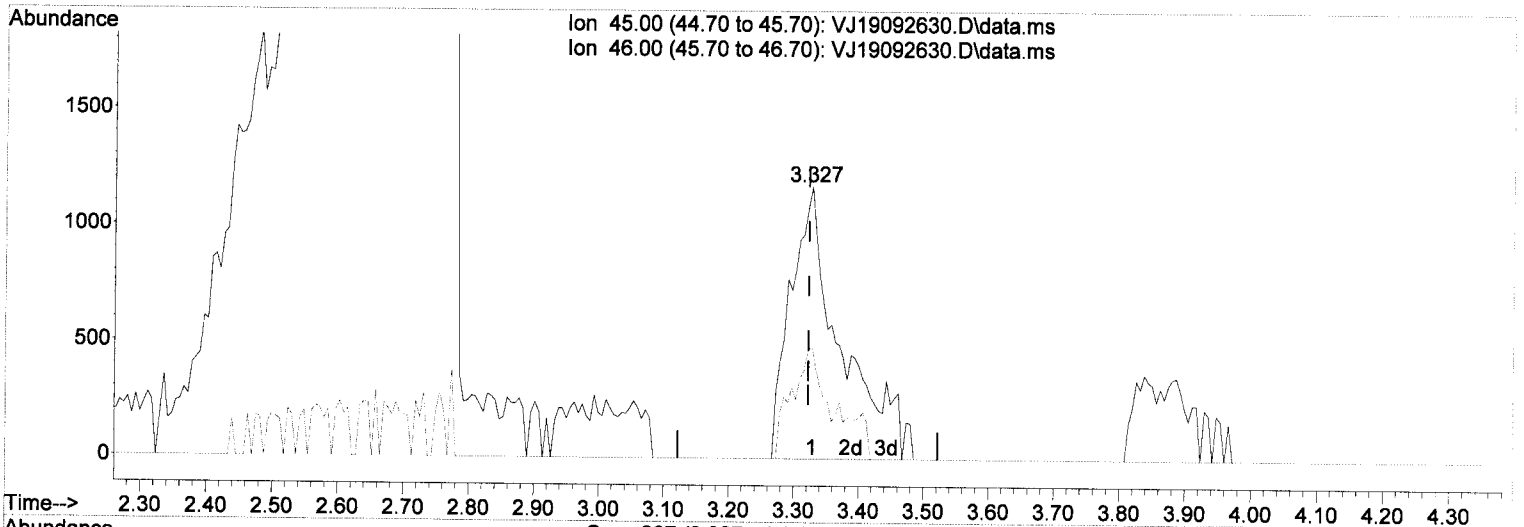
response 4771

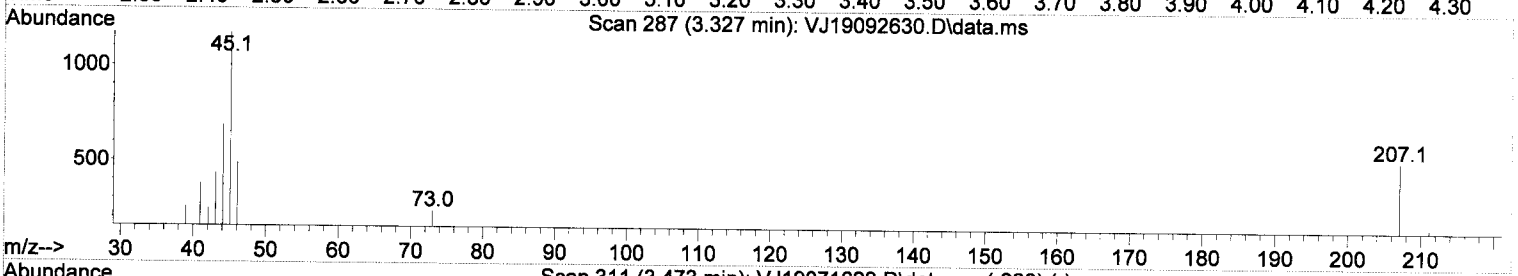
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	41.99
0.00	0.00	0.00
0.00	0.00	0.00

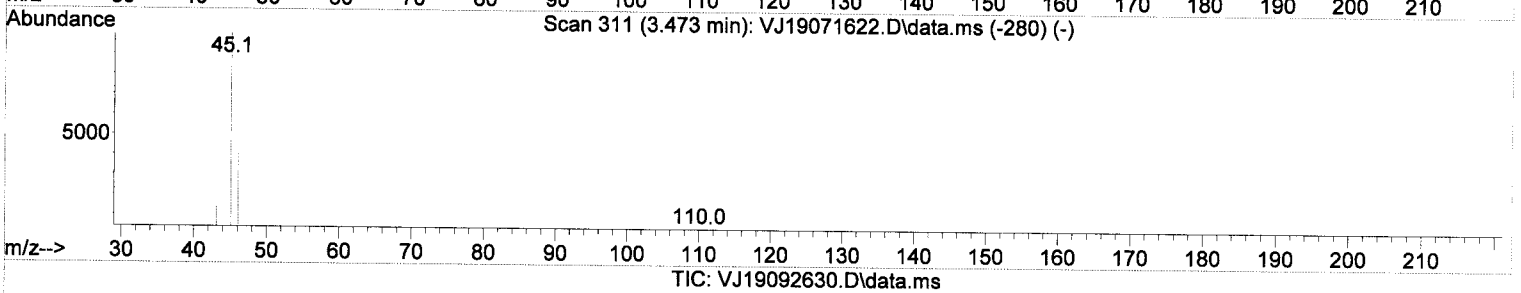
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 10:51:46 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092630.D\data.ms

(8) Ethanol

3.327min (+ 0.006) 93.97 ug/L m

response 6227

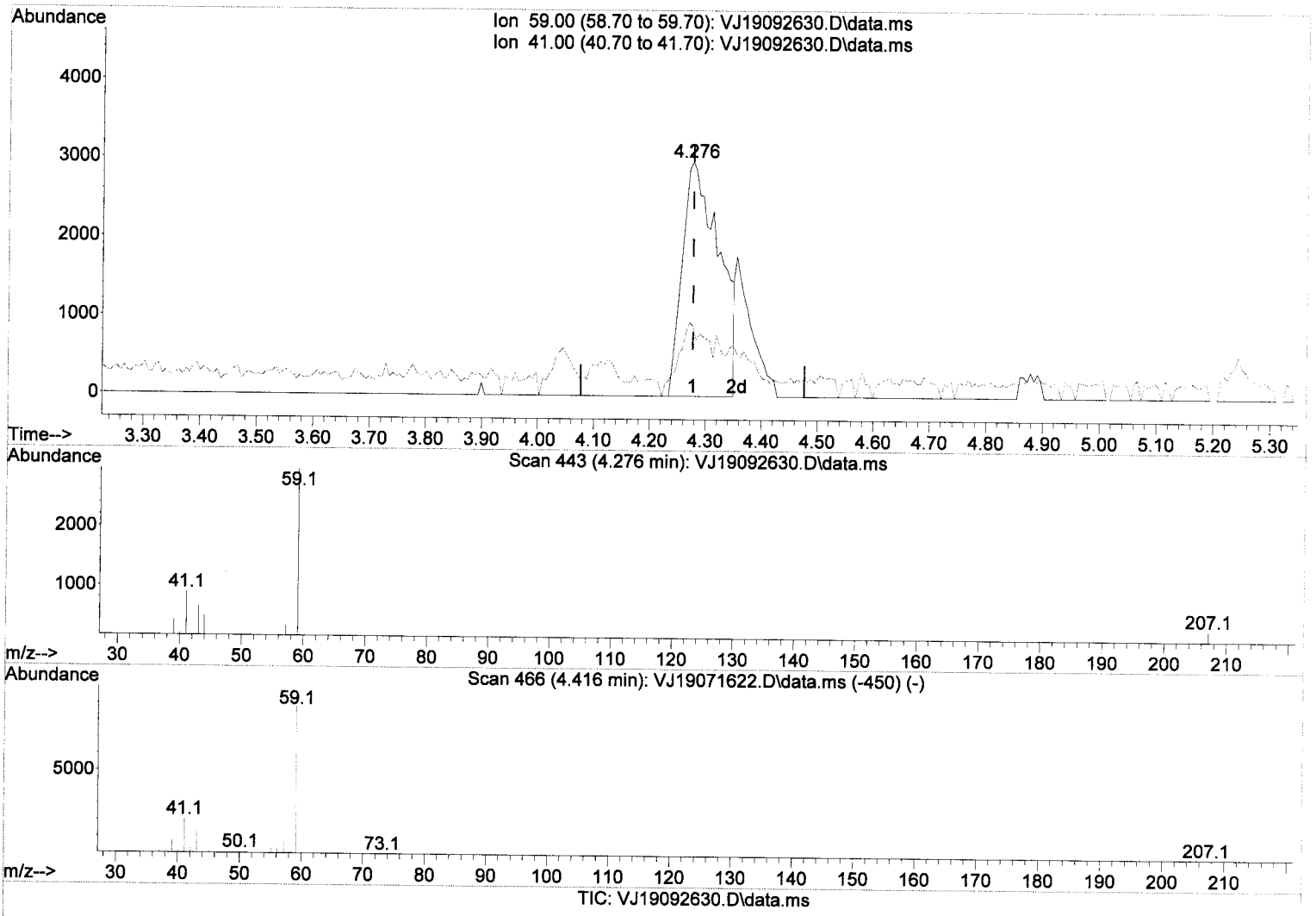
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	41.99
0.00	0.00	0.00
0.00	0.00	0.00

9/27/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 10:51:46 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092630.D\data.ms

(18) tert-Butanol (TBA)

4.276min (-0.000) 18.86 ug/L

response 13543

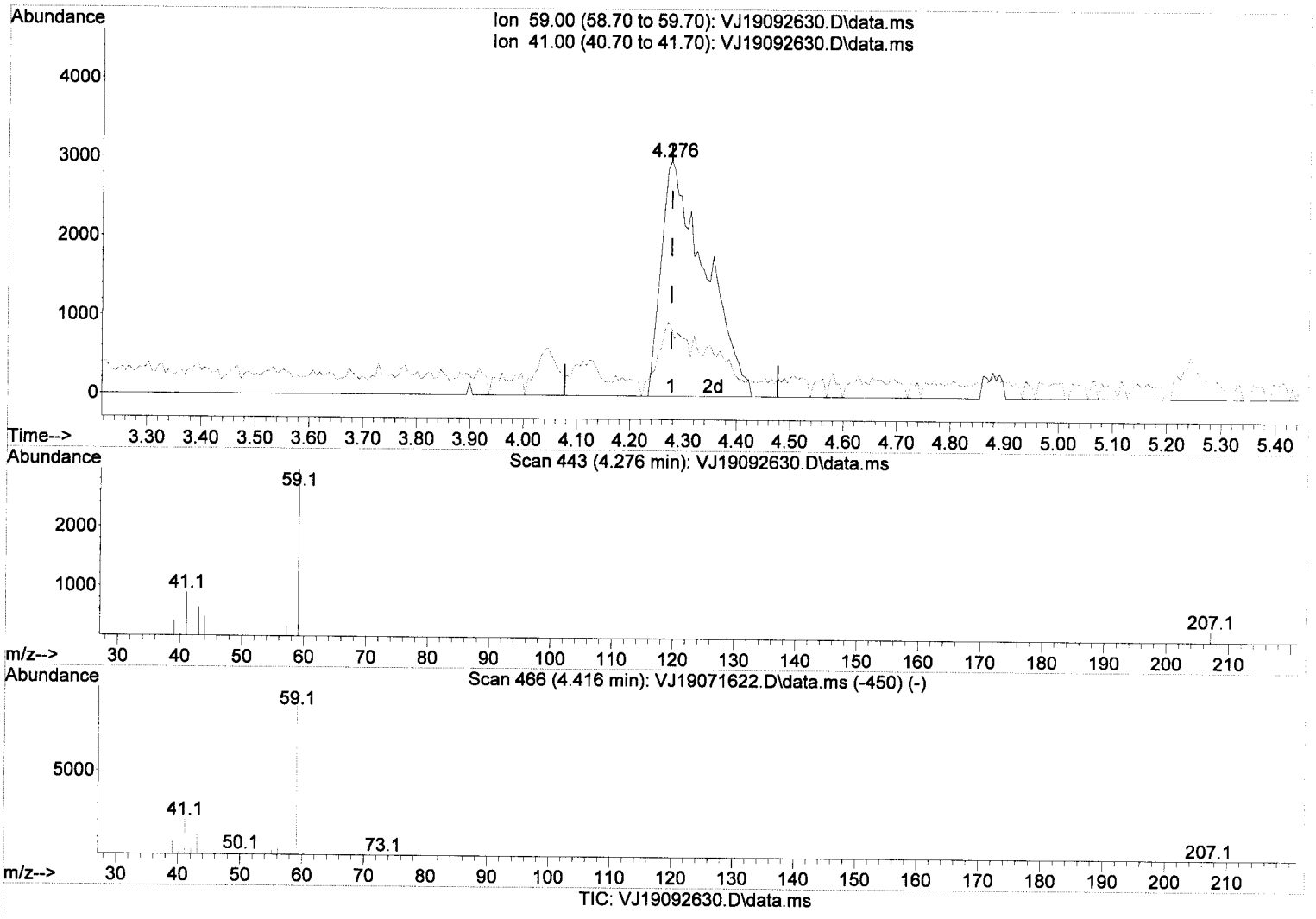
Ion	Exp%	Act%
59.00	100.00	100.00
41.00	28.80	30.06#
0.00	0.00	0.00
0.00	0.00	0.00

MT

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 11:16:21 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092630.D\data.ms

(18) tert-Butanol (TBA)

4.276min (-0.000) 23.78 ug/L m

response 17073

Ion	Exp%	Act%
59.00	100.00	100.00
41.00	28.80	30.06#
0.00	0.00	0.00
0.00	0.00	0.00

9/27/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

pre
9/27/19

Quant Time: Sep 27 10:51:46 2019
Quant Method : C:\msdchem\1\methods\~~VJ190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	84470	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	197907	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	88955	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	58835	48.68	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	226191	50.57	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	276952	49.22	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	70019	51.04	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.715	85	485	0.30	ug/L	#	51
3) Chloromethane	1.898	50	1467	0.67	ug/L		93
4) Vinyl Chloride	2.001	62	708	0.41	ug/L	#	46
5) Bromomethane	2.342	96	2374	3.15	ug/L		94
6) Chloroethane	2.463	64	579	2.29	ug/L	#	37
7) Trichlorofluoromethane	2.597	101	307	0.40	ug/L		92
8) Ethanol	~~3.327~~	~~45~~	~~4771~~	~~72.00~~	~~ug/L~~		~~92~~ MI
9) 1,1-Dichloroethene	3.139	61	958	0.39	ug/L		89
10) Carbon Disulfide	3.151	76	1342	0.39	ug/L		69
11) Freon 113	3.200	101	422	0.31	ug/L	#	16
12) Iodomethane	3.297	142	828	1.57	ug/L		84
13) Methylene Chloride	3.784	84	4661	2.78	ug/L		92
14) Acetone	3.875	43	1994	1.50	ug/L		100
15) t-1,2-Dichloroethene	3.948	61	844	0.33	ug/L		93
16) n-Hexane	0.000		0	N.D.			
17) Methyl-tert-butyl-ether	4.112	73	3475	0.49	ug/L		94
18) tert-Butanol (TBA)	~~4.276~~	~~59~~	~~13543~~	~~10.06~~	~~ug/L~~	#	~~98~~ MI
19) Diisopropyl ether (DIPE)	4.520	45	698	0.10	ug/L		80
20) 1,1-Dichloroethane	4.587	63	1089	0.40	ug/L		85
21) Acrylonitrile	4.653	53	366	0.29	ug/L	#	14
22) Ethyl-tert-butyl ether...	4.879	59	392	0.06	ug/L	#	45
23) c-1,2-Dichloroethene	5.134	61	933	0.35	ug/L		90
24) 2,2-Dichloropropane	5.237	77	1479	0.49	ug/L		84
25) Bromochloromethane	5.335	49	606	0.38	ug/L		94
26) Chloroform	5.426	83	1259	0.38	ug/L		86
27) Carbon Tetrachloride	5.560	117	711	0.31	ug/L		76
28) Tetrahydrofuran	5.596	42	967	0.62	ug/L		83
29) 1,1,1-Trichloroethane	5.633	97	1203	0.37	ug/L		80
31) 1,1-Dichloropropene	5.755	75	1088	0.38	ug/L		92
32) 2-Butanone (MEK)	5.749	43	2335	1.16	ug/L		82
33) Benzene	6.004	78	3388	0.42	ug/L		89
34) tert-Amyl methyl ether...	6.168	73	1462	0.22	ug/L	#	46
35) 1,2-Dichloroethane (EDC)	6.211	62	1178	0.36	ug/L		86
36) iso-Butyl Alcohol	6.314	43	3254	12.21	ug/L		72
38) Trichloroethene (TCE)	6.631	130	616	0.32	ug/L		83
39) tert-Amyl ethyl ether ...	6.917	59	337	0.07	ug/L		81
40) Dibromomethane	7.069	93	307	0.26	ug/L	#	81
41) 1,2-Dichloropropane	7.178	63	782	0.38	ug/L		76
42) Bromodichloromethane	7.245	83	528	0.24	ug/L		94
44) c-1,3-Dichloropropene	7.957	75	1074	0.34	ug/L	#	44
46) Toluene	8.237	91	3563	0.42	ug/L		95
47) Tetrachloroethene (PCE)	8.681	166	566	0.31	ug/L		81
48) 4-Methyl-2-Pentanone (...	8.681	43	3017	0.86	ug/L		85

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 10:51:46 2019
Quant Method : C:\msdchem\1\methods\~~VJ190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

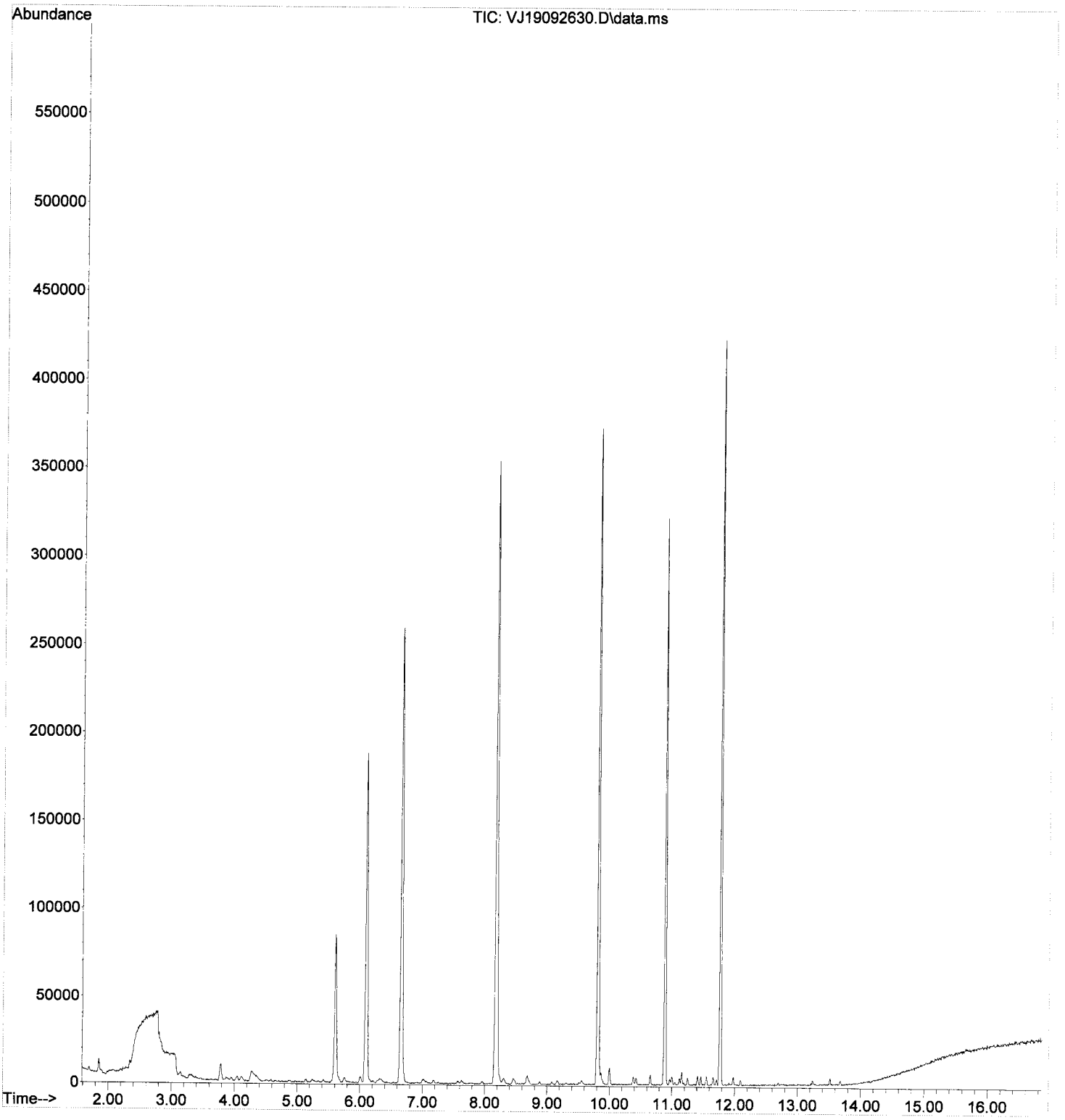
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	1076	0.35	ug/L	69
50) 1,1,2-Trichloroethane	8.882	97	680	0.39	ug/L	89
51) Dibromochloromethane	9.070	129	142	0.11	ug/L #	17
52) 1,3-Dichloropropane	9.174	76	1225	0.36	ug/L	84
53) 1,2-Dibromoethane (EDB)	9.307	107	601	0.32	ug/L	96
54) 2-Hexanone	9.551	43	2359	0.87	ug/L	75
55) Chlorobenzene	9.831	112	1986	0.40	ug/L	95
56) Ethylbenzene	9.861	91	3745	0.40	ug/L	99
57) 1,1,1,2-Tetrachloroethane	9.891	131	448	0.28	ug/L	78
58) m,p-Xylenes (2)	10.001	91	5405	0.77	ug/L	94
59) o-Xylene	10.384	91	2839	0.40	ug/L	89
60) Styrene	10.427	104	1810	0.36	ug/L	75
61) Bromoform	0.000		0	N.D.		
62) Isopropylbenzene	10.658	105	3087	0.36	ug/L	91
65) Bromobenzene	10.968	156	684	0.37	ug/L	91
66) n-Propylbenzene	11.005	91	3693	0.39	ug/L	96
67) 1,1,2,2-Tetrachloroethane	11.047	83	847	0.35	ug/L	91
68) 2-Chlorotoluene	11.126	126	648	0.37	ug/L	92
69) 1,3,5-Trimethylbenzene	11.163	105	2439	0.38	ug/L	92
70) 1,2,3-Trichloropropane	11.157	110	363	0.39	ug/L	87
71) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
72) 4-Chlorotoluene	11.254	91	2310	0.40	ug/L	92
73) tert-Butylbenzene	11.412	91	1643	0.41	ug/L #	77
74) 1,2,4-Trimethylbenzene	11.467	105	2527	0.38	ug/L	92
75) sec-Butylbenzene	11.552	105	3047	0.38	ug/L	98
76) 4-Isopropyltoluene	11.656	119	2589	0.39	ug/L	94
77) 1,3-Dichlorobenzene	11.717	146	1278	0.39	ug/L	85
78) 1,4-Dichlorobenzene	11.783	146	1255	0.38	ug/L	90
79) n-Butylbenzene	11.978	91	2363	0.41	ug/L	95
80) 1,2-Dichlorobenzene	12.094	146	1195	0.38	ug/L	87
81) 1,2-Dibromo-3-Chloropr...	12.702	157	134	0.24	ug/L #	37
82) Hexachlorobutadiene	0.000		0	N.D.		
83) 1,2,4-Trichlorobenzene	13.243	180	782	0.38	ug/L	86
84) Naphthalene	13.517	128	2898	0.36	ug/L	94
85) 1,2,3-Trichlorobenzene	13.682	180	761	0.38	ug/L	90

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092630.D
Acq On : 26 Sep 2019 10:22 pm
Operator : TB
Sample : 9I26051-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCO+MeOH
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Sep 27 10:51:46 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092631.D
Acq On : 26 Sep 2019 10:49 pm
Operator : TB
Sample : 9I26051-CAL4
Misc : 1X 5mL 1/2PPB VOCO+MeOH
ALS Vial : 7 Sample Multiplier: 1

POST
9/27/19

Quant Time: Sep 27 11:17:31 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	81984	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	192549	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	86589	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	56330	48.02	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	217352	50.07	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	268905	49.12	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	67920	50.86	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	1395	0.88	ug/L		86
3) Chloromethane	1.904	50	2599	1.22	ug/L		98
4) Vinyl Chloride	2.013	62	1578	0.95	ug/L		90
5) Bromomethane	2.348	96	2822	3.86	ug/L		92
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	0.000		0	N.D.	d		
8) Ethanol	3.327	45	8207	127.61	ug/L		88
9) 1,1-Dichloroethene	3.145	61	2333	0.97	ug/L		92
10) Carbon Disulfide	3.157	76	3107	0.93	ug/L		90
11) Freon 113	3.199	101	1302	0.97	ug/L		93
12) Iodomethane	3.291	142	963	1.89	ug/L		86
13) Methylene Chloride	3.783	84	3800	2.34	ug/L		95
14) Acetone	0.000		0	N.D.	d		
15) t-1,2-Dichloroethene	3.954	61	2257	0.90	ug/L		97
16) n-Hexane	4.039	86	420	1.05	ug/L	#	75
17) Methyl-tert-butyl-ether	4.118	73	8067	1.17	ug/L		95
18) tert-Butanol (TBA)	4.282	59	41742	59.91	ug/L	#	93
19) Diisopropyl ether (DIPE)	4.513	45	1630	0.25	ug/L		88
20) 1,1-Dichloroethane	4.580	63	2592	0.99	ug/L		98
21) Acrylonitrile	4.635	53	954m	0.77	ug/L		
22) Ethyl-tert-butyl ether...	4.872	59	1774	0.26	ug/L		84
23) c-1,2-Dichloroethene	5.134	61	2632	1.01	ug/L		98
24) 2,2-Dichloropropane	5.244	77	3177	1.08	ug/L		81
25) Bromochloromethane	5.335	49	1510	0.98	ug/L	#	74
26) Chloroform	5.420	83	3029	0.94	ug/L		90
27) Carbon Tetrachloride	5.566	117	2021	0.91	ug/L		93
28) Tetrahydrofuran	5.609	42	1809	1.20	ug/L		90
29) 1,1,1-Trichloroethane	5.621	97	3061	0.98	ug/L		99
31) 1,1-Dichloropropene	5.761	75	2801	1.02	ug/L		87
32) 2-Butanone (MEK)	5.748	43	5626	2.88	ug/L		87
33) Benzene	6.010	78	7846	1.00	ug/L		95
34) tert-Amyl methyl ether...	6.156	73	2474	0.39	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.217	62	2955	0.94	ug/L		86
36) iso-Butyl Alcohol	6.314	43	7169	27.71	ug/L		87
38) Trichloroethene (TCE)	6.631	130	1660	0.89	ug/L		77
39) tert-Amyl ethyl ether ...	6.910	59	1145	0.23	ug/L		66
40) Dibromomethane	7.069	93	965	0.84	ug/L		77
41) 1,2-Dichloropropane	7.178	63	1993	0.99	ug/L		99
42) Bromodichloromethane	7.257	83	1688	0.80	ug/L		88
44) c-1,3-Dichloropropene	7.957	75	2900	0.94	ug/L		89
46) Toluene	8.237	91	8435	1.02	ug/L		99
47) Tetrachloroethene (PCE)	8.687	166	1713	0.95	ug/L		94
48) 4-Methyl-2-Pentanone (...	8.675	43	6953	2.03	ug/L		93

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092631.D
Acq On : 26 Sep 2019 10:49 pm
Operator : TB
Sample : 9I26051-CAL4
Misc : 1X 5mL 1/2PPB VOCO+MeOH
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 27 11:17:31 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

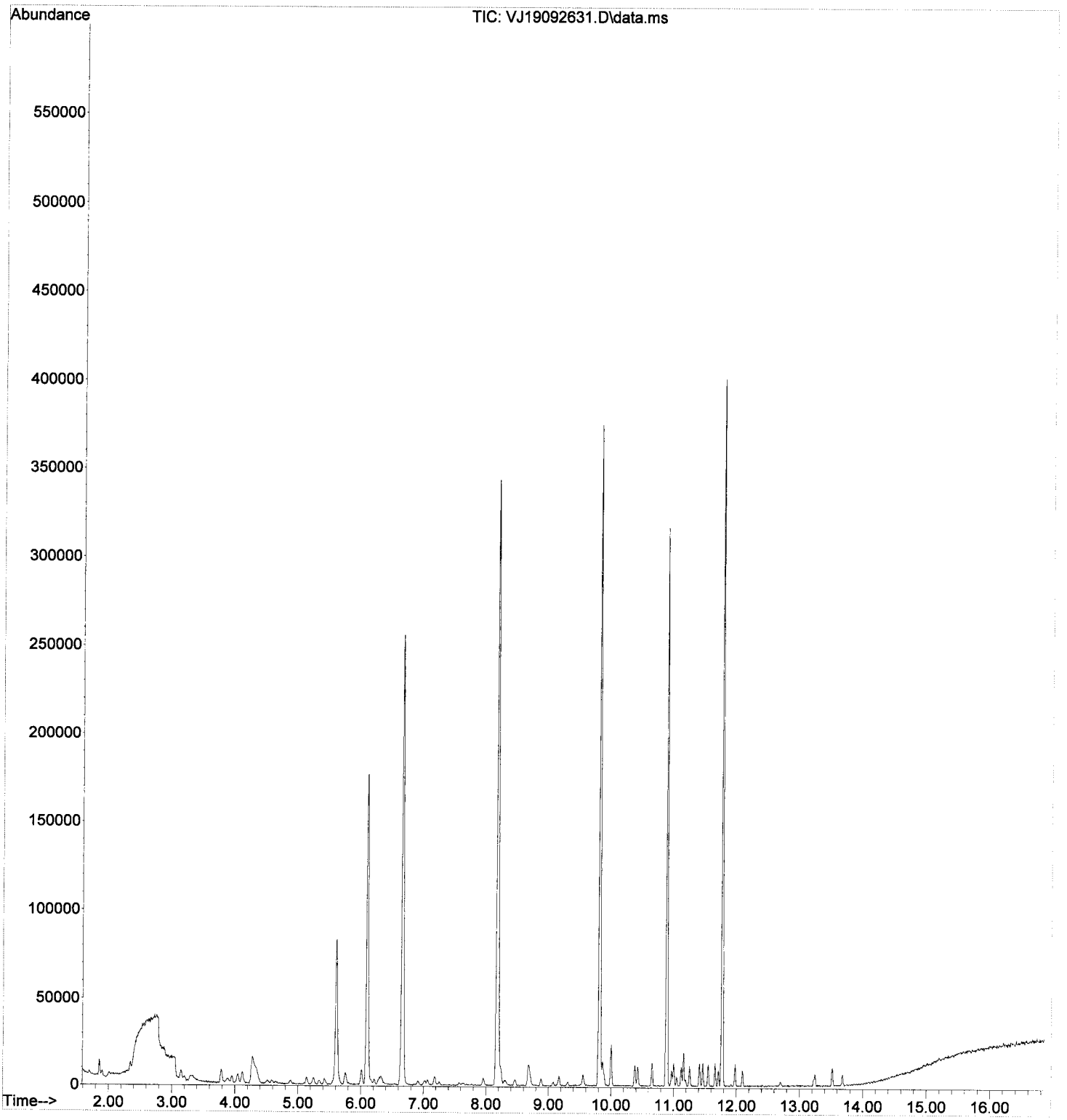
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	2780	0.93	ug/L		97
50) 1,1,2-Trichloroethane	8.875	97	1642	0.98	ug/L		92
51) Dibromochloromethane	9.070	129	821	0.66	ug/L		89
52) 1,3-Dichloropropane	9.174	76	3103	0.94	ug/L		94
53) 1,2-Dibromoethane (EDB)	9.307	107	1656	0.89	ug/L		76
54) 2-Hexanone	9.551	43	5387	2.03	ug/L		97
55) Chlorobenzene	9.824	112	4686	0.96	ug/L		91
56) Ethylbenzene	9.867	91	8628	0.94	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.891	131	1424	0.90	ug/L		81
58) m,p-Xylenes (2)	10.001	91	13397	1.95	ug/L		93
59) o-Xylene	10.378	91	6615	0.95	ug/L		92
60) Styrene	10.427	104	4607	0.93	ug/L		88
61) Bromoform	10.439	173	516	0.71	ug/L	#	37
62) Isopropylbenzene	10.658	105	8277	0.98	ug/L		94
65) Bromobenzene	10.968	156	1684	0.95	ug/L	#	66
66) n-Propylbenzene	10.999	91	9220	0.99	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.047	83	2293	0.98	ug/L		92
68) 2-Chlorotoluene	11.120	126	1588	0.93	ug/L	#	81
69) 1,3,5-Trimethylbenzene	11.157	105	6381	1.01	ug/L		88
70) 1,2,3-Trichloropropane	11.157	110	913	1.00	ug/L	#	63
71) t-1,4-Dichloro-2-butene	11.193	88	315	0.80	ug/L	#	68
72) 4-Chlorotoluene	11.254	91	5709	1.02	ug/L		89
73) tert-Butylbenzene	11.412	91	3961	1.02	ug/L		90
74) 1,2,4-Trimethylbenzene	11.467	105	6284	0.98	ug/L		99
75) sec-Butylbenzene	11.552	105	7388	0.96	ug/L		95
76) 4-Isopropyltoluene	11.662	119	6309	0.98	ug/L		93
77) 1,3-Dichlorobenzene	11.716	146	3078	0.96	ug/L		87
78) 1,4-Dichlorobenzene	11.783	146	3311	1.03	ug/L		94
79) n-Butylbenzene	11.978	91	5776	1.02	ug/L		89
80) 1,2-Dichlorobenzene	12.094	146	2989	0.98	ug/L		94
81) 1,2-Dibromo-3-Chloropr...	12.696	157	429	0.78	ug/L	#	34
82) Hexachlorobutadiene	13.219	223	423	0.93	ug/L		92
83) 1,2,4-Trichlorobenzene	13.243	180	1768	0.87	ug/L		89
84) Naphthalene	13.517	128	7597	0.97	ug/L		98
85) 1,2,3-Trichlorobenzene	13.681	180	1983	1.02	ug/L		94

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092631.D
Acq On : 26 Sep 2019 10:49 pm
Operator : TB
Sample : 9I26051-CAL4
Misc : 1X 5mL 1/2PPB VOCO+MeOH
ALS Vial : 7 Sample Multiplier: 1

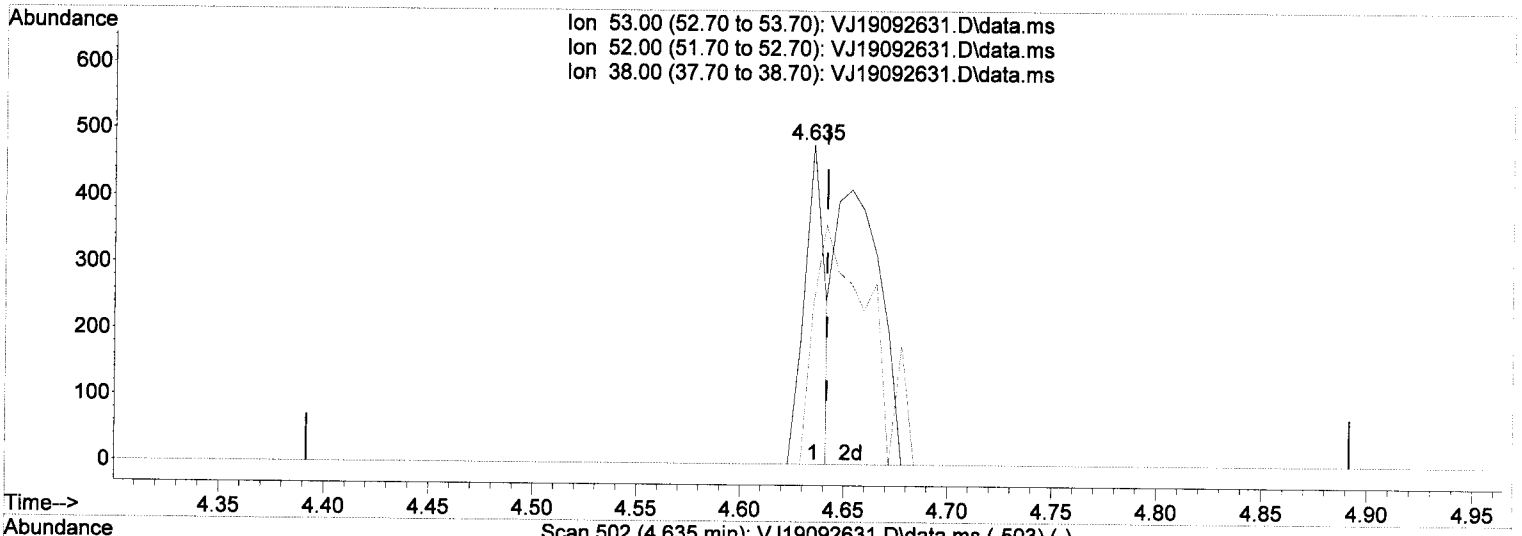
Quant Time: Sep 27 11:17:31 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

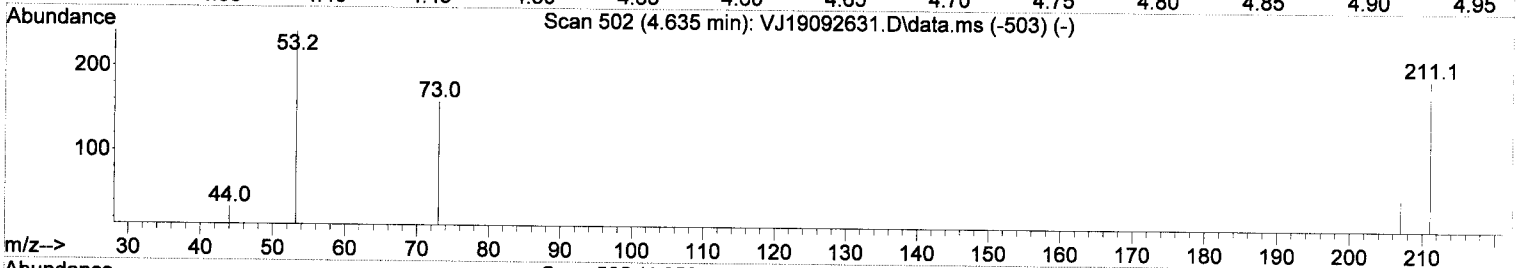


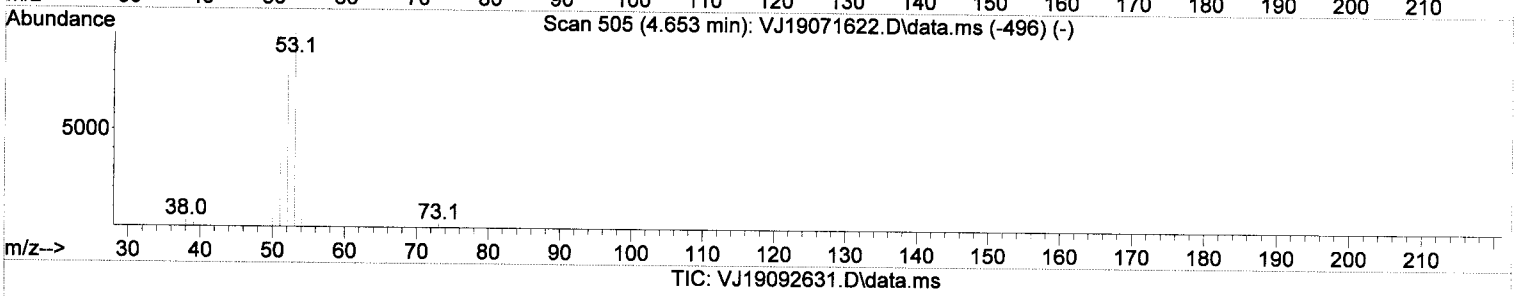
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092631.D
Acq On : 26 Sep 2019 10:49 pm
Operator : TB
Sample : 9I26051-CAL4
Misc : 1X 5mL 1/2PPB VOCO+MeOH
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 27 10:51:49 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092631.D\data.ms

(21) Acrylonitrile

4.635min (-0.006) 0.27 ug/L

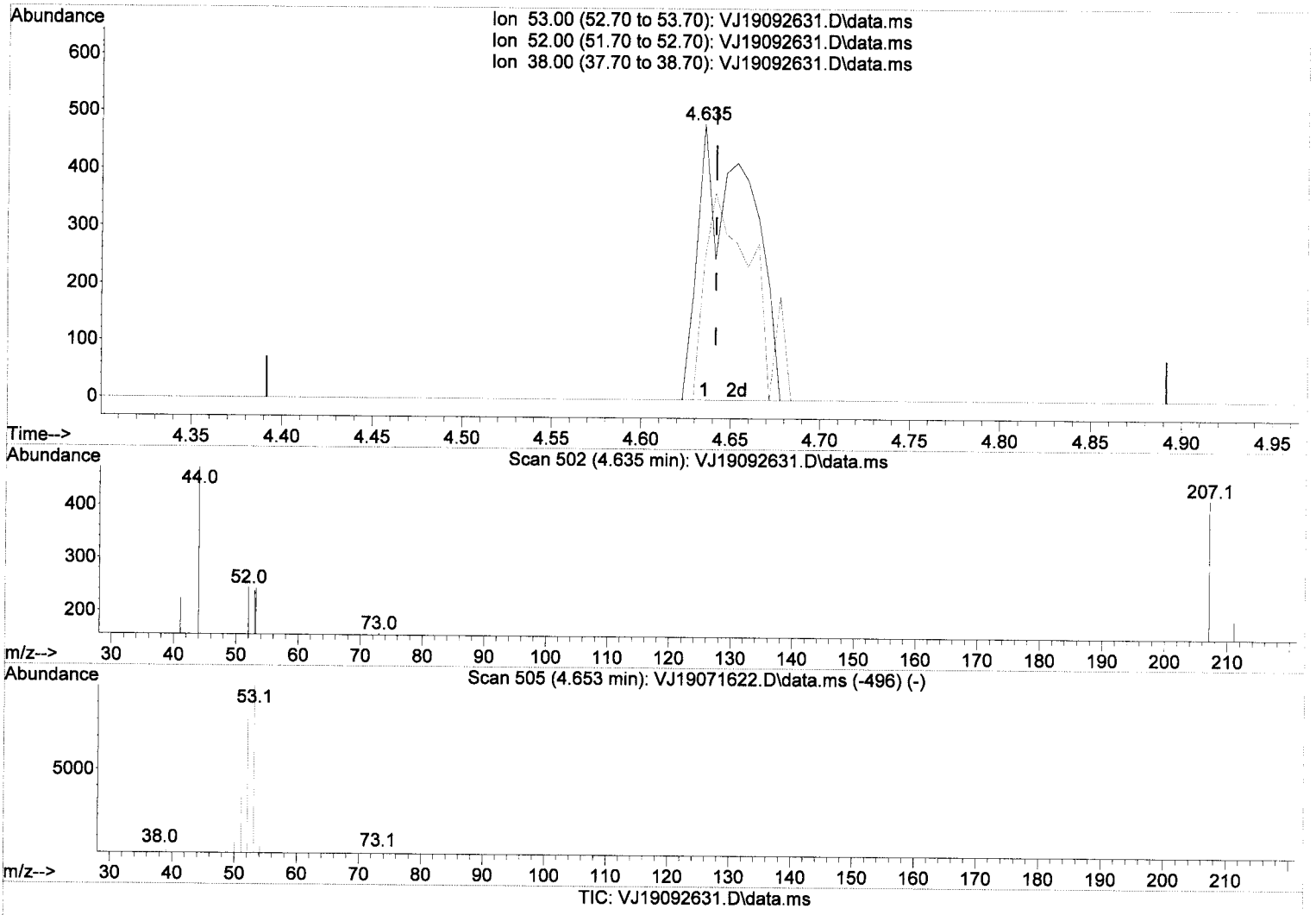
response 333

Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	50.83
38.00	5.50	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092631.D
Acq On : 26 Sep 2019 10:49 pm
Operator : TB
Sample : 9I26051-CAL4
Misc : 1X 5mL 1/2PPB VOCO+MeOH
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 27 10:51:49 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092631.D\data.ms

(21) Acrylonitrile

4.635min (-0.006) 0.77 ug/L m

9/27/19

response 954

Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	100.83
38.00	5.50	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092631.D
Acq On : 26 Sep 2019 10:49 pm
Operator : TB
Sample : 9I26051-CAL4
Misc : 1X 5mL 1/2PPB VOCO+MeOH
ALS Vial : 7 Sample Multiplier: 1

pre
9/27/19

Quant Time: Sep 27 10:51:49 2019
Quant Method : C:\msdchem\1\methods\~~VJ190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	81984	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	192549	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	86589	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	56330	48.02	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	217352	50.07	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	268905	49.12	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	67920	50.86	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	1395	0.88	ug/L		86
3) Chloromethane	1.904	50	2599	1.22	ug/L		98
4) Vinyl Chloride	2.013	62	1578	0.96	ug/L		90
5) Bromomethane	2.348	96	2822	3.86	ug/L		92
6) Chloroethane	2.475	64	804	3.28	ug/L	#	1
7) Trichlorofluoromethane	2.603	101	660	0.89	ug/L	#	54
8) Ethanol	3.327	45	8207	127.61	ug/L		88
9) 1,1-Dichloroethene	3.145	61	2333	0.97	ug/L		92
10) Carbon Disulfide	3.157	76	3107	0.93	ug/L		90
11) Freon 113	3.199	101	1302	0.97	ug/L		93
12) Iodomethane	3.291	142	963	1.89	ug/L		86
13) Methylene Chloride	3.783	84	3800	2.34	ug/L		95
14) Acetone	3.875	43	4153	3.22	ug/L		78
15) t-1,2-Dichloroethene	3.954	61	2257	0.90	ug/L		97
16) n-Hexane	4.039	86	420	1.05	ug/L	#	75
17) Methyl-tert-butyl-ether	4.118	73	8067	1.17	ug/L		95
18) tert-Butanol (TBA)	4.282	59	41742	59.91	ug/L	#	93
19) Diisopropyl ether (DIPE)	4.513	45	1630	0.25	ug/L		88
20) 1,1-Dichloroethane	4.580	63	2592	0.99	ug/L		98
21) Acrylonitrile	4.635	53	~~333~~	~~0.27~~	~~ug/L~~		~~68~~ MF
22) Ethyl-tert-butyl ether...	4.872	59	1774	0.26	ug/L		84
23) c-1,2-Dichloroethene	5.134	61	2632	1.01	ug/L		98
24) 2,2-Dichloropropane	5.244	77	3177	1.08	ug/L		81
25) Bromochloromethane	5.335	49	1510	0.98	ug/L	#	74
26) Chloroform	5.420	83	3029	0.94	ug/L		90
27) Carbon Tetrachloride	5.566	117	2021	0.91	ug/L		93
28) Tetrahydrofuran	5.609	42	1809	1.20	ug/L		90
29) 1,1,1-Trichloroethane	5.621	97	3061	0.98	ug/L		99
31) 1,1-Dichloropropene	5.761	75	2801	1.02	ug/L		87
32) 2-Butanone (MEK)	5.748	43	5626	2.88	ug/L		87
33) Benzene	6.010	78	7846	1.00	ug/L		95
34) tert-Amyl methyl ether...	6.156	73	2474	0.39	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.217	62	2955	0.94	ug/L		86
36) iso-Butyl Alcohol	6.314	43	7169	27.71	ug/L		87
38) Trichloroethene (TCE)	6.631	130	1660	0.89	ug/L		77
39) tert-Amyl ethyl ether ...	6.910	59	1145	0.23	ug/L		66
40) Dibromomethane	7.069	93	965	0.84	ug/L		77
41) 1,2-Dichloropropane	7.178	63	1993	0.99	ug/L		99
42) Bromodichloromethane	7.257	83	1688	0.80	ug/L		88
44) c-1,3-Dichloropropene	7.957	75	2900	0.94	ug/L		89
46) Toluene	8.237	91	8435	1.02	ug/L		99
47) Tetrachloroethene (PCE)	8.687	166	1713	0.95	ug/L		94
48) 4-Methyl-2-Pentanone (...	8.675	43	6953	2.03	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092631.D
Acq On : 26 Sep 2019 10:49 pm
Operator : TB
Sample : 9I26051-CAL4
Misc : 1X 5mL 1/2PPB VOCO+MeOH
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 27 10:51:49 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

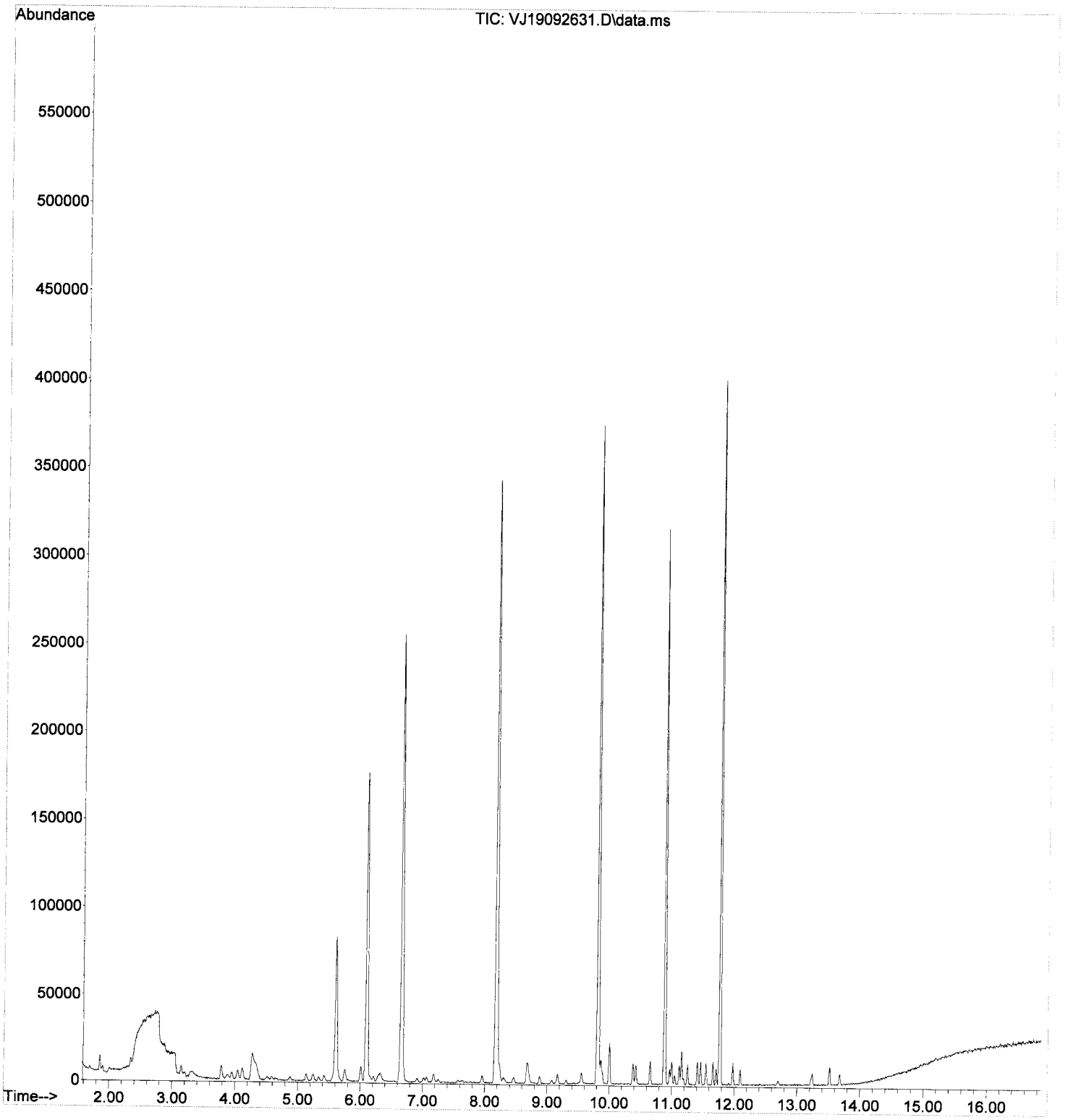
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	2780	0.93	ug/L		97
50) 1,1,2-Trichloroethane	8.875	97	1642	0.98	ug/L		92
51) Dibromochloromethane	9.070	129	821	0.66	ug/L		89
52) 1,3-Dichloropropane	9.174	76	3103	0.94	ug/L		94
53) 1,2-Dibromoethane (EDB)	9.307	107	1656	0.89	ug/L		76
54) 2-Hexanone	9.551	43	5387	2.03	ug/L		97
55) Chlorobenzene	9.824	112	4686	0.96	ug/L		91
56) Ethylbenzene	9.867	91	8628	0.94	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.891	131	1424	0.90	ug/L		81
58) m,p-Xylenes (2)	10.001	91	13397	1.95	ug/L		93
59) o-Xylene	10.378	91	6615	0.95	ug/L		92
60) Styrene	10.427	104	4607	0.93	ug/L		88
61) Bromoform	10.439	173	516	0.71	ug/L	#	37
62) Isopropylbenzene	10.658	105	8277	0.98	ug/L		94
65) Bromobenzene	10.968	156	1684	0.95	ug/L	#	66
66) n-Propylbenzene	10.999	91	9220	0.99	ug/L		96
67) 1,1,2,2-Tetrachloroethane	11.047	83	2293	0.98	ug/L		92
68) 2-Chlorotoluene	11.120	126	1588	0.93	ug/L	#	81
69) 1,3,5-Trimethylbenzene	11.157	105	6381	1.01	ug/L		88
70) 1,2,3-Trichloropropane	11.157	110	913	1.00	ug/L	#	63
71) t-1,4-Dichloro-2-butene	11.193	88	315	0.80	ug/L	#	68
72) 4-Chlorotoluene	11.254	91	5709	1.02	ug/L		89
73) tert-Butylbenzene	11.412	91	3961	1.02	ug/L		90
74) 1,2,4-Trimethylbenzene	11.467	105	6284	0.98	ug/L		99
75) sec-Butylbenzene	11.552	105	7388	0.96	ug/L		95
76) 4-Isopropyltoluene	11.662	119	6309	0.98	ug/L		93
77) 1,3-Dichlorobenzene	11.716	146	3078	0.96	ug/L		87
78) 1,4-Dichlorobenzene	11.783	146	3311	1.03	ug/L		94
79) n-Butylbenzene	11.978	91	5776	1.02	ug/L		89
80) 1,2-Dichlorobenzene	12.094	146	2989	0.98	ug/L		94
81) 1,2-Dibromo-3-Chloropr...	12.696	157	429	0.78	ug/L	#	34
82) Hexachlorobutadiene	13.219	223	423	0.93	ug/L		92
83) 1,2,4-Trichlorobenzene	13.243	180	1768	0.87	ug/L		89
84) Naphthalene	13.517	128	7597	0.97	ug/L		98
85) 1,2,3-Trichlorobenzene	13.681	180	1983	1.02	ug/L		94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092631.D
Acq On : 26 Sep 2019 10:49 pm
Operator : TB
Sample : 9I26051-CAL4
Misc : 1X 5mL 1/2PPB VOCO+MeOH
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Sep 27 10:51:49 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

post

9/27/19

Quant Time: Sep 27 13:11:20 2019
Quant Method : C:\msdchem\1\methods\~~VJ190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.089	99	80878	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	191897	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	87731	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	56215	48.58	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	215594	50.35	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	265160	48.60	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	68748	50.81	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	2406m	1.54	ug/L		
3) Chloromethane	1.892	50	4009	1.92	ug/L		97
4) Vinyl Chloride	1.989	62	3030	1.84	ug/L		91
5) Bromomethane	2.336	96	2937	4.07	ug/L		97
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	2.591	101	1366	1.86	ug/L		91
8) Ethanol	3.303	45	12266m	193.33	ug/L		
9) 1,1-Dichloroethene	3.133	61	4576	1.92	ug/L		86
10) Carbon Disulfide	3.145	76	6011	1.82	ug/L		94
11) Freon 113	3.187	101	2441	1.85	ug/L		90
12) Iodomethane	3.285	142	1150	2.28	ug/L		75
13) Methylene Chloride	3.778	84	6720	4.19	ug/L		92
14) Acetone	3.869	43	8350m	6.56	ug/L		
15) t-1,2-Dichloroethene	3.942	61	4912	1.99	ug/L		84
16) n-Hexane	4.033	86	754	1.90	ug/L		92
17) Methyl-tert-butyl-ether	4.106	73	14610	2.15	ug/L		96
18) tert-Butanol (TBA)	4.264	59	82253m	119.66	ug/L		
19) Diisopropyl ether (DIPE)	4.508	45	3173	0.50	ug/L		97
20) 1,1-Dichloroethane	4.581	63	5221	2.02	ug/L		100
21) Acrylonitrile	4.629	53	1969	1.62	ug/L		90
22) Ethyl-tert-butyl ether...	4.873	59	3328	0.50	ug/L		98
23) c-1,2-Dichloroethene	5.128	61	5194	2.02	ug/L		85
24) 2,2-Dichloropropane	5.244	77	6209	2.14	ug/L		93
25) Bromochloromethane	5.335	49	2920	1.91	ug/L		85
26) Chloroform	5.420	83	6073	1.91	ug/L		98
27) Carbon Tetrachloride	5.560	117	3787	1.72	ug/L		89
28) Tetrahydrofuran	5.590	42	3550	2.38	ug/L		86
29) 1,1,1-Trichloroethane	5.621	97	5828	1.89	ug/L		98
31) 1,1-Dichloropropene	5.749	75	5503	2.03	ug/L		85
32) 2-Butanone (MEK)	5.736	43	9277	4.82	ug/L		85
33) Benzene	6.004	78	15470	2.00	ug/L		95
34) tert-Amyl methyl ether...	6.150	73	4288	0.68	ug/L		86
35) 1,2-Dichloroethane (EDC)	6.205	62	6019	1.93	ug/L		96
36) iso-Butyl Alcohol	6.327	43	12780	50.07	ug/L		93
38) Trichloroethene (TCE)	6.625	130	3608	1.97	ug/L		90
39) tert-Amyl ethyl ether ...	6.917	59	2564	0.53	ug/L		85
40) Dibromomethane	7.063	93	2282	2.01	ug/L	#	79
41) 1,2-Dichloropropane	7.178	63	3788	1.90	ug/L		89
42) Bromodichloromethane	7.251	83	3441	1.66	ug/L		93
44) c-1,3-Dichloropropene	7.963	75	5722	1.87	ug/L		99
46) Toluene	8.231	91	16529	2.01	ug/L		98
47) Tetrachloroethene (PCE)	8.687	166	3405	1.90	ug/L		90
48) 4-Methyl-2-Pentanone (...	8.675	43	13755	4.03	ug/L		95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 13:11:20 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

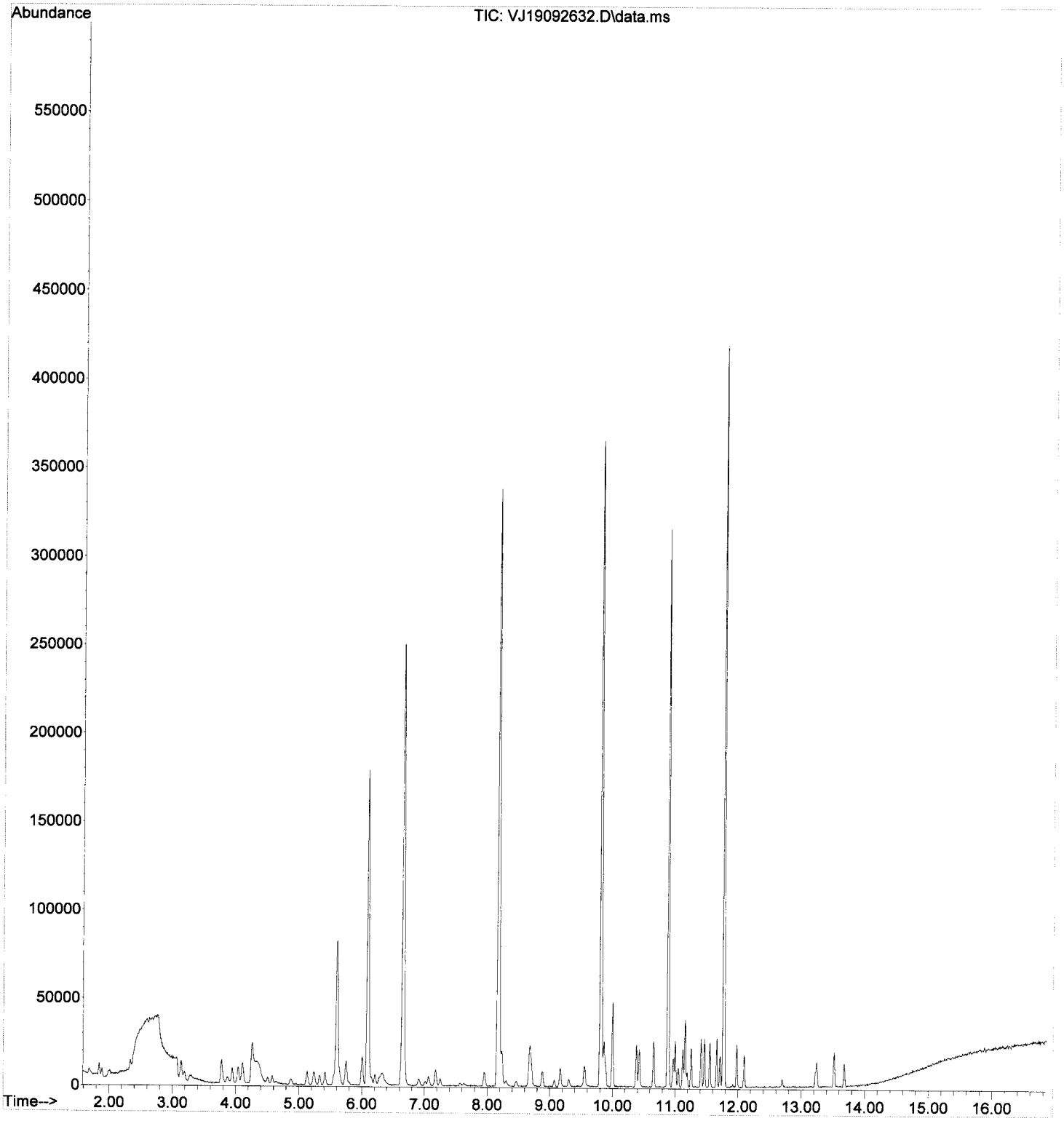
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	5491	1.85 ug/L	95
50) 1,1,2-Trichloroethane	8.882	97	3449	2.06 ug/L	90
51) Dibromochloromethane	9.076	129	1996	1.62 ug/L	90
52) 1,3-Dichloropropane	9.168	76	6858	2.09 ug/L	97
53) 1,2-Dibromoethane (EDB)	9.308	107	3632	1.96 ug/L	97
54) 2-Hexanone	9.551	43	9874	3.74 ug/L	93
55) Chlorobenzene	9.825	112	9732	2.00 ug/L	91
56) Ethylbenzene	9.861	91	17794	1.95 ug/L	99
57) 1,1,1,2-Tetrachloroethane	9.892	131	2840	1.80 ug/L	98
58) m,p-Xylenes (2)	10.001	91	26333	3.85 ug/L	96
59) o-Xylene	10.378	91	13487	1.94 ug/L	92
60) Styrene	10.427	104	9190	1.87 ug/L	94
61) Bromoform	10.439	173	1110	1.54 ug/L	92
62) Isopropylbenzene	10.658	105	16179	1.92 ug/L	98
65) Bromobenzene	10.968	156	3490	1.94 ug/L #	71
66) n-Propylbenzene	10.999	91	18414	1.96 ug/L	95
67) 1,1,2,2-Tetrachloroethane	11.047	83	4672	1.97 ug/L	99
68) 2-Chlorotoluene	11.120	126	3415	1.98 ug/L	94
69) 1,3,5-Trimethylbenzene	11.157	105	12560	1.96 ug/L	90
70) 1,2,3-Trichloropropane	11.157	110	1824	1.97 ug/L	95
71) t-1,4-Dichloro-2-butene	11.187	88	608	1.53 ug/L #	68
72) 4-Chlorotoluene	11.254	91	11203	1.97 ug/L	94
73) tert-Butylbenzene	11.412	91	7779	1.97 ug/L	89
74) 1,2,4-Trimethylbenzene	11.467	105	12884	1.98 ug/L	92
75) sec-Butylbenzene	11.552	105	15516	1.98 ug/L	95
76) 4-Isopropyltoluene	11.662	119	12605	1.93 ug/L	95
77) 1,3-Dichlorobenzene	11.717	146	6372	1.97 ug/L	100
78) 1,4-Dichlorobenzene	11.784	146	6672	2.05 ug/L	93
79) n-Butylbenzene	11.978	91	11616	2.03 ug/L	93
80) 1,2-Dichlorobenzene	12.094	146	6103	1.98 ug/L	94
81) 1,2-Dibromo-3-Chloropr...	12.702	157	817	1.46 ug/L #	39
82) Hexachlorobutadiene	13.225	223	871	1.89 ug/L	93
83) 1,2,4-Trichlorobenzene	13.244	180	4100	2.00 ug/L	89
84) Naphthalene	13.517	128	14697	1.85 ug/L	94
85) 1,2,3-Trichlorobenzene	13.682	180	3947	2.00 ug/L	98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

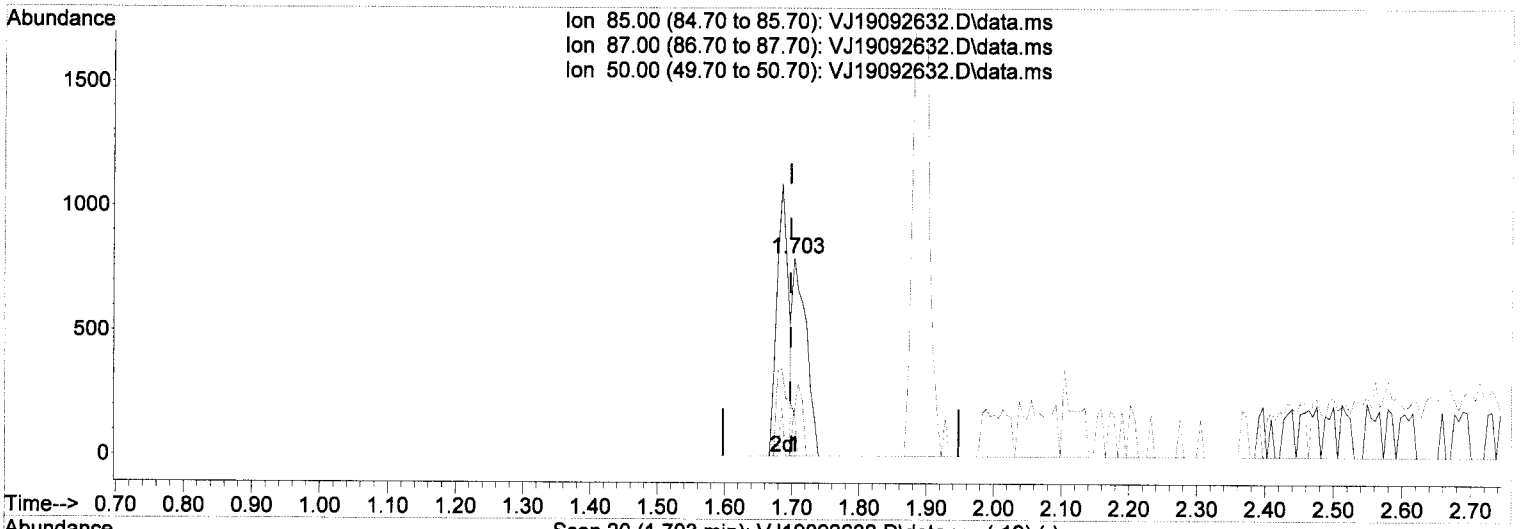
Quant Time: Sep 27 13:11:20 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

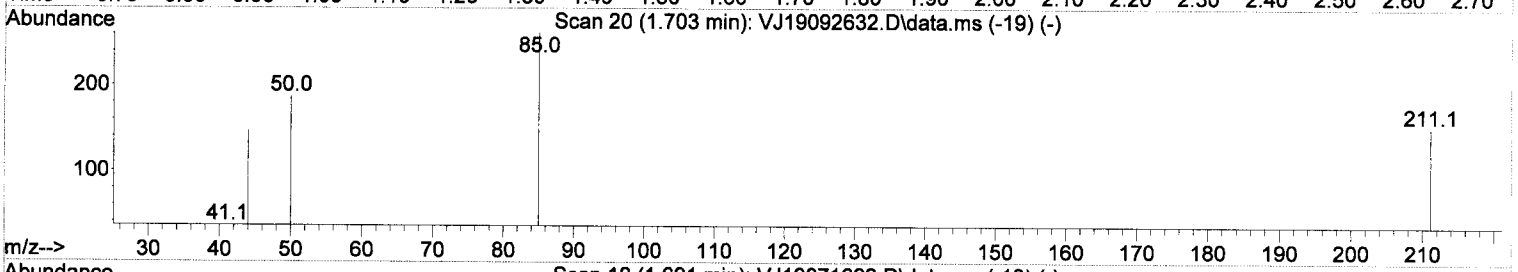


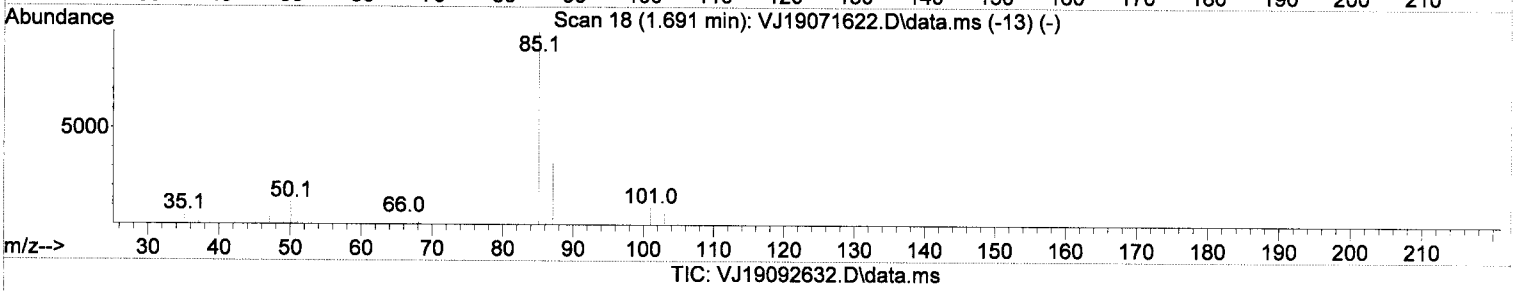
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092632.D\data.ms

(2) Dichlorodifluoromethane

1.703min (+ 0.006) 0.71 ug/L

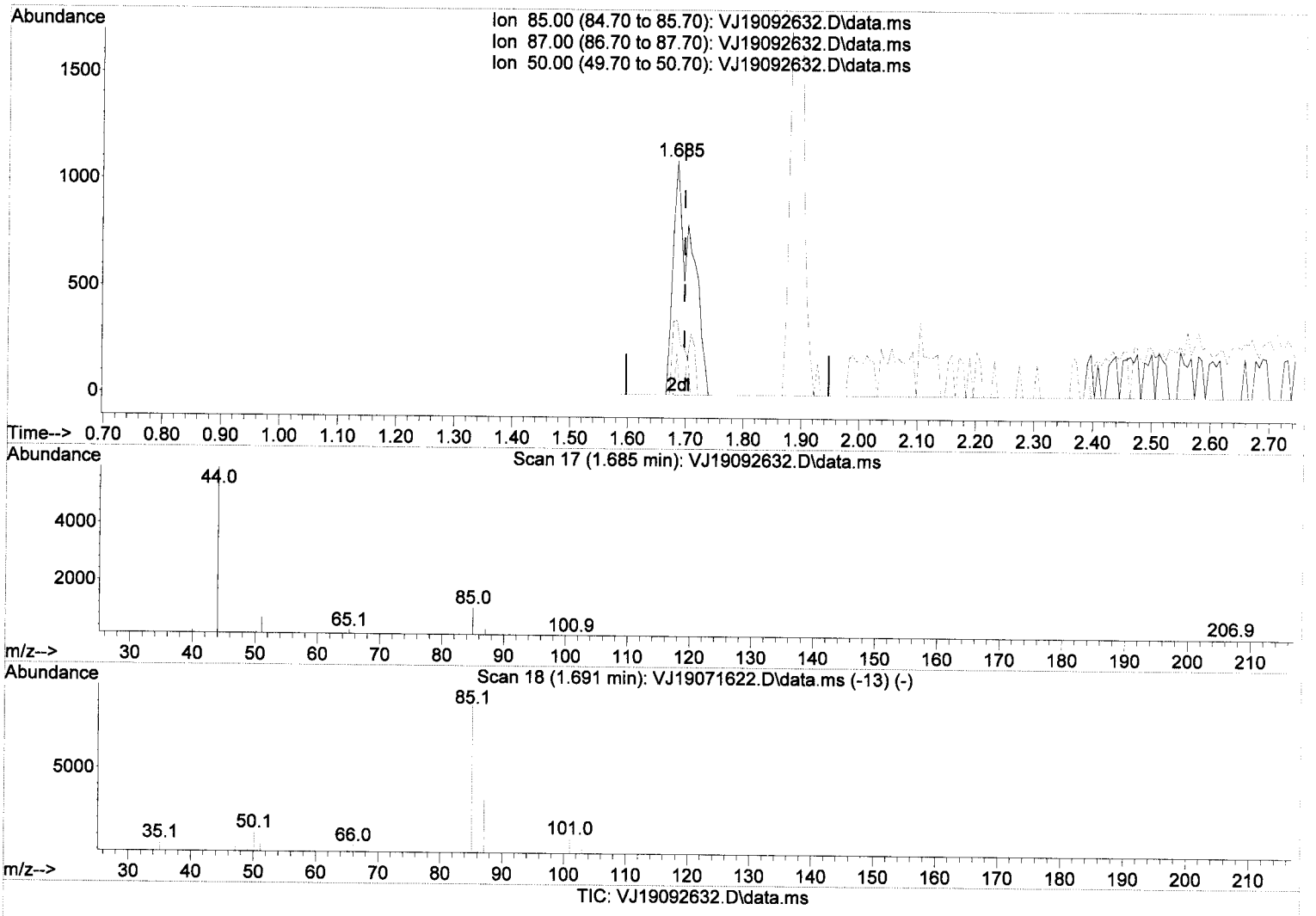
response 1107

Ion	Exp%	Act%
85.00	100.00	100.00
87.00	31.10	21.76
50.00	11.20	23.52
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



(2) Dichlorodifluoromethane

1.685min (-0.012) 1.54 ug/L m

9/27/19

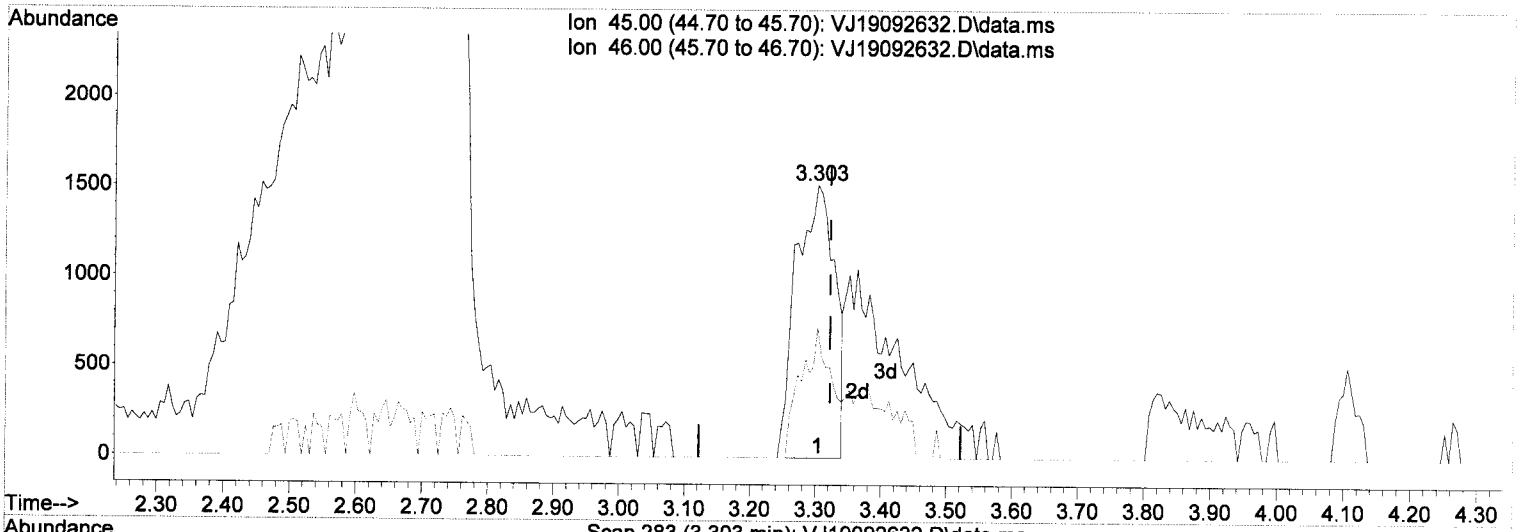
response 2406

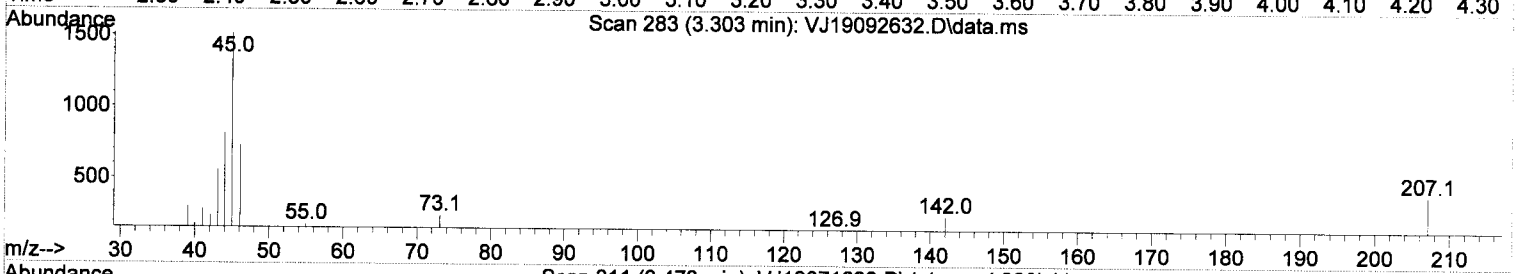
Ion	Exp%	Act%
85.00	100.00	100.00
87.00	31.10	32.02
50.00	11.20	17.84
0.00	0.00	0.00

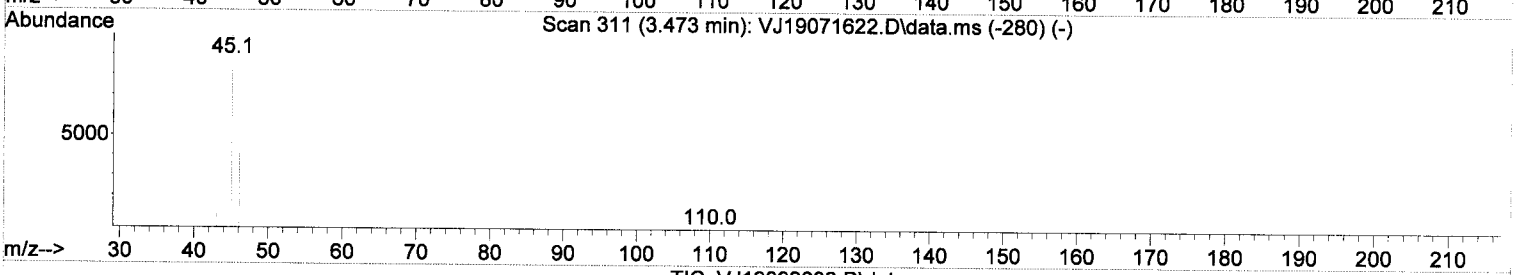
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092632.D\data.ms

(8) Ethanol

3.303min (-0.018) 96.95 ug/L

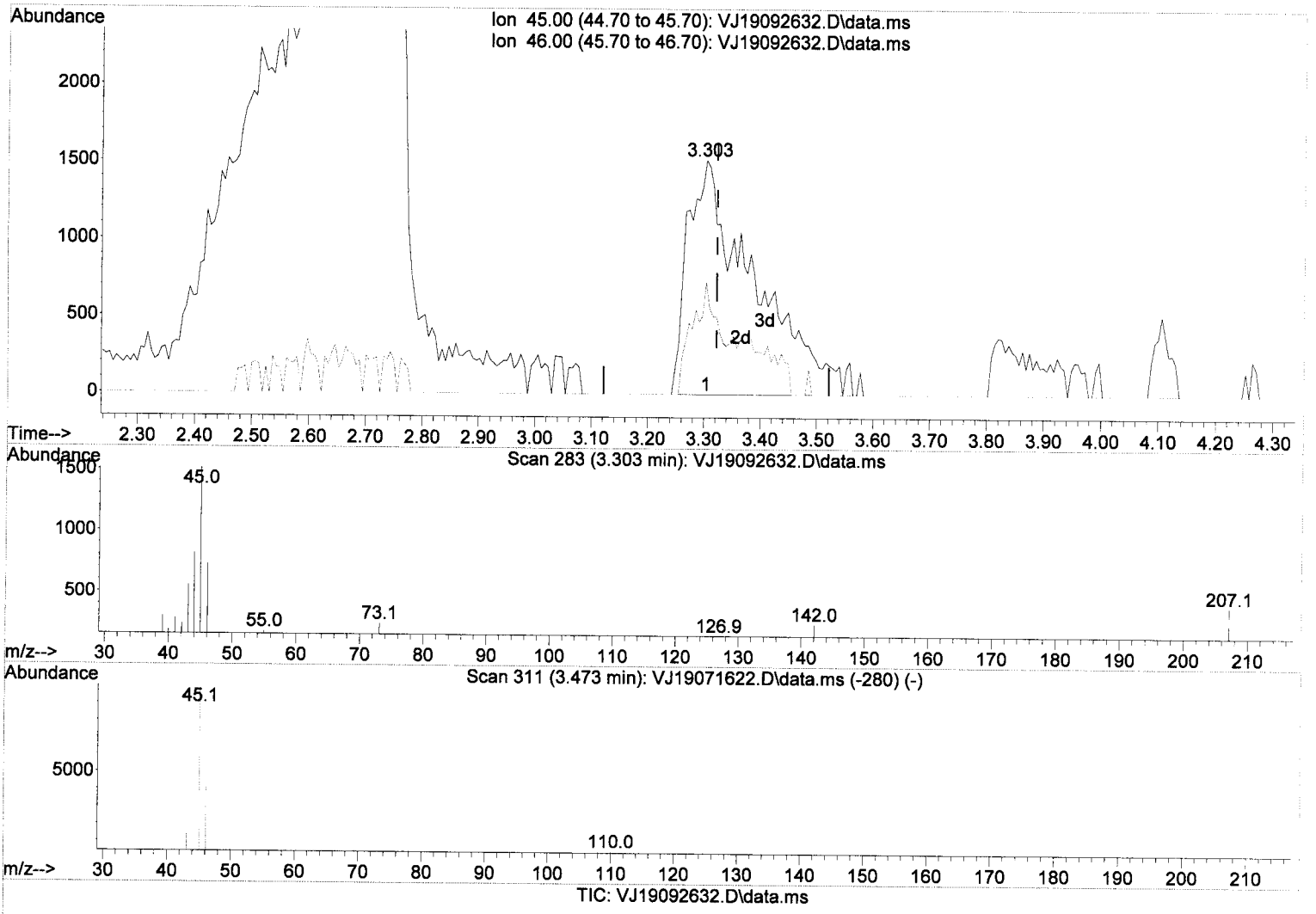
response 6151

Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	47.98
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092632.D\data.ms

(8) Ethanol

3.303min (-0.018) 193.33 ug/L (m)

response 12266

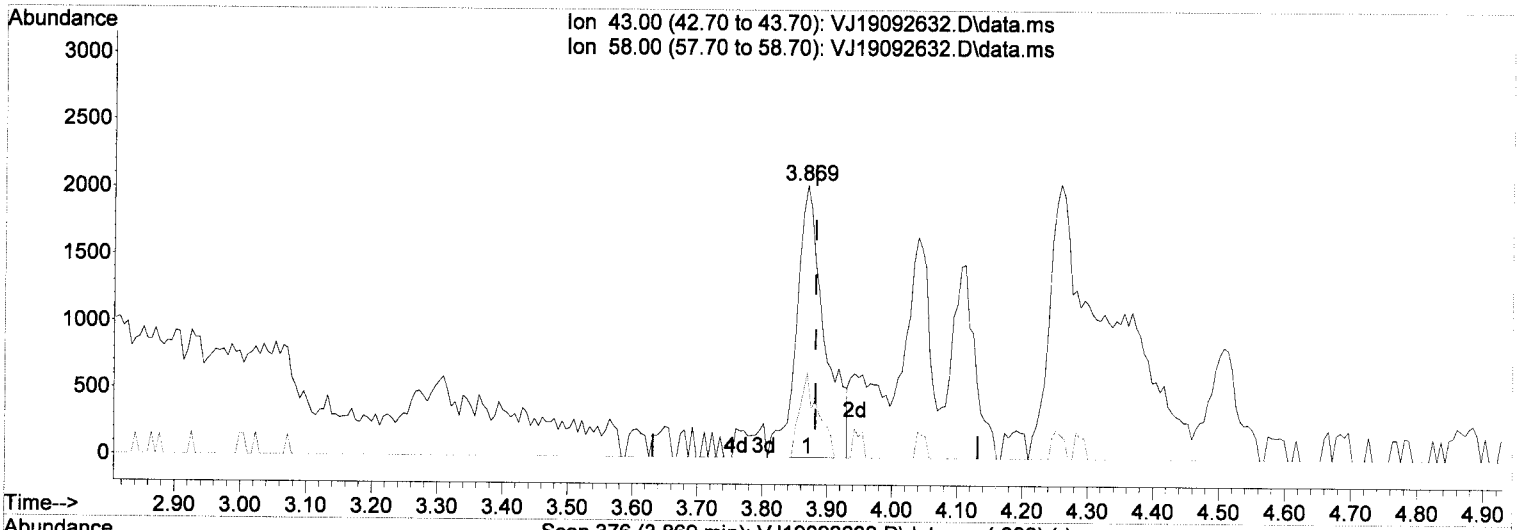
Ion	Exp%	Act%
45.00	100.00	100.00
46.00	47.50	47.98
0.00	0.00	0.00
0.00	0.00	0.00

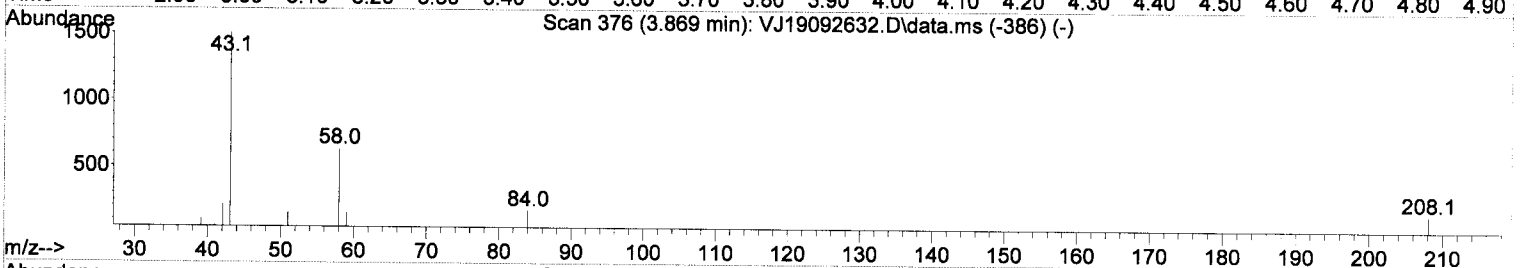
9/27/19

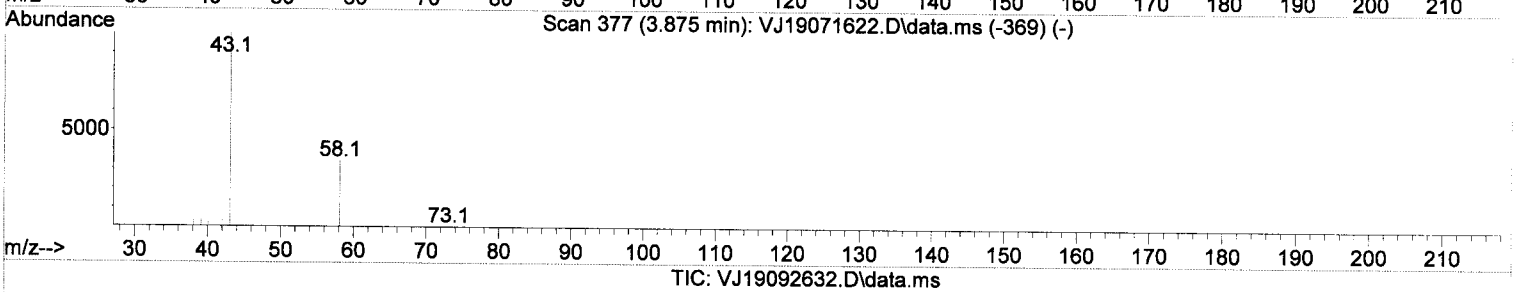
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092632.D\data.ms

(14) Acetone

3.869min (-0.012) 4.85 ug/L

response 6176

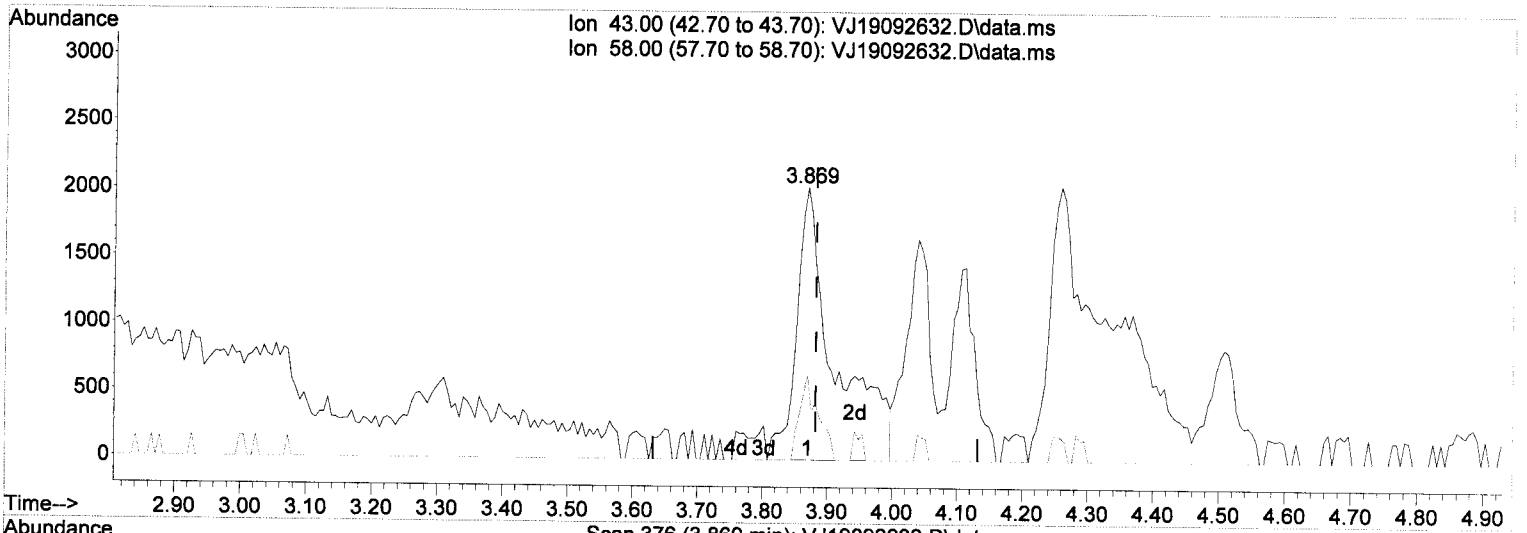
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	31.13
0.00	0.00	0.00
0.00	0.00	0.00

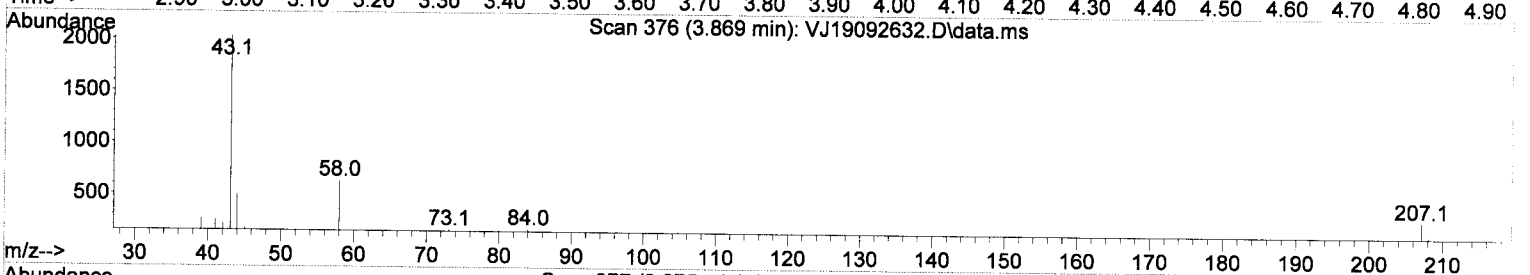
MI

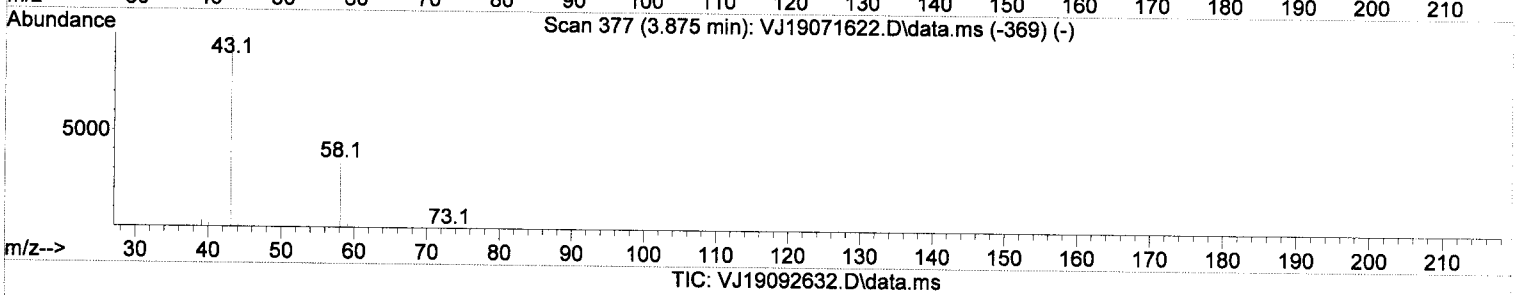
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092632.D\data.ms

(14) Acetone

3.869min (-0.012) 6.56 ug/L m

response 8350

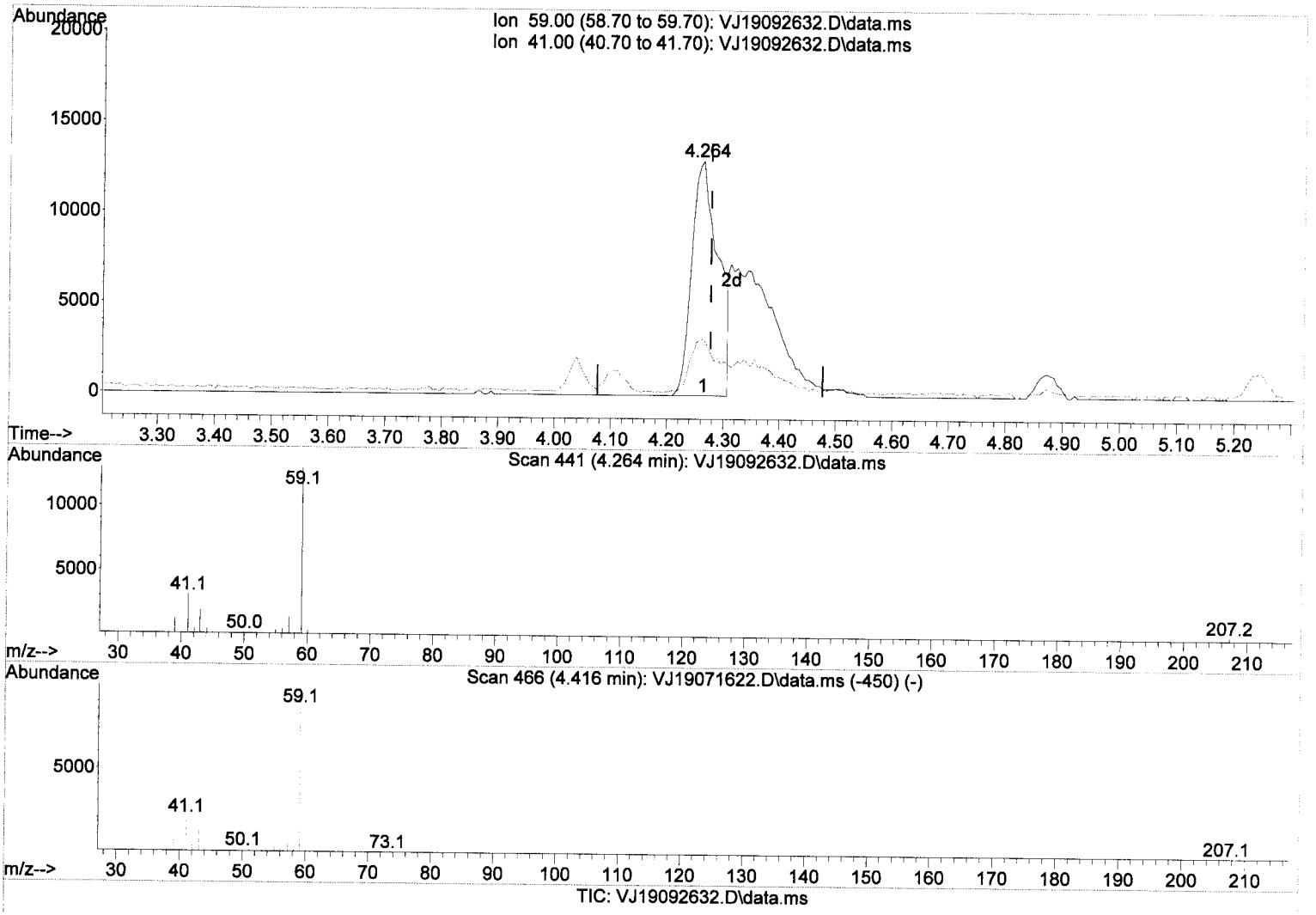
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	31.13
0.00	0.00	0.00
0.00	0.00	0.00

9/27/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092632.D\data.ms

(18) tert-Butanol (TBA)

4.264min (-0.012) 61.79 ug/L

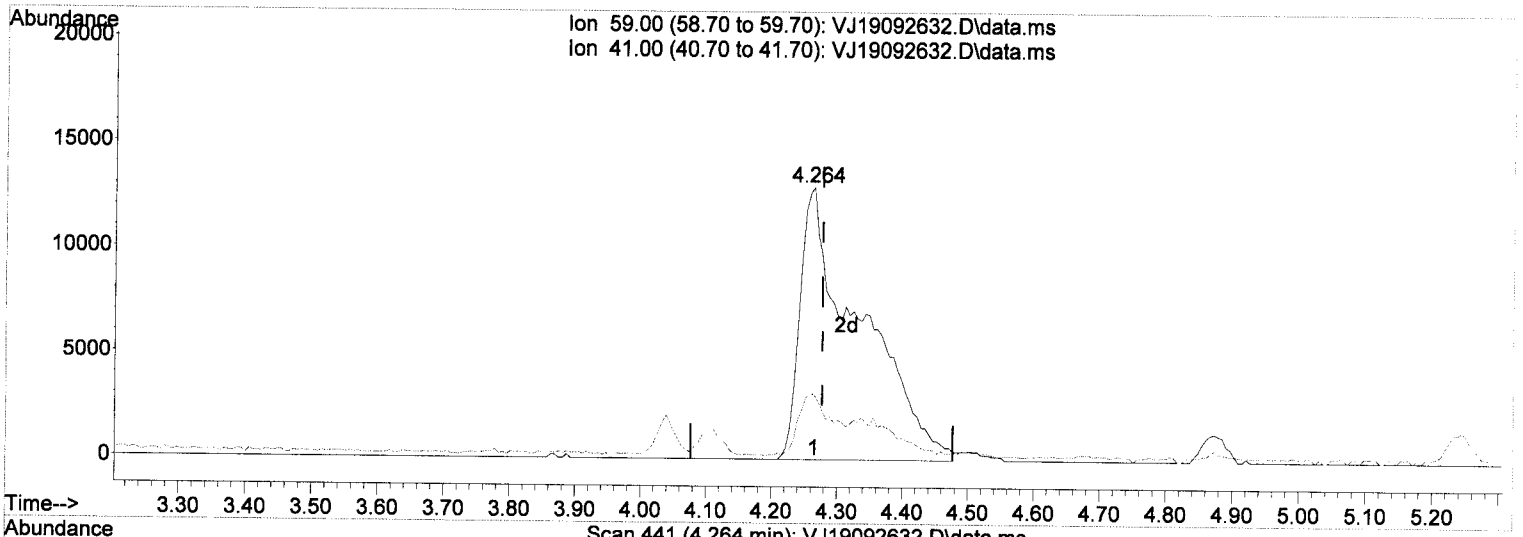
response	42475	
Ion	Exp%	Act%
59.00	100.00	100.00
41.00	28.80	24.15#
0.00	0.00	0.00
0.00	0.00	0.00

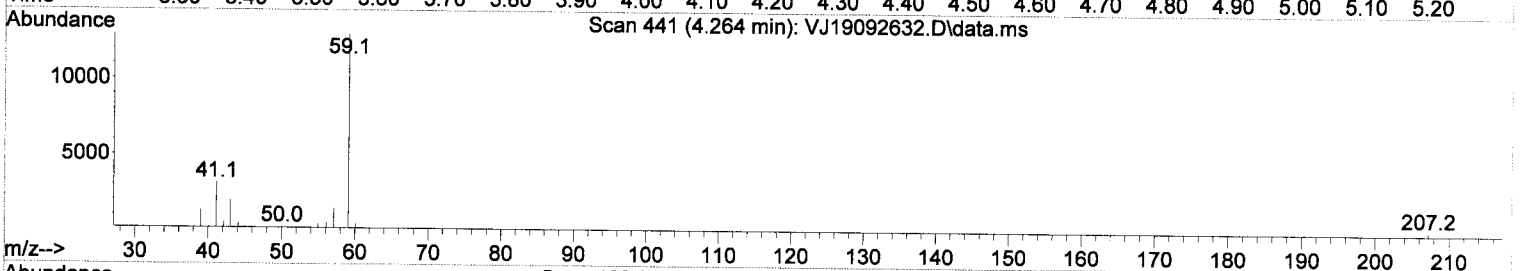
MT

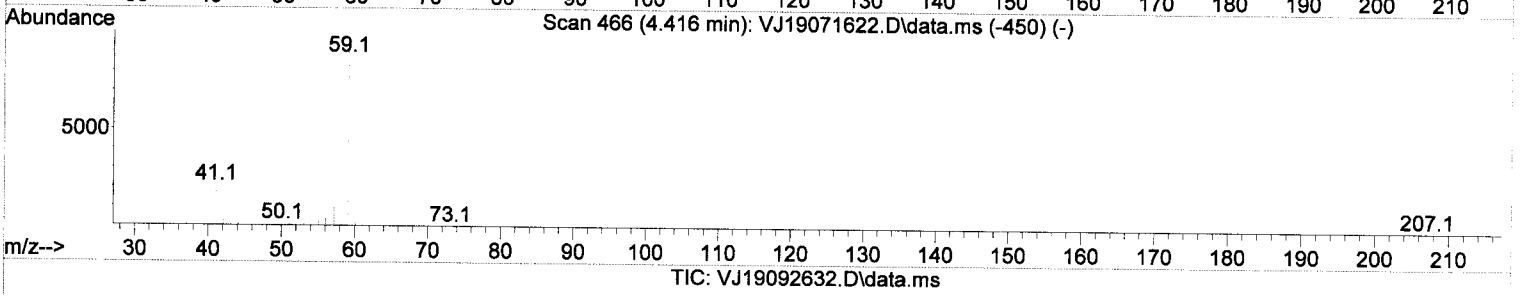
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092632.D\data.ms

(18) tert-Butanol (TBA)

4.264min (-0.012) 119.66 ug/L (m)

9/27/19

response 82253

Ion	Exp%	Act%
59.00	100.00	100.00
41.00	28.80	24.15#
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

pre 9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.089	99	80878	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	191897	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	87731	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	56215	48.58	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	215594	50.35	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	265160	48.60	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	68748	50.81	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	~~1.703~~	~~85~~	~~1107~~	0.71	ug/L		79
3) Chloromethane	1.892	50	4009	1.92	ug/L		97
4) Vinyl Chloride	1.989	62	3030	1.84	ug/L		91
5) Bromomethane	2.336	96	2937	4.07	ug/L		97
6) Chloroethane	2.457	64	924	3.82	ug/L	#	1
7) Trichlorofluoromethane	2.591	101	1366	1.86	ug/L		91
8) Ethanol	3.303	45	~~6151~~	~~96.95~~	~~ug/L~~		~~99~~
9) 1,1-Dichloroethene	3.133	61	4576	1.92	ug/L		86
10) Carbon Disulfide	3.145	76	6011	1.82	ug/L		94
11) Freon 113	3.187	101	2441	1.85	ug/L		90
12) Iodomethane	3.285	142	1150	2.28	ug/L		75
13) Methylene Chloride	3.778	84	6720	4.19	ug/L		92
14) Acetone	3.869	43	6176	4.85	ug/L		98
15) t-1,2-Dichloroethene	3.942	61	4912	1.99	ug/L		84
16) n-Hexane	4.033	86	754	1.90	ug/L		92
17) Methyl-tert-butyl-ether	4.106	73	14610	2.15	ug/L		96
18) tert-Butanol (TBA)	4.264	59	~~42475~~	~~61.79~~	~~ug/L~~	#	~~91~~
19) Diisopropyl ether (DIPE)	4.508	45	3173	0.50	ug/L		97
20) 1,1-Dichloroethane	4.581	63	5221	2.02	ug/L		100
21) Acrylonitrile	4.629	53	1969	1.62	ug/L		90
22) Ethyl-tert-butyl ether...	4.873	59	3328	0.50	ug/L		98
23) c-1,2-Dichloroethene	5.128	61	5194	2.02	ug/L		85
24) 2,2-Dichloropropane	5.244	77	6209	2.14	ug/L		93
25) Bromochloromethane	5.335	49	2920	1.91	ug/L		85
26) Chloroform	5.420	83	6073	1.91	ug/L		98
27) Carbon Tetrachloride	5.560	117	3787	1.72	ug/L		89
28) Tetrahydrofuran	5.590	42	3550	2.38	ug/L		86
29) 1,1,1-Trichloroethane	5.621	97	5828	1.89	ug/L		98
31) 1,1-Dichloropropene	5.749	75	5503	2.03	ug/L		85
32) 2-Butanone (MEK)	5.736	43	9277	4.82	ug/L		85
33) Benzene	6.004	78	15470	2.00	ug/L		95
34) tert-Amyl methyl ether...	6.150	73	4288	0.68	ug/L		86
35) 1,2-Dichloroethane (EDC)	6.205	62	6019	1.93	ug/L		96
36) iso-Butyl Alcohol	6.327	43	12780	50.07	ug/L		93
38) Trichloroethene (TCE)	6.625	130	3608	1.97	ug/L		90
39) tert-Amyl ethyl ether ...	6.917	59	2564	0.53	ug/L		85
40) Dibromomethane	7.063	93	2282	2.01	ug/L	#	79
41) 1,2-Dichloropropane	7.178	63	3788	1.90	ug/L		89
42) Bromodichloromethane	7.251	83	3441	1.66	ug/L		93
44) c-1,3-Dichloropropene	7.963	75	5722	1.87	ug/L		99
46) Toluene	8.231	91	16529	2.01	ug/L		98
47) Tetrachloroethene (PCE)	8.687	166	3405	1.90	ug/L		90
48) 4-Methyl-2-Pentanone (...	8.675	43	13755	4.03	ug/L		95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

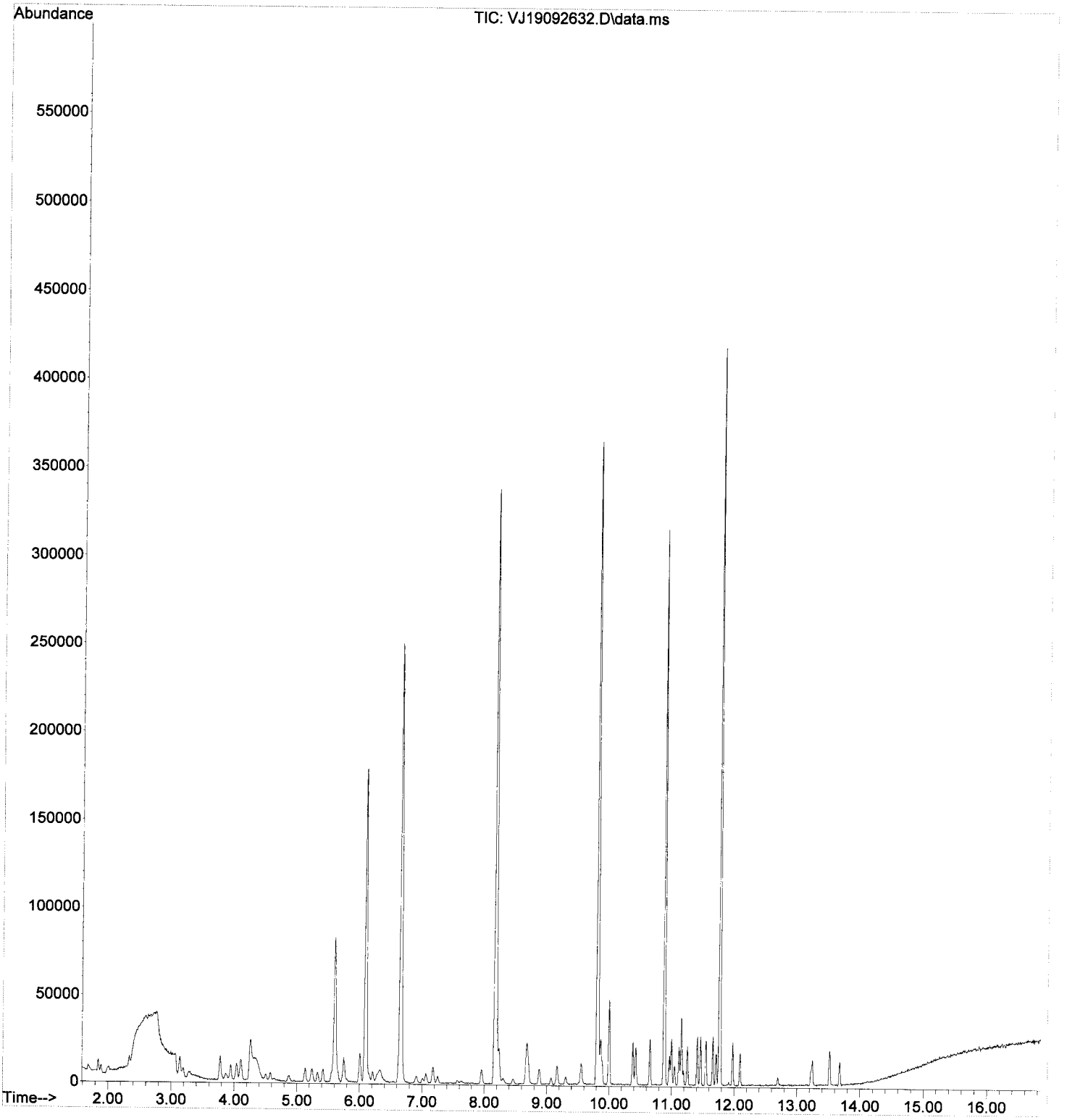
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	5491	1.85	ug/L		95
50) 1,1,2-Trichloroethane	8.882	97	3449	2.06	ug/L		90
51) Dibromochloromethane	9.076	129	1996	1.62	ug/L		90
52) 1,3-Dichloropropane	9.168	76	6858	2.09	ug/L		97
53) 1,2-Dibromoethane (EDB)	9.308	107	3632	1.96	ug/L		97
54) 2-Hexanone	9.551	43	9874	3.74	ug/L		93
55) Chlorobenzene	9.825	112	9732	2.00	ug/L		91
56) Ethylbenzene	9.861	91	17794	1.95	ug/L		99
57) 1,1,1,2-Tetrachloroethane	9.892	131	2840	1.80	ug/L		98
58) m,p-Xylenes (2)	10.001	91	26333	3.85	ug/L		96
59) o-Xylene	10.378	91	13487	1.94	ug/L		92
60) Styrene	10.427	104	9190	1.87	ug/L		94
61) Bromoform	10.439	173	1110	1.54	ug/L		92
62) Isopropylbenzene	10.658	105	16179	1.92	ug/L		98
65) Bromobenzene	10.968	156	3490	1.94	ug/L	#	71
66) n-Propylbenzene	10.999	91	18414	1.96	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.047	83	4672	1.97	ug/L		99
68) 2-Chlorotoluene	11.120	126	3415	1.98	ug/L		94
69) 1,3,5-Trimethylbenzene	11.157	105	12560	1.96	ug/L		90
70) 1,2,3-Trichloropropane	11.157	110	1824	1.97	ug/L		95
71) t-1,4-Dichloro-2-butene	11.187	88	608	1.53	ug/L	#	68
72) 4-Chlorotoluene	11.254	91	11203	1.97	ug/L		94
73) tert-Butylbenzene	11.412	91	7779	1.97	ug/L		89
74) 1,2,4-Trimethylbenzene	11.467	105	12884	1.98	ug/L		92
75) sec-Butylbenzene	11.552	105	15516	1.98	ug/L		95
76) 4-Isopropyltoluene	11.662	119	12605	1.93	ug/L		95
77) 1,3-Dichlorobenzene	11.717	146	6372	1.97	ug/L		100
78) 1,4-Dichlorobenzene	11.784	146	6672	2.05	ug/L		93
79) n-Butylbenzene	11.978	91	11616	2.03	ug/L		93
80) 1,2-Dichlorobenzene	12.094	146	6103	1.98	ug/L		94
81) 1,2-Dibromo-3-Chloropr...	12.702	157	817	1.46	ug/L	#	39
82) Hexachlorobutadiene	13.225	223	871	1.89	ug/L		93
83) 1,2,4-Trichlorobenzene	13.244	180	4100	2.00	ug/L		89
84) Naphthalene	13.517	128	14697	1.85	ug/L		94
85) 1,2,3-Trichlorobenzene	13.682	180	3947	2.00	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092632.D
Acq On : 26 Sep 2019 11:15 pm
Operator : TB
Sample : 9I26051-CAL5
Misc : 1X 5mL 2/4PPB VOCO+MeOH
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Sep 27 10:51:52 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092633.D
Acq On : 26 Sep 2019 11:42 pm
Operator : TB
Sample : 9I26051-CAL6
Misc : 1X 5mL 5/10PPB VOCO+MeOH
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 27 14:28:41 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Post 9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	82605	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	191233	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	86829	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.609	111	59172	50.15	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	218916	49.62	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	268875	50.14	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	68344	50.95	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	7777	5.13	ug/L		98
3) Chloromethane	1.904	50	10328	4.70	ug/L		93
4) Vinyl Chloride	2.007	62	7983	4.79	ug/L		97
5) Bromomethane	2.348	96	5311	5.19	ug/L		91
6) Chloroethane	2.470	64	1284	5.33	ug/L	#	39
7) Trichlorofluoromethane	2.603	101	3460	4.66	ug/L		98
8) Ethanol	3.321	45	21522	262.29	ug/L		90
9) 1,1-Dichloroethene	3.145	61	11926	4.94	ug/L		85
10) Carbon Disulfide	3.157	76	16321	4.74	ug/L		99
11) Freon 113	3.200	101	6278	4.85	ug/L		89
12) Iodomethane	3.291	142	2598	4.12	ug/L		76
13) Methylene Chloride	3.784	84	11168	4.98	ug/L		91
14) Acetone	3.881	43	13465	8.53	ug/L		95
15) t-1,2-Dichloroethene	3.954	61	12117	5.04	ug/L		95
16) n-Hexane	4.045	86	1898	4.97	ug/L	#	77
17) Methyl-tert-butyl-ether	4.118	73	33952	4.67	ug/L		94
18) tert-Butanol (TBA)	4.282	59	199371	284.21	ug/L	#	90
19) Diisopropyl ether (DIPE)	4.514	45	7883	1.14	ug/L		95
20) 1,1-Dichloroethane	4.587	63	13288	4.91	ug/L		94
21) Acrylonitrile	4.647	53	6000	5.03	ug/L		96
22) Ethyl-tert-butyl ether...	4.879	59	7904	1.10	ug/L		95
23) c-1,2-Dichloroethene	5.134	61	13062	4.91	ug/L		91
24) 2,2-Dichloropropane	5.244	77	14543	4.78	ug/L		94
25) Bromochloromethane	5.335	49	7462	4.91	ug/L		86
26) Chloroform	5.420	83	15960	4.92	ug/L		97
27) Carbon Tetrachloride	5.560	117	10019	4.51	ug/L		96
28) Tetrahydrofuran	5.603	42	7711	4.85	ug/L		95
29) 1,1,1-Trichloroethane	5.627	97	14839	4.97	ug/L		96
31) 1,1-Dichloropropene	5.755	75	13524	4.90	ug/L		89
32) 2-Butanone (MEK)	5.742	43	20088	9.31	ug/L		95
33) Benzene	6.010	78	37138	4.61	ug/L		95
34) tert-Amyl methyl ether...	6.162	73	8667	1.20	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.217	62	15109	4.91	ug/L		96
36) iso-Butyl Alcohol	6.308	43	29284	114.68	ug/L		98
38) Trichloroethene (TCE)	6.631	130	9083	5.21	ug/L		92
39) tert-Amyl ethyl ether ...	6.911	59	5798	1.10	ug/L		90
40) Dibromomethane	7.075	93	5570	4.92	ug/L		82
41) 1,2-Dichloropropane	7.178	63	9704	4.85	ug/L		90
42) Bromodichloromethane	7.257	83	8928	4.59	ug/L		98
44) c-1,3-Dichloropropene	7.957	75	13551	4.70	ug/L		93
46) Toluene	8.237	91	38895	4.62	ug/L		97
47) Tetrachloroethene (PCE)	8.687	166	8724	5.07	ug/L		89
48) 4-Methyl-2-Pentanone (...	8.675	43	31569	9.34	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092633.D
Acq On : 26 Sep 2019 11:42 pm
Operator : TB
Sample : 9I26051-CAL6
Misc : 1X 5mL 5/10PPB VOCO+MeOH
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 27 14:28:41 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

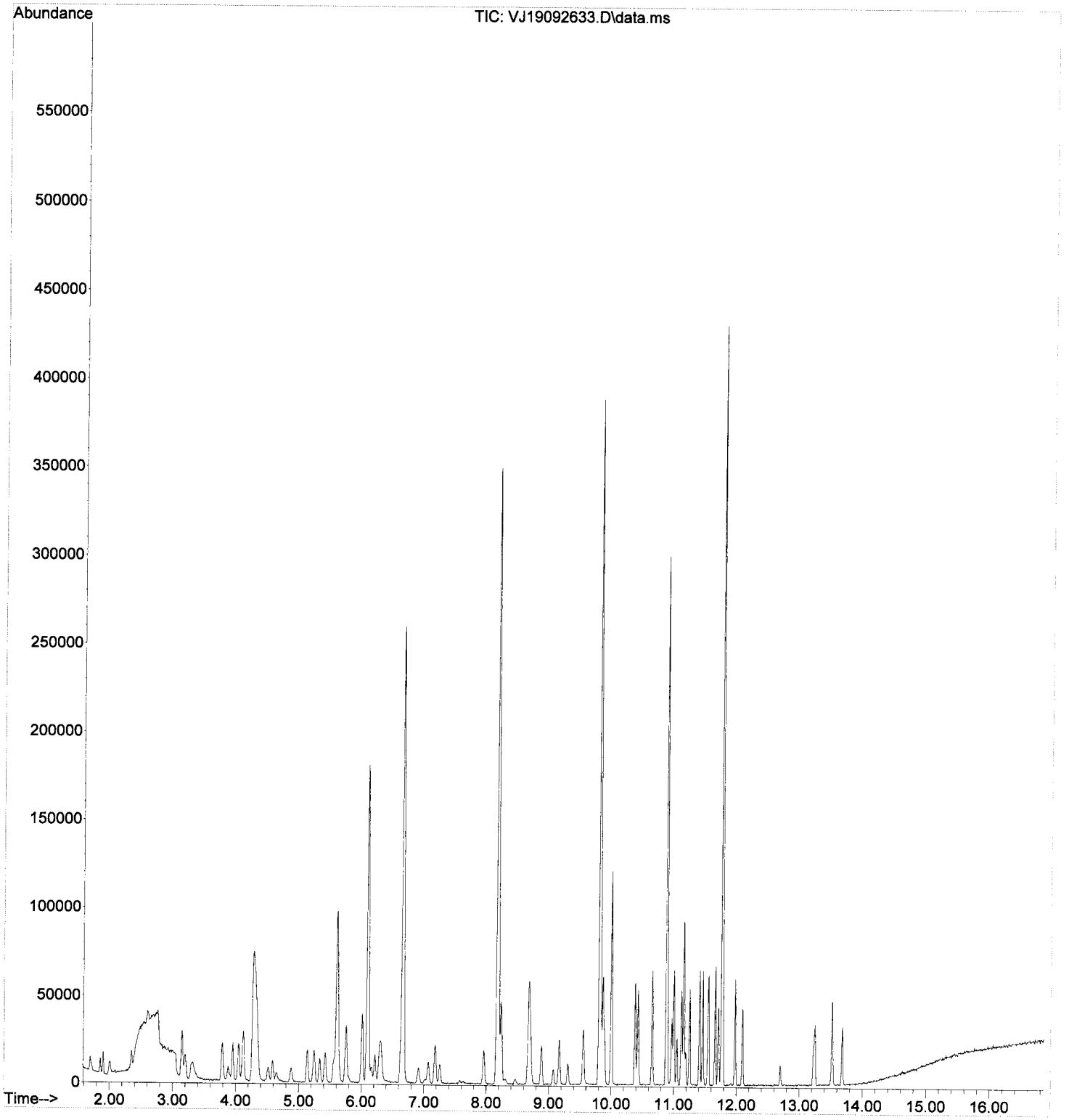
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	13406	4.64 ug/L	95
50) 1,1,2-Trichloroethane	8.882	97	8022	4.91 ug/L	96
51) Dibromochloromethane	9.076	129	4814	4.37 ug/L	98
52) 1,3-Dichloropropane	9.168	76	15269	4.80 ug/L	91
53) 1,2-Dibromoethane (EDB)	9.307	107	8459	4.77 ug/L	95
54) 2-Hexanone	9.551	43	24240	8.99 ug/L	96
55) Chlorobenzene	9.831	112	23005	4.97 ug/L	98
56) Ethylbenzene	9.861	91	42121	4.67 ug/L	96
57) 1,1,1,2-Tetrachloroethane	9.891	131	6772	4.54 ug/L	92
58) m,p-Xylenes (2)	10.001	91	63865	9.43 ug/L	97
59) o-Xylene	10.384	91	32191	4.63 ug/L	96
60) Styrene	10.427	104	21816	4.53 ug/L	95
61) Bromoform	10.439	173	2886	4.42 ug/L	95
62) Isopropylbenzene	10.658	105	38274	4.66 ug/L	96
65) Bromobenzene	10.968	156	8558	5.07 ug/L #	80
66) n-Propylbenzene	10.999	91	44060	4.74 ug/L	94
67) 1,1,2,2-Tetrachloroethane	11.053	83	10901	4.80 ug/L	99
68) 2-Chlorotoluene	11.120	126	7936	4.90 ug/L #	72
69) 1,3,5-Trimethylbenzene	11.163	105	29913	4.74 ug/L	91
70) 1,2,3-Trichloropropane	11.157	110	4325	4.84 ug/L	91
71) t-1,4-Dichloro-2-butene	11.193	88	1607	3.95 ug/L #	76
72) 4-Chlorotoluene	11.254	91	27493	4.81 ug/L	89
73) tert-Butylbenzene	11.412	91	18406	4.66 ug/L	91
74) 1,2,4-Trimethylbenzene	11.467	105	30622	4.81 ug/L	92
75) sec-Butylbenzene	11.552	105	36041	4.75 ug/L	96
76) 4-Isopropyltoluene	11.662	119	30228	4.79 ug/L	94
77) 1,3-Dichlorobenzene	11.717	146	15238	4.74 ug/L	97
78) 1,4-Dichlorobenzene	11.783	146	15485	4.90 ug/L	95
79) n-Butylbenzene	11.978	91	26618	4.63 ug/L	95
80) 1,2-Dichlorobenzene	12.100	146	14508	4.87 ug/L	97
81) 1,2-Dibromo-3-Chloropr...	12.696	157	2255	3.89 ug/L #	45
82) Hexachlorobutadiene	13.225	223	2217	5.03 ug/L	86
83) 1,2,4-Trichlorobenzene	13.244	180	8947	4.59 ug/L	91
84) Naphthalene	13.517	128	34918	4.63 ug/L	97
85) 1,2,3-Trichlorobenzene	13.682	180	9031	4.72 ug/L	94

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092633.D
Acq On : 26 Sep 2019 11:42 pm
Operator : TB
Sample : 9I26051-CAL6
Misc : 1X 5mL 5/10PPB VOCO+MeOH
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 27 14:28:41 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092633.D
Acq On : 26 Sep 2019 11:42 pm
Operator : TB
Sample : 9I26051-CAL6
Misc : 1X 5mL 5/10PPB VOCO+MeOH
ALS Vial : 9 Sample Multiplier: 1

pre 9/27/19

Quant Time: Sep 27 10:51:55 2019
Quant Method : C:\msdchem\1\methods\~~VJ190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	82605	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	191233	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	86829	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.609	111	59172	50.06	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	218916	50.05	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	268875	49.45	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	68344	51.04	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	7777	4.87	ug/L		98
3) Chloromethane	1.904	50	10328	4.83	ug/L		93
4) Vinyl Chloride	2.007	62	7983	4.76	ug/L		97
5) Bromomethane	2.348	96	5311	7.20	ug/L		91
6) Chloroethane	2.470	64	1284	5.19	ug/L	#	39
7) Trichlorofluoromethane	2.603	101	3460	4.62	ug/L		98
8) Ethanol	3.321	45	21522	332.13	ug/L		90
9) 1,1-Dichloroethene	3.145	61	11926	4.91	ug/L		85
10) Carbon Disulfide	3.157	76	16321	4.85	ug/L		99
11) Freon 113	3.200	101	6278	4.65	ug/L		89
12) Iodomethane	3.291	142	2598	5.05	ug/L		76
13) Methylene Chloride	3.784	84	11168	6.82	ug/L		91
14) Acetone	3.881	43	13465	10.36	ug/L		95
15) t-1,2-Dichloroethene	3.954	61	12117	4.81	ug/L		95
16) n-Hexane	4.045	86	1898	4.69	ug/L	#	77
17) Methyl-tert-butyl-ether	4.118	73	33952	4.88	ug/L		94
18) tert-Butanol (TBA)	4.282	59	199371	283.98	ug/L	#	90
19) Diisopropyl ether (DIPE)	4.514	45	7883	1.21	ug/L		95
20) 1,1-Dichloroethane	4.587	63	13288	5.03	ug/L		94
21) Acrylonitrile	4.647	53	6000	4.83	ug/L		96
22) Ethyl-tert-butyl ether...	4.879	59	7904	1.15	ug/L		95
23) c-1,2-Dichloroethene	5.134	61	13062	4.96	ug/L		91
24) 2,2-Dichloropropane	5.244	77	14543	4.91	ug/L		94
25) Bromochloromethane	5.335	49	7462	4.79	ug/L		86
26) Chloroform	5.420	83	15960	4.92	ug/L		97
27) Carbon Tetrachloride	5.560	117	10019	4.46	ug/L		96
28) Tetrahydrofuran	5.603	42	7711	5.06	ug/L		95
29) 1,1,1-Trichloroethane	5.627	97	14839	4.71	ug/L		96
31) 1,1-Dichloropropene	5.755	75	13524	4.88	ug/L		89
32) 2-Butanone (MEK)	5.742	43	20088	10.21	ug/L		95
33) Benzene	6.010	78	37138	4.71	ug/L		95
34) tert-Amyl methyl ether...	6.162	73	8667	1.35	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.217	62	15109	4.75	ug/L		96
36) iso-Butyl Alcohol	6.308	43	29284	112.32	ug/L		98
38) Trichloroethene (TCE)	6.631	130	9083	4.85	ug/L		92
39) tert-Amyl ethyl ether ...	6.911	59	5798	1.16	ug/L		90
40) Dibromomethane	7.075	93	5570	4.80	ug/L		82
41) 1,2-Dichloropropane	7.178	63	9704	4.77	ug/L		90
42) Bromodichloromethane	7.257	83	8928	4.21	ug/L		98
44) c-1,3-Dichloropropene	7.957	75	13551	4.43	ug/L		93
46) Toluene	8.237	91	38895	4.76	ug/L		97
47) Tetrachloroethene (PCE)	8.687	166	8724	4.87	ug/L		89
48) 4-Methyl-2-Pentanone (...	8.675	43	31569	9.29	ug/L		97

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092633.D
Acq On : 26 Sep 2019 11:42 pm
Operator : TB
Sample : 9I26051-CAL6
Misc : 1X 5mL 5/10PPB VOCO+MeOH
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 27 10:51:55 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

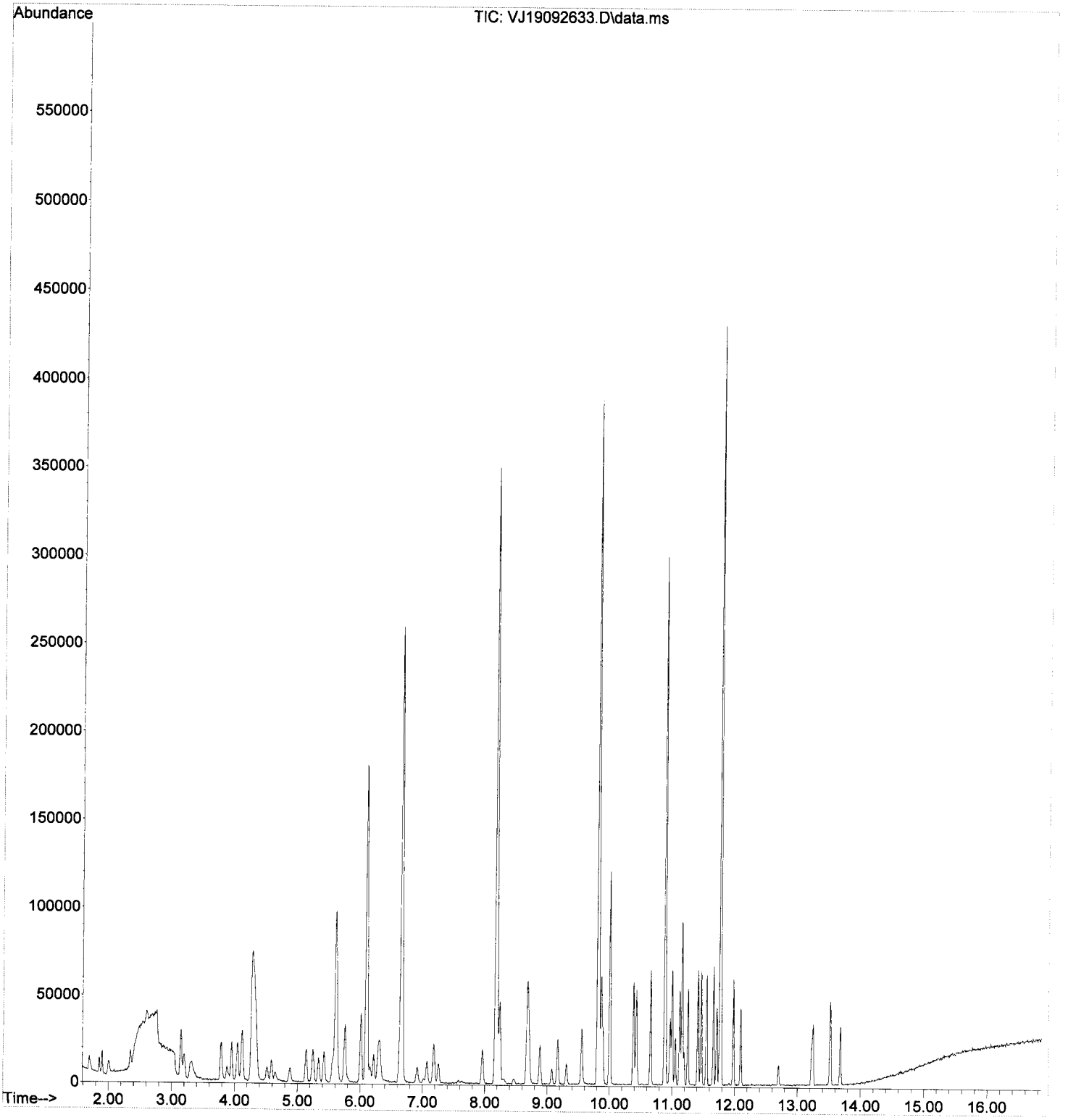
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	13406	4.53	ug/L		95
50) 1,1,2-Trichloroethane	8.882	97	8022	4.81	ug/L		96
51) Dibromochloromethane	9.076	129	4814	3.92	ug/L		98
52) 1,3-Dichloropropane	9.168	76	15269	4.67	ug/L		91
53) 1,2-Dibromoethane (EDB)	9.307	107	8459	4.59	ug/L		95
54) 2-Hexanone	9.551	43	24240	9.21	ug/L		96
55) Chlorobenzene	9.831	112	23005	4.74	ug/L		98
56) Ethylbenzene	9.861	91	42121	4.64	ug/L		96
57) 1,1,1,2-Tetrachloroethane	9.891	131	6772	4.31	ug/L		92
58) m,p-Xylenes (2)	10.001	91	63865	9.37	ug/L		97
59) o-Xylene	10.384	91	32191	4.65	ug/L		96
60) Styrene	10.427	104	21816	4.46	ug/L		95
61) Bromoform	10.439	173	2886	4.02	ug/L		95
62) Isopropylbenzene	10.658	105	38274	4.56	ug/L		96
65) Bromobenzene	10.968	156	8558	4.81	ug/L	#	80
66) n-Propylbenzene	10.999	91	44060	4.74	ug/L		94
67) 1,1,2,2-Tetrachloroethane	11.053	83	10901	4.65	ug/L		99
68) 2-Chlorotoluene	11.120	126	7936	4.64	ug/L	#	72
69) 1,3,5-Trimethylbenzene	11.163	105	29913	4.72	ug/L		91
70) 1,2,3-Trichloropropane	11.157	110	4325	4.72	ug/L		91
71) t-1,4-Dichloro-2-butene	11.193	88	1607	4.09	ug/L	#	76
72) 4-Chlorotoluene	11.254	91	27493	4.89	ug/L		89
73) tert-Butylbenzene	11.412	91	18406	4.71	ug/L		91
74) 1,2,4-Trimethylbenzene	11.467	105	30622	4.75	ug/L		92
75) sec-Butylbenzene	11.552	105	36041	4.65	ug/L		96
76) 4-Isopropyltoluene	11.662	119	30228	4.67	ug/L		94
77) 1,3-Dichlorobenzene	11.717	146	15238	4.75	ug/L		97
78) 1,4-Dichlorobenzene	11.783	146	15485	4.81	ug/L		95
79) n-Butylbenzene	11.978	91	26618	4.70	ug/L		95
80) 1,2-Dichlorobenzene	12.100	146	14508	4.77	ug/L		97
81) 1,2-Dibromo-3-Chloropr...	12.696	157	2255	4.07	ug/L	#	45
82) Hexachlorobutadiene	13.225	223	2217	4.87	ug/L		86
83) 1,2,4-Trichlorobenzene	13.244	180	8947	4.41	ug/L		91
84) Naphthalene	13.517	128	34918	4.43	ug/L		97
85) 1,2,3-Trichlorobenzene	13.682	180	9031	4.62	ug/L		94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092633.D
Acq On : 26 Sep 2019 11:42 pm
Operator : TB
Sample : 9I26051-CAL6
Misc : 1X 5mL 5/10PPB VOCO+MeOH
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Sep 27 10:51:55 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092634.D
Acq On : 27 Sep 2019 12:09 am
Operator : TB
Sample : 9I26051-CAL7
Misc : 1X 5mL 10/20PPB VOCO+MeOH
ALS Vial : 10 Sample Multiplier: 1

post 9/27/19

Quant Time: Sep 27 13:16:24 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	80621	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	186111	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	85791	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	57066	49.47	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	212867	49.87	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	262548	49.62	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	66326	50.13	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	15186	9.74	ug/L		98
3) Chloromethane	1.898	50	21347	10.23	ug/L		98
4) Vinyl Chloride	2.007	62	16459	10.05	ug/L		96
5) Bromomethane	2.348	96	8414	11.70	ug/L		94
6) Chloroethane	2.463	64	2040	8.45	ug/L		66
7) Trichlorofluoromethane	2.597	101	7442	10.19	ug/L		97
8) Ethanol	3.321	45	42586	673.37	ug/L		92
9) 1,1-Dichloroethene	3.139	61	23758	10.01	ug/L		86
10) Carbon Disulfide	3.151	76	32614	9.92	ug/L		98
11) Freon 113	3.199	101	13011	9.87	ug/L		91
12) Iodomethane	3.291	142	4837	9.63	ug/L		77
13) Methylene Chloride	3.783	84	18608	11.64	ug/L		88
14) Acetone	3.881	43	28539m	22.50	ug/L		
15) t-1,2-Dichloroethene	3.948	61	24655	10.03	ug/L		90
16) n-Hexane	4.045	86	3777	9.57	ug/L		92
17) Methyl-tert-butyl-ether	4.118	73	69438	10.23	ug/L		94
18) tert-Butanol (TBA)	4.276	59	447585	653.23	ug/L	#	89
19) Diisopropyl ether (DIPE)	4.513	45	16358	2.58	ug/L		95
20) 1,1-Dichloroethane	4.586	63	26789	10.39	ug/L		99
21) Acrylonitrile	4.647	53	12807	10.56	ug/L		94
22) Ethyl-tert-butyl ether...	4.878	59	16594	2.48	ug/L		95
23) c-1,2-Dichloroethene	5.134	61	27201	10.59	ug/L		92
24) 2,2-Dichloropropane	5.244	77	29404	10.18	ug/L		99
25) Bromochloromethane	5.335	49	16085	10.57	ug/L		84
26) Chloroform	5.420	83	32742	10.34	ug/L		95
27) Carbon Tetrachloride	5.560	117	20786	9.48	ug/L		97
28) Tetrahydrofuran	5.602	42	15512	10.43	ug/L		97
29) 1,1,1-Trichloroethane	5.627	97	29578	9.62	ug/L		97
31) 1,1-Dichloropropene	5.755	75	26315	9.73	ug/L		97
32) 2-Butanone (MEK)	5.748	43	40941	21.33	ug/L		95
33) Benzene	6.010	78	76211	9.91	ug/L		98
34) tert-Amyl methyl ether...	6.162	73	17059	2.72	ug/L		96
35) 1,2-Dichloroethane (EDC)	6.217	62	31858	10.26	ug/L		96
36) iso-Butyl Alcohol	6.302	43	65228	256.35	ug/L		96
38) Trichloroethene (TCE)	6.624	130	18272	10.00	ug/L		90
39) tert-Amyl ethyl ether ...	6.917	59	12505	2.57	ug/L		91
40) Dibromomethane	7.069	93	11394	10.06	ug/L		81
41) 1,2-Dichloropropane	7.178	63	19994	10.07	ug/L		90
42) Bromodichloromethane	7.257	83	19966	9.64	ug/L		99
44) c-1,3-Dichloropropene	7.957	75	29366	9.87	ug/L		95
46) Toluene	8.237	91	79804	10.03	ug/L		97
47) Tetrachloroethene (PCE)	8.681	166	17871	10.26	ug/L		87
48) 4-Methyl-2-Pentanone (...	8.675	43	69718	21.07	ug/L		96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092634.D
Acq On : 27 Sep 2019 12:09 am
Operator : TB
Sample : 9I26051-CAL7
Misc : 1X 5mL 10/20PPB VOCO+MeOH
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 27 13:16:24 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

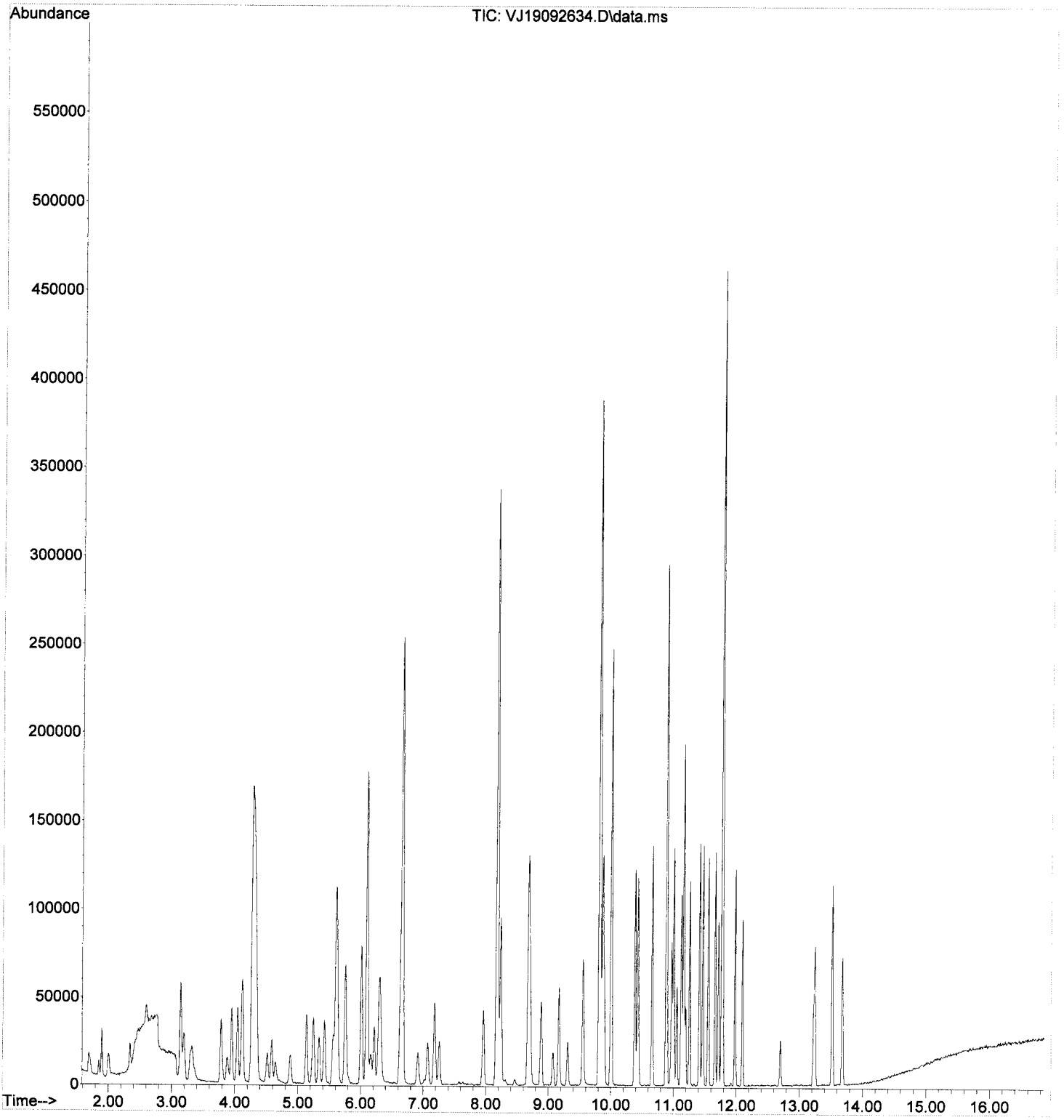
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	28378	9.86	ug/L		95
50) 1,1,2-Trichloroethane	8.881	97	16739	10.31	ug/L		92
51) Dibromochloromethane	9.076	129	11509	9.64	ug/L		98
52) 1,3-Dichloropropane	9.167	76	33253	10.44	ug/L		94
53) 1,2-Dibromoethane (EDB)	9.307	107	18498	10.31	ug/L		95
54) 2-Hexanone	9.551	43	52678	20.57	ug/L		96
55) Chlorobenzene	9.831	112	47850	10.14	ug/L		95
56) Ethylbenzene	9.867	91	88556	10.02	ug/L		96
57) 1,1,1,2-Tetrachloroethane	9.891	131	15195	9.93	ug/L		99
58) m,p-Xylenes (2)	10.001	91	132898	20.03	ug/L		94
59) o-Xylene	10.384	91	67580	10.04	ug/L		93
60) Styrene	10.427	104	48081	10.09	ug/L		94
61) Bromoform	10.445	173	7072	10.11	ug/L		94
62) Isopropylbenzene	10.658	105	80907	9.91	ug/L		97
65) Bromobenzene	10.968	156	18146	10.31	ug/L	#	79
66) n-Propylbenzene	10.999	91	91848	9.99	ug/L		94
67) 1,1,2,2-Tetrachloroethane	11.053	83	23806	10.29	ug/L		98
68) 2-Chlorotoluene	11.126	126	17033	10.08	ug/L		89
69) 1,3,5-Trimethylbenzene	11.163	105	62130	9.92	ug/L		92
70) 1,2,3-Trichloropropane	11.157	110	9803	10.83	ug/L	#	84
71) t-1,4-Dichloro-2-butene	11.193	88	4102	10.57	ug/L	#	70
72) 4-Chlorotoluene	11.254	91	57856	10.42	ug/L		91
73) tert-Butylbenzene	11.412	91	38652	10.02	ug/L		87
74) 1,2,4-Trimethylbenzene	11.467	105	63543	9.98	ug/L		97
75) sec-Butylbenzene	11.552	105	75345	9.84	ug/L		96
76) 4-Isopropyltoluene	11.662	119	62690	9.80	ug/L		96
77) 1,3-Dichlorobenzene	11.716	146	33185	10.48	ug/L		95
78) 1,4-Dichlorobenzene	11.783	146	33561	10.54	ug/L		94
79) n-Butylbenzene	11.978	91	55398	9.90	ug/L		96
80) 1,2-Dichlorobenzene	12.100	146	31314	10.41	ug/L		96
81) 1,2-Dibromo-3-Chloropr...	12.696	157	5269	9.62	ug/L	#	35
82) Hexachlorobutadiene	13.225	223	4581	10.19	ug/L		92
83) 1,2,4-Trichlorobenzene	13.243	180	20212	10.09	ug/L		94
84) Naphthalene	13.517	128	79213	10.18	ug/L		96
85) 1,2,3-Trichlorobenzene	13.681	180	20337	10.52	ug/L		98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092634.D
Acq On : 27 Sep 2019 12:09 am
Operator : TB
Sample : 9I26051-CAL7
Misc : 1X 5mL 10/20PPB VOCO+MeOH
ALS Vial : 10 Sample Multiplier: 1

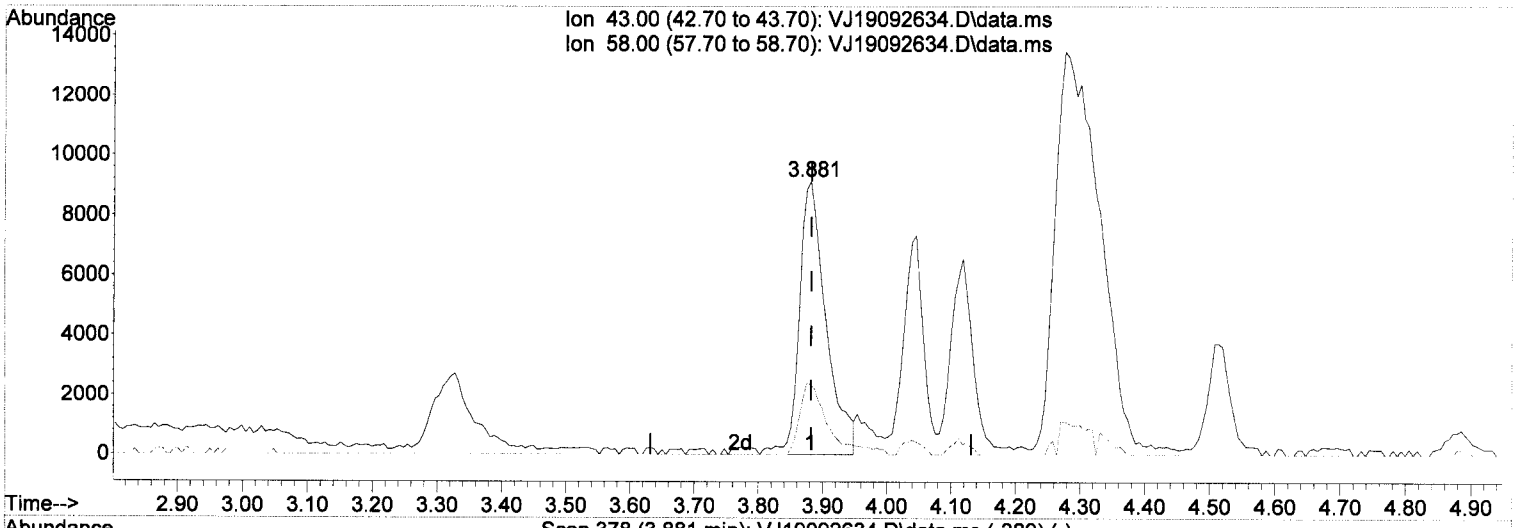
Quant Time: Sep 27 13:16:24 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

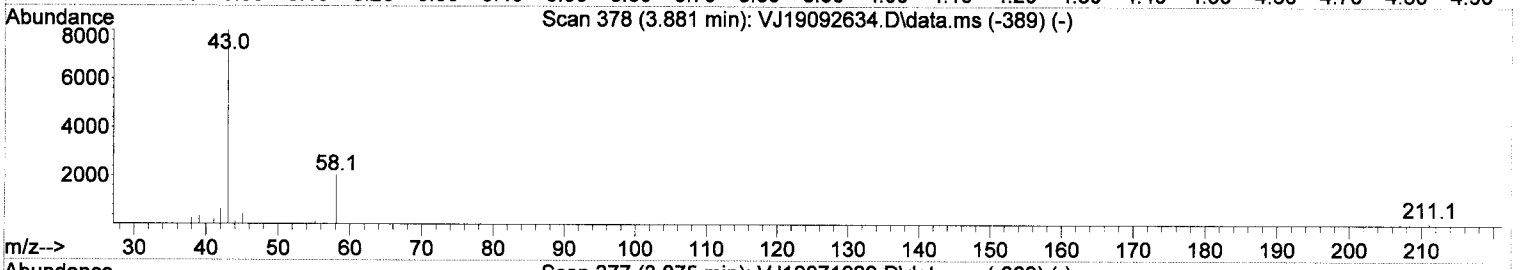


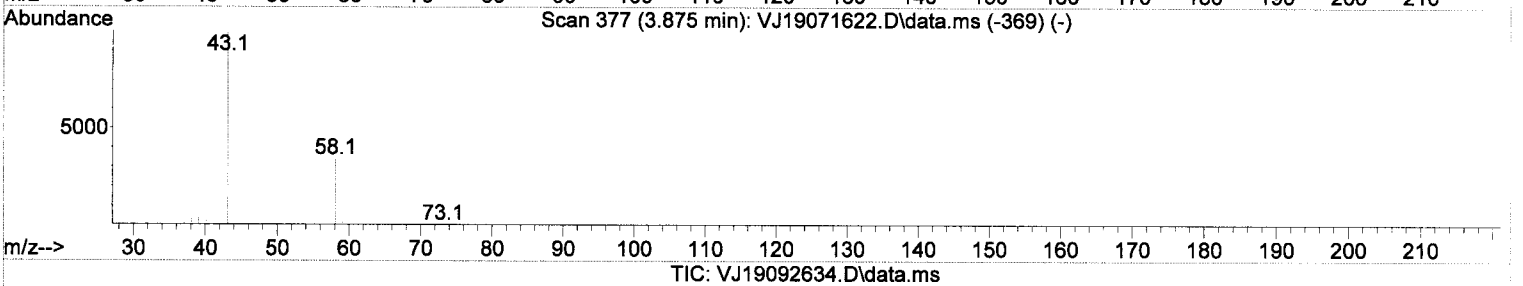
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092634.D
Acq On : 27 Sep 2019 12:09 am
Operator : TB
Sample : 9I26051-CAL7
Misc : 1X 5mL 10/20PPB VOCO+MeOH
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 27 10:51:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092634.D\data.ms

(14) Acetone

3.881min (-0.000) 20.82 ug/L

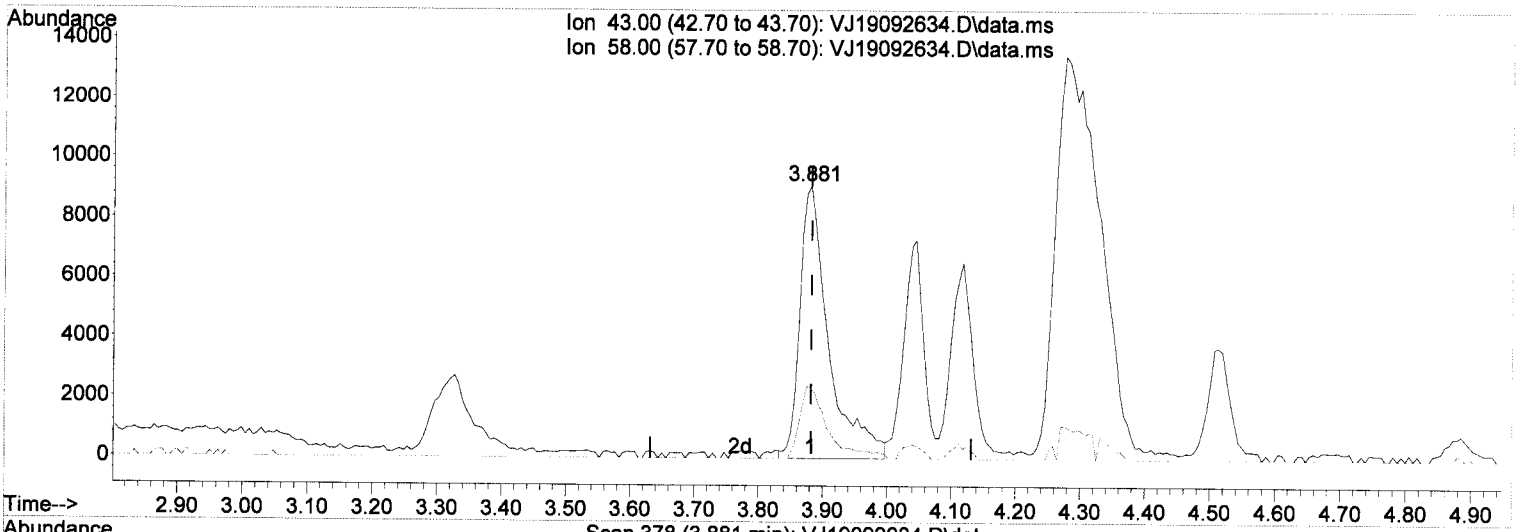
response 26404

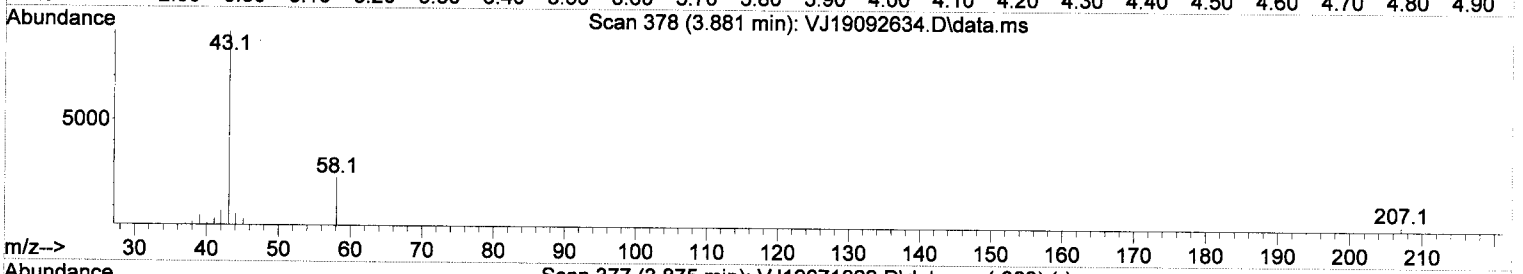
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	25.76
0.00	0.00	0.00
0.00	0.00	0.00

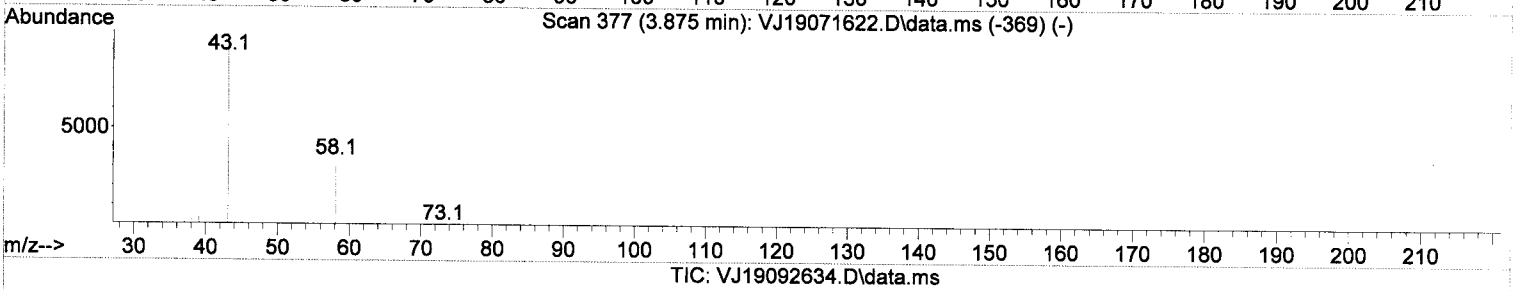
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092634.D
Acq On : 27 Sep 2019 12:09 am
Operator : TB
Sample : 9I26051-CAL7
Misc : 1X 5mL 10/20PPB VOCO+MeOH
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 27 10:51:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092634.D\data.ms

(14) Acetone

3.881min (-0.000) 22.50 ug/L (m) 9/27/19

response 28539

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	25.76
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092634.D
Acq On : 27 Sep 2019 12:09 am
Operator : TB
Sample : 9I26051-CAL7
Misc : 1X 5mL 10/20PPB VOCO+MeOH
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 27 10:51:58 2019
Quant Method : C:\msdchem\1\methods\VS190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	80621	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	186111	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	85791	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	57066	49.47	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	212867	49.87	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	262548	49.62	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	66326	50.13	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	15186	9.74	ug/L		98
3) Chloromethane	1.898	50	21347	10.23	ug/L		98
4) Vinyl Chloride	2.007	62	16459	10.05	ug/L		96
5) Bromomethane	2.348	96	8414	11.70	ug/L		94
6) Chloroethane	2.463	64	2040	8.45	ug/L		66
7) Trichlorofluoromethane	2.597	101	7442	10.19	ug/L		97
8) Ethanol	3.321	45	42586	673.37	ug/L		92
9) 1,1-Dichloroethene	3.139	61	23758	10.01	ug/L		86
10) Carbon Disulfide	3.151	76	32614	9.92	ug/L		98
11) Freon 113	3.199	101	13011	9.87	ug/L		91
12) Iodomethane	3.291	142	4837	9.63	ug/L		77
13) Methylene Chloride	3.783	84	18608	11.64	ug/L		88
14) Acetone	3.881	43	~~26404~~	20.82	ug/L		~~88~~ MI
15) t-1,2-Dichloroethene	3.948	61	24655	10.03	ug/L		90
16) n-Hexane	4.045	86	3777	9.57	ug/L		92
17) Methyl-tert-butyl-ether	4.118	73	69438	10.23	ug/L		94
18) tert-Butanol (TBA)	4.276	59	447585	653.23	ug/L	#	89
19) Diisopropyl ether (DIPE)	4.513	45	16358	2.58	ug/L		95
20) 1,1-Dichloroethane	4.586	63	26789	10.39	ug/L		99
21) Acrylonitrile	4.647	53	12807	10.56	ug/L		94
22) Ethyl-tert-butyl ether...	4.878	59	16594	2.48	ug/L		95
23) c-1,2-Dichloroethene	5.134	61	27201	10.59	ug/L		92
24) 2,2-Dichloropropane	5.244	77	29404	10.18	ug/L		99
25) Bromochloromethane	5.335	49	16085	10.57	ug/L		84
26) Chloroform	5.420	83	32742	10.34	ug/L		95
27) Carbon Tetrachloride	5.560	117	20786	9.48	ug/L		97
28) Tetrahydrofuran	5.602	42	15512	10.43	ug/L		97
29) 1,1,1-Trichloroethane	5.627	97	29578	9.62	ug/L		97
31) 1,1-Dichloropropene	5.755	75	26315	9.73	ug/L		97
32) 2-Butanone (MEK)	5.748	43	40941	21.33	ug/L		95
33) Benzene	6.010	78	76211	9.91	ug/L		98
34) tert-Amyl methyl ether...	6.162	73	17059	2.72	ug/L		96
35) 1,2-Dichloroethane (EDC)	6.217	62	31858	10.26	ug/L		96
36) iso-Butyl Alcohol	6.302	43	65228	256.35	ug/L		96
38) Trichloroethene (TCE)	6.624	130	18272	10.00	ug/L		90
39) tert-Amyl ethyl ether ...	6.917	59	12505	2.57	ug/L		91
40) Dibromomethane	7.069	93	11394	10.06	ug/L		81
41) 1,2-Dichloropropane	7.178	63	19994	10.07	ug/L		90
42) Bromodichloromethane	7.257	83	19966	9.64	ug/L		99
44) c-1,3-Dichloropropene	7.957	75	29366	9.87	ug/L		95
46) Toluene	8.237	91	79804	10.03	ug/L		97
47) Tetrachloroethene (PCE)	8.681	166	17871	10.26	ug/L		87
48) 4-Methyl-2-Pentanone (...	8.675	43	69718	21.07	ug/L		96

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092634.D
Acq On : 27 Sep 2019 12:09 am
Operator : TB
Sample : 9I26051-CAL7
Misc : 1X 5mL 10/20PPB VOCO+MeOH
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 27 10:51:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

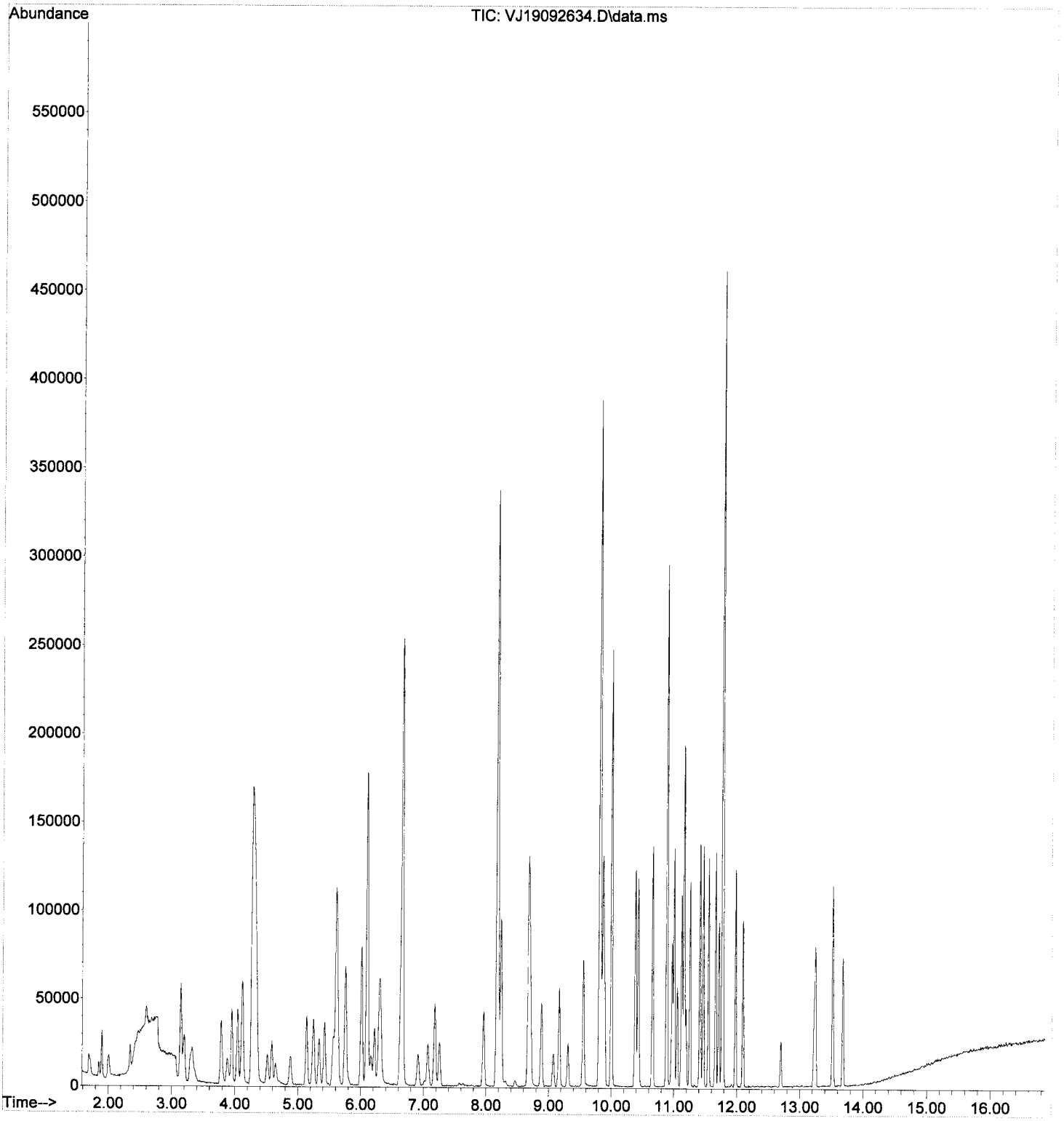
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	28378	9.86	ug/L	95
50) 1,1,2-Trichloroethane	8.881	97	16739	10.31	ug/L	92
51) Dibromochloromethane	9.076	129	11509	9.64	ug/L	98
52) 1,3-Dichloropropane	9.167	76	33253	10.44	ug/L	94
53) 1,2-Dibromoethane (EDB)	9.307	107	18498	10.31	ug/L	95
54) 2-Hexanone	9.551	43	52678	20.57	ug/L	96
55) Chlorobenzene	9.831	112	47850	10.14	ug/L	95
56) Ethylbenzene	9.867	91	88556	10.02	ug/L	96
57) 1,1,1,2-Tetrachloroethane	9.891	131	15195	9.93	ug/L	99
58) m,p-Xylenes (2)	10.001	91	132898	20.03	ug/L	94
59) o-Xylene	10.384	91	67580	10.04	ug/L	93
60) Styrene	10.427	104	48081	10.09	ug/L	94
61) Bromoform	10.445	173	7072	10.11	ug/L	94
62) Isopropylbenzene	10.658	105	80907	9.91	ug/L	97
65) Bromobenzene	10.968	156	18146	10.31	ug/L #	79
66) n-Propylbenzene	10.999	91	91848	9.99	ug/L	94
67) 1,1,2,2-Tetrachloroethane	11.053	83	23806	10.29	ug/L	98
68) 2-Chlorotoluene	11.126	126	17033	10.08	ug/L	89
69) 1,3,5-Trimethylbenzene	11.163	105	62130	9.92	ug/L	92
70) 1,2,3-Trichloropropane	11.157	110	9803	10.83	ug/L #	84
71) t-1,4-Dichloro-2-butene	11.193	88	4102	10.57	ug/L #	70
72) 4-Chlorotoluene	11.254	91	57856	10.42	ug/L	91
73) tert-Butylbenzene	11.412	91	38652	10.02	ug/L	87
74) 1,2,4-Trimethylbenzene	11.467	105	63543	9.98	ug/L	97
75) sec-Butylbenzene	11.552	105	75345	9.84	ug/L	96
76) 4-Isopropyltoluene	11.662	119	62690	9.80	ug/L	96
77) 1,3-Dichlorobenzene	11.716	146	33185	10.48	ug/L	95
78) 1,4-Dichlorobenzene	11.783	146	33561	10.54	ug/L	94
79) n-Butylbenzene	11.978	91	55398	9.90	ug/L	96
80) 1,2-Dichlorobenzene	12.100	146	31314	10.41	ug/L	96
81) 1,2-Dibromo-3-Chloropr...	12.696	157	5269	9.62	ug/L #	35
82) Hexachlorobutadiene	13.225	223	4581	10.19	ug/L	92
83) 1,2,4-Trichlorobenzene	13.243	180	20212	10.09	ug/L	94
84) Naphthalene	13.517	128	79213	10.18	ug/L	96
85) 1,2,3-Trichlorobenzene	13.681	180	20337	10.52	ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092634.D
Acq On : 27 Sep 2019 12:09 am
Operator : TB
Sample : 9I26051-CAL7
Misc : 1X 5mL 10/20PPB VOCO+MeOH
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Sep 27 10:51:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 27 13:18:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	84226	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.813	117	194298	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	90055	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	60255	50.00	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	222976	50.00	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	276211	50.00	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	69443	50.00	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	32574	20.00	ug/L		98
3) Chloromethane	1.898	50	43595	20.00	ug/L		99
4) Vinyl Chloride	2.007	62	34233	20.00	ug/L		95
5) Bromomethane	2.348	96	15032	20.00	ug/L		98
6) Chloroethane	2.470	64	5042	20.00	ug/L		82
7) Trichlorofluoromethane	2.597	101	15256	20.00	ug/L		98
8) Ethanol	3.321	45	83151	1258.51	ug/L		87
9) 1,1-Dichloroethene	3.139	61	49575	20.00	ug/L		83
10) Carbon Disulfide	3.151	76	68694	20.00	ug/L		98
11) Freon 113	3.194	101	27543	20.00	ug/L		90
12) Iodomethane	3.291	142	10496	20.00	ug/L		78
13) Methylene Chloride	3.784	84	33415	20.00	ug/L		91
14) Acetone	3.881	43	52930m	39.95	ug/L		
15) t-1,2-Dichloroethene	3.948	61	51376	20.00	ug/L		93
16) n-Hexane	4.039	86	8248	20.00	ug/L		95
17) Methyl-tert-butyl-ether	4.112	73	141796	20.00	ug/L		90
18) tert-Butanol (TBA)	4.276	59	893967	1248.86	ug/L	#	88
19) Diisopropyl ether (DIPE)	4.514	45	33179	5.00	ug/L		94
20) 1,1-Dichloroethane	4.581	63	53896	20.00	ug/L		98
21) Acrylonitrile	4.641	53	25339m	20.00	ug/L		
22) Ethyl-tert-butyl ether...	4.879	59	34932	5.00	ug/L		96
23) c-1,2-Dichloroethene	5.134	61	53679	20.00	ug/L		91
24) 2,2-Dichloropropane	5.244	77	60427	20.02	ug/L		98
25) Bromochloromethane	5.335	49	31790	20.00	ug/L		88
26) Chloroform	5.420	83	66134	20.00	ug/L		97
27) Carbon Tetrachloride	5.560	117	45804	20.00	ug/L		92
28) Tetrahydrofuran	5.597	42	31076	20.00	ug/L		99
29) 1,1,1-Trichloroethane	5.627	97	64265	20.00	ug/L		98
31) 1,1-Dichloropropene	5.755	75	56524	20.00	ug/L		94
32) 2-Butanone (MEK)	5.743	43	80216	40.00	ug/L		96
33) Benzene	6.010	78	160743	20.00	ug/L		98
34) tert-Amyl methyl ether...	6.156	73	32799	5.00	ug/L		93
35) 1,2-Dichloroethane (EDC)	6.217	62	65007	20.05	ug/L		98
36) iso-Butyl Alcohol	6.314	43	132914	500.00	ug/L		97
38) Trichloroethene (TCE)	6.625	130	38197	20.00	ug/L		91
39) tert-Amyl ethyl ether ...	6.911	59	25425	5.00	ug/L		90
40) Dibromomethane	7.069	93	23659	20.00	ug/L		87
41) 1,2-Dichloropropane	7.178	63	41500	20.00	ug/L		90
42) Bromodichloromethane	7.257	83	43276	20.00	ug/L		96
44) c-1,3-Dichloropropene	7.957	75	62124	20.00	ug/L		94
46) Toluene	8.237	91	166207	20.00	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	36365	20.00	ug/L		85
48) 4-Methyl-2-Pentanone (...	8.681	43	138153	40.00	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 27 13:18:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

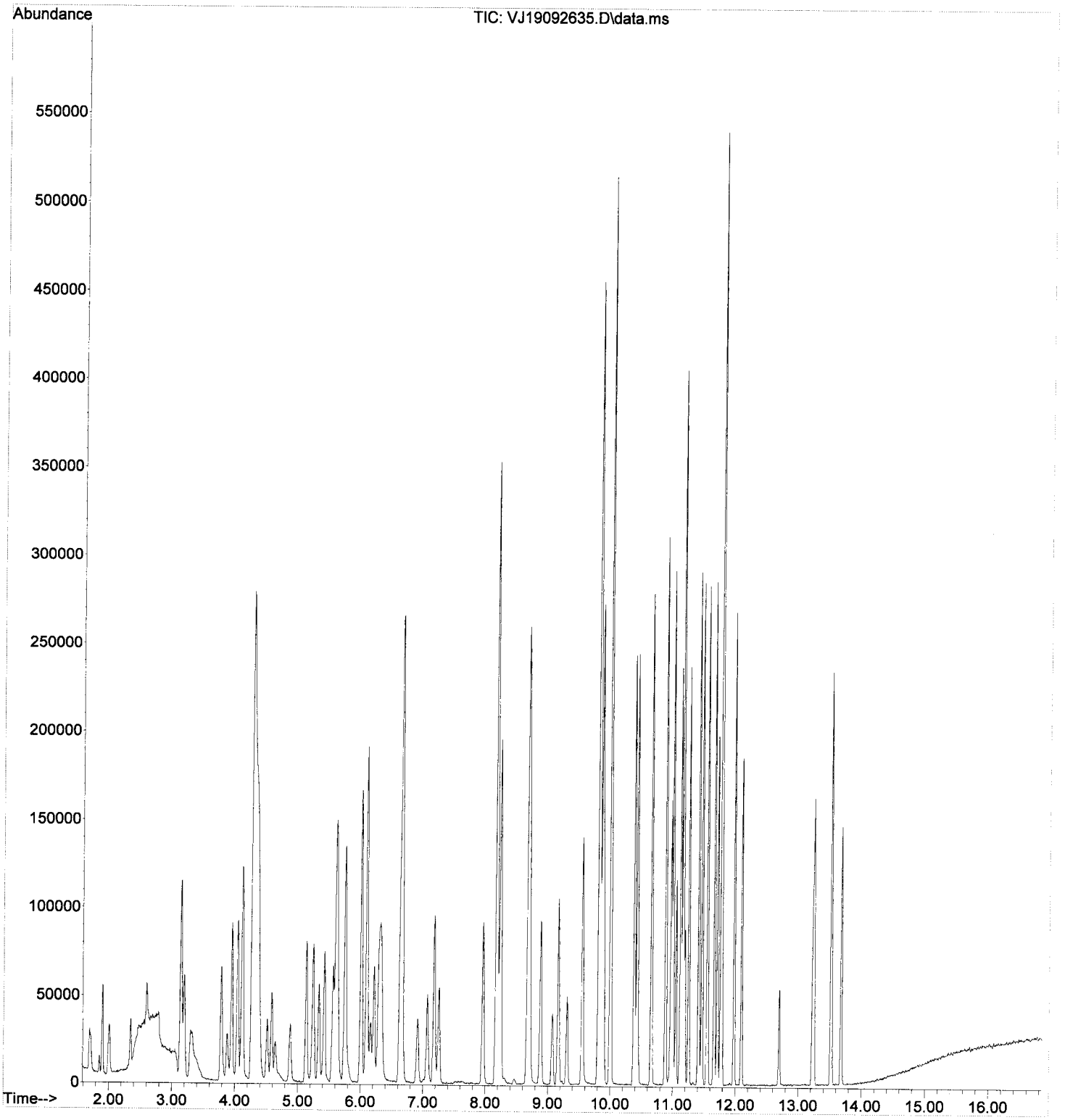
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	60103	20.00	ug/L		94
50) 1,1,2-Trichloroethane	8.882	97	33910	20.00	ug/L		94
51) Dibromochloromethane	9.070	129	24936	20.00	ug/L		98
52) 1,3-Dichloropropane	9.168	76	66481	20.00	ug/L		92
53) 1,2-Dibromoethane (EDB)	9.308	107	37447	20.00	ug/L		98
54) 2-Hexanone	9.551	43	106926	40.00	ug/L		97
55) Chlorobenzene	9.831	112	98547	20.00	ug/L		98
56) Ethylbenzene	9.867	91	184475	20.00	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.892	131	31953	20.00	ug/L		99
58) m,p-Xylenes (2)	10.001	91	277116	40.00	ug/L		95
59) o-Xylene	10.384	91	140549	20.00	ug/L		94
60) Styrene	10.427	104	99474	20.00	ug/L		94
61) Bromoform	10.445	173	14599	20.00	ug/L		97
62) Isopropylbenzene	10.658	105	170525	20.00	ug/L		96
65) Bromobenzene	10.968	156	36937	20.00	ug/L	#	80
66) n-Propylbenzene	10.999	91	192925	20.00	ug/L		93
67) 1,1,2,2-Tetrachloroethane	11.054	83	48593	20.00	ug/L		98
68) 2-Chlorotoluene	11.120	126	35482	20.00	ug/L	#	79
69) 1,3,5-Trimethylbenzene	11.163	105	131543	20.00	ug/L		94
70) 1,2,3-Trichloropropane	11.157	110	18996	20.00	ug/L		89
71) t-1,4-Dichloro-2-butene	11.194	88	8149	20.00	ug/L	#	83
72) 4-Chlorotoluene	11.254	91	116547	20.00	ug/L		91
73) tert-Butylbenzene	11.413	91	80995	20.00	ug/L		87
74) 1,2,4-Trimethylbenzene	11.467	105	133658	20.00	ug/L		96
75) sec-Butylbenzene	11.552	105	160793	20.00	ug/L		96
76) 4-Isopropyltoluene	11.662	119	134275	20.00	ug/L		96
77) 1,3-Dichlorobenzene	11.711	146	66504	20.00	ug/L		95
78) 1,4-Dichlorobenzene	11.784	146	66830	20.00	ug/L		96
79) n-Butylbenzene	11.978	91	117444	20.00	ug/L		97
80) 1,2-Dichlorobenzene	12.100	146	63143	20.00	ug/L		97
81) 1,2-Dibromo-3-Chloropr...	12.702	157	11496	20.00	ug/L	#	62
82) Hexachlorobutadiene	13.225	223	9438	20.00	ug/L		93
83) 1,2,4-Trichlorobenzene	13.244	180	42045	20.00	ug/L		95
84) Naphthalene	13.517	128	163412	20.00	ug/L		97
85) 1,2,3-Trichlorobenzene	13.682	180	40577	20.00	ug/L		98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

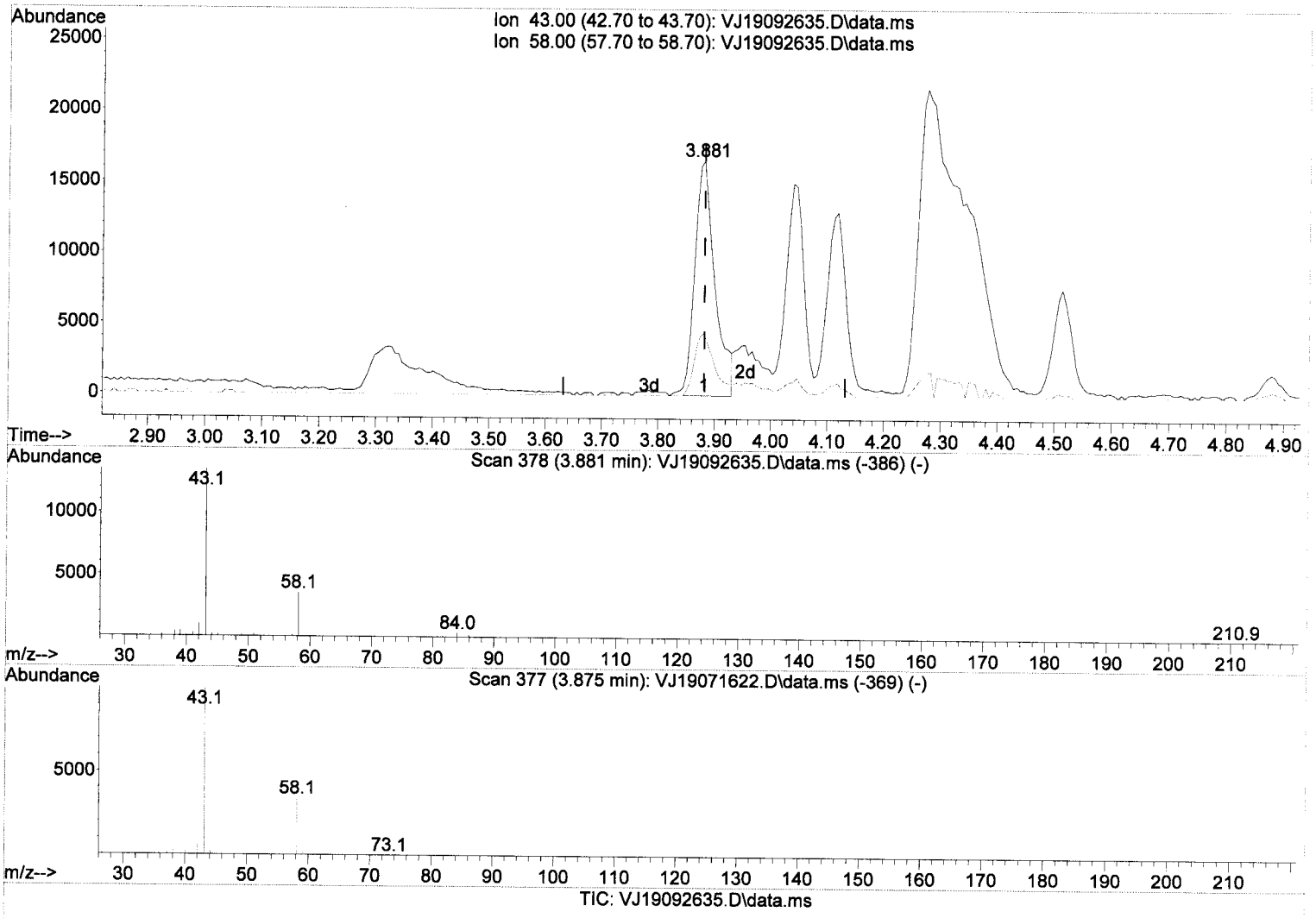
Quant Time: Sep 27 13:18:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 27 10:52:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092635.D\data.ms

(14) Acetone

3.881min (0.000) 31.13 ug/L

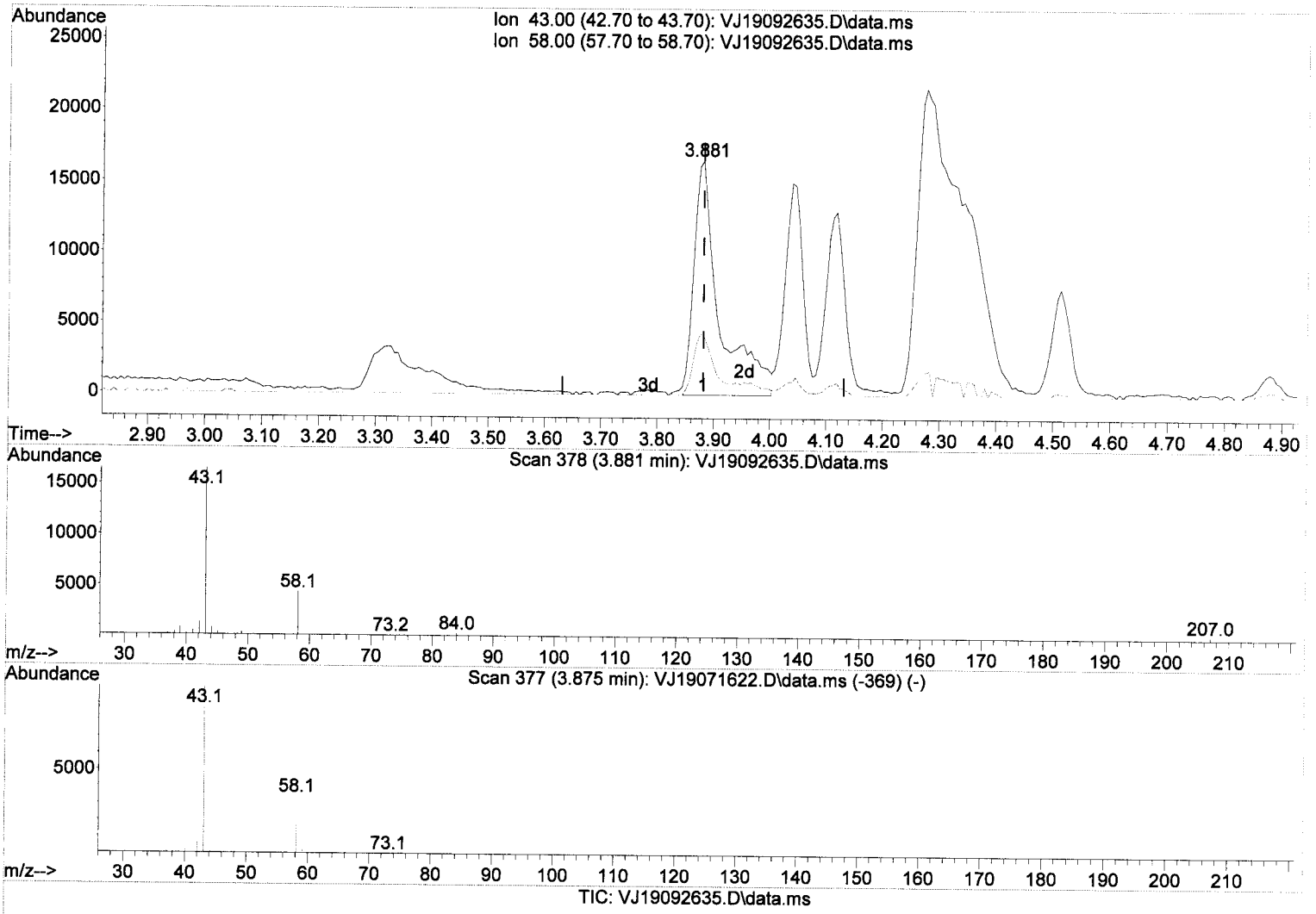
response 41248

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	26.42
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 27 10:52:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092635.D\data.ms

(14) Acetone

3.881min (0.000) 39.95 ug/L m

response 52930

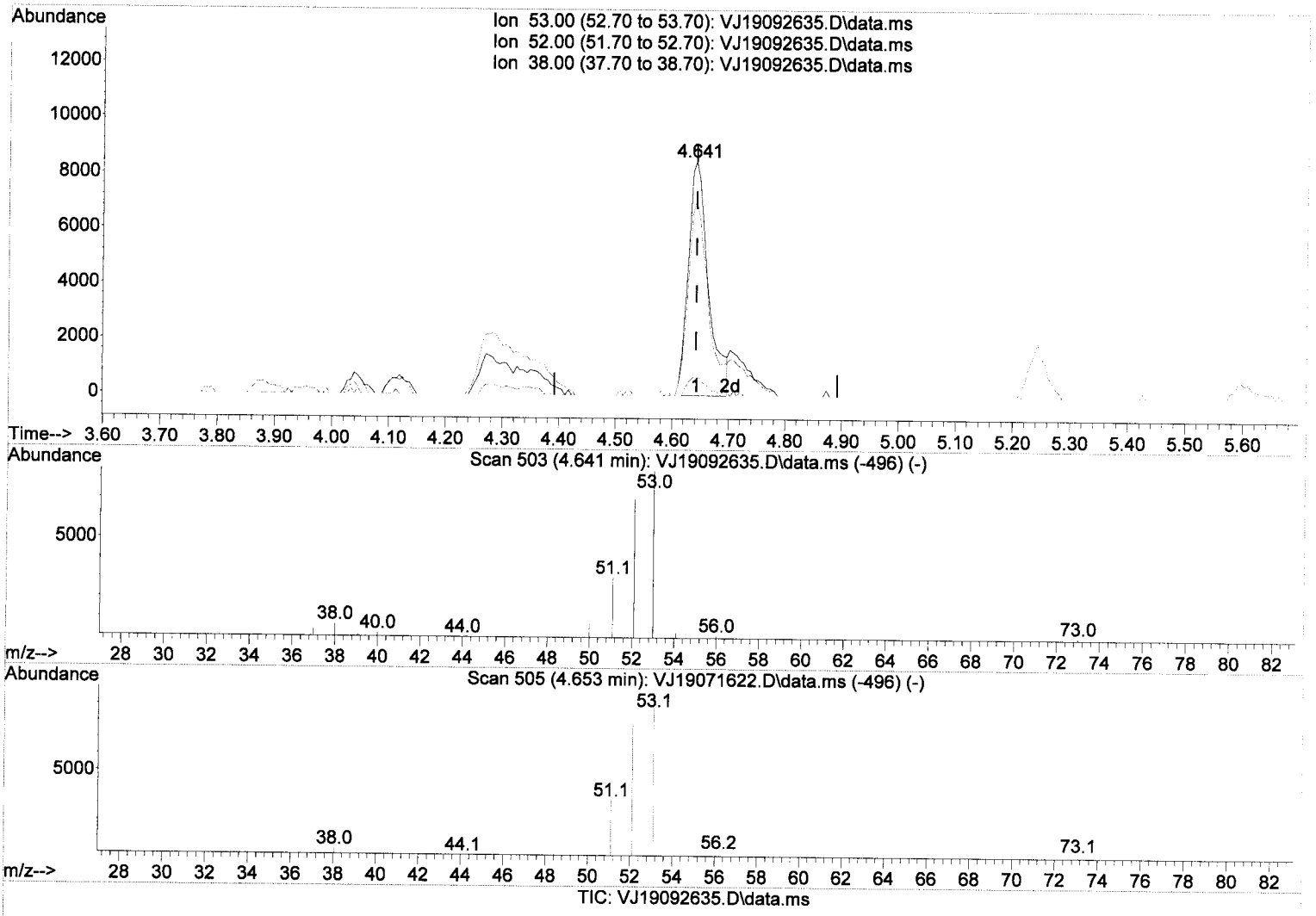
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	26.42
0.00	0.00	0.00
0.00	0.00	0.00

9/27/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 27 10:52:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



(21) Acrylonitrile

4.641min (0.000) 16.61 ug/L

response 21048

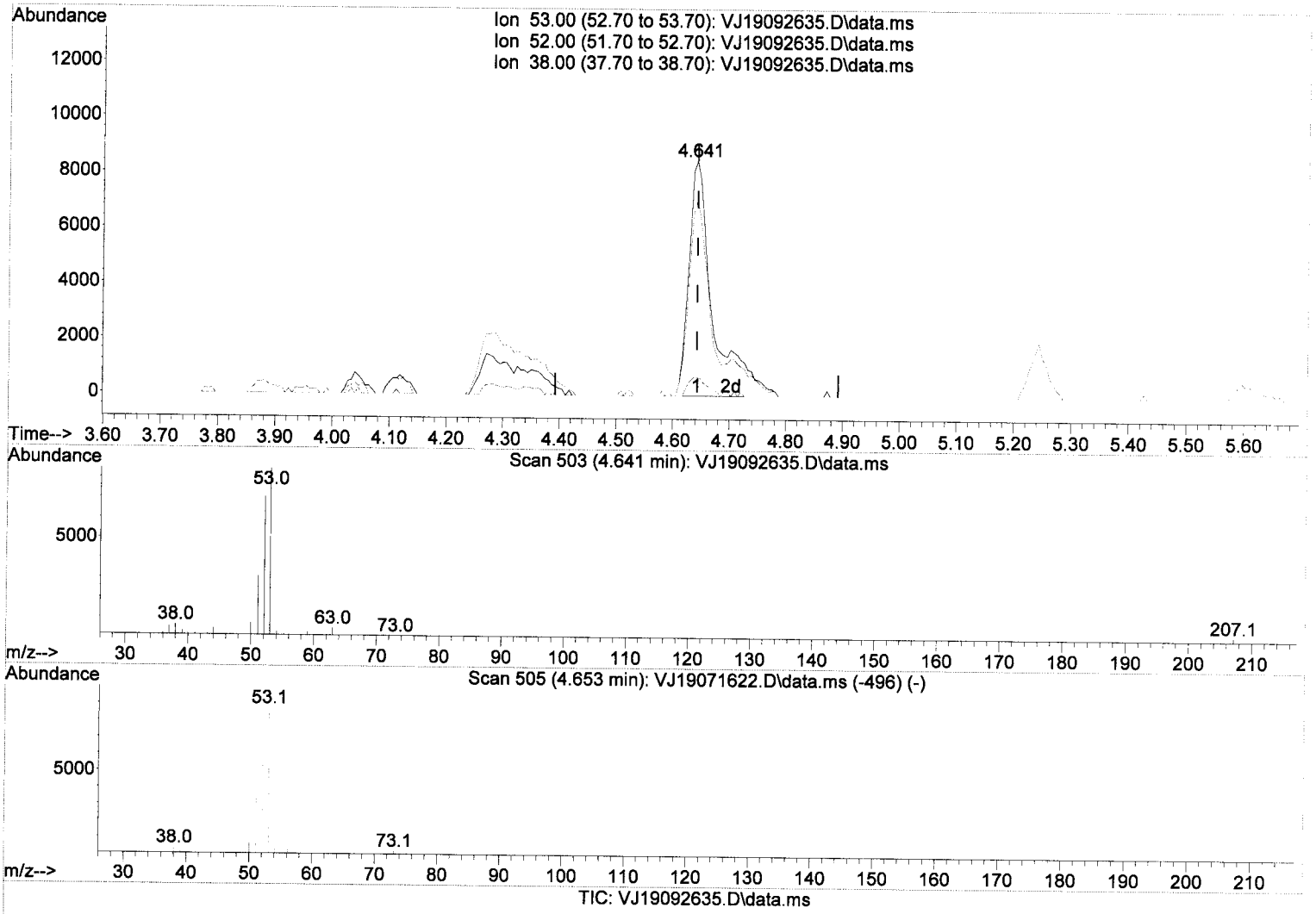
Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	83.23
38.00	5.50	7.84
0.00	0.00	0.00

MI

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 27 10:52:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



(21) Acrylonitrile

4.641min (0.000) 20.00 ug/L m (C)

response 25339

Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	83.23
38.00	5.50	7.84
0.00	0.00	0.00

9/27/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

pre 9/27/19

Quant Time: Sep 27 10:52:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	84226	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.813	117	194298	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	90055	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	60255	50.00	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	222976	50.00	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	276211	50.00	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	69443	50.00	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	32574	20.00	ug/L		98
3) Chloromethane	1.898	50	43595	20.00	ug/L		99
4) Vinyl Chloride	2.007	62	34233	20.00	ug/L		95
5) Bromomethane	2.348	96	15032	20.00	ug/L		98
6) Chloroethane	2.470	64	5042	20.00	ug/L		82
7) Trichlorofluoromethane	2.597	101	15256	20.00	ug/L		98
8) Ethanol	3.321	45	83151	1258.51	ug/L		87
9) 1,1-Dichloroethene	3.139	61	49575	20.00	ug/L		83
10) Carbon Disulfide	3.151	76	68694	20.00	ug/L		98
11) Freon 113	3.194	101	27543	20.00	ug/L		90
12) Iodomethane	3.291	142	10496	20.00	ug/L		78
13) Methylene Chloride	3.784	84	33415	20.00	ug/L		91
14) Acetone	3.881	43	~~41248~~	~~31.13~~	~~ug/L~~		~~90~~ MI
15) t-1,2-Dichloroethene	3.948	61	51376	20.00	ug/L		93
16) n-Hexane	4.039	86	8248	20.00	ug/L		95
17) Methyl-tert-butyl-ether	4.112	73	141796	20.00	ug/L		90
18) tert-Butanol (TBA)	4.276	59	893967	1248.86	ug/L	#	88
19) Diisopropyl ether (DIPE)	4.514	45	33179	5.00	ug/L		94
20) 1,1-Dichloroethane	4.581	63	53896	20.00	ug/L		98
21) Acrylonitrile	4.641	53	~~21048~~	~~16.61~~	~~ug/L~~		~~96~~ MI
22) Ethyl-tert-butyl ether...	4.879	59	34932	5.00	ug/L		96
23) c-1,2-Dichloroethene	5.134	61	53679	20.00	ug/L		91
24) 2,2-Dichloropropane	5.244	77	60427	20.02	ug/L		98
25) Bromochloromethane	5.335	49	31790	20.00	ug/L		88
26) Chloroform	5.420	83	66134	20.00	ug/L		97
27) Carbon Tetrachloride	5.560	117	45804	20.00	ug/L		92
28) Tetrahydrofuran	5.597	42	31076	20.00	ug/L		99
29) 1,1,1-Trichloroethane	5.627	97	64265	20.00	ug/L		98
31) 1,1-Dichloropropene	5.755	75	56524	20.00	ug/L		94
32) 2-Butanone (MEK)	5.743	43	80216	40.00	ug/L		96
33) Benzene	6.010	78	160743	20.00	ug/L		98
34) tert-Amyl methyl ether...	6.156	73	32799	5.00	ug/L		93
35) 1,2-Dichloroethane (EDC)	6.217	62	65007	20.05	ug/L		98
36) iso-Butyl Alcohol	6.314	43	132914	500.00	ug/L		97
38) Trichloroethene (TCE)	6.625	130	38197	20.00	ug/L		91
39) tert-Amyl ethyl ether ...	6.911	59	25425	5.00	ug/L		90
40) Dibromomethane	7.069	93	23659	20.00	ug/L		87
41) 1,2-Dichloropropane	7.178	63	41500	20.00	ug/L		90
42) Bromodichloromethane	7.257	83	43276	20.00	ug/L		96
44) c-1,3-Dichloropropene	7.957	75	62124	20.00	ug/L		94
46) Toluene	8.237	91	166207	20.00	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	36365	20.00	ug/L		85
48) 4-Methyl-2-Pentanone (...	8.681	43	138153	40.00	ug/L		97

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 27 10:52:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

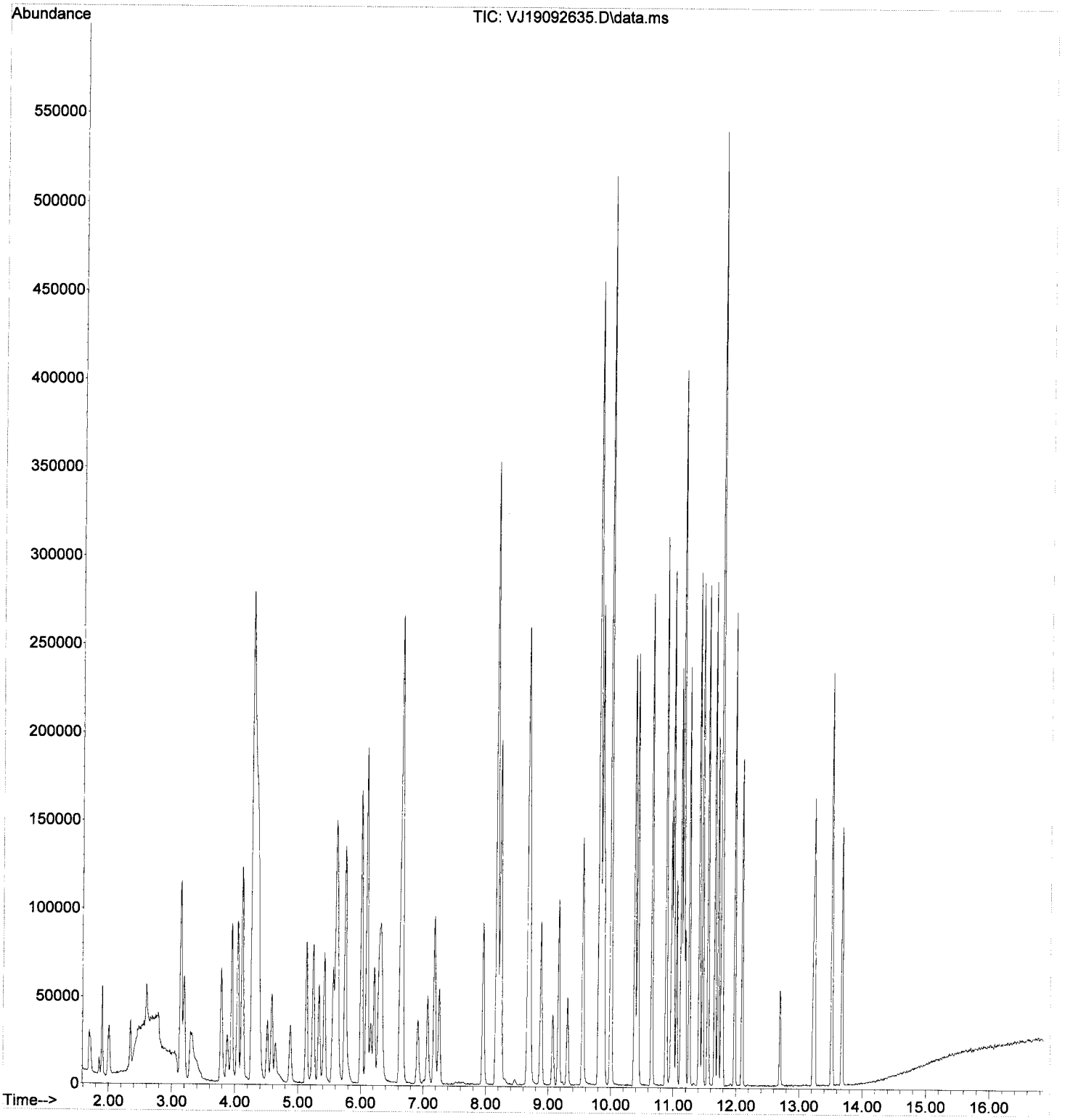
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	60103	20.00	ug/L		94
50) 1,1,2-Trichloroethane	8.882	97	33910	20.00	ug/L		94
51) Dibromochloromethane	9.070	129	24936	20.00	ug/L		98
52) 1,3-Dichloropropane	9.168	76	66481	20.00	ug/L		92
53) 1,2-Dibromoethane (EDB)	9.308	107	37447	20.00	ug/L		98
54) 2-Hexanone	9.551	43	106926	40.00	ug/L		97
55) Chlorobenzene	9.831	112	98547	20.00	ug/L		98
56) Ethylbenzene	9.867	91	184475	20.00	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.892	131	31953	20.00	ug/L		99
58) m,p-Xylenes (2)	10.001	91	277116	40.00	ug/L		95
59) o-Xylene	10.384	91	140549	20.00	ug/L		94
60) Styrene	10.427	104	99474	20.00	ug/L		94
61) Bromoform	10.445	173	14599	20.00	ug/L		97
62) Isopropylbenzene	10.658	105	170525	20.00	ug/L		96
65) Bromobenzene	10.968	156	36937	20.00	ug/L	#	80
66) n-Propylbenzene	10.999	91	192925	20.00	ug/L		93
67) 1,1,2,2-Tetrachloroethane	11.054	83	48593	20.00	ug/L		98
68) 2-Chlorotoluene	11.120	126	35482	20.00	ug/L	#	79
69) 1,3,5-Trimethylbenzene	11.163	105	131543	20.00	ug/L		94
70) 1,2,3-Trichloropropane	11.157	110	18996	20.00	ug/L		89
71) t-1,4-Dichloro-2-butene	11.194	88	8149	20.00	ug/L	#	83
72) 4-Chlorotoluene	11.254	91	116547	20.00	ug/L		91
73) tert-Butylbenzene	11.413	91	80995	20.00	ug/L		87
74) 1,2,4-Trimethylbenzene	11.467	105	133658	20.00	ug/L		96
75) sec-Butylbenzene	11.552	105	160793	20.00	ug/L		96
76) 4-Isopropyltoluene	11.662	119	134275	20.00	ug/L		96
77) 1,3-Dichlorobenzene	11.711	146	66504	20.00	ug/L		95
78) 1,4-Dichlorobenzene	11.784	146	66830	20.00	ug/L		96
79) n-Butylbenzene	11.978	91	117444	20.00	ug/L		97
80) 1,2-Dichlorobenzene	12.100	146	63143	20.00	ug/L		97
81) 1,2-Dibromo-3-Chloropr...	12.702	157	11496	20.00	ug/L	#	62
82) Hexachlorobutadiene	13.225	223	9438	20.00	ug/L		93
83) 1,2,4-Trichlorobenzene	13.244	180	42045	20.00	ug/L		95
84) Naphthalene	13.517	128	163412	20.00	ug/L		97
85) 1,2,3-Trichlorobenzene	13.682	180	40577	20.00	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092635.D
Acq On : 27 Sep 2019 12:35 am
Operator : TB
Sample : 9I26051-CAL8
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Sep 27 10:52:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092636.D
Acq On : 27 Sep 2019 1:02 am
Operator : TB
Sample : 9I26051-CAL9
Misc : 1X 5mL 50/100PPB VOCO+MeOH
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 27 13:19:03 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

POST 9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	88066	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	206278	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	96429	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	65392	51.90	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	234393	50.27	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	288797	49.24	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	73705	49.56	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	80374	47.20	ug/L		97
3) Chloromethane	1.898	50	110944	48.68	ug/L		99
4) Vinyl Chloride	2.001	62	86780	48.49	ug/L		95
5) Bromomethane	2.342	96	34647	44.09	ug/L		99
6) Chloroethane	2.470	64	14728	55.87	ug/L		97
7) Trichlorofluoromethane	2.597	101	39290	49.26	ug/L		98
8) Ethanol	3.315	45	191989	2779.09	ug/L		88
9) 1,1-Dichloroethene	3.139	61	126525	48.82	ug/L		84
10) Carbon Disulfide	3.145	76	180413	50.24	ug/L		98
11) Freon 113	3.193	101	69489	48.26	ug/L		90
12) Iodomethane	3.291	142	31306	57.05	ug/L		82
13) Methylene Chloride	3.784	84	77692	44.47	ug/L		92
14) Acetone	3.875	43	128682m	92.89	ug/L		
15) t-1,2-Dichloroethene	3.948	61	128795	47.95	ug/L		93
16) n-Hexane	4.039	86	18920	43.88	ug/L	#	72
17) Methyl-tert-butyl-ether	4.112	73	353962	47.75	ug/L		59
18) tert-Butanol (TBA)	4.276	59	2194652	2932.22	ug/L	#	86
19) Diisopropyl ether (DIPE)	4.508	45	82918	11.95	ug/L		93
20) 1,1-Dichloroethane	4.580	63	139892	49.65	ug/L		98
21) Acrylonitrile	4.641	53	65047	49.10	ug/L		96
22) Ethyl-tert-butyl ether...	4.879	59	84010	11.50	ug/L		98
23) c-1,2-Dichloroethene	5.134	61	137723	49.08	ug/L		92
24) 2,2-Dichloropropane	5.244	77	148869	47.18	ug/L		99
25) Bromochloromethane	5.335	49	78798	47.41	ug/L		88
26) Chloroform	5.420	83	167945	48.57	ug/L		95
27) Carbon Tetrachloride	5.560	117	122184	51.02	ug/L		97
28) Tetrahydrofuran	5.590	42	76688	47.20	ug/L		97
29) 1,1,1-Trichloroethane	5.627	97	163298	48.60	ug/L		99
31) 1,1-Dichloropropene	5.755	75	143921	48.70	ug/L		94
32) 2-Butanone (MEK)	5.736	43	203004	96.81	ug/L		95
33) Benzene	6.010	78	396436	47.17	ug/L		98
34) tert-Amyl methyl ether...	6.156	73	79624	11.61	ug/L		93
35) 1,2-Dichloroethane (EDC)	6.211	62	160338	47.29	ug/L		98
36) iso-Butyl Alcohol	6.302	43	323184	1162.75	ug/L		99
38) Trichloroethene (TCE)	6.625	130	96909	48.53	ug/L		91
39) tert-Amyl ethyl ether ...	6.911	59	64746	12.18	ug/L		89
40) Dibromomethane	7.069	93	59717	48.28	ug/L		88
41) 1,2-Dichloropropane	7.178	63	104745	48.28	ug/L		92
42) Bromodichloromethane	7.251	83	118981	52.59	ug/L		97
44) c-1,3-Dichloropropene	7.957	75	162503	49.28	ug/L		96
46) Toluene	8.237	91	414816	47.02	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	93225	48.29	ug/L		84
48) 4-Methyl-2-Pentanone (...	8.675	43	344303	93.90	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092636.D
Acq On : 27 Sep 2019 1:02 am
Operator : TB
Sample : 9I26051-CAL9
Misc : 1X 5mL 50/100PPB VOCO+MeOH
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 27 13:19:03 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

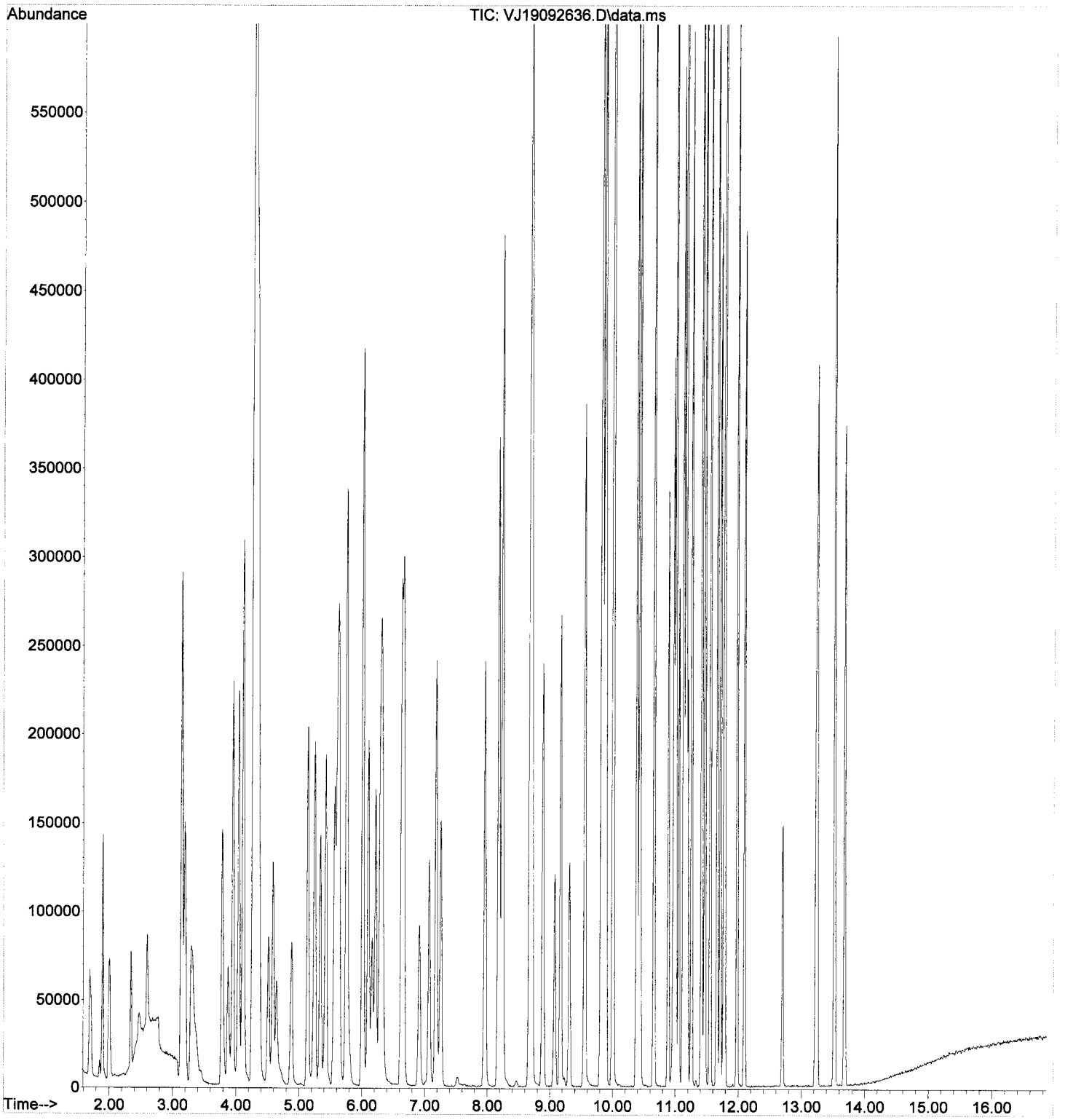
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	158766	49.76	ug/L		95
50) 1,1,2-Trichloroethane	8.882	97	86973	48.32	ug/L		96
51) Dibromochloromethane	9.070	129	74074	55.96	ug/L		98
52) 1,3-Dichloropropane	9.168	76	168512	47.75	ug/L		95
53) 1,2-Dibromoethane (EDB)	9.307	107	96020	48.30	ug/L		98
54) 2-Hexanone	9.551	43	272153	95.90	ug/L		98
55) Chlorobenzene	9.831	112	247216	47.26	ug/L		95
56) Ethylbenzene	9.861	91	459802	46.95	ug/L		97
57) 1,1,1,2-Tetrachloroethane	9.891	131	85576	50.45	ug/L		98
58) m,p-Xylenes (2)	10.001	91	695927	94.62	ug/L		95
59) o-Xylene	10.384	91	353145	47.33	ug/L		94
60) Styrene	10.427	104	259072	49.06	ug/L		96
61) Bromoform	10.445	173	43917	56.67	ug/L		98
62) Isopropylbenzene	10.658	105	428305	47.32	ug/L		97
65) Bromobenzene	10.968	156	94775	47.93	ug/L	#	79
66) n-Propylbenzene	10.999	91	488095	47.25	ug/L		94
67) 1,1,2,2-Tetrachloroethane	11.053	83	122049	46.91	ug/L		98
68) 2-Chlorotoluene	11.120	126	88716	46.70	ug/L	#	75
69) 1,3,5-Trimethylbenzene	11.163	105	336773	47.82	ug/L		94
70) 1,2,3-Trichloropropane	11.157	110	46667	45.89	ug/L		95
71) t-1,4-Dichloro-2-butene	11.193	88	22577	51.75	ug/L	#	88
72) 4-Chlorotoluene	11.254	91	295189	47.31	ug/L		93
73) tert-Butylbenzene	11.412	91	200688	46.28	ug/L		87
74) 1,2,4-Trimethylbenzene	11.467	105	336446	47.02	ug/L		94
75) sec-Butylbenzene	11.552	105	408152	47.41	ug/L		96
76) 4-Isopropyltoluene	11.662	119	343433	47.77	ug/L		96
77) 1,3-Dichlorobenzene	11.717	146	169819	47.69	ug/L		96
78) 1,4-Dichlorobenzene	11.783	146	170510	47.66	ug/L		96
79) n-Butylbenzene	11.978	91	298416	47.46	ug/L		96
80) 1,2-Dichlorobenzene	12.094	146	159412	47.15	ug/L		95
81) 1,2-Dibromo-3-Chloropr...	12.702	157	32650	53.05	ug/L		71
82) Hexachlorobutadiene	13.225	223	23672	46.85	ug/L		95
83) 1,2,4-Trichlorobenzene	13.244	180	105528	46.88	ug/L		94
84) Naphthalene	13.517	128	412833	47.19	ug/L		97
85) 1,2,3-Trichlorobenzene	13.682	180	104398	48.06	ug/L		98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092636.D
Acq On : 27 Sep 2019 1:02 am
Operator : TB
Sample : 9I26051-CAL9
Misc : 1X 5mL 50/100PPB VOCO+MeOH
ALS Vial : 12 Sample Multiplier: 1

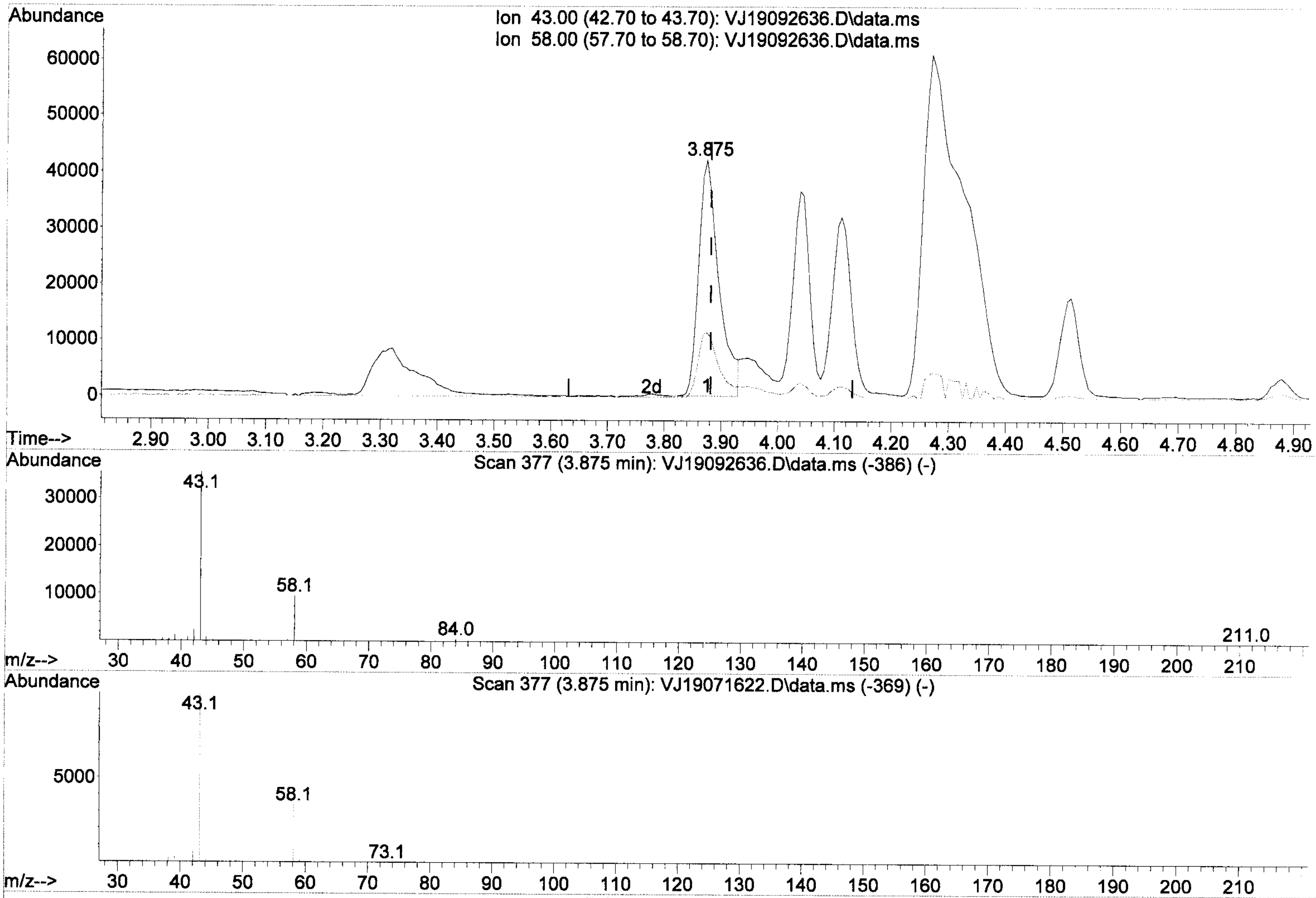
Quant Time: Sep 27 13:19:03 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092636.D
Acq On : 27 Sep 2019 1:02 am
Operator : TB
Sample : 9I26051-CAL9
Misc : 1X 5mL 50/100PPB VOCO+MeOH
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 27 10:52:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092636.D\data.ms

(14) Acetone

3.875min (-0.006) 75.70 ug/L

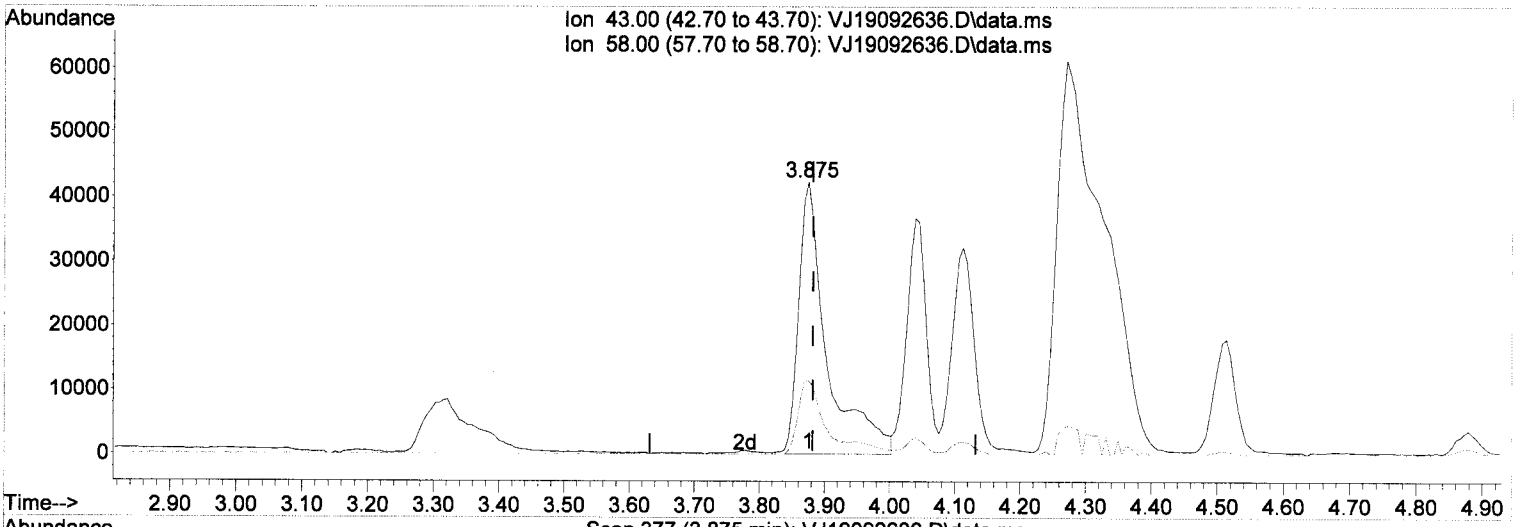
response 104863

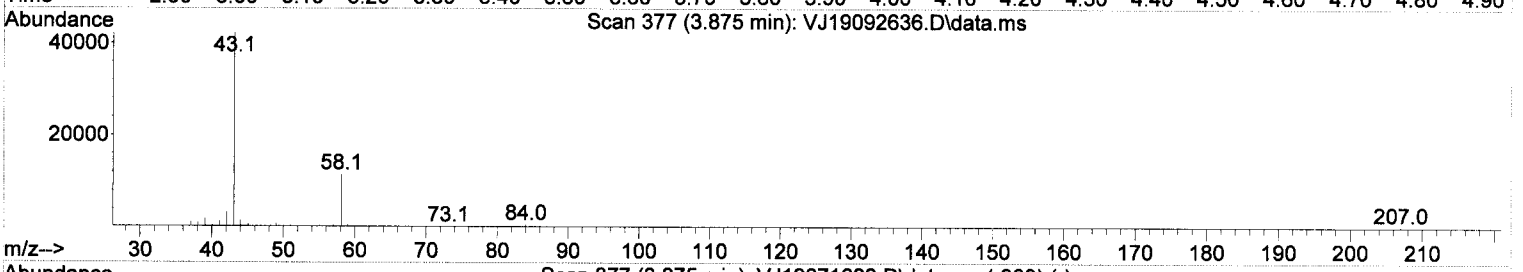
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	27.24
0.00	0.00	0.00
0.00	0.00	0.00

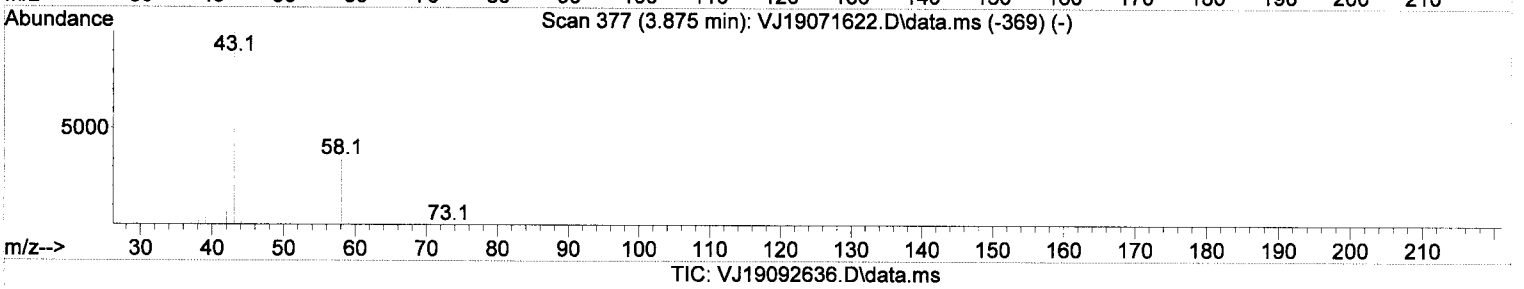
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092636.D
Acq On : 27 Sep 2019 1:02 am
Operator : TB
Sample : 9I26051-CAL9
Misc : 1X 5mL 50/100PPB VOCO+MeOH
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 27 10:52:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092636.D\data.ms

(14) Acetone

3.875min (-0.006) 92.89 ug/L m

9/27/19

response 128682

Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	27.11
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092636.D
Acq On : 27 Sep 2019 1:02 am
Operator : TB
Sample : 9I26051-CAL9
Misc : 1X 5mL 50/100PPB VOCO+MeOH
ALS Vial : 12 Sample Multiplier: 1

PRE 9/27/19

Quant Time: Sep 27 10:52:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	88066	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	206278	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	96429	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	65392	51.90	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	234393	50.27	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	288797	49.24	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	73705	49.56	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	80374	47.20	ug/L		97
3) Chloromethane	1.898	50	110944	48.68	ug/L		99
4) Vinyl Chloride	2.001	62	86780	48.49	ug/L		95
5) Bromomethane	2.342	96	34647	44.09	ug/L		99
6) Chloroethane	2.470	64	14728	55.87	ug/L		97
7) Trichlorofluoromethane	2.597	101	39290	49.26	ug/L		98
8) Ethanol	3.315	45	191989	2779.09	ug/L		88
9) 1,1-Dichloroethene	3.139	61	126525	48.82	ug/L		84
10) Carbon Disulfide	3.145	76	180413	50.24	ug/L		98
11) Freon 113	3.193	101	69489	48.26	ug/L		90
12) Iodomethane	3.291	142	31306	57.05	ug/L		82
13) Methylene Chloride	3.784	84	77692	44.47	ug/L		92
14) Acetone	3.875	43	104863	75.70	ug/L		91 MT
15) t-1,2-Dichloroethene	3.948	61	128795	47.95	ug/L		93
16) n-Hexane	4.039	86	18920	43.88	ug/L	#	72
17) Methyl-tert-butyl-ether	4.112	73	353962	47.75	ug/L		59
18) tert-Butanol (TBA)	4.276	59	2194652	2932.22	ug/L	#	86
19) Diisopropyl ether (DIPE)	4.508	45	82918	11.95	ug/L		93
20) 1,1-Dichloroethane	4.580	63	139892	49.65	ug/L		98
21) Acrylonitrile	4.641	53	65047	49.10	ug/L		96
22) Ethyl-tert-butyl ether...	4.879	59	84010	11.50	ug/L		98
23) c-1,2-Dichloroethene	5.134	61	137723	49.08	ug/L		92
24) 2,2-Dichloropropane	5.244	77	148869	47.18	ug/L		99
25) Bromochloromethane	5.335	49	78798	47.41	ug/L		88
26) Chloroform	5.420	83	167945	48.57	ug/L		95
27) Carbon Tetrachloride	5.560	117	122184	51.02	ug/L		97
28) Tetrahydrofuran	5.590	42	76688	47.20	ug/L		97
29) 1,1,1-Trichloroethane	5.627	97	163298	48.60	ug/L		99
31) 1,1-Dichloropropene	5.755	75	143921	48.70	ug/L		94
32) 2-Butanone (MEK)	5.736	43	203004	96.81	ug/L		95
33) Benzene	6.010	78	396436	47.17	ug/L		98
34) tert-Amyl methyl ether...	6.156	73	79624	11.61	ug/L		93
35) 1,2-Dichloroethane (EDC)	6.211	62	160338	47.29	ug/L		98
36) iso-Butyl Alcohol	6.302	43	323184	1162.75	ug/L		99
38) Trichloroethene (TCE)	6.625	130	96909	48.53	ug/L		91
39) tert-Amyl ethyl ether ...	6.911	59	64746	12.18	ug/L		89
40) Dibromomethane	7.069	93	59717	48.28	ug/L		88
41) 1,2-Dichloropropane	7.178	63	104745	48.28	ug/L		92
42) Bromodichloromethane	7.251	83	118981	52.59	ug/L		97
44) c-1,3-Dichloropropene	7.957	75	162503	49.28	ug/L		96
46) Toluene	8.237	91	414816	47.02	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	93225	48.29	ug/L		84
48) 4-Methyl-2-Pentanone (...	8.675	43	344303	93.90	ug/L		97

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092636.D
Acq On : 27 Sep 2019 1:02 am
Operator : TB
Sample : 9I26051-CAL9
Misc : 1X 5mL 50/100PPB VOCO+MeOH
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 27 10:52:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

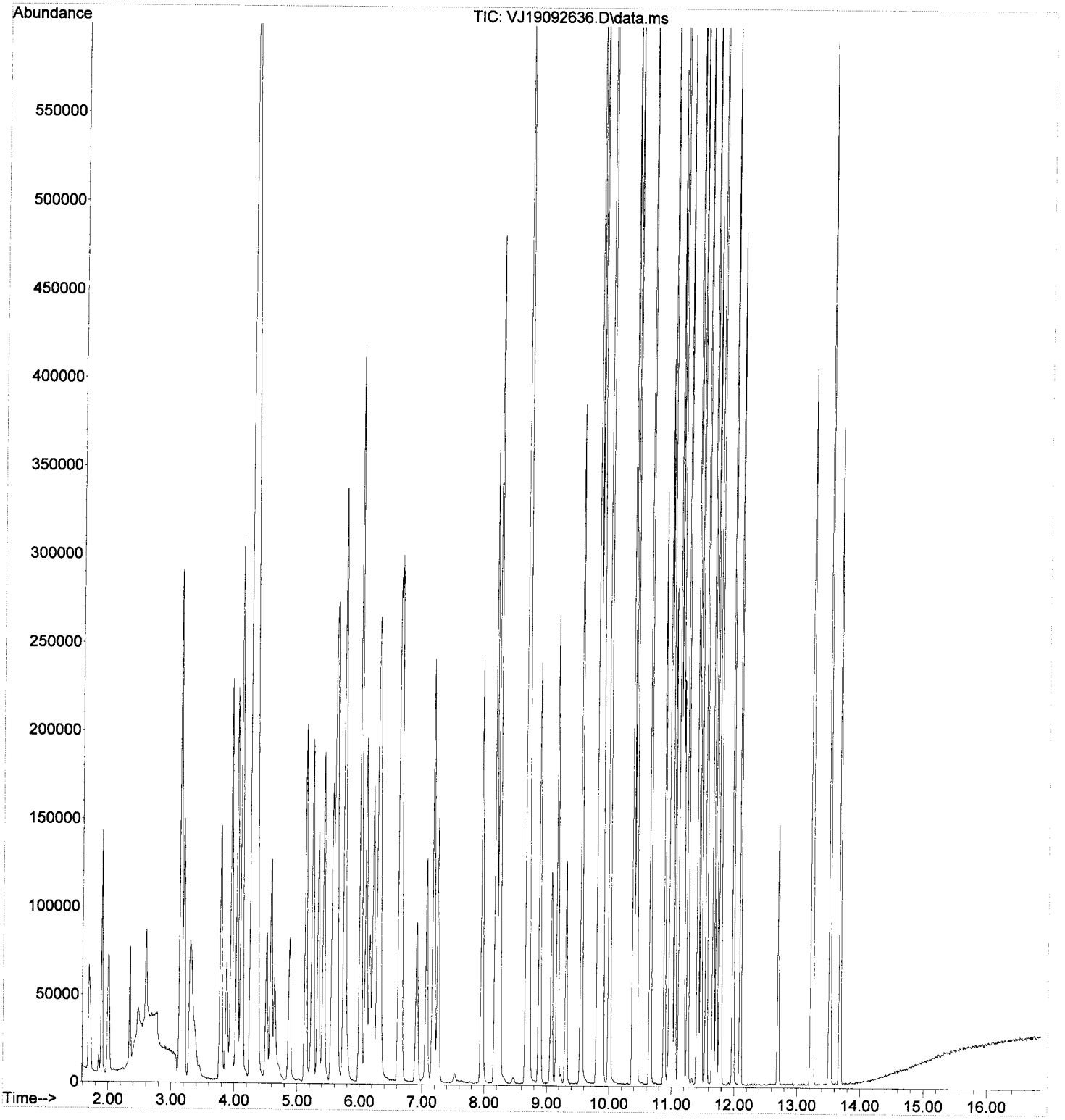
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
49) t-1,3-Dichloropropene	8.705	75	158766	49.76 ug/L	95
50) 1,1,2-Trichloroethane	8.882	97	86973	48.32 ug/L	96
51) Dibromochloromethane	9.070	129	74074	55.96 ug/L	98
52) 1,3-Dichloropropane	9.168	76	168512	47.75 ug/L	95
53) 1,2-Dibromoethane (EDB)	9.307	107	96020	48.30 ug/L	98
54) 2-Hexanone	9.551	43	272153	95.90 ug/L	98
55) Chlorobenzene	9.831	112	247216	47.26 ug/L	95
56) Ethylbenzene	9.861	91	459802	46.95 ug/L	97
57) 1,1,1,2-Tetrachloroethane	9.891	131	85576	50.45 ug/L	98
58) m,p-Xylenes (2)	10.001	91	695927	94.62 ug/L	95
59) o-Xylene	10.384	91	353145	47.33 ug/L	94
60) Styrene	10.427	104	259072	49.06 ug/L	96
61) Bromoform	10.445	173	43917	56.67 ug/L	98
62) Isopropylbenzene	10.658	105	428305	47.32 ug/L	97
65) Bromobenzene	10.968	156	94775	47.93 ug/L #	79
66) n-Propylbenzene	10.999	91	488095	47.25 ug/L	94
67) 1,1,2,2-Tetrachloroethane	11.053	83	122049	46.91 ug/L	98
68) 2-Chlorotoluene	11.120	126	88716	46.70 ug/L #	75
69) 1,3,5-Trimethylbenzene	11.163	105	336773	47.82 ug/L	94
70) 1,2,3-Trichloropropane	11.157	110	46667	45.89 ug/L	95
71) t-1,4-Dichloro-2-butene	11.193	88	22577	51.75 ug/L #	88
72) 4-Chlorotoluene	11.254	91	295189	47.31 ug/L	93
73) tert-Butylbenzene	11.412	91	200688	46.28 ug/L	87
74) 1,2,4-Trimethylbenzene	11.467	105	336446	47.02 ug/L	94
75) sec-Butylbenzene	11.552	105	408152	47.41 ug/L	96
76) 4-Isopropyltoluene	11.662	119	343433	47.77 ug/L	96
77) 1,3-Dichlorobenzene	11.717	146	169819	47.69 ug/L	96
78) 1,4-Dichlorobenzene	11.783	146	170510	47.66 ug/L	96
79) n-Butylbenzene	11.978	91	298416	47.46 ug/L	96
80) 1,2-Dichlorobenzene	12.094	146	159412	47.15 ug/L	95
81) 1,2-Dibromo-3-Chloropr...	12.702	157	32650	53.05 ug/L	71
82) Hexachlorobutadiene	13.225	223	23672	46.85 ug/L	95
83) 1,2,4-Trichlorobenzene	13.244	180	105528	46.88 ug/L	94
84) Naphthalene	13.517	128	412833	47.19 ug/L	97
85) 1,2,3-Trichlorobenzene	13.682	180	104398	48.06 ug/L	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092636.D
Acq On : 27 Sep 2019 1:02 am
Operator : TB
Sample : 9I26051-CAL9
Misc : 1X 5mL 50/100PPB VOCO+MeOH
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Sep 27 10:52:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092637.D
Acq On : 27 Sep 2019 1:29 am
Operator : TB
Sample : 9I26051-IBL2
Misc : 1X 5mL DI+MeOH
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 27 15:40:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

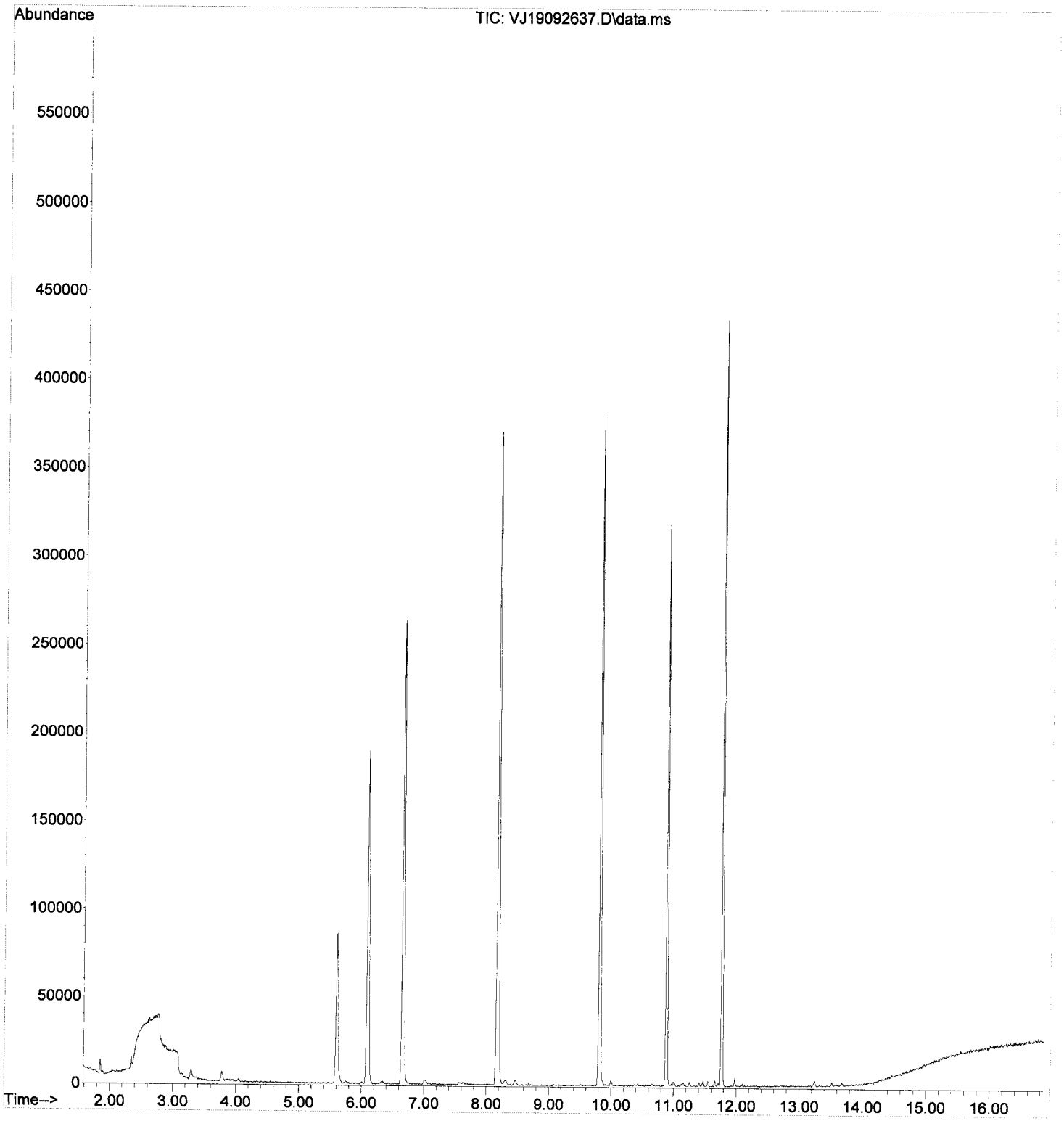
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.095	99	86250	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	204013	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	91549	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.603	111	61089	49.59 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	233568	50.70 ug/L		0.00
45) Toluene-d8 (S)	8.176	98	284953	49.81 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	71775	50.75 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.898	50	1383	0.60 ug/L		93
5) Bromomethane	2.342	96	3381	1.83 ug/L		99
6) Chloroethane	2.463	64	356	1.38 ug/L	#	1
8) Ethanol	3.303	45	1263	Below Cal		72
10) Carbon Disulfide	3.151	76	1394	0.39 ug/L		78
12) Iodomethane	3.291	142	4410	7.18 ug/L		79
13) Methylene Chloride	3.784	84	2629	Below Cal		89
14) Acetone	3.875	43	1220	Below Cal	#	42
15) t-1,2-Dichloroethene	3.954	61	353	0.14 ug/L	#	65
18) tert-Butanol (TBA)	4.282	59	68	0.09 ug/L	#	1
28) Tetrahydrofuran	5.615	42	485	0.29 ug/L	#	68
31) 1,1-Dichloropropene	5.755	75	457	0.16 ug/L	#	51
32) 2-Butanone (MEK)	5.742	43	1441	0.64 ug/L		52
33) Benzene	6.010	78	686	0.08 ug/L		52
34) tert-Amyl methyl ether...	6.150	73	293	Below Cal	#	46
36) iso-Butyl Alcohol	6.326	43	1050	3.94 ug/L		85
46) Toluene	8.243	91	788	0.09 ug/L		94
47) Tetrachloroethene (PCE)	8.675	166	360	0.20 ug/L	#	26
55) Chlorobenzene	9.825	112	471	0.10 ug/L	#	21
56) Ethylbenzene	9.861	91	1204	0.13 ug/L		86
58) m,p-Xylenes (2)	10.001	91	2053	0.28 ug/L		88
59) o-Xylene	10.384	91	665	0.09 ug/L		94
62) Isopropylbenzene	10.658	105	1086	0.12 ug/L		53
66) n-Propylbenzene	11.005	91	2049	0.21 ug/L		88
68) 2-Chlorotoluene	11.120	126	217	0.13 ug/L	#	73
69) 1,3,5-Trimethylbenzene	11.157	105	1161	0.17 ug/L		94
72) 4-Chlorotoluene	11.254	91	1253	0.21 ug/L		86
73) tert-Butylbenzene	11.412	91	619	0.15 ug/L	#	86
74) 1,2,4-Trimethylbenzene	11.467	105	1360	0.20 ug/L		83
75) sec-Butylbenzene	11.552	105	1882	0.24 ug/L		96
76) 4-Isopropyltoluene	11.662	119	1885	0.28 ug/L		90
77) 1,3-Dichlorobenzene	11.710	146	725	0.21 ug/L		94
78) 1,4-Dichlorobenzene	11.777	146	693	0.21 ug/L	#	26
79) n-Butylbenzene	11.978	91	2215	0.37 ug/L		91
80) 1,2-Dichlorobenzene	12.100	146	445	0.14 ug/L	#	47
82) Hexachlorobutadiene	13.225	223	65	0.14 ug/L	#	45
83) 1,2,4-Trichlorobenzene	13.243	180	1034	0.50 ug/L		78
84) Naphthalene	13.517	128	1705	0.21 ug/L		77
85) 1,2,3-Trichlorobenzene	13.682	180	719	0.36 ug/L		90

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092637.D
Acq On : 27 Sep 2019 1:29 am
Operator : TB
Sample : 9I26051-IBL2
Misc : 1X 5mL DI+MeOH
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Sep 27 15:40:01 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

post
9/27/19

Quant Time: Sep 27 13:20:07 2019
Quant Method : C:\msdchem\1\methods\VJ~~190926S+~~.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	87434	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.813	117	204365	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	98834	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	65385	52.27	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	233929	50.53	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	286934	49.38	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	74165	48.66	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	165982	98.17	ug/L		97
3) Chloromethane	1.898	50	232480	102.74	ug/L		99
4) Vinyl Chloride	1.995	62	185157	104.21	ug/L		93
5) Bromomethane	2.342	96	72442	92.85	ug/L		99
6) Chloroethane	2.470	64	35122	134.21	ug/L		97
7) Trichlorofluoromethane	2.597	101	82683	104.42	ug/L		98
8) Ethanol	3.303	45	399756	5828.39	ug/L		90
9) 1,1-Dichloroethene	3.139	61	260855	101.38	ug/L		86
10) Carbon Disulfide	3.151	76	389633	109.28	ug/L		98
11) Freon 113	3.194	101	147776	103.37	ug/L		91
12) Iodomethane	3.291	142	79827	146.53	ug/L		81
13) Methylene Chloride	3.784	84	159473	91.95	ug/L		92
14) Acetone	3.869	43	267638m	194.60	ug/L		
15) t-1,2-Dichloroethene	3.948	61	264663	99.25	ug/L		92
16) n-Hexane	4.045	86	39871	93.13	ug/L	#	88
17) Methyl-tert-butyl-ether	4.112	73	726160	98.67	ug/L		94
18) tert-Butanol (TBA)	4.264	59	4691502	6313.50	ug/L	#	85
19) Diisopropyl ether (DIPE)	4.508	45	174428	25.32	ug/L		95
20) 1,1-Dichloroethane	4.581	63	284678	101.76	ug/L		100
21) Acrylonitrile	4.635	53	137247m	104.35	ug/L		
22) Ethyl-tert-butyl ether...	4.879	59	176142	24.29	ug/L		97
23) c-1,2-Dichloroethene	5.134	61	284599	102.15	ug/L		93
24) 2,2-Dichloropropane	5.244	77	305440	97.50	ug/L		99
25) Bromochloromethane	5.335	49	159504	96.67	ug/L		89
26) Chloroform	5.420	83	352255	102.62	ug/L		97
27) Carbon Tetrachloride	5.560	117	267011	112.31	ug/L		97
28) Tetrahydrofuran	5.591	42	160059	99.23	ug/L		96
29) 1,1,1-Trichloroethane	5.627	97	341926	102.51	ug/L		97
31) 1,1-Dichloropropene	5.755	75	301123	102.64	ug/L		95
32) 2-Butanone (MEK)	5.737	43	436266	209.56	ug/L		96
33) Benzene	6.010	78	839847	100.66	ug/L		98
34) tert-Amyl methyl ether...	6.156	73	164564	24.17	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.211	62	336326	99.92	ug/L		98
36) iso-Butyl Alcohol	6.290	43	699546	2535.02	ug/L		100
38) Trichloroethene (TCE)	6.625	130	206156	103.98	ug/L		94
39) tert-Amyl ethyl ether ...	6.911	59	134637	25.51	ug/L		91
40) Dibromomethane	7.069	93	126198	102.77	ug/L		89
41) 1,2-Dichloropropane	7.178	63	222657	103.37	ug/L		90
42) Bromodichloromethane	7.251	83	268967	119.74	ug/L		99
44) c-1,3-Dichloropropene	7.957	75	353925	108.33	ug/L		97
46) Toluene	8.237	91	863625	98.80	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	193661	101.26	ug/L		86
48) 4-Methyl-2-Pentanone (...	8.675	43	720189	198.25	ug/L		98

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 27 13:20:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

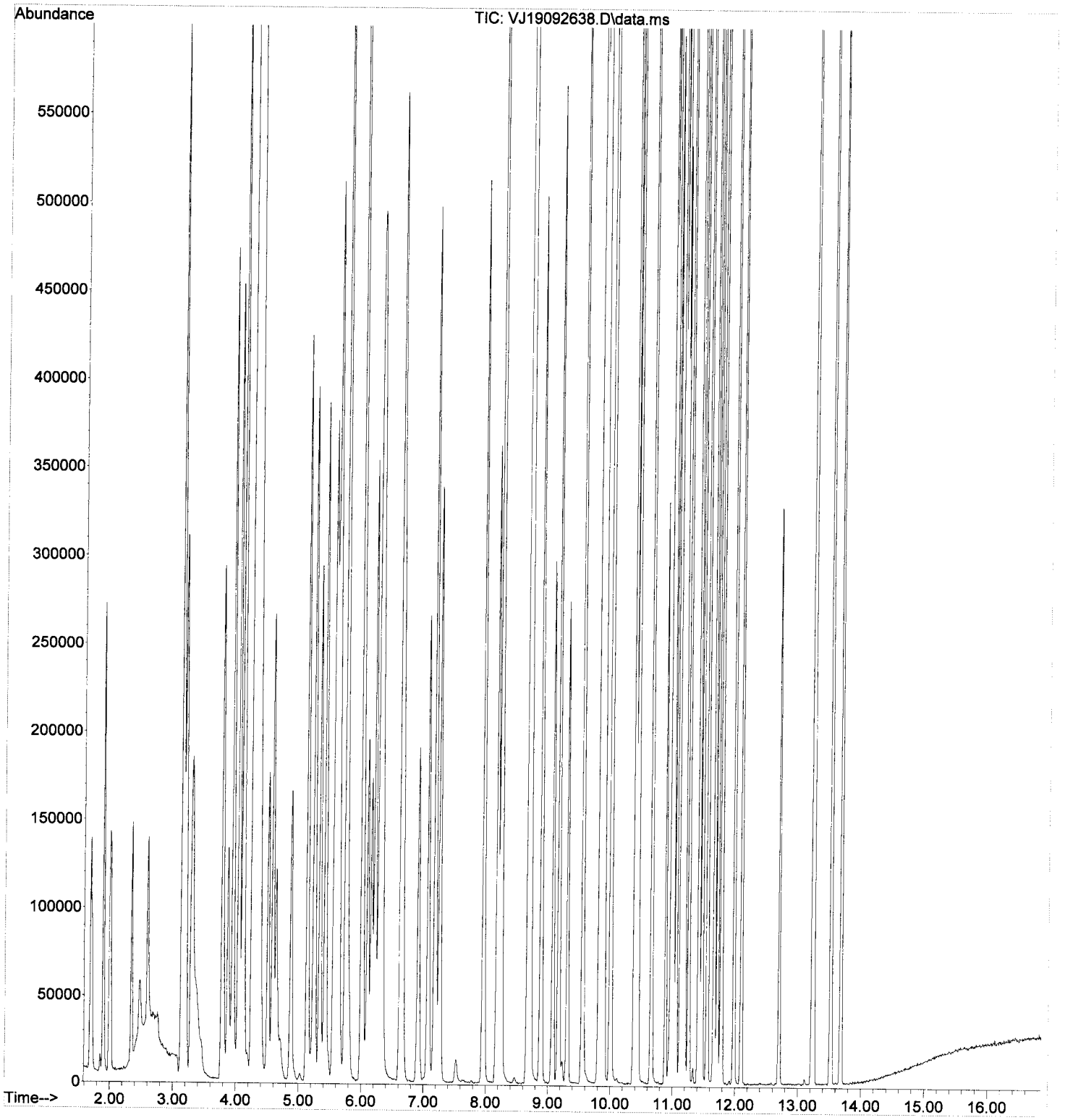
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	344644	109.04	ug/L		96
50) 1,1,2-Trichloroethane	8.882	97	185564	104.05	ug/L		95
51) Dibromochloromethane	9.070	129	175802	134.06	ug/L		99
52) 1,3-Dichloropropane	9.168	76	359607	102.85	ug/L		97
53) 1,2-Dibromoethane (EDB)	9.308	107	206062	104.63	ug/L		100
54) 2-Hexanone	9.551	43	574722	204.41	ug/L		97
55) Chlorobenzene	9.831	112	513937	99.16	ug/L		96
56) Ethylbenzene	9.861	91	957875	98.73	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.892	131	184671	109.90	ug/L		98
58) m,p-Xylenes (2)	10.001	91	1460708	200.46	ug/L		96
59) o-Xylene	10.384	91	744608	100.74	ug/L		95
60) Styrene	10.427	104	556502	106.38	ug/L		96
61) Bromoform	10.445	173	108191	140.92	ug/L		96
62) Isopropylbenzene	10.658	105	904070	100.81	ug/L		97
65) Bromobenzene	10.968	156	199479	98.42	ug/L	#	82
66) n-Propylbenzene	10.999	91	1031816	97.46	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.054	83	264703	99.27	ug/L		98
68) 2-Chlorotoluene	11.120	126	190292	97.73	ug/L	#	83
69) 1,3,5-Trimethylbenzene	11.163	105	713639	98.86	ug/L		94
70) 1,2,3-Trichloropropane	11.157	110	99386	95.34	ug/L		96
71) t-1,4-Dichloro-2-butene	11.187	88	51404	114.95	ug/L	#	86
72) 4-Chlorotoluene	11.254	91	628088	98.21	ug/L		93
73) tert-Butylbenzene	11.413	91	424964	95.61	ug/L		88
74) 1,2,4-Trimethylbenzene	11.467	105	718002	97.90	ug/L		95
75) sec-Butylbenzene	11.552	105	862284	97.73	ug/L		97
76) 4-Isopropyltoluene	11.662	119	733345	99.53	ug/L		97
77) 1,3-Dichlorobenzene	11.717	146	363861	99.71	ug/L		97
78) 1,4-Dichlorobenzene	11.784	146	365594	99.69	ug/L		95
79) n-Butylbenzene	11.978	91	635653	98.63	ug/L		96
80) 1,2-Dichlorobenzene	12.094	146	343702	99.19	ug/L		95
81) 1,2-Dibromo-3-Chloropr...	12.702	157	75525	119.72	ug/L		76
82) Hexachlorobutadiene	13.219	223	51222	98.90	ug/L		93
83) 1,2,4-Trichlorobenzene	13.244	180	228156	98.89	ug/L		95
84) Naphthalene	13.517	128	891841	99.46	ug/L		97
85) 1,2,3-Trichlorobenzene	13.682	180	220874	99.20	ug/L		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

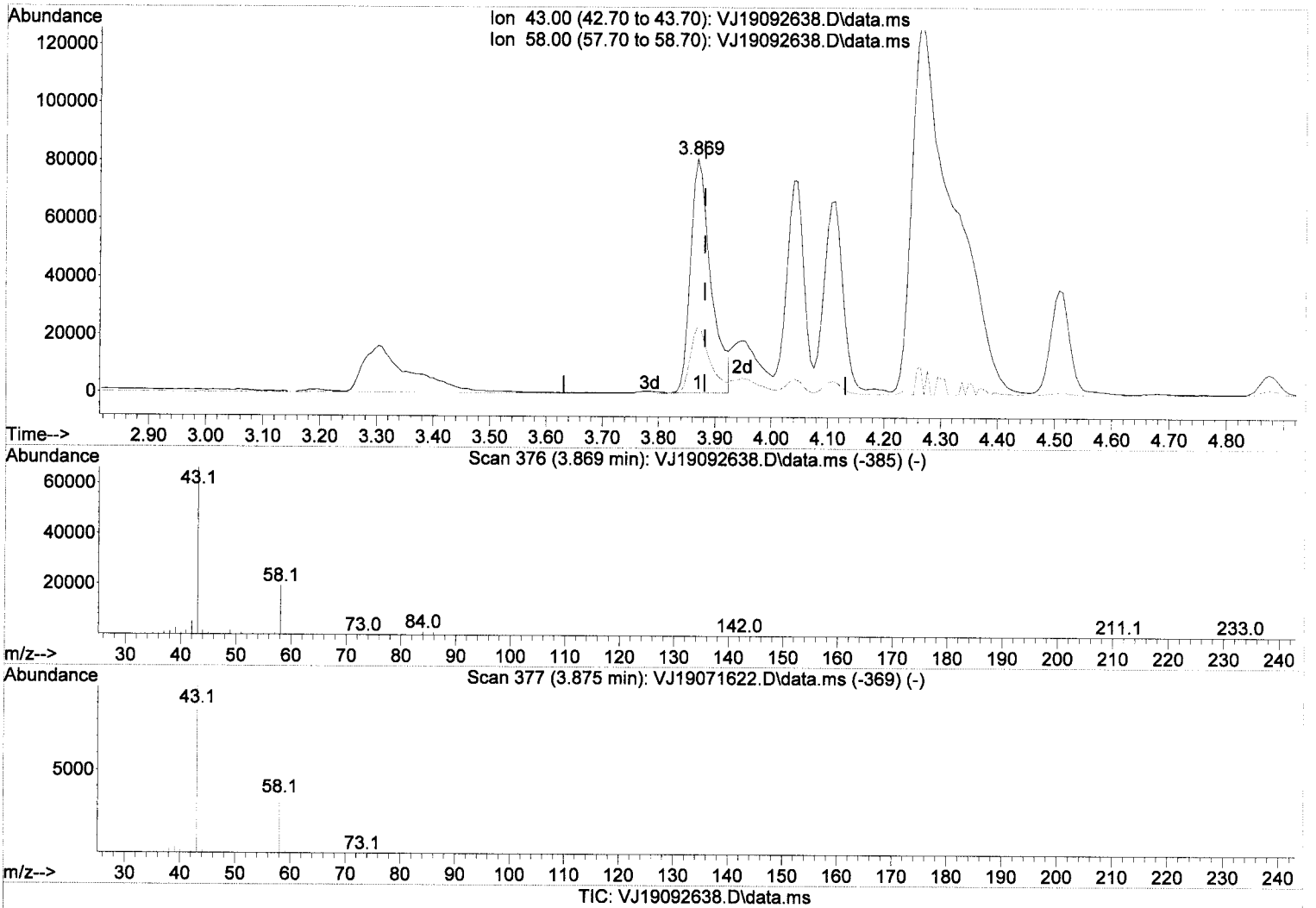
Quant Time: Sep 27 13:20:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 27 10:52:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092638.D\data.ms

(14) Acetone

3.869min (-0.012) 147.71 ug/L

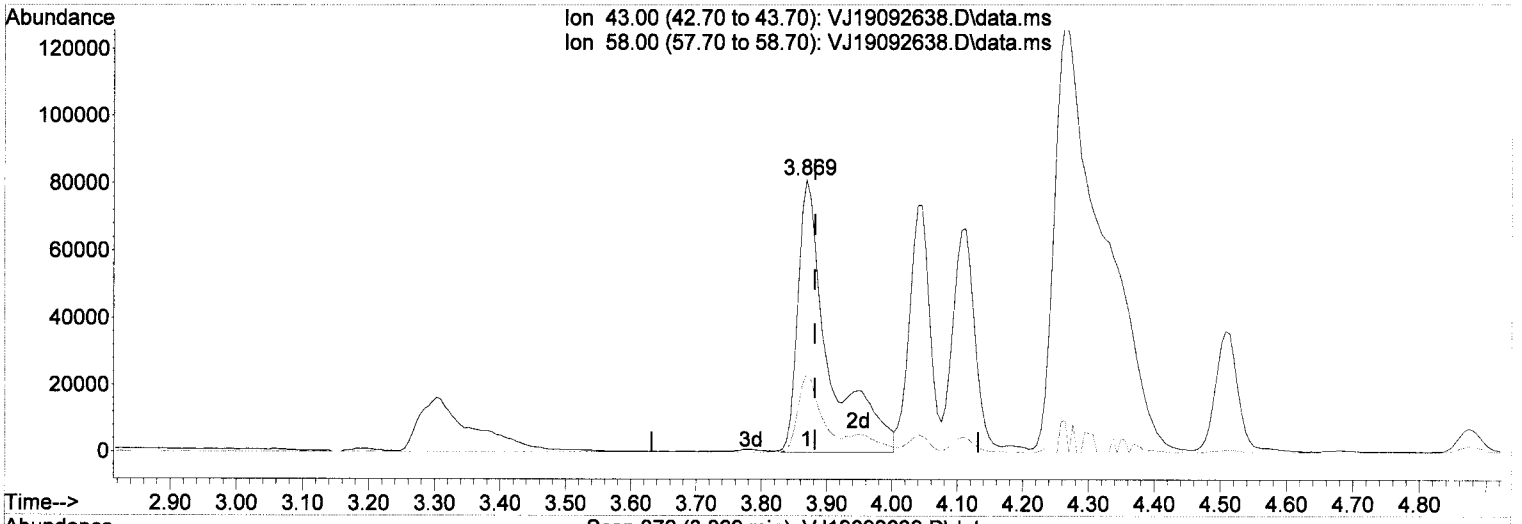
response 203157

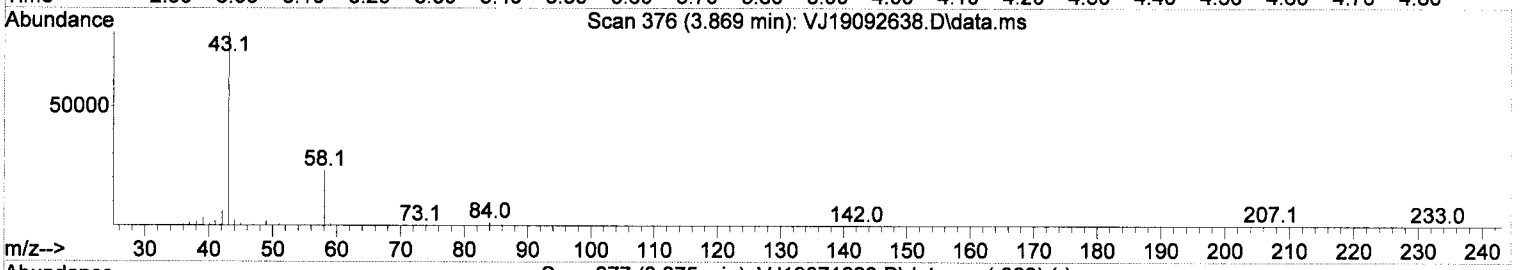
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	28.77
0.00	0.00	0.00
0.00	0.00	0.00

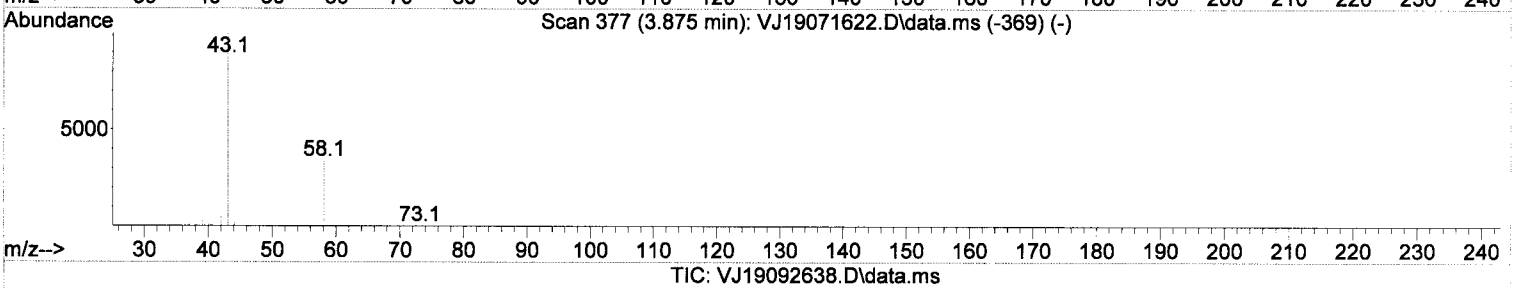
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 27 10:52:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092638.D\data.ms

(14) Acetone

3.869min (-0.012) 194.60 ug/L m

response 267638

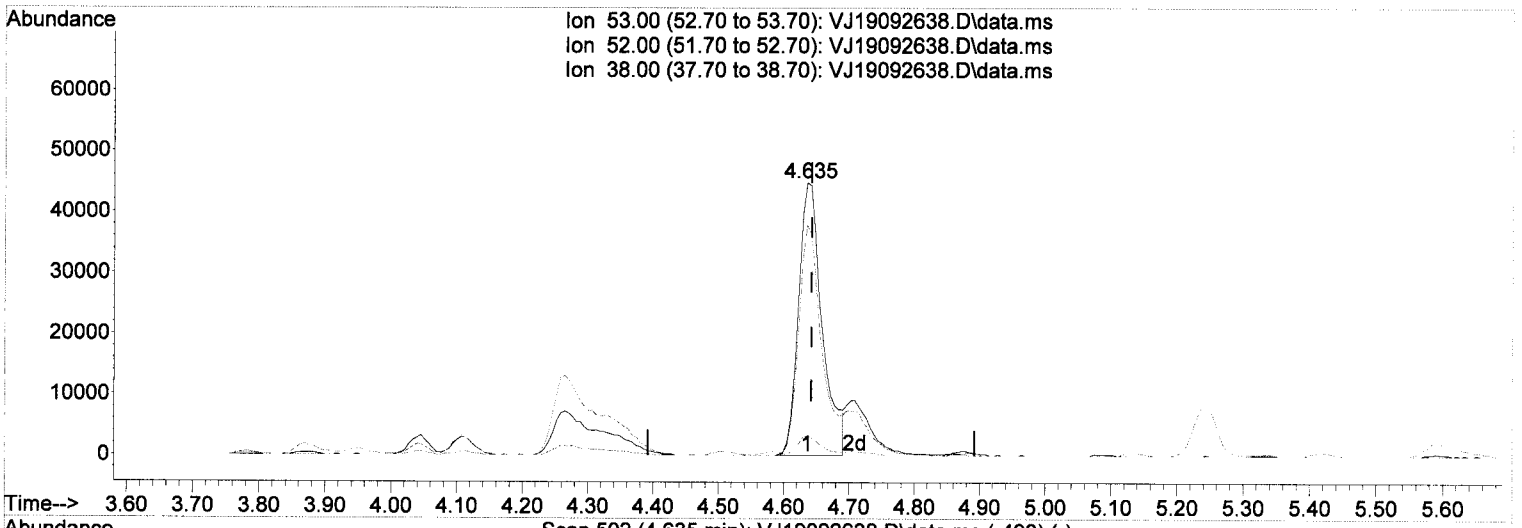
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	28.64
0.00	0.00	0.00
0.00	0.00	0.00

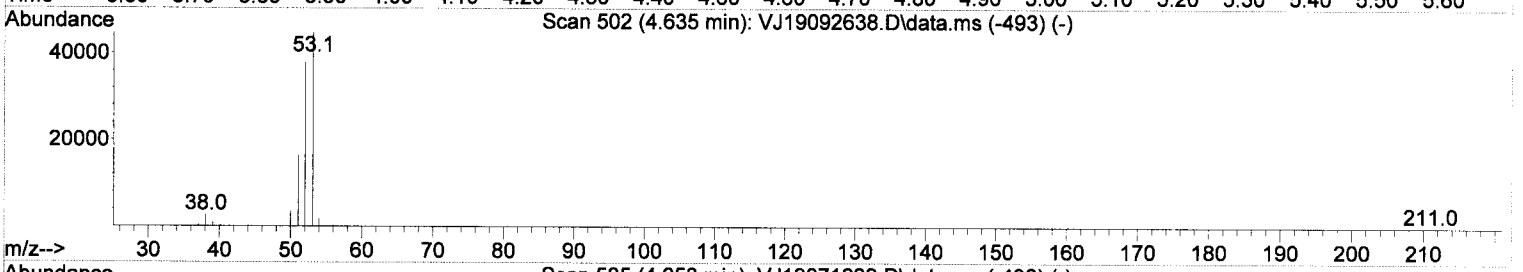
9/27/19

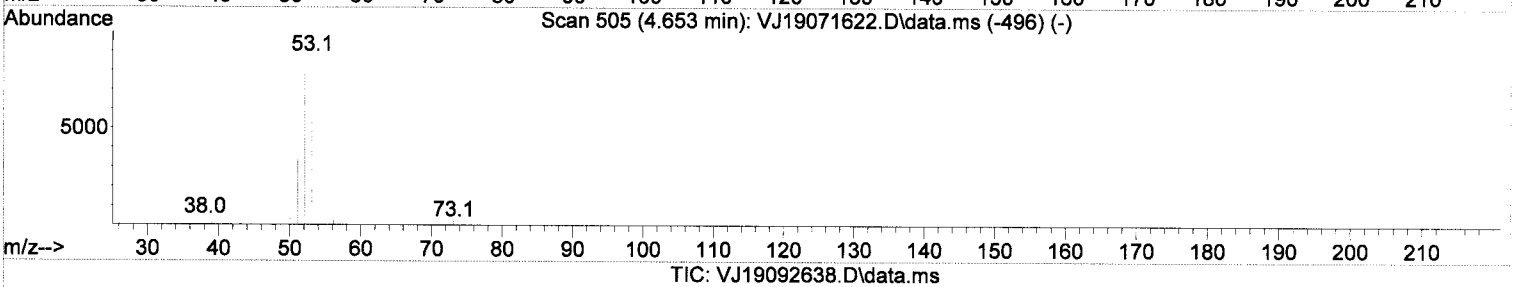
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 27 10:52:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092638.D\data.ms

(21) Acrylonitrile

4.635min (-0.006) 85.85 ug/L

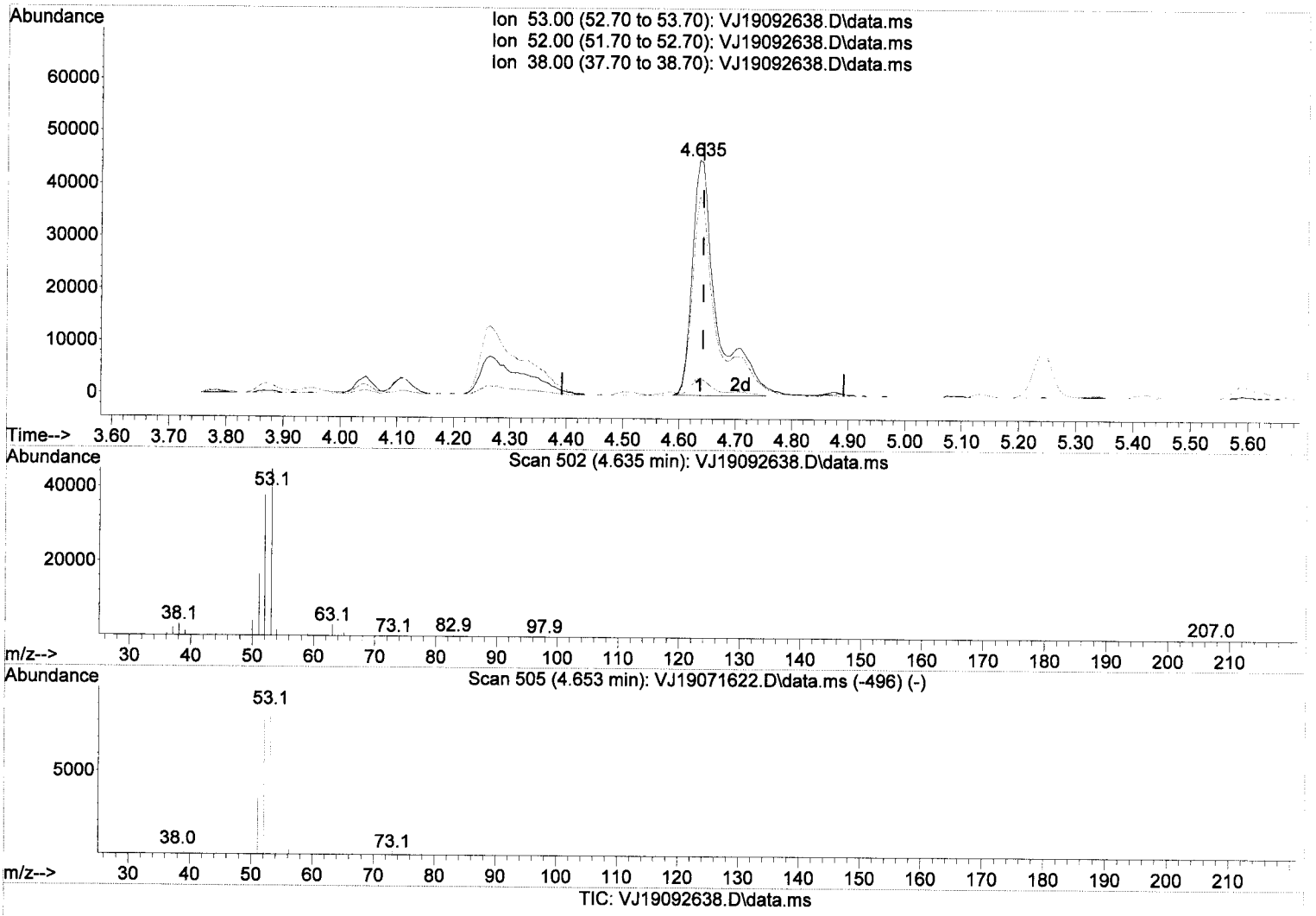
response 112915

Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	84.47
38.00	5.50	5.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 27 10:52:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092638.D\data.ms

(21) Acrylonitrile

4.635min (-0.006) 104.35 ug/L m

response 137247

Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	84.47
38.00	5.50	7.10
0.00	0.00	0.00

9/27/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

pre
9/27/19

Quant Time: Sep 27 10:52:07 2019
Quant Method : C:\msdchem\1\methods\VJ~~190926S+.M~~
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	87434	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.813	117	204365	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	98834	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	65385	52.27	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	233929	50.53	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	286934	49.38	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	74165	48.66	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	165982	98.17	ug/L		97
3) Chloromethane	1.898	50	232480	102.74	ug/L		99
4) Vinyl Chloride	1.995	62	185157	104.21	ug/L		93
5) Bromomethane	2.342	96	72442	92.85	ug/L		99
6) Chloroethane	2.470	64	35122	134.21	ug/L		97
7) Trichlorofluoromethane	2.597	101	82683	104.42	ug/L		98
8) Ethanol	3.303	45	399756	5828.39	ug/L		90
9) 1,1-Dichloroethene	3.139	61	260855	101.38	ug/L		86
10) Carbon Disulfide	3.151	76	389633	109.28	ug/L		98
11) Freon 113	3.194	101	147776	103.37	ug/L		91
12) Iodomethane	3.291	142	79827	146.53	ug/L		81
13) Methylene Chloride	3.784	84	159473	91.95	ug/L		92
14) Acetone	3.869	43	~~203157~~	~~147.71~~	~~ug/L~~		~~94~~ mt
15) t-1,2-Dichloroethene	3.948	61	264663	99.25	ug/L		92
16) n-Hexane	4.045	86	39871	93.13	ug/L	#	88
17) Methyl-tert-butyl-ether	4.112	73	726160	98.67	ug/L		94
18) tert-Butanol (TBA)	4.264	59	4691502	6313.50	ug/L	#	85
19) Diisopropyl ether (DIPE)	4.508	45	174428	25.32	ug/L		95
20) 1,1-Dichloroethane	4.581	63	284678	101.76	ug/L		100
21) Acrylonitrile	4.635	53	~~112915~~	~~85.85~~	~~ug/L~~		~~95~~ mt
22) Ethyl-tert-butyl ether...	4.879	59	176142	24.29	ug/L		97
23) c-1,2-Dichloroethene	5.134	61	284599	102.15	ug/L		93
24) 2,2-Dichloropropane	5.244	77	305440	97.50	ug/L		99
25) Bromochloromethane	5.335	49	159504	96.67	ug/L		89
26) Chloroform	5.420	83	352255	102.62	ug/L		97
27) Carbon Tetrachloride	5.560	117	267011	112.31	ug/L		97
28) Tetrahydrofuran	5.591	42	160059	99.23	ug/L		96
29) 1,1,1-Trichloroethane	5.627	97	341926	102.51	ug/L		97
31) 1,1-Dichloropropene	5.755	75	301123	102.64	ug/L		95
32) 2-Butanone (MEK)	5.737	43	436266	209.56	ug/L		96
33) Benzene	6.010	78	839847	100.66	ug/L		98
34) tert-Amyl methyl ether...	6.156	73	164564	24.17	ug/L		94
35) 1,2-Dichloroethane (EDC)	6.211	62	336326	99.92	ug/L		98
36) iso-Butyl Alcohol	6.290	43	699546	2535.02	ug/L		100
38) Trichloroethene (TCE)	6.625	130	206156	103.98	ug/L		94
39) tert-Amyl ethyl ether ...	6.911	59	134637	25.51	ug/L		91
40) Dibromomethane	7.069	93	126198	102.77	ug/L		89
41) 1,2-Dichloropropane	7.178	63	222657	103.37	ug/L		90
42) Bromodichloromethane	7.251	83	268967	119.74	ug/L		99
44) c-1,3-Dichloropropene	7.957	75	353925	108.33	ug/L		97
46) Toluene	8.237	91	863625	98.80	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	193661	101.26	ug/L		86
48) 4-Methyl-2-Pentanone (...	8.675	43	720189	198.25	ug/L		98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 27 10:52:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

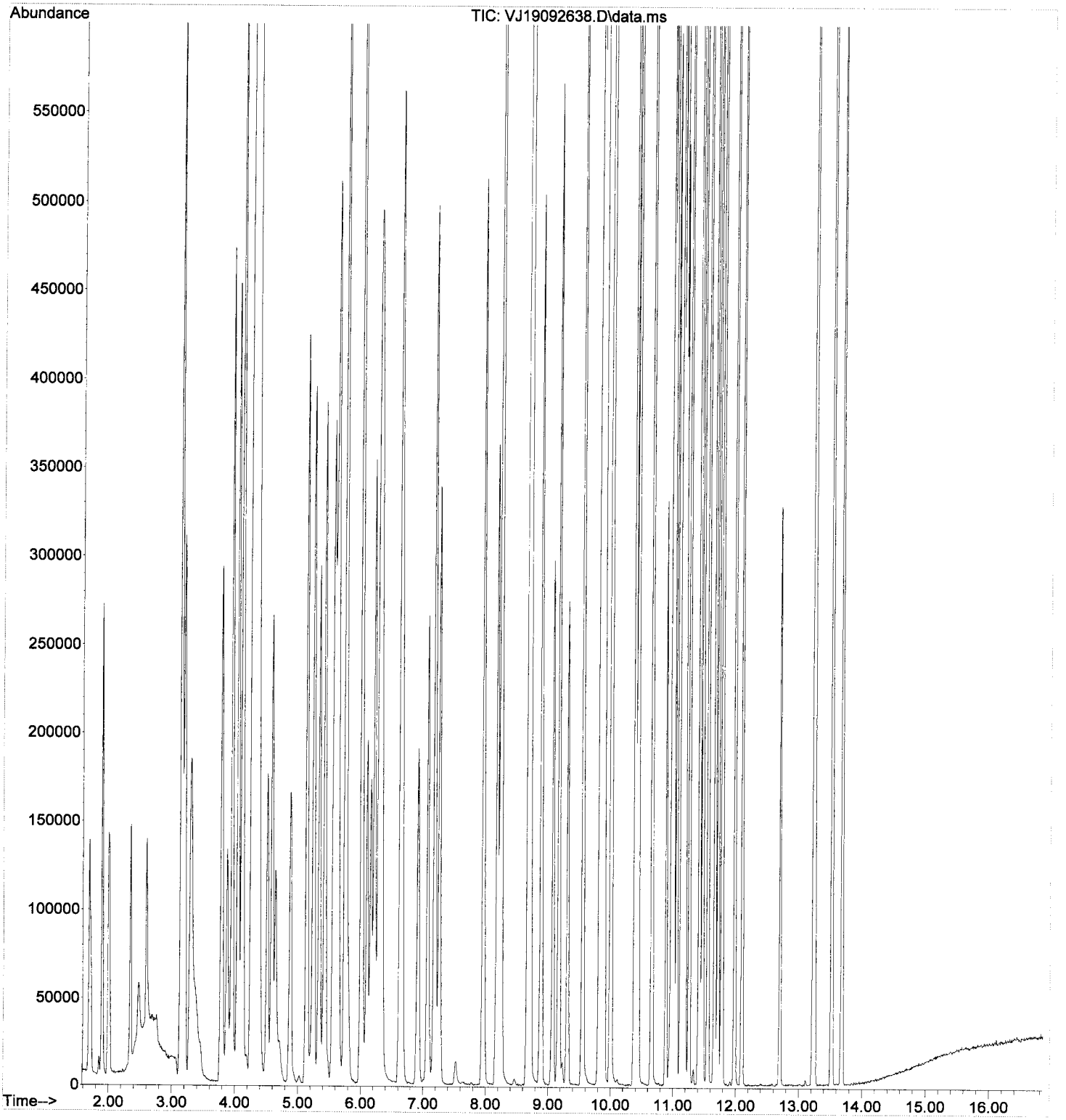
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	344644	109.04	ug/L		96
50) 1,1,2-Trichloroethane	8.882	97	185564	104.05	ug/L		95
51) Dibromochloromethane	9.070	129	175802	134.06	ug/L		99
52) 1,3-Dichloropropane	9.168	76	359607	102.85	ug/L		97
53) 1,2-Dibromoethane (EDB)	9.308	107	206062	104.63	ug/L		100
54) 2-Hexanone	9.551	43	574722	204.41	ug/L		97
55) Chlorobenzene	9.831	112	513937	99.16	ug/L		96
56) Ethylbenzene	9.861	91	957875	98.73	ug/L		98
57) 1,1,1,2-Tetrachloroethane	9.892	131	184671	109.90	ug/L		98
58) m,p-Xylenes (2)	10.001	91	1460708	200.46	ug/L		96
59) o-Xylene	10.384	91	744608	100.74	ug/L		95
60) Styrene	10.427	104	556502	106.38	ug/L		96
61) Bromoform	10.445	173	108191	140.92	ug/L		96
62) Isopropylbenzene	10.658	105	904070	100.81	ug/L		97
65) Bromobenzene	10.968	156	199479	98.42	ug/L	#	82
66) n-Propylbenzene	10.999	91	1031816	97.46	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.054	83	264703	99.27	ug/L		98
68) 2-Chlorotoluene	11.120	126	190292	97.73	ug/L	#	83
69) 1,3,5-Trimethylbenzene	11.163	105	713639	98.86	ug/L		94
70) 1,2,3-Trichloropropane	11.157	110	99386	95.34	ug/L		96
71) t-1,4-Dichloro-2-butene	11.187	88	51404	114.95	ug/L	#	86
72) 4-Chlorotoluene	11.254	91	628088	98.21	ug/L		93
73) tert-Butylbenzene	11.413	91	424964	95.61	ug/L		88
74) 1,2,4-Trimethylbenzene	11.467	105	718002	97.90	ug/L		95
75) sec-Butylbenzene	11.552	105	862284	97.73	ug/L		97
76) 4-Isopropyltoluene	11.662	119	733345	99.53	ug/L		97
77) 1,3-Dichlorobenzene	11.717	146	363861	99.71	ug/L		97
78) 1,4-Dichlorobenzene	11.784	146	365594	99.69	ug/L		95
79) n-Butylbenzene	11.978	91	635653	98.63	ug/L		96
80) 1,2-Dichlorobenzene	12.094	146	343702	99.19	ug/L		95
81) 1,2-Dibromo-3-Chloropr...	12.702	157	75525	119.72	ug/L		76
82) Hexachlorobutadiene	13.219	223	51222	98.90	ug/L		93
83) 1,2,4-Trichlorobenzene	13.244	180	228156	98.89	ug/L		95
84) Naphthalene	13.517	128	891841	99.46	ug/L		97
85) 1,2,3-Trichlorobenzene	13.682	180	220874	99.20	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092638.D
Acq On : 27 Sep 2019 1:56 am
Operator : TB
Sample : 9I26051-CALA
Misc : 1X 5mL 100/200PPB VOCO+MeOH
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Sep 27 10:52:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092639.D
Acq On : 27 Sep 2019 2:22 am
Operator : TB
Sample : 9I26051-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 27 15:40:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	92089	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	219172	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	98239	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.603	111	66788	50.78	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	251829	51.20	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	306504	49.87	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	76828	50.62	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	480	0.28	ug/L	#	51
3) Chloromethane	1.898	50	1661	0.68	ug/L		75
5) Bromomethane	2.342	96	3363	1.47	ug/L		94
6) Chloroethane	2.451	64	263	0.94	ug/L	#	8
8) Ethanol	3.309	45	4764	20.99	ug/L		91
9) 1,1-Dichloroethene	3.133	61	465	0.17	ug/L	#	50
10) Carbon Disulfide	3.151	76	2906	0.76	ug/L		83
11) Freon 113	3.194	101	502	0.35	ug/L		86
12) Iodomethane	3.291	142	5291	8.15	ug/L		78
13) Methylene Chloride	3.784	84	2927	Below Cal			92
14) Acetone	3.881	43	1513	Below Cal		#	42
15) t-1,2-Dichloroethene	3.948	61	854	0.32	ug/L		91
17) Methyl-tert-butyl-ether	4.106	73	687	0.08	ug/L		57
18) tert-Butanol (TBA)	4.289	59	606	0.77	ug/L	#	56
28) Tetrahydrofuran	5.609	42	561	0.32	ug/L	#	57
31) 1,1-Dichloropropene	5.755	75	1075	0.35	ug/L		86
32) 2-Butanone (MEK)	5.755	43	1689	0.70	ug/L		52
33) Benzene	6.010	78	1118	0.12	ug/L		74
34) tert-Amyl methyl ether...	6.168	73	458	Below Cal		#	46
36) iso-Butyl Alcohol	6.333	43	1138	4.00	ug/L		91
38) Trichloroethene (TCE)	6.631	130	481	0.25	ug/L	#	74
46) Toluene	8.237	91	1552	0.16	ug/L		95
47) Tetrachloroethene (PCE)	8.675	166	766	0.39	ug/L		80
49) t-1,3-Dichloropropene	8.705	75	353	0.11	ug/L	#	45
55) Chlorobenzene	9.825	112	1015	0.19	ug/L	#	24
56) Ethylbenzene	9.861	91	2281	0.22	ug/L		83
58) m,p-Xylenes (2)	10.001	91	3888	0.50	ug/L		94
59) o-Xylene	10.384	91	1119	0.14	ug/L		86
60) Styrene	10.427	104	887	0.16	ug/L		89
62) Isopropylbenzene	10.652	105	2359	0.25	ug/L		89
65) Bromobenzene	10.968	156	345	0.18	ug/L		82
66) n-Propylbenzene	10.999	91	4276	0.41	ug/L		92
68) 2-Chlorotoluene	11.127	126	520	0.28	ug/L	#	57
69) 1,3,5-Trimethylbenzene	11.157	105	2487	0.35	ug/L		88
72) 4-Chlorotoluene	11.254	91	2478	0.38	ug/L		93
73) tert-Butylbenzene	11.419	91	1227	0.27	ug/L	#	78
74) 1,2,4-Trimethylbenzene	11.467	105	2353	0.33	ug/L		88
75) sec-Butylbenzene	11.552	105	3581	0.42	ug/L		94
76) 4-Isopropyltoluene	11.662	119	3684	0.52	ug/L		91
77) 1,3-Dichlorobenzene	11.711	146	1661	0.46	ug/L		93
78) 1,4-Dichlorobenzene	11.784	146	1694	0.47	ug/L		81
79) n-Butylbenzene	11.978	91	4417	0.68	ug/L		89
80) 1,2-Dichlorobenzene	12.100	146	1045	0.31	ug/L		87

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092639.D
Acq On : 27 Sep 2019 2:22 am
Operator : TB
Sample : 9I26051-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 27 15:40:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

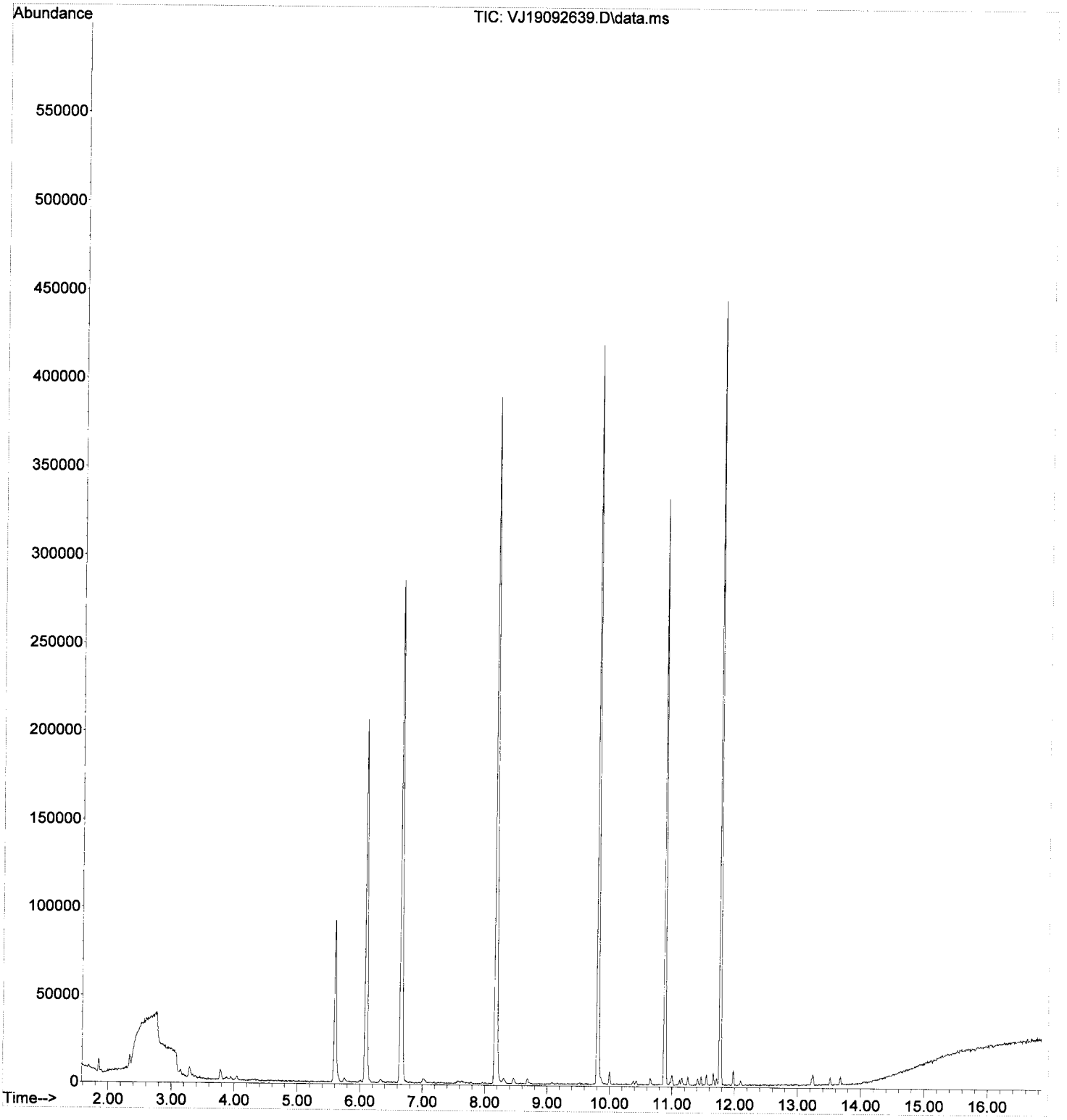
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
82) Hexachlorobutadiene	13.225	223	458	0.92 ug/L	82
83) 1,2,4-Trichlorobenzene	13.244	180	2013	0.91 ug/L	80
84) Naphthalene	13.517	128	3291	0.39 ug/L	93
85) 1,2,3-Trichlorobenzene	13.682	180	1455	0.67 ug/L	81

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092639.D
Acq On : 27 Sep 2019 2:22 am
Operator : TB
Sample : 9I26051-IBL3
Misc : 1X 5mL DI+MeOH
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Sep 27 15:40:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 13:21:37 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

post 9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.101	99	87764	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	204350	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	98513	50.00	ug/L	#	0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.609	111	66425	52.90	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	237056	51.01	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	287974	49.57	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	73514	48.39	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	361804	213.19	ug/L		98
3) Chloromethane	1.898	50	475243	209.24	ug/L		99
4) Vinyl Chloride	2.001	62	382094	214.23	ug/L		95
5) Bromomethane	2.348	96	148437	189.53	ug/L		100
6) Chloroethane	2.476	64	76606	291.62	ug/L		98
7) Trichlorofluoromethane	2.603	101	165428	208.13	ug/L		99
8) Ethanol	0.000		0	N.D.	d		
9) 1,1-Dichloroethene	3.145	61	532245	206.07	ug/L		88
10) Carbon Disulfide	3.151	76	813775	227.38	ug/L		98
11) Freon 113	3.200	101	301617	210.19	ug/L		91
12) Iodomethane	3.297	142	180775	330.58	ug/L		84
13) Methylene Chloride	3.784	84	321520	184.68	ug/L		91
14) Acetone	3.875	43	540074m	391.21	ug/L		
15) t-1,2-Dichloroethene	3.954	61	533073	199.15	ug/L		95
16) n-Hexane	4.045	86	82276	191.46	ug/L	#	83
17) Methyl-tert-butyl-ether	4.112	73	1479305	200.24	ug/L		96
18) tert-Butanol (TBA)	0.000		0	N.D.	d		
19) Diisopropyl ether (DIPE)	0.000		0	N.D.			
20) 1,1-Dichloroethane	4.587	63	572397	203.85	ug/L		99
21) Acrylonitrile	4.641	53	276579m	209.50	ug/L		
22) Ethyl-tert-butyl ether...	0.000		0	N.D.	d		
23) c-1,2-Dichloroethene	5.134	61	569504	203.63	ug/L		94
24) 2,2-Dichloropropane	5.244	77	598046	190.19	ug/L		99
25) Bromochloromethane	5.335	49	319850	193.11	ug/L		89
26) Chloroform	5.420	83	699080	202.89	ug/L		96
27) Carbon Tetrachloride	5.560	117	557712	233.70	ug/L		97
28) Tetrahydrofuran	5.590	42	313497	193.63	ug/L		97
29) 1,1,1-Trichloroethane	5.627	97	682795	203.93	ug/L		98
31) 1,1-Dichloropropene	5.755	75	598593	203.26	ug/L		93
32) 2-Butanone (MEK)	5.736	43	859752	411.44	ug/L		95
33) Benzene	6.010	78	1669999	199.41	ug/L		98
34) tert-Amyl methyl ether...	0.000		0	N.D.	d		
35) 1,2-Dichloroethane (EDC)	6.217	62	658074	194.77	ug/L		99
36) iso-Butyl Alcohol	6.296	43	1366167	4932.11	ug/L		99
38) Trichloroethene (TCE)	6.631	130	417510	209.80	ug/L		94
39) tert-Amyl ethyl ether ...	0.000		0	N.D.			
40) Dibromomethane	7.069	93	246771	200.20	ug/L		89
41) 1,2-Dichloropropane	7.178	63	438077	202.61	ug/L		90
42) Bromodichloromethane	7.257	83	560307	248.51	ug/L		98
44) c-1,3-Dichloropropene	7.957	75	710362	217.44	ug/L		98
46) Toluene	8.237	91	1715656	196.29	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	388598	203.21	ug/L		84
48) 4-Methyl-2-Pentanone (...	8.681	43	1363153	375.26	ug/L		97

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 13:21:37 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

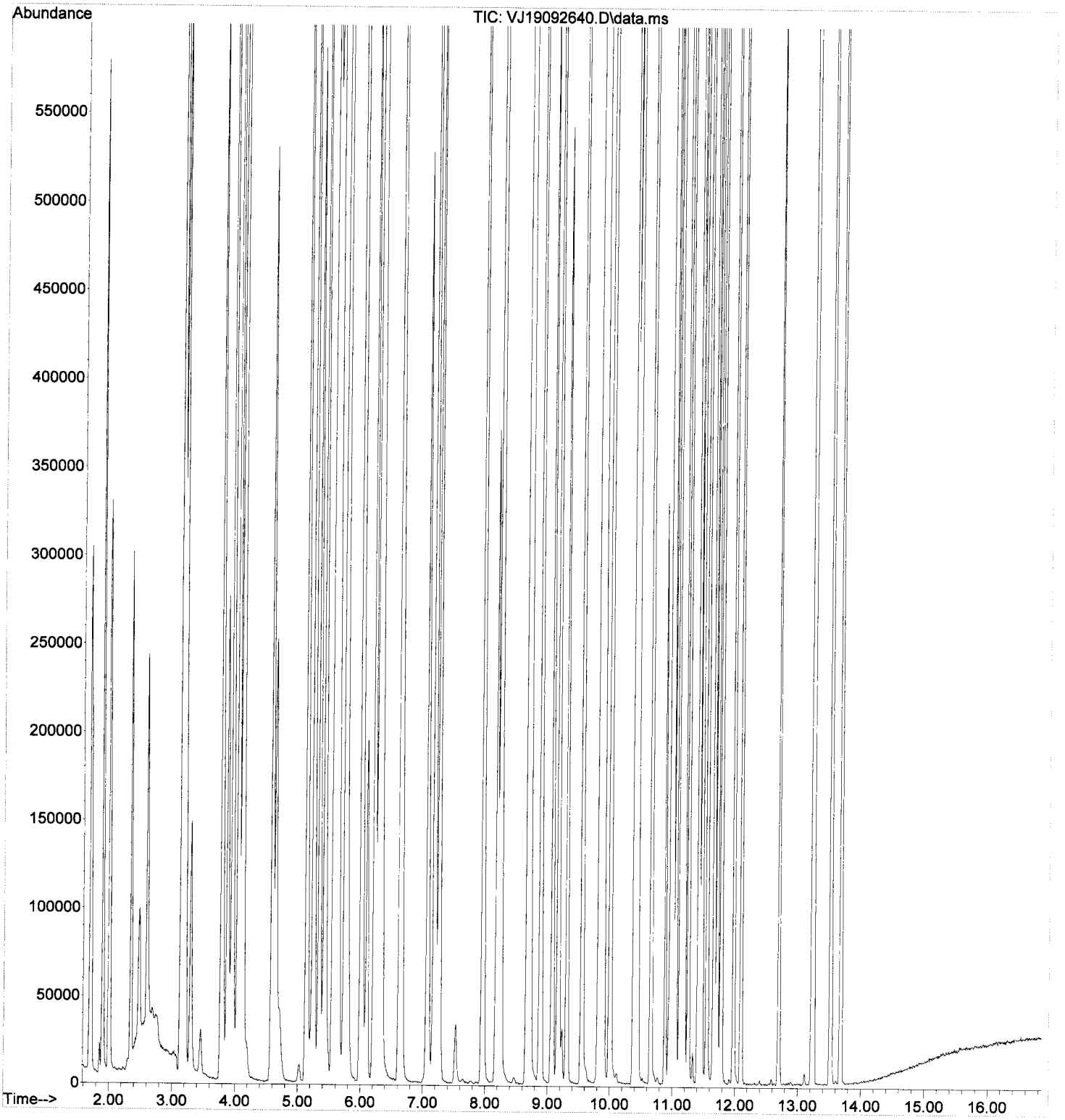
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	681628	215.66	ug/L		96
50) 1,1,2-Trichloroethane	8.882	97	368854	206.85	ug/L		96
51) Dibromochloromethane	9.070	129	376420	287.06	ug/L		99
52) 1,3-Dichloropropane	9.168	76	703679	201.28	ug/L		96
53) 1,2-Dibromoethane (EDB)	9.307	107	408690	207.54	ug/L		99
54) 2-Hexanone	9.551	43	1112936	395.86	ug/L		97
55) Chlorobenzene	9.831	112	1010988	195.09	ug/L		96
56) Ethylbenzene	9.867	91	1886129	194.43	ug/L		99
57) 1,1,1,2-Tetrachloroethane	9.891	131	364099	216.69	ug/L		99
58) m,p-Xylenes (2)	10.001	91	2874751	394.54	ug/L		96
59) o-Xylene	10.384	91	1469028	198.76	ug/L		95
60) Styrene	10.427	104	1096249	209.57	ug/L		96
61) Bromoform	10.445	173	234918	306.00	ug/L		97
62) Isopropylbenzene	10.658	105	1763744	196.68	ug/L		97
65) Bromobenzene	10.968	156	392384	194.22	ug/L	#	81
66) n-Propylbenzene	10.999	91	2006523	190.15	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.053	83	494430	186.03	ug/L		96
68) 2-Chlorotoluene	11.120	126	372893	192.14	ug/L	#	82
69) 1,3,5-Trimethylbenzene	11.163	105	1395512	193.96	ug/L		94
70) 1,2,3-Trichloropropane	11.157	110	194027	186.74	ug/L		96
71) t-1,4-Dichloro-2-butene	11.193	88	102544	230.06	ug/L	#	83
72) 4-Chlorotoluene	11.254	91	1217721	191.03	ug/L		92
73) tert-Butylbenzene	11.412	91	829909	187.33	ug/L		87
74) 1,2,4-Trimethylbenzene	11.467	105	1400728	191.60	ug/L		95
75) sec-Butylbenzene	11.552	105	1675162	190.47	ug/L		96
76) 4-Isopropyltoluene	11.662	119	1424200	193.92	ug/L		96
77) 1,3-Dichlorobenzene	11.717	146	701151	192.76	ug/L		96
78) 1,4-Dichlorobenzene	11.783	146	705926	193.12	ug/L		96
79) n-Butylbenzene	11.978	91	1235413	192.32	ug/L		96
80) 1,2-Dichlorobenzene	12.100	146	664539	192.42	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.702	157	155589	247.44	ug/L		77
82) Hexachlorobutadiene	13.225	223	98168	190.17	ug/L		95
83) 1,2,4-Trichlorobenzene	13.244	180	442755	192.53	ug/L		95
84) Naphthalene	13.517	128	1762865	197.23	ug/L		97
85) 1,2,3-Trichlorobenzene	13.682	180	440028	198.26	ug/L		97

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

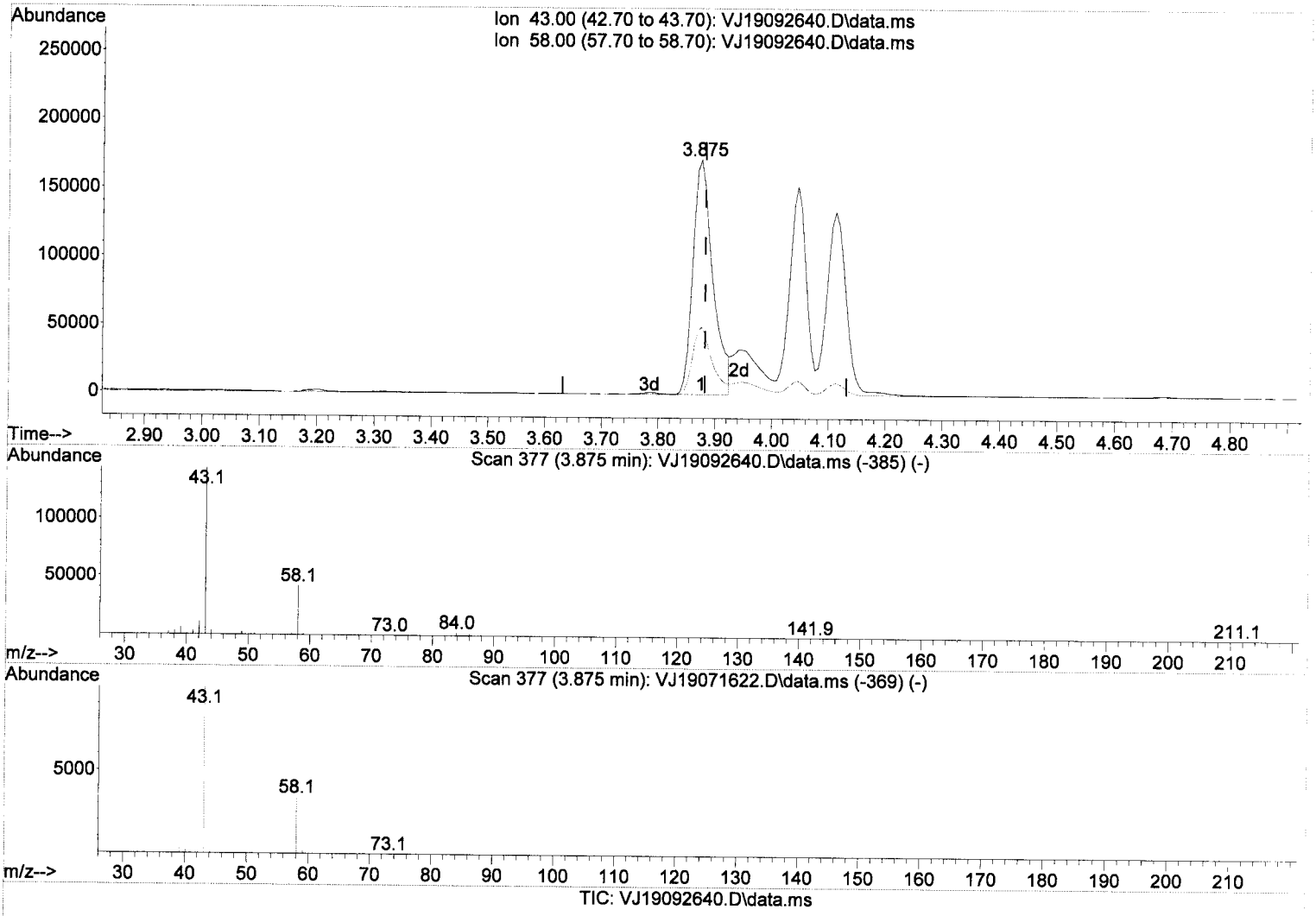
Quant Time: Sep 27 13:21:37 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 10:52:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



TIC: VJ19092640.D\data.ms

(14) Acetone

3.875min (-0.006) 305.23 ug/L

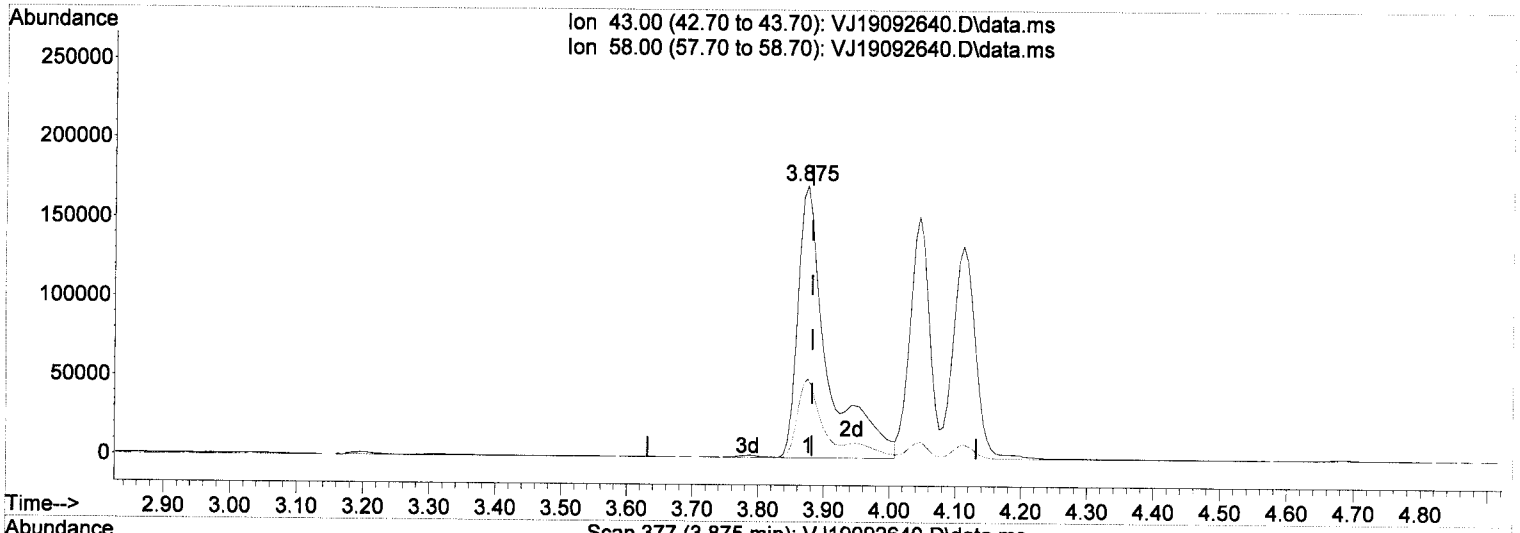
response 421376

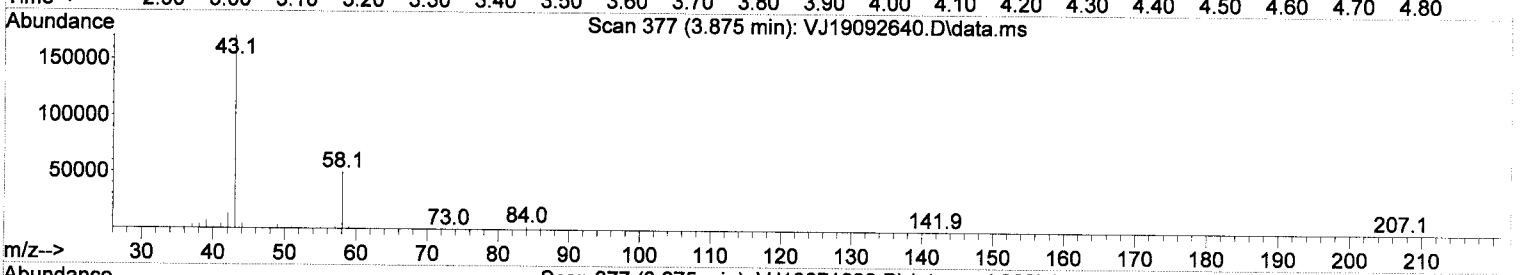
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	29.07
0.00	0.00	0.00
0.00	0.00	0.00

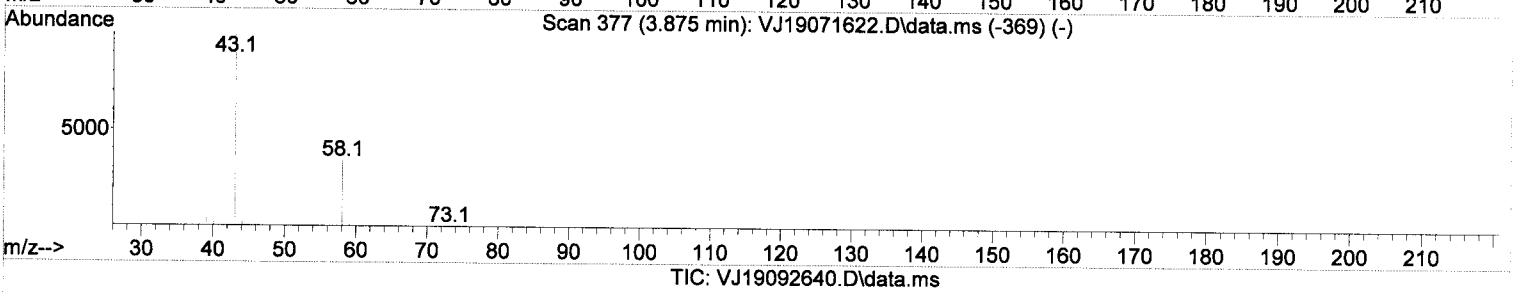
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 10:52:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092640.D\data.ms

(14) Acetone

3.875min (-0.006) 391.21 ug/L m

response 540074

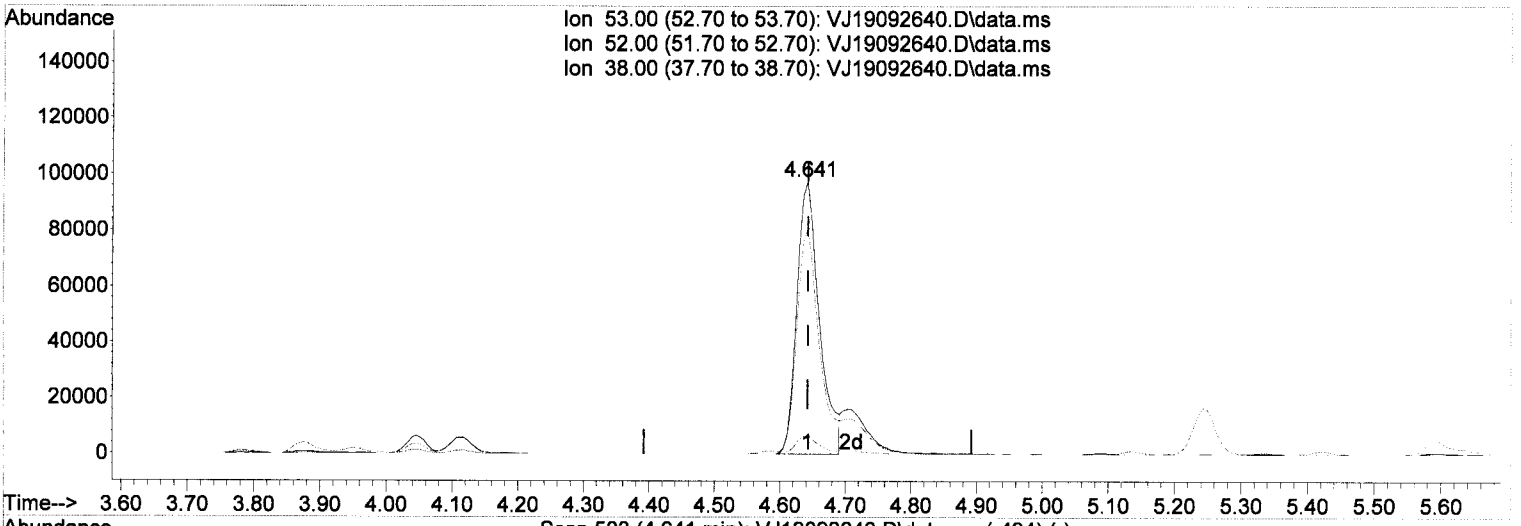
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	29.03
0.00	0.00	0.00
0.00	0.00	0.00

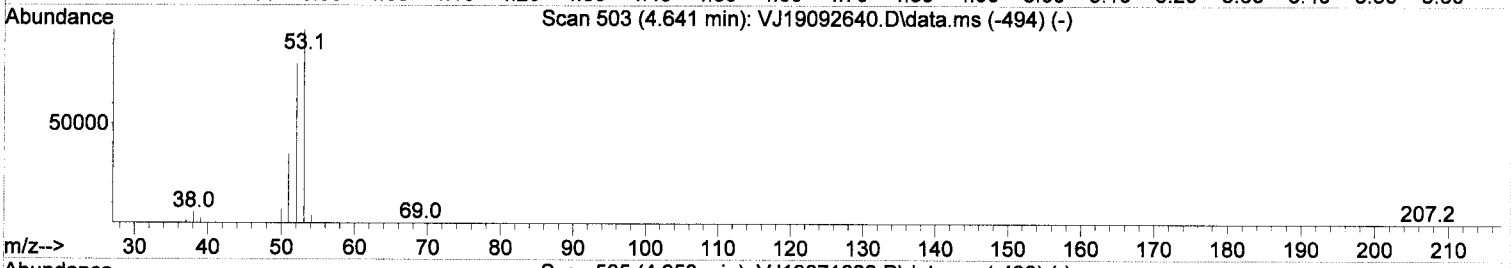
9/27/19

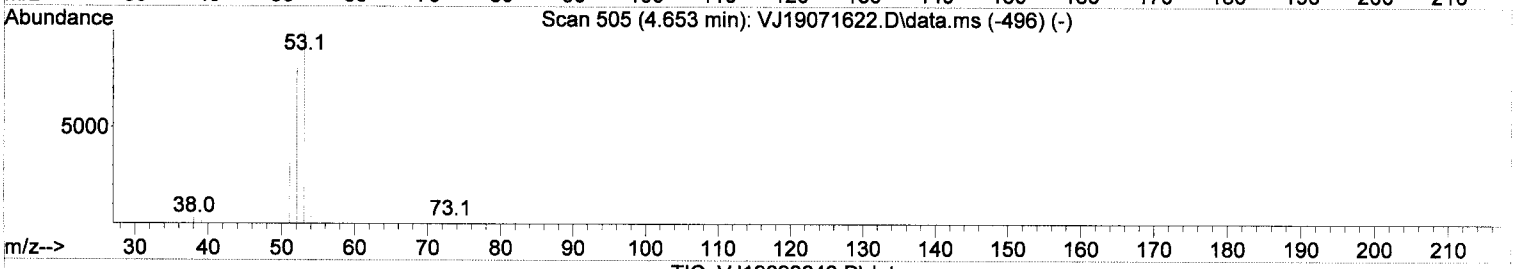
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 10:52:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092640.D\data.ms

(21) Acrylonitrile

4.641min (-0.000) 176.22 ug/L

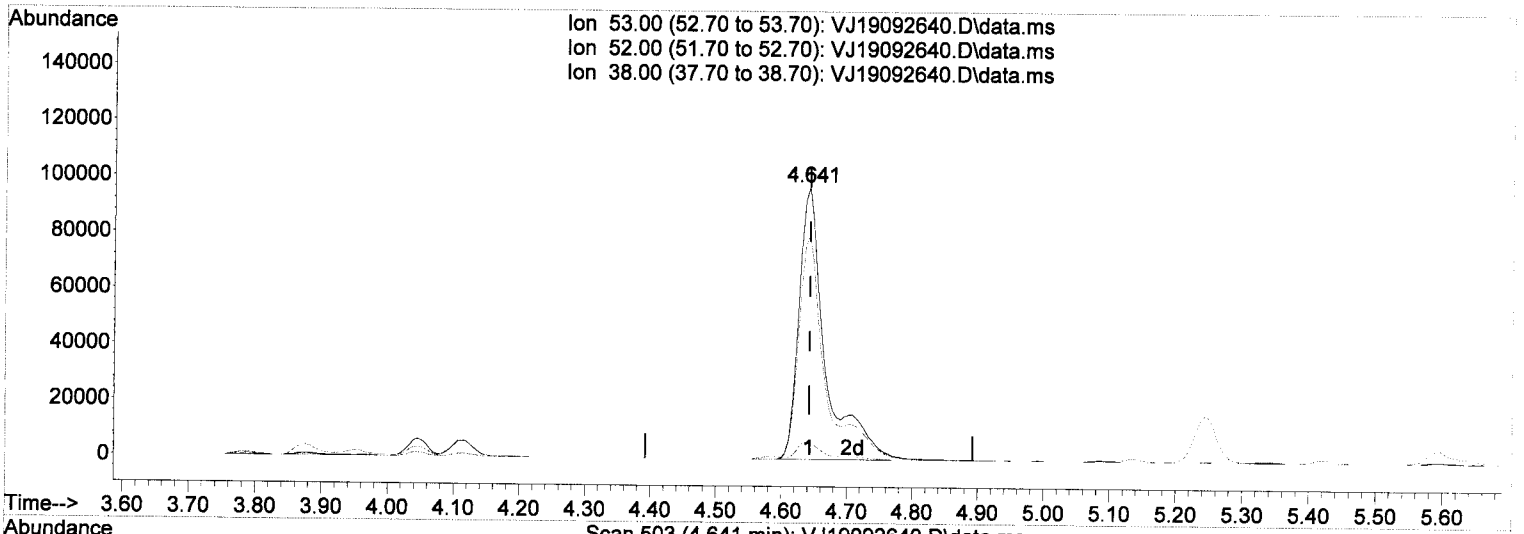
response 232642

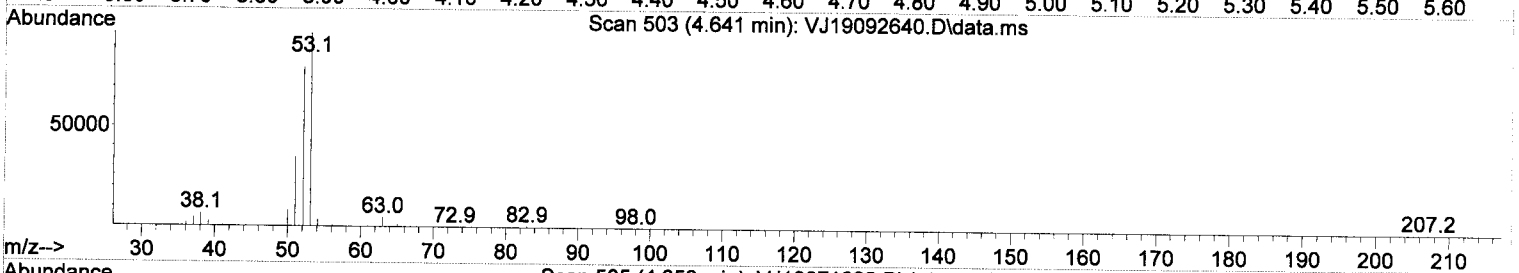
Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	82.25
38.00	5.50	5.54
0.00	0.00	0.00

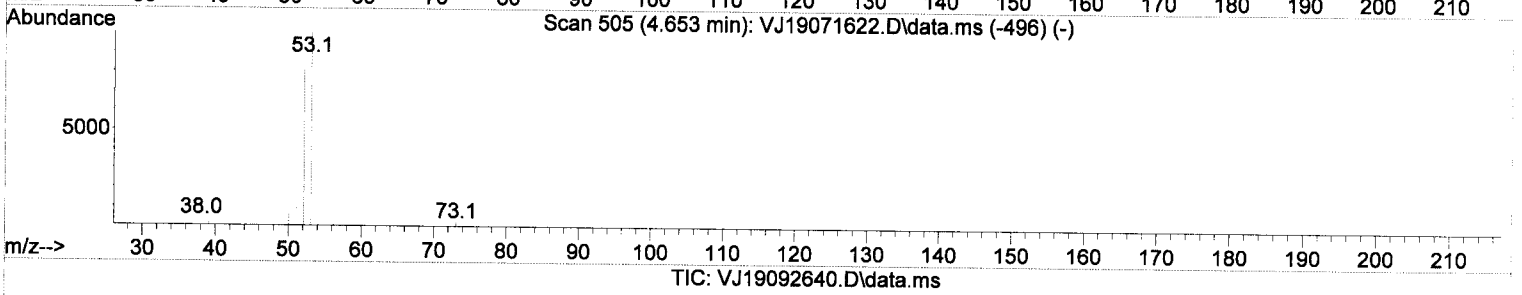
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 10:52:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration







TIC: VJ19092640.D\data.ms

(21) Acrylonitrile

4.641min (-0.000) 209.50 ug/L m 9/27/19

response 276579

Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	82.25
38.00	5.50	6.65
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 10:52:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

pre 9/27/19 pvc
9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.101	99	87764	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	204350	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	98513	50.00	ug/L	#	0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.609	111	66425	52.90	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	237056	51.01	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	287974	49.57	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	73514	48.39	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.697	85	361804	213.19	ug/L		98
3) Chloromethane	1.898	50	475243	209.24	ug/L		99
4) Vinyl Chloride	2.001	62	382094	214.23	ug/L		95
5) Bromomethane	2.348	96	148437	189.53	ug/L		100
6) Chloroethane	2.476	64	76606	291.62	ug/L		98
7) Trichlorofluoromethane	2.603	101	165428	208.13	ug/L		99
8) Ethanol	3.321	45	8261	119.99	ug/L		82
9) 1,1-Dichloroethene	3.145	61	532245	206.07	ug/L		88
10) Carbon Disulfide	3.151	76	813775	227.38	ug/L		98
11) Freon 113	3.200	101	301617	210.19	ug/L		91
12) Iodomethane	3.297	142	180775	330.58	ug/L		84
13) Methylene Chloride	3.784	84	321520	184.68	ug/L		91
14) Acetone	3.875	43	421376	305.23	ug/L		94
15) t-1,2-Dichloroethene	3.954	61	533073	199.15	ug/L		95
16) n-Hexane	4.045	86	82276	191.46	ug/L	#	83
17) Methyl-tert-butyl-ether	4.112	73	1479305	200.24	ug/L		96
18) tert-Butanol (TBA)	4.270	59	536	0.72	ug/L	#	1
19) Diisopropyl ether (DIPE)	0.000		0	N.D.			
20) 1,1-Dichloroethane	4.587	63	572397	203.85	ug/L		99
21) Acrylonitrile	4.641	53	232642	176.22	ug/L		97
22) Ethyl-tert-butyl ether...	4.763	59	3212	0.44	ug/L	#	38
23) c-1,2-Dichloroethene	5.134	61	569504	203.63	ug/L		94
24) 2,2-Dichloropropane	5.244	77	598046	190.19	ug/L		99
25) Bromochloromethane	5.335	49	319850	193.11	ug/L		89
26) Chloroform	5.420	83	699080	202.89	ug/L		96
27) Carbon Tetrachloride	5.560	117	557712	233.70	ug/L		97
28) Tetrahydrofuran	5.590	42	313497	193.63	ug/L		97
29) 1,1,1-Trichloroethane	5.627	97	682795	203.93	ug/L		98
31) 1,1-Dichloropropene	5.755	75	598593	203.26	ug/L		93
32) 2-Butanone (MEK)	5.736	43	859752	411.44	ug/L		95
33) Benzene	6.010	78	1669999	199.41	ug/L		98
34) tert-Amyl methyl ether...	6.150	73	514	0.08	ug/L	#	46
35) 1,2-Dichloroethane (EDC)	6.217	62	658074	194.77	ug/L		99
36) iso-Butyl Alcohol	6.296	43	1366167	4932.11	ug/L		99
38) Trichloroethene (TCE)	6.631	130	417510	209.80	ug/L		94
39) tert-Amyl ethyl ether ...	0.000		0	N.D.			
40) Dibromomethane	7.069	93	246771	200.20	ug/L		89
41) 1,2-Dichloropropane	7.178	63	438077	202.61	ug/L		90
42) Bromodichloromethane	7.257	83	560307	248.51	ug/L		98
44) c-1,3-Dichloropropene	7.957	75	710362	217.44	ug/L		98
46) Toluene	8.237	91	1715656	196.29	ug/L		98
47) Tetrachloroethene (PCE)	8.681	166	388598	203.21	ug/L		84
48) 4-Methyl-2-Pentanone (...	8.681	43	1363153	375.26	ug/L		97

MT

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 10:52:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration

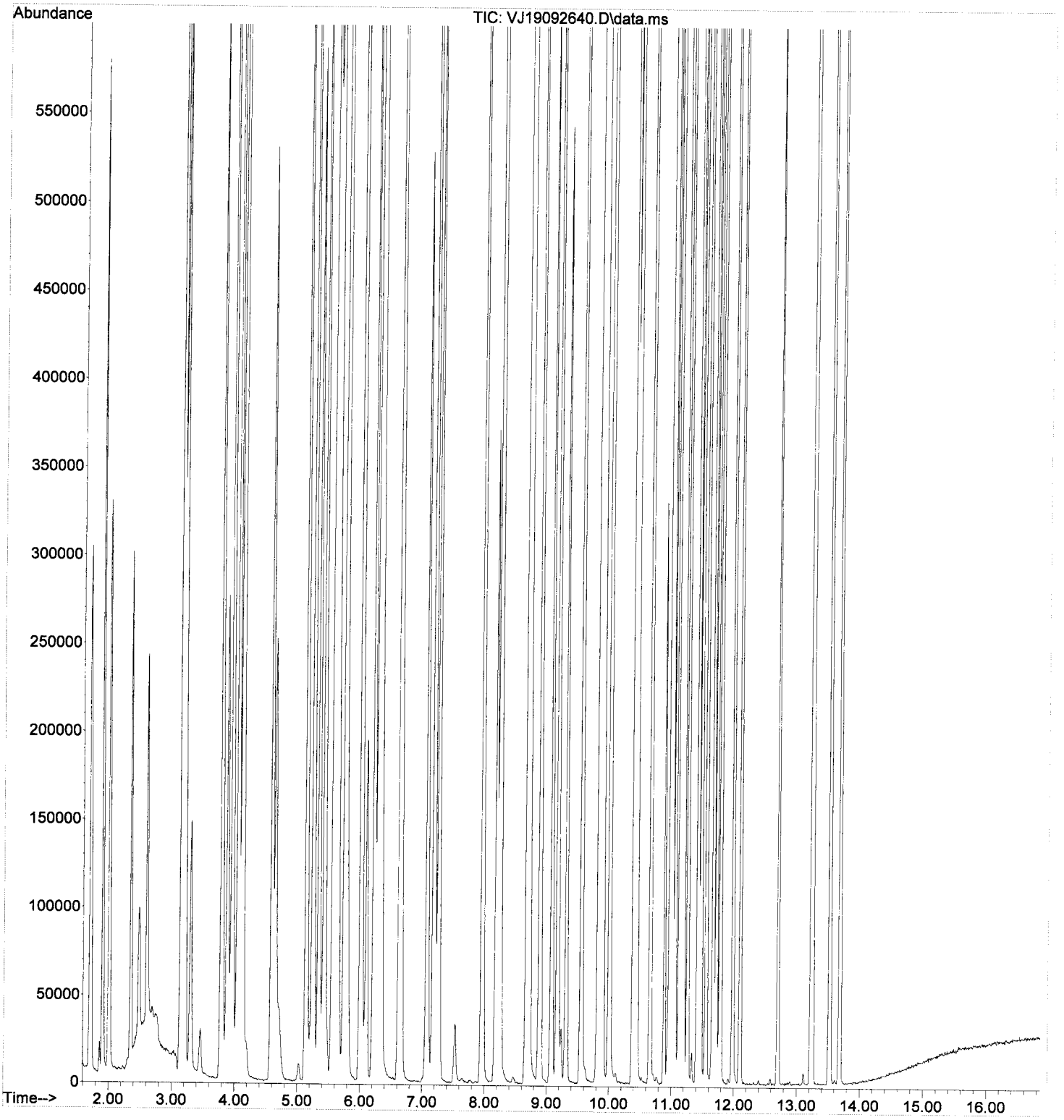
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) t-1,3-Dichloropropene	8.711	75	681628	215.66	ug/L		96
50) 1,1,2-Trichloroethane	8.882	97	368854	206.85	ug/L		96
51) Dibromochloromethane	9.070	129	376420	287.06	ug/L		99
52) 1,3-Dichloropropane	9.168	76	703679	201.28	ug/L		96
53) 1,2-Dibromoethane (EDB)	9.307	107	408690	207.54	ug/L		99
54) 2-Hexanone	9.551	43	1112936	395.86	ug/L		97
55) Chlorobenzene	9.831	112	1010988	195.09	ug/L		96
56) Ethylbenzene	9.867	91	1886129	194.43	ug/L		99
57) 1,1,1,2-Tetrachloroethane	9.891	131	364099	216.69	ug/L		99
58) m,p-Xylenes (2)	10.001	91	2874751	394.54	ug/L		96
59) o-Xylene	10.384	91	1469028	198.76	ug/L		95
60) Styrene	10.427	104	1096249	209.57	ug/L		96
61) Bromoform	10.445	173	234918	306.00	ug/L		97
62) Isopropylbenzene	10.658	105	1763744	196.68	ug/L		97
65) Bromobenzene	10.968	156	392384	194.22	ug/L	#	81
66) n-Propylbenzene	10.999	91	2006523	190.15	ug/L		95
67) 1,1,2,2-Tetrachloroethane	11.053	83	494430	186.03	ug/L		96
68) 2-Chlorotoluene	11.120	126	372893	192.14	ug/L	#	82
69) 1,3,5-Trimethylbenzene	11.163	105	1395512	193.96	ug/L		94
70) 1,2,3-Trichloropropane	11.157	110	194027	186.74	ug/L		96
71) t-1,4-Dichloro-2-butene	11.193	88	102544	230.06	ug/L	#	83
72) 4-Chlorotoluene	11.254	91	1217721	191.03	ug/L		92
73) tert-Butylbenzene	11.412	91	829909	187.33	ug/L		87
74) 1,2,4-Trimethylbenzene	11.467	105	1400728	191.60	ug/L		95
75) sec-Butylbenzene	11.552	105	1675162	190.47	ug/L		96
76) 4-Isopropyltoluene	11.662	119	1424200	193.92	ug/L		96
77) 1,3-Dichlorobenzene	11.717	146	701151	192.76	ug/L		96
78) 1,4-Dichlorobenzene	11.783	146	705926	193.12	ug/L		96
79) n-Butylbenzene	11.978	91	1235413	192.32	ug/L		96
80) 1,2-Dichlorobenzene	12.100	146	664539	192.42	ug/L		98
81) 1,2-Dibromo-3-Chloropr...	12.702	157	155589	247.44	ug/L		77
82) Hexachlorobutadiene	13.225	223	98168	190.17	ug/L		95
83) 1,2,4-Trichlorobenzene	13.244	180	442755	192.53	ug/L		95
84) Naphthalene	13.517	128	1762865	197.23	ug/L		97
85) 1,2,3-Trichlorobenzene	13.682	180	440028	198.26	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092640.D
Acq On : 27 Sep 2019 2:49 am
Operator : TB
Sample : 9I26051-CALB
Misc : 1X 5mL 200/400PPB VOCO+MeOH
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Sep 27 10:52:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 10:46:21 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092641.D
Acq On : 27 Sep 2019 3:16 am
Operator : TB
Sample : 9I26051-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Sep 27 15:40:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	90844	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	219365	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	98363	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	66313	51.11	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	250716	51.67	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	308516	50.15	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	77398	50.93	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	1023	0.61	ug/L		80
3) Chloromethane	1.891	50	2009	0.83	ug/L		97
4) Vinyl Chloride	2.001	62	412	0.22	ug/L	#	46
5) Bromomethane	2.342	96	4887	3.79	ug/L		96
6) Chloroethane	2.469	64	393	1.45	ug/L	#	7
7) Trichlorofluoromethane	2.597	101	400	0.49	ug/L	#	61
8) Ethanol	3.321	45	4717	21.21	ug/L		88
9) 1,1-Dichloroethene	3.133	61	935	0.35	ug/L		88
10) Carbon Disulfide	3.145	76	5675	1.50	ug/L		94
11) Freon 113	3.187	101	1249	0.88	ug/L		80
12) Iodomethane	3.291	142	6519	10.33	ug/L		89
13) Methylene Chloride	3.777	84	3309	Below Cal			96
14) Acetone	3.875	43	3306	0.14	ug/L	#	42
15) t-1,2-Dichloroethene	3.954	61	1598	0.60	ug/L		90
16) n-Hexane	4.045	86	189	0.45	ug/L	#	23
17) Methyl-tert-butyl-ether	4.124	73	724	0.09	ug/L		57
23) c-1,2-Dichloroethene	5.134	61	678	0.23	ug/L		87
25) Bromochloromethane	5.329	49	180	0.11	ug/L	#	14
26) Chloroform	5.420	83	295	0.08	ug/L		86
27) Carbon Tetrachloride	5.560	117	412	0.17	ug/L		88
28) Tetrahydrofuran	5.602	42	612	0.35	ug/L	#	58
29) 1,1,1-Trichloroethane	5.627	97	401	0.12	ug/L	#	63
31) 1,1-Dichloropropene	5.748	75	2117	0.70	ug/L		84
32) 2-Butanone (MEK)	5.748	43	1974	0.83	ug/L		52
33) Benzene	6.004	78	1902	0.21	ug/L		85
34) tert-Amyl methyl ether...	6.168	73	247	Below Cal		#	46
36) iso-Butyl Alcohol	6.332	43	1416	5.04	ug/L	#	63
38) Trichloroethene (TCE)	6.631	130	992	0.52	ug/L		86
40) Dibromomethane	7.063	93	131	0.11	ug/L	#	1
44) c-1,3-Dichloropropene	7.957	75	577	0.17	ug/L	#	26
46) Toluene	8.237	91	2923	0.30	ug/L		97
47) Tetrachloroethene (PCE)	8.681	166	1729	0.88	ug/L		87
48) 4-Methyl-2-Pentanone (...	8.681	43	465	0.12	ug/L	#	43
49) t-1,3-Dichloropropene	8.711	75	646	0.19	ug/L		59
52) 1,3-Dichloropropane	9.174	76	395	0.11	ug/L	#	77
53) 1,2-Dibromoethane (EDB)	9.307	107	217	0.11	ug/L	#	7
54) 2-Hexanone	9.557	43	510	0.16	ug/L	#	32
55) Chlorobenzene	9.824	112	1967	0.37	ug/L		80
56) Ethylbenzene	9.861	91	4315	0.42	ug/L		96
58) m,p-Xylenes (2)	10.001	91	7439	0.96	ug/L		95
59) o-Xylene	10.384	91	2490	0.31	ug/L		88
60) Styrene	10.427	104	1803	0.33	ug/L		86
62) Isopropylbenzene	10.658	105	4528	0.48	ug/L		98

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092641.D
Acq On : 27 Sep 2019 3:16 am
Operator : TB
Sample : 9I26051-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Sep 27 15:40:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

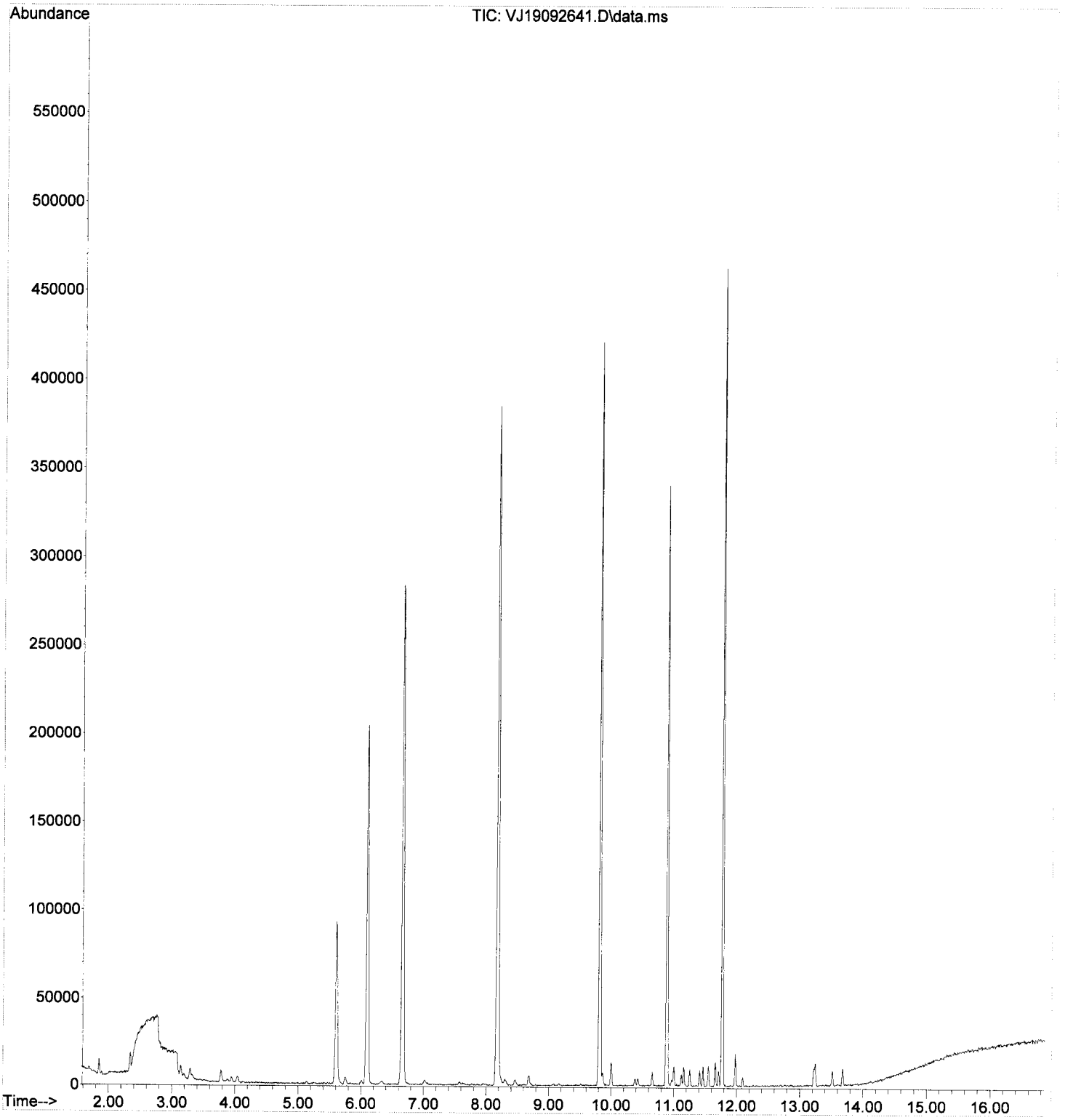
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
65) Bromobenzene	10.968	156	734	0.38 ug/L #	73
66) n-Propylbenzene	10.999	91	8000	0.76 ug/L	94
68) 2-Chlorotoluene	11.120	126	1057	0.58 ug/L	96
69) 1,3,5-Trimethylbenzene	11.157	105	4666	0.65 ug/L	90
72) 4-Chlorotoluene	11.254	91	4628	0.71 ug/L	91
73) tert-Butylbenzene	11.412	91	2548	0.57 ug/L	92
74) 1,2,4-Trimethylbenzene	11.467	105	5143	0.71 ug/L	97
75) sec-Butylbenzene	11.552	105	7160	0.83 ug/L	95
76) 4-Isopropyltoluene	11.662	119	6913	0.97 ug/L	97
77) 1,3-Dichlorobenzene	11.710	146	3275	0.90 ug/L	96
78) 1,4-Dichlorobenzene	11.777	146	3366	0.94 ug/L #	81
79) n-Butylbenzene	11.978	91	7926	1.22 ug/L	87
80) 1,2-Dichlorobenzene	12.094	146	1822	0.54 ug/L	93
82) Hexachlorobutadiene	13.225	223	963	1.93 ug/L	84
83) 1,2,4-Trichlorobenzene	13.243	180	3788	1.71 ug/L	91
84) Naphthalene	13.517	128	5977	0.70 ug/L	98
85) 1,2,3-Trichlorobenzene	13.681	180	2844	1.31 ug/L	93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092641.D
Acq On : 27 Sep 2019 3:16 am
Operator : TB
Sample : 9I26051-IBL4
Misc : 1X 5mL DI+MeOH
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Sep 27 15:40:07 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092642.D
Acq On : 27 Sep 2019 3:43 am
Operator : TB
Sample : 9I26051-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 27 15:40:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	89042	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	211136	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	94475	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.602	111	64062	50.37	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	243094	51.11	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	294932	49.81	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	74532	51.06	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	294	0.18	ug/L	#	51
3) Chloromethane	1.898	50	1442	0.61	ug/L		87
5) Bromomethane	2.342	96	4095	2.74	ug/L		99
6) Chloroethane	2.469	64	342	1.28	ug/L	#	2
8) Ethanol	3.327	45	4465	19.16	ug/L		97
9) 1,1-Dichloroethene	3.132	61	212	0.08	ug/L	#	25
10) Carbon Disulfide	3.151	76	2344	0.63	ug/L		91
11) Freon 113	3.199	101	453	0.32	ug/L	#	65
12) Iodomethane	3.291	142	5080	8.09	ug/L		86
13) Methylene Chloride	3.777	84	3010	Below Cal			96
14) Acetone	3.887	43	2276	Below Cal		#	42
15) t-1,2-Dichloroethene	3.954	61	434	0.17	ug/L	#	68
28) Tetrahydrofuran	5.602	42	595	0.35	ug/L	#	53
31) 1,1-Dichloropropene	5.748	75	606	0.20	ug/L	#	51
32) 2-Butanone (MEK)	5.742	43	625	0.27	ug/L		52
34) tert-Amyl methyl ether...	6.162	73	287	Below Cal		#	46
36) iso-Butyl Alcohol	6.332	43	996	3.62	ug/L		82
38) Trichloroethene (TCE)	6.631	130	234	0.12	ug/L	#	62
46) Toluene	8.237	91	1130	0.12	ug/L		87
47) Tetrachloroethene (PCE)	8.687	166	634	0.33	ug/L	#	54
55) Chlorobenzene	9.824	112	597	0.12	ug/L	#	27
56) Ethylbenzene	9.867	91	1664	0.17	ug/L		89
58) m,p-Xylenes (2)	10.001	91	2657	0.36	ug/L		90
59) o-Xylene	10.378	91	924	0.12	ug/L		82
60) Styrene	10.427	104	646	0.12	ug/L		92
62) Isopropylbenzene	10.658	105	1611	0.18	ug/L		79
66) n-Propylbenzene	10.999	91	2987	0.30	ug/L		93
68) 2-Chlorotoluene	11.126	126	283	0.16	ug/L		87
69) 1,3,5-Trimethylbenzene	11.157	105	1600	0.23	ug/L		81
72) 4-Chlorotoluene	11.254	91	1820	0.29	ug/L		91
73) tert-Butylbenzene	11.412	91	781	0.18	ug/L		91
74) 1,2,4-Trimethylbenzene	11.467	105	1904	0.27	ug/L		95
75) sec-Butylbenzene	11.552	105	2454	0.30	ug/L		98
76) 4-Isopropyltoluene	11.662	119	2630	0.38	ug/L		88
77) 1,3-Dichlorobenzene	11.710	146	1046	0.30	ug/L		85
78) 1,4-Dichlorobenzene	11.783	146	1227	0.36	ug/L	#	56
79) n-Butylbenzene	11.978	91	3307	0.53	ug/L		94
80) 1,2-Dichlorobenzene	12.094	146	641	0.20	ug/L		87
82) Hexachlorobutadiene	13.225	223	283	0.59	ug/L	#	75
83) 1,2,4-Trichlorobenzene	13.249	180	1432	0.67	ug/L		91
84) Naphthalene	13.517	128	1730	0.21	ug/L		79
85) 1,2,3-Trichlorobenzene	13.681	180	1028	0.49	ug/L	#	73

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092642.D
Acq On : 27 Sep 2019 3:43 am
Operator : TB
Sample : 9I26051-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 27 15:40:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

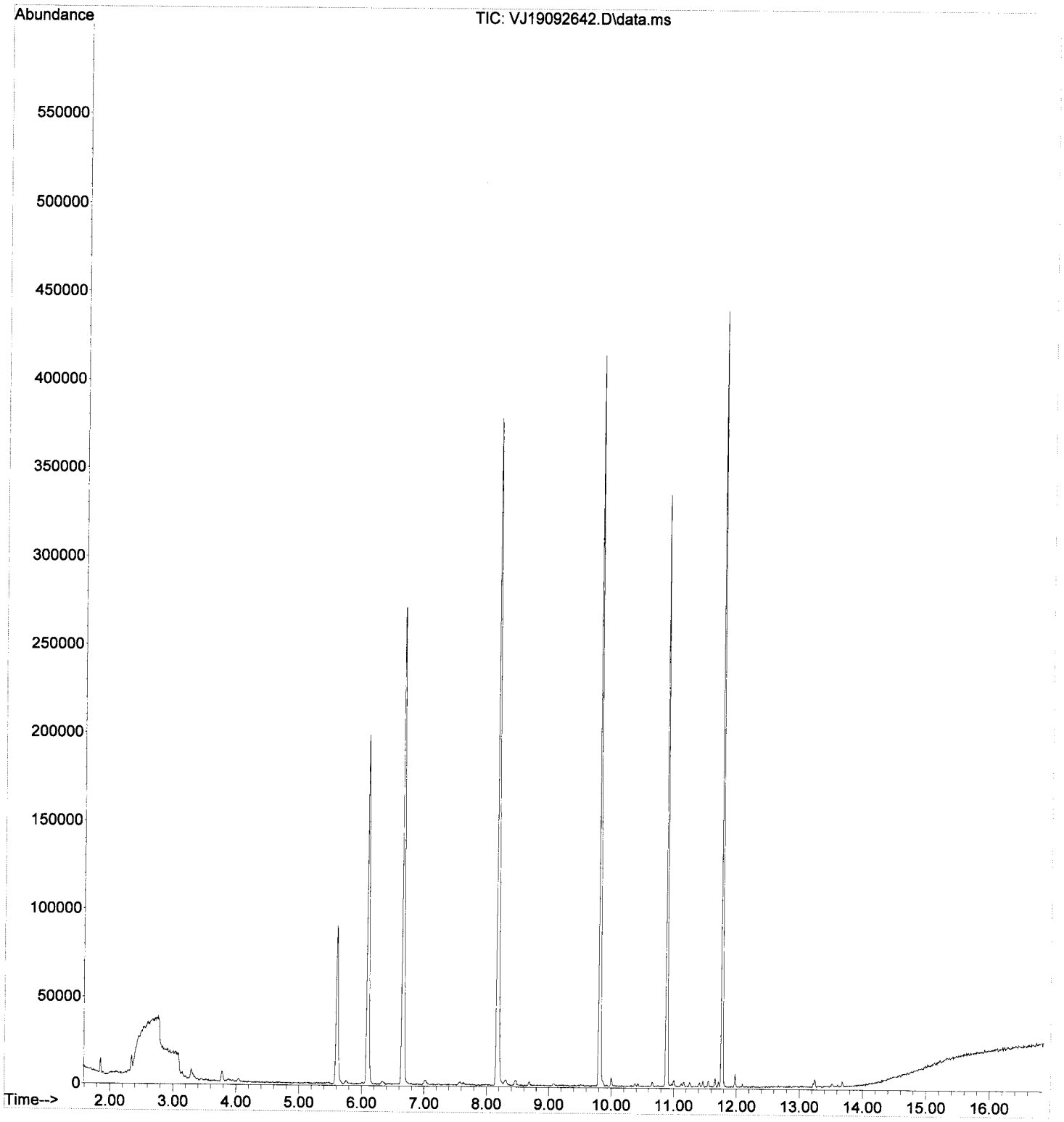
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092642.D
Acq On : 27 Sep 2019 3:43 am
Operator : TB
Sample : 9I26051-IBL5
Misc : 1X 5mL DI+MeOH
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Sep 27 15:40:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

9/27/19

Quant Time: Sep 27 15:40:13 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.095	99	86482	50.00 ug/L	0.00
43) Chlorobenzene-d5 (I)	9.813	117	199034	50.00 ug/L	0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	92866	50.00 ug/L	0.00
System Monitoring Compounds					
30) Dibromofluoromethane (S)	5.603	111	63140	51.12 ug/L	0.00
37) 1,4-Difluorobenzene (S)	6.661	114	229401	49.66 ug/L	0.00
45) Toluene-d8 (S)	8.176	98	282435	50.60 ug/L	0.00
64) 4-Bromofluorobenzene (S)	10.883	174	70961	49.46 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.697	85	24092	15.19 ug/L	99
3) Chloromethane	1.898	50	40872	17.77 ug/L	98
4) Vinyl Chloride	2.001	62	33386	19.13 ug/L	95
5) Bromomethane	2.348	96	18957	25.63 ug/L	96
6) Chloroethane	2.470	64	5011	19.25 ug/L	75
7) Trichlorofluoromethane	2.603	101	14155	18.21 ug/L	99
8) Ethanol	3.321	45	~~6429~~	~~47.11 ug/L~~	~~92~~ MI
9) 1,1-Dichloroethene	3.139	61	50889	20.14 ug/L	86
10) Carbon Disulfide	3.151	76	77668	21.55 ug/L	99
11) Freon 113	3.200	101	27678	20.43 ug/L	88
12) Iodomethane	3.291	142	15784	26.23 ug/L	79
13) Methylene Chloride	3.784	84	33087	19.45 ug/L	91
14) Acetone	3.881	43	42670	30.42 ug/L	96
15) t-1,2-Dichloroethene	3.954	61	54573	21.70 ug/L	95
16) n-Hexane	4.045	86	7387	18.46 ug/L #	80
17) Methyl-tert-butyl-ether	4.118	73	142156	18.68 ug/L	95
20) 1,1-Dichloroethane	4.587	63	60643	21.40 ug/L	99
21) Acrylonitrile	4.648	53	~~20894~~	~~16.74 ug/L~~	~~97~~ MI
23) c-1,2-Dichloroethene	5.134	61	56267	20.22 ug/L	92
24) 2,2-Dichloropropane	5.244	77	54556	17.14 ug/L	100
25) Bromochloromethane	5.335	49	32165	20.21 ug/L	88
26) Chloroform	5.420	83	68573	20.21 ug/L	92
27) Carbon Tetrachloride	5.560	117	46567	20.00 ug/L	90
28) Tetrahydrofuran	5.597	42	30608	18.39 ug/L	99
29) 1,1,1-Trichloroethane	5.627	97	67870	21.70 ug/L	99
31) 1,1-Dichloropropene	5.755	75	57230	19.82 ug/L	94
32) 2-Butanone (MEK)	5.743	43	78366	34.69 ug/L	99
33) Benzene	6.010	78	161995	19.22 ug/L	98
34) tert-Amyl methyl ether...	6.156	73	541	Below Cal #	46
35) 1,2-Dichloroethane (EDC)	6.217	62	65804	20.43 ug/L	98
36) iso-Butyl Alcohol	6.302	43	140728	526.42 ug/L	99
38) Trichloroethene (TCE)	6.631	130	41746	22.87 ug/L	94
40) Dibromomethane	7.069	93	23441	19.79 ug/L	88
41) 1,2-Dichloropropane	7.178	63	41735	19.92 ug/L	87
42) Bromodichloromethane	7.257	83	45571	21.14 ug/L	98
44) c-1,3-Dichloropropene	7.957	75	61775	20.61 ug/L	94
46) Toluene	8.237	91	169264	19.30 ug/L	98
47) Tetrachloroethene (PCE)	8.681	166	37558	20.96 ug/L	83
48) 4-Methyl-2-Pentanone (...	8.675	43	135420	38.50 ug/L	97
49) t-1,3-Dichloropropene	8.711	75	61041	20.29 ug/L	95
50) 1,1,2-Trichloroethane	8.882	97	35752	21.02 ug/L	96
51) Dibromochloromethane	9.070	129	27117	21.23 ug/L	99
52) 1,3-Dichloropropane	9.168	76	67316	20.34 ug/L	95

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 27 15:40:13 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

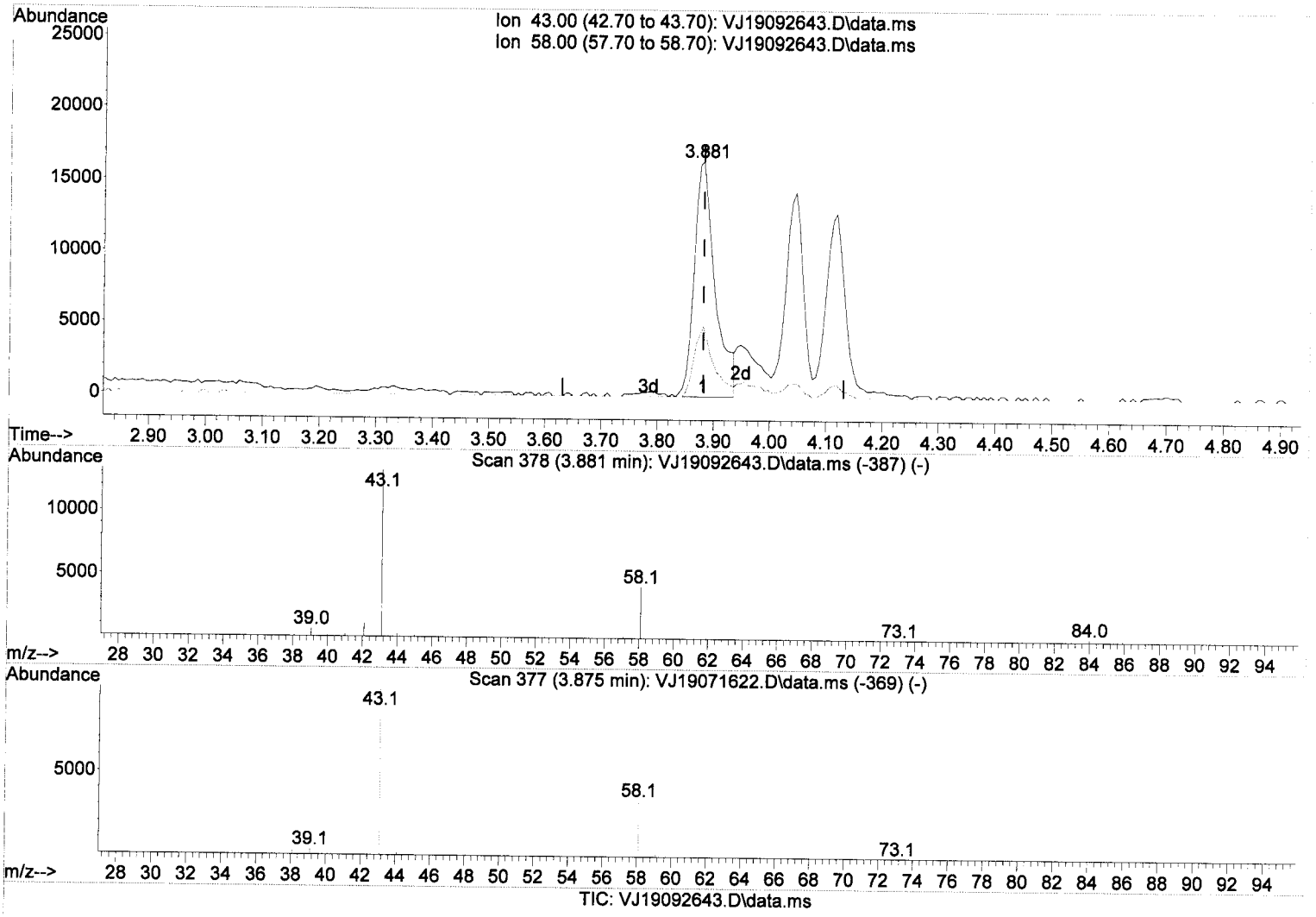
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
53) 1,2-Dibromoethane (EDB)	9.308	107	38269	20.73	ug/L		100
54) 2-Hexanone	9.551	43	107210	38.19	ug/L		97
55) Chlorobenzene	9.831	112	100367	20.83	ug/L		94
56) Ethylbenzene	9.861	91	185908	19.80	ug/L		99
57) 1,1,1,2-Tetrachloroethane	9.892	131	33315	21.47	ug/L		97
58) m,p-Xylenes (2)	10.001	91	279790	39.68	ug/L		95
59) o-Xylene	10.378	91	142874	19.75	ug/L		92
60) Styrene	10.427	104	102562	20.48	ug/L		95
61) Bromoform	10.439	173	17077	22.42	ug/L		95
62) Isopropylbenzene	10.658	105	172585	20.20	ug/L		97
65) Bromobenzene	10.968	156	38401	21.27	ug/L	#	80
66) n-Propylbenzene	10.999	91	196506	19.75	ug/L		94
67) 1,1,2,2-Tetrachloroethane	11.047	83	48129	19.81	ug/L		97
68) 2-Chlorotoluene	11.120	126	36397	21.03	ug/L	#	80
69) 1,3,5-Trimethylbenzene	11.157	105	135701	20.09	ug/L		90
70) 1,2,3-Trichloropropane	11.157	110	19361	20.25	ug/L		92
71) t-1,4-Dichloro-2-butene	11.187	88	7686	17.67	ug/L	#	82
72) 4-Chlorotoluene	11.254	91	122741	20.08	ug/L		90
73) tert-Butylbenzene	11.412	91	81842	19.36	ug/L		89
74) 1,2,4-Trimethylbenzene	11.467	105	137701	20.21	ug/L		95
75) sec-Butylbenzene	11.552	105	167046	20.59	ug/L		96
76) 4-Isopropyltoluene	11.662	119	141275	20.94	ug/L		96
77) 1,3-Dichlorobenzene	11.711	146	70320	20.45	ug/L		93
78) 1,4-Dichlorobenzene	11.784	146	70341	20.81	ug/L		95
79) n-Butylbenzene	11.978	91	125153	20.37	ug/L		96
80) 1,2-Dichlorobenzene	12.100	146	66241	20.80	ug/L		97
81) 1,2-Dibromo-3-Chloropr...	12.702	157	12262	19.79	ug/L	#	63
82) Hexachlorobutadiene	13.225	223	10828	22.97	ug/L		93
83) 1,2,4-Trichlorobenzene	13.244	180	44891	21.52	ug/L		95
84) Naphthalene	13.517	128	172810	21.42	ug/L		96
85) 1,2,3-Trichlorobenzene	13.682	180	44161	21.59	ug/L		98

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 27 15:40:13 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



TIC: VJ19092643.D\data.ms

(14) Acetone

3.881min (+ 0.000) 30.42 ug/L

response 42670

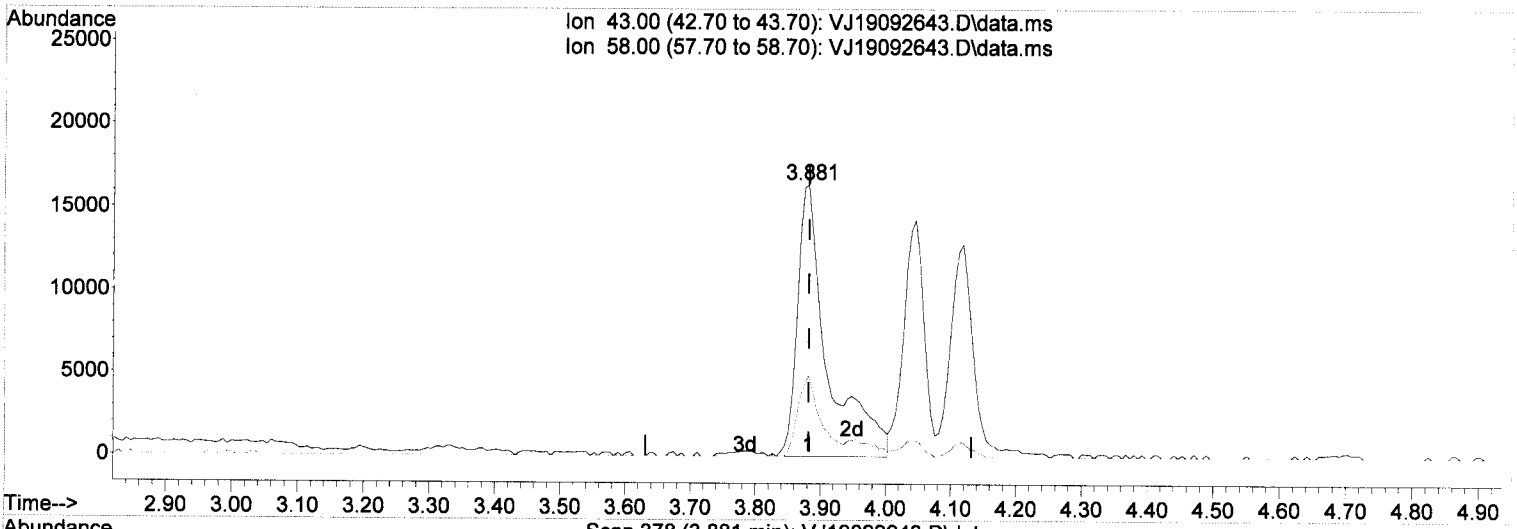
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	29.74
0.00	0.00	0.00
0.00	0.00	0.00

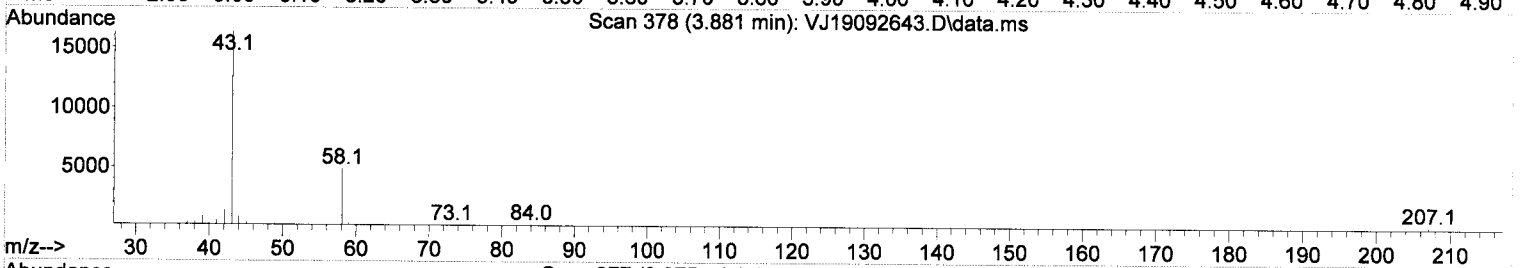
MT

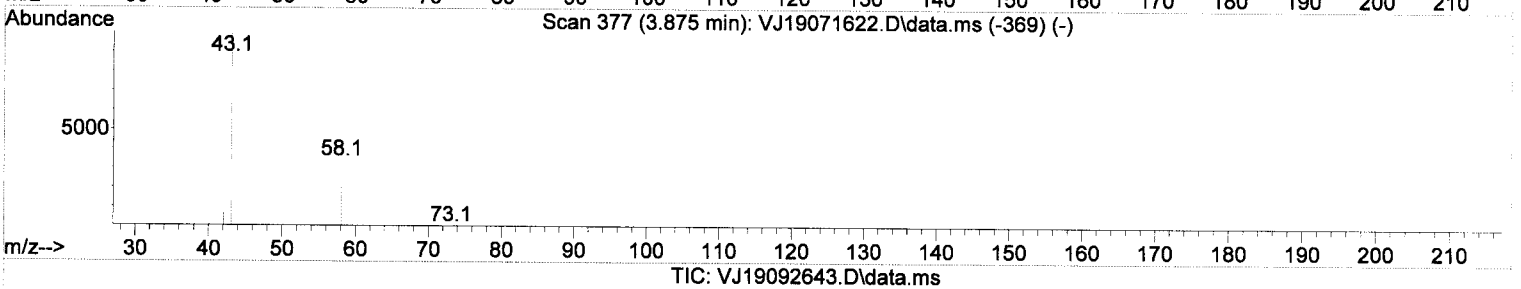
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 27 15:40:13 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19092643.D\data.ms

(14) Acetone

3.881min (+ 0.000) 38.38 ug/L (m)

response 53064

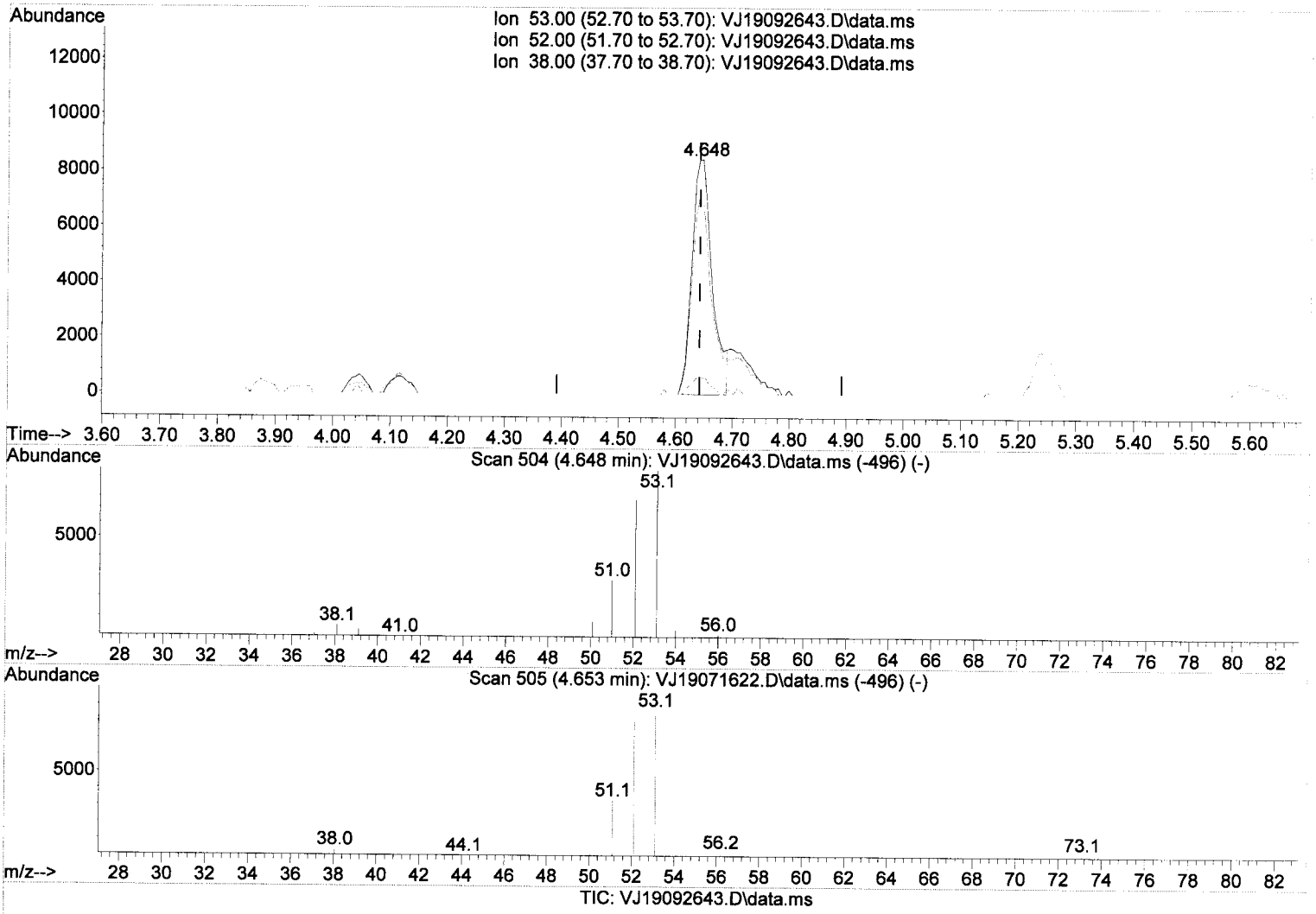
Ion	Exp%	Act%
43.00	100.00	100.00
58.00	32.20	29.74
0.00	0.00	0.00
0.00	0.00	0.00

9/27/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 27 15:40:13 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



TIC: VJ19092643.D\data.ms

(21) Acrylonitrile

4.648min (+ 0.006) 16.74 ug/L

response 20894

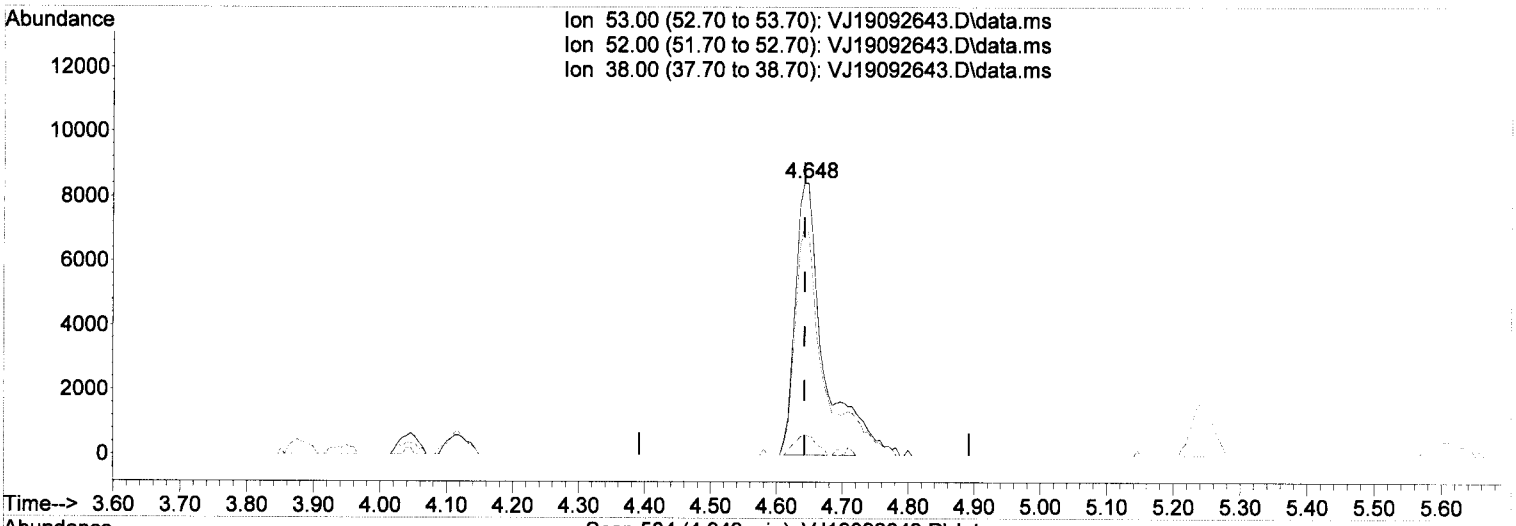
Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	82.02
38.00	5.50	7.01
0.00	0.00	0.00

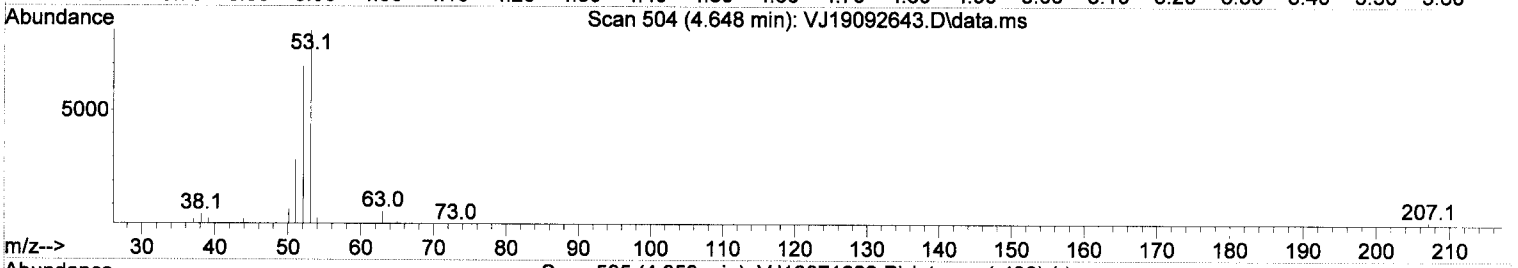
MI

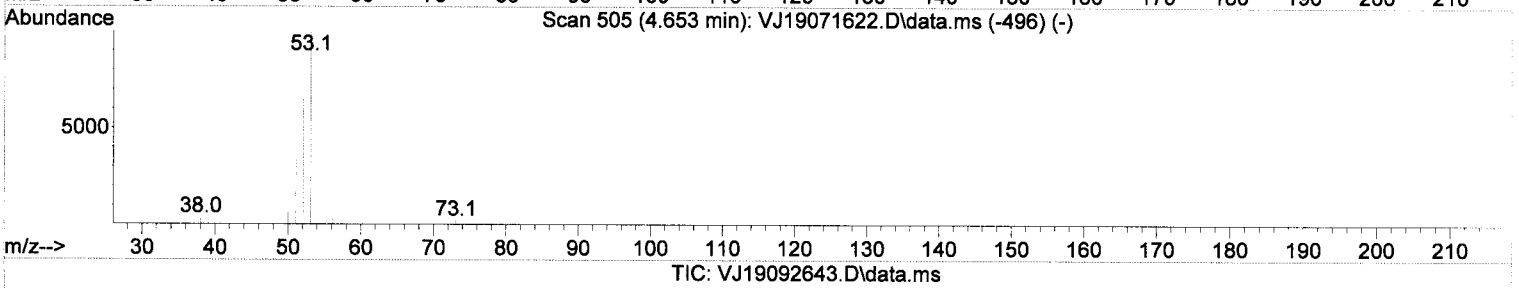
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 27 15:40:13 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration







TIC: VJ19092643.D\data.ms

(21) Acrylonitrile

4.648min (+ 0.006) 20.54 ug/L m

response 25647

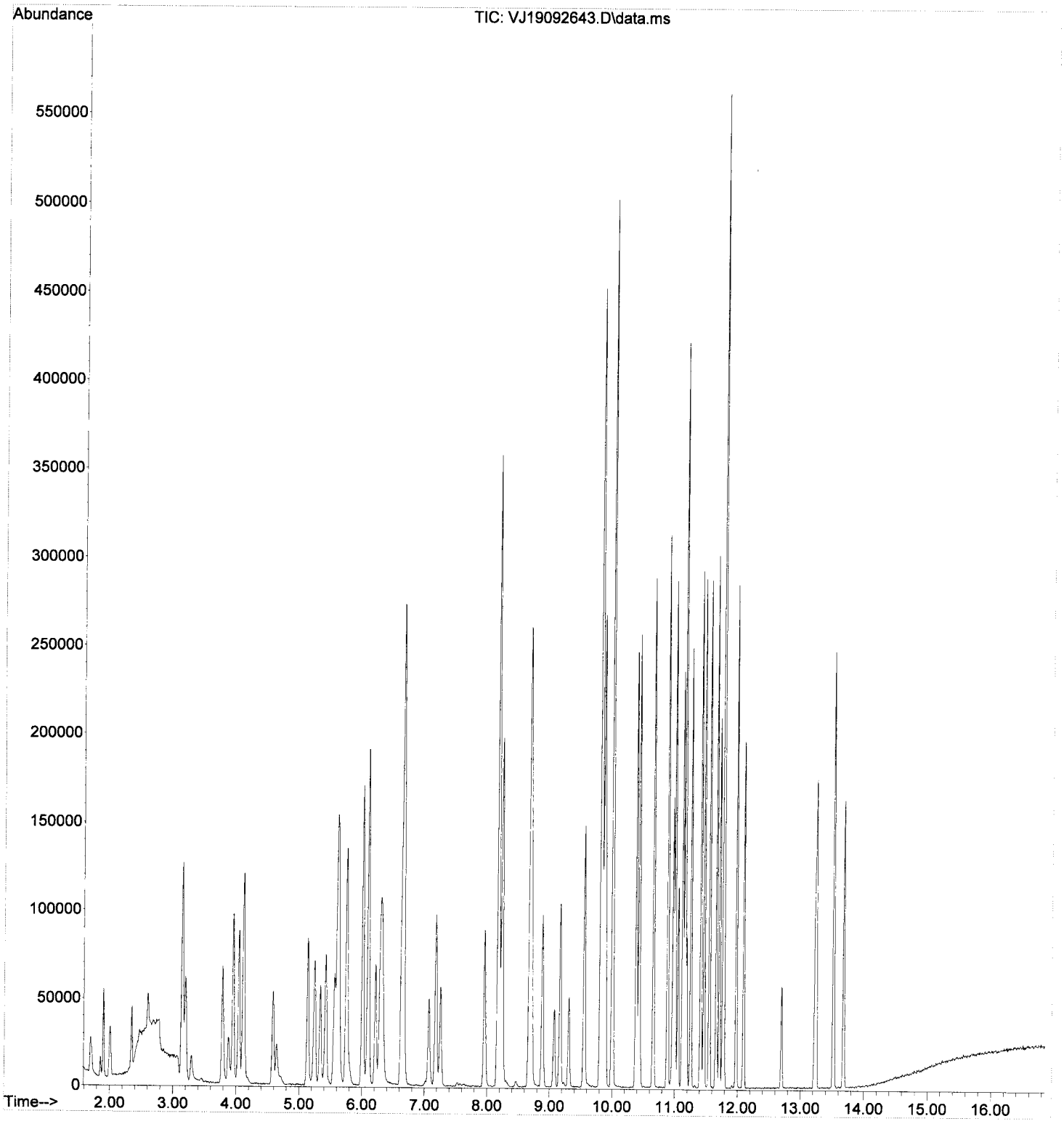
Ion	Exp%	Act%
53.00	100.00	100.00
52.00	79.60	82.02
38.00	5.50	7.01
0.00	0.00	0.00

9/27/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092643.D
Acq On : 27 Sep 2019 4:10 am
Operator : TB
Sample : 9I26051-ICV1
Misc : 1X 5mL 20/40PPB VOCO+MeOH
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Sep 27 15:40:13 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092644.D
Acq On : 27 Sep 2019 4:36 am
Operator : TB
Sample : 9I26051-ICV2
Misc : 1X 5mL OXY ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 27 15:40:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

9/27/19

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.095	99	85694	50.00	ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	197695	50.00	ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	86598	50.00	ug/L		0.00
System Monitoring Compounds							
30) Dibromofluoromethane (S)	5.609	111	62134	50.76	ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.661	114	229034	50.04	ug/L		0.00
45) Toluene-d8 (S)	8.176	98	280304	50.56	ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	69561	51.99	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.904	50	2005	0.88	ug/L		87
4) Vinyl Chloride	2.001	62	274	0.16	ug/L	#	46
5) Bromomethane	2.348	96	4569	3.73	ug/L		97
6) Chloroethane	2.488	64	457	1.80	ug/L	#	1
8) Ethanol	3.321	45	83715	1090.12	ug/L		88
9) 1,1-Dichloroethene	3.145	61	406	0.16	ug/L	#	64
10) Carbon Disulfide	3.157	76	1767	0.49	ug/L		80
12) Iodomethane	3.297	142	4564	7.51	ug/L		80
13) Methylene Chloride	3.783	84	3439	Below Cal			91
14) Acetone	3.881	43	2359	Below Cal		#	42
15) t-1,2-Dichloroethene	3.948	61	721	0.29	ug/L	#	61
17) Methyl-tert-butyl-ether	4.118	73	1891	0.25	ug/L		57
18) tert-Butanol (TBA)	4.282	59	926920	1273.72	ug/L	#	87
19) Diisopropyl ether (DIPE)	4.513	45	36501	5.07	ug/L		97
20) 1,1-Dichloroethane	4.586	63	442	0.16	ug/L	#	50
22) Ethyl-tert-butyl ether...	4.878	59	37494	5.05	ug/L		94
23) c-1,2-Dichloroethene	5.140	61	584	0.21	ug/L	#	58
24) 2,2-Dichloropropane	5.244	77	535	0.17	ug/L		66
26) Chloroform	5.426	83	568	0.17	ug/L		81
28) Tetrahydrofuran	5.590	42	421	0.26	ug/L	#	42
29) 1,1,1-Trichloroethane	5.633	97	414	0.13	ug/L	#	25
31) 1,1-Dichloropropene	5.761	75	815	0.28	ug/L		94
32) 2-Butanone (MEK)	5.755	43	1314	0.59	ug/L		52
33) Benzene	6.016	78	1928	0.23	ug/L		89
34) tert-Amyl methyl ether...	6.162	73	35641	4.99	ug/L		94
36) iso-Butyl Alcohol	6.326	43	736	2.78	ug/L	#	60
38) Trichloroethene (TCE)	6.624	130	518	0.29	ug/L	#	68
39) tert-Amyl ethyl ether ...	6.917	59	27195	4.95	ug/L		90
41) 1,2-Dichloropropane	7.178	63	191	0.09	ug/L	#	40
44) c-1,3-Dichloropropene	7.957	75	454	0.15	ug/L	#	33
46) Toluene	8.243	91	2136	0.25	ug/L		87
47) Tetrachloroethene (PCE)	8.687	166	479	0.27	ug/L	#	60
49) t-1,3-Dichloropropene	8.699	75	342	0.11	ug/L	#	45
55) Chlorobenzene	9.824	112	1210	0.25	ug/L	#	44
56) Ethylbenzene	9.867	91	2358	0.25	ug/L		93
58) m,p-Xylenes (2)	10.001	91	3935	0.56	ug/L		85
59) o-Xylene	10.384	91	1731	0.24	ug/L		84
60) Styrene	10.433	104	1061	0.21	ug/L		94
62) Isopropylbenzene	10.652	105	2179	0.26	ug/L		87
65) Bromobenzene	10.968	156	376	0.22	ug/L		88
66) n-Propylbenzene	11.005	91	3353	0.36	ug/L		90
68) 2-Chlorotoluene	11.120	126	455	0.28	ug/L	#	73
69) 1,3,5-Trimethylbenzene	11.157	105	1876	0.30	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092644.D
Acq On : 27 Sep 2019 4:36 am
Operator : TB
Sample : 9I26051-ICV2
Misc : 1X 5mL OXY ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 27 15:40:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

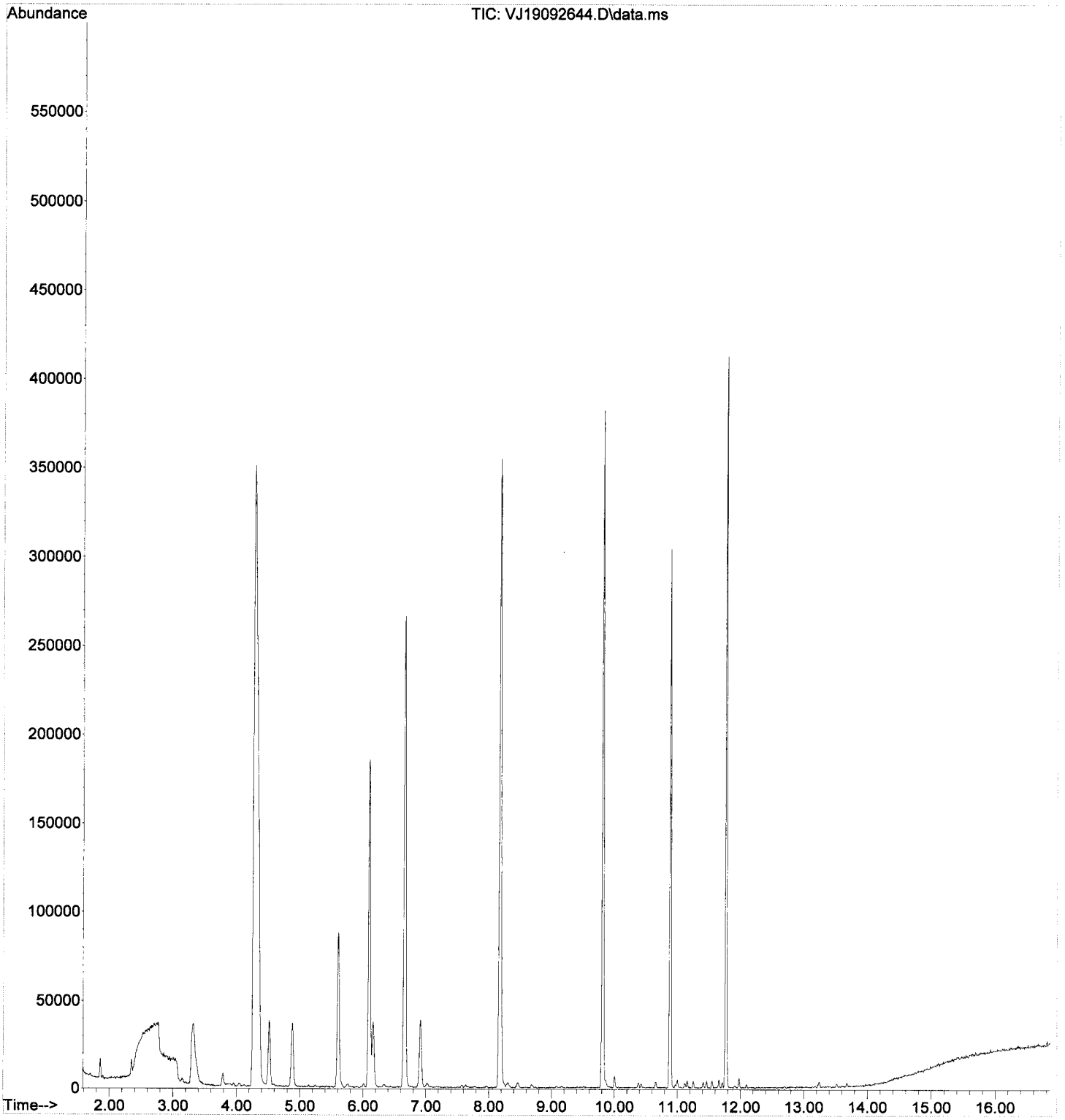
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
72) 4-Chlorotoluene	11.260	91	2092	0.37	ug/L		93
73) tert-Butylbenzene	11.412	91	979	0.25	ug/L		85
74) 1,2,4-Trimethylbenzene	11.467	105	2123	0.33	ug/L		95
75) sec-Butylbenzene	11.552	105	2517	0.33	ug/L		92
76) 4-Isopropyltoluene	11.662	119	2487	0.40	ug/L		92
77) 1,3-Dichlorobenzene	11.716	146	1305	0.41	ug/L		96
78) 1,4-Dichlorobenzene	11.777	146	1278	0.41	ug/L	#	55
79) n-Butylbenzene	11.978	91	2855	0.50	ug/L		89
80) 1,2-Dichlorobenzene	12.094	146	773	0.26	ug/L		85
82) Hexachlorobutadiene	13.225	223	310	0.71	ug/L	#	69
83) 1,2,4-Trichlorobenzene	13.243	180	1152	0.59	ug/L		79
84) Naphthalene	13.517	128	1653	0.22	ug/L		77
85) 1,2,3-Trichlorobenzene	13.681	180	882	0.46	ug/L		86

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092644.D
Acq On : 27 Sep 2019 4:36 am
Operator : TB
Sample : 9I26051-ICV2
Misc : 1X 5mL OXY ICV
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Sep 27 15:40:16 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092645.D
Acq On : 27 Sep 2019 5:03 am
Operator : TB
Sample : 9I26051-IBL6
Misc : 1X 5mL DI+MeOH
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Sep 27 15:40:19 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration

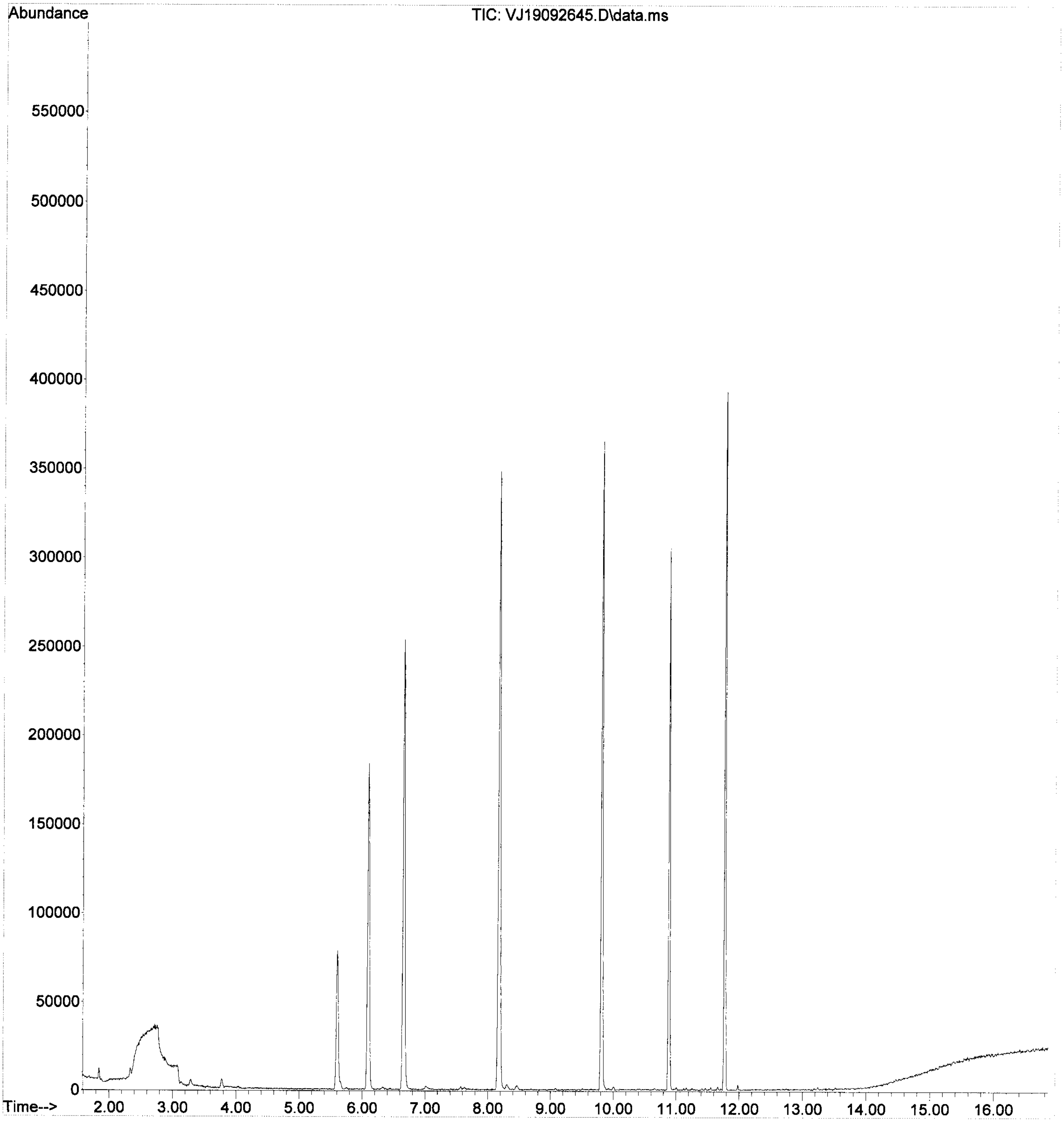
Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.095	99	82809	50.00 ug/L		0.00
43) Chlorobenzene-d5 (I)	9.812	117	192637	50.00 ug/L		0.00
63) 1,4-Dichlorobenzene-d4...	11.771	152	86656	50.00 ug/L		0.00
System Monitoring Compounds						
30) Dibromofluoromethane (S)	5.602	111	57408	48.54 ug/L		0.00
37) 1,4-Difluorobenzene (S)	6.655	114	217714	49.22 ug/L		0.00
45) Toluene-d8 (S)	8.176	98	270160	50.01 ug/L		0.00
64) 4-Bromofluorobenzene (S)	10.883	174	67691	50.56 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.891	50	783	0.36 ug/L		85
5) Bromomethane	2.336	96	2726	0.99 ug/L		96
6) Chloroethane	2.482	64	403	1.64 ug/L	#	55
8) Ethanol	3.315	45	1643	Below Cal		87
10) Carbon Disulfide	3.139	76	797	0.23 ug/L		78
12) Iodomethane	3.285	142	2762	4.42 ug/L		87
13) Methylene Chloride	3.771	84	2596	Below Cal		92
14) Acetone	3.875	43	1444	Below Cal	#	42
28) Tetrahydrofuran	5.602	42	350	0.22 ug/L	#	30
32) 2-Butanone (MEK)	5.748	43	608	0.28 ug/L		52
34) tert-Amyl methyl ether...	6.180	73	241	Below Cal	#	46
36) iso-Butyl Alcohol	6.332	43	707	2.76 ug/L		89
58) m,p-Xylenes (2)	10.007	91	1126	0.17 ug/L		78
66) n-Propylbenzene	11.005	91	1115	0.12 ug/L		86
69) 1,3,5-Trimethylbenzene	11.163	105	540	0.09 ug/L		77
72) 4-Chlorotoluene	11.260	91	631	0.11 ug/L	#	46
74) 1,2,4-Trimethylbenzene	11.461	105	529	0.08 ug/L		92
75) sec-Butylbenzene	11.552	105	790	0.10 ug/L		74
76) 4-Isopropyltoluene	11.662	119	923	0.15 ug/L		91
77) 1,3-Dichlorobenzene	11.716	146	307	0.10 ug/L	#	74
78) 1,4-Dichlorobenzene	11.783	146	427	0.14 ug/L	#	59
79) n-Butylbenzene	11.978	91	1245	0.22 ug/L		80
83) 1,2,4-Trichlorobenzene	13.243	180	464	0.24 ug/L		84
84) Naphthalene	13.517	128	667	0.09 ug/L		79
85) 1,2,3-Trichlorobenzene	13.681	180	299	0.16 ug/L		85

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092645.D
Acq On : 27 Sep 2019 5:03 am
Operator : TB
Sample : 9I26051-IBL6
Misc : 1X 5mL DI+MeOH
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Sep 27 15:40:19 2019
Quant Method : C:\msdchem\1\methods\VJ190926S+.M
Quant Title : EPA 8260C: Volatile Organic Compounds
QLast Update : Fri Sep 27 13:24:27 2019
Response via : Initial Calibration



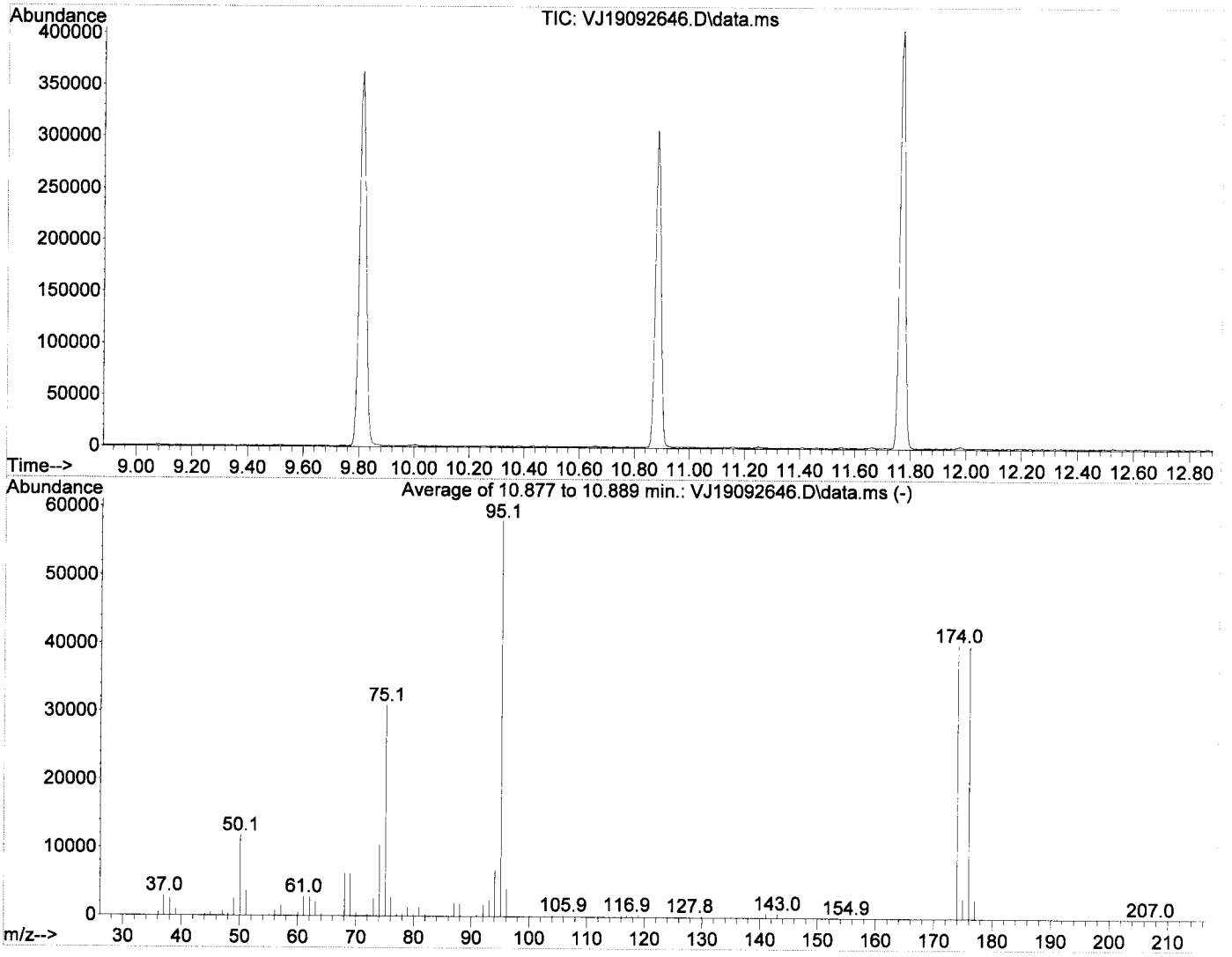
BFB

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092646.D
Acq On : 27 Sep 2019 5:30 am
Operator : TB
Sample : 9I26051-TUN2
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1

Integration File: APEXG.P

Method : C:\msdchem\1\methods\VJ190926G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Sep 27 15:17:10 2019

9/27/19



AutoFind: Scans 1528, 1529, 1530; Background Corrected with Scan 1521

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
95	174	50	200	144.7	58115	PASS
96	95	5	9	7.0	4039	PASS
173	174	0.00	2	0.5	215	PASS
174	95	50	200	69.1	40149	PASS
175	174	5	9	7.2	2881	PASS
176	174	95	105	99.7	40040	PASS
177	176	5	10	6.7	2683	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092646.D
Acq On : 27 Sep 2019 5:30 am
Operator : TB
Sample : 9I26051-TUN2
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1

9/27/19

Quant Time: Sep 27 15:40:56 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

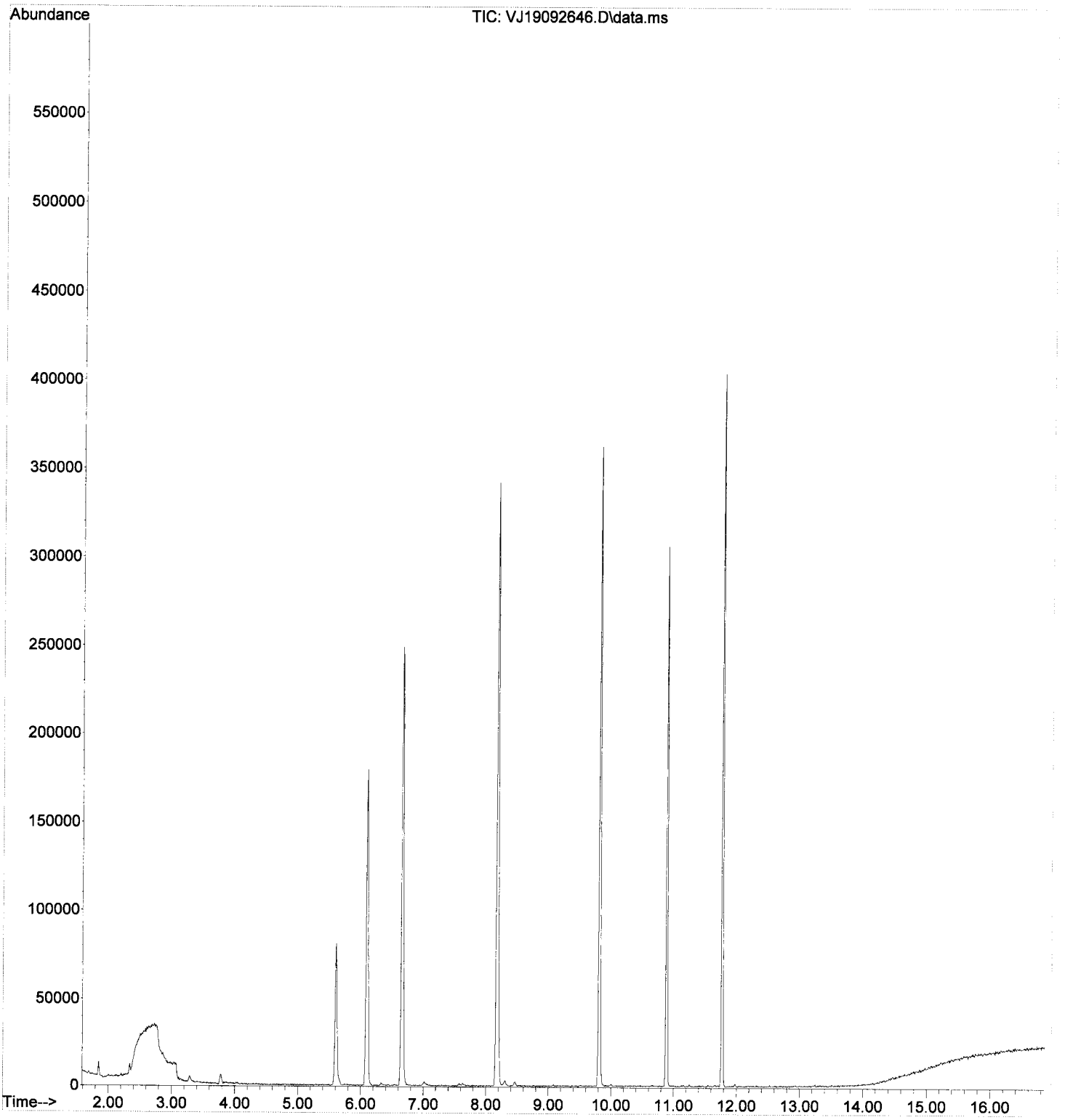
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	120433	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	214827	50.36	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	66427	50.66	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	264347	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	190197	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	136083	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	47971m	5.26	ug/L	
5) TPHg (C5-C9)	9.239	TIC	264127m	1.93	ug/L	
6) TPHg (C6-C10)	9.239	TIC	225009m	4.66	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	274145m	2.43	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092646.D
Acq On : 27 Sep 2019 5:30 am
Operator : TB
Sample : 9I26051-TUN2
Misc : A19G118 BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Sep 27 15:40:56 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092647.D
Acq On : 27 Sep 2019 5:57 am
Operator : TB
Sample : 9I26051-RT
Misc : 1X 5mL DI+MeOH
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 27 15:40:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

9/27/19

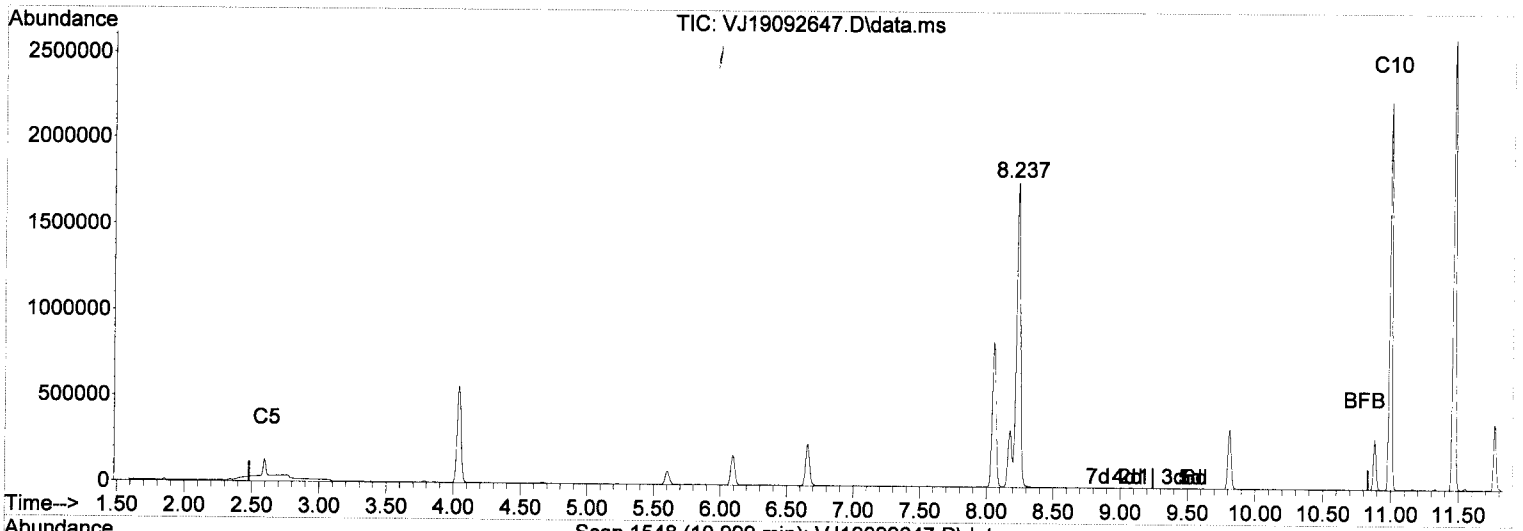
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	117165	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	206170	49.68	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	62468	48.97	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	254880	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	179031	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	128970	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	17670019m	2988.46	ug/L	
5) TPHg (C5-C9)	9.239	TIC	7575246m	1033.24	ug/L	
6) TPHg (C6-C10)	9.239	TIC	6809899m	1087.23	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	15896612m	1821.17	ug/L	

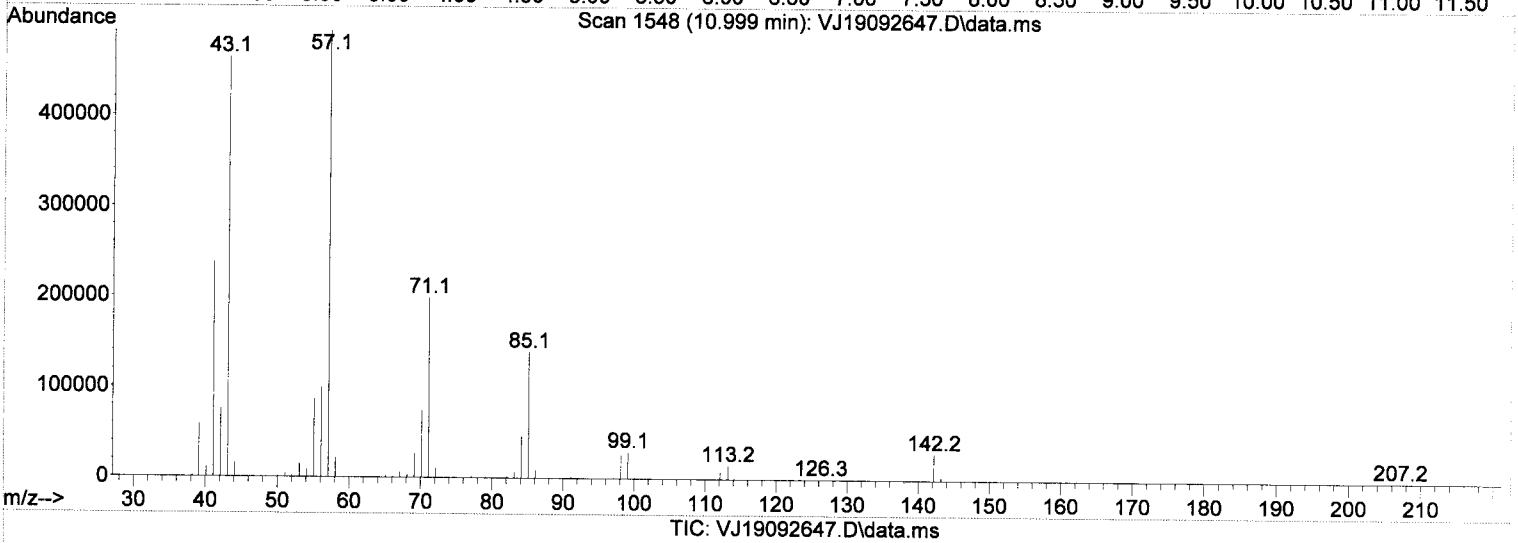
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092647.D
Acq On : 27 Sep 2019 5:57 am
Operator : TB
Sample : 9I26051-RT
Misc : 1X 5mL DI+MeOH
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 27 15:09:45 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration





TIC: VJ19092647.D\data.ms

(5) TPHg (C5-C9) (H)

9.239min (0.000) 916.40 ug/L m

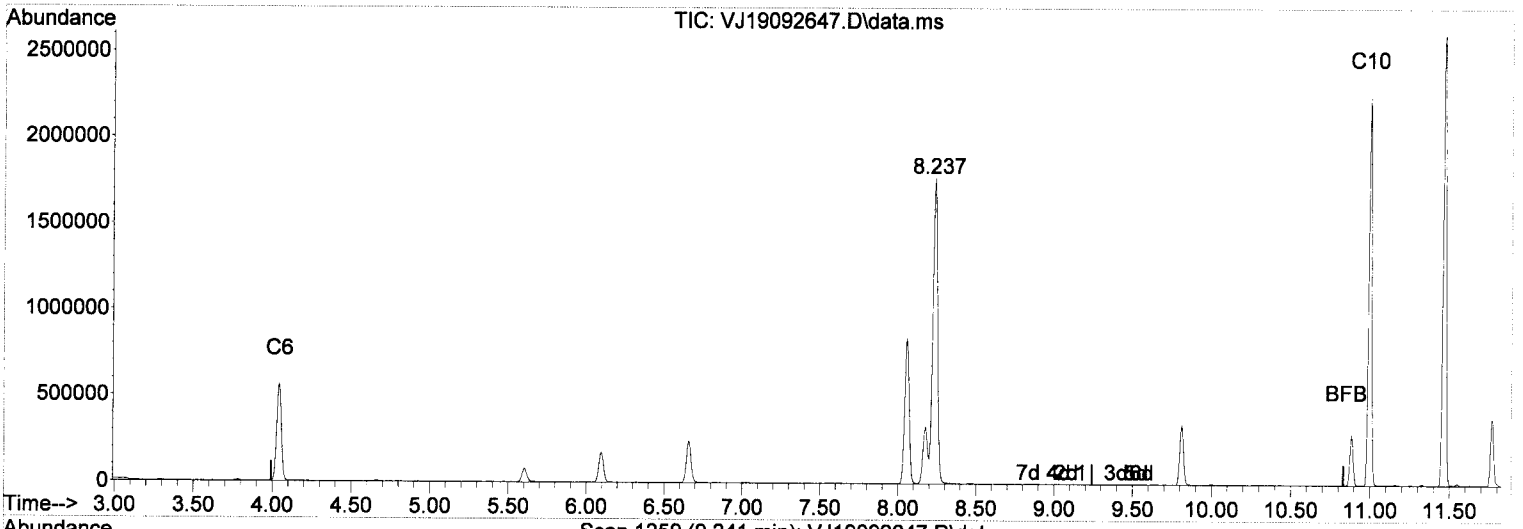
response 7575246

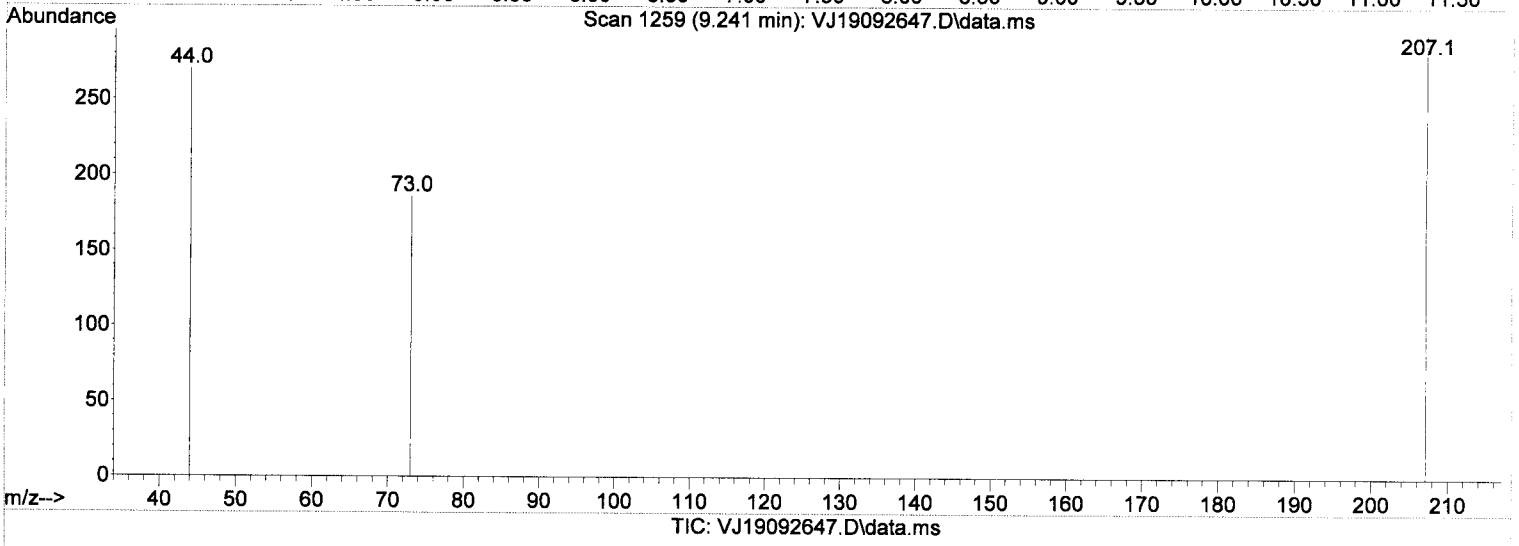
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.44#
0.00	0.00	1.31#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092647.D
Acq On : 27 Sep 2019 5:57 am
Operator : TB
Sample : 9I26051-RT
Misc : 1X 5mL DI+MeOH
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 27 15:09:45 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration





TIC: VJ19092647.D\data.ms

(6) TPHg (C6-C10) (H)

9.239min (0.000) 1025.83 ug/L m

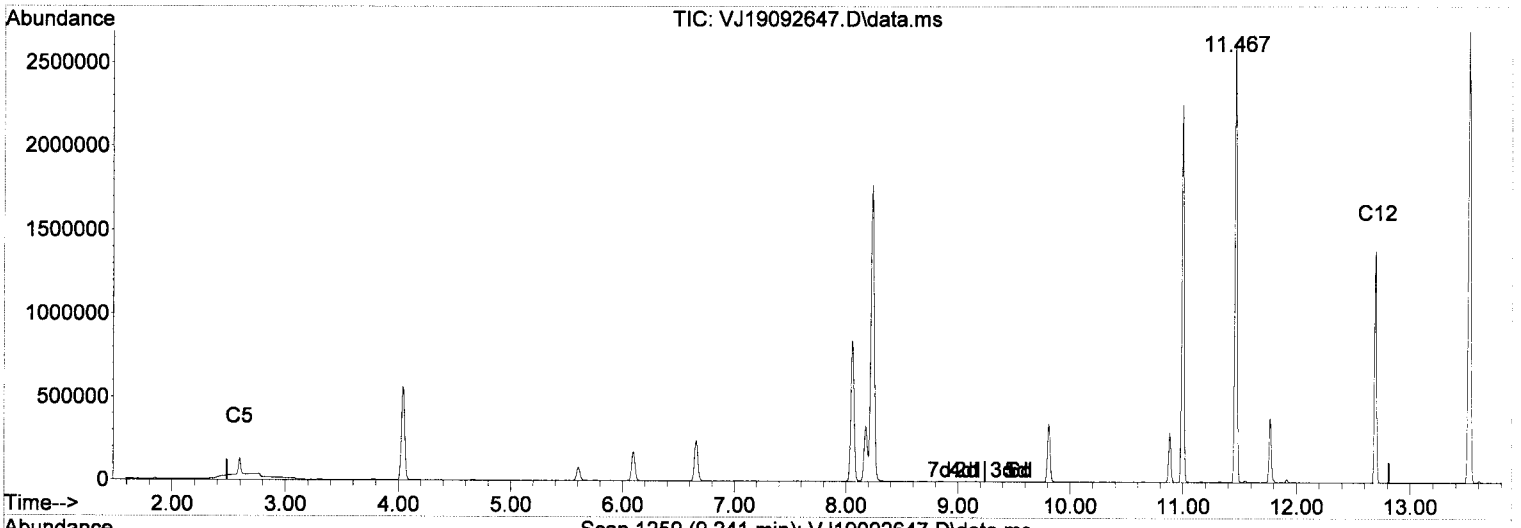
response 6809899

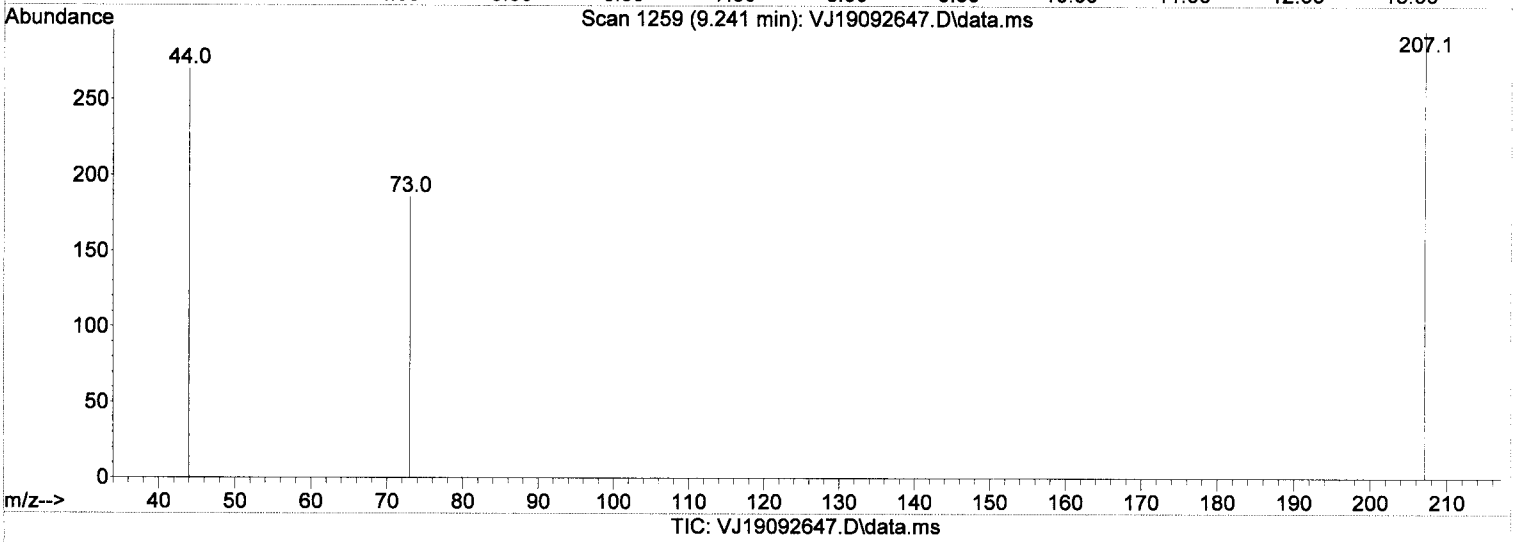
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.72#
0.00	0.00	1.46#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092647.D
Acq On : 27 Sep 2019 5:57 am
Operator : TB
Sample : 9I26051-RT
Misc : 1X 5mL DI+MeOH
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 27 15:09:45 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration





TIC: VJ19092647.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.239min (0.000) 1619.78 ug/L m

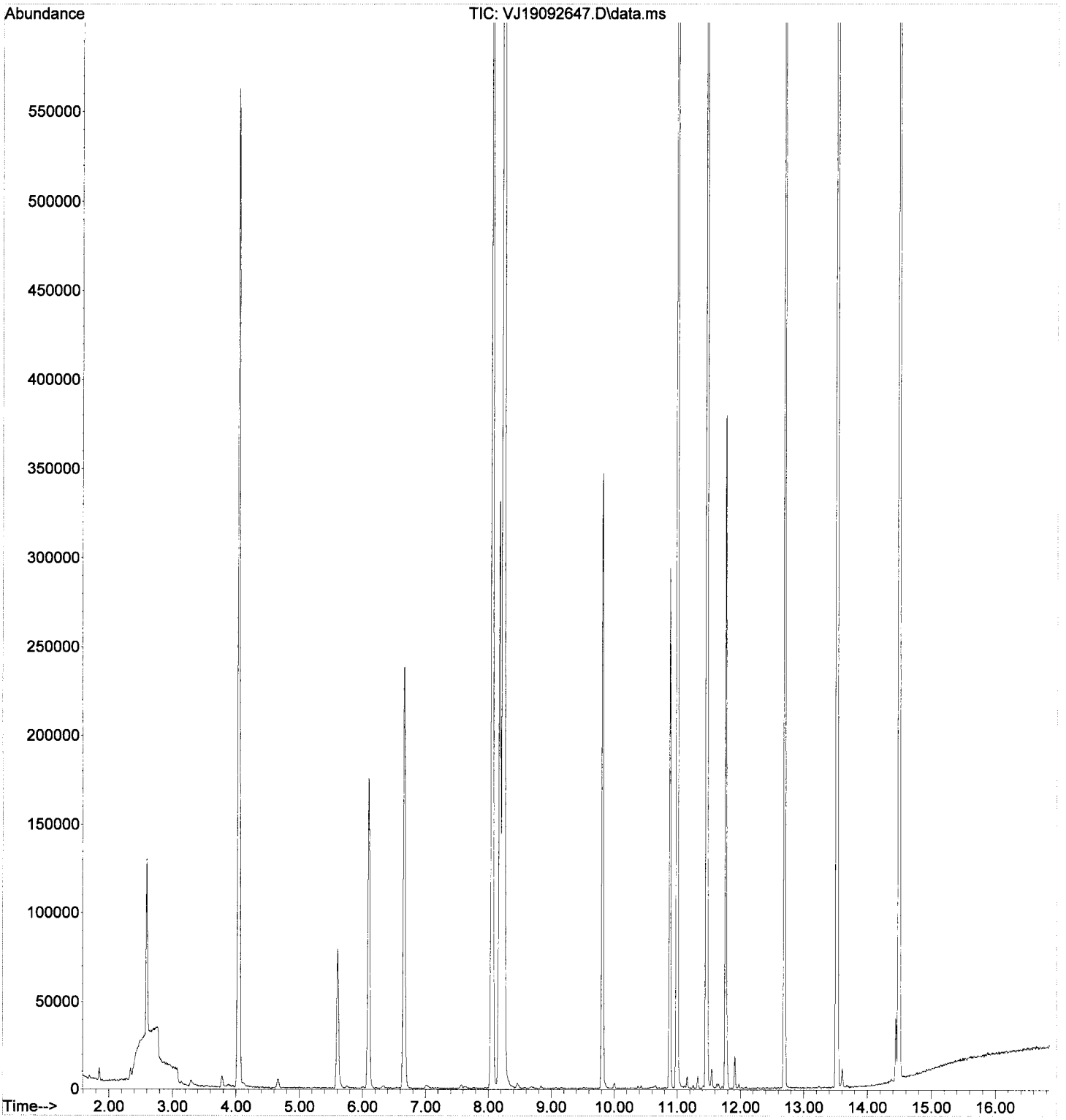
response 15896612

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.16#
0.00	0.00	0.63#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092647.D
Acq On : 27 Sep 2019 5:57 am
Operator : TB
Sample : 9I26051-RT
Misc : 1X 5mL DI+MeOH
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Sep 27 15:40:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092648.D
Acq On : 27 Sep 2019 6:23 am
Operator : TB
Sample : 9I26051-IBL7
Misc : 1X 5mL DI+MeOH
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Sep 27 15:41:00 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

NR

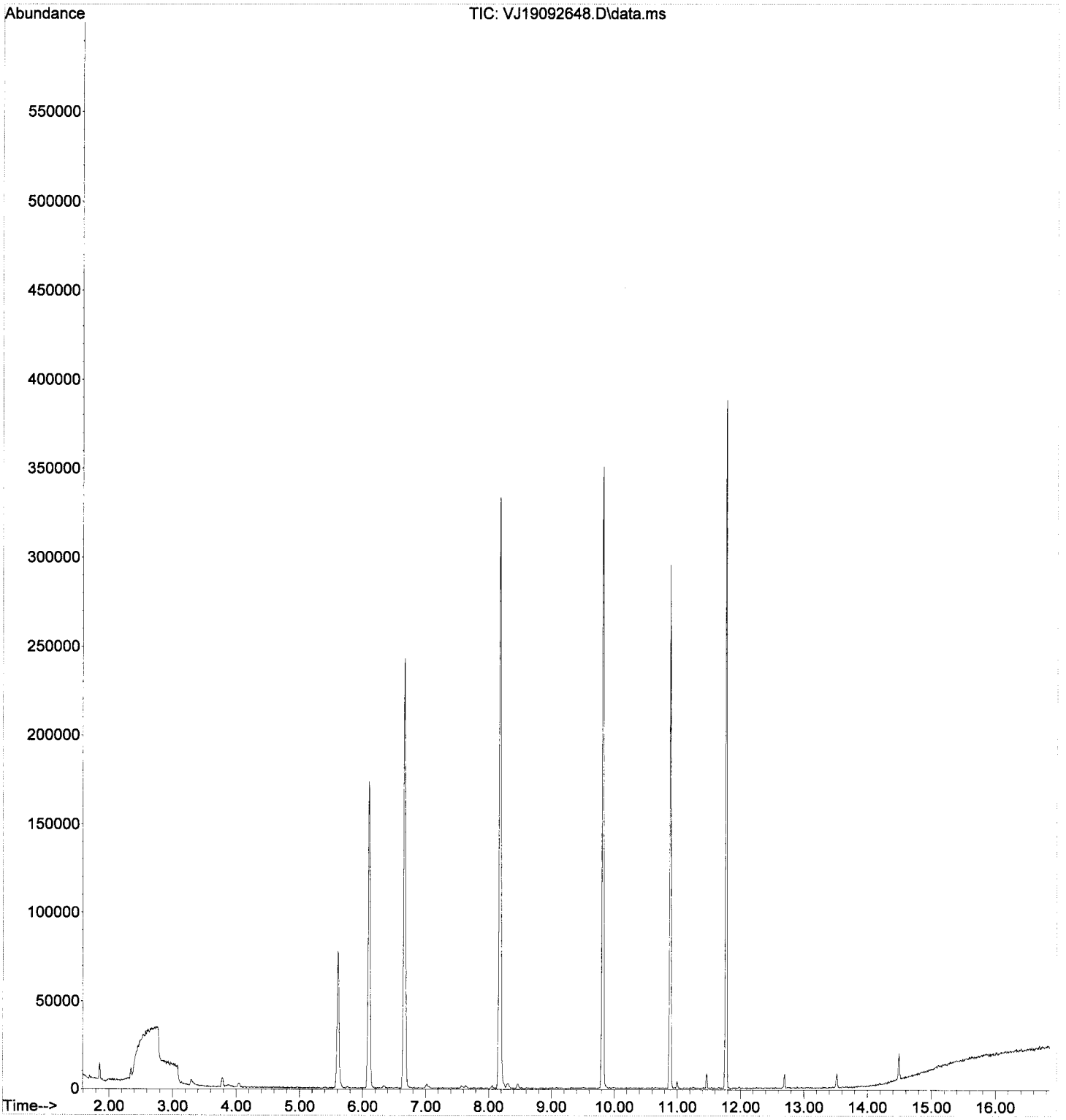
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	116616	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	206735	50.05	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	63542	50.05	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	252991	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	182159	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	128347	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	130539m	19.74	ug/L	
5) TPHg (C5-C9)	9.239	TIC	283988m	5.92	ug/L	
6) TPHg (C6-C10)	9.239	TIC	254816m	10.75	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	332327m	10.21	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092648.D
Acq On : 27 Sep 2019 6:23 am
Operator : TB
Sample : 9I26051-IBL7
Misc : 1X 5mL DI+MeOH
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Sep 27 15:41:00 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092649.D
Acq On : 27 Sep 2019 6:50 am
Operator : TB
Sample : 9I26051-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 27 15:41:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

9/27/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.101	168	119292	50.00	ug/L	# 0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	210475	49.82	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	65308	50.28	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	260955	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	185538	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	131535	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	85582m	11.66	ug/L	
5) TPHg (C5-C9)	9.239	TIC	281021m	4.61	ug/L	
6) TPHg (C6-C10)	9.239	TIC	249005m	8.87	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	306027m	6.35	ug/L	

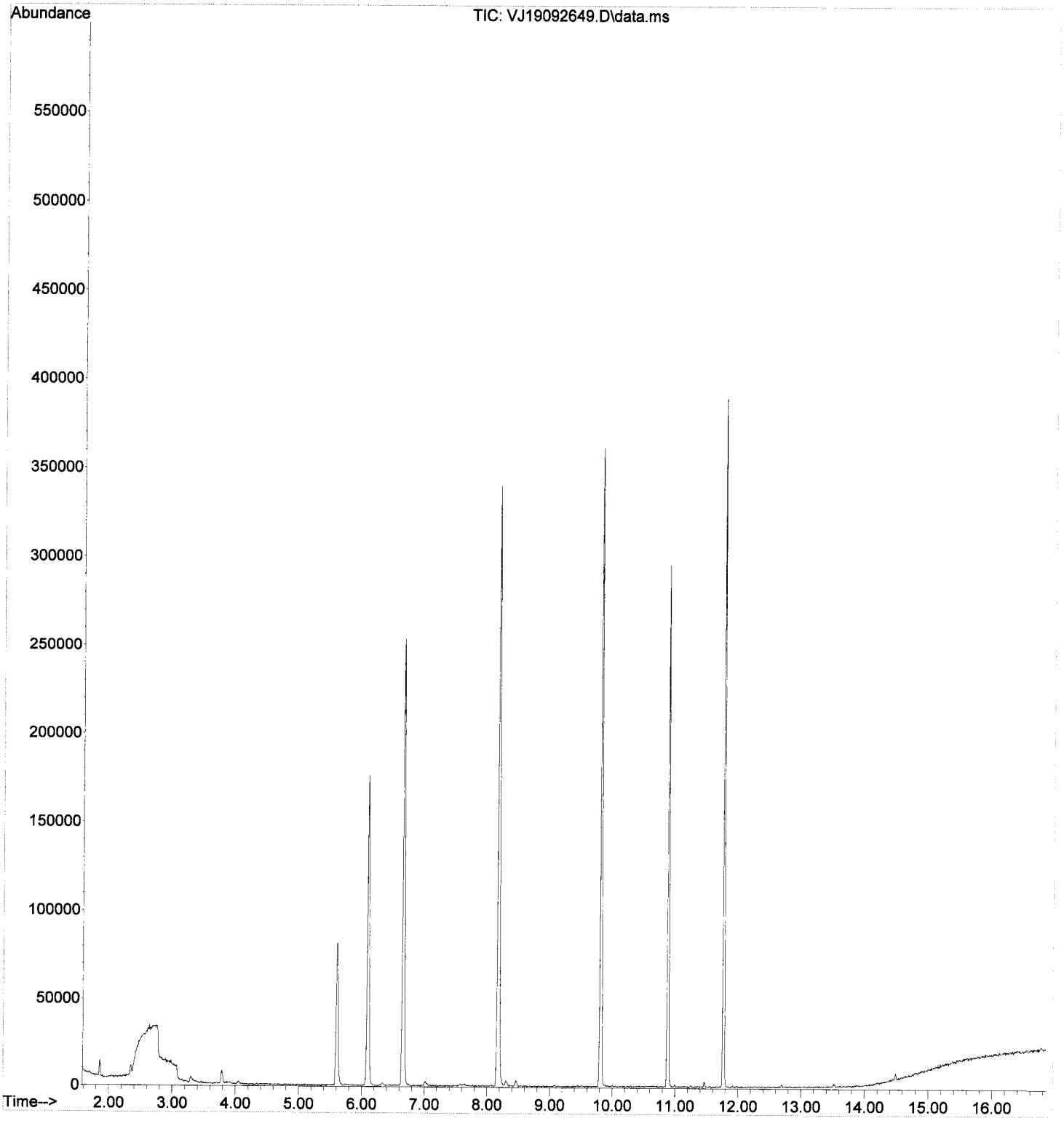
NWDL

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092649.D
Acq On : 27 Sep 2019 6:50 am
Operator : TB
Sample : 9I26051-ICB2
Misc : 1X 5mL DI+MeOH
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Sep 27 15:41:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092650.D
Acq On : 27 Sep 2019 7:17 am
Operator : TB
Sample : 9I26051-CALC
Misc : 1X 5mL 50PPB GX+MeOH
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Sep 27 15:12:56 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration

9/27/19

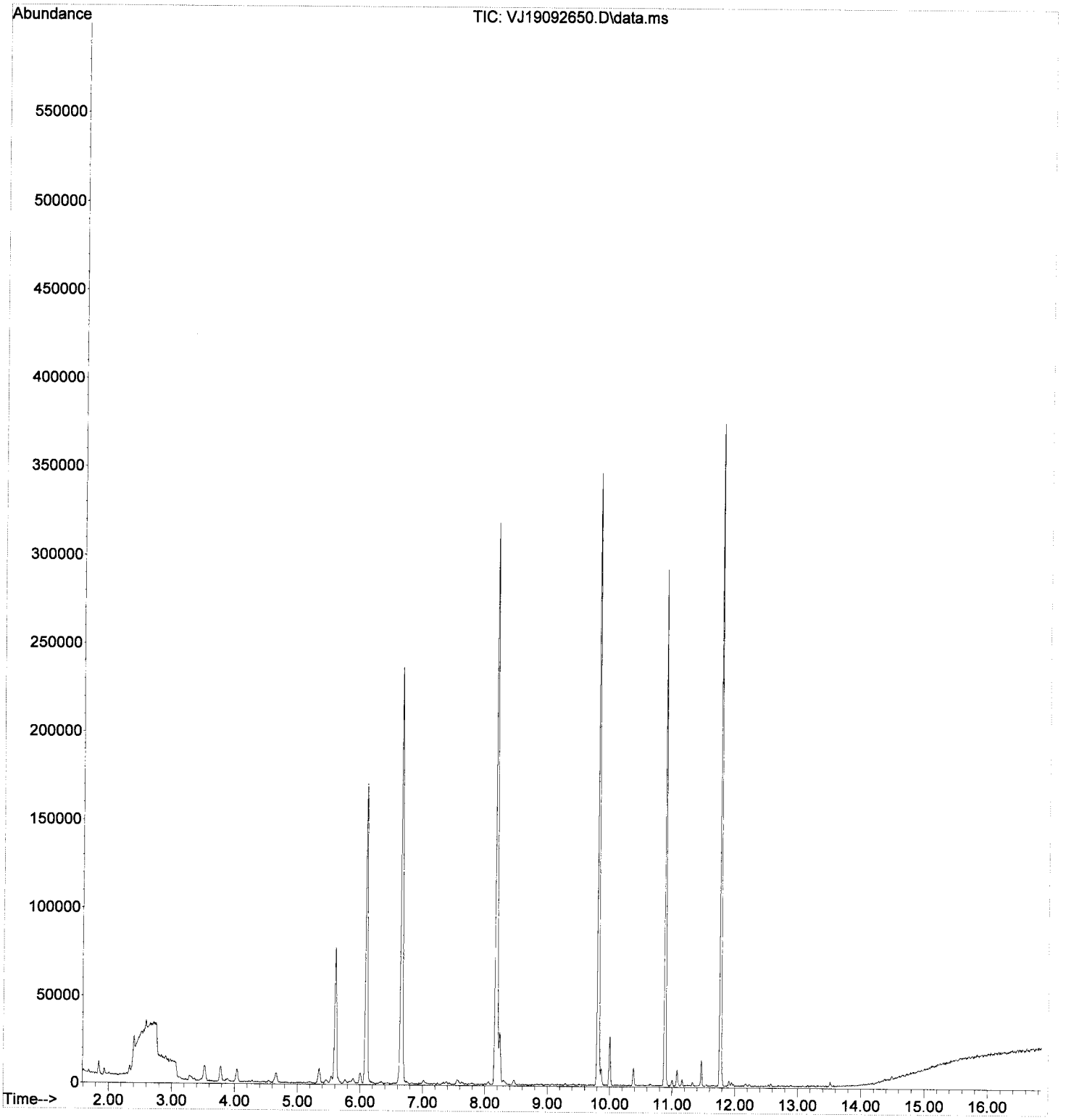
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	113074	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	199925	49.53	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	61945	50.05	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	246095	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	175594	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	123494	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	320378m	55.69	ug/L	
5) TPHg (C5-C9)	9.239	TIC	547585m	68.64	ug/L	
6) TPHg (C6-C10)	9.239	TIC	489865m	76.46	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	629208m	66.43	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092650.D
Acq On : 27 Sep 2019 7:17 am
Operator : TB
Sample : 9I26051-CALC
Misc : 1X 5mL 50PPB GX+MeOH
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Sep 27 15:12:56 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092651.D
Acq On : 27 Sep 2019 7:44 am
Operator : TB
Sample : 9I26051-CALD
Misc : 1X 5mL 100PPB GX+MeOH
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Sep 27 15:12:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration

9/27/19

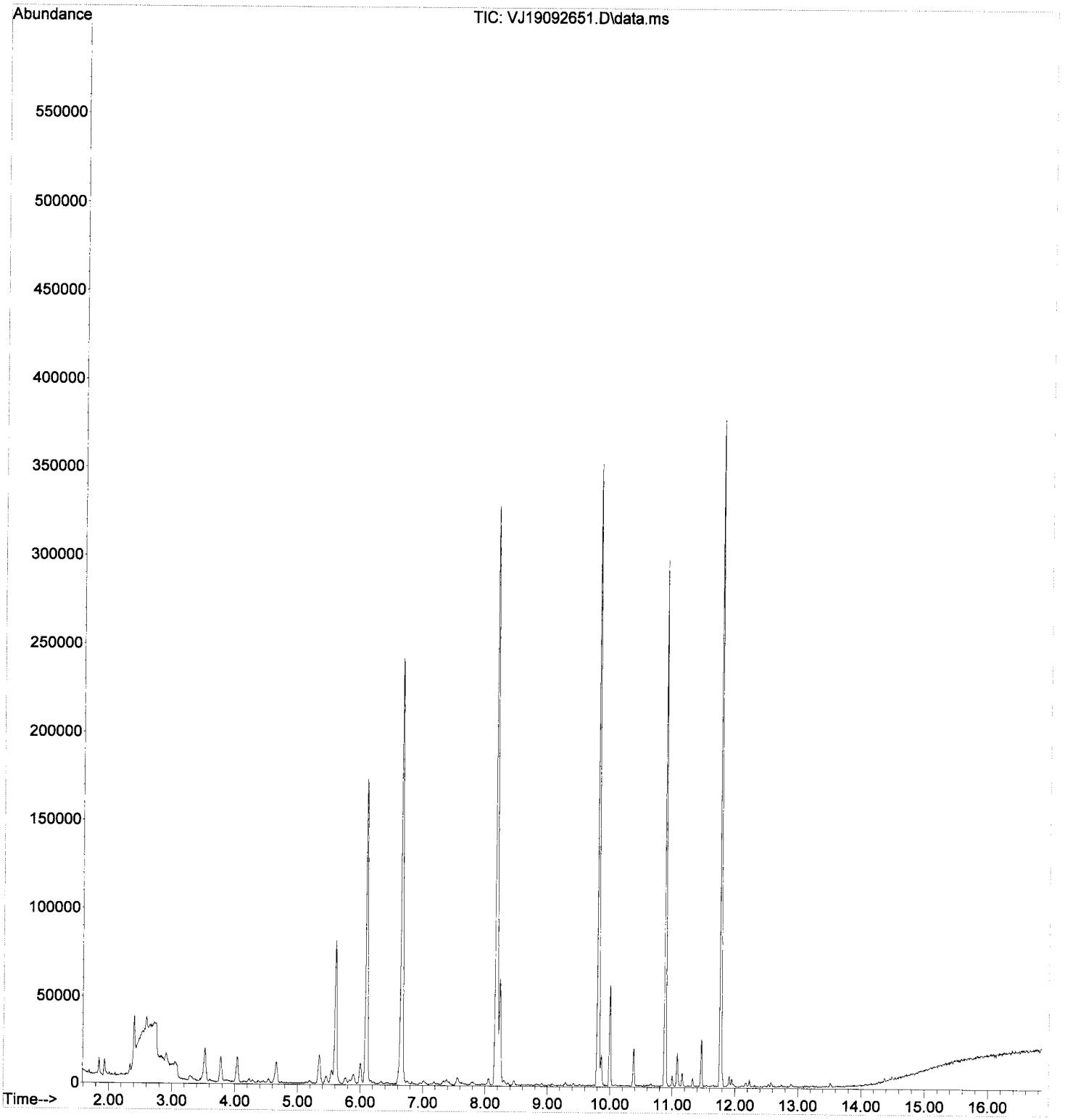
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	115073	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	203204	49.47	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	61650	48.95	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	251857	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	180421	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	126478	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	582275m	99.45	ug/L	
5) TPHg (C5-C9)	9.239	TIC	887919m	109.37	ug/L	
6) TPHg (C6-C10)	9.239	TIC	797203m	122.27	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	1035063m	107.38	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092651.D
Acq On : 27 Sep 2019 7:44 am
Operator : TB
Sample : 9I26051-CALD
Misc : 1X 5mL 100PPB GX+MeOH
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Sep 27 15:12:58 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092652.D
Acq On : 27 Sep 2019 8:10 am
Operator : TB
Sample : 9I26051-CALE
Misc : 1X 5mL 250PPB GX+MeOH
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 27 15:13:00 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration

9/27/19

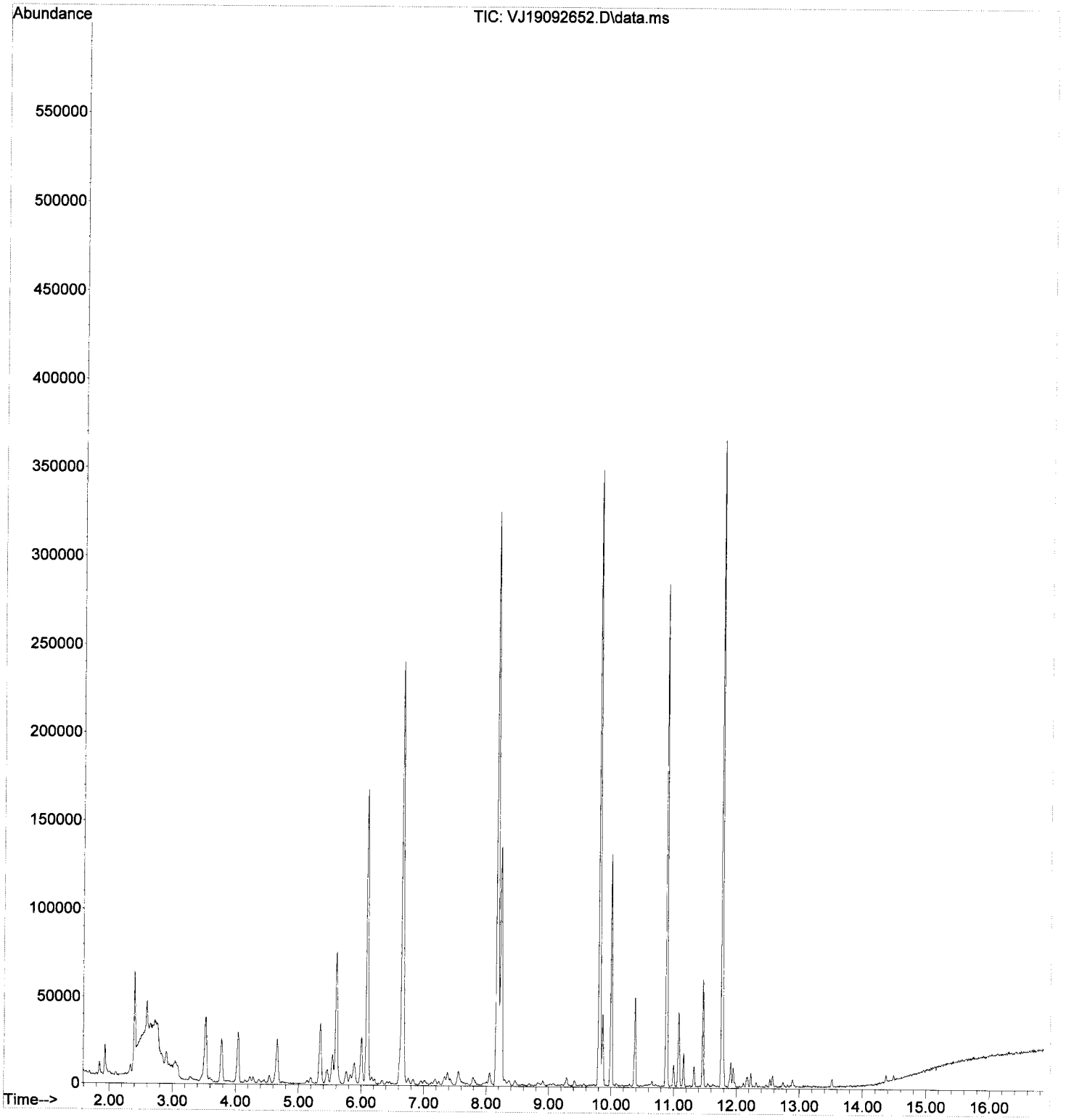
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	109981	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	194788	49.61	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	59627	49.54	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	248322	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	174976	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	122856	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	1319842m	235.86	ug/L	
5) TPHg (C5-C9)	9.239	TIC	2115593m	272.65	ug/L	
6) TPHg (C6-C10)	9.239	TIC	1528260m	245.25	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	2461965m	267.25	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092652.D
Acq On : 27 Sep 2019 8:10 am
Operator : TB
Sample : 9I26051-CALE
Misc : 1X 5mL 250PPB GX+MeOH
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Sep 27 15:13:00 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092653.D
Acq On : 27 Sep 2019 8:37 am
Operator : TB
Sample : 9I26051-CALF
Misc : 1X 5mL 500PPB GX+MeOH
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 27 15:13:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration

9/27/19

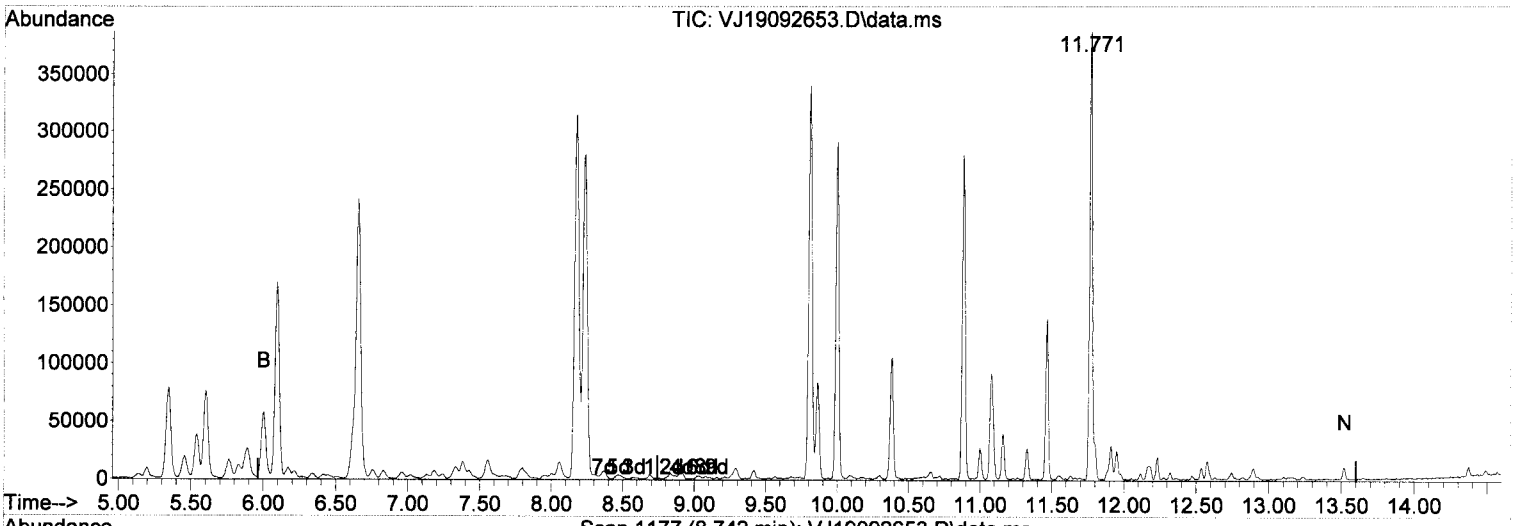
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	109511	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	195473	50.00	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	59929	50.00	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	240291	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	170766	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	122659	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	2785925m	500.00	ug/L	
5) TPHg (C5-C9)	9.239	TIC	3863135m	500.00	ug/L	
6) TPHg (C6-C10)	9.239	TIC	3102369m	500.00	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	4586468m	500.00	ug/L	

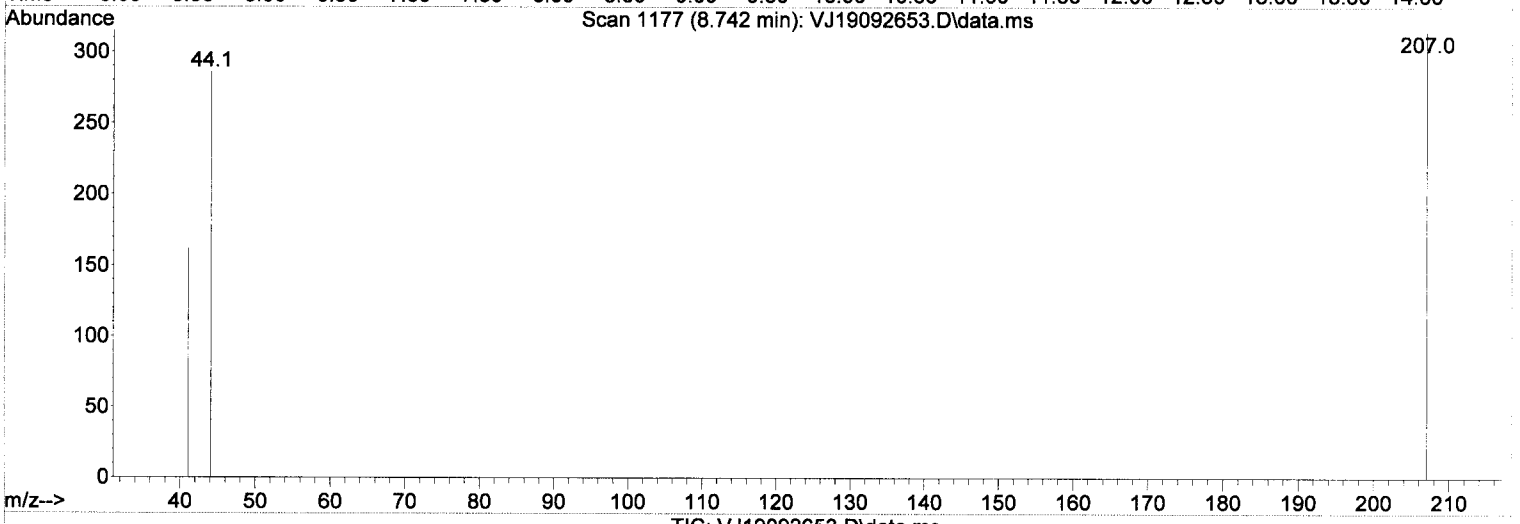
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092653.D
Acq On : 27 Sep 2019 8:37 am
Operator : TB
Sample : 9I26051-CALF
Misc : 1X 5mL 500PPB GX+MeOH
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 27 15:13:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration





TIC: VJ19092653.D\data.ms

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

8.739min (0.000) 500.00 ug/L m

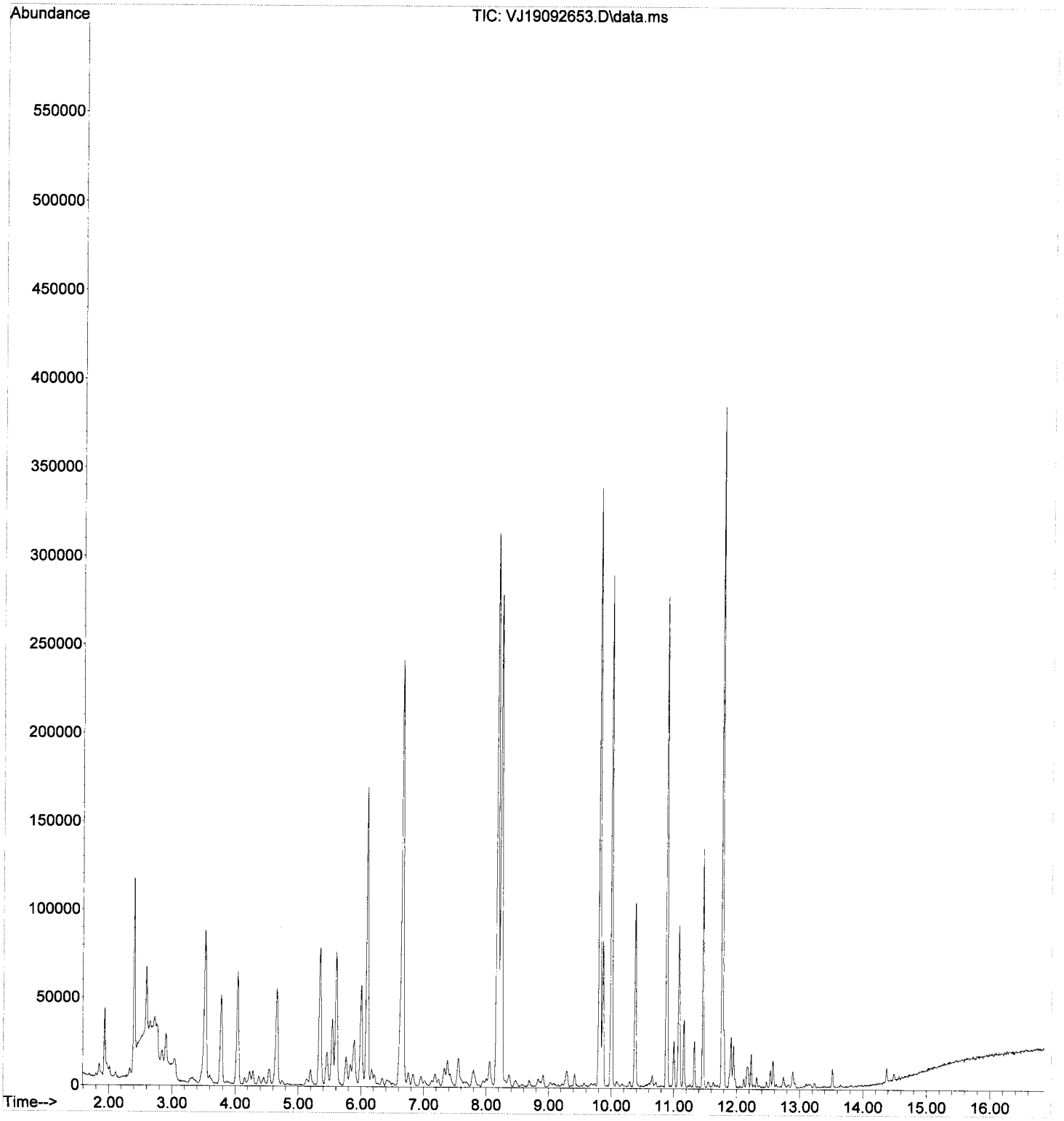
response 2785925

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\2019-09\9I26051\
Data File : VJ19092653.D
Acq On : 27 Sep 2019 8:37 am
Operator : TB
Sample : 9I26051-CALF
Misc : 1X 5mL 500PPB GX+MeOH
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Sep 27 15:13:02 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092654.D
Acq On : 27 Sep 2019 9:04 am
Operator : TB
Sample : 9I26051-CALG
Misc : 1X 5mL 1000PPB GX+MeOH
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Sep 27 15:13:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration

9/27/19

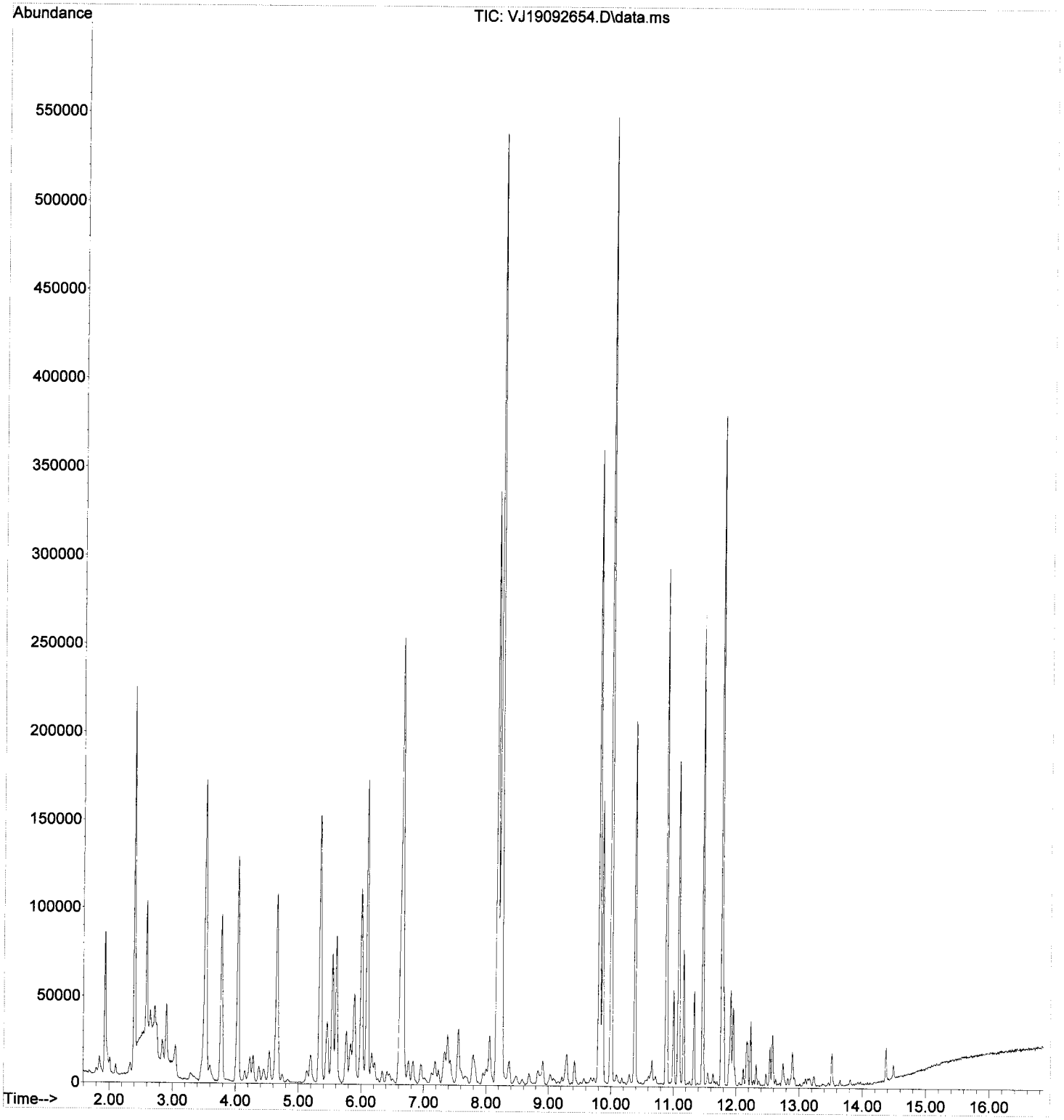
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	113434	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	201528	49.77	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	62285	50.17	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	249483	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	177920	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	128271	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	5469213m	947.63	ug/L	
5) TPHg (C5-C9)	9.239	TIC	6838678m	854.51	ug/L	
6) TPHg (C6-C10)	9.239	TIC	5909770m	919.52	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	8260112m	869.34	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092654.D
Acq On : 27 Sep 2019 9:04 am
Operator : TB
Sample : 9I26051-CALG
Misc : 1X 5mL 1000PPB GX+MeOH
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Sep 27 15:13:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092655.D
Acq On : 27 Sep 2019 9:31 am
Operator : TB
Sample : 9I26051-CALH
Misc : 1X 5mL 2500PPB GX+MeOH
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Sep 27 15:13:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration

9/27/19

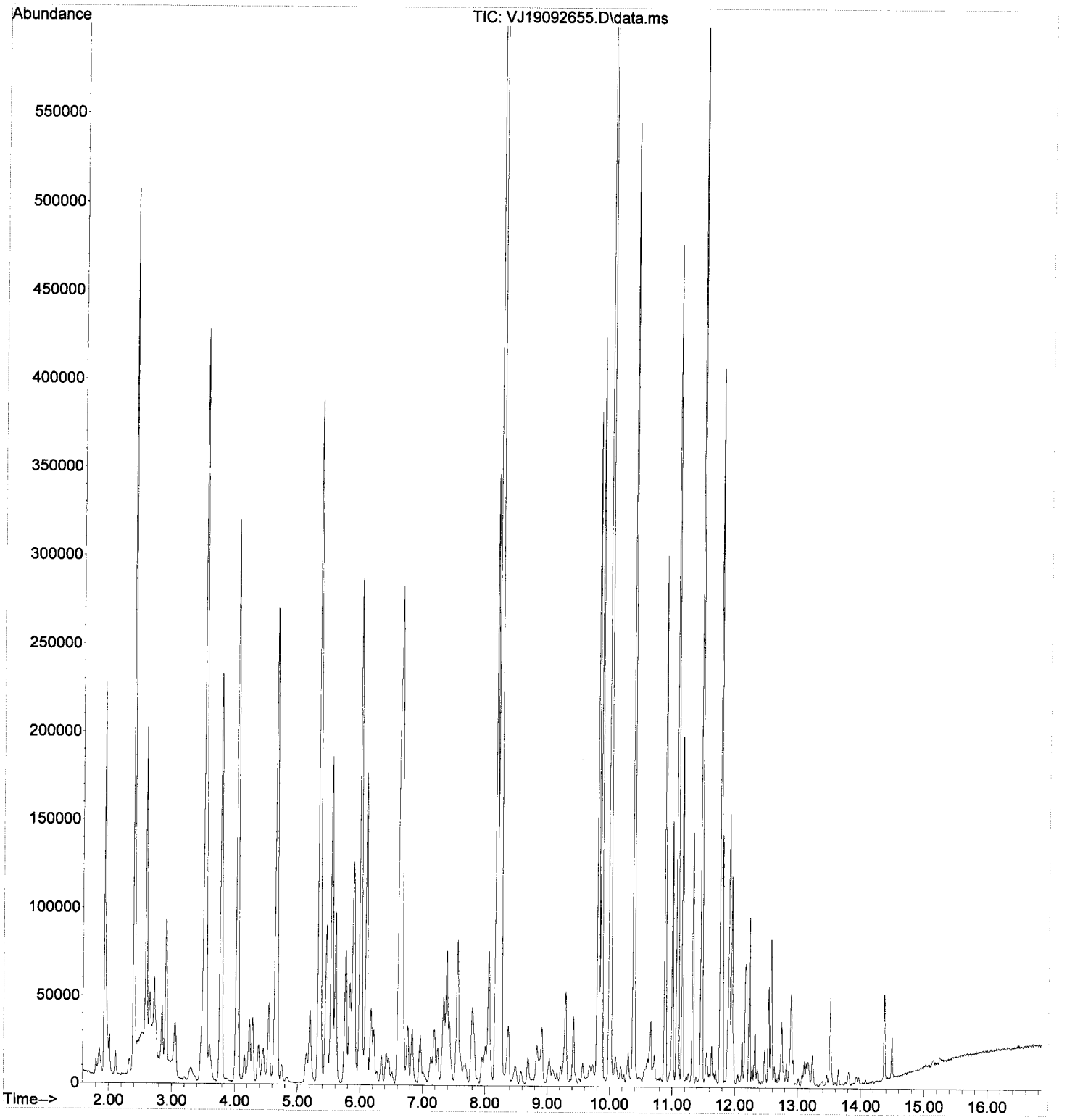
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	116493	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	206587	49.68	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	64135	50.30	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	256710	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	182086	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	133120	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	14265094m	2406.76	ug/L	
5) TPHg (C5-C9)	9.239	TIC	17085853m	2078.86	ug/L	
6) TPHg (C6-C10)	9.239	TIC	14962149m	2266.88	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	20676428m	2118.97	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092655.D
Acq On : 27 Sep 2019 9:31 am
Operator : TB
Sample : 9I26051-CALH
Misc : 1X 5mL 2500PPB GX+MeOH
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Sep 27 15:13:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092656.D
Acq On : 27 Sep 2019 9:57 am
Operator : TB
Sample : 9I26051-CALI
Misc : 1X 5mL 5000PPB GX+MeOH
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 27 15:13:08 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration

9/27/19

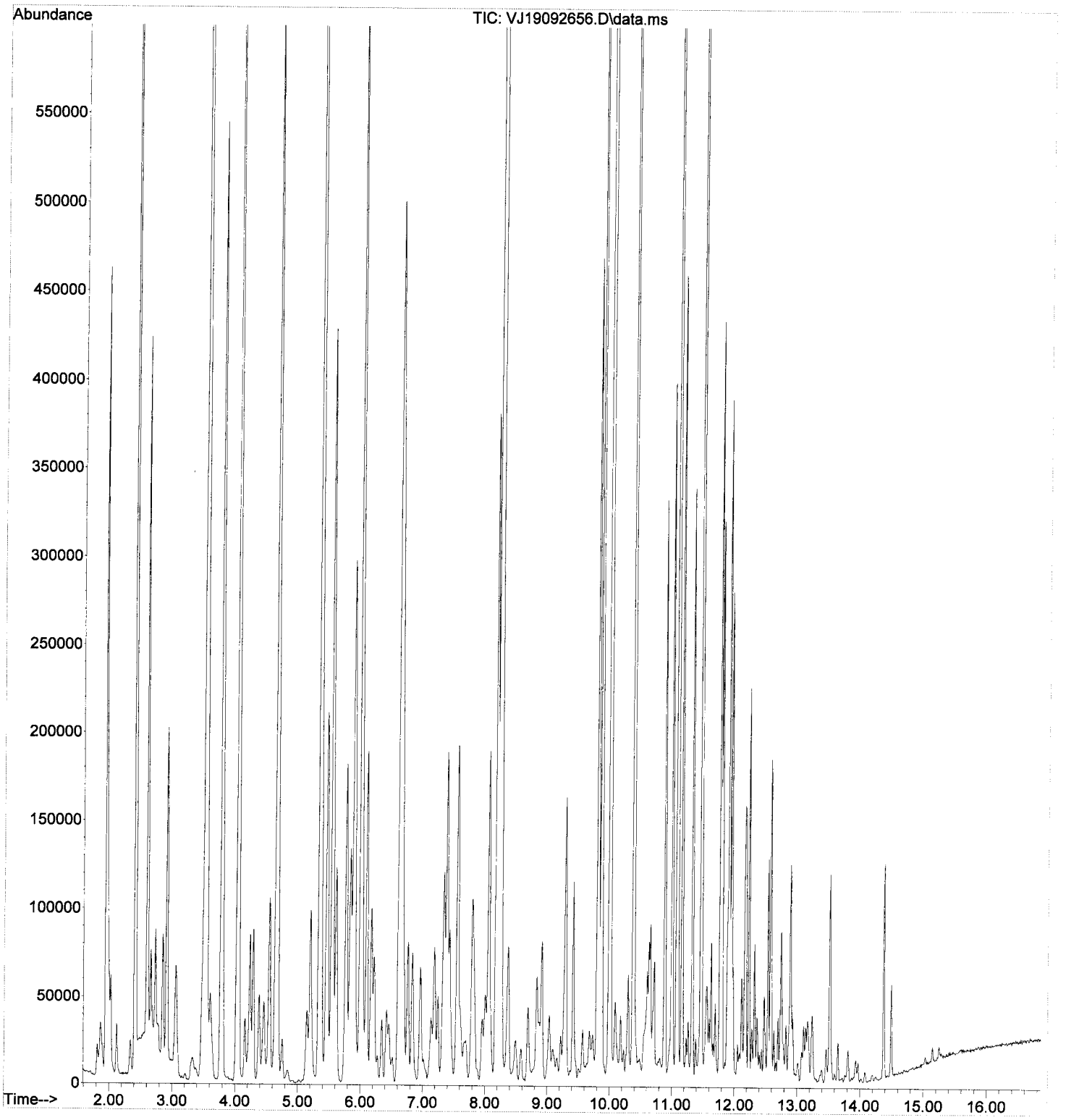
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.101	168	127905	50.00	ug/L	# 0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	225634	49.41	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	69662	49.76	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	280401	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	199102	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	144581	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	33666424m	5173.30	ug/L	
5) TPHg (C5-C9)	9.239	TIC	39110660m	4334.07	ug/L	
6) TPHg (C6-C10)	9.239	TIC	34126649m	4709.13	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	47858853m	4467.08	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092656.D
Acq On : 27 Sep 2019 9:57 am
Operator : TB
Sample : 9I26051-CALI
Misc : 1X 5mL 5000PPB GX+MeOH
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Sep 27 15:13:08 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092657.D
Acq On : 27 Sep 2019 10:24 am
Operator : TB
Sample : 9I26051-CALJ
Misc : 1X 5mL 10000PPB GX+MeOH
ALS Vial : 33 Sample Multiplier: 1

9/27/19

Quant Time: Sep 27 15:13:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration

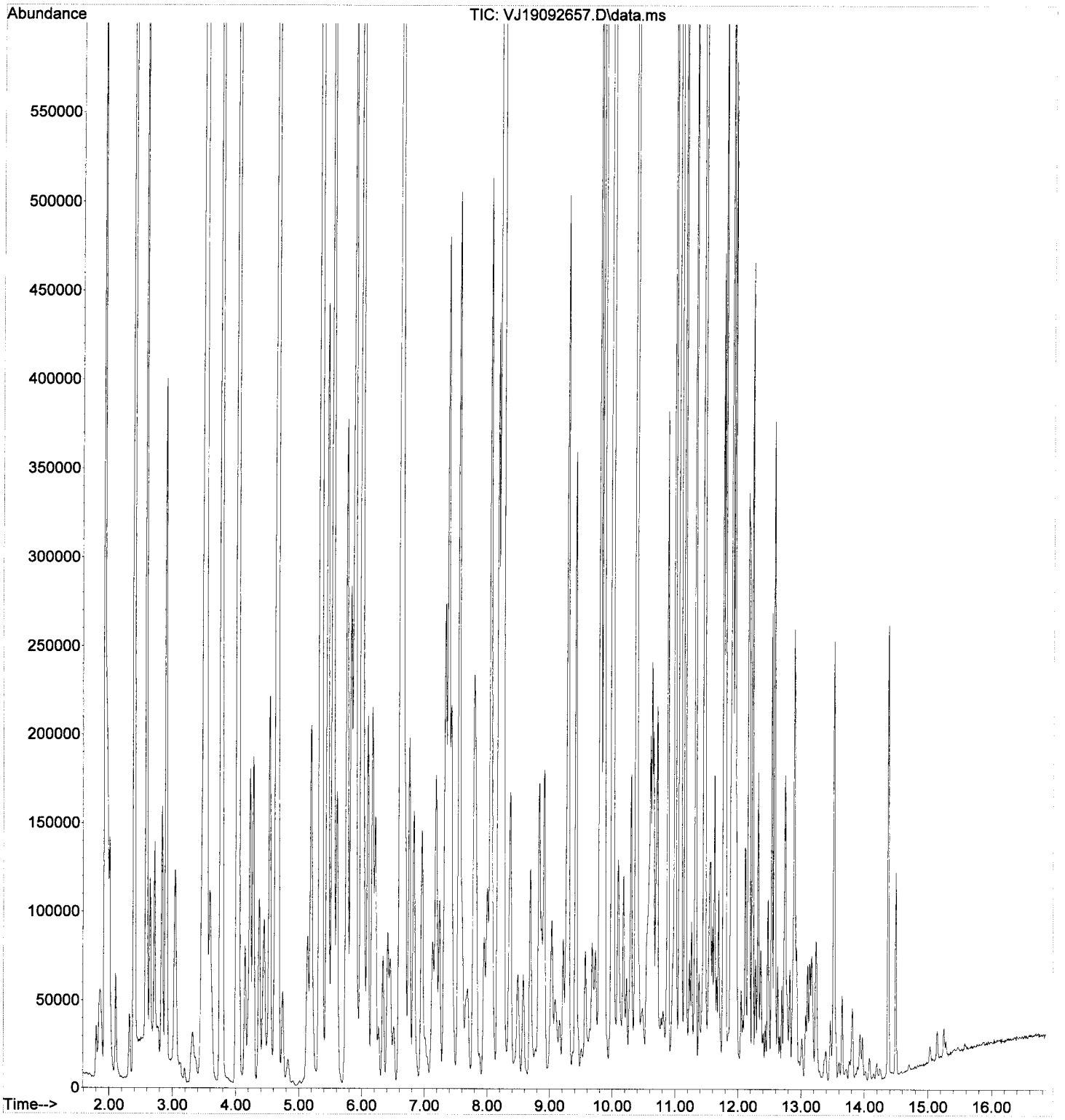
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	143951	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	253792	49.39	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	77412	49.13	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	306318	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	214977	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	160764	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	74235934m	10135.79	ug/L	
5) TPHg (C5-C9)	9.239	TIC	84398982m	8310.18	ug/L	
6) TPHg (C6-C10)	9.239	TIC	73819086m	9050.83	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	103185189m	8557.60	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092657.D
Acq On : 27 Sep 2019 10:24 am
Operator : TB
Sample : 9I26051-CALJ
Misc : 1X 5mL 10000PPB GX+MeOH
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Sep 27 15:13:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:08:33 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092658.D
Acq On : 27 Sep 2019 10:51 am
Operator : TB
Sample : 9I26051-IBL8
Misc : 1X 5mL DI+MeOH
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Sep 27 15:41:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

NR

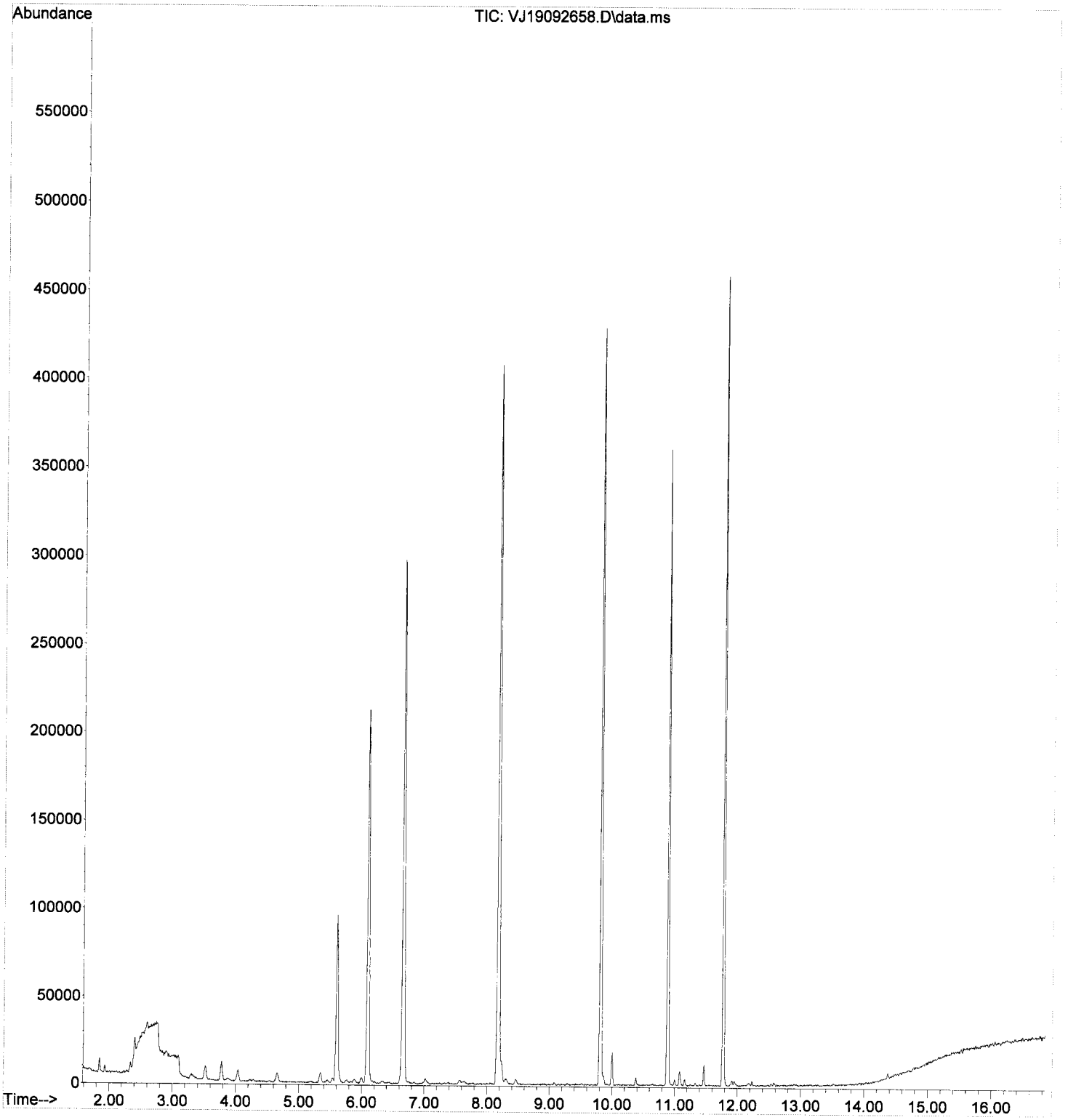
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	152094	50.00	ug/L	-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	264876	49.17	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	81263	49.07	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	321366	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.813	117	229527	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	161319	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	246323m	29.78	ug/L	
5) TPHg (C5-C9)	9.239	TIC	510049m	21.02	ug/L	
6) TPHg (C6-C10)	9.239	TIC	440067m	24.36	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	597324m	24.83	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092658.D
Acq On : 27 Sep 2019 10:51 am
Operator : TB
Sample : 9I26051-IBL8
Misc : 1X 5mL DI+MeOH
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Sep 27 15:41:04 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092659.D
Acq On : 27 Sep 2019 11:18 am
Operator : TB
Sample : 9I26051-IBL9
Misc : 1X 5mL DI+MeOH
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Sep 27 15:41:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

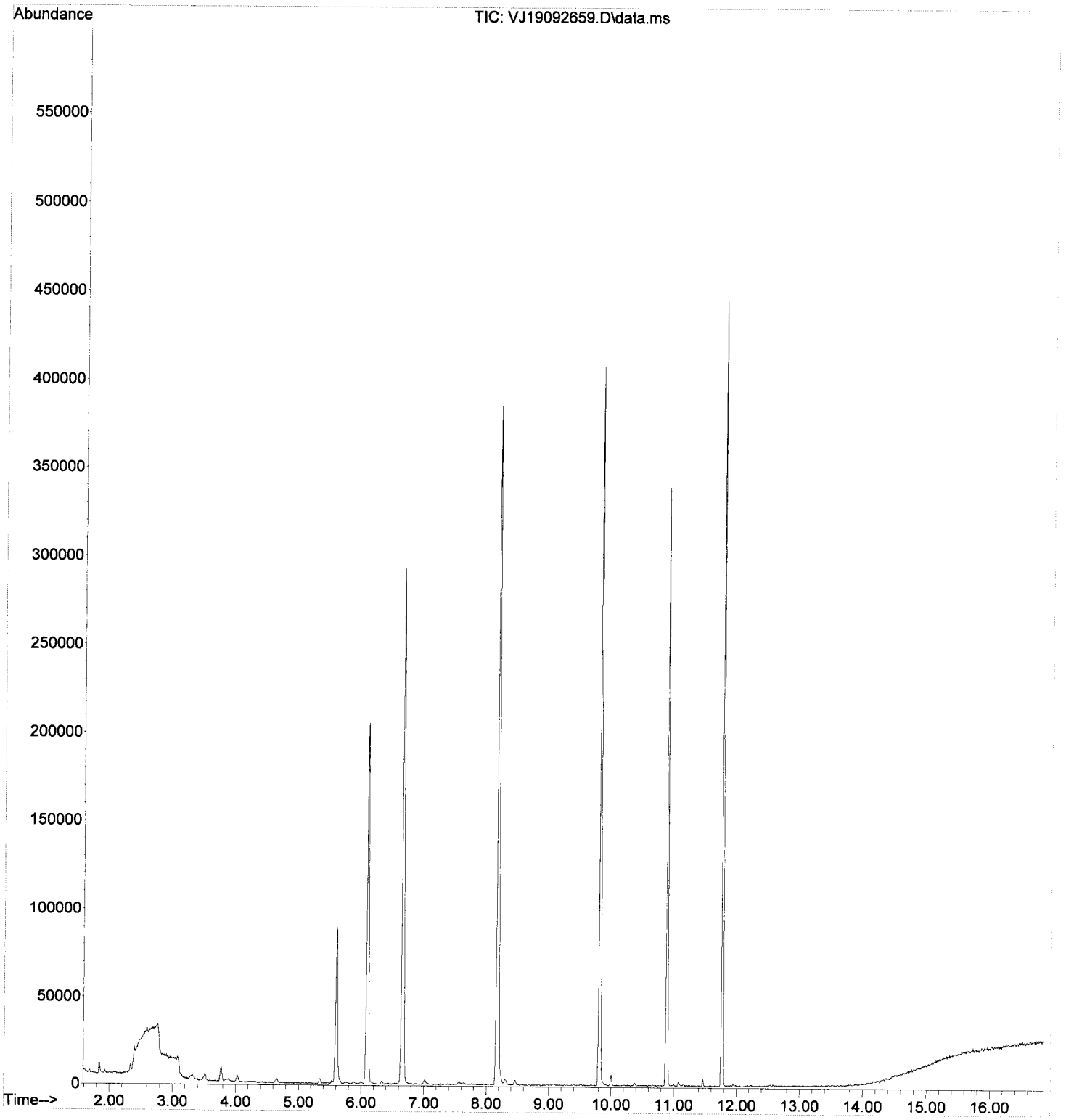
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	145500	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	255042	49.49	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	77394	48.86	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	309277	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	221345	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	157118	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	136683m	16.12	ug/L	
5) TPHg (C5-C9)	9.239	TIC	380739m	8.90	ug/L	
6) TPHg (C6-C10)	9.239	TIC	330136m	12.36	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	417382m	10.47	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092659.D
Acq On : 27 Sep 2019 11:18 am
Operator : TB
Sample : 9I26051-IBL9
Misc : 1X 5mL DI+MeOH
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Sep 27 15:41:06 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092660.D
Acq On : 27 Sep 2019 11:45 am
Operator : TB
Sample : 9I26051-ICV3
Misc : 1X 5mL 500PPB GX+MeOH
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Sep 27 15:41:08 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

9/27/19 9/27/19
9/27/19

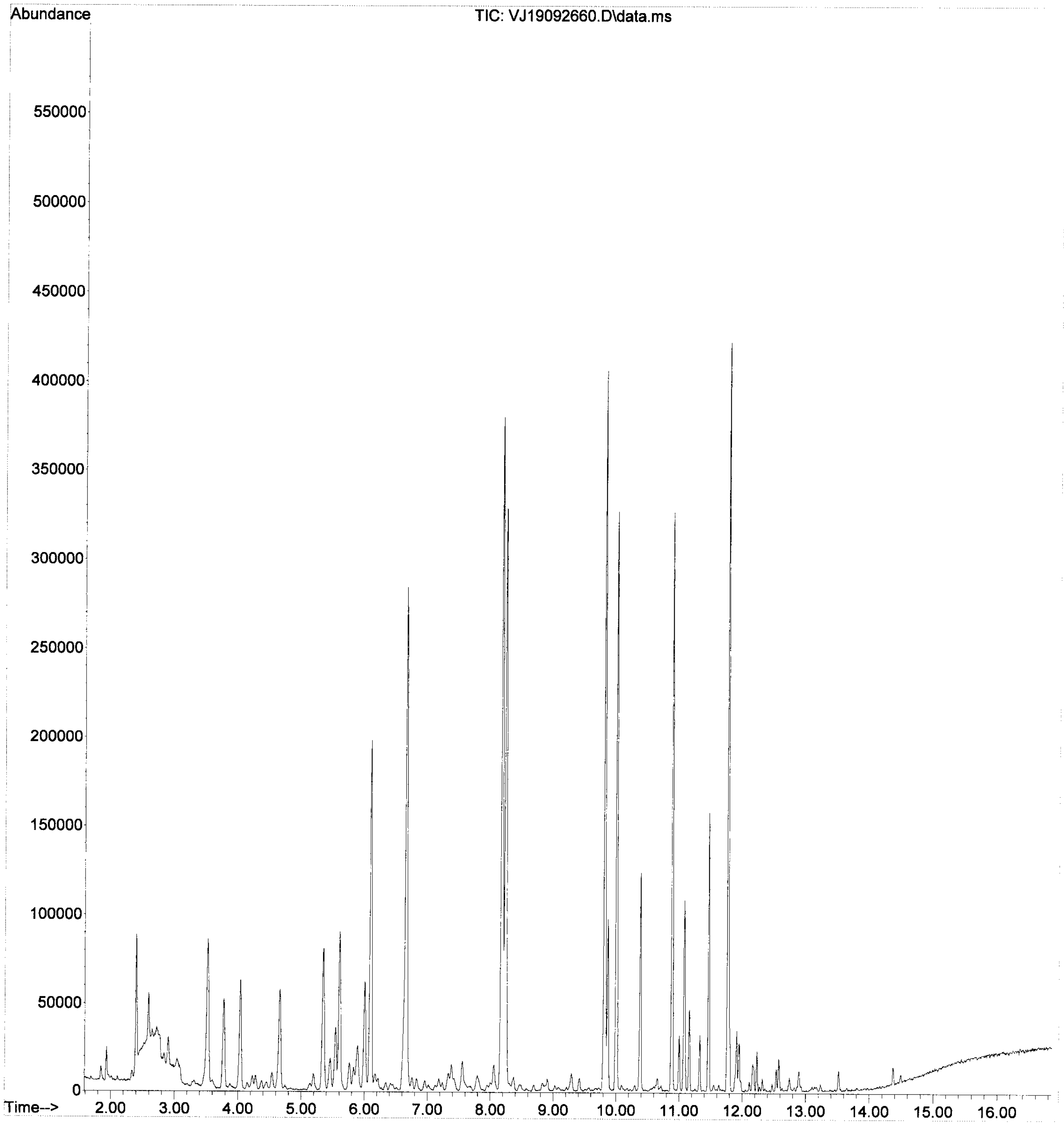
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.095	168	137879	50.00	ug/L	#-0.01
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.655	114	240406	49.23	ug/L	-0.01
3) 4-Bromofluorobenzene (...	10.883	174	72506	48.30	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	293049	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.812	117	209720	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	145574	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	3171037m	458.27	ug/L	
5) TPHg (C5-C9)	9.239	TIC	4191668m	466.69	ug/L	
6) TPHg (C6-C10)	9.239	TIC	3442797m	448.87	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	5029852m	467.02	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092660.D
Acq On : 27 Sep 2019 11:45 am
Operator : TB
Sample : 9I26051-ICV3
Misc : 1X 5mL 500PPB GX+MeOH
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Sep 27 15:41:08 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092661.D
Acq On : 27 Sep 2019 12:11 pm
Operator : TB
Sample : 9I26051-IBLA
Misc : 1X 5mL DI+MeOH
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 27 15:41:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration

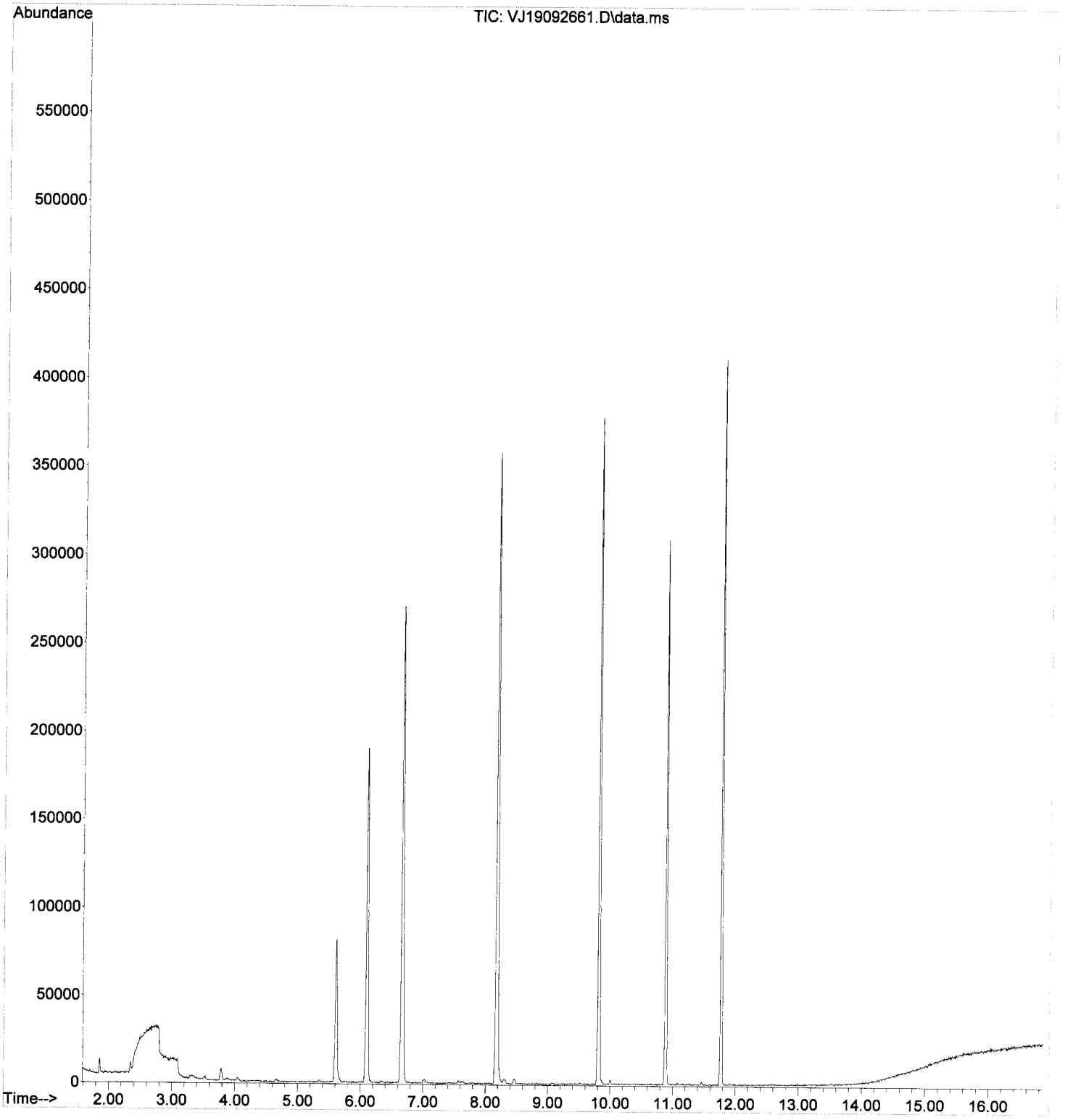
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.102	168	131605	50.00	ug/L	# 0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.661	114	232437	49.87	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.883	174	68719	47.96	ug/L	0.00
9) Toluene-d8 (NR)	8.176	98	281892	0.00	ug/L	-0.01
11) Chlorobenzene-d5 (NR)	9.813	117	201547	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.771	150	141569	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	8.739	TIC	103742m	13.09	ug/L	
5) TPHg (C5-C9)	9.239	TIC	304114m	3.87	ug/L	
6) TPHg (C6-C10)	9.239	TIC	268460m	7.96	ug/L	
7) CA-LUFT (C5-C12)	9.239	TIC	335746m	6.16	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-09\9I26051\
Data File : VJ19092661.D
Acq On : 27 Sep 2019 12:11 pm
Operator : TB
Sample : 9I26051-IBLA
Misc : 1X 5mL DI+MeOH
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Sep 27 15:41:10 2019
Quant Method : C:\msdchem\1\methods\VJ190926G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Sep 27 15:17:10 2019
Response via : Initial Calibration



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

Semivolatile Organic Compounds (PAHs) by EPA 8270D
Benchsheet & Analysis Sequence Data

Batch 9100583
Sequence 9J03014 (A9I0922-01,02,03,09)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100583 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100583-BLK1		QC	10/03/19 06:49	16	5				100					
	9100583-BS1		QC	10/03/19 06:49	15	5	A19H078		100	100					
	A9I0885-01RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.45	5				100	PDI-013SC-B-7.6-9.6-190925	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0885-02RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.39	5				100	PDI-013SC-B-9.6-12-190925	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0885-04RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.46	5				100	PDI-018SC-B-11.8-13.2-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0885-05RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.7	10				100	PDI-018SC-B-5.8-7.8-190926	Concentrate alone. Extremely hot sample. Re-extract added 10/2/2019 by jk			
	A9I0885-06RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.58	5				100	PDI-018SC-B-7.8-9.8-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0885-07RE1	E	8270D LL PAH Only (Scan)	10/03/19 06:49	15.28	5				100	PDI-018SC-B-9.8-11.8-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk			
	A9I0922-01	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.11	5				100	PDI-021SC-B-11.7-13.7-190927				
	A9I0922-02	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.04	5				100	PDI-021SC-B-13.7-15.4-190927				
	A9I0922-03	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.21	5				100	PDI-021SC-B-5.7-7.7-190927				
	A9I0922-04	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.05	10				100	PDI-021SC-B-7.7-9.7-190927				
	A9I0922-05	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.51	5				100	PDI-021SC-B-9.7-11.7-190927				
	A9I0922-07	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.44	5				100	PDI-024SC-B-10-12.1-190927				
	A9I0922-08	D	8270D LL PAH Only (Scan)	10/03/19 06:49	15.05	5				100	PDI-1024SC-B-10-12.1-190927				
	A9I0922-09	I	8270D LL PAH Only (Scan)	10/03/19 06:50	15.28	5				100	PDI-030SC-B-5.9-7.9-190929	MS/MSD			

Prepared By: Date

DTH 10/3/19

Reviewed By: Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100583 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100583-MS1		QC	10/03/19 06:49	15.3	5	A19H078	A9I0922-09	100	100					
	9100583-MSD1		QC	10/03/19 06:49	15.8	5	A19H078	A9I0922-09	100	100					
	A9I0922-10	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.22	5				100	PDI-030SC-B-7.9-9.9-190929				
	A9I0922-11	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.65	5				100	PDI-030SC-B-9.9-11.8-190929				
	A9I0922-12	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.1	5				100	PDI-036SC-B-10.2-12.2-190929				
	A9I0922-13	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.67	5				100	PDI-036SC-B-12.2-13.4-190929				
	A9I0922-13RE1	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.67	5				100	PDI-036SC-B-12.2-13.4-190929	Added 10/7/2019 by ams			
	A9I0922-14	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.22	5				100	PDI-036SC-B-4.2-6.2-190929				
	A9I0922-15	D	8270D LL PAH Only (Scan)	10/03/19 06:50	15.08	5				100	PDI-036SC-B-6.2-8.2-190929				

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19H436	07/31/21	Sodium Sulfate Lot # 190116
A19I262	08/30/22	DCM CHEM PROD. 186806

Analyte Spike(s)

Std ID	Exp. Date	Description
A19H078	02/02/20	LVI PAH Spike @2000ng/ml

Surrogate(s)

Std ID	Exp. Date	Description
A19I094	03/03/20	8270D LL PAH Only Surr. (5ppm)

Method 3546 digestion time and temperture achieved.
Initial:

Witness:_____

Prepared By: Date

Reviewed By: Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100583 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
1	9100583-BLK1		QC	10/03/19 06:49	~~10~~ 16.00	5				100					
2	9100583-BS1		QC	10/03/19 06:49	~~10~~ 15.00	5	A19H078		100	100					
3	A9I0885-01RE1	D/E	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.45	5				100	PDI-013SC-B-7.6-9.6-190925	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
4	A9I0885-02RE1	D/E	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.39	5				100	PDI-013SC-B-9.6-12-190925	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
5	A9I0885-04RE1	D/E	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.46	5				100	PDI-018SC-B-11.8-13.2-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
6	A9I0885-05RE1	D/E	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.70	~~5~~ 10 ~~ANO 10/7~~				100	PDI-018SC-B-5.8-7.8-190926	Concentrate alone. Extremely hot sample. Re-extract added 10/2/2019 by jk ☆ mud			
7	A9I0885-06RE1	D/E	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.58	~~5~~ ~~10~~ ~~ANO 10/7~~ 10 ANO 10/7				100	PDI-018SC-B-7.8-9.8-190926	~~Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk~~ ~~ANO 10/7~~ Sand, dirt			
8	A9I0885-07RE1	D/E	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.28	5				100	PDI-018SC-B-9.8-11.8-190926	Due to sample switch and possible cross-contamination. Re-extract added 10/2/2019 by jk Sand, dirt			
9	A9I0922-01	D	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.11	5				100	PDI-021SC-B-11.7-13.7-190927	Sand, dirt			
10	A9I0922-02	D	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.04	5				100	PDI-021SC-B-13.7-15.4-190927	Sand, dirt			
11	A9I0922-03	D	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.21	5				100	PDI-021SC-B-5.7-7.7-190927	Sand, dirt			
12	A9I0922-04	D	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.05	5/10				100	PDI-021SC-B-7.7-9.7-190927	★ Sand, dirt			
13	A9I0922-05	D	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.51	5				100	PDI-021SC-B-9.7-11.7-190927	Sand, dirt			
14	A9I0922-07	D	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.44	5				100	PDI-024SC-B-10-12.1-190927	Sand, dirt			
15	A9I0922-08	D	8270D LL PAH Only (Scan)	10/03/19 06:49	10/15.05	5				100	PDI-1024SC-B-10-12.1-190927	Sand, dirt			
16	A9I0922-09	I	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.28	5				100	PDI-030SC-B-5.9-7.9-190929	MS/MSD Sand, dirt			

ANT 10-3-19
Prepared By: Date

CAH 10-3-19
Reviewed By: Date

JAG 10/3/19

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100583 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
17	9100583-MS1	J	QC	10/03/19 06:49	10/15.30	5	A19H078	A9I0922-09	100	100					
18	9100583-MSD1	K	QC	10/03/19 06:49	10/15.80	5	A19H078	A9I0922-09	100	100					
19	A9I0922-10	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.22	5				100	PDI-030SC-B-7.9-9.9-190929	Sand, dirt			
20	A9I0922-11	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.65	5				100	PDI-030SC-B-9.9-11.8-190929	Sand, dirt			
21	A9I0922-12	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.10	5				100	PDI-036SC-B-10.2-12.2-190929	Sand, dirt			
22	A9I0922-13	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.67	5				100	PDI-036SC-B-12.2-13.4-190929	Sand, dirt			
23	A9I0922-14	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.22	5				100	PDI-036SC-B-4.2-6.2-190929	Sand, dirt			
24	A9I0922-15	D	8270D LL PAH Only (Scan)	10/03/19 06:50	10/15.08	5				100	PDI-036SC-B-6.2-8.2-190929	Sand, dirt			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19H436	07/31/21	Sodium Sulfate Lot # 190116
A19I262	08/30/22	DCM CHEM PROD. 186806

Analyte Spike(s)

Std ID	Exp. Date	Description
A19H078	02/02/20	LVl PAH Spike @2000ng/ml

Surrogate(s)

Std ID	Exp. Date	Description
A19I094	08/03/20	8270D LL PAH Only Surr. (5ppm)

Method 3546 digestion time and temperture achieved. yes

Initial: AGT

Witness: JAG 10/3/19

* = blown down together but separate from QC & batch to avoid contamination.

AGT 10-3-19

Prepared By: Date

JAG 10/3/19

Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9J03014**	Instrument:	**SV-GCMS14**
Date:	**10/03/19 08:11**	Calibration:	**A9I1001**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J03014-TUN1	Sediment	QC	QC			A19I102	A19J016
2	9J03014-CCV1	Sediment	QC	QC			A19I102	A19I020
3	9J03014-IBL1	Sediment	QC	QC			A19I102	
4	9J03014-TUN2	Sediment	QC	QC			A19I102	A19J016
5	9J03014-CCV2	Sediment	QC	QC			A19I102	A19I020
6	9J03014-CCB1	Sediment	QC	QC			A19I102	
7	9100583-BLK1	Sediment	QC	QC		9100583	A19I102	
8	9100583-BS1	Sediment	QC	QC		9100583	A19I102	
9	A9I0922-09	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
10	9100583-MS1	Sediment	QC	QC		9100583	A19I102	
11	9100583-MSD1	Sediment	QC	QC		9100583	A19I102	
12	A9I0885-05RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
13	A9I0885-01RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
14	A9I0885-02RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
15	A9I0885-04RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
16	A9I0885-06RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
17	A9I0885-07RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/10/19	9100583	A19I102	
18	A9I0936-11	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
19	A9I0936-12	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
20	A9I0936-14	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
21	A9I0936-15	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
22	A9I0936-16	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
23	A9I0936-17	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100550	A19I102	
24	A9I0922-01	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
25	A9I0922-02	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
26	A9I0922-03	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
27	9J03014-IBL2	Sediment	QC	QC			A19I102	

Data Entered By: AMS 10/7/19

Data Reviewed By: [signature] 10/7/19

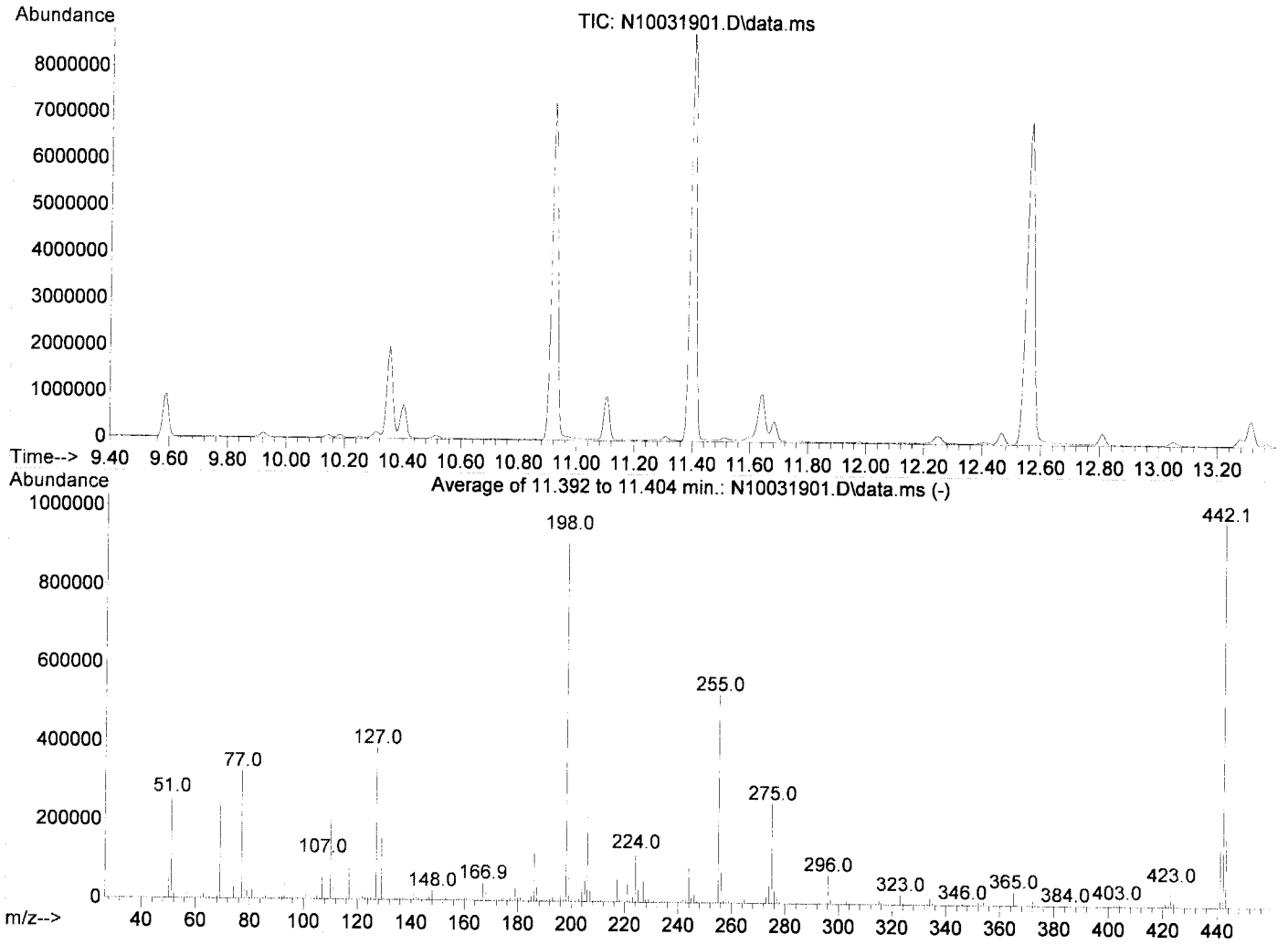
Comments:

Data Path : R:\data\2019-10\9J03014\
Data File : N10031901.D
Acq On : 03 Oct 2019 08:28 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Q-14
AMS
10/4/19

Integration File: rteint.p

Method : O:\methods\DFTPP.M
Title : DFTPP Tune Methodug/mL
Last Update : Thu Oct 03 11:34:01 2019



AutoFind: Scans 1218, 1219, 1220; Background Corrected with Scan 1210

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.6	4578	PASS
69	69	100	100	100.0	282937	PASS
70	69	0.00	2	0.5	1413	PASS
197	198	0.00	2	0.5	4578	PASS
198	198	100	100	100.0	937109	PASS
199	198	5	9	6.8	63974	PASS
365	198	1	100	3.7	34587	PASS
441	443	0.01	150	76.4	145765	PASS
442	198	0.10	200	104.7	980907	PASS
443	442	15	24	19.4	190669	PASS

Data Path : U:\data\2019-10\9J03014\
Data File : N10031901.D
Acq On : 03 Oct 2019 08:28 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 04 15:16:41 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

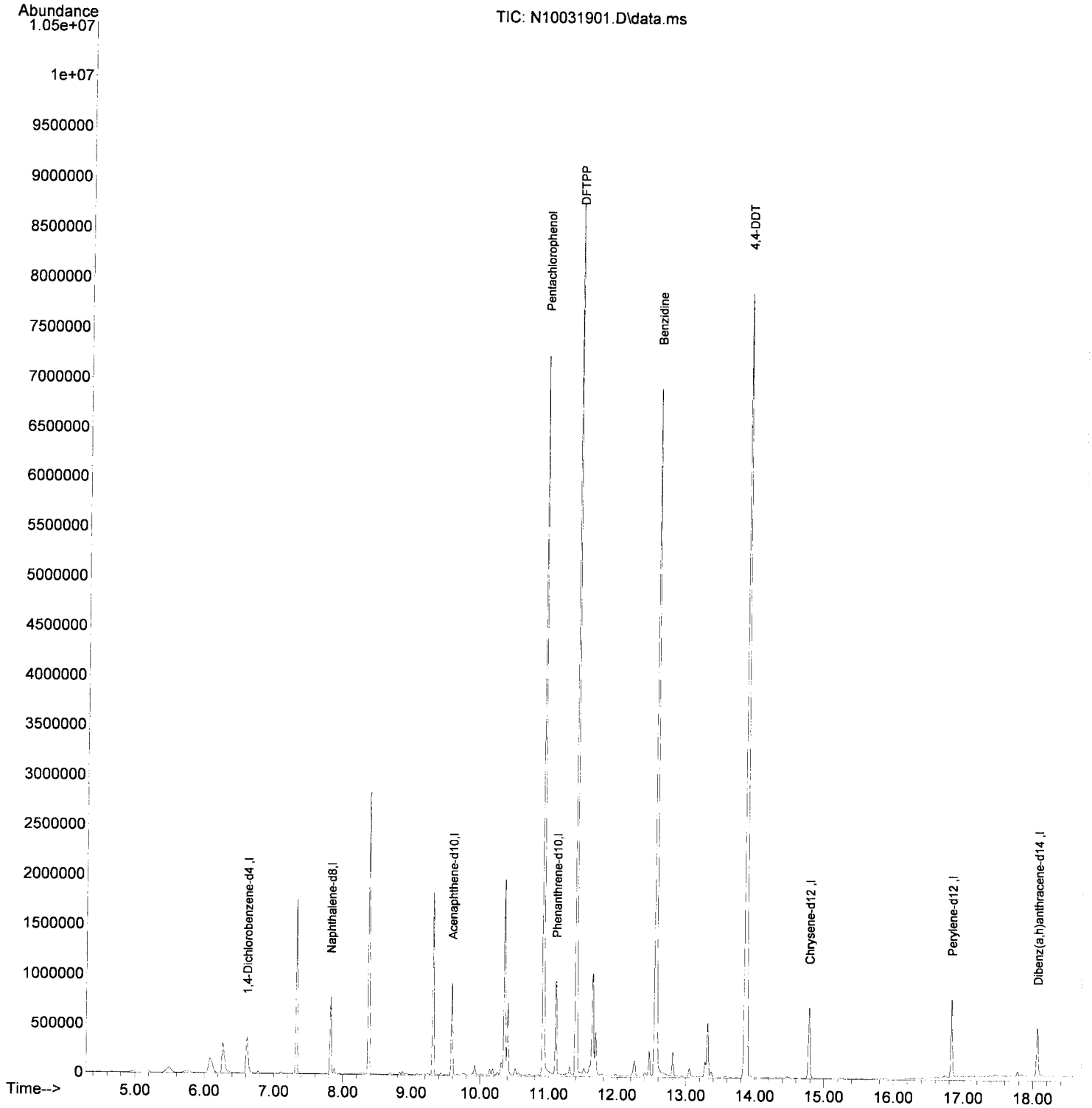
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	6.613	150	205268	2.00	ug/mL		0.00
2) Naphthalene-d8	7.825	136	522617	2.00	ug/mL		0.00
3) Acenaphthene-d10	9.591	162	275216	2.00	ug/mL		0.00
5) Phenanthrene-d10	11.106	188	497969	2.00	ug/mL		0.00
11) Chrysene-d12	14.784	240	456238	2.00	ug/mL	#	0.00
12) Perylene-d12	16.830	264	441452	2.00	ug/mL	#	0.00
13) Dibenz(a,h)anthracene-...	18.060	292	353348	2.00	ug/mL	#	0.00
Target Compounds							Qvalue
4) Pentachlorophenol	10.920	266	1304200	50.18	ug/mL		90
6) DFTPP	11.404	442	1643209	40.88	ug/mL		81
7) Benzidine	12.564	184	5355897	30.23	ug/mL		98
8) 4,4-DDE	12.808	TIC	340638	No Calib			
9) 4,4-DDD	13.316	TIC	897373	No Calib			
10) 4,4-DDT	13.869	TIC	16645808	32.60	ug/mL		97

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031901.D
Acq On : 03 Oct 2019 08:28 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 04 15:16:41 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031902.D
Acq On : 03 Oct 2019 08:56 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Q-14 AMS 10/4/19

Quant Time: Oct 04 12:43:00 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

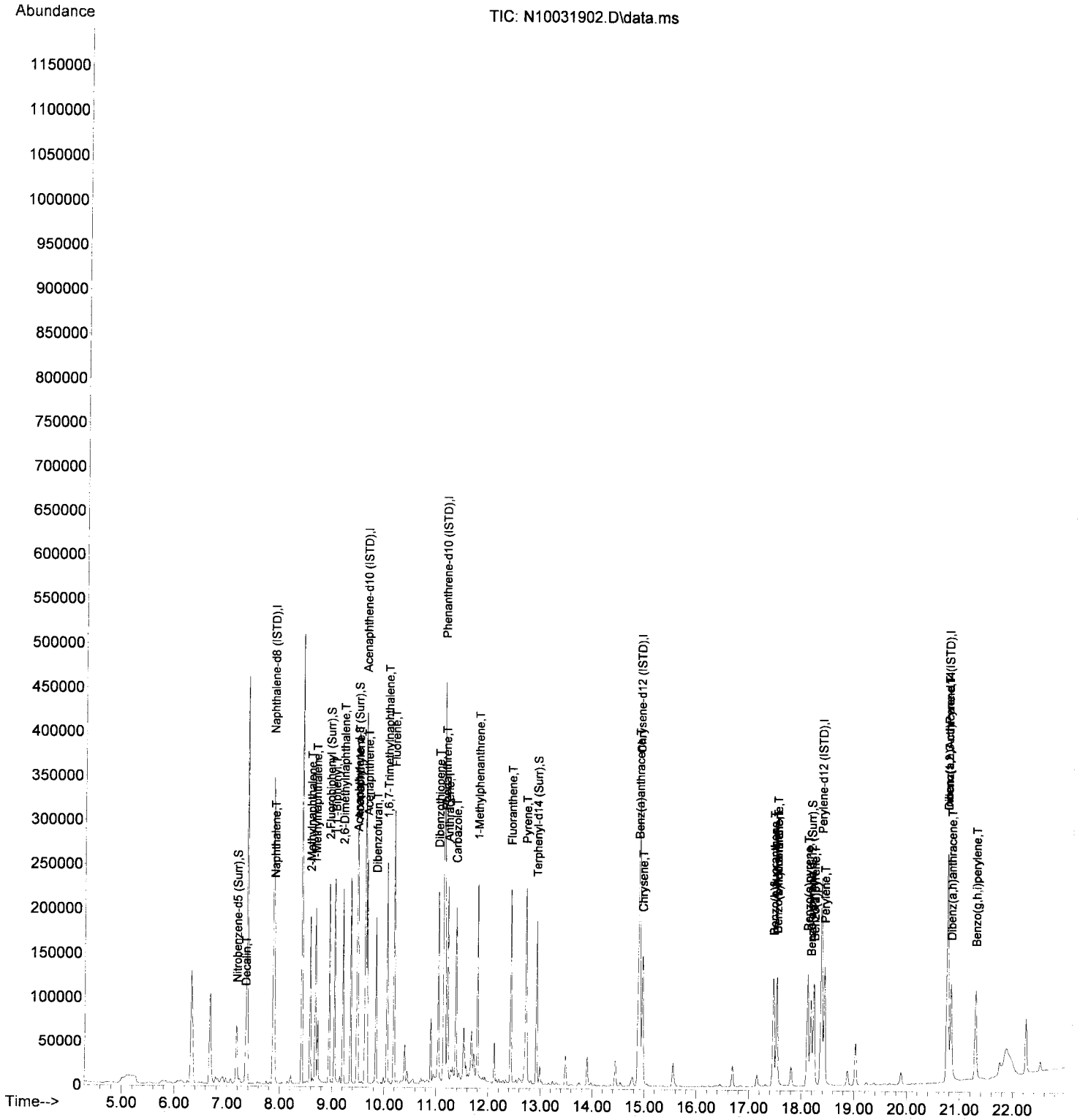
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	225555	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	127157	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	227774	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	204818	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	191193	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	146555	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.184	82	40505	54.04 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	101537	53.53 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	125751	48.10 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	102239	47.46 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	78693	51.47 ng/ml	0.00
Target Compounds					Qvalue
3) Decalin	7.353	138	8238	49.06 ng/ml	97
4) Naphthalene	7.901	128	121503	48.84 ng/ml	100
5) 2-Methylnaphthalene	8.583	142	77210	36.63 ng/ml	98
6) 1-Methylnaphthalene	8.682	142	78308	37.15 ng/ml	98
7) 1,1'-Biphenyl	9.049	154	108880	38.40 ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	72659	35.09 ng/ml	98
12) Acenaphthylene	9.492	152	136168	49.33 ng/ml	99
13) Acenaphthene	9.667	153	89954	49.75 ng/ml	99
14) Dibenzofuran	9.842	168	113952	50.32 ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	74024	48.82 ng/ml	100
16) Fluorene	10.185	166	89152	48.18 ng/ml	99
18) Dibenzothiopene	11.036	184	119779	50.28 ng/ml	97
19) Phenanthrene	11.165	178	132643	49.77 ng/ml	100
20) Anthracene	11.217	178	121694	49.09 ng/ml	99
21) Carbazole	11.375	167	99353	49.53 ng/ml	99
22) 1-Methylphenanthrene	11.794	192	94368	50.97 ng/ml	100
23) Fluoranthene	12.430	202	138456	51.56 ng/ml	98
25) Pyrene	12.721	202	144512	45.16 ng/ml	100
27) Benz(a)anthracene	14.883	228	110715	46.56 ng/ml	99
28) Chrysene	14.959	228	108000	47.99 ng/ml	99
30) Benzo(b)fluoranthene	17.465	252	106918	48.46 ng/ml	94
31) Benzo(k)fluoranthene	17.530	252	107745	49.60 ng/ml	95
32) Benzo(b+k)fluoranthene	17.530	252	221318	98.08 ng/ml	95
34) Benzo(e)pyrene	18.112	252	108395	48.59 ng/ml	98
35) Benzo(a)pyrene	18.235	252	95251	50.44 ng/ml	98
36) Perylene	18.433	252	117443	50.50 ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	85870	47.51 ng/ml	86
39) Dibenz(a,h)anthracene	20.829	278	83523	49.18 ng/ml	85
40) Benzo(g,h,i)perylene	21.295	276	92897	48.45 ng/ml	85

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031902.D
Acq On : 03 Oct 2019 08:56 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 12:43:00 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



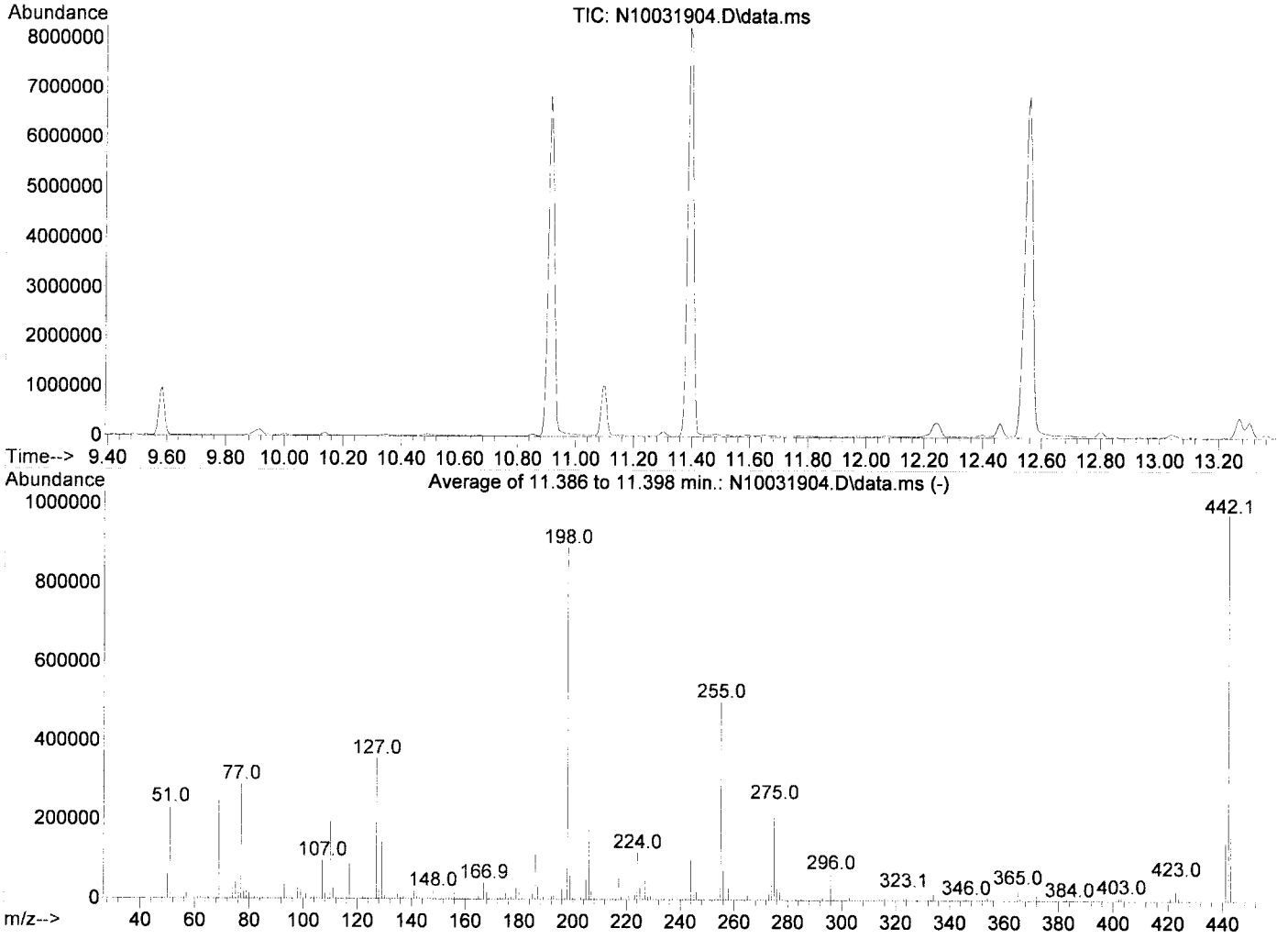
Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Replaced liner

AMS 10/4/19

Integration File: rteint.p

Method : R:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019



AutoFind: Scans 1217, 1218, 1219; Background Corrected with Scan 1211

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.6	4212	PASS
69	69	100	100	100.0	257555	PASS
70	69	0.00	2	0.5	1208	PASS
197	198	0.00	2	0.5	4378	PASS
198	198	100	100	100.0	890667	PASS
199	198	5	9	6.9	61213	PASS
365	198	1	100	3.7	32651	PASS
441	443	0.01	150	76.5	147216	PASS
442	198	0.10	200	110.1	980224	PASS
443	442	15	24	19.6	192365	PASS

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 04 12:45:20 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

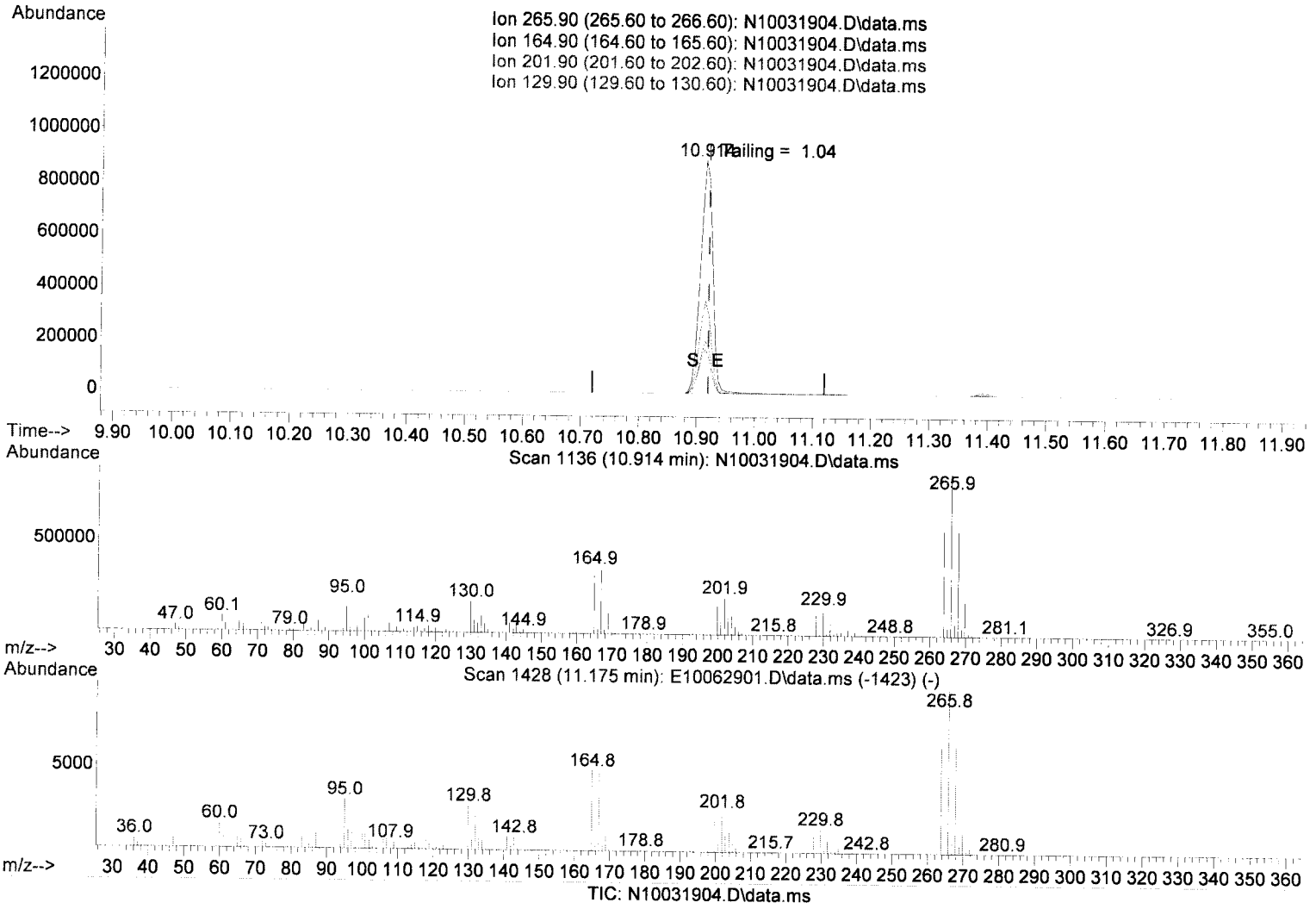
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.607	150	178844	2.00	ug/mL	0.00
2) Naphthalene-d8	7.819	136	514271	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.585	162	281614	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.095	188	532238	2.00	ug/mL	0.00
11) Chrysene-d12	14.773	240	479432	2.00	ug/mL	-0.01
12) Perylene-d12	16.813	264	429321	2.00	ug/mL	-0.02
13) Dibenz(a,h)anthracene-...	18.042	292	351660	2.00	ug/mL	#-0.02
Target Compounds						Qvalue
4) Pentachlorophenol	10.914	266	1301543	48.94	ug/mL	87
6) DFTPP	11.398	442	1680806	39.12	ug/mL	78
7) Benzidine	12.558	184	5474317	28.91	ug/mL	98
8) 4,4-DDE	12.802	TIC	160719	No Calib		
9) 4,4-DDD	13.304	TIC	439969	No Calib		
10) 4,4-DDT	13.863	TIC	16913414	30.99	ug/mL	96

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 04 12:45:20 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031904.D\data.ms

(4) Pentachlorophenol

10.914min (-0.006) 48.94 ug/mL

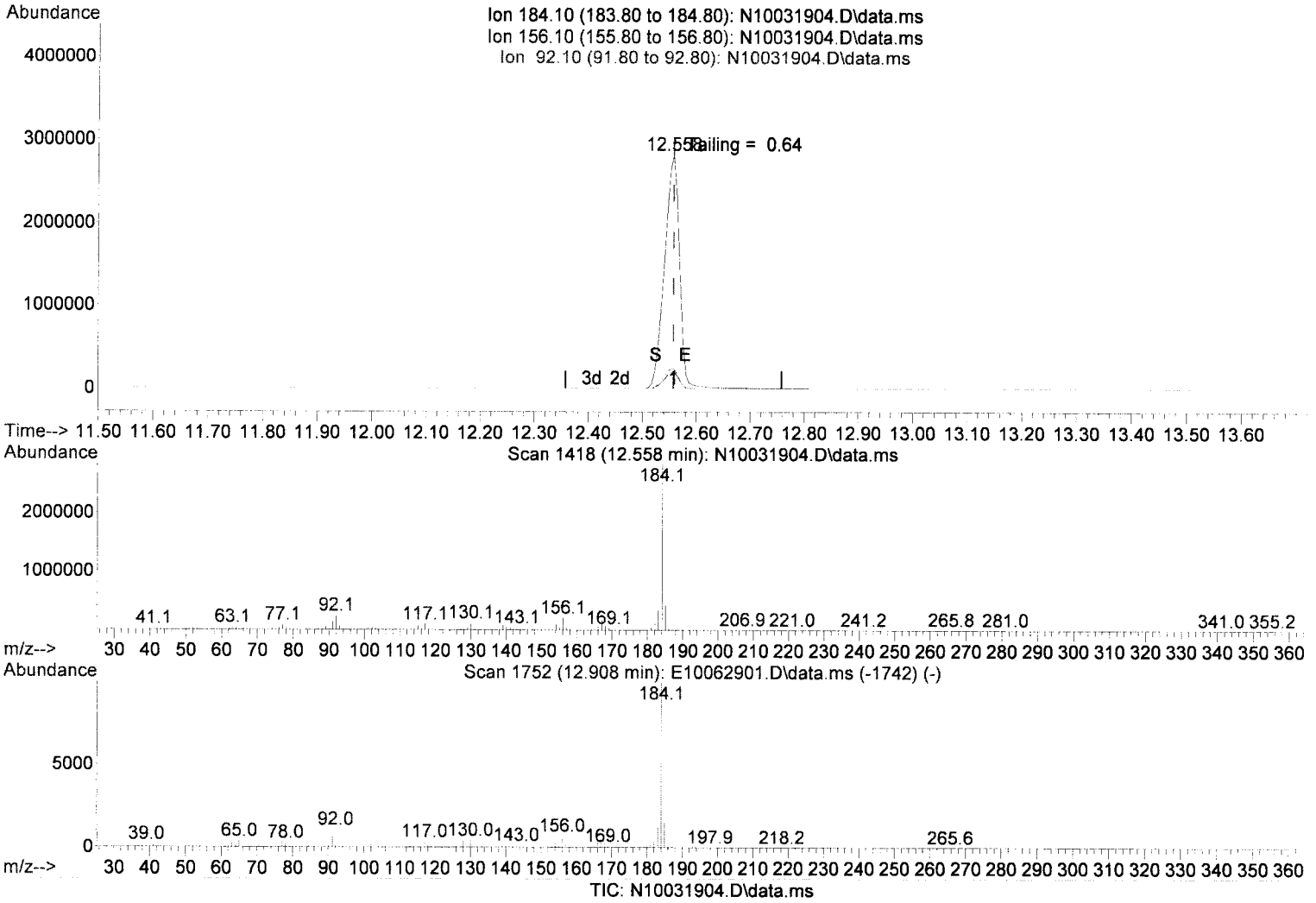
response 1301543

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	39.97
201.90	25.80	22.63
129.90	27.30	19.21

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 04 12:45:20 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(7) Benzidine

12.558min (-0.000) 28.91 ug/mL

response 5474317

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.28
92.10	8.20	8.53
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

From:
9J03014-TUN2
SV-GCMS14

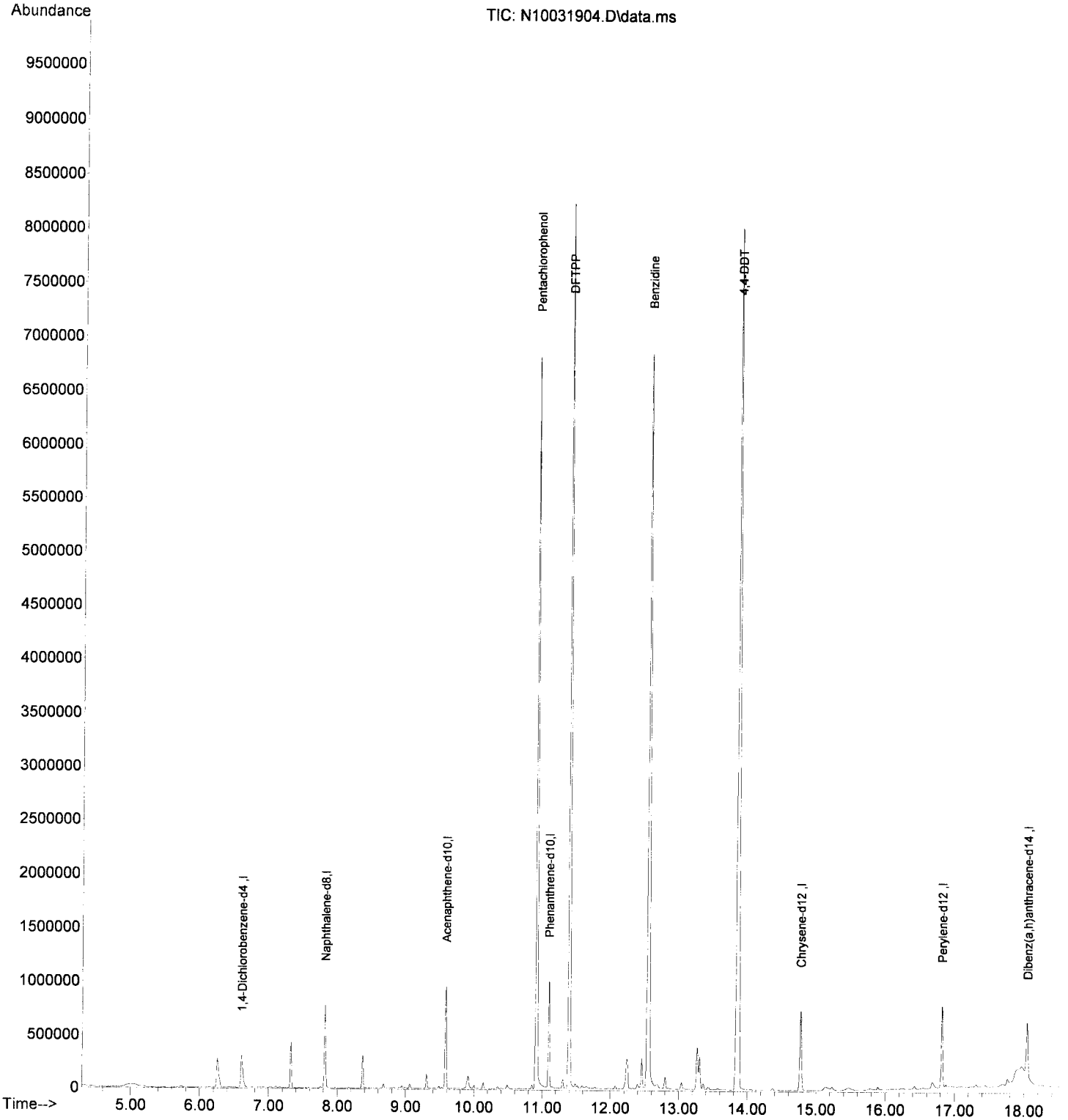
First Column Area Counts		Percent Breakdown	
DDE	160719		
DDD	439969		
DDT	16913414	**3.43**	**PASS**

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031904.D
Acq On : 03 Oct 2019 10:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-TUN2
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 04 12:45:20 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Evaluate Continuing Calibration Report

Data Path : R:\data\2019-10\9J03014\
Data File : N10031905.D
Acq On : 03 Oct 2019 10:44 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

AMS 10/4/19

Quant Time: Oct 04 12:46:44 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	140	0.00
2	S	Nitrobenzene-d5 (Surr)	50.000	50.408	-0.8	145	0.00
3	T	Decalin	50.000	29.905	40.2#	83	-0.01
4	T	Naphthalene	50.000	49.006	2.0	140	-0.01
5	T	2-Methylnaphthalene	50.000	44.867	10.3	125	0.00
6	T	1-Methylnaphthalene	50.000	42.539	14.9	115	0.00
7	T	1,1'-Biphenyl	50.000	42.346	15.3	118	0.00
8	T	2,6-Dimethylnaphthalene	50.000	43.267	13.5	118	0.00
9	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	115	0.00
10	S	2-Fluorobiphenyl (Surr)	50.000	50.756	-1.5	117	0.00
11	S	Acenaphthylene d-8 (Surr)	50.000	47.873	4.3	112	0.00
12	T	Acenaphthylene	50.000	48.719	2.6	112	0.00
13	T	Acenaphthene	50.000	49.893	0.2	117	0.00
14	T	Dibenzofuran	50.000	51.878	-3.8	119	0.00
15	T	1,6,7-Trimethylnaphthalene	50.000	49.619	0.8	116	0.00
16	T	Fluorene	50.000	52.891	-5.8	122	0.00
17	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	120	0.00
18	T	Dibenzothiopene	50.000	49.164	1.7	120	0.00
19	T	Phenanthrene	50.000	48.719	2.6	119	0.00
20	T	Anthracene	50.000	49.748	0.5	121	0.00
21	T	Carbazole	50.000	47.331	5.3	115	-0.02
22	T	1-Methylphenanthrene	50.000	51.117	-2.2	124	0.00
23	T	Fluoranthene	50.000	50.951	-1.9	123	0.00
24	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	134	0.00
25	T	Pyrene	50.000	46.264	7.5	123	0.00
26	S	Terphenyl-d14 (Surr)	50.000	49.840	0.3	134	0.00
27	T	Benz(a)anthracene	50.000	47.602	4.8	135	0.00
28	T	Chrysene	50.000	48.035	3.9	131	0.00
29	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	130	0.00
30	T	Benzo(b)fluoranthene	50.000	50.846	-1.7	131	0.00
31	T	Benzo(k)fluoranthene	50.000	50.665	-1.3	134	0.00
32	T	Benzo(b+k)fluoranthene	100.000	101.222	-1.2	132	-0.07
33	S	Benzo(a)pyrene d-12 (Surr)	50.000	52.534	-5.1	135	0.00
34	T	Benzo(e)pyrene	50.000	48.776	2.4	129	0.00
35	T	Benzo(a)pyrene	50.000	51.208	-2.4	131	0.00
36	T	Perylene	50.000	48.936	2.1	127	0.00
37	I	Dibenz(a,h)Anthrcene-d14(IS	100.000	100.000	0.0	136	0.00
38	T	Indeno(1,2,3-cd)Pyrene	50.000	47.384	5.2	130	0.00
39	T	Dibenz(a,h)anthracene	50.000	49.212	1.6	135	0.00
40	T	Benzo(g,h,i)perylene	50.000	48.010	4.0	128	0.00

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031905.D
Acq On : 03 Oct 2019 10:44 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 12:46:44 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

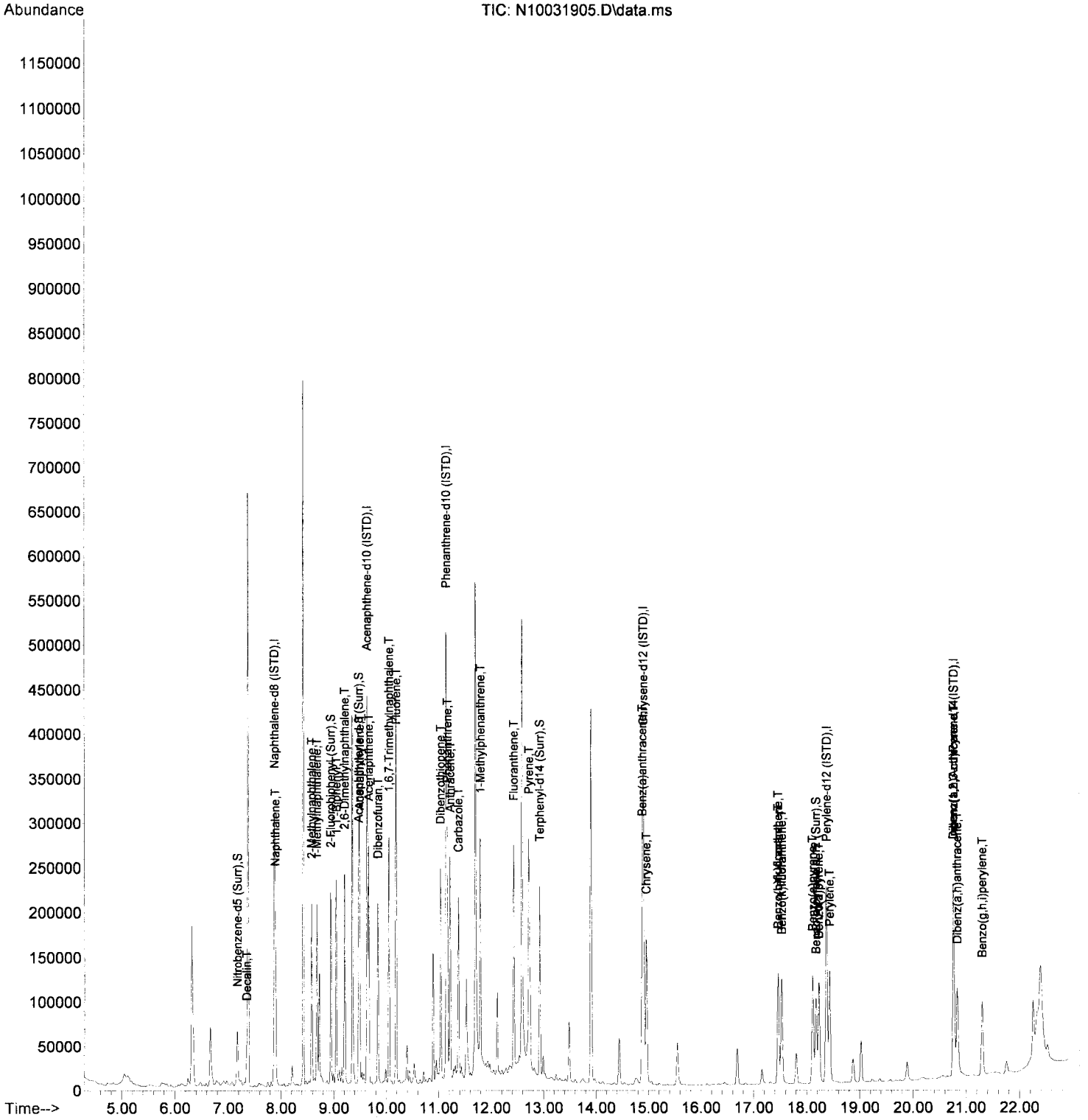
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	207501	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	135408	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	263900	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	227174	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	185420	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	126520	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	34757	50.41	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	102532	50.76	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	133285	47.87	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	119081	49.84	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.176	264	77899	52.53	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.353	138	4620	29.91	ng/ml	94
4) Naphthalene	7.895	128	112155	49.01	ng/ml	100
5) 2-Methylnaphthalene	8.582	142	87012	44.87	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	82482	42.54	ng/ml	97
7) 1,1'-Biphenyl	9.049	154	110451	42.35	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	82419	43.27	ng/ml	99
12) Acenaphthylene	9.492	152	143220	48.72	ng/ml	99
13) Acenaphthene	9.667	153	96067	49.89	ng/ml	100
14) Dibenzofuran	9.841	168	125114	51.88	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	80124	49.62	ng/ml	99
16) Fluorene	10.191	166	104211	52.89	ng/ml	98
18) Dibenzothiopene	11.036	184	135695	49.16	ng/ml	97
19) Phenanthrene	11.165	178	150449	48.72	ng/ml	100
20) Anthracene	11.217	178	142896	49.75	ng/ml	99
21) Carbazole	11.374	167	110009	47.33	ng/ml	98
22) 1-Methylphenanthrene	11.794	192	109656	51.12	ng/ml	99
23) Fluoranthene	12.429	202	158524	50.95	ng/ml	97
25) Pyrene	12.721	202	164201	46.26	ng/ml	100
27) Benz(a)anthracene	14.883	228	125552	47.60	ng/ml	99
28) Chrysene	14.959	228	119893	48.03	ng/ml	100
30) Benzo(b)fluoranthene	17.459	252	108787	50.85	ng/ml	94
31) Benzo(k)fluoranthene	17.529	252	106728	50.67	ng/ml	94
32) Benzo(b+k)fluoranthene	17.459	252	221518	101.22	ng/ml	93
34) Benzo(e)pyrene	18.112	252	105523	48.78	ng/ml	98
35) Benzo(a)pyrene	18.229	252	93777	51.21	ng/ml	97
36) Perylene	18.433	252	110376	48.94	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	73937	47.38	ng/ml	83
39) Dibenz(a,h)anthracene	20.828	278	72154	49.21	ng/ml	84
40) Benzo(g,h,i)perylene	21.295	276	79469	48.01	ng/ml	84

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031905.D
Acq On : 03 Oct 2019 10:44 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 04 12:46:44 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



SV14_090619_PAH.M Fri Oct 04 12:46:45 2019 Page: 2

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031906.D
Acq On : 03 Oct 2019 11:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:06 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

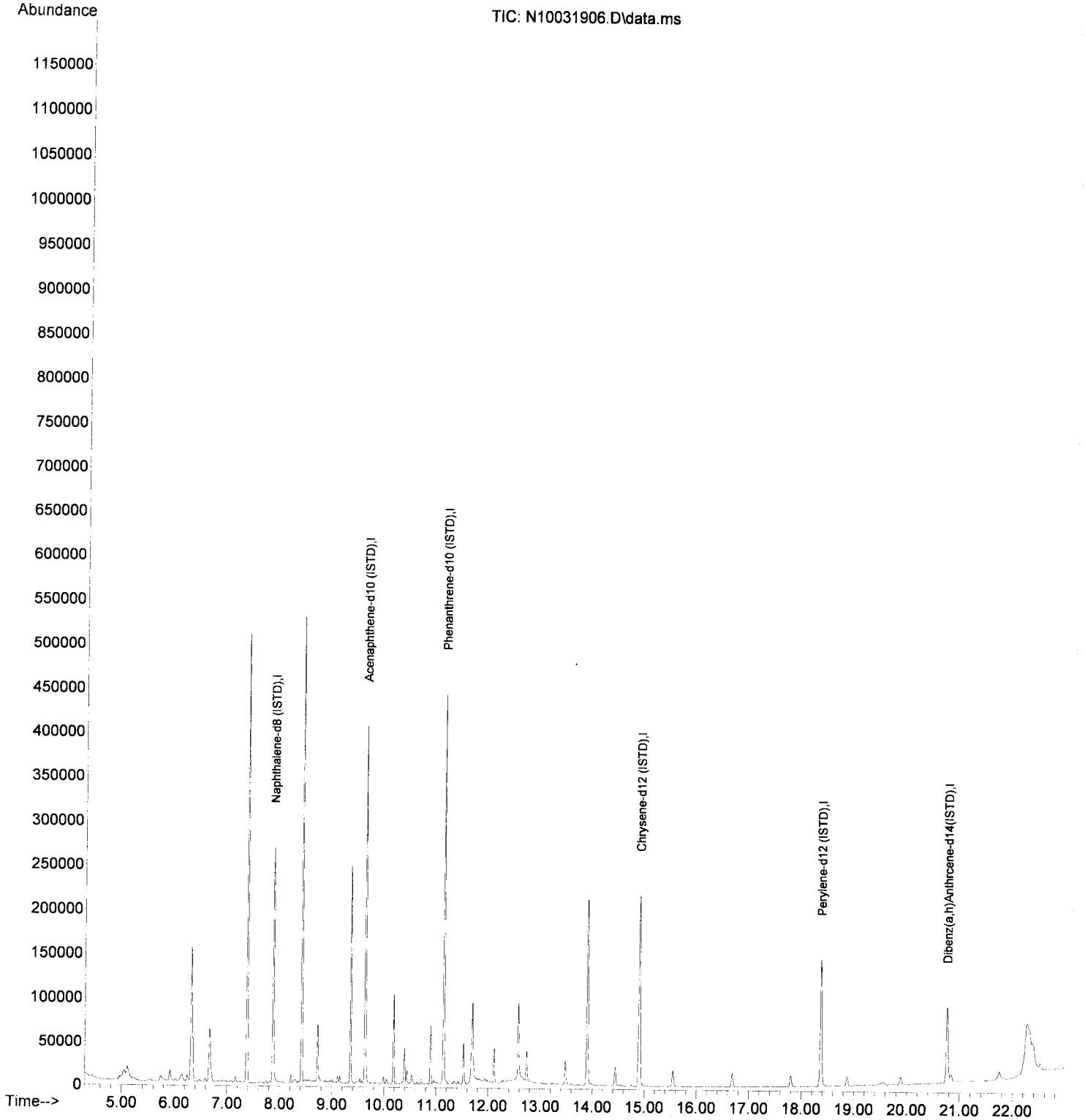
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	203955	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	126264	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	237335	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	163092	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	121839	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	86422	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.166	82	223	0.33 ng/ml	-0.02
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00 ng/ml	
11) Acenaphthylene d-8 (Surr)	9.480	160	1122	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	0.000	244	0	0.00 ng/ml	
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.907	128	577	N.D.	
5) 2-Methylnaphthalene	8.589	142	118	N.D.	
6) 1-Methylnaphthalene	8.688	142	75	N.D.	
7) 1,1'-Biphenyl	9.055	154	305	N.D.	
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.	
12) Acenaphthylene	9.492	152	104	N.D.	
13) Acenaphthene	0.000		0	N.D.	
14) Dibenzofuran	0.000		0	N.D.	
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	
16) Fluorene	10.191	166	74	N.D.	
18) Dibenzothiopene	0.000		0	N.D.	
19) Phenanthrene	11.165	178	289	N.D.	
20) Anthracene	11.165	178	262	N.D.	
21) Carbazole	11.380	167	113	N.D.	
22) 1-Methylphenanthrene	11.788	192	50	N.D.	
23) Fluoranthene	12.430	202	90	N.D.	
25) Pyrene	12.721	202	76	N.D.	
27) Benz(a)anthracene	14.901	228	455	N.D.	
28) Chrysene	14.953	228	62	N.D.	
30) Benzo(b)fluoranthene	0.000		0	N.D.	
31) Benzo(k)fluoranthene	0.000		0	N.D.	
32) Benzo(b+k)fluoranthene	0.000		0	N.D.	
34) Benzo(e)pyrene	18.369	252	386	N.D.	
35) Benzo(a)pyrene	0.000		0	N.D.	
36) Perylene	18.369	252	386	N.D.	
38) Indeno(1,2,3-cd)Pyrene	0.000		0	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031906.D
Acq On : 03 Oct 2019 11:16 am
Operator : JK/ AMS/ DTH
Sample : 9J03014-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 04 12:47:06 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031907.D
Acq On : 03 Oct 2019 11:49 am
Operator : JK/ AMS/ DTH
Sample : 9100583-BLK1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 4 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:09 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

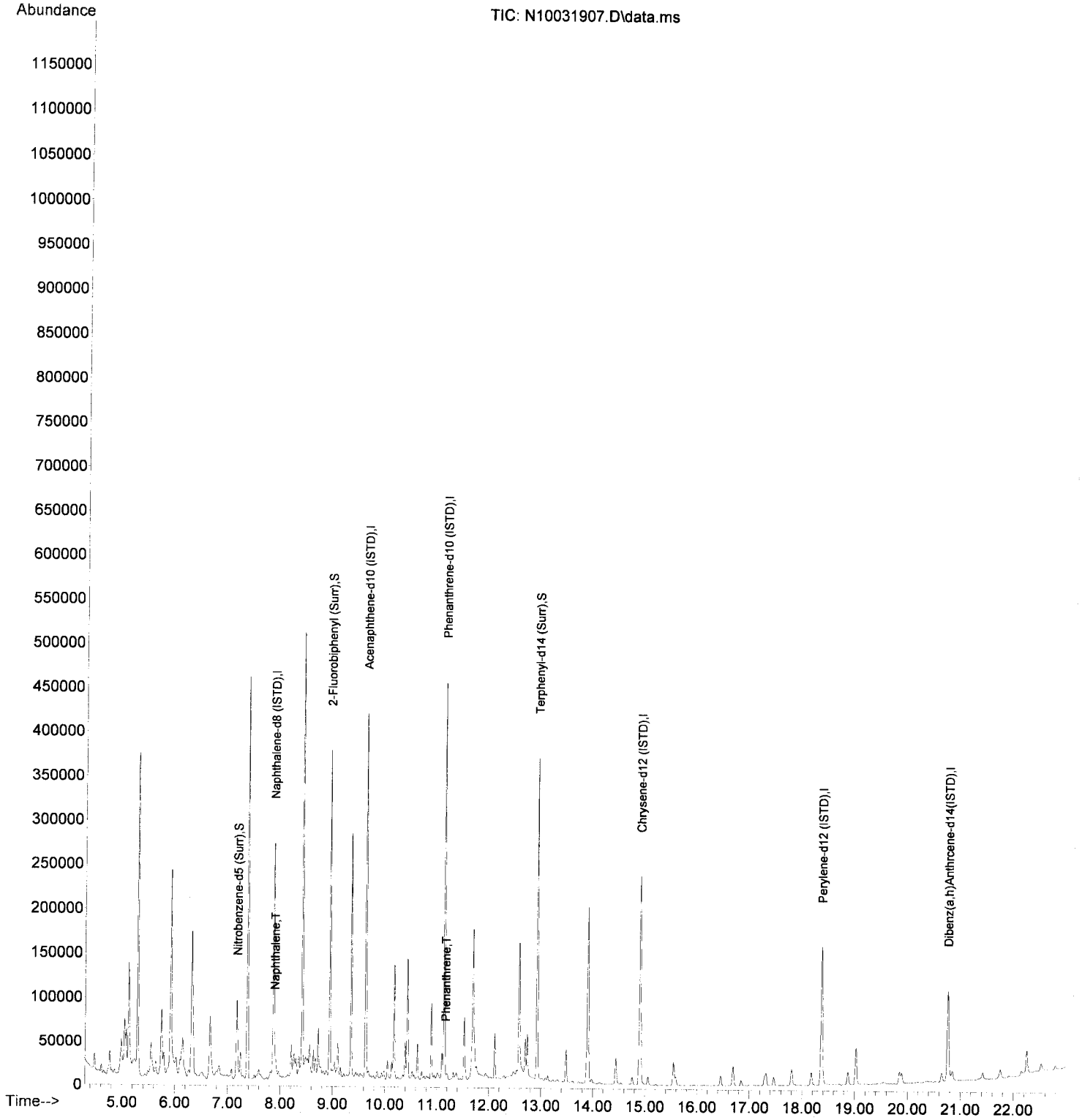
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	194910	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	125114	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	238408	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	176778	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	134282	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	96007	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.178	82	55061	85.01 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	172546	92.44 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	873	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	201016	108.12 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.895	128	3298	1.53 ng/ml	99
5) 2-Methylnaphthalene	8.583	142	664	N.D.	
6) 1-Methylnaphthalene	8.682	142	326	N.D.	
7) 1,1'-Biphenyl	9.049	154	675	N.D.	
8) 2,6-Dimethylnaphthalene	9.212	156	225	N.D.	
12) Acenaphthylene	9.492	152	632	N.D.	
13) Acenaphthene	9.667	153	674	N.D.	
14) Dibenzofuran	9.842	168	152	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.057	170	89	N.D.	
16) Fluorene	10.191	166	226	N.D.	
18) Dibenzothiopene	11.037	184	141	N.D.	
19) Phenanthrene	11.165	178	1127	0.40 ng/ml	95
20) Anthracene	11.217	178	191	N.D.	
21) Carbazole	11.375	167	163	N.D.	
22) 1-Methylphenanthrene	11.794	192	173	N.D.	
23) Fluoranthene	12.430	202	593	N.D.	
25) Pyrene	12.721	202	756	N.D.	
27) Benz(a)anthracene	14.895	228	635	N.D.	
28) Chrysene	14.959	228	244	N.D.	
30) Benzo(b)fluoranthene	17.460	252	306	N.D.	
31) Benzo(k)fluoranthene	17.460	252	462	N.D.	
32) Benzo(b+k)fluoranthene	17.460	252	462	N.D.	
34) Benzo(e)pyrene	18.113	252	255	N.D.	
35) Benzo(a)pyrene	18.235	252	266	N.D.	
36) Perylene	18.375	252	406	N.D.	
38) Indeno(1,2,3-cd)Pyrene	20.759	276	308	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	21.295	276	334	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031907.D
Acq On : 03 Oct 2019 11:49 am
Operator : JK/ AMS/ DTH
Sample : 9100583-BLK1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 04 12:47:09 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031908.D
Acq On : 03 Oct 2019 12:21 pm
Operator : JK/ AMS/ DTH
Sample : 9100583-BS1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 5 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:12 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	196581	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	128611	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	246492	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	197429	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	156299	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	110329	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	55176	84.47	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	178211	92.88	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	1115	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	204126	98.31	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.353	138	3173	21.68	ng/ml	98
4) Naphthalene	7.895	128	79460	36.65	ng/ml	100
5) 2-Methylnaphthalene	8.583	142	62559	34.05	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	60176	32.76	ng/ml	95
7) 1,1'-Biphenyl	9.049	154	80948	32.76	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	59516	32.98	ng/ml	98
12) Acenaphthylene	9.492	152	100934	36.15	ng/ml	98
13) Acenaphthene	9.667	153	68997	37.73	ng/ml	100
14) Dibenzofuran	9.842	168	89970	39.28	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	57652	37.59	ng/ml	98
16) Fluorene	10.186	166	74342	39.73	ng/ml	99
18) Dibenzothiopene	11.037	184	97437	37.80	ng/ml	97
19) Phenanthrene	11.165	178	109750	38.05	ng/ml	99
20) Anthracene	11.217	178	102675	38.27	ng/ml	99
21) Carbazole	11.375	167	80449	37.06	ng/ml	99
22) 1-Methylphenanthrene	11.788	192	78529	39.19	ng/ml	100
23) Fluoranthene	12.430	202	114547	39.42	ng/ml	97
25) Pyrene	12.715	202	116349	37.72	ng/ml	99
27) Benz(a)anthracene	14.878	228	83288	36.34	ng/ml	99
28) Chrysene	14.959	228	85962	39.63	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	72318	40.10	ng/ml	95
31) Benzo(k)fluoranthene	17.524	252	68057	38.33	ng/ml	94
32) Benzo(b+k)fluoranthene	17.460	252	144964	78.58	ng/ml	93
34) Benzo(e)pyrene	18.112	252	69931	38.35	ng/ml	98
35) Benzo(a)pyrene	18.229	252	58389	37.82	ng/ml	98
36) Perylene	18.427	252	71503	37.61	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	51682	37.98	ng/ml	83
39) Dibenz(a,h)anthracene	20.823	278	47779	37.37	ng/ml	87
40) Benzo(g,h,i)perylene	21.289	276	54921	38.05	ng/ml	84

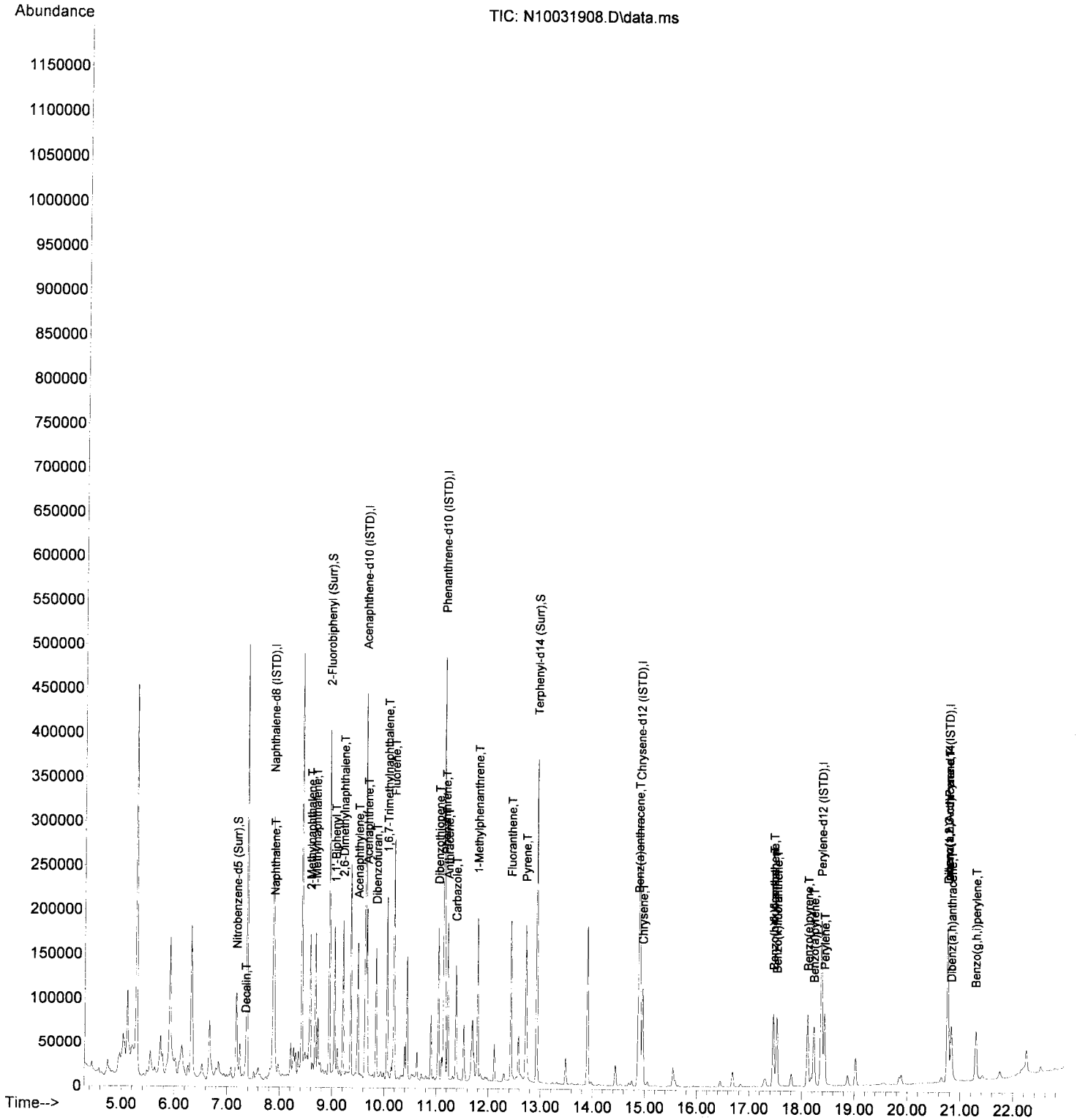
(#) = qualifier out of range (m) = manual integration (+) = signals summed

J

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031908.D
Acq On : 03 Oct 2019 12:21 pm
Operator : JK/ AMS/ DTH
Sample : 9100583-BS1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 04 12:47:12 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031909.D
Acq On : 03 Oct 2019 12:53 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-09
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 6 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:16 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

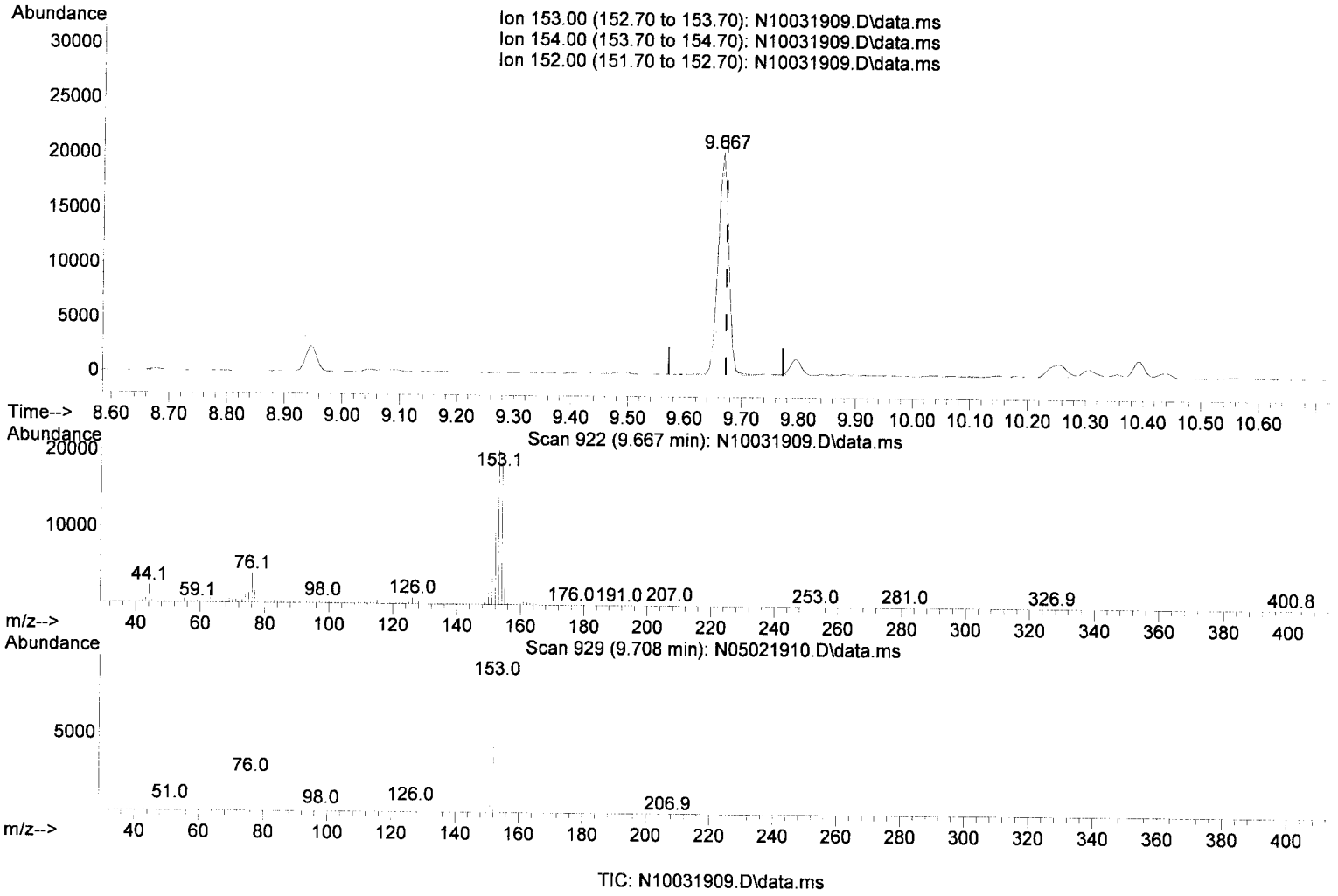
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	225240	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	137292	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	261055	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	205586	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	172563	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	131367	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	57979	77.46	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	176369	86.11	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	1231	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	196087	90.69	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.341	138	105	0.63	ng/ml#	78
4) Naphthalene	7.901	128	2059	0.83	ng/ml	89
5) 2-Methylnaphthalene	8.583	142	626	N.D.		
6) 1-Methylnaphthalene	8.682	142	805	N.D.		
7) 1,1'-Biphenyl	9.049	154	814	N.D.		
8) 2,6-Dimethylnaphthalene	9.212	156	288	N.D.		
12) Acenaphthylene	9.492	152	1055	N.D.		
13) Acenaphthene	9.667	153	26949	13.80	ng/ml	100
14) Dibenzofuran	9.842	168	232	N.D.		
15) 1,6,7-Trimethylnaphtha...	10.040	170	501	N.D.		
16) Fluorene	10.191	166	2818	1.41	ng/ml	98
18) Dibenzothiopene	11.036	184	1586	0.58	ng/ml	92
19) Phenanthrene	11.165	178	1937	0.63	ng/ml	87
20) Anthracene	11.217	178	605	N.D.		
21) Carbazole	11.380	167	355	N.D.		
22) 1-Methylphenanthrene	11.788	192	445	N.D.		
23) Fluoranthene	12.429	202	2366	0.77	ng/ml	86
25) Pyrene	12.721	202	3121	0.97	ng/ml	94
27) Benz(a)anthracene	14.883	228	1657	0.69	ng/ml	73
28) Chrysene	14.959	228	1752	0.78	ng/ml	77
30) Benzo(b)fluoranthene	17.465	252	1865	0.94	ng/ml	97
31) Benzo(k)fluoranthene	17.465	252	2433	1.24	ng/ml	94
32) Benzo(b+k)fluoranthene	17.465	252	2517	1.24	ng/ml	94
34) Benzo(e)pyrene	18.112	252	1275	0.63	ng/ml	93
35) Benzo(a)pyrene	18.229	252	1496	0.88	ng/ml	88
36) Perylene	18.427	252	2844	1.35	ng/ml	96
38) Indeno(1,2,3-cd)Pyrene	20.759	276	1747	1.08	ng/ml	84
39) Dibenz(a,h)anthracene	20.817	278	204	N.D.		
40) Benzo(g,h,i)perylene	21.295	276	2351	1.37	ng/ml	89

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031909.D
Acq On : 03 Oct 2019 12:53 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-09
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:47:16 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031909.D\data.ms

(13) Acenaphthene (T)

9.667min (-0.006) 13.80 ng/ml

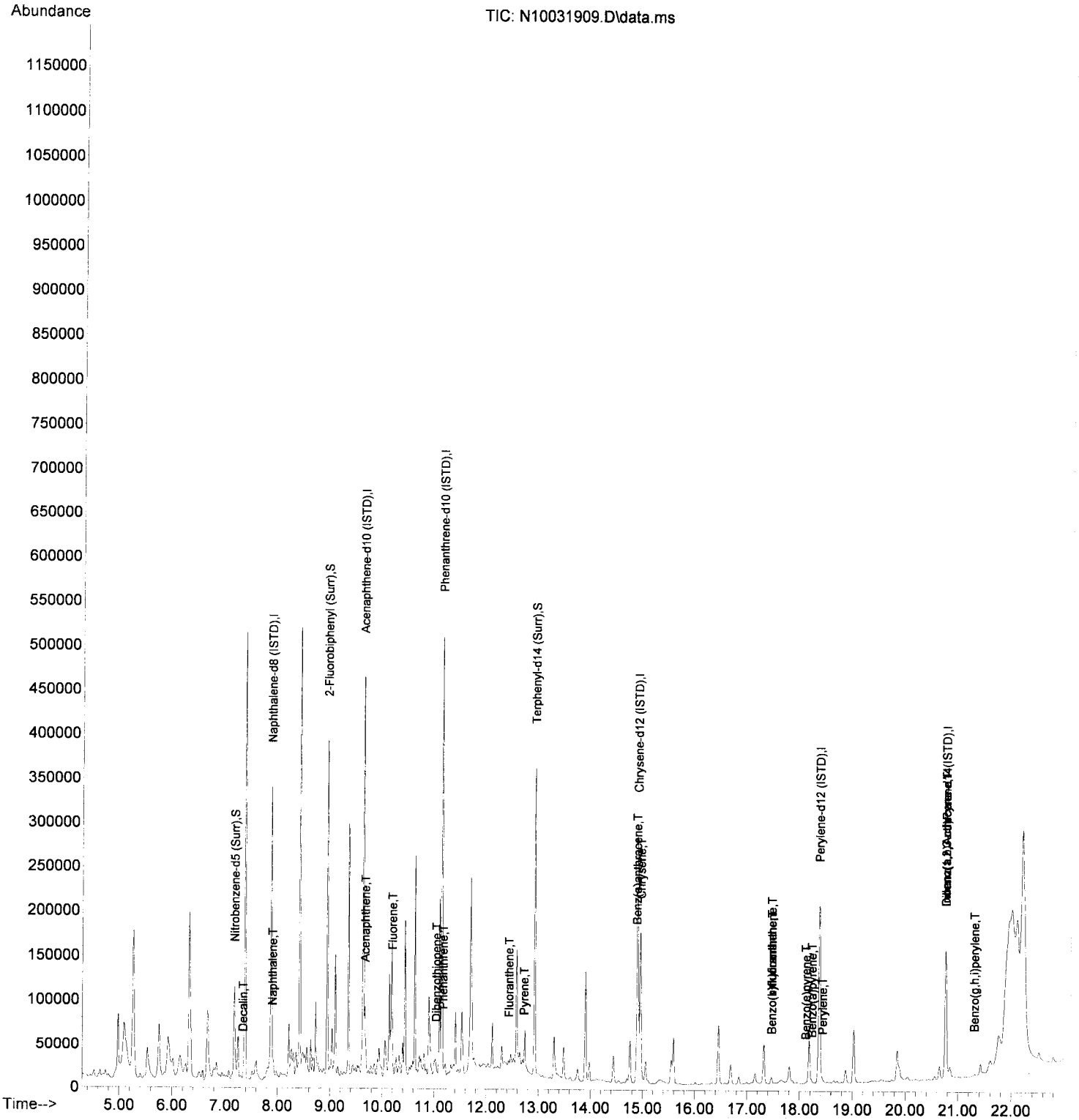
response 26949

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.29
152.00	46.80	46.76
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031909.D
Acq On : 03 Oct 2019 12:53 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-09
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 04 12:47:16 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031910.D
Acq On : 03 Oct 2019 01:26 pm
Operator : JK/ AMS/ DTH
Sample : 9100583-MS1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 7 Sample Multiplier: 1

AMS 10/7/19

Quant Time: Oct 04 12:47:20 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

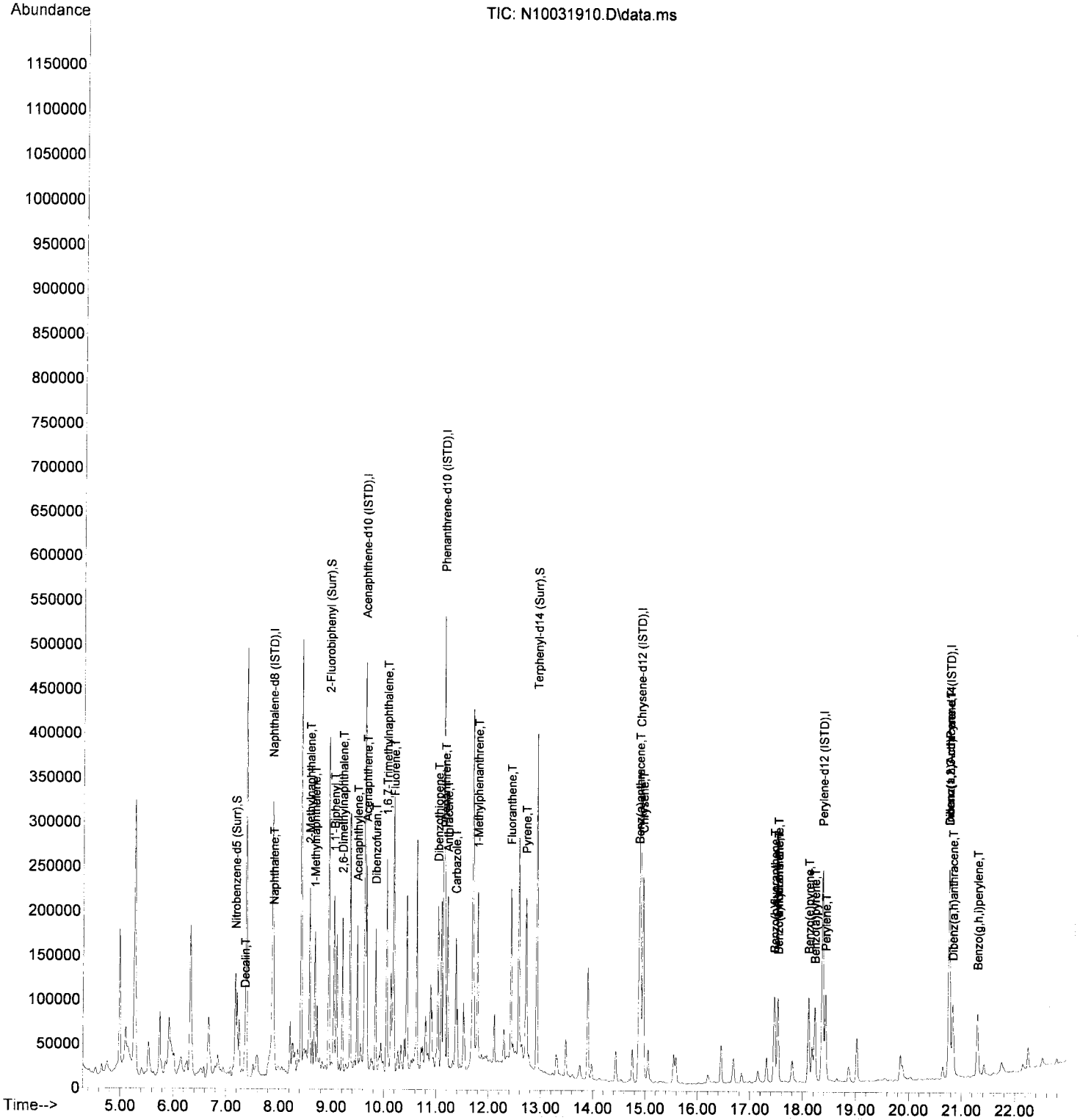
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	208722	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	136347	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	265804	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	234666	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	200617	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	152539	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	53781	77.54	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	177847	87.43	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	1076	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	212139	85.95	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.359	138	2683	17.27	ng/ml	97
4) Naphthalene	7.901	128	80753	35.08	ng/ml	99
5) 2-Methylnaphthalene	8.583	142	64056	32.84	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	60101	30.81	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	83093	31.67	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	59522	31.06	ng/ml	97
12) Acenaphthylene	9.492	152	102546	34.64	ng/ml	99
13) Acenaphthene	9.667	153	82114	42.35	ng/ml	99
14) Dibenzofuran	9.842	168	90697	37.35	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	59136	36.37	ng/ml	98
16) Fluorene	10.191	166	77104	38.86	ng/ml	99
18) Dibenzothiopene	11.037	184	100735	36.24	ng/ml	97
19) Phenanthrene	11.165	178	112949	36.31	ng/ml	100
20) Anthracene	11.217	178	106014	36.64	ng/ml	99
21) Carbazole	11.375	167	87049	37.18	ng/ml	99
22) 1-Methylphenanthrene	11.794	192	80906	37.44	ng/ml	98
23) Fluoranthene	12.430	202	120184	38.35	ng/ml	98
25) Pyrene	12.721	202	122759	33.48	ng/ml	100
27) Benz(a)anthracene	14.883	228	95721	35.13	ng/ml	100
28) Chrysene	14.959	228	94630	36.70	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	85627	36.99	ng/ml	95
31) Benzo(k)fluoranthene	17.530	252	83218	36.51	ng/ml	94
32) Benzo(b+k)fluoranthene	17.530	252	173867	73.43	ng/ml	94
34) Benzo(e)pyrene	18.112	252	83053	35.48	ng/ml	98
35) Benzo(a)pyrene	18.229	252	71223	35.95	ng/ml	98
36) Perylene	18.433	252	84814	34.75	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	64249	34.15	ng/ml	86
39) Dibenz(a,h)anthracene	20.829	278	59848	33.86	ng/ml	86
40) Benzo(g,h,i)perylene	21.295	276	67469	33.81	ng/ml	85

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031910.D
Acq On : 03 Oct 2019 01:26 pm
Operator : JK/ AMS/ DTH
Sample : 9100583-MS1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 04 12:47:20 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



SV14_090619_PAH.M Fri Oct 04 12:47:21 2019

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031911.D
Acq On : 03 Oct 2019 01:58 pm
Operator : JK/ AMS/ DTH
Sample : 9100583-MSD1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 04 12:47:24 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

AMS 10/7/19

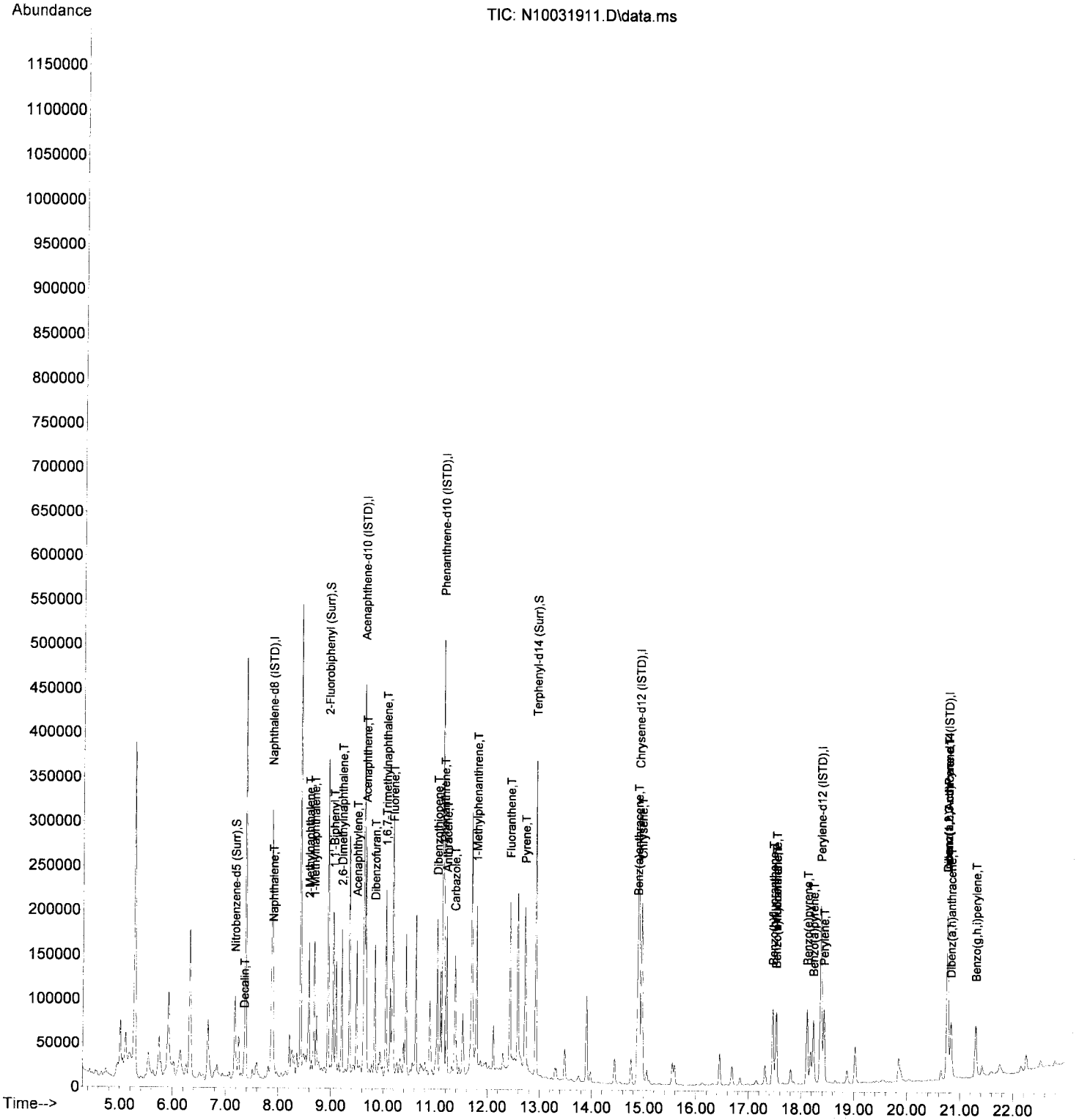
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	200676	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	131834	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	253777	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	206223	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	166706	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	117294	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	52288	78.41	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	165230	84.01	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	1110	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	199166	91.83	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.353	138	3309	22.15	ng/ml	92
4) Naphthalene	7.901	128	77856	35.18	ng/ml	99
5) 2-Methylnaphthalene	8.583	142	59639	31.80	ng/ml	97
6) 1-Methylnaphthalene	8.682	142	55376	29.53	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	76899	30.48	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	54870	29.78	ng/ml	99
12) Acenaphthylene	9.492	152	95894	33.50	ng/ml	99
13) Acenaphthene	9.667	153	91780	48.96	ng/ml	99
14) Dibenzofuran	9.842	168	84948	36.18	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	55081	35.04	ng/ml	99
16) Fluorene	10.191	166	74129	38.64	ng/ml	100
18) Dibenzothiopene	11.036	184	96518	36.36	ng/ml	96
19) Phenanthrene	11.165	178	107625	36.24	ng/ml	100
20) Anthracene	11.217	178	99551	36.04	ng/ml	99
21) Carbazole	11.374	167	81271	36.36	ng/ml	99
22) 1-Methylphenanthrene	11.788	192	76937	37.30	ng/ml	100
23) Fluoranthene	12.429	202	116402	38.90	ng/ml	98
25) Pyrene	12.721	202	121330	37.66	ng/ml	100
27) Benz(a)anthracene	14.877	228	85169	35.57	ng/ml	99
28) Chrysene	14.959	228	86488	38.17	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	73710	38.32	ng/ml	95
31) Benzo(k)fluoranthene	17.524	252	70594	37.27	ng/ml	95
32) Benzo(b+k)fluoranthene	17.524	252	148906	75.68	ng/ml	95
34) Benzo(e)pyrene	18.112	252	72161	37.10	ng/ml	98
35) Benzo(a)pyrene	18.229	252	60899	36.99	ng/ml	97
36) Perylene	18.427	252	74077	36.53	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	51669	35.72	ng/ml	85
39) Dibenz(a,h)anthracene	20.823	278	48124	35.40	ng/ml	86
40) Benzo(g,h,i)perylene	21.295	276	55707	36.30	ng/ml	85

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031911.D
Acq On : 03 Oct 2019 01:58 pm
Operator : JK/ AMS/ DTH
Sample : 9100583-MSD1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 04 12:47:24 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



SV14_090619_PAH.M Fri Oct 04 12:47:25 2019 Page: 2

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1

AMS 10/7/19 MOS

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

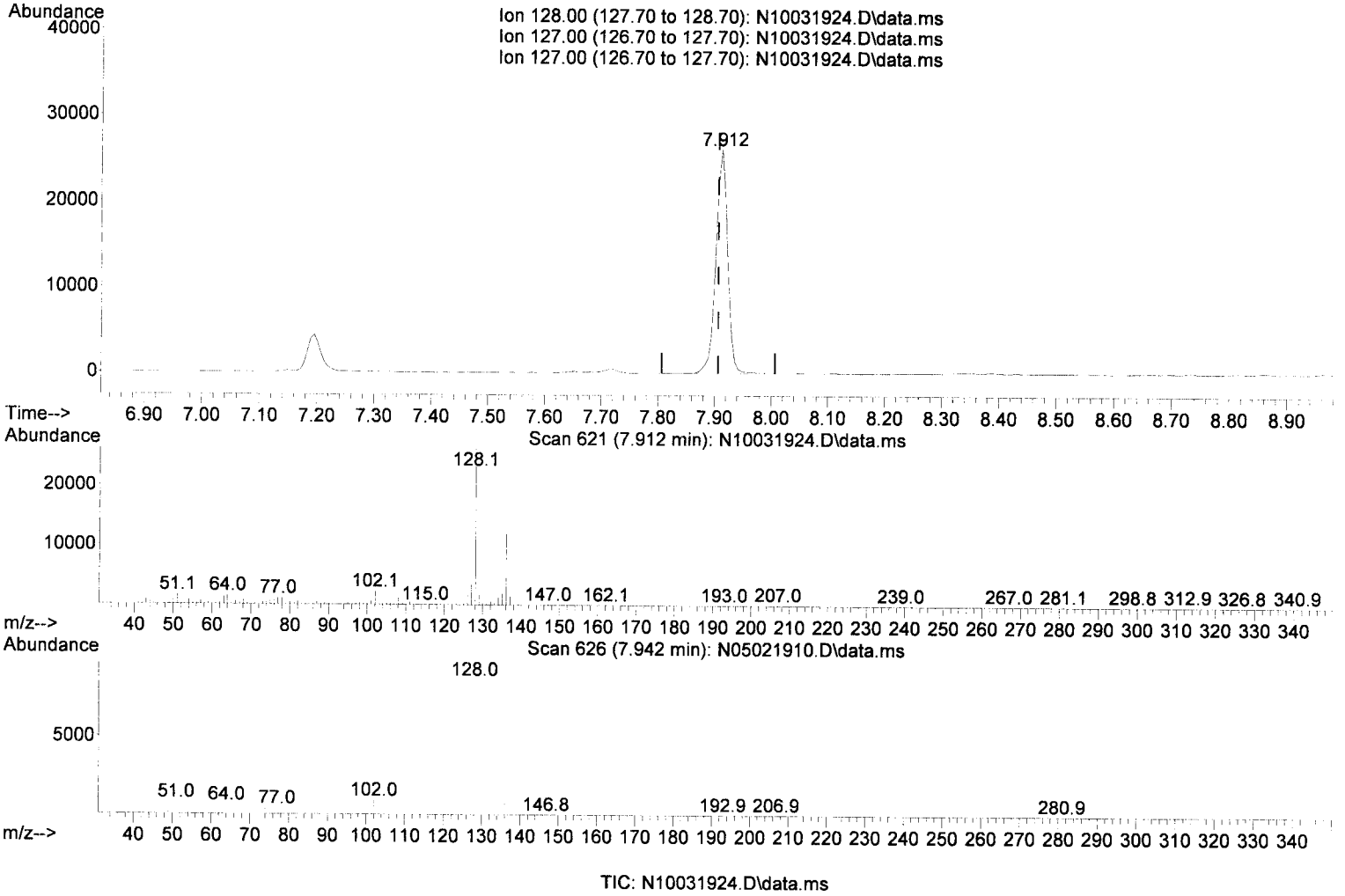
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.889	136	217099	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	135956	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.153	188	260939	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.924	240	246438	100.00	ng/ml	0.02
29) Perylene-d12 (ISTD)	18.392	264	229668	100.00	ng/ml	0.02
37) Dibenz(a,h)Anthrcene-d...	20.782	292	174282	100.00	ng/ml	0.02
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.195	82	15195	21.06	ng/ml	0.01
10) 2-Fluorobiphenyl (Surr)	8.961	172	46184	22.77	ng/ml	0.01
11) Acenaphthylene d-8 (Surr)	9.492	160	796	-1.00	ng/ml	0.01
26) Terphenyl-d14 (Surr)	12.936	244	56821	21.92	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.217	264	174	0.09	ng/ml	0.04
Target Compounds						Qvalue
3) Decalin	7.353	138	456	2.82	ng/ml#	25
4) Naphthalene	7.912	128	37972	15.86	ng/ml	99
5) 2-Methylnaphthalene	8.594	142	5324	2.62	ng/ml	98
6) 1-Methylnaphthalene	8.693	142	12902	6.36	ng/ml	98
7) 1,1'-Biphenyl	9.060	154	2964	1.09	ng/ml	96
8) 2,6-Dimethylnaphthalene	9.224	156	8333	4.18	ng/ml	98
12) Acenaphthylene	9.503	152	76391	25.88	ng/ml	97
13) Acenaphthene	9.678	153	143895	74.43	ng/ml	100
14) Dibenzofuran	9.853	168	6864	2.83	ng/ml	89
15) 1,6,7-Trimethylnaphtha...	10.063	170	7223	4.46	ng/ml	88
16) Fluorene	~~10.197~~	~~166~~	~~72997~~	~~36.90~~	~~ng/ml~~	~~99~~ MI-HIT
18) Dibenzothiopene	11.048	184	122506	44.89	ng/ml	97
19) Phenanthrene	11.176	178	650943	213.18	ng/ml	99
20) Anthracene	11.229	178	153038	53.88	ng/ml	99
21) Carbazole	11.386	167	10104	4.40	ng/ml	97
22) 1-Methylphenanthrene	11.800	192	49256	23.22	ng/ml	95
23) Fluoranthene	12.447	202	948334	308.26	ng/ml	96
25) Pyrene	12.738	202	1202670	312.37	ng/ml	100
27) Benz(a)anthracene	14.901	228	268033	93.68	ng/ml	72
28) Chrysene	14.982	228	350552	129.47	ng/ml	98
30) Benzo(b)fluoranthene	17.489	252	336698	127.05	ng/ml	94
31) Benzo(k)fluoranthene	~~17.489~~	~~252~~	~~424470~~	~~162.68~~	~~ng/ml~~	~~92~~ MI-MOS
32) Benzo(b+k)fluoranthene	17.489	252	464757	171.45	ng/ml	92
34) Benzo(e)pyrene	18.136	252	216907	80.94	ng/ml	98
35) Benzo(a)pyrene	18.258	252	334165	147.32	ng/ml	97
36) Perylene	18.450	252	101322	36.27	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.782	276	214467	99.78	ng/ml	83
39) Dibenz(a,h)anthracene	20.846	278	24318	12.04	ng/ml	89
40) Benzo(g,h,i)perylene	21.318	276	263858	115.72	ng/ml	84

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(4) Naphthalene (T)

7.912min (+ 0.006) 15.86 ng/ml

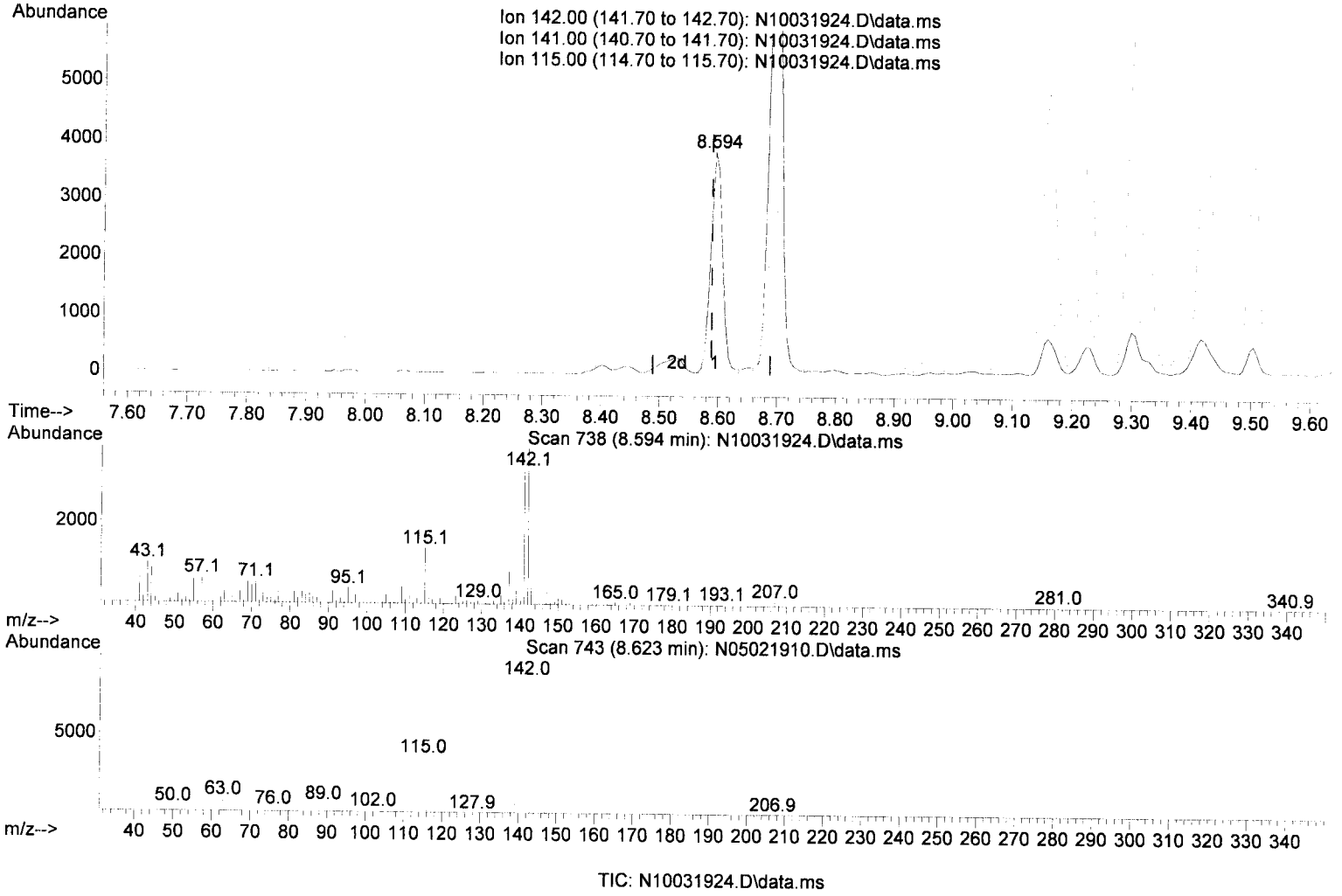
response 37972

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.95
127.00	12.60	12.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(5) 2-Methylnaphthalene (T)

8.594min (+ 0.006) 2.62 ng/ml

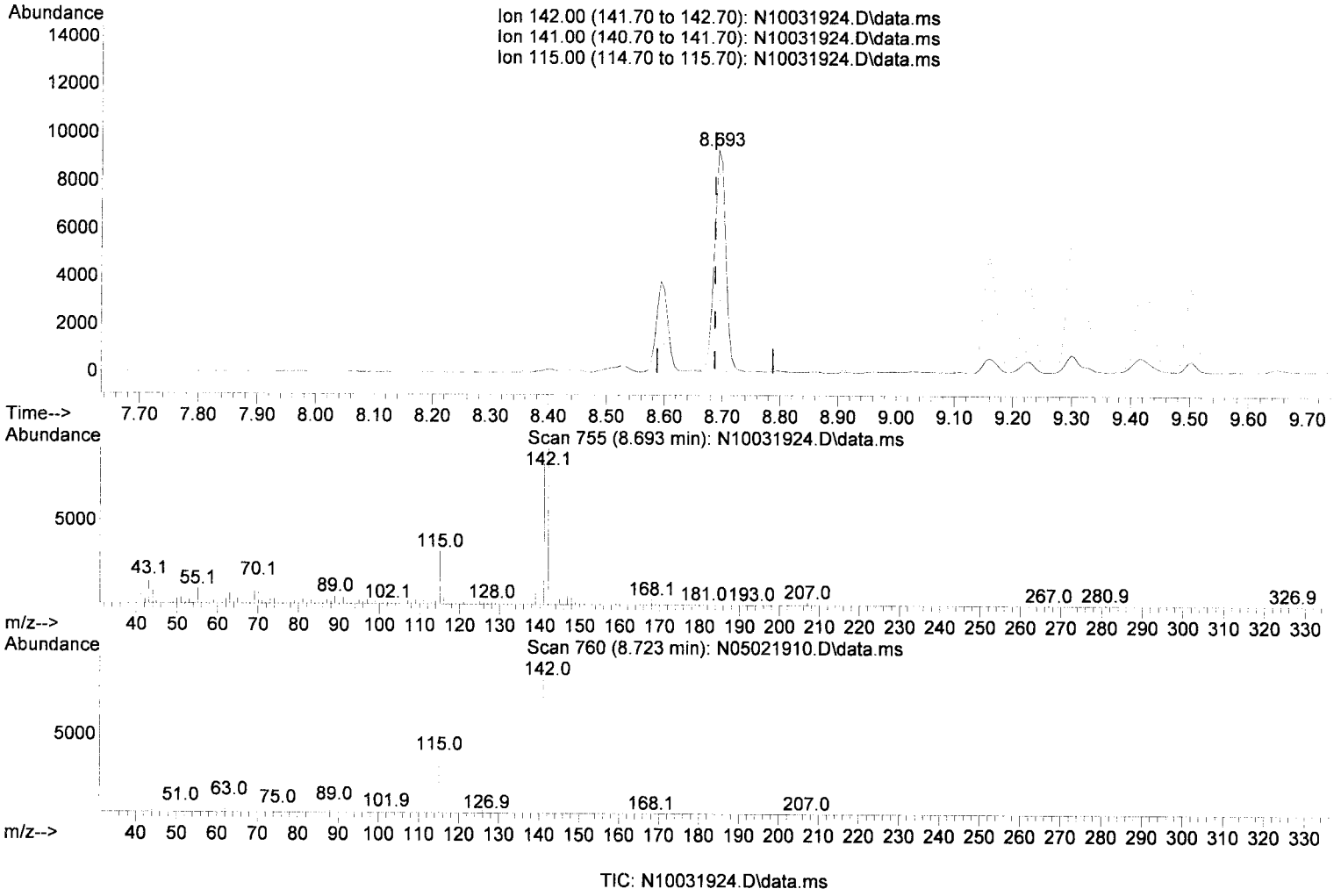
response 5324

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	86.60	88.67
115.00	35.70	36.07
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(6) 1-Methylnaphthalene (T)

8.693min (+ 0.006) 6.36 ng/ml

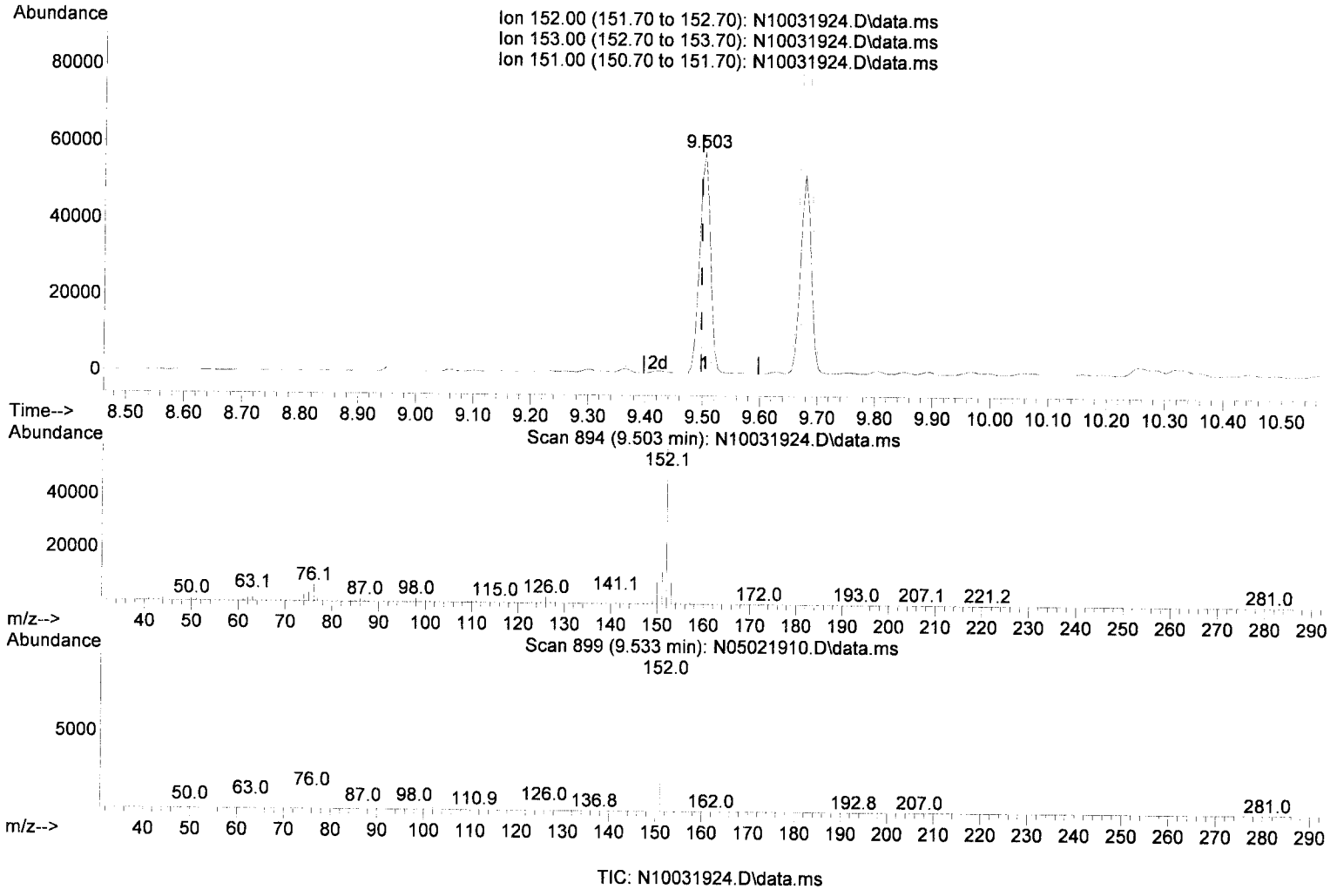
response 12902

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	90.21
115.00	37.80	33.98
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(12) Acenaphthylene (T)

9.503min (+ 0.006) 25.88 ng/ml

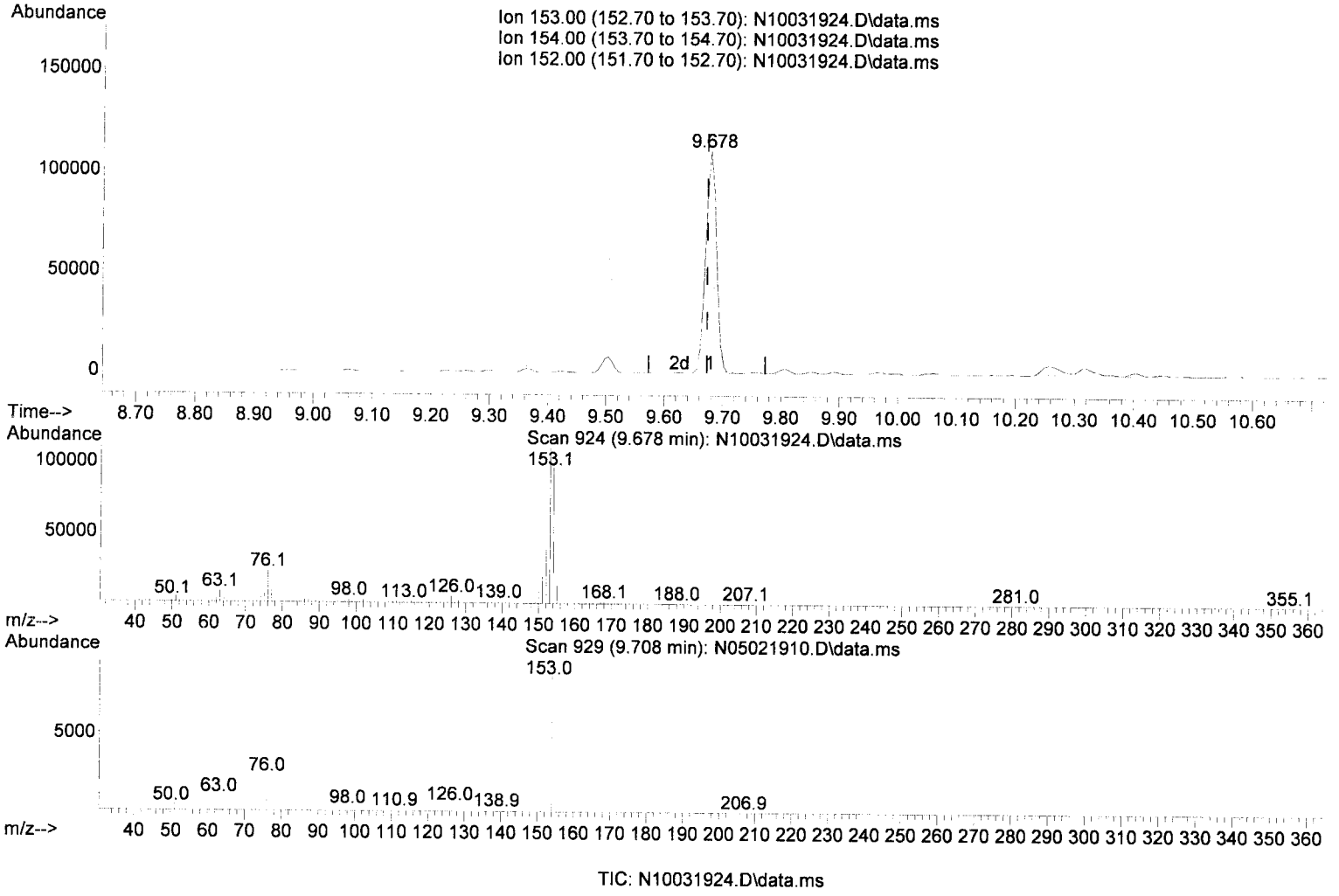
response 76391

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	13.80
151.00	19.30	20.35
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(13) Acenaphthene (T)

9.678min (+ 0.006) 74.43 ng/ml

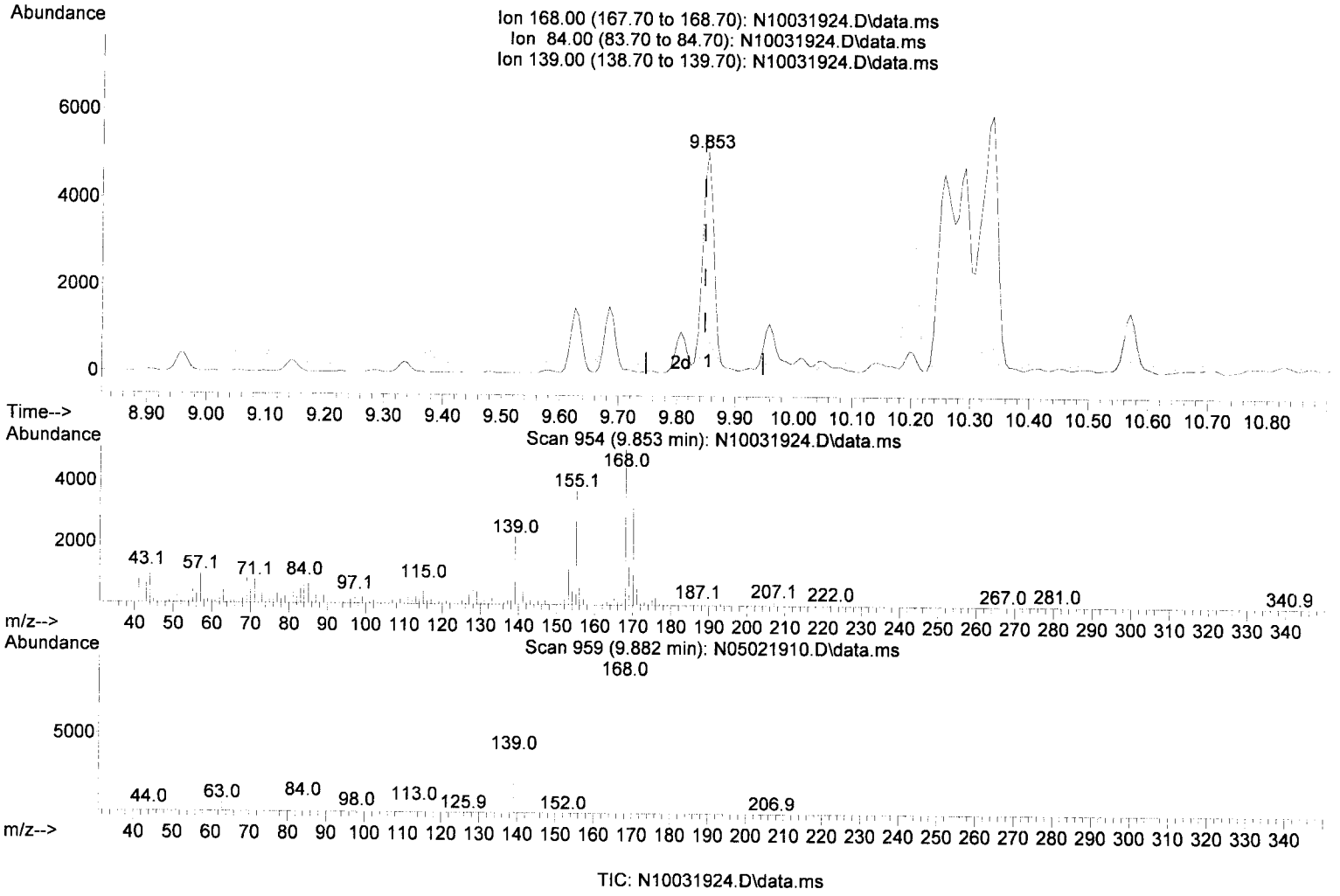
response 143895

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.65
152.00	46.80	47.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(14) Dibenzofuran (T)

9.853min (+ 0.006) 2.83 ng/ml

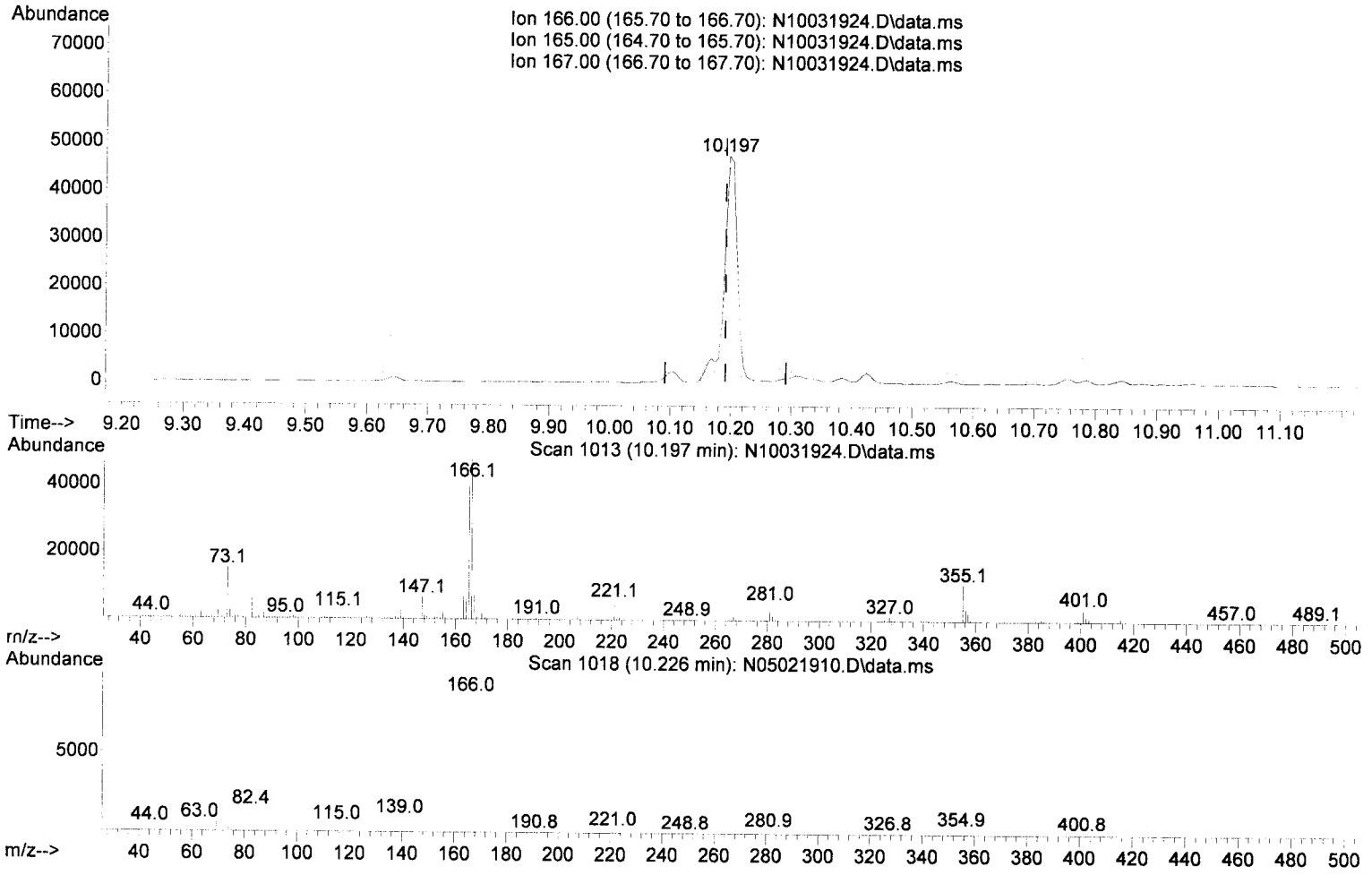
response 6864

Ion	Exp%	Act%
168.00	100.00	100.00
84.00	7.70	15.46
139.00	38.40	43.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(16) Fluorene (T)

10.197min (+ 0.006) 34.07 ng/ml m

response 67397

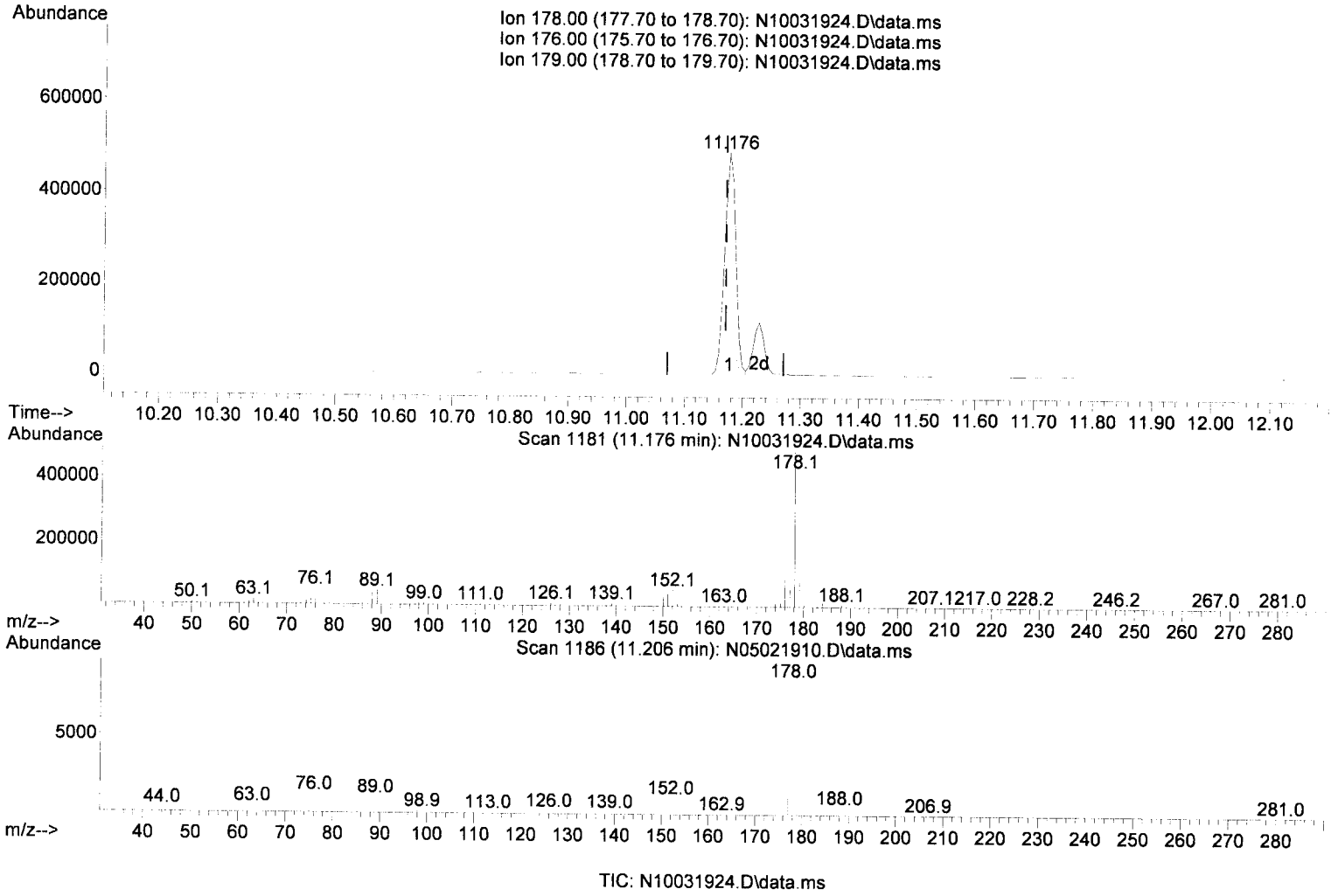
Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	94.55
167.00	13.60	14.93
0.00	0.00	0.00

AMS 10/7/19

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(19) Phenanthrene (T)

11.176min (+ 0.006) 213.18 ng/ml

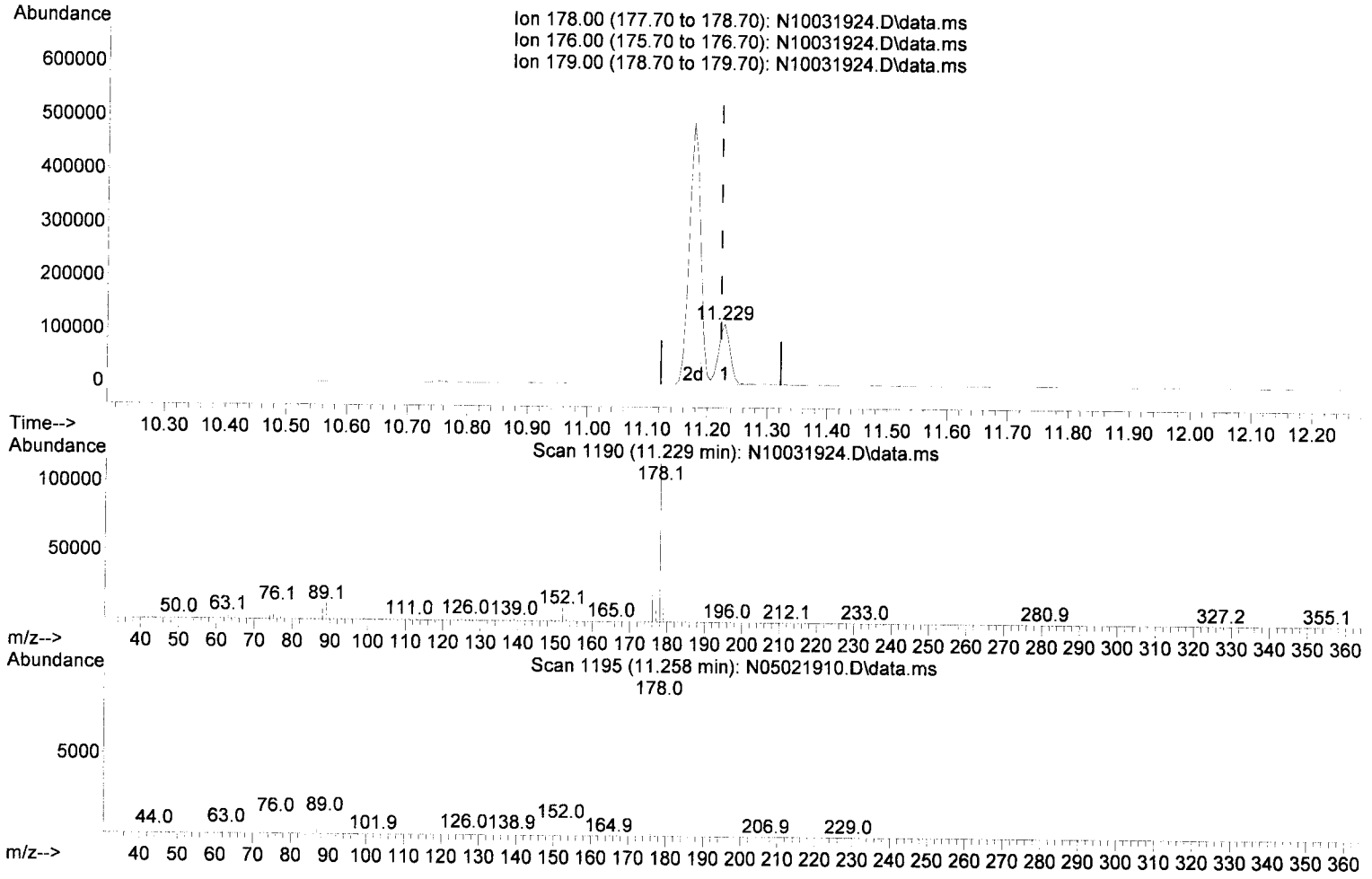
response 650943

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.95
179.00	15.10	15.54
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(20) Anthracene (T)

11.229min (+ 0.006) 53.88 ng/ml

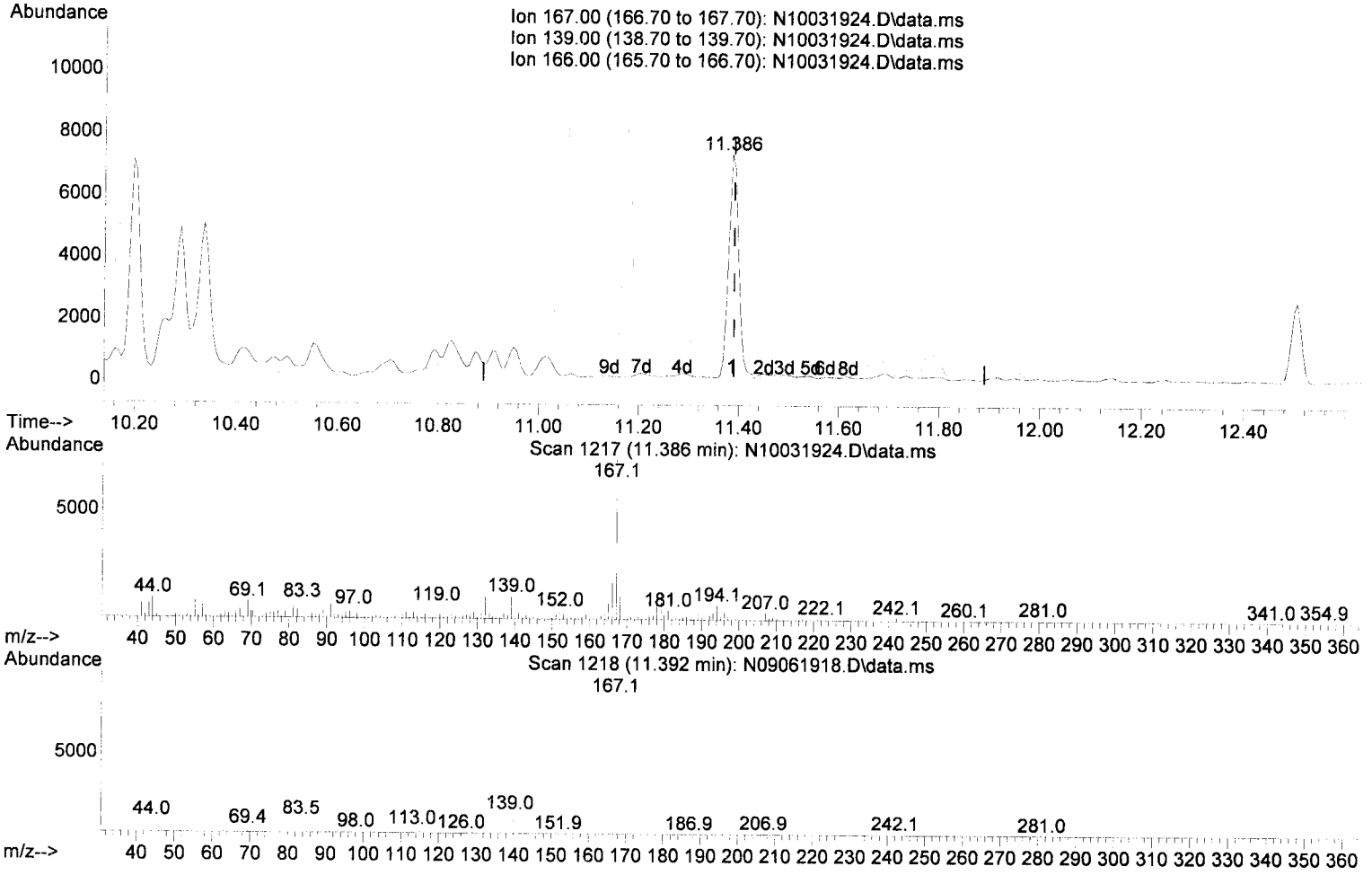
response 153038

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.26
179.00	15.30	15.56
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(21) Carbazole (T)

11.386min (-0.004) 4.40 ng/ml

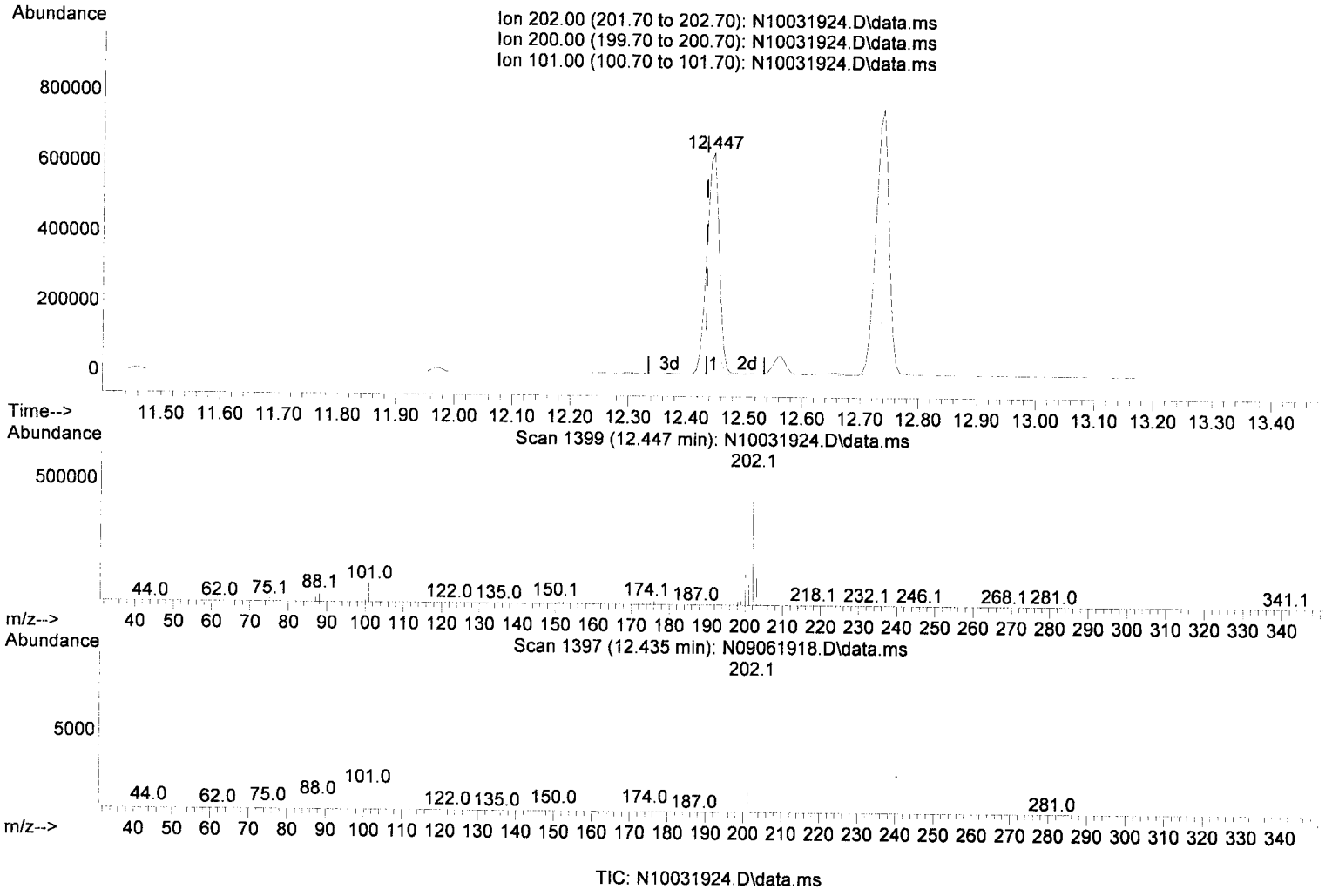
response 10104

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	13.50	14.33
166.00	21.10	23.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(23) Fluoranthene (T)

12.447min (+ 0.012) 308.26 ng/ml

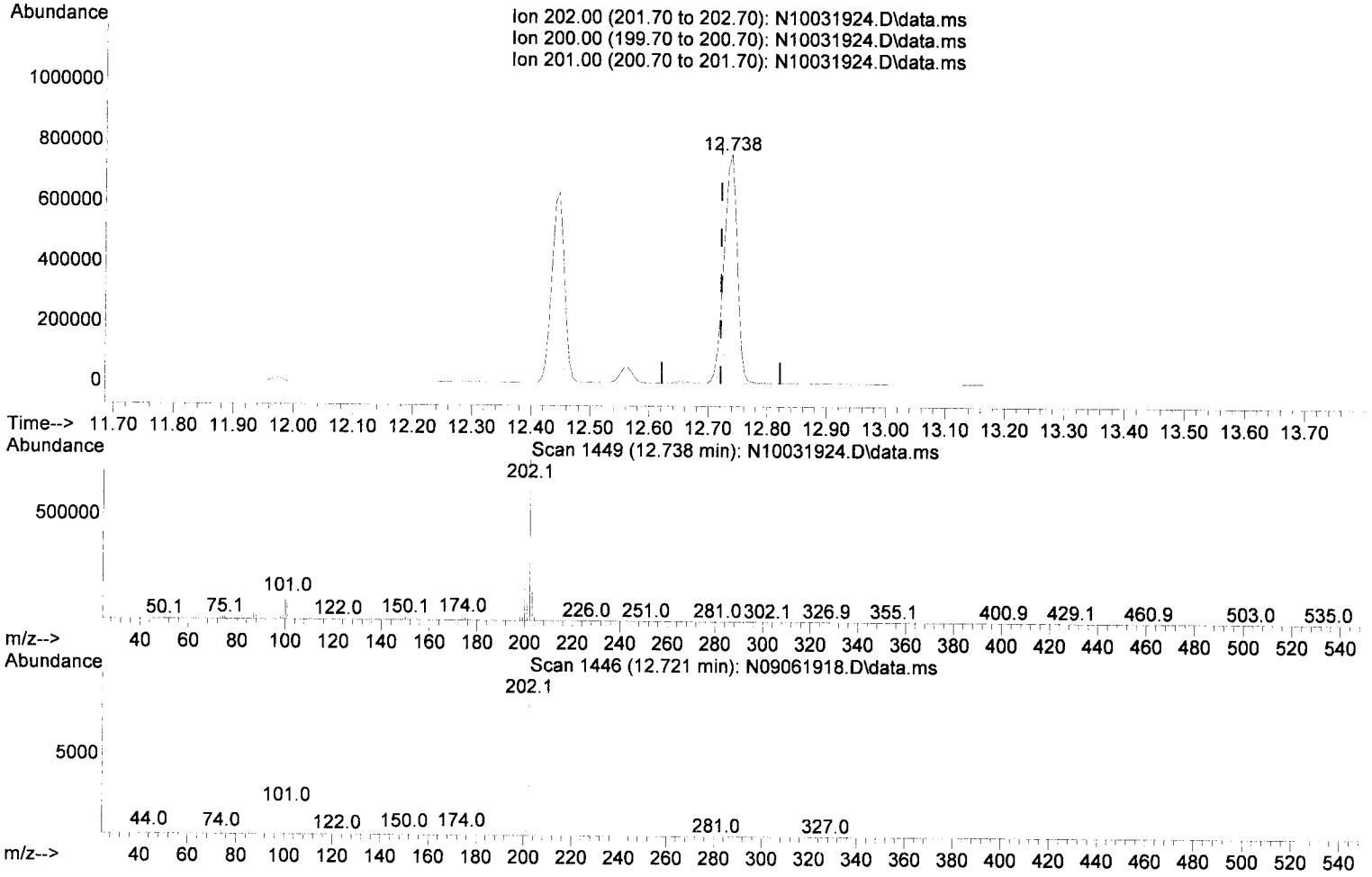
response 948334

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.14
101.00	15.30	12.35
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(25) Pyrene (T)

12.738min (+ 0.017) 312.37 ng/ml

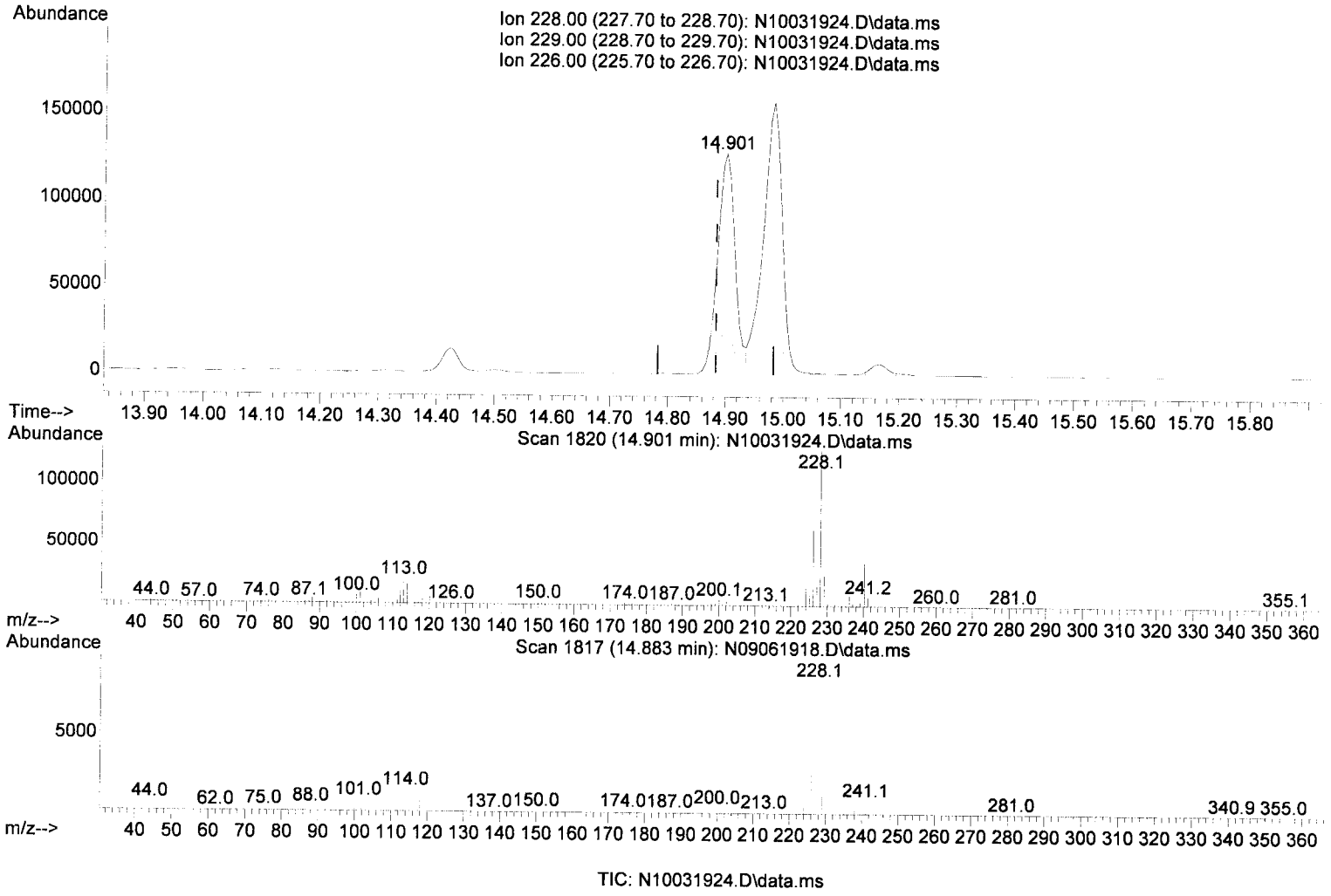
response 1202670

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.63
201.00	16.80	17.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(27) Benz(a)anthracene (T)

14.901min (+ 0.018) 93.68 ng/ml

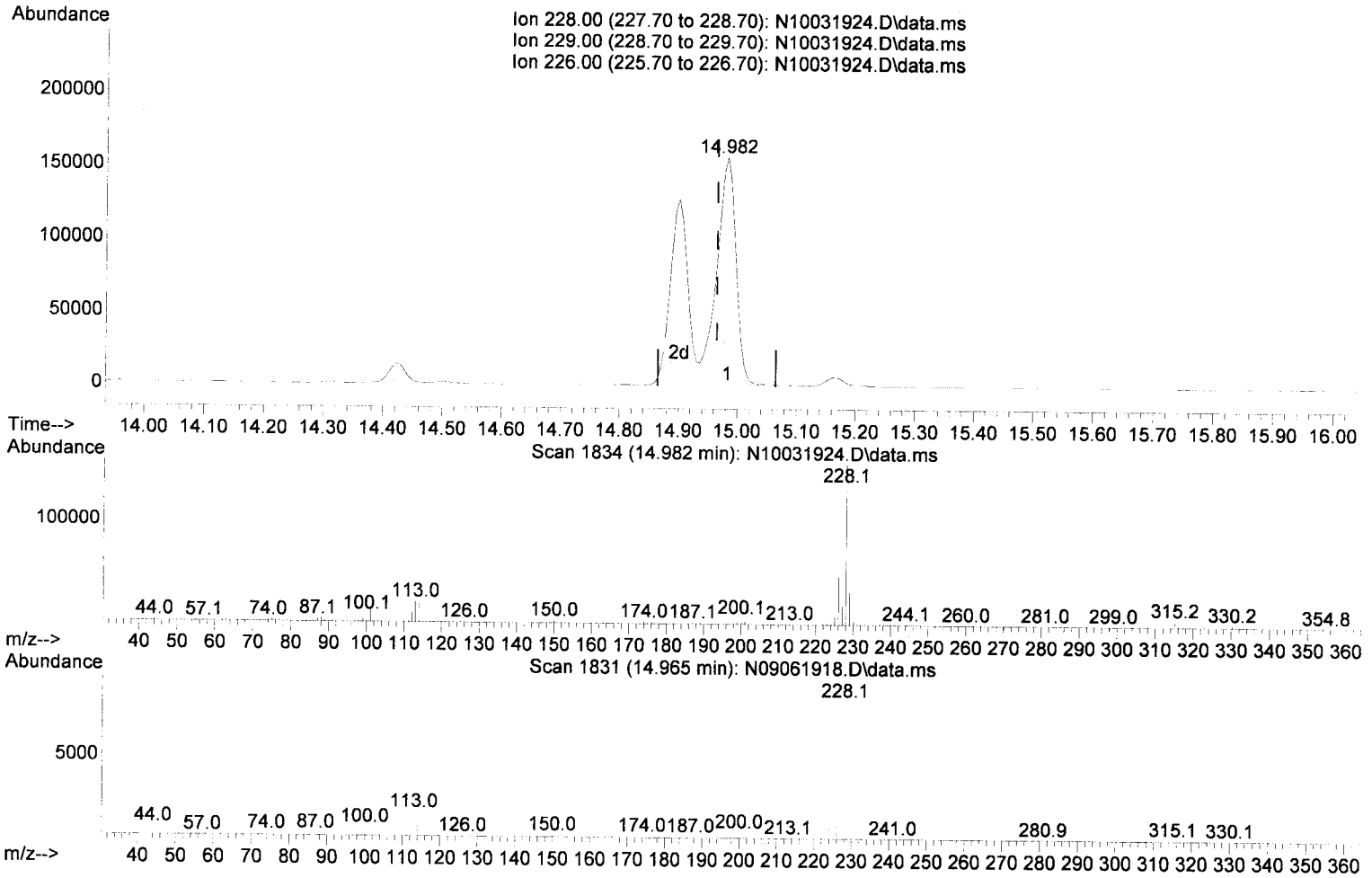
response 268033

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	19.94
226.00	26.20	50.27
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(28) Chrysene (T)

14.982min (+ 0.017) 129.47 ng/ml

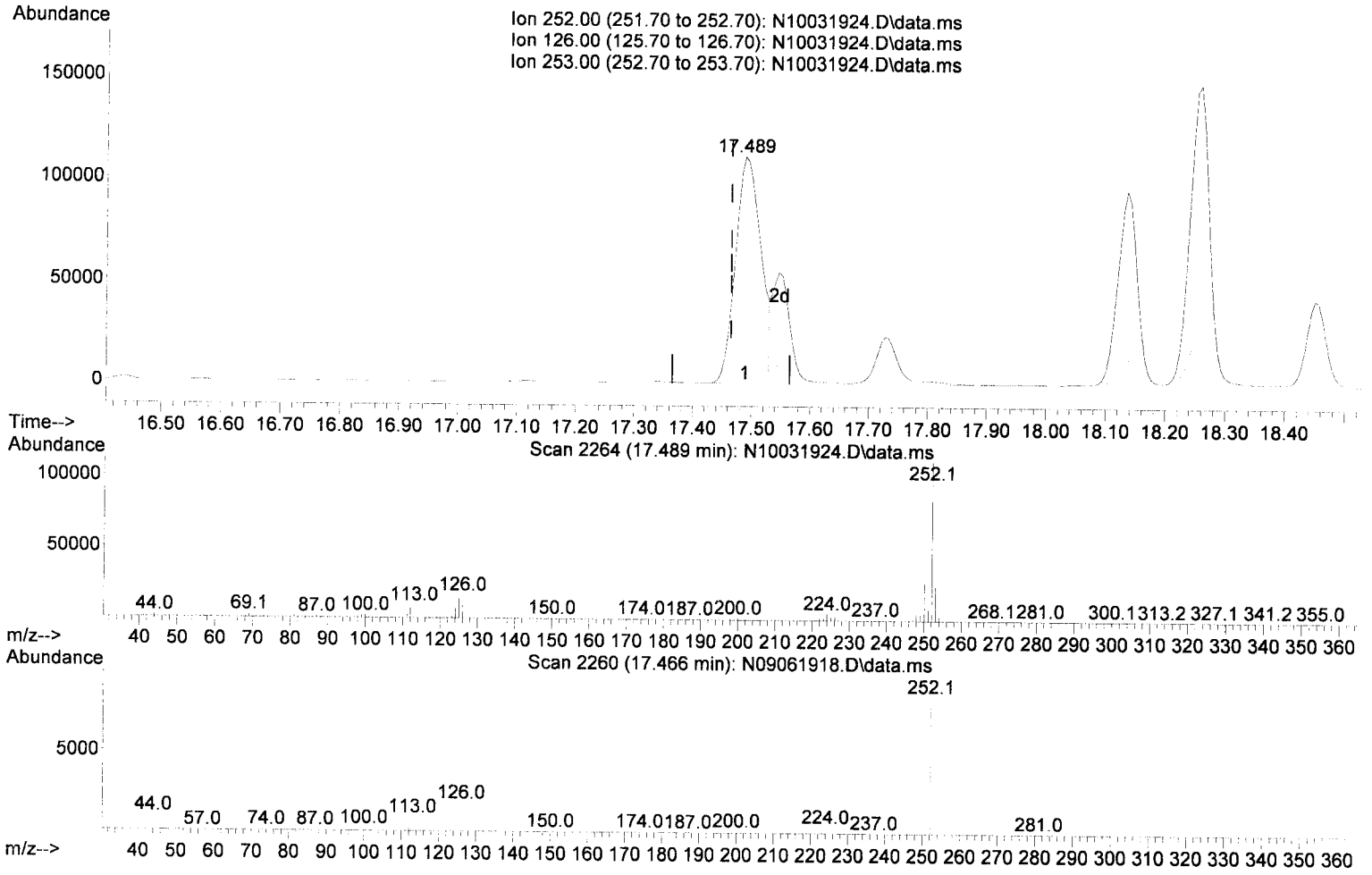
response 350552

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.03
226.00	28.60	29.76
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(30) Benzo(b)fluoranthene (T)

17.489min (+ 0.024) 127.05 ng/ml

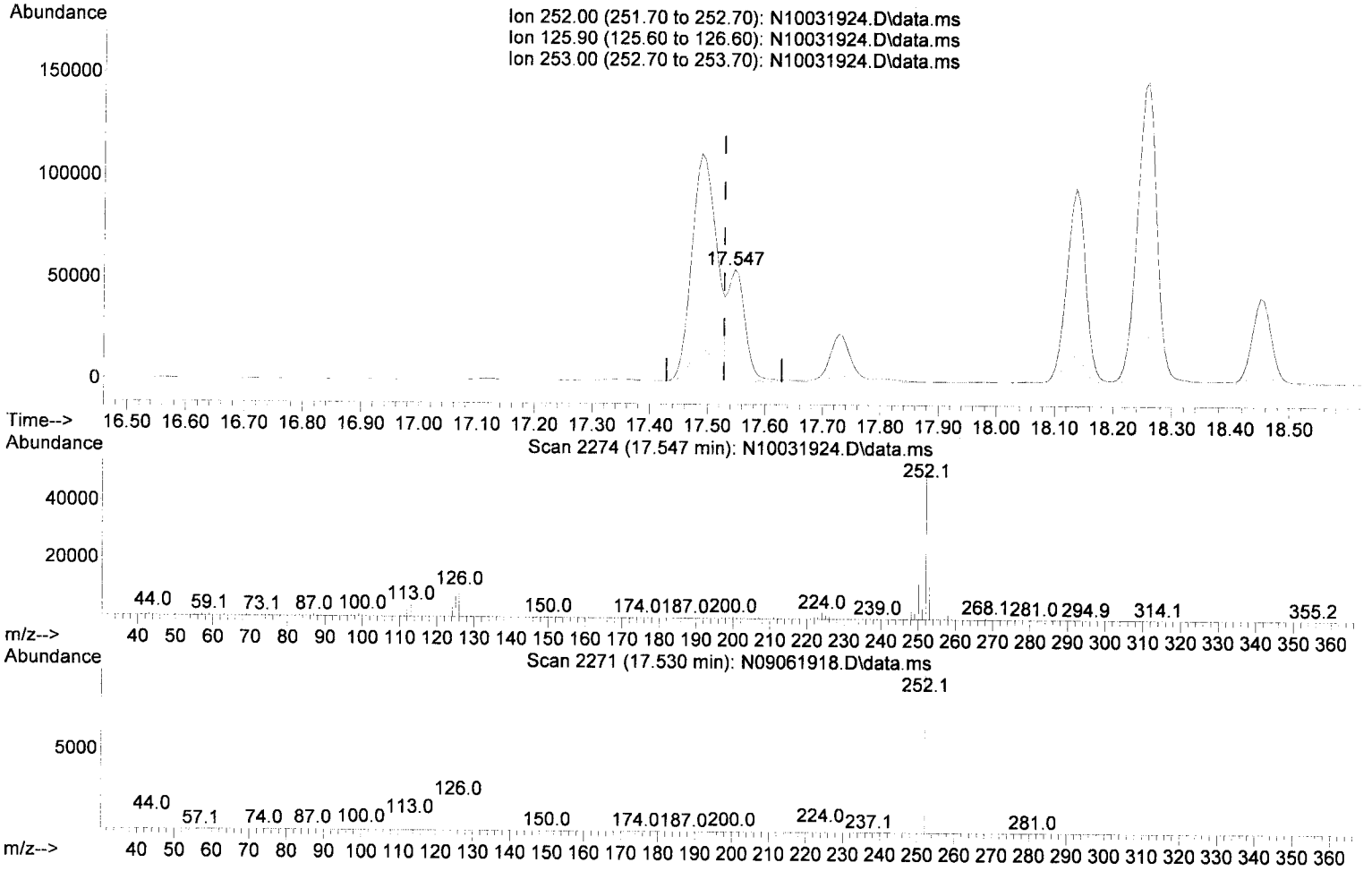
response 336698

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	14.73
253.00	21.10	21.90
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.547min (+ 0.018) 42.86 ng/ml m

response 111831

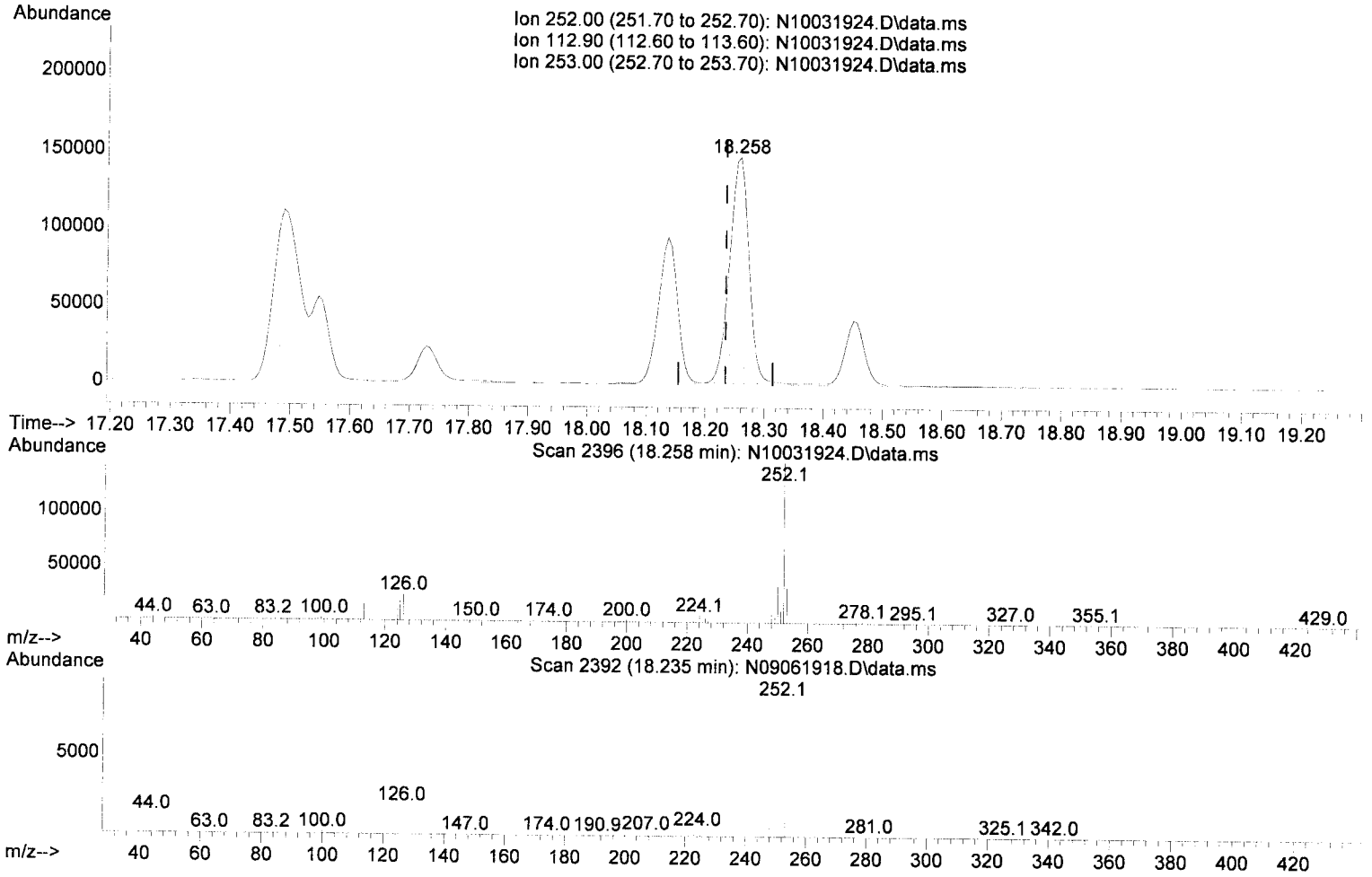
Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	17.11
253.00	21.50	22.61
0.00	0.00	0.00

0 AMS 10/7/19 MOS ✓

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(35) Benzo(a)pyrene (T)

18.258min (+ 0.024) 147.32 ng/ml

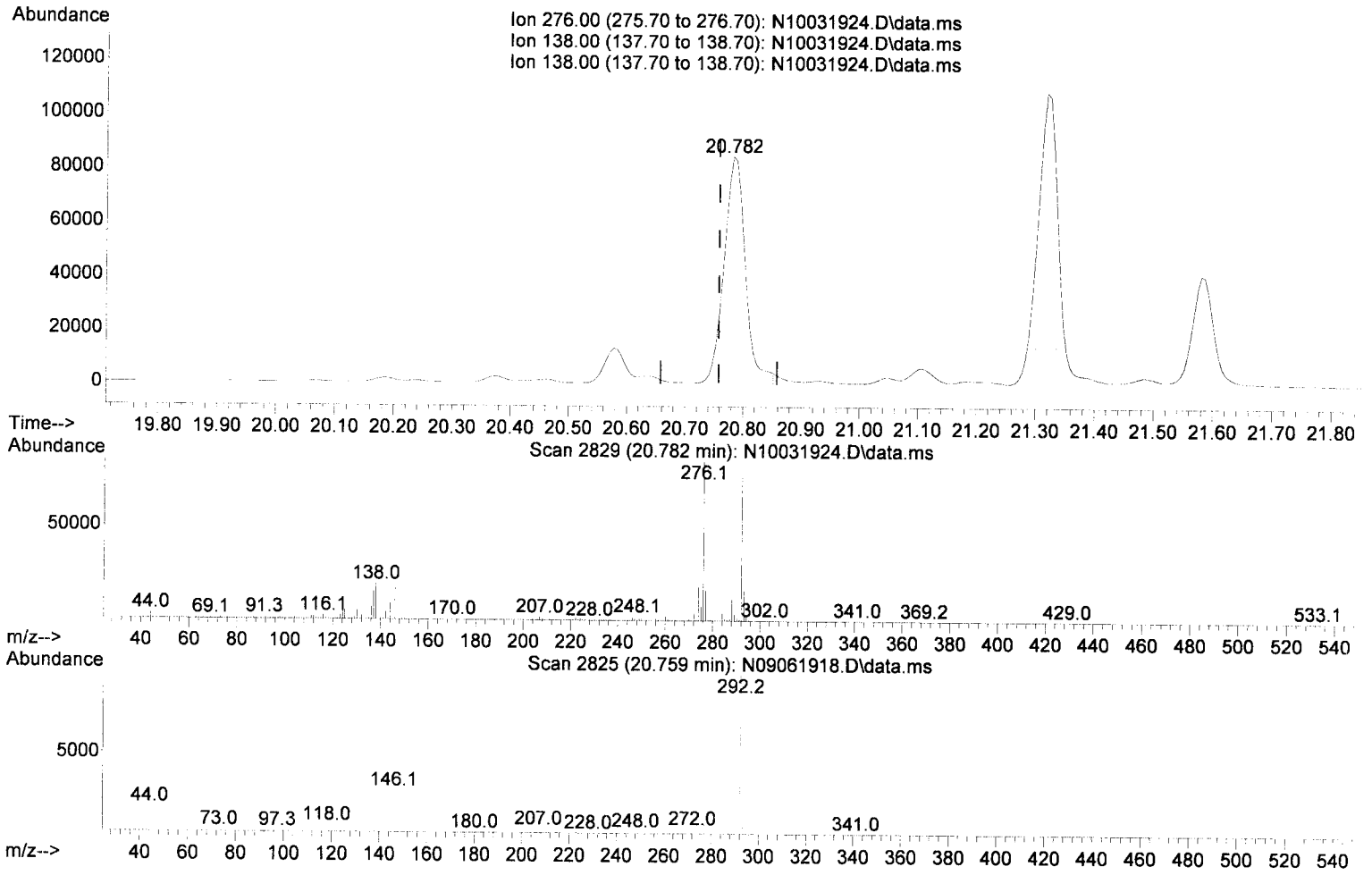
response 334165

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	10.08
253.00	21.90	22.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(38) Indeno(1,2,3-cd)Pyrene (T)

20.782min (+ 0.024) 99.78 ng/ml

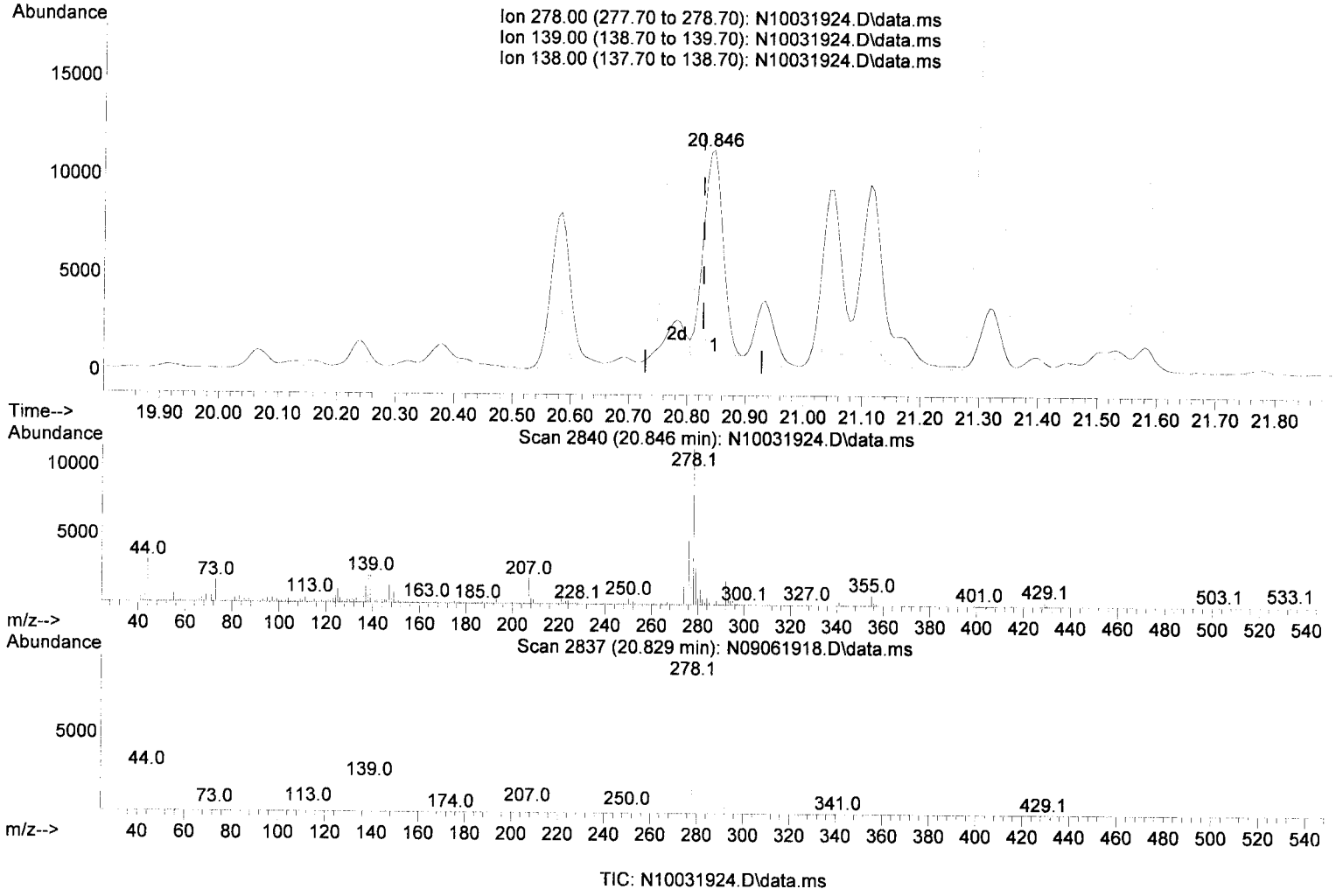
response 214467

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	22.30
138.00	31.60	22.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(39) Dibenz(a,h)anthracene (T)

20.846min (+ 0.018) 12.04 ng/ml

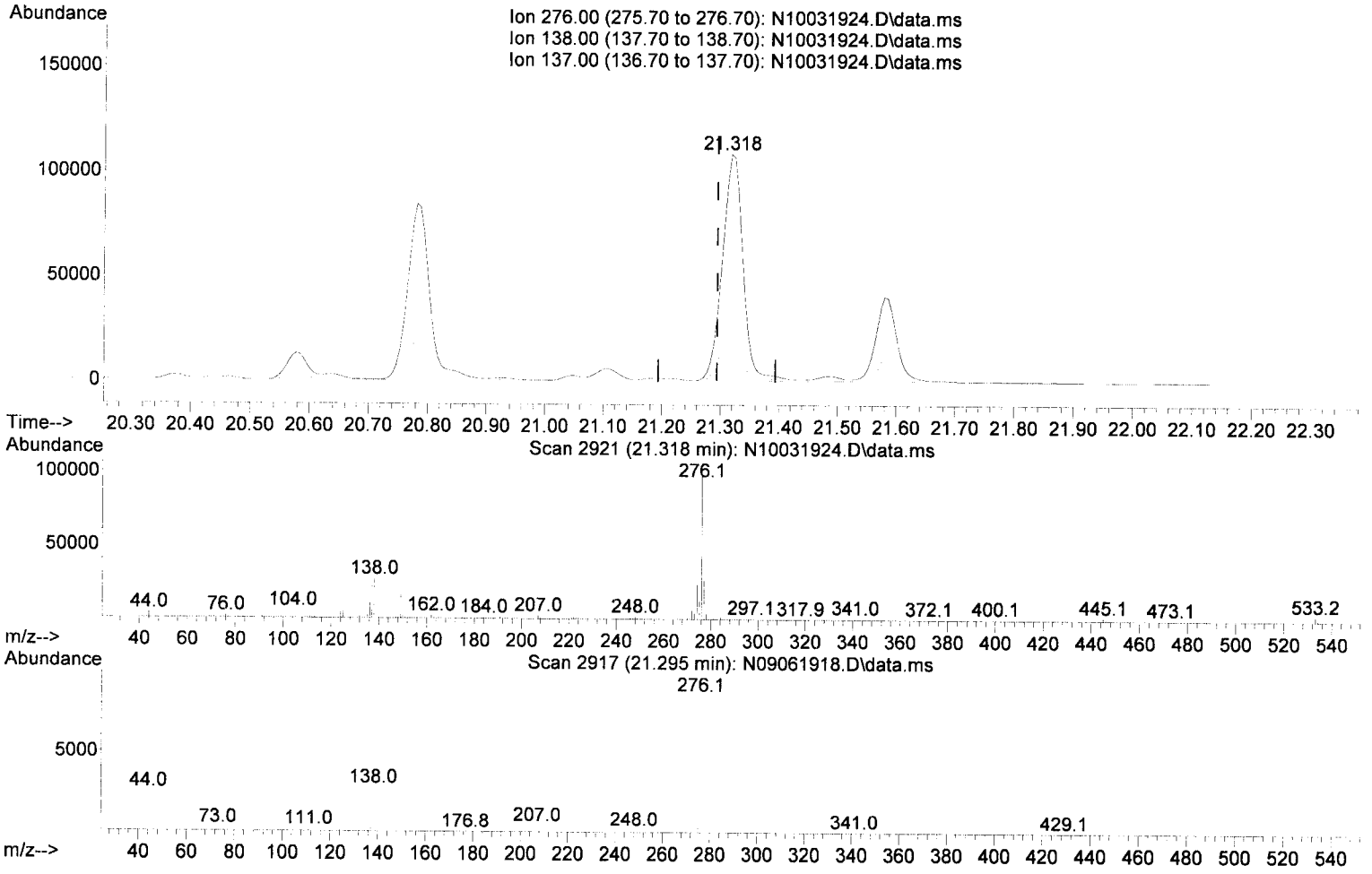
response 24318

Ion	Exp%	Act%
278.00	100.00	100.00
139.00	26.00	18.06
138.00	19.90	17.87
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031924.D\data.ms

(40) Benzo(g,h,i)perylene (T)

21.318min (+ 0.024) 115.72 ng/ml

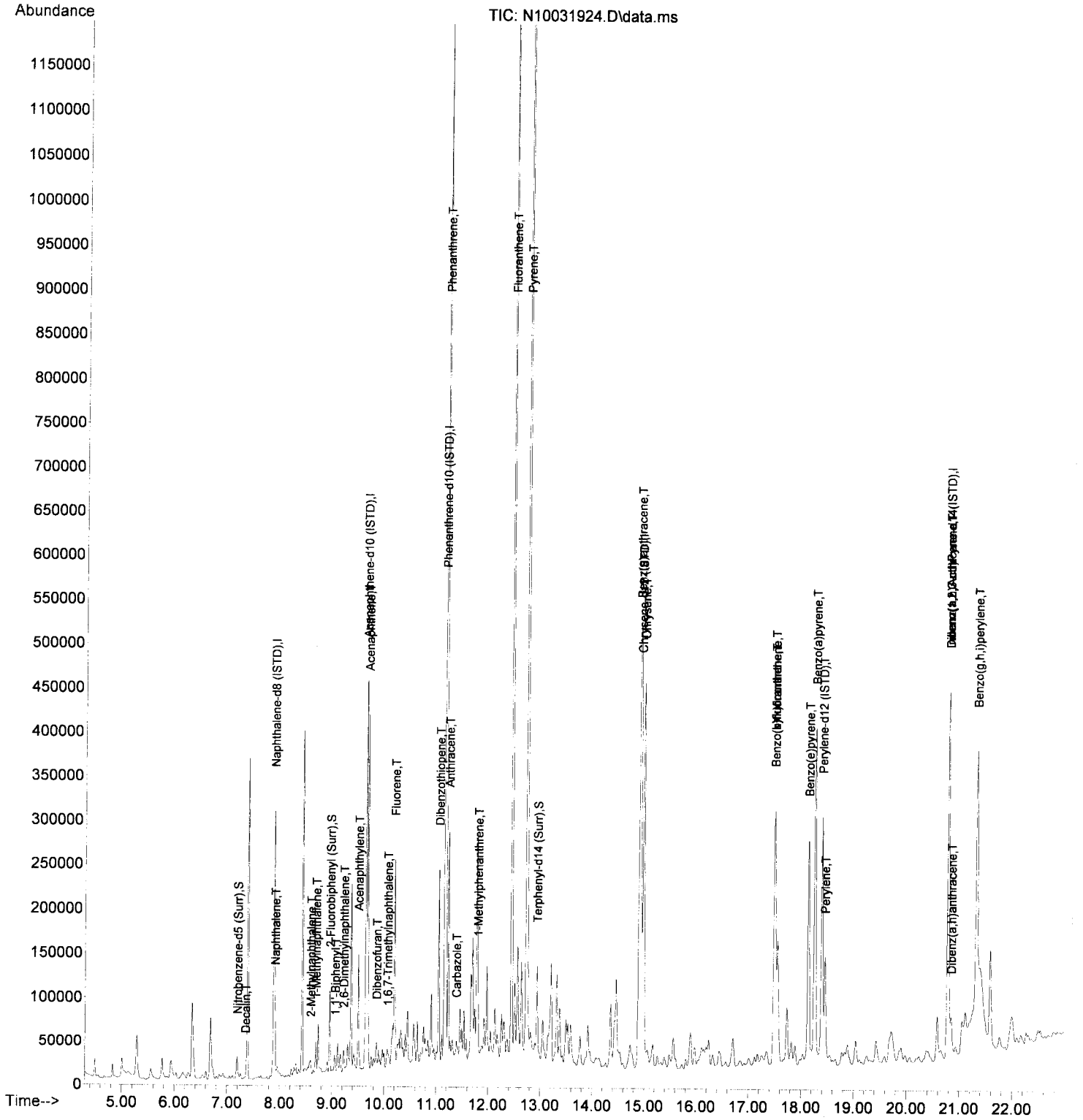
response 263858

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	24.69
137.00	28.60	21.20
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031924.D
Acq On : 03 Oct 2019 08:56 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-01@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Oct 04 12:48:15 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



SV14_090619_PAH.M Fri Oct 04 12:48:17 2019 Page: 2

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1

AMS 10/7/19 MOS

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

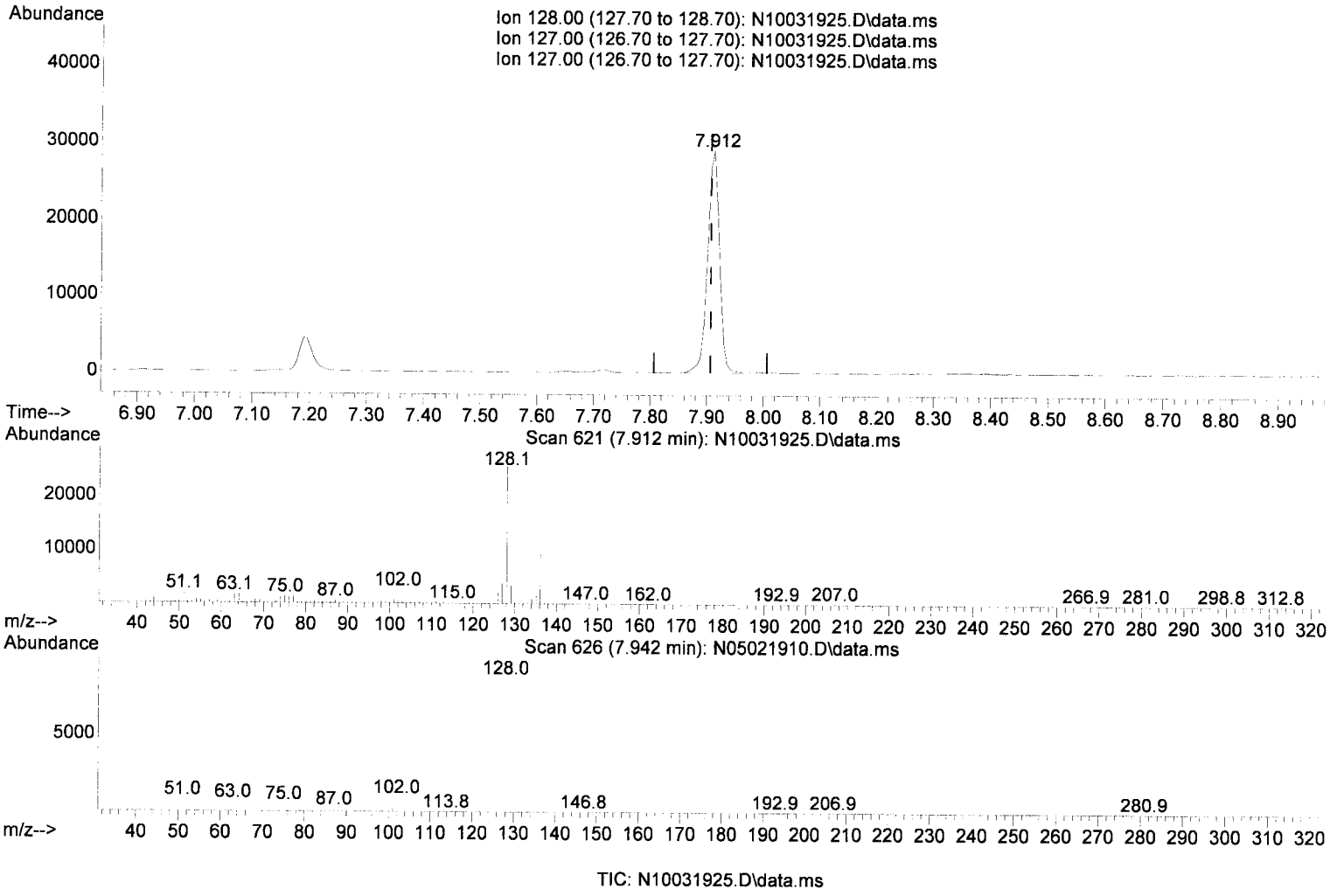
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.889	136	219530	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	136087	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.153	188	263416	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.918	240	248067	100.00	ng/ml	0.01
29) Perylene-d12 (ISTD)	18.392	264	223879	100.00	ng/ml	0.02
37) Dibenz(a,h)Anthrcene-d...	20.776	292	171335	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.190	82	15189	20.82	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	44894	22.11	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	929	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.937	244	50168	19.23	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	108	0.06	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.353	138	412	2.52	ng/ml#	17
4) Naphthalene	7.912	128	42482	17.55	ng/ml	99
5) 2-Methylnaphthalene	8.594	142	4170	2.03	ng/ml	96
6) 1-Methylnaphthalene	8.693	142	9992	4.87	ng/ml	98
7) 1,1'-Biphenyl	9.061	154	2474	0.90	ng/ml	89
8) 2,6-Dimethylnaphthalene	9.224	156	6706	3.33	ng/ml	99
12) Acenaphthylene	9.504	152	55331	18.73	ng/ml	99
13) Acenaphthene	9.678	153	90754	46.90	ng/ml	100
14) Dibenzofuran	9.853	168	4949	2.04	ng/ml	90
15) 1,6,7-Trimethylnaphtha...	10.063	170	4979	3.07	ng/ml	87
16) Fluorene	~~10.197~~	~~166~~	~~53701~~	~~27.12~~	~~ng/ml~~	~~98~~ MI-HIT
18) Dibenzothiopene	11.048	184	90312	32.78	ng/ml	97
19) Phenanthrene	11.176	178	587843	190.71	ng/ml	100
20) Anthracene	11.229	178	181229	63.21	ng/ml	99
21) Carbazole	11.386	167	5508	2.37	ng/ml	94
22) 1-Methylphenanthrene	11.800	192	42854	20.01	ng/ml	96
23) Fluoranthene	12.441	202	685027	220.58	ng/ml	97
25) Pyrene	12.733	202	830432	214.27	ng/ml	100
27) Benz(a)anthracene	14.895	228	185286	64.33	ng/ml	69
28) Chrysene	14.977	228	286347	105.06	ng/ml	98
30) Benzo(b)fluoranthene	17.489	252	228753	88.55	ng/ml	94
31) Benzo(k)fluoranthene	~~17.489~~	~~252~~	~~276345~~	~~108.65~~	~~ng/ml~~	~~92~~ MI-MOS
32) Benzo(b+k)fluoranthene	17.489	252	299128	113.20	ng/ml	92
34) Benzo(e)pyrene	18.130	252	143752	55.03	ng/ml	99
35) Benzo(a)pyrene	18.252	252	218996	99.04	ng/ml	97
36) Perylene	18.450	252	64965	23.85	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.782	276	135422	64.09	ng/ml	84
39) Dibenz(a,h)anthracene	20.840	278	15340	7.73	ng/ml	91
40) Benzo(g,h,i)perylene	21.318	276	169854	75.77	ng/ml	83

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(4) Naphthalene (T)

7.912min (+ 0.006) 17.55 ng/ml

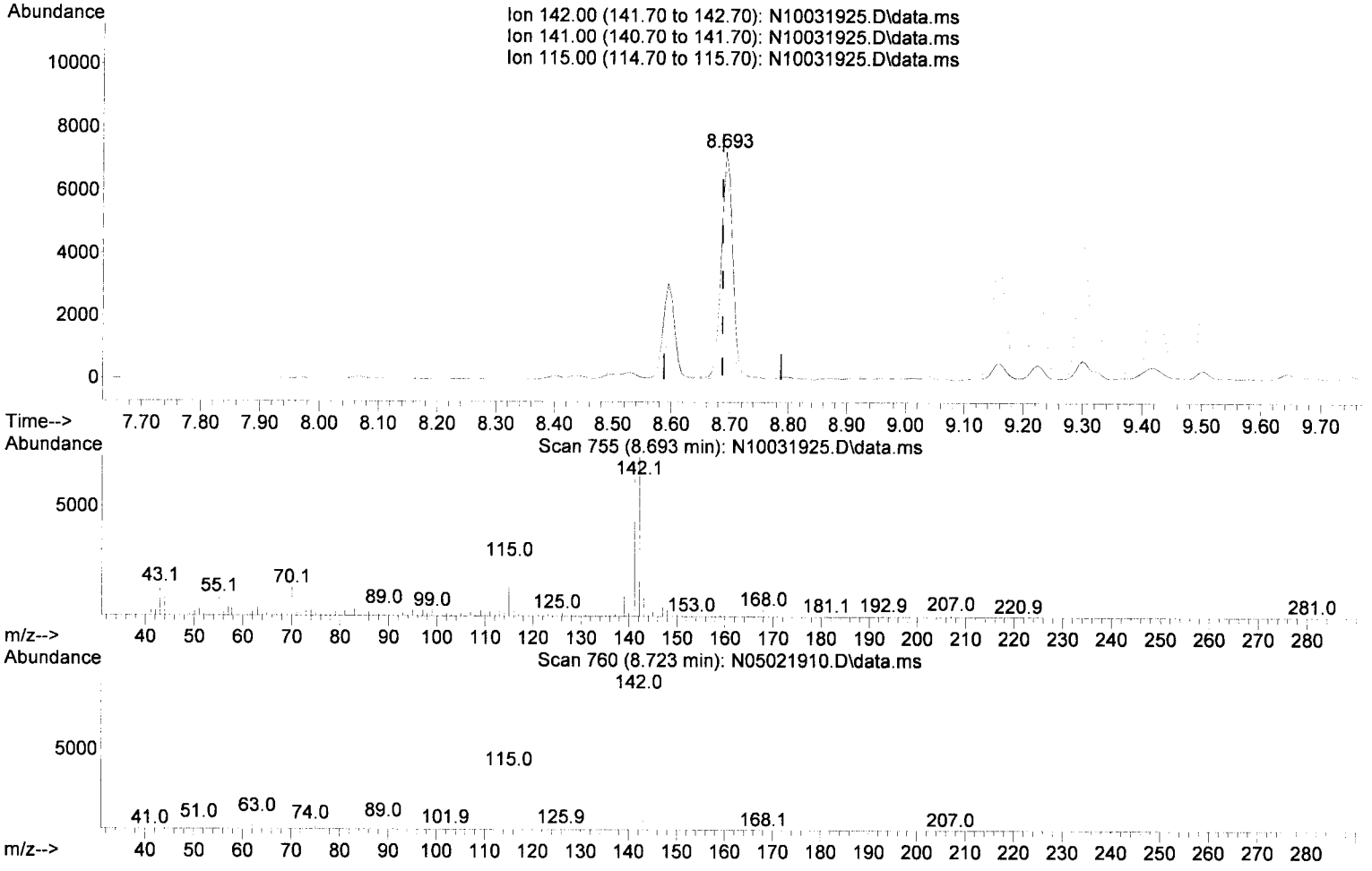
response 42482

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	13.14
127.00	12.60	13.14
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(6) 1-Methylnaphthalene (T)

8.693min (+ 0.006) 4.87 ng/ml

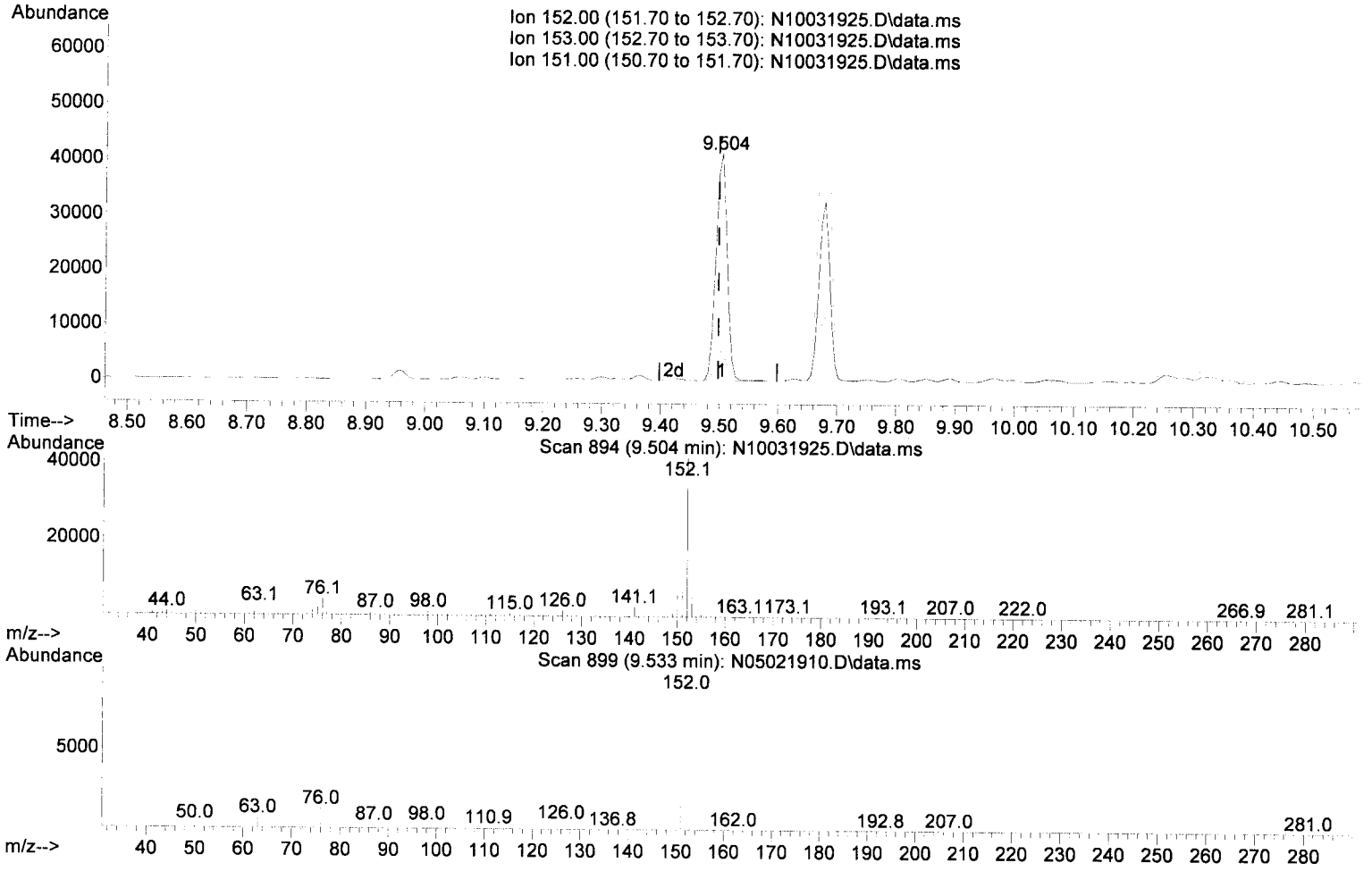
response 9992

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	91.65
115.00	37.80	35.36
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(12) Acenaphthylene (T)

9.504min (+ 0.006) 18.73 ng/ml

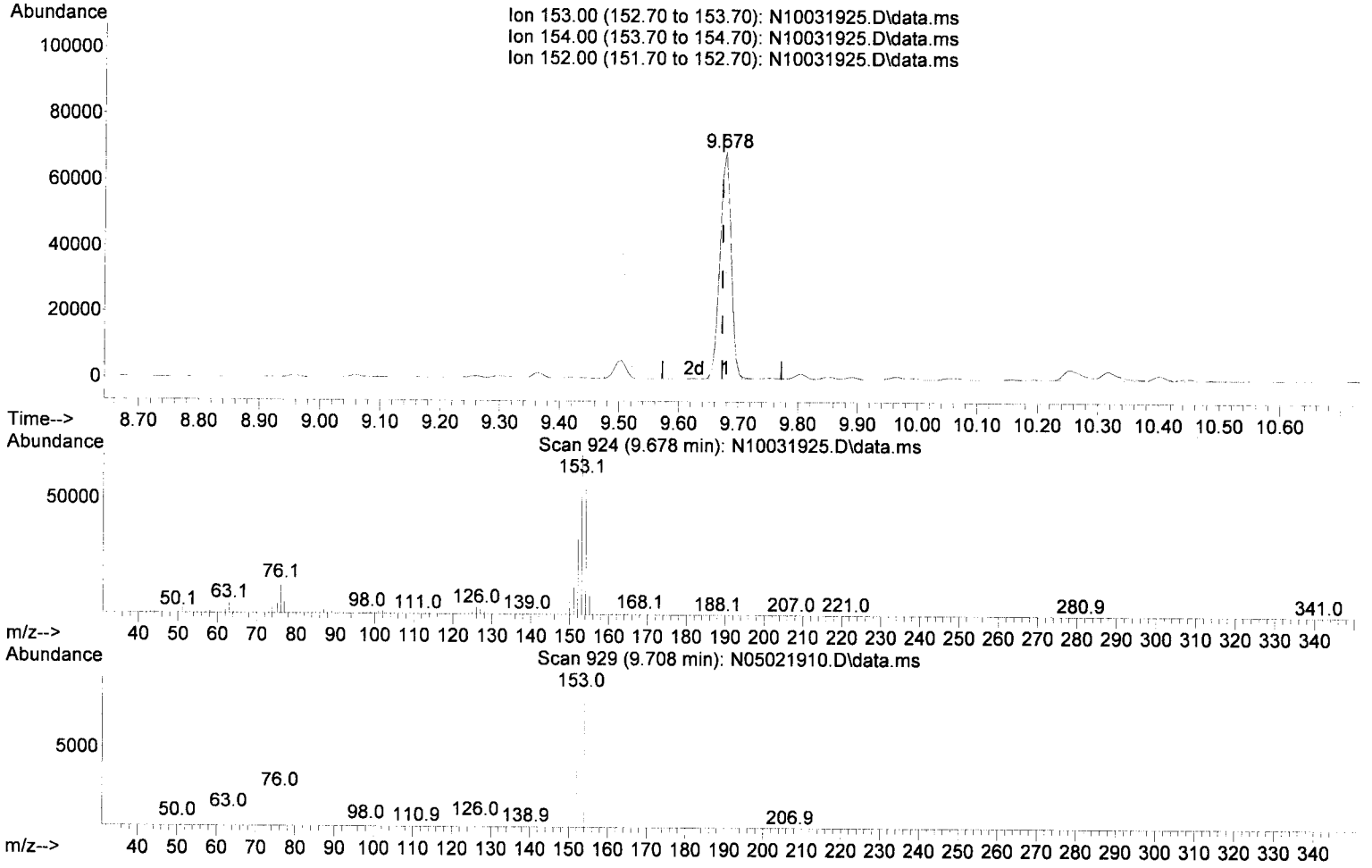
response 55331

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	13.50
151.00	19.30	19.48
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(13) Acenaphthene (T)

9.678min (+ 0.006) 46.90 ng/ml

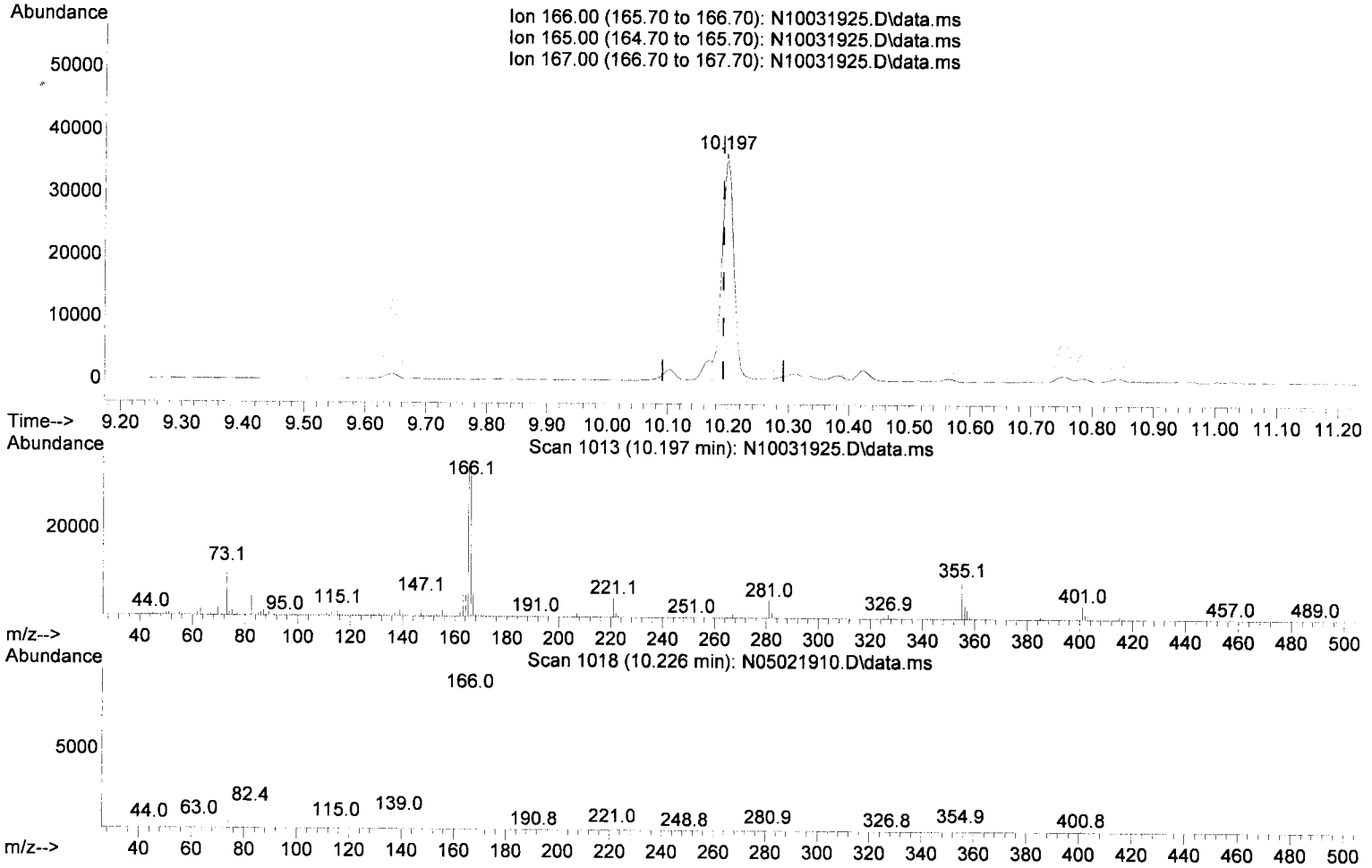
response 90754

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.44
152.00	46.80	47.34
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(16) Fluorene (T)

10.197min (+ 0.006) 25.26 ng/ml m

response 50025

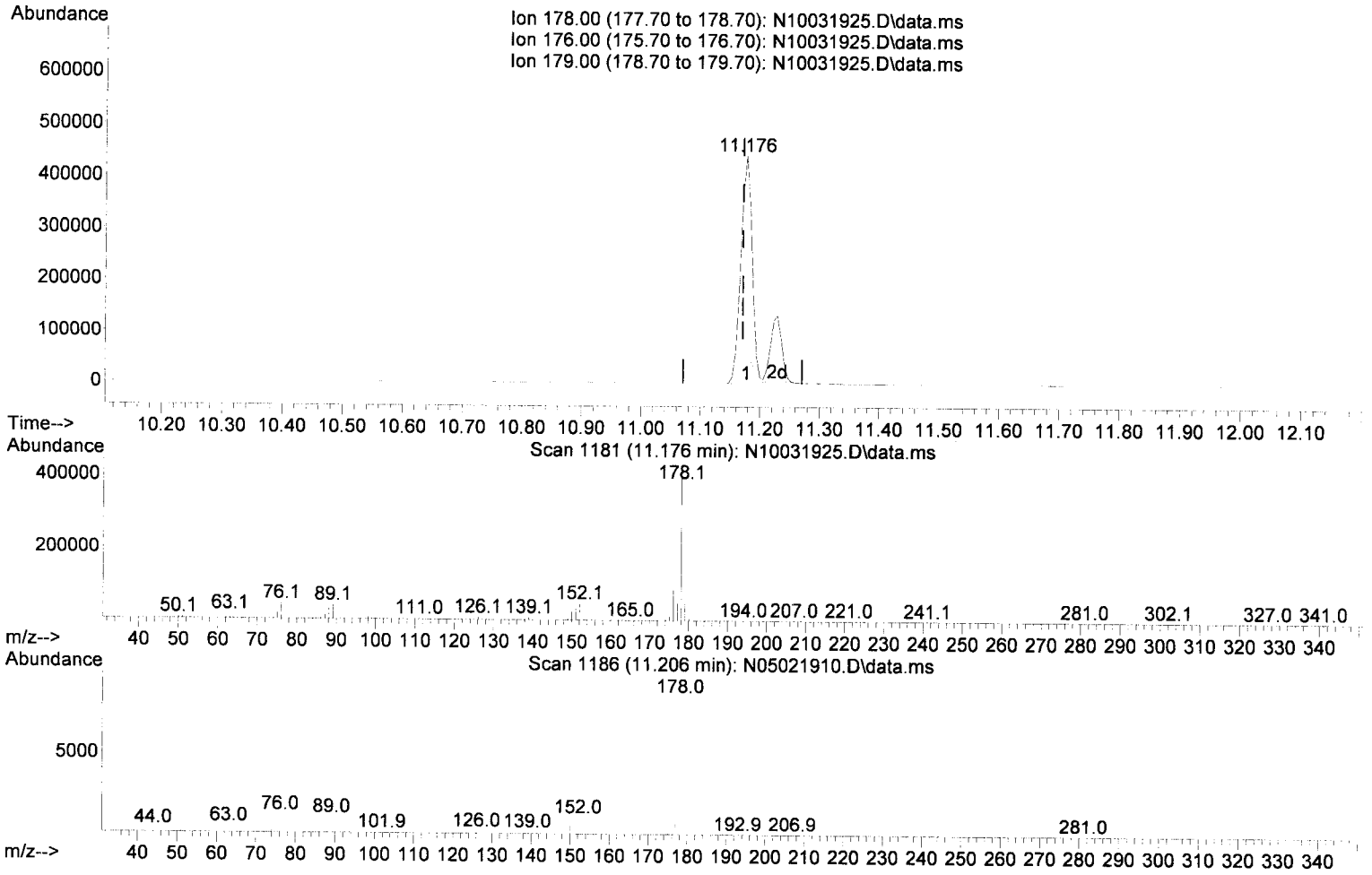
Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	94.06
167.00	13.60	14.42
0.00	0.00	0.00

AMS 10/7/19

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(19) Phenanthrene (T)

11.176min (+ 0.006) 190.71 ng/ml

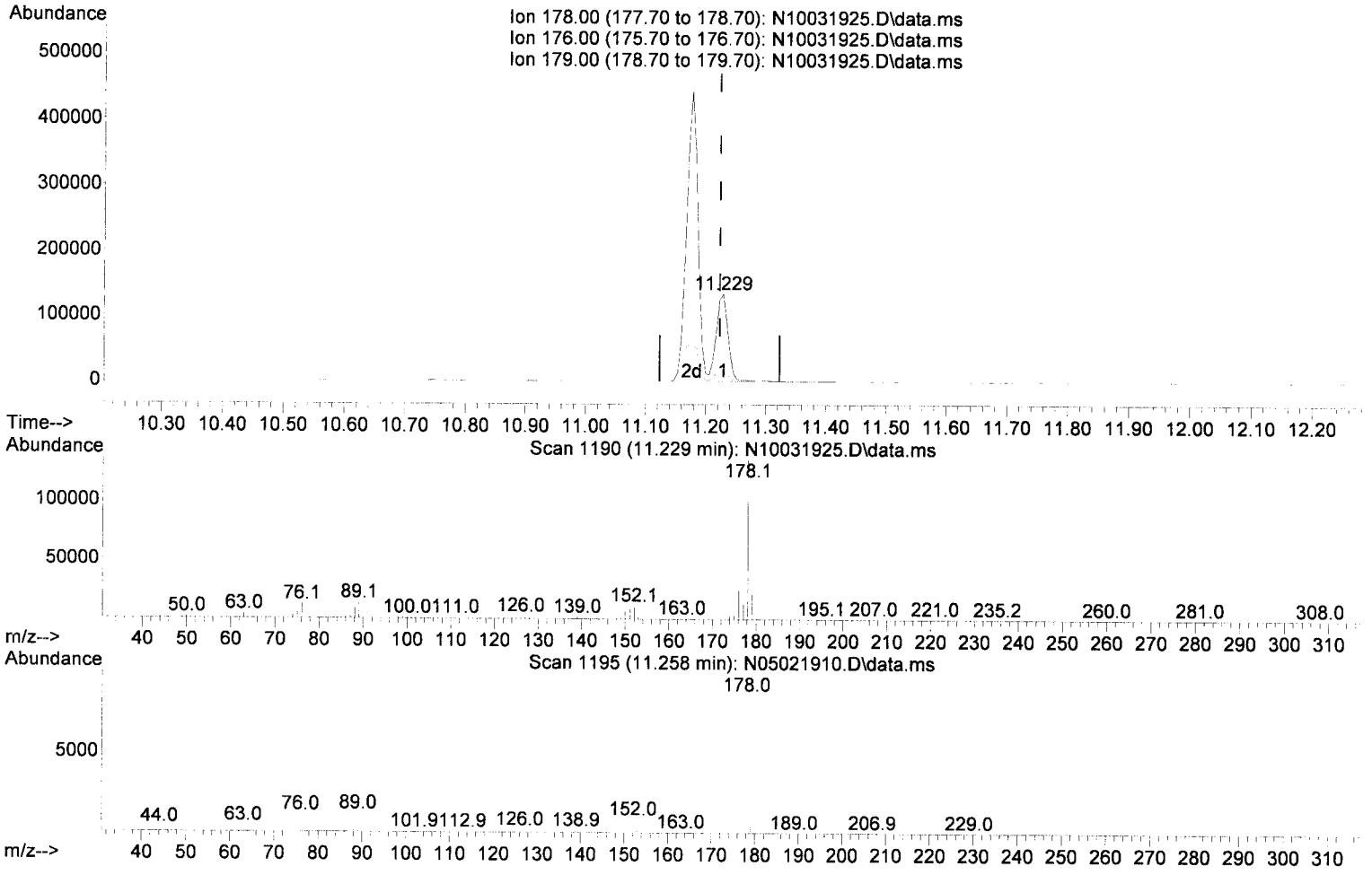
response 587843

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.02
179.00	15.10	15.40
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(20) Anthracene (T)

11.229min (+ 0.006) 63.21 ng/ml

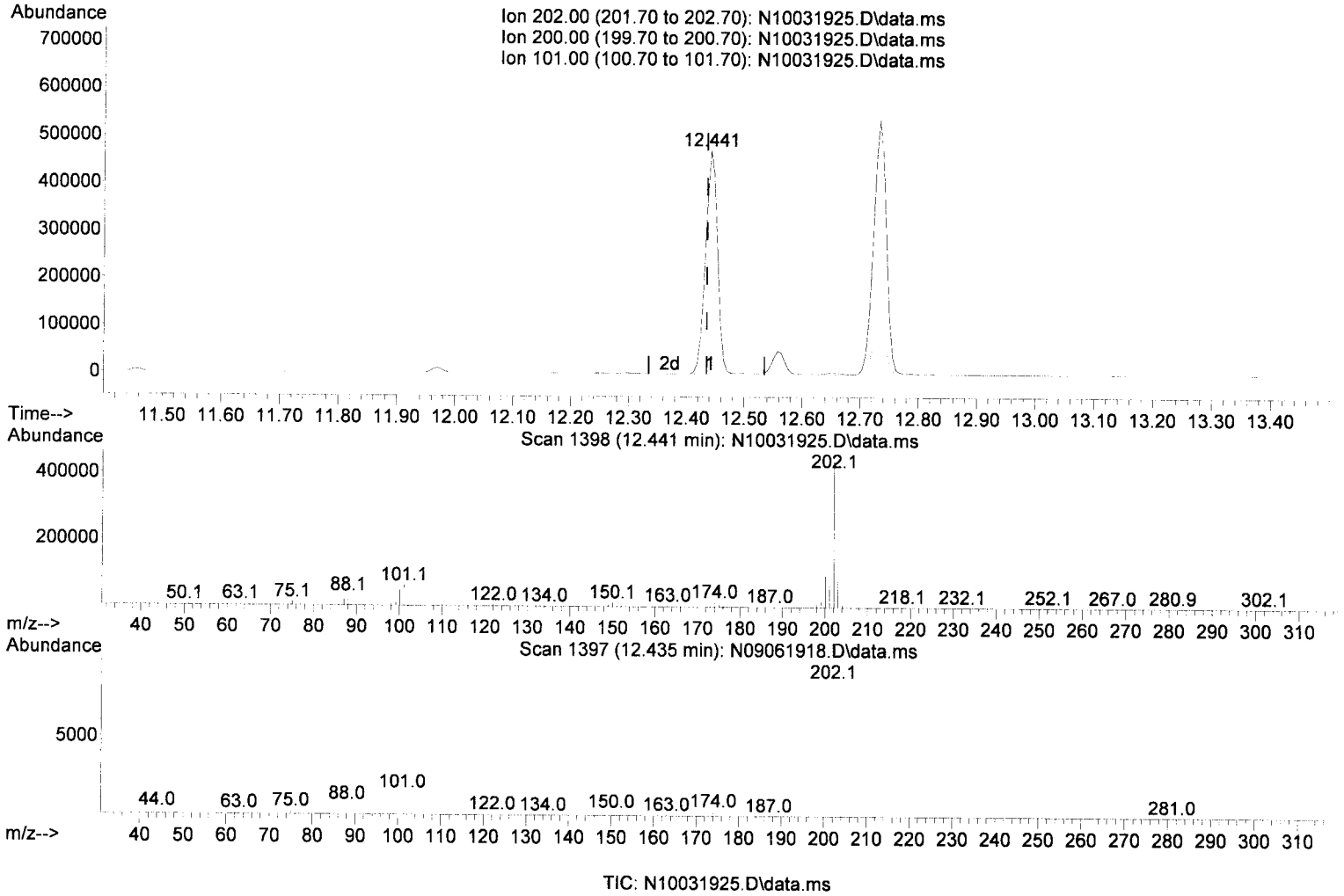
response 181229

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	17.95
179.00	15.30	15.60
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(23) Fluoranthene (T)

12.441min (+ 0.006) 220.58 ng/ml

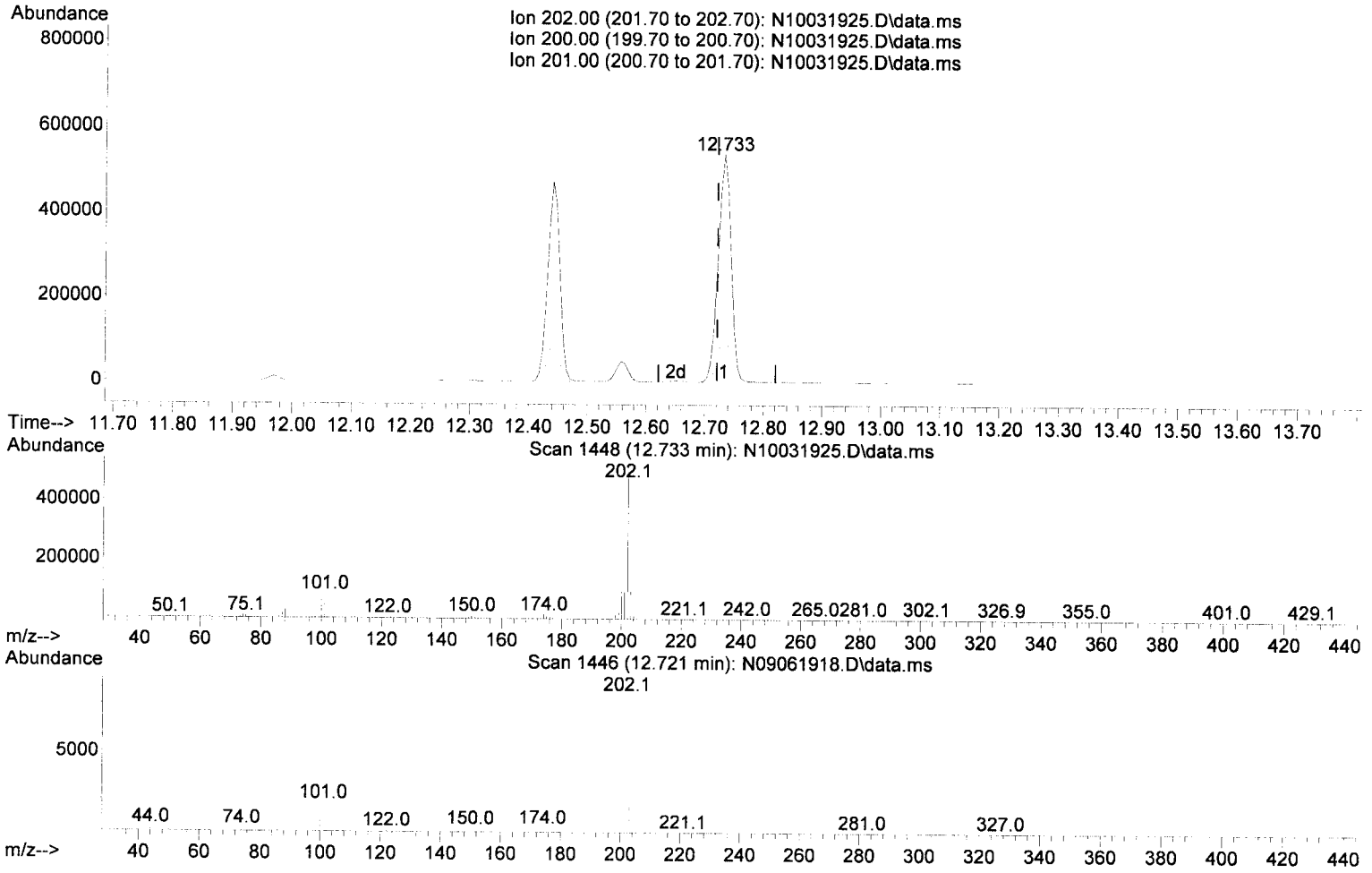
response 685027

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.10
101.00	15.30	12.90
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(25) Pyrene (T)

12.733min (+ 0.012) 214.27 ng/ml

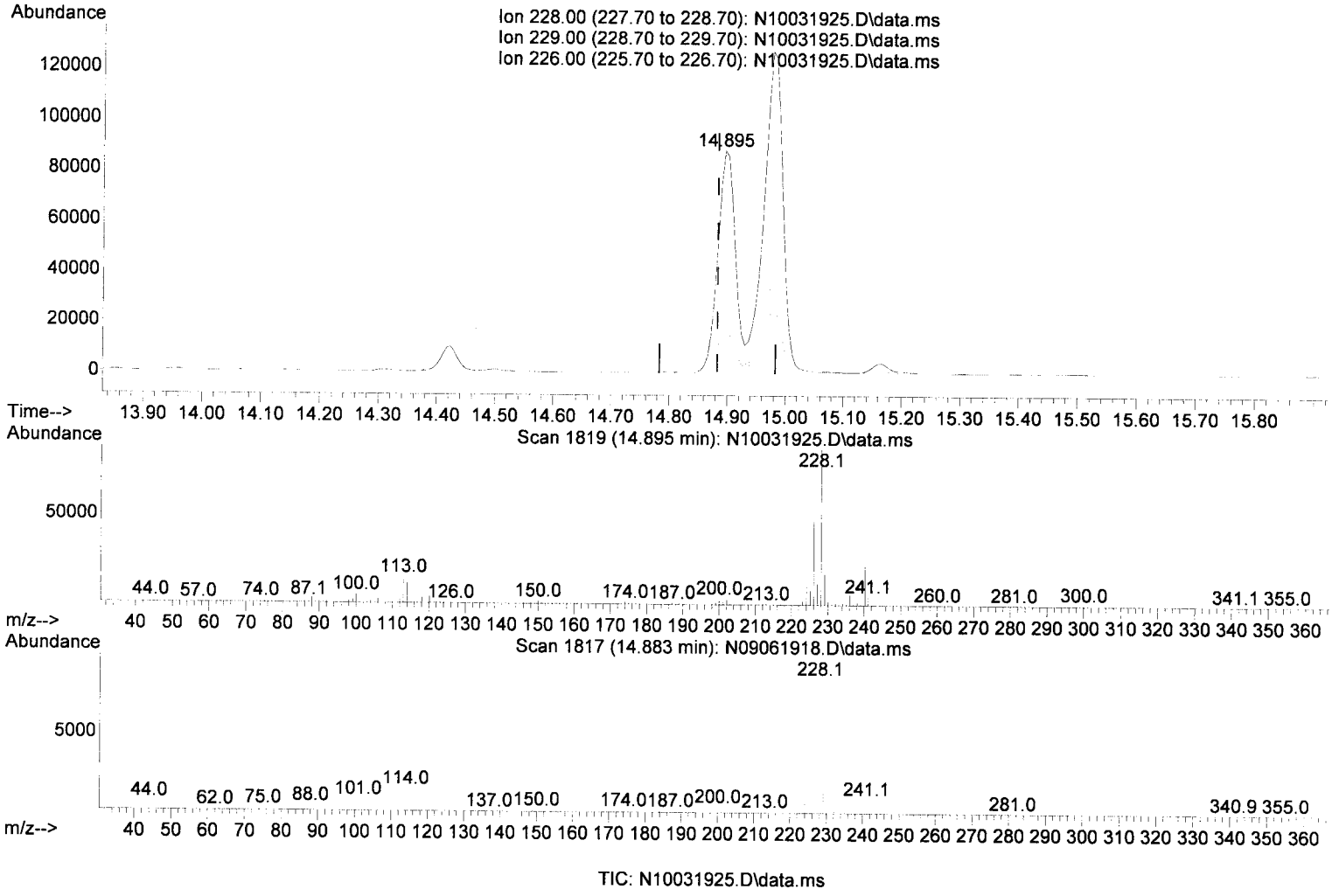
response 830432

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.55
201.00	16.80	17.05
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(27) Benz(a)anthracene (T)

14.895min (+ 0.012) 64.33 ng/ml

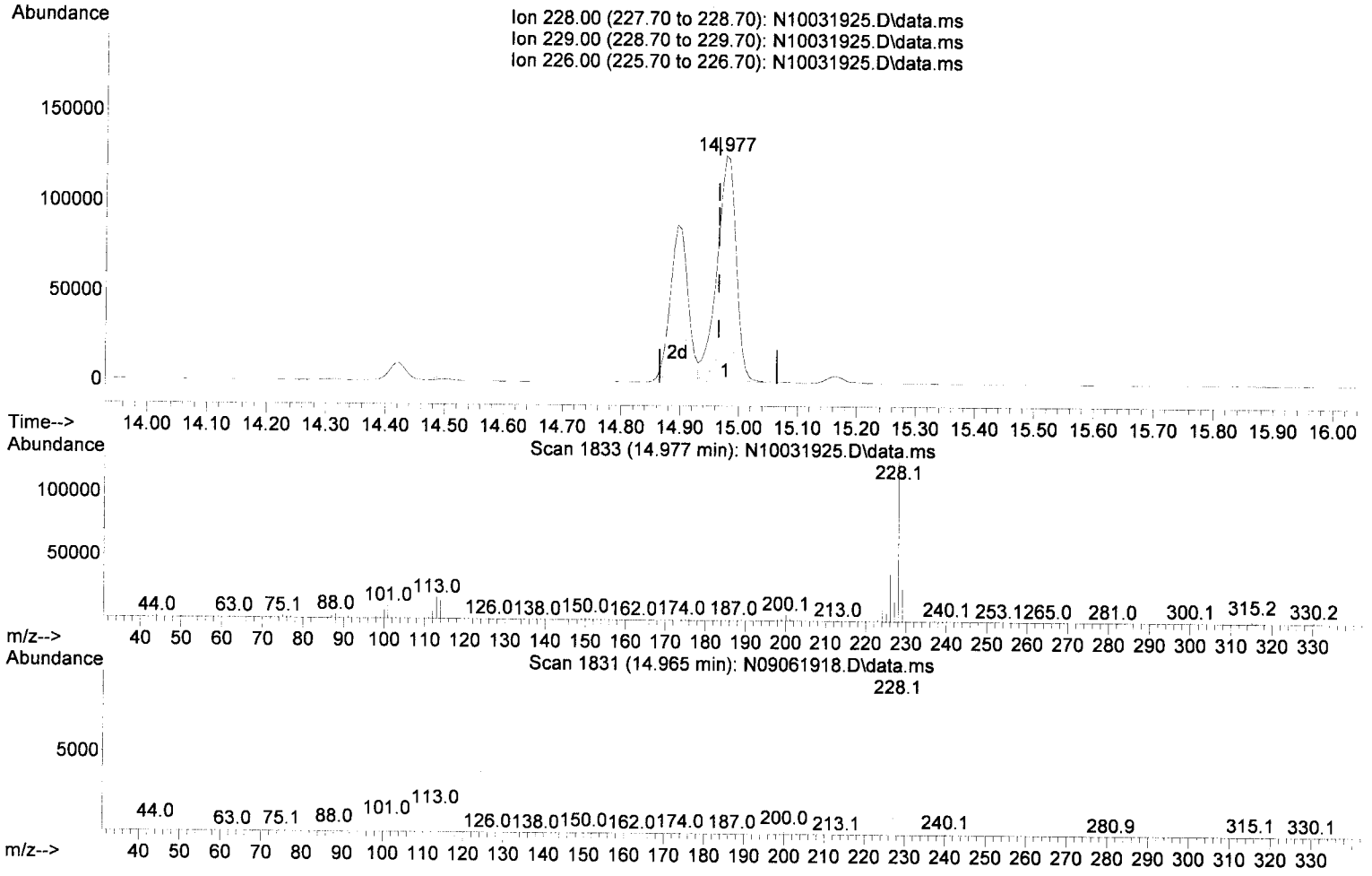
response 185286

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	19.75
226.00	26.20	53.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(28) Chrysene (T)

14.977min (+ 0.012) 105.06 ng/ml

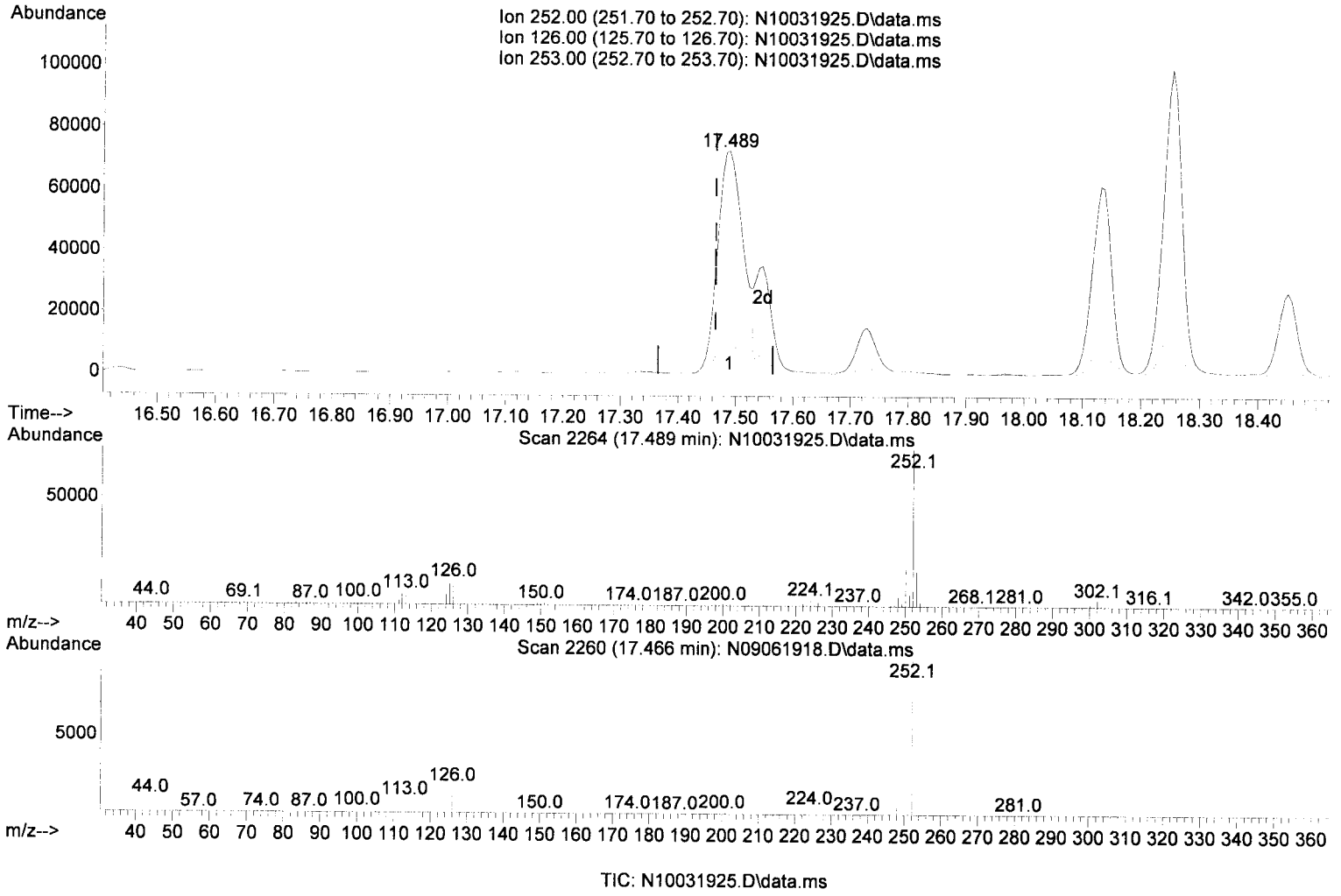
response 286347

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.10
226.00	28.60	29.77
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(30) Benzo(b)fluoranthene (T)

17.489min (+ 0.024) 88.55 ng/ml

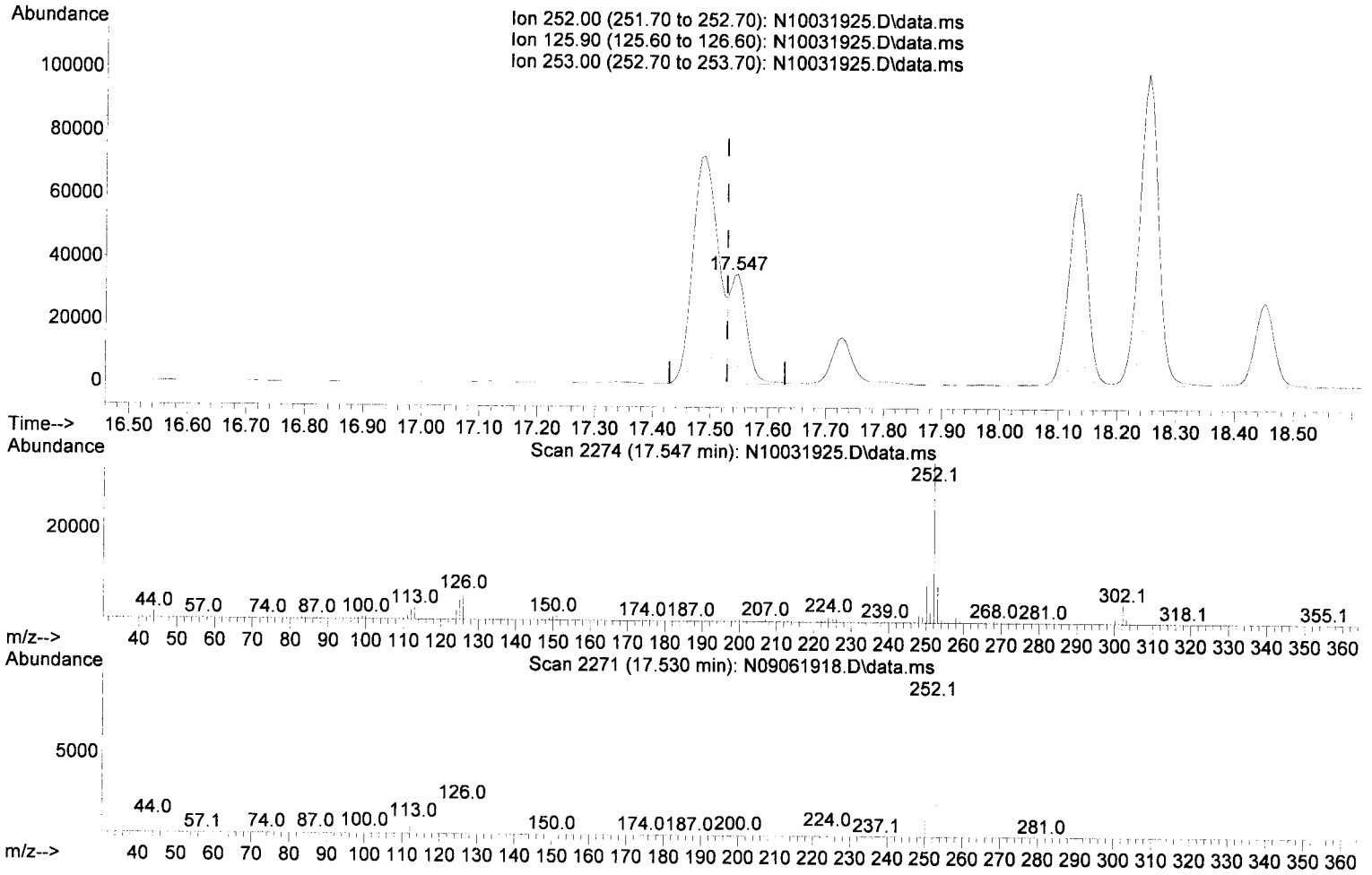
response 228753

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	15.22
253.00	21.10	21.98
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.547min (+ 0.018) 26.93 ng/ml m

response 68497

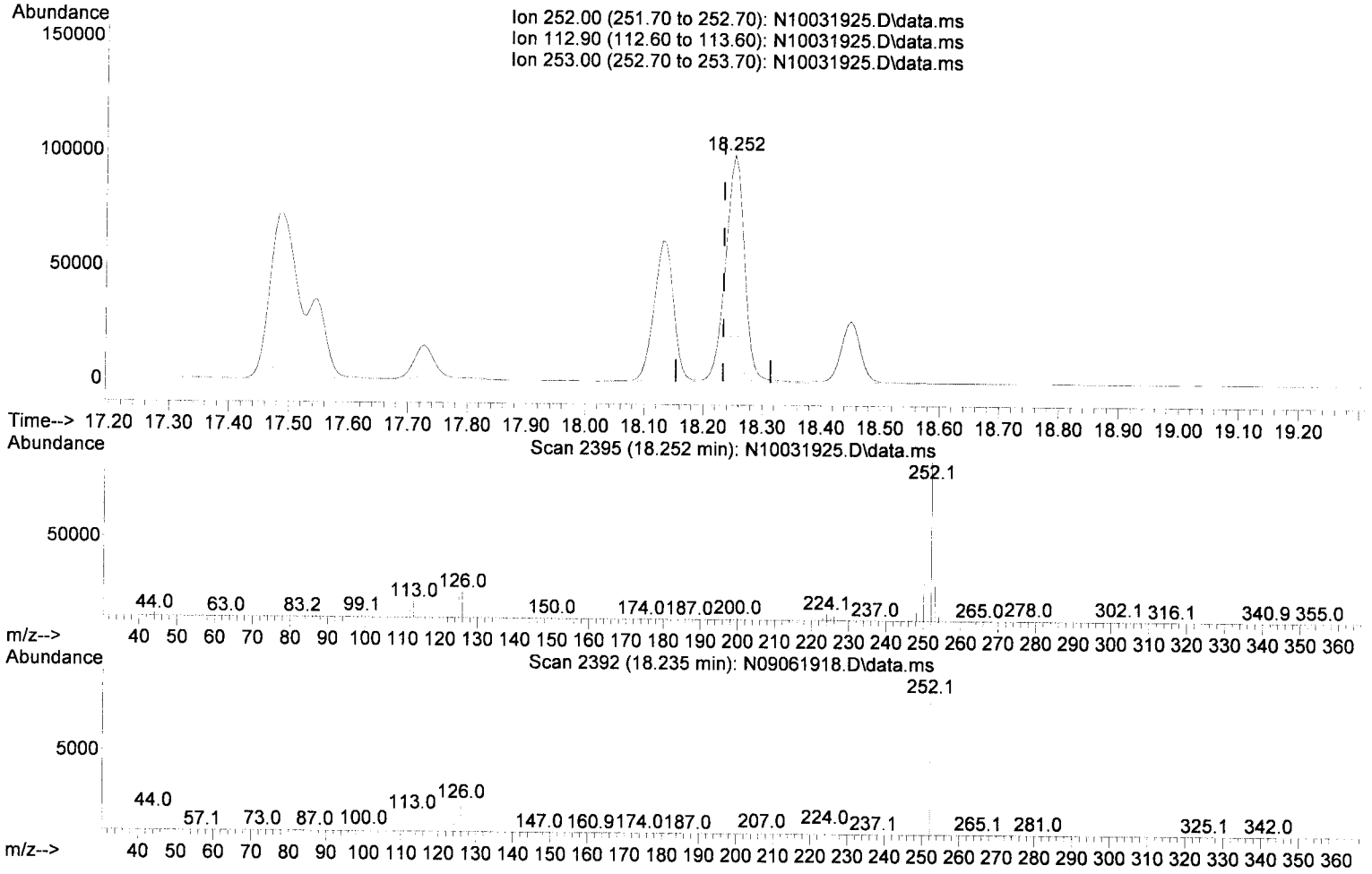
Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	16.93
253.00	21.50	22.93
0.00	0.00	0.00

AMS 10/7/19

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(35) Benzo(a)pyrene (T)

18.252min (+ 0.018) 99.04 ng/ml

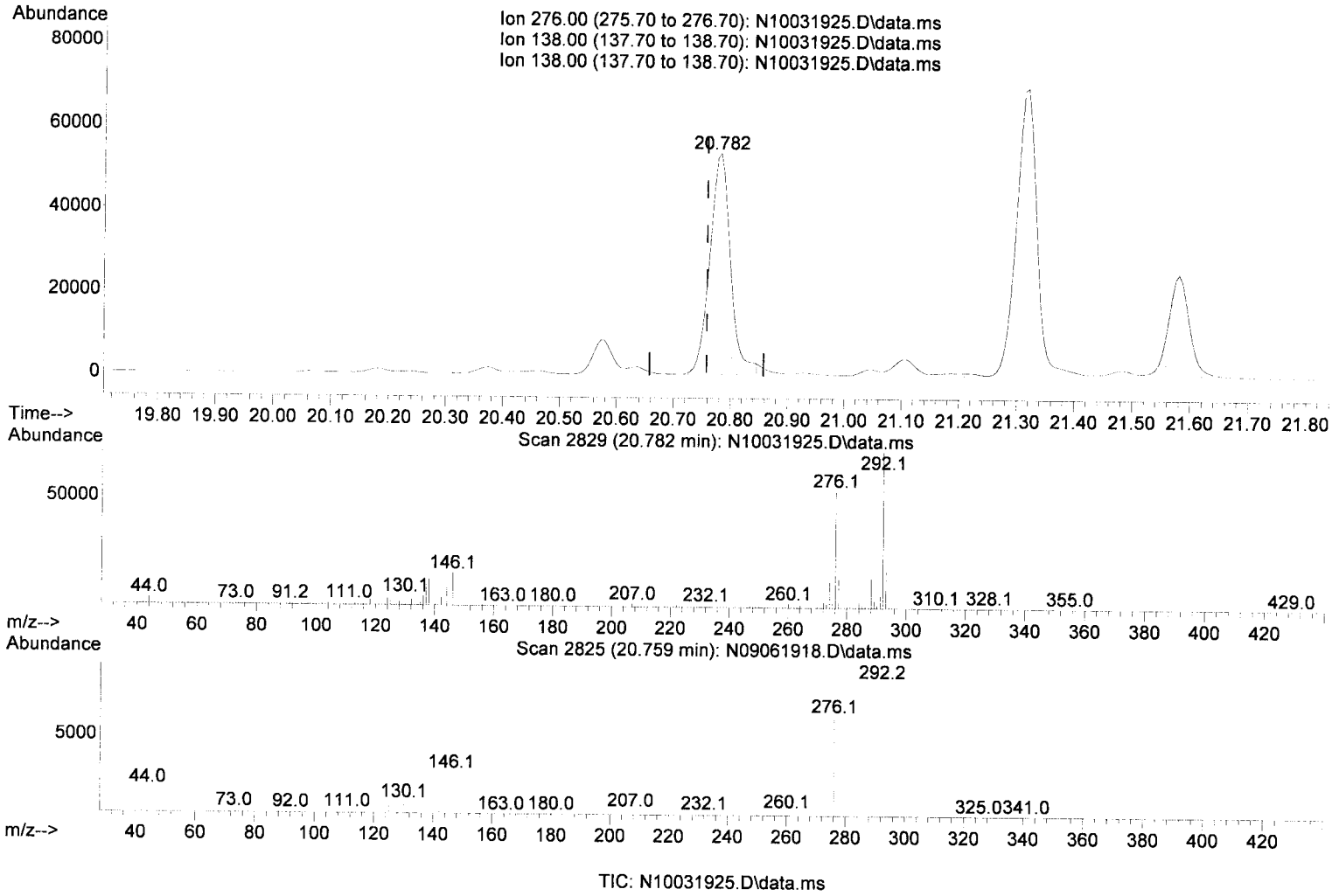
response 218996

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	10.30
253.00	21.90	22.27
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(38) Indeno(1,2,3-cd)Pyrene (T)

20.782min (+ 0.024) 64.09 ng/ml

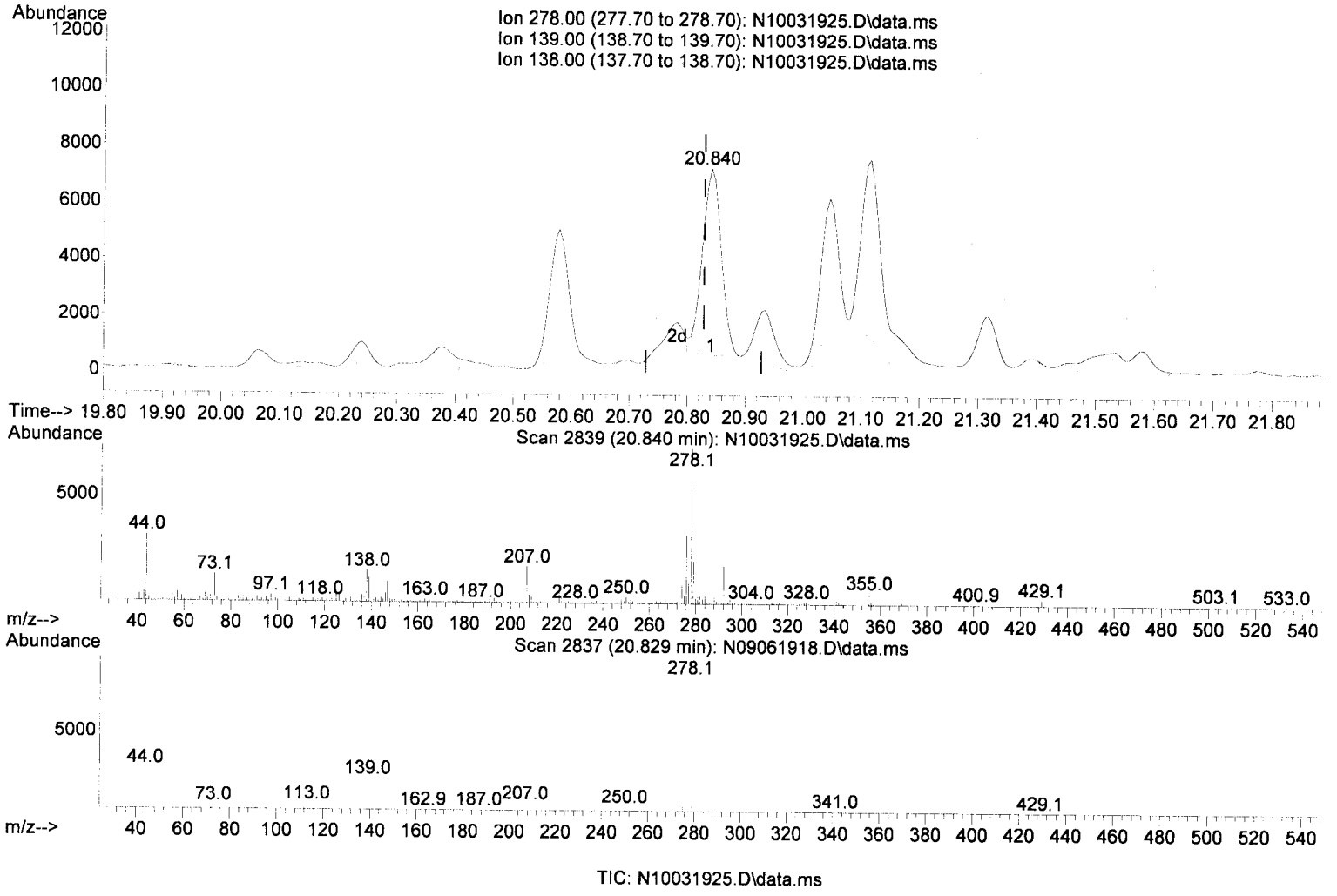
response 135422

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	22.46
138.00	31.60	22.46
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(39) Dibenz(a,h)anthracene (T)

20.840min (+ 0.012) 7.73 ng/ml

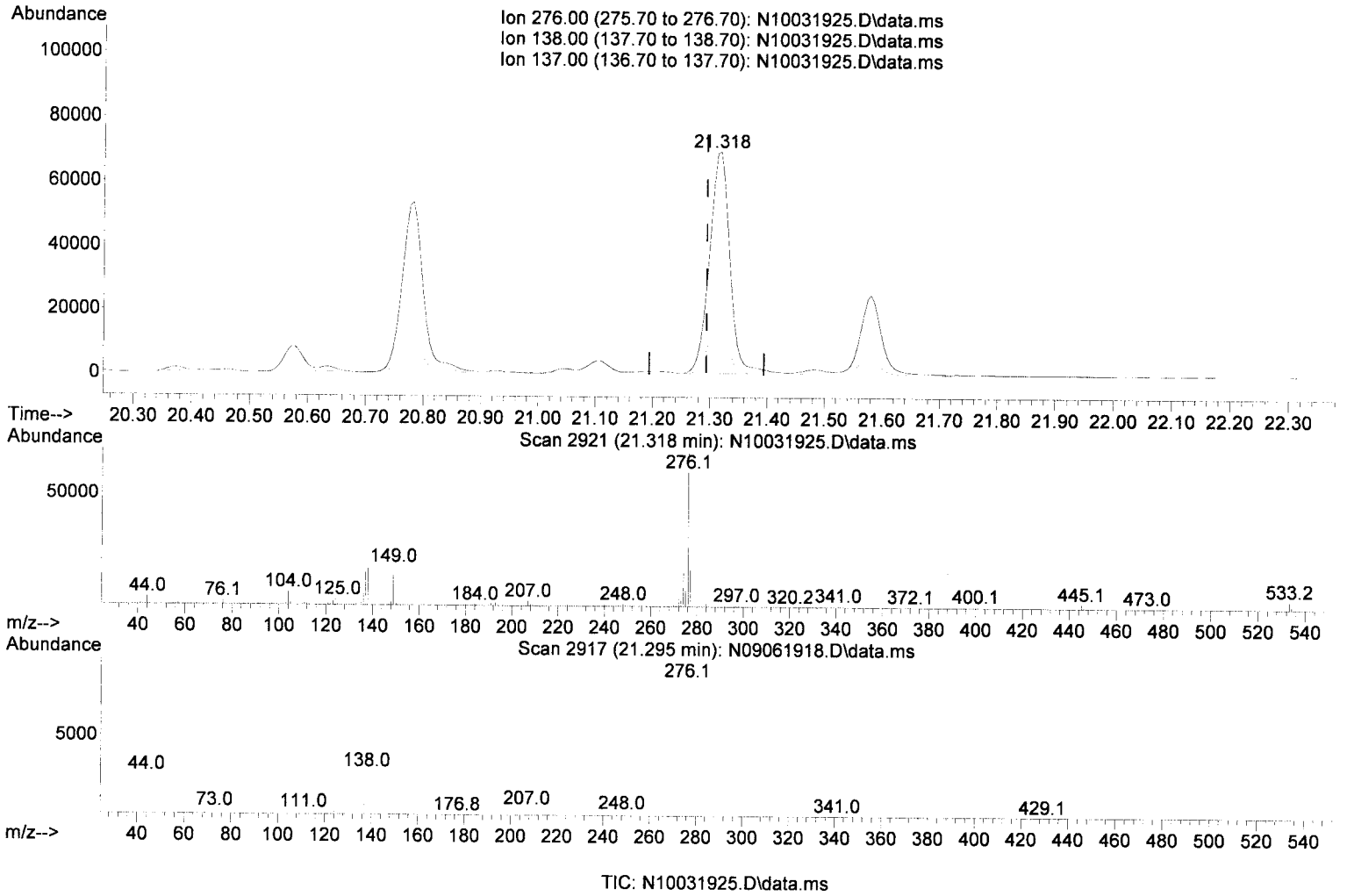
response 15340

Ion	Exp%	Act%
278.00	100.00	100.00
139.00	26.00	18.48
138.00	19.90	20.49
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031925.D\data.ms

(40) Benzo(g,h,i)perylene (T)

21.318min (+ 0.024) 75.77 ng/ml

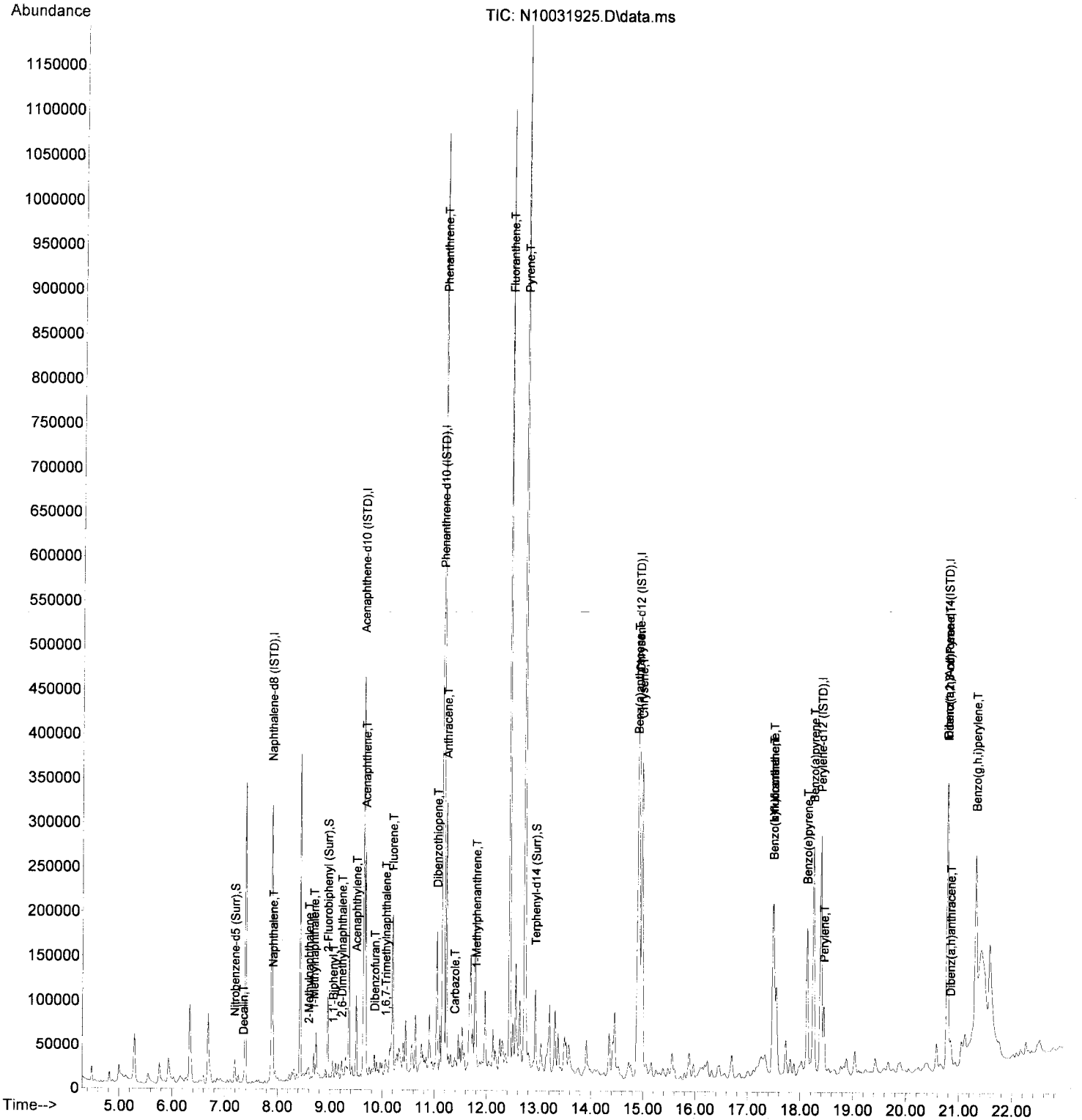
response 169854

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	23.59
137.00	28.60	20.90
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031925.D
Acq On : 03 Oct 2019 09:29 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-02@4
Misc : 4x, 8270D LL PAH ONLY
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Oct 04 12:48:19 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1

M05

AMS 10/7/19

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

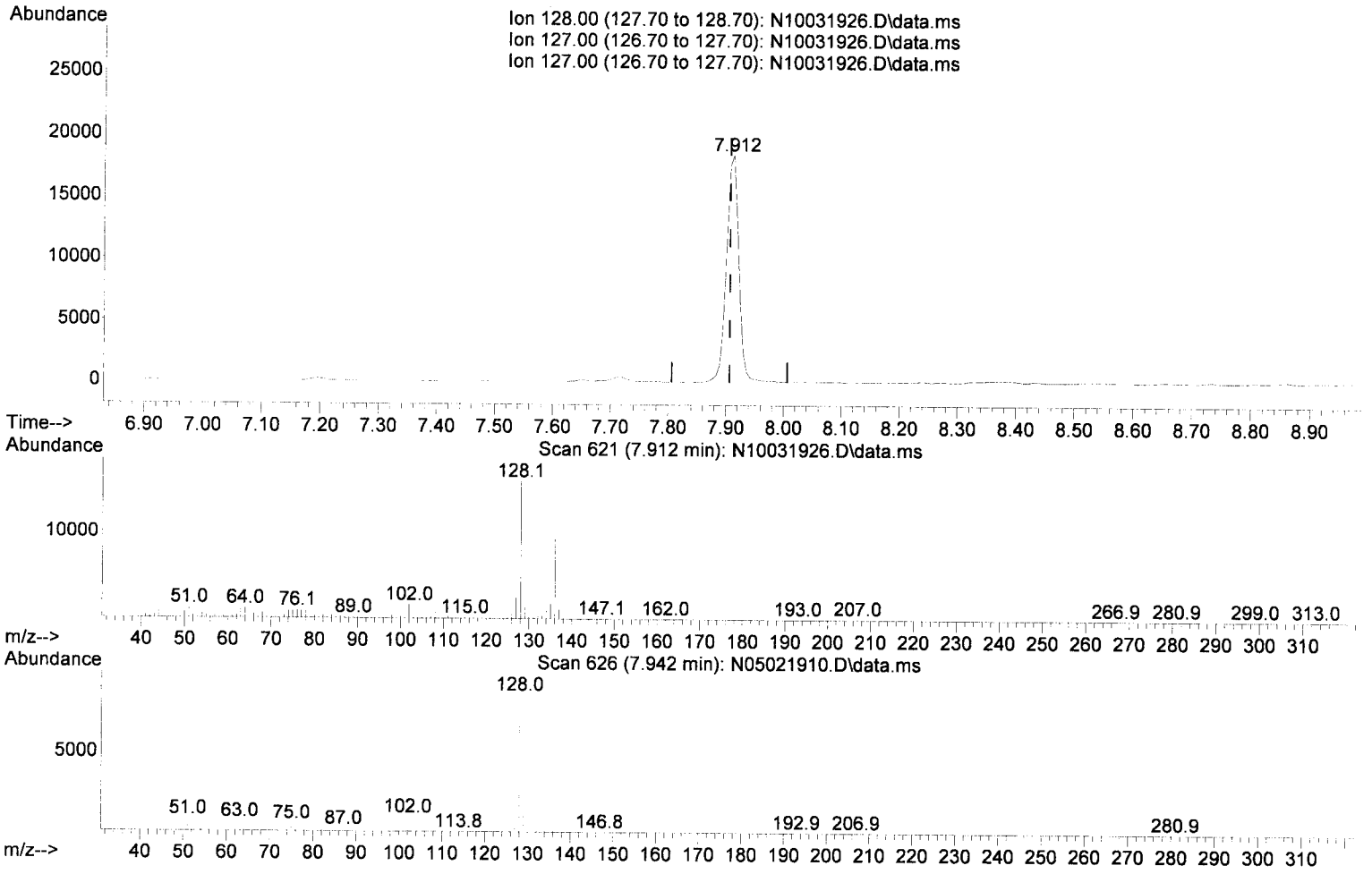
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.889	136	222335	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	134790	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.153	188	257447	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.918	240	234145	100.00	ng/ml	0.01
29) Perylene-d12 (ISTD)	18.392	264	213334	100.00	ng/ml	0.02
37) Dibenz(a,h)Anthrcene-d...	20.776	292	161584	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.195	82	795	1.08	ng/ml	0.01
10) 2-Fluorobiphenyl (Surr)	8.956	172	2005	1.00	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	1032	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.937	244	2582	1.05	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.200	264	56	0.03	ng/ml	0.02
Target Compounds						Qvalue
3) Decalin	7.353	138	75	0.45	ng/ml#	43
4) Naphthalene	7.912	128	27777	11.33	ng/ml	99
5) 2-Methylnaphthalene	8.594	142	4026	1.94	ng/ml	92
6) 1-Methylnaphthalene	8.693	142	14424	6.94	ng/ml	97
7) 1,1'-Biphenyl	9.061	154	1806	0.65	ng/ml	88
8) 2,6-Dimethylnaphthalene	9.224	156	6690	3.28	ng/ml	99
12) Acenaphthylene	9.504	152	66618	22.77	ng/ml	99
13) Acenaphthene	9.678	153	122077	63.69	ng/ml	99
14) Dibenzofuran	9.853	168	4947	2.06	ng/ml	92
15) 1,6,7-Trimethylnaphtha...	10.063	170	5596	3.48	ng/ml	95
16) Fluorene	~~10.197~~	~~166~~	~~52545~~	~~26.79~~	~~ng/ml~~	~~99~~ MI-HIT
18) Dibenzothiopene	11.048	184	86162	32.00	ng/ml	97
19) Phenanthrene	11.176	178	403712	134.01	ng/ml	100
20) Anthracene	11.229	178	121916	43.51	ng/ml	99
21) Carbazole	11.386	167	8852	3.90	ng/ml	97
22) 1-Methylphenanthrene	11.800	192	36308	17.35	ng/ml	96
23) Fluoranthene	12.441	202	761634	250.93	ng/ml	97
25) Pyrene	12.733	202	977145	267.12	ng/ml	99
27) Benz(a)anthracene	14.895	228	214424	78.88	ng/ml	67
28) Chrysene	14.977	228	325253	126.43	ng/ml	98
30) Benzo(b)fluoranthene	17.483	252	277035	112.54	ng/ml	94
31) Benzo(k)fluoranthene	~~17.483~~	~~252~~	~~337550~~	~~139.27~~	~~ng/ml~~	~~92~~ MI-MOS
32) Benzo(b+k)fluoranthene	17.483	252	376889	149.68	ng/ml	92
34) Benzo(e)pyrene	18.130	252	174228	70.00	ng/ml	99
35) Benzo(a)pyrene	18.252	252	269780	128.04	ng/ml	97
36) Perylene	18.451	252	80675	31.09	ng/ml	98
38) Indeno(1,2,3-cd)Pyrene	20.782	276	168852	84.73	ng/ml	83
39) Dibenz(a,h)anthracene	20.840	278	18889	10.09	ng/ml	92
40) Benzo(g,h,i)perylene	21.318	276	208881	98.81	ng/ml	82

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(4) Naphthalene (T)

7.912min (+ 0.006) 11.33 ng/ml

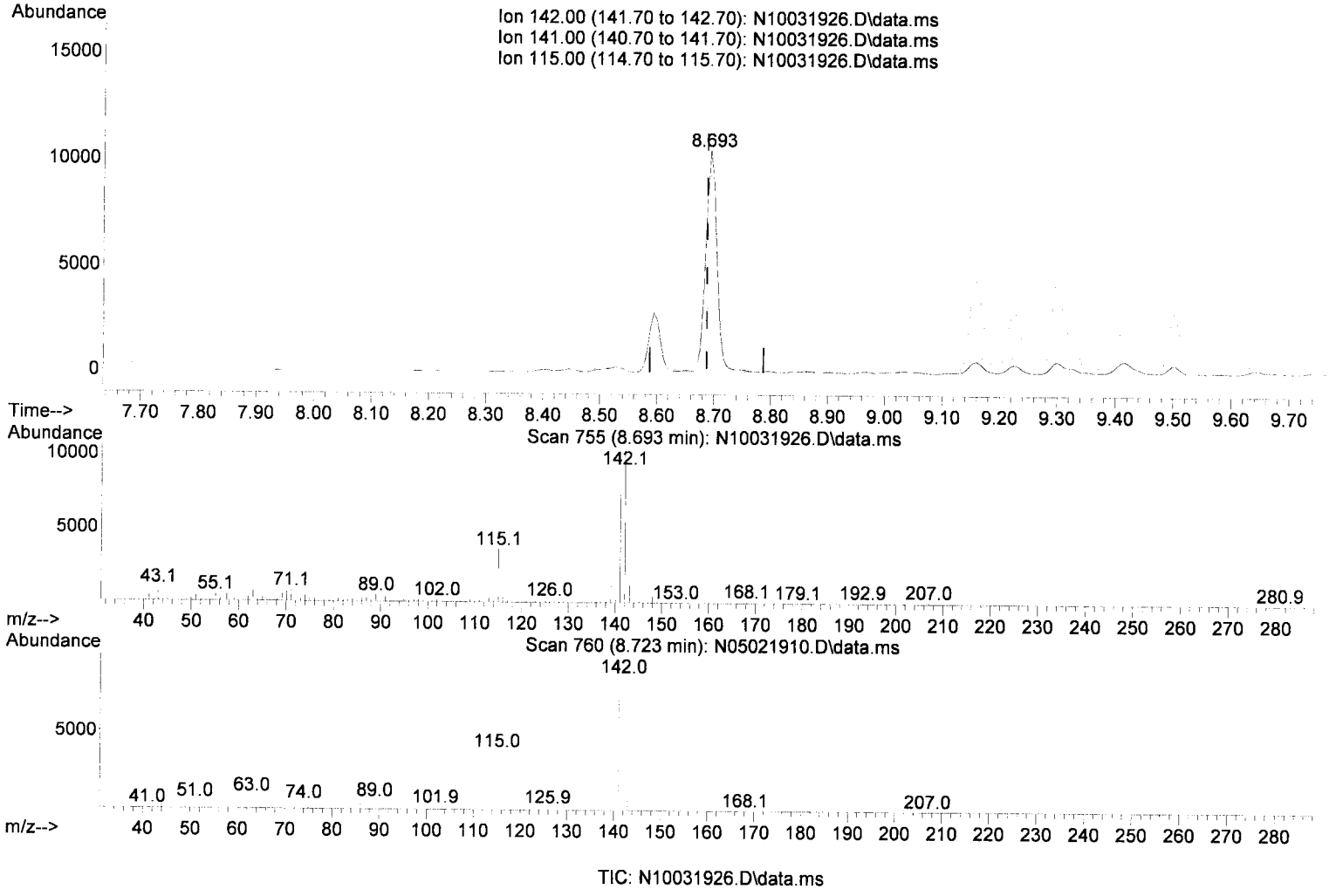
response 27777

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	13.15
127.00	12.60	13.15
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(6) 1-Methylnaphthalene (T)

8.693min (+ 0.006) 6.94 ng/ml

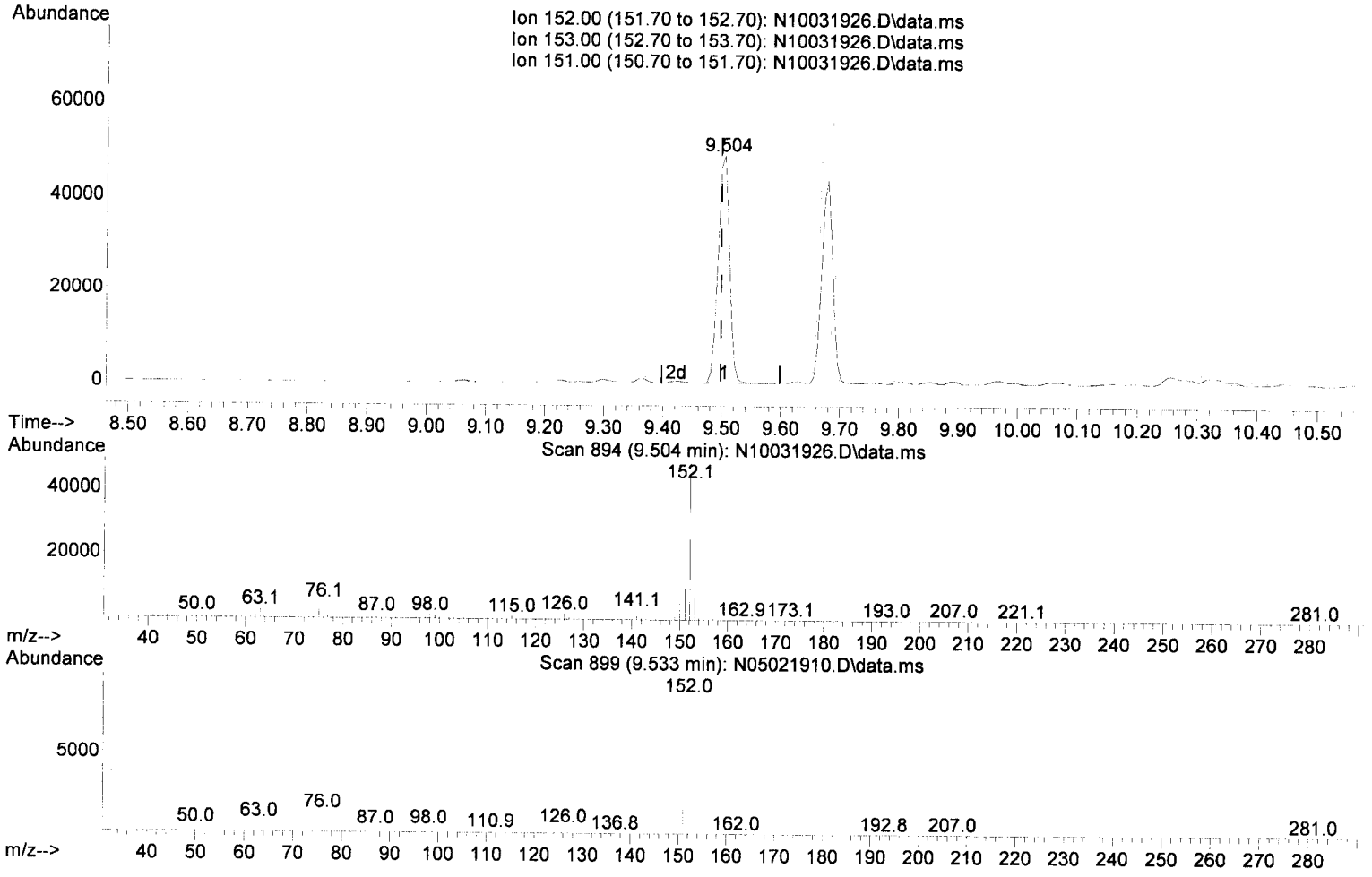
response 14424

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	89.29
115.00	37.80	34.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(12) Acenaphthylene (T)

9.504min (+ 0.006) 22.77 ng/ml

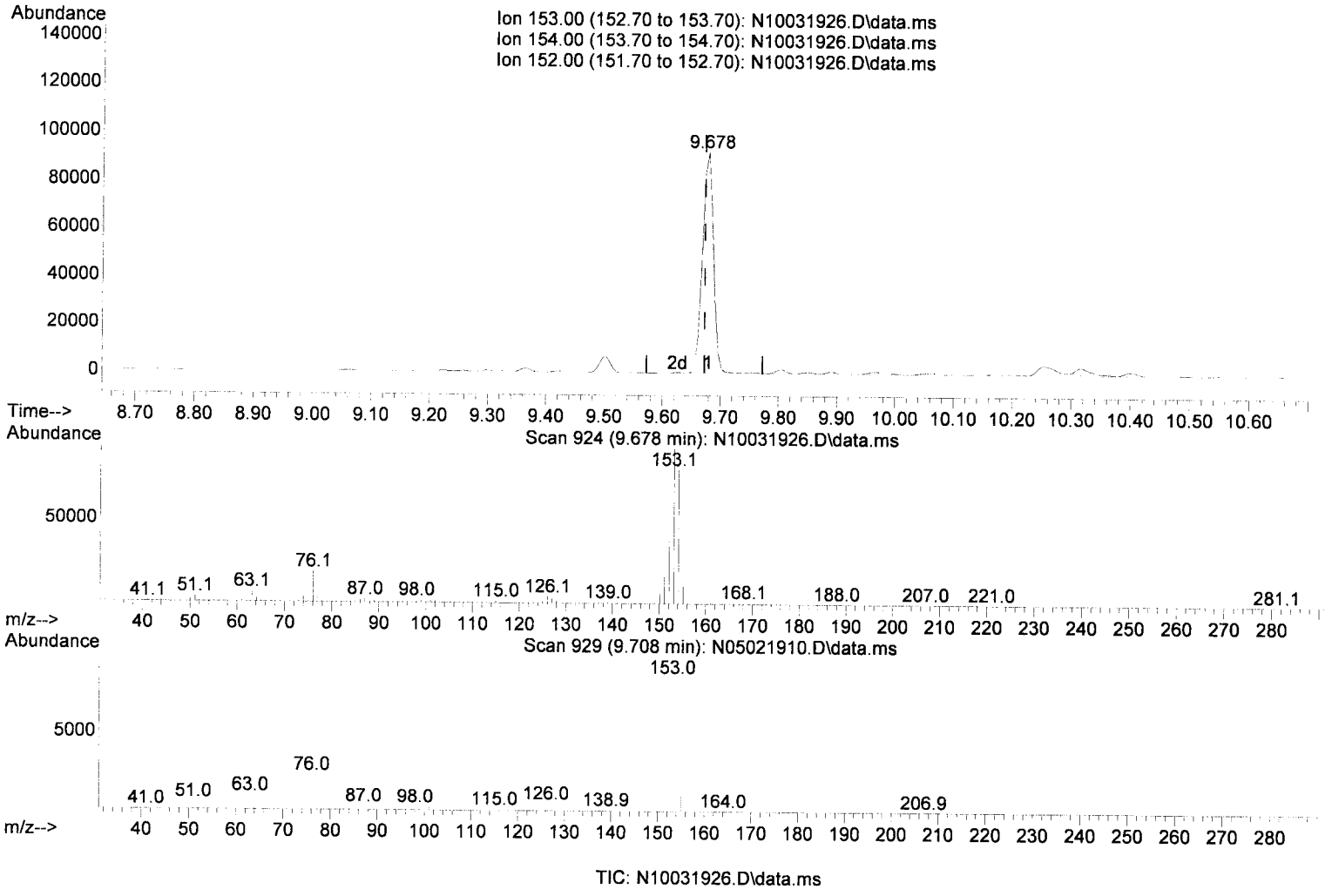
response 66618

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	13.76
151.00	19.30	19.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(13) Acenaphthene (T)

9.678min (+ 0.006) 63.69 ng/ml

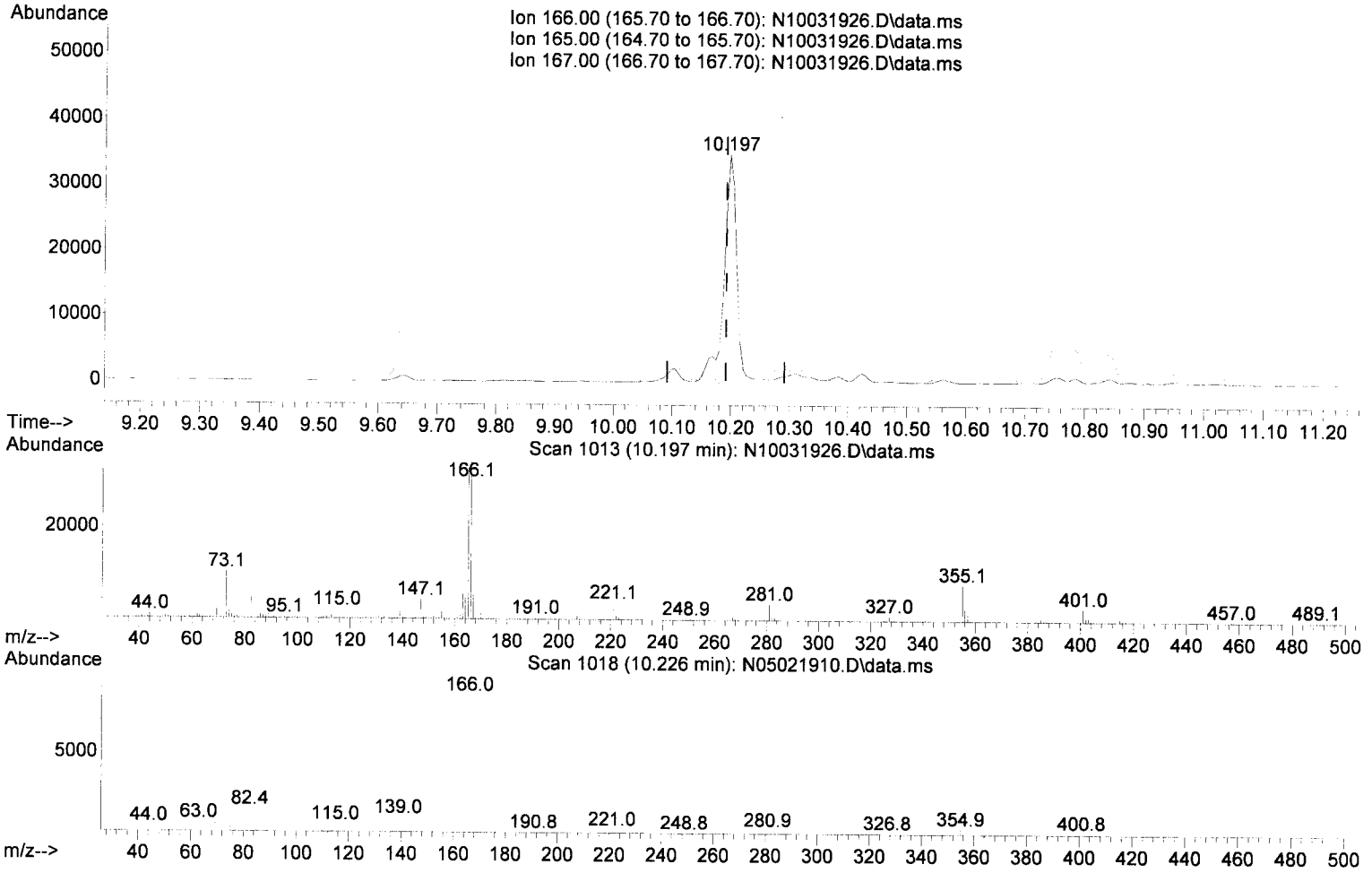
response 122077

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.09
152.00	46.80	47.39
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(16) Fluorene (T)

10.197min (+ 0.006) 24.53 ng/ml m

response 48117

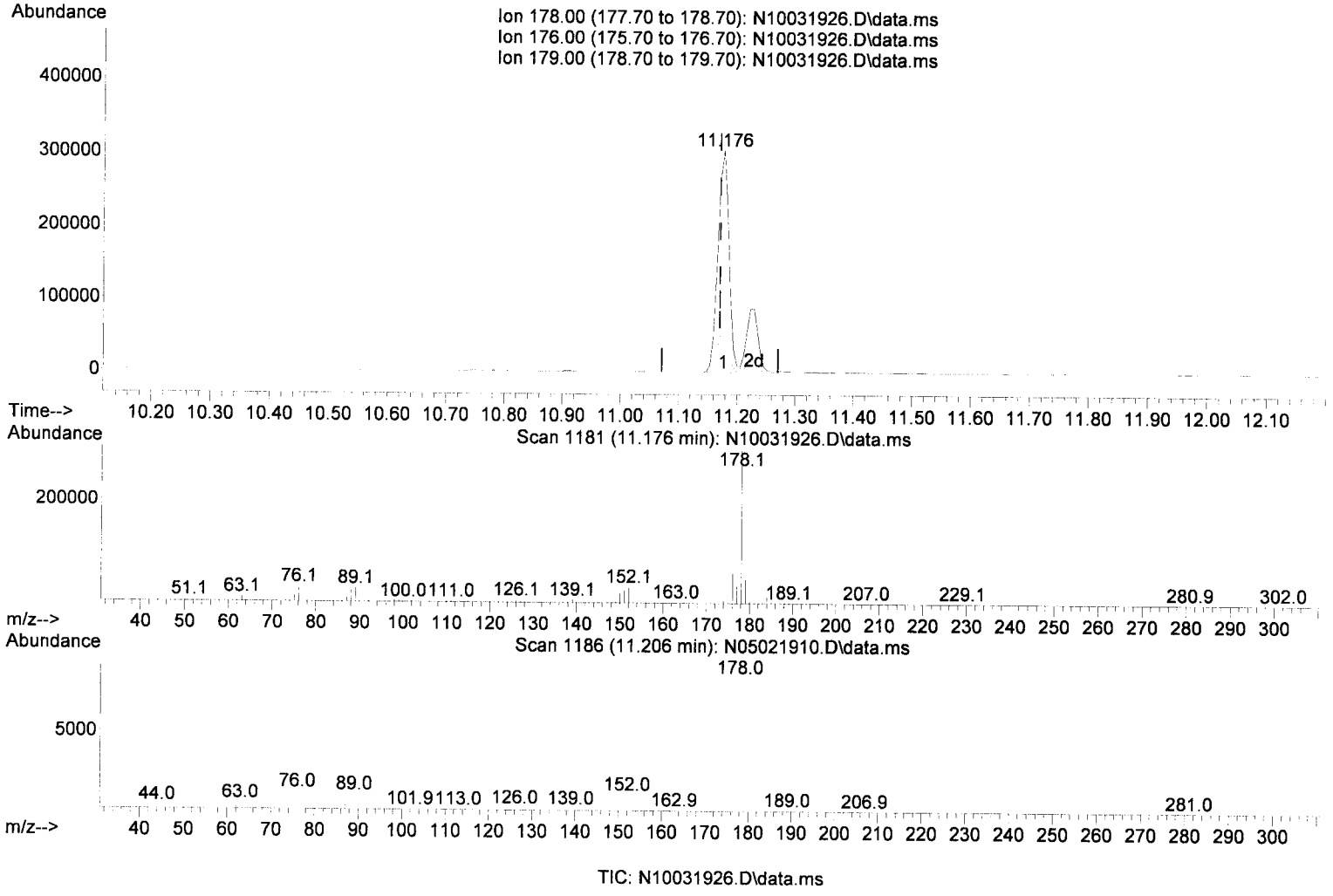
Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	94.95
167.00	13.60	15.07
0.00	0.00	0.00

AMS 10/7/19 ✓

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(19) Phenanthrene (T)

11.176min (+ 0.006) 134.01 ng/ml

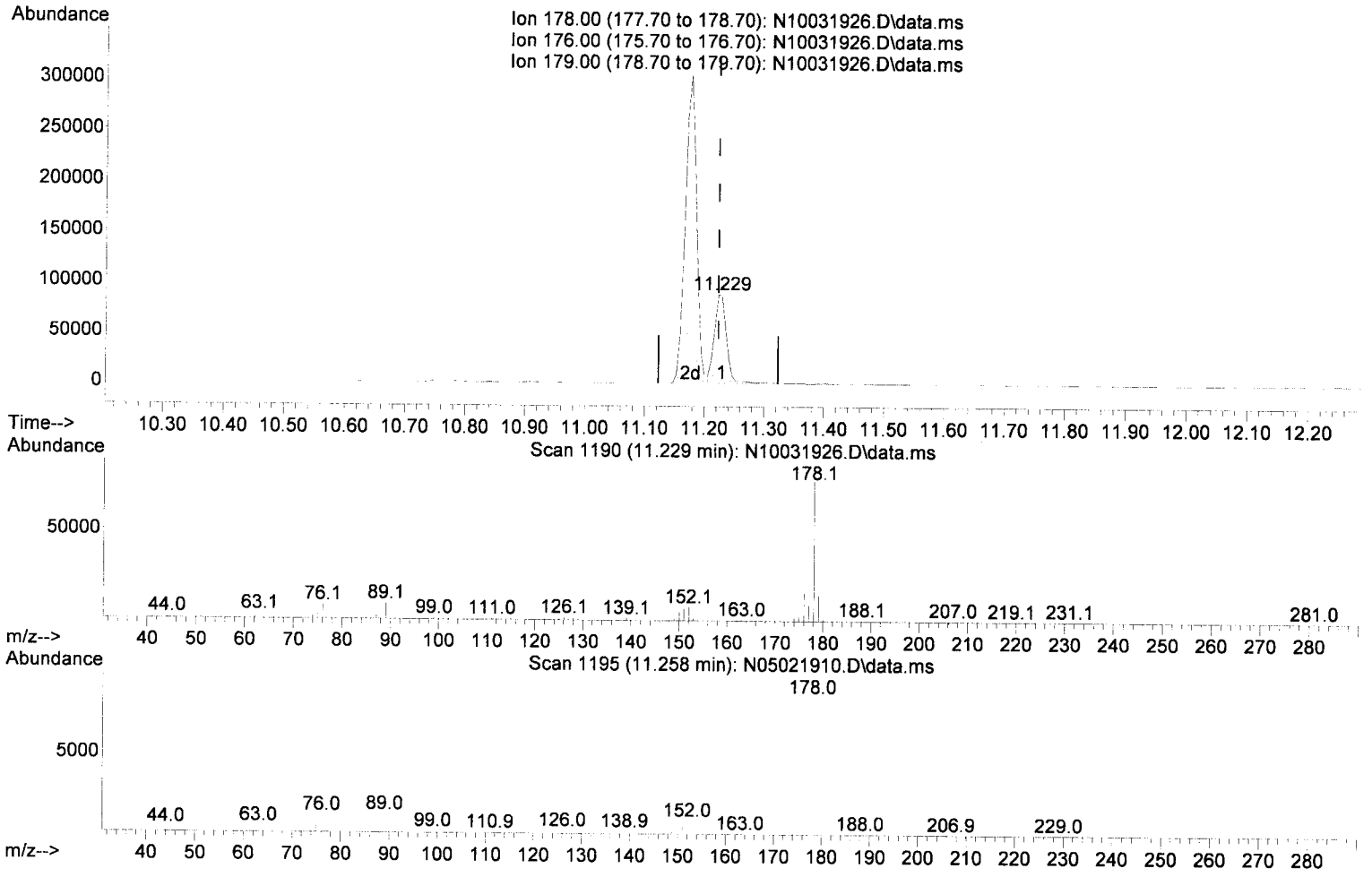
response 403712

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.91
179.00	15.10	15.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(20) Anthracene (T)

11.229min (+ 0.006) 43.51 ng/ml

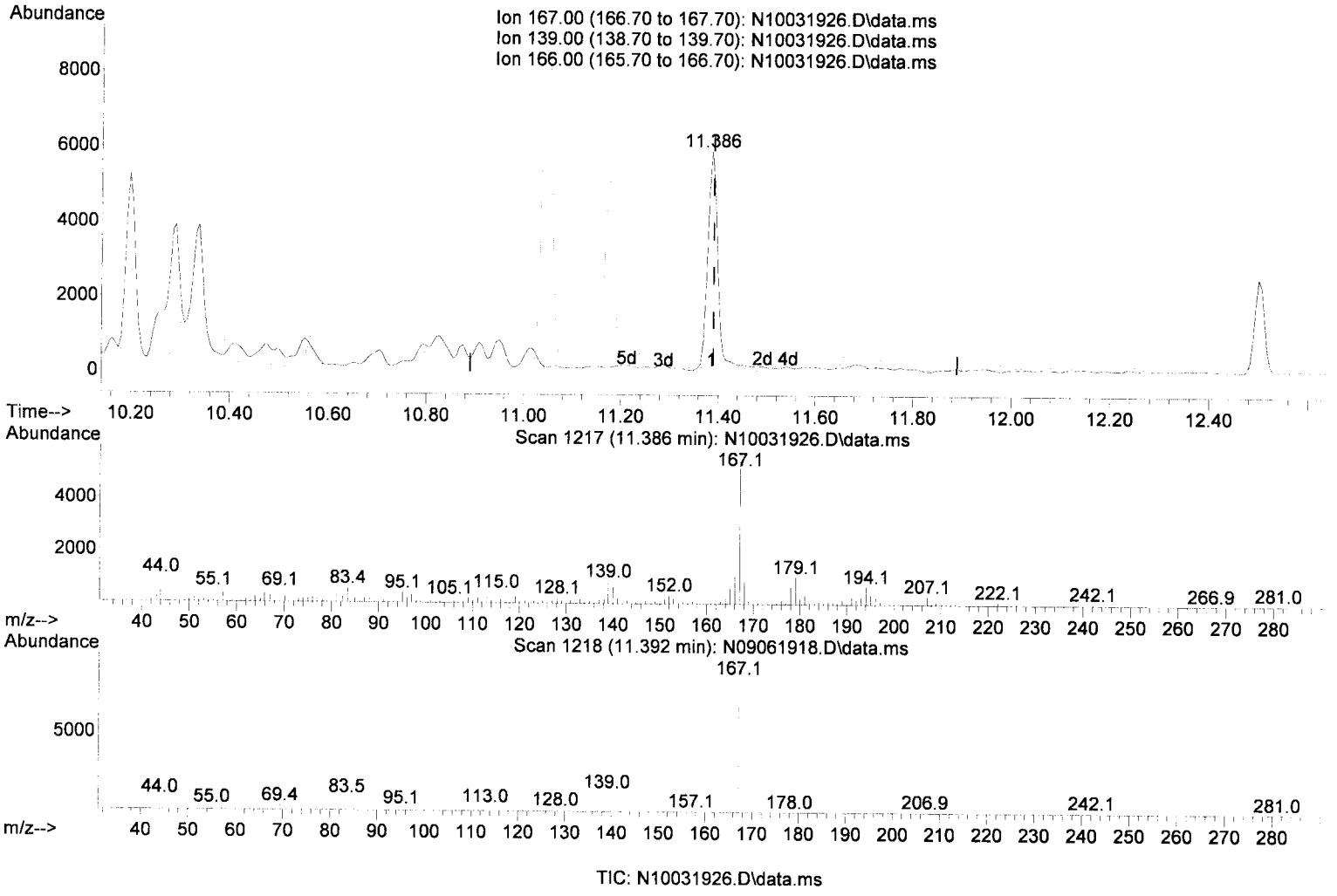
response 121916

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.61
179.00	15.30	16.04
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(21) Carbazole (T)

11.386min (-0.004) 3.90 ng/ml

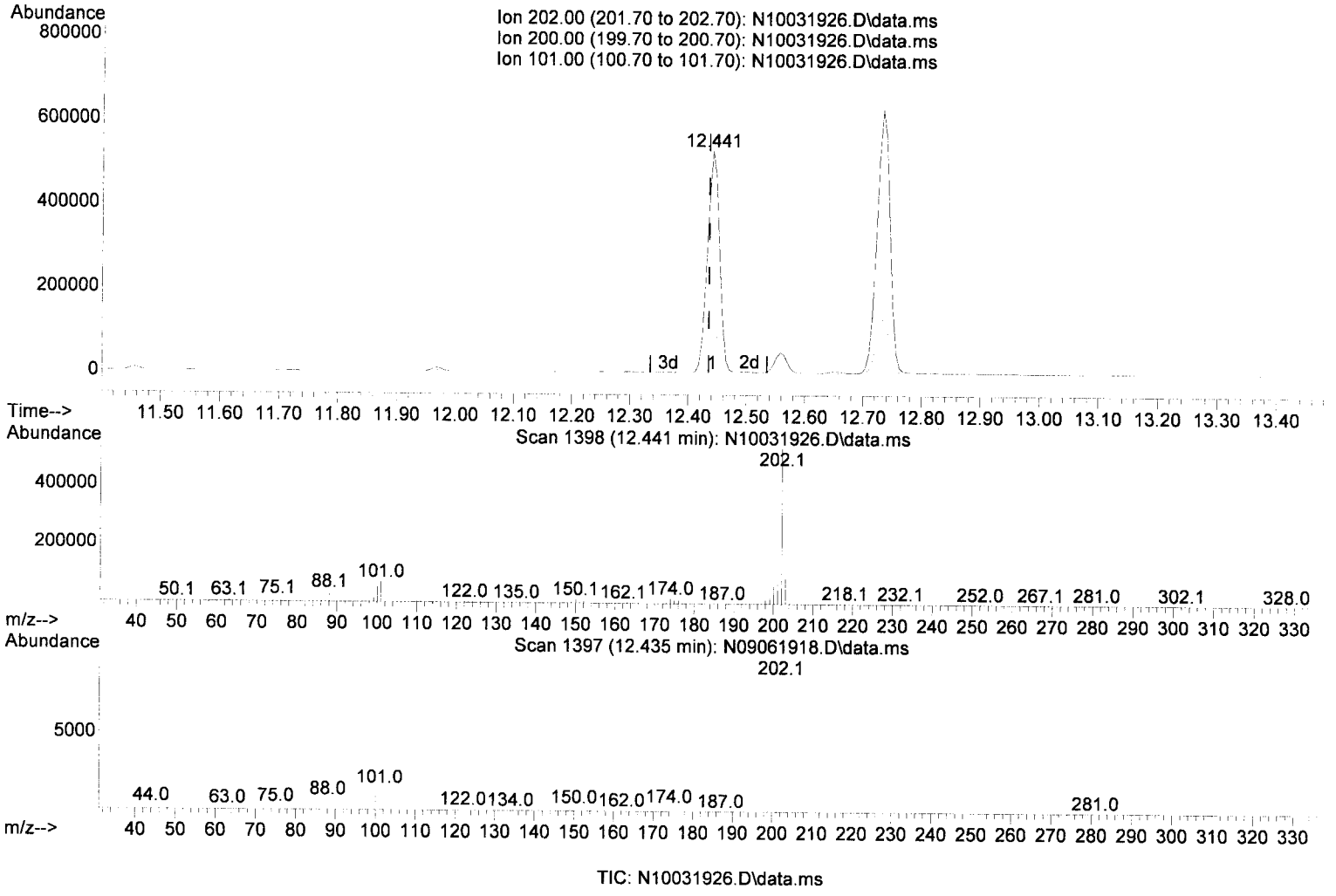
response 8852

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	13.50	14.61
166.00	21.10	22.57
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(23) Fluoranthene (T)

12.441min (+ 0.006) 250.93 ng/ml

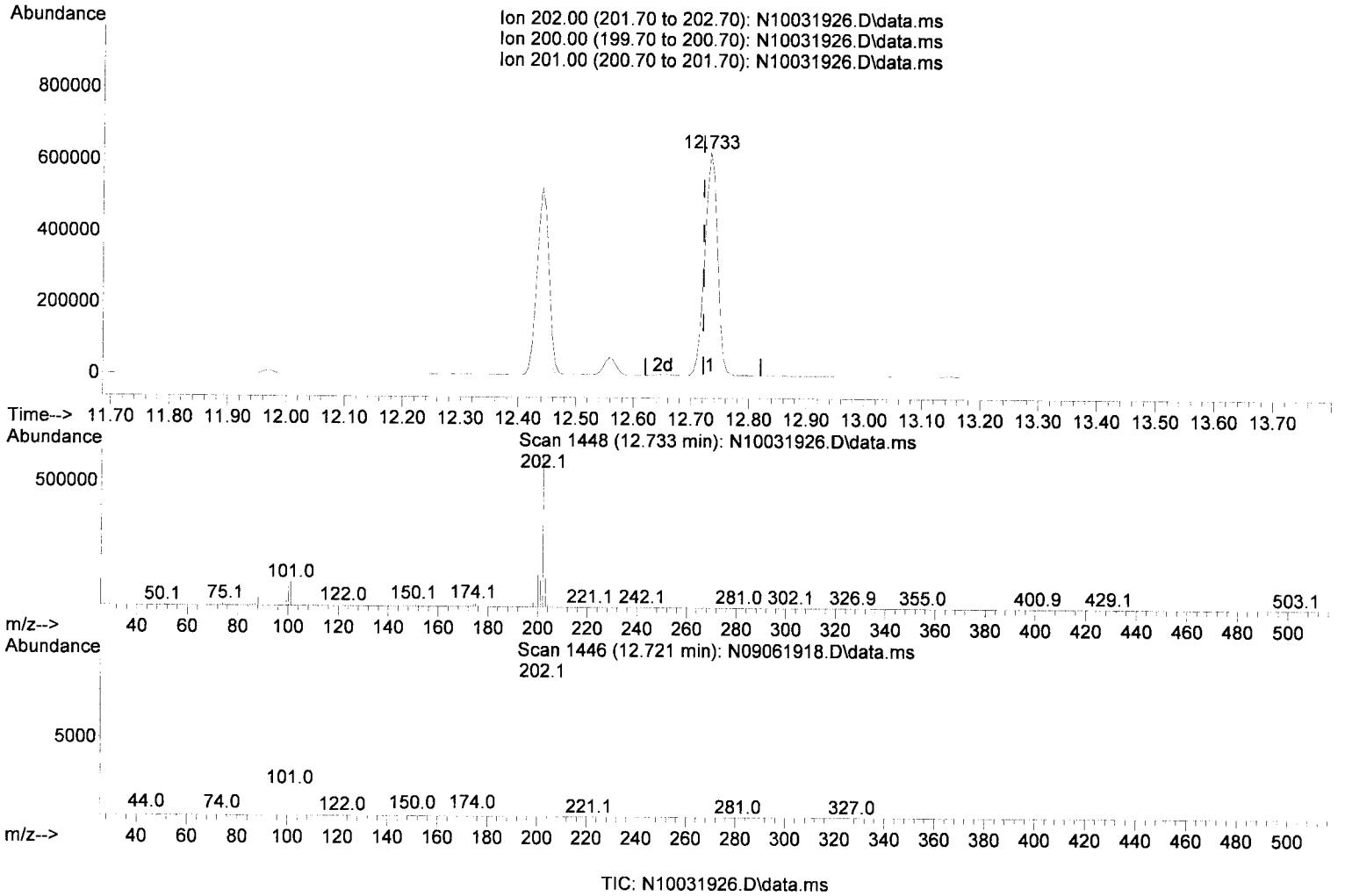
response 761634

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.40
101.00	15.30	13.11
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(25) Pyrene (T)

12.733min (+ 0.012) 267.12 ng/ml

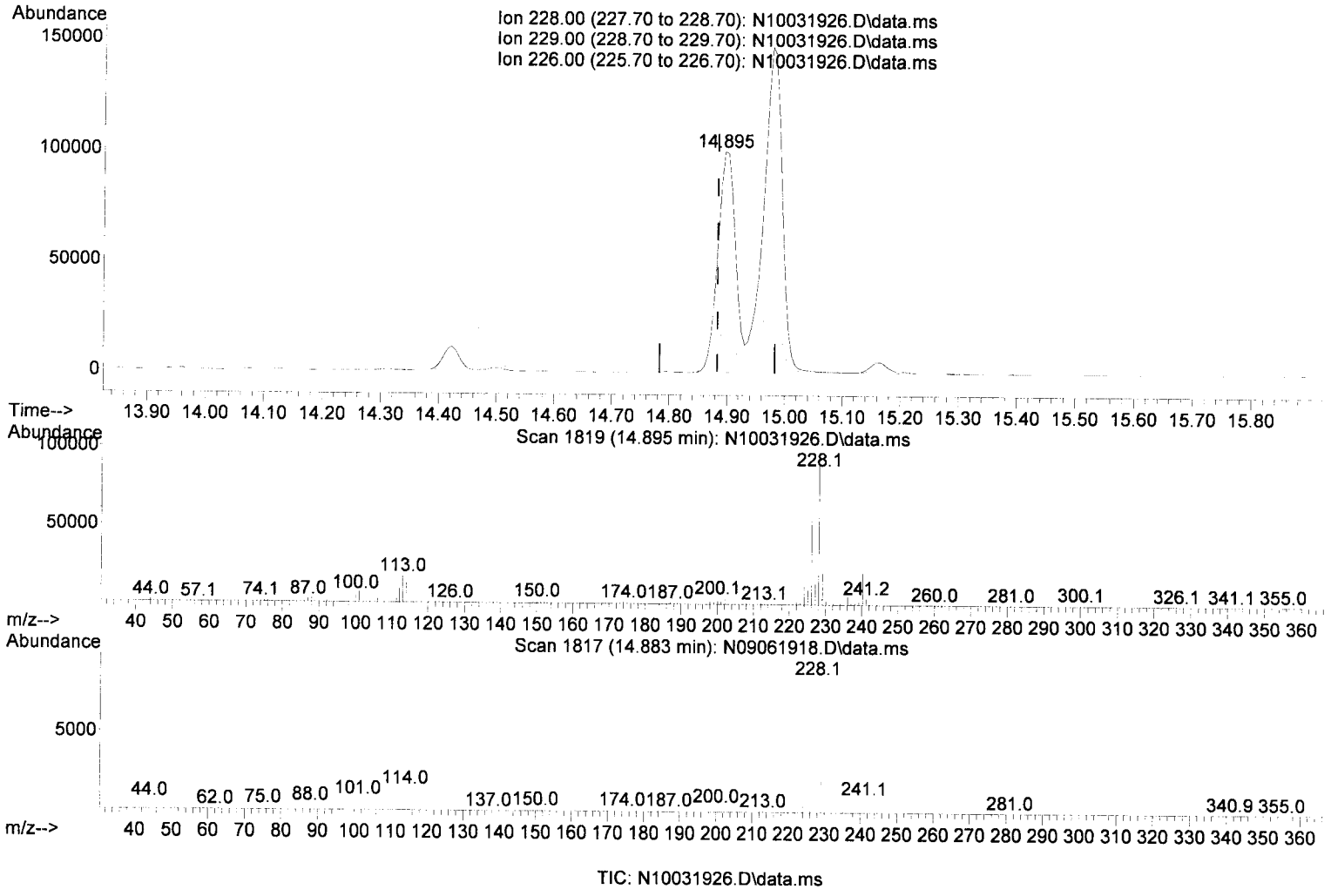
response 977145

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.45
201.00	16.80	17.04
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(27) Benz(a)anthracene (T)

14.895min (+ 0.012) 78.88 ng/ml

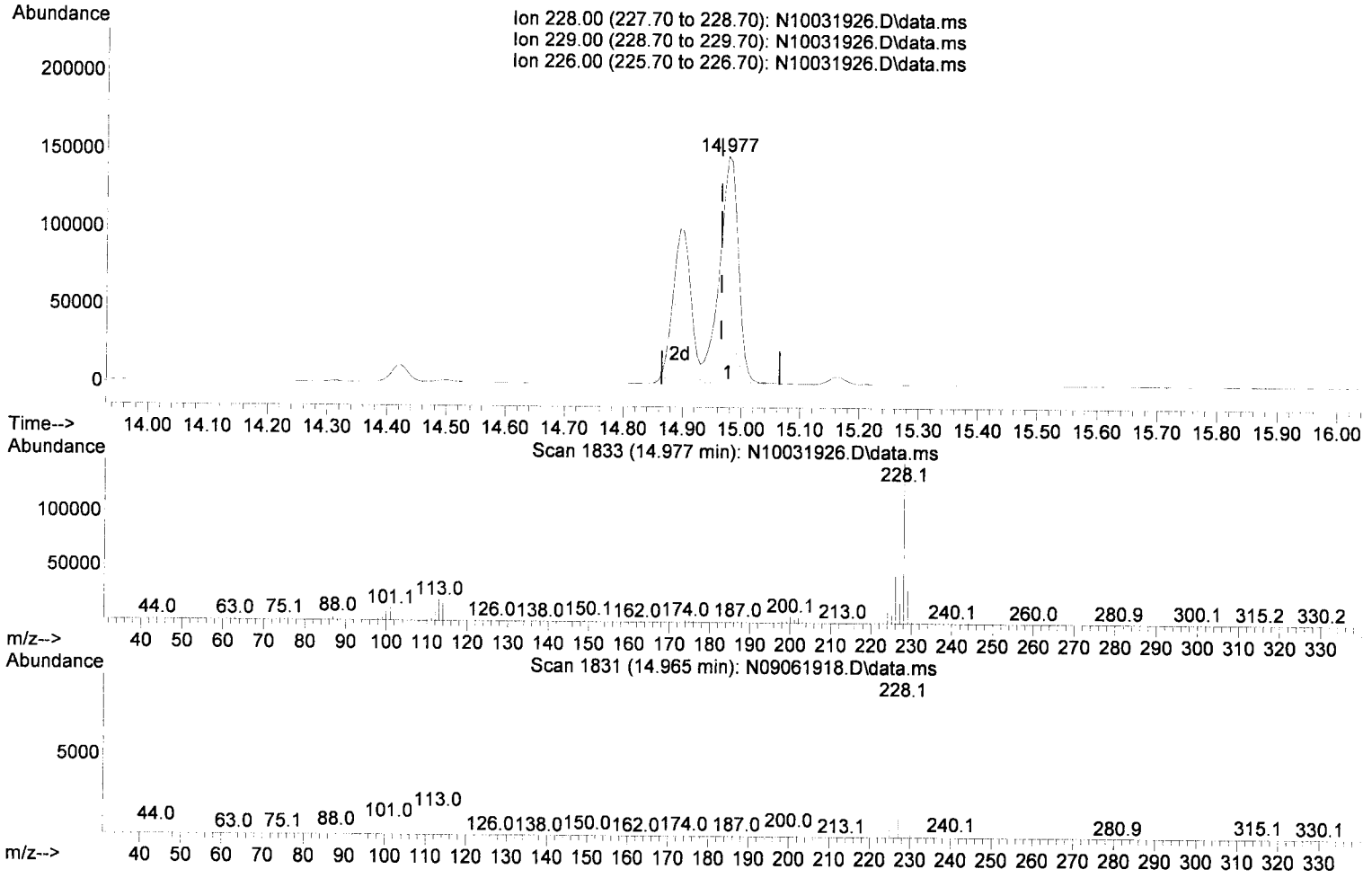
response 214424

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	20.23
226.00	26.20	54.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(28) Chrysene (T)

14.977min (+ 0.012) 126.43 ng/ml

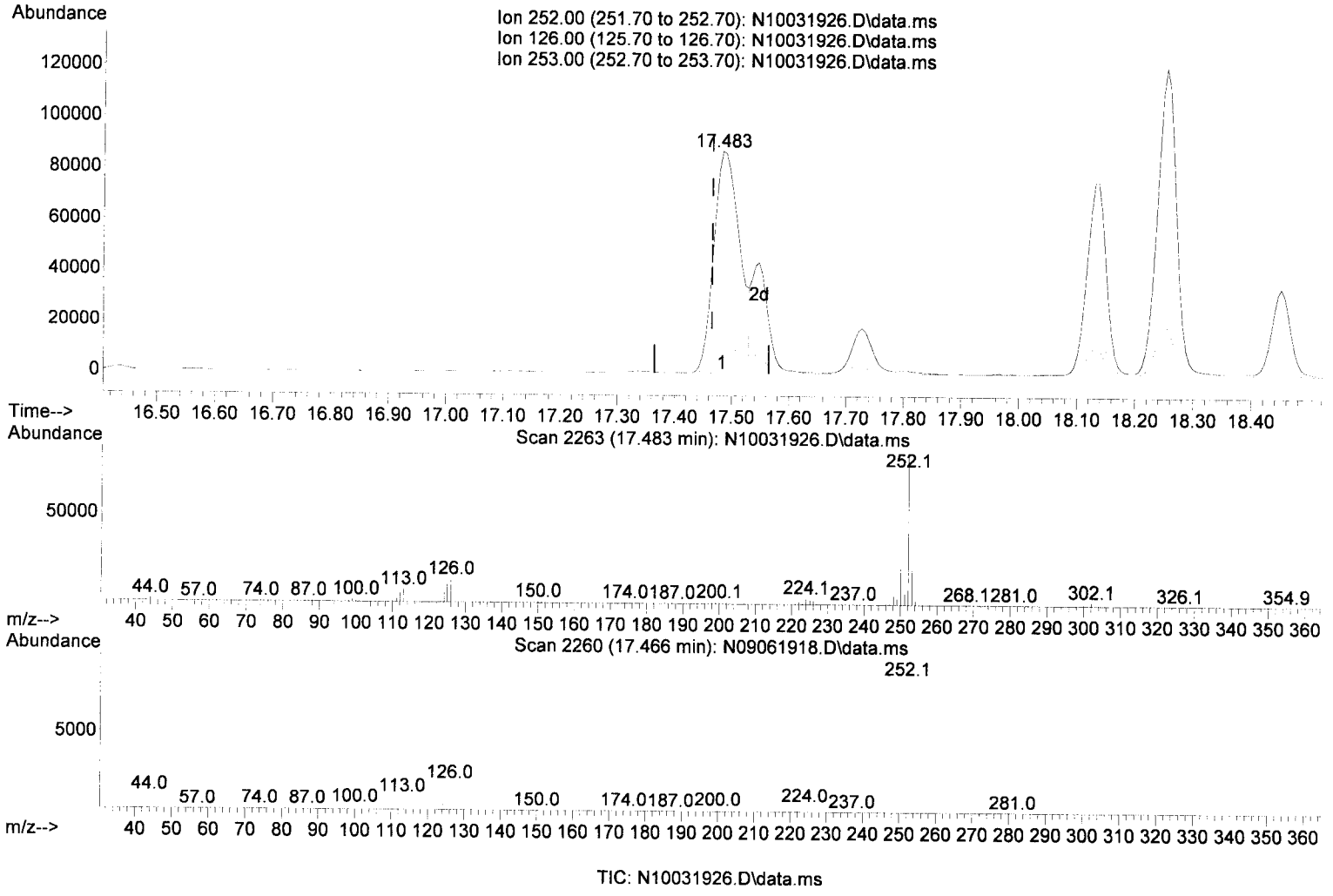
response 325253

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.46
226.00	28.60	29.55
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(30) Benzo(b)fluoranthene (T)

17.483min (+ 0.018) 112.54 ng/ml

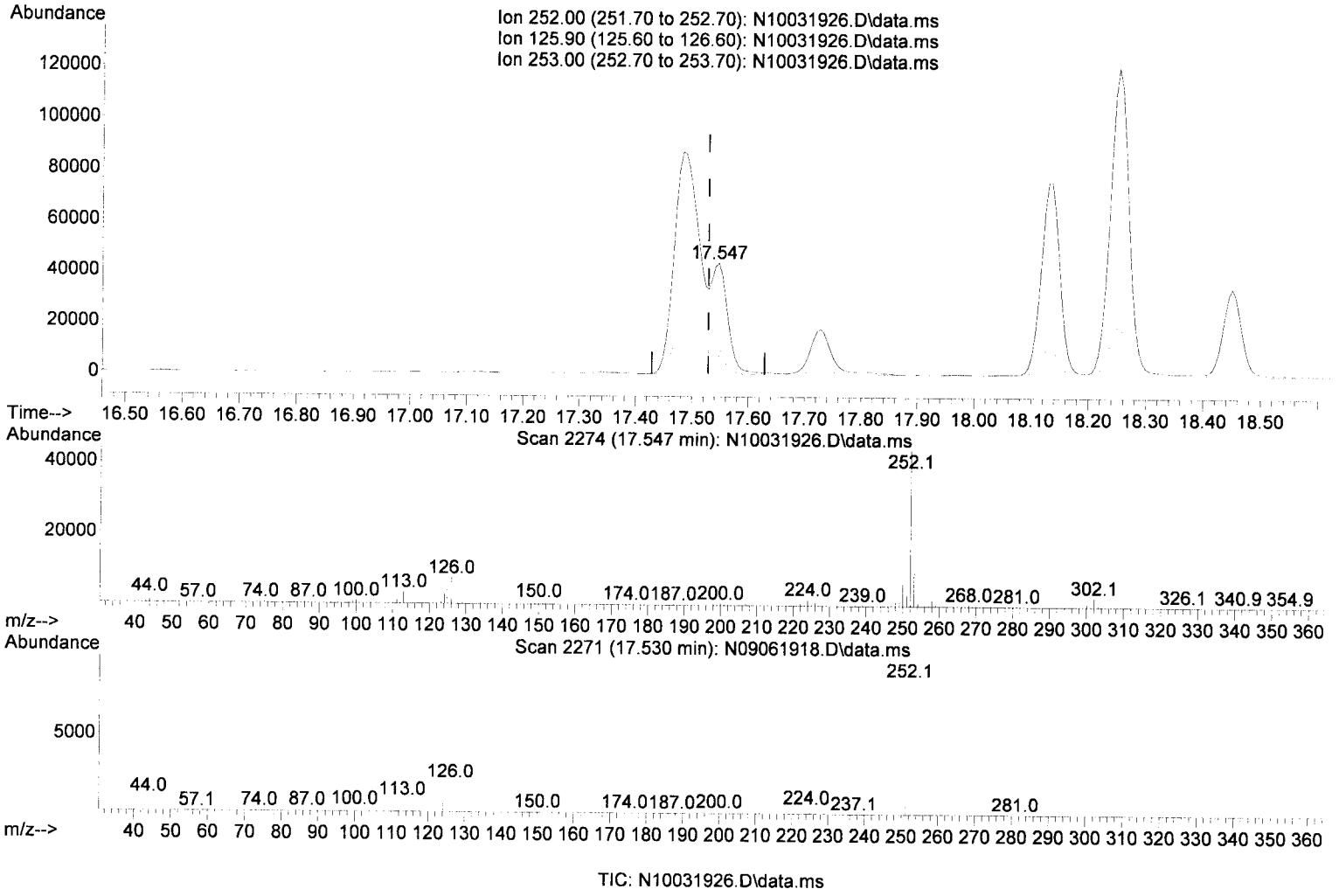
response 277035

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	15.03
253.00	21.10	22.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.547min (+ 0.018) 35.16 ng/ml m

response 85226

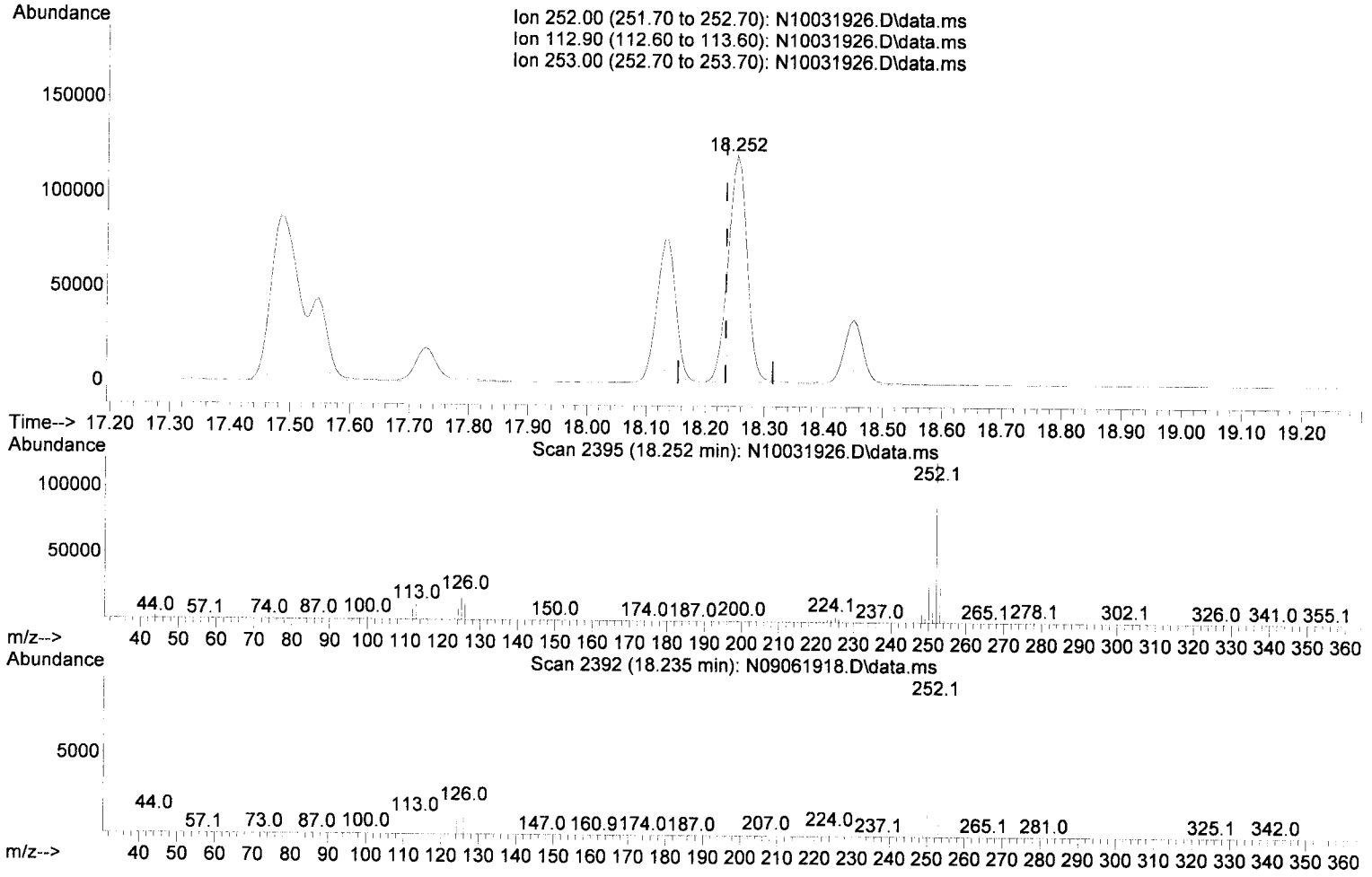
Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	16.58
253.00	21.50	22.25
0.00	0.00	0.00

AMS 10/7/19 MOS

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(35) Benzo(a)pyrene (T)

18.252min (+ 0.018) 128.04 ng/ml

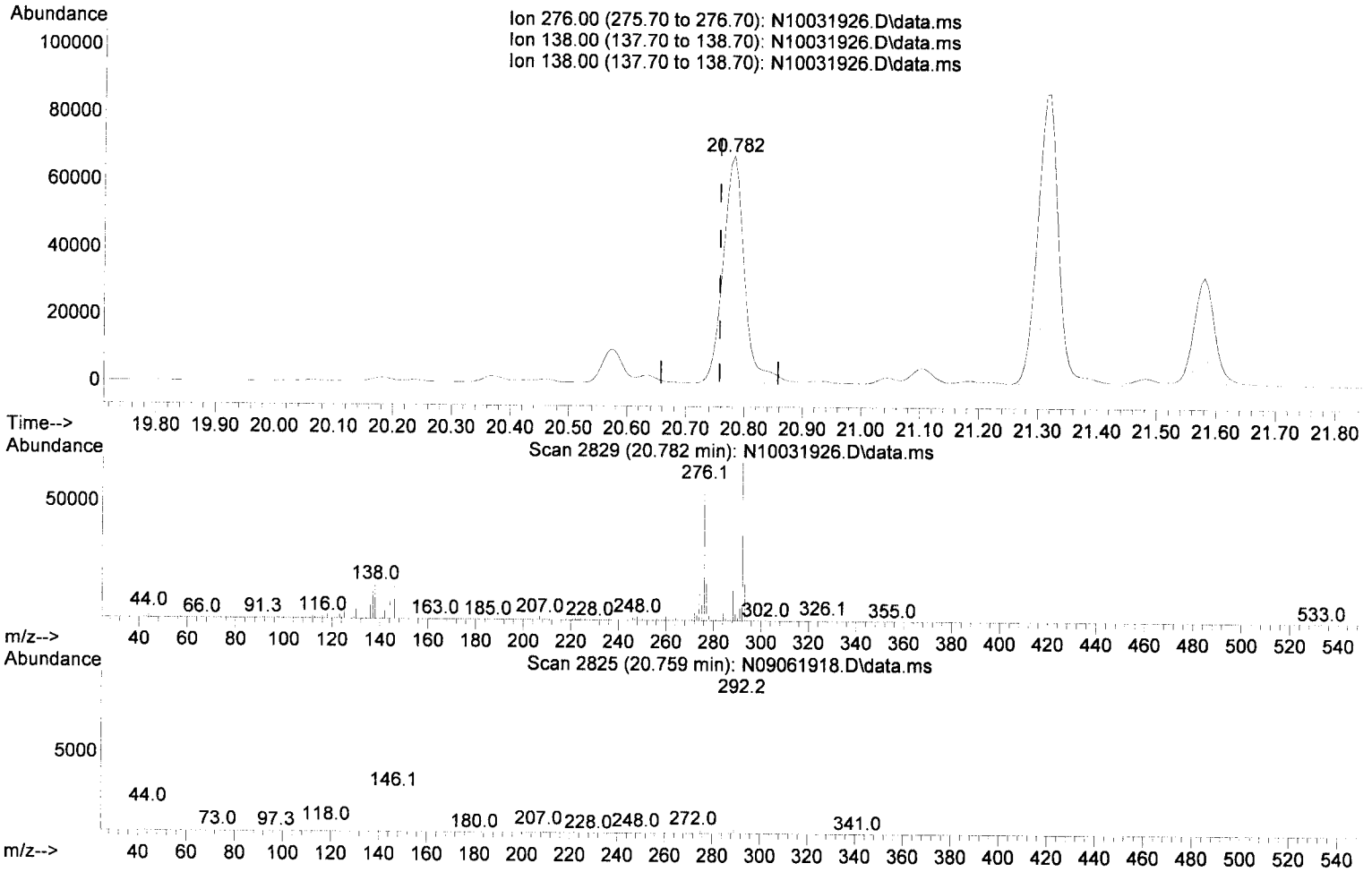
response 269780

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	10.19
253.00	21.90	22.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(38) Indeno(1,2,3-cd)Pyrene (T)

20.782min (+ 0.024) 84.73 ng/ml

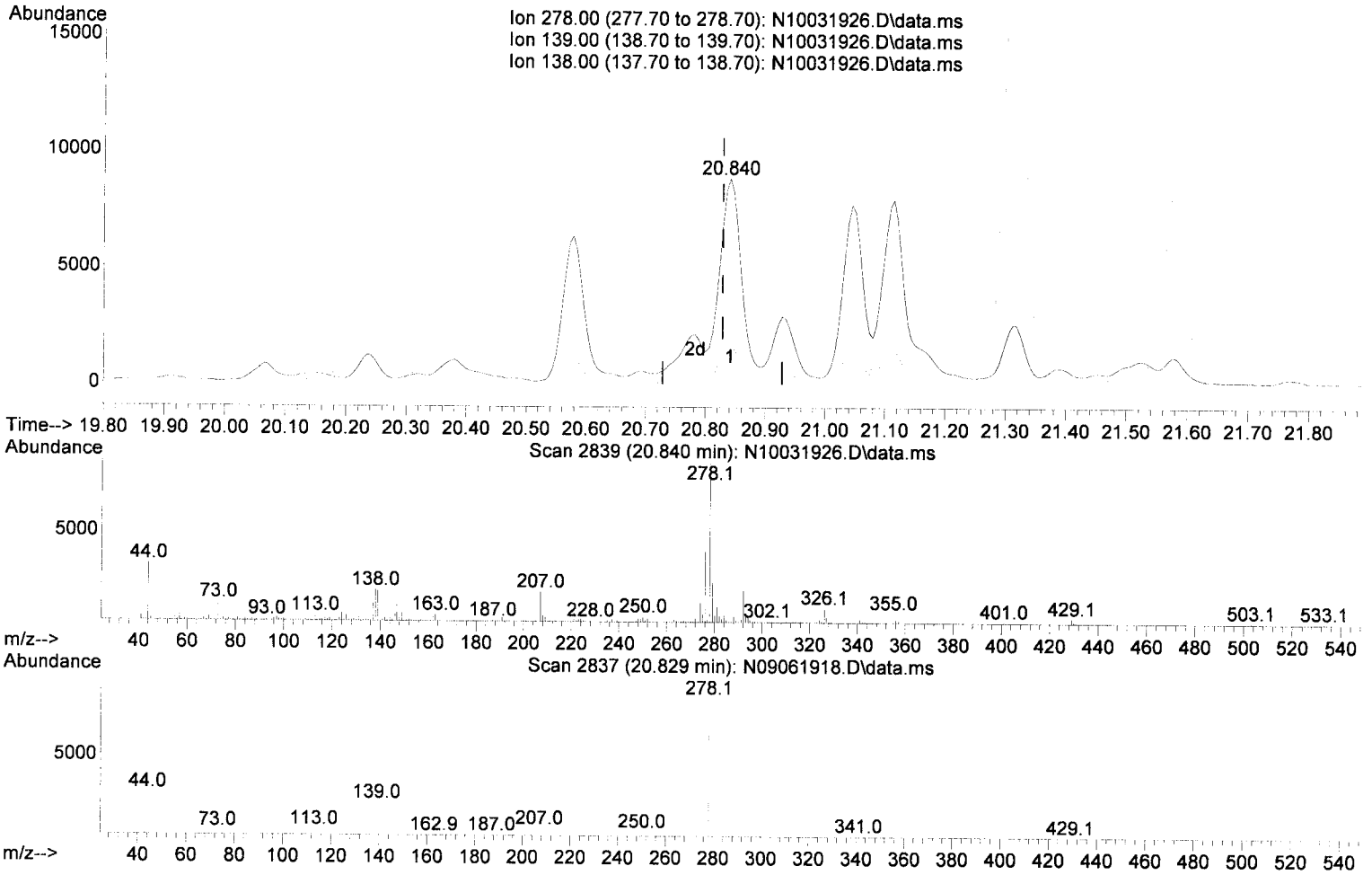
response 168852

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	22.10
138.00	31.60	22.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(39) Dibenz(a,h)anthracene (T)

20.840min (+ 0.012) 10.09 ng/ml

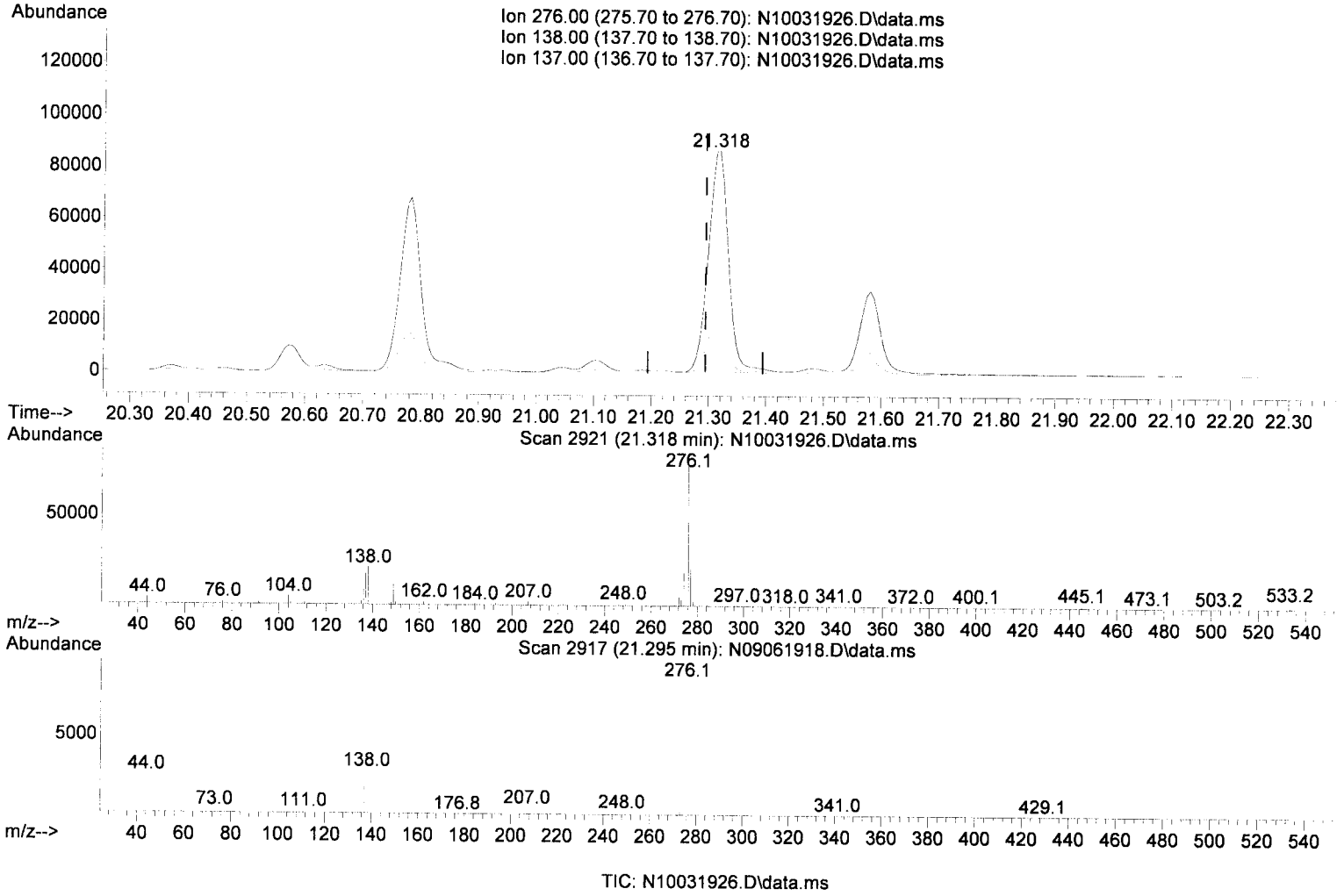
response 18889

Ion	Exp%	Act%
278.00	100.00	100.00
139.00	26.00	18.69
138.00	19.90	19.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10031926.D\data.ms

(40) Benzo(g,h,i)perylene (T)

21.318min (+ 0.024) 98.81 ng/ml

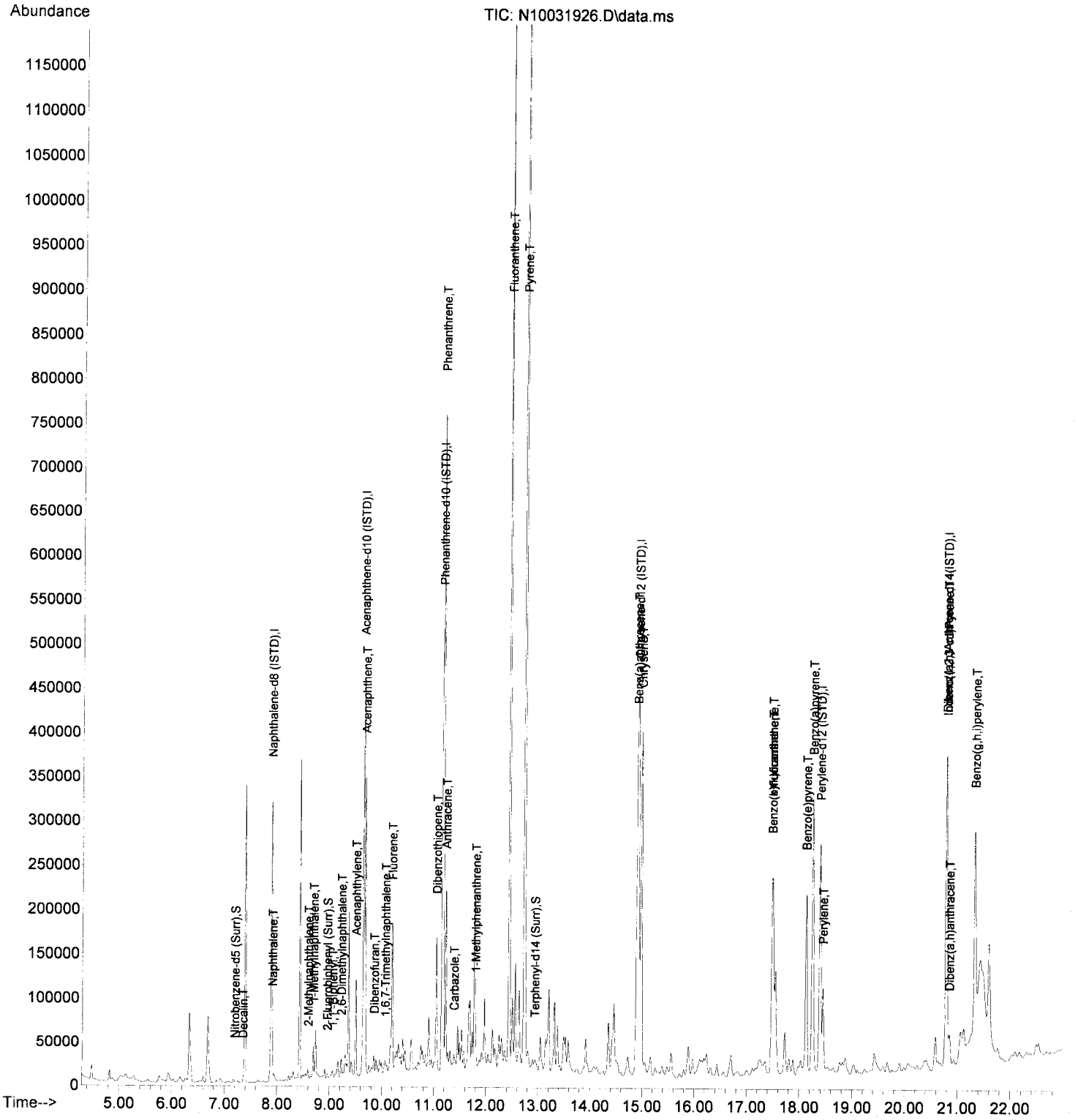
response 208881

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	23.81
137.00	28.60	19.60
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J03014\
Data File : N10031926.D
Acq On : 03 Oct 2019 10:01 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-03@100
Misc : 100x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Oct 04 12:48:23 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



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

Semivolatile Organic Compounds (PAHs) by EPA 8270D
Benchsheet & Analysis Sequence Data

Sequence 9J04014 (A9I0922-04,05,07,08,10,11,12,13,13RE1,14,15)

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9J04014**	Instrument:	**SV-GCMS14**
Date:	**10/04/19 08:14**	Calibration:	**A9I1001**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J04014-TUN1	Water	QC	QC			A19I102	A19J016
2	9J04014-CCV1	Water	QC	QC			A19I102	A19I020
3	9J04014-CCB1	Water	QC	QC			A19I102	
4	A9I0922-07	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
5	A9I0922-08	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
6	A9I0922-10	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
7	A9I0922-11	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
8	A9I0922-12	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
9	A9I0922-13	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
10	A9I0922-14	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
11	A9I0922-15	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
12	A9I0922-04	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
13	A9I0922-05	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
14	A9I0922-13RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100583	A19I102	
15	9J04014-IBL1	Water	QC	QC			A19I102	

Comments:

Data Entered By: [signature] 10/7/19

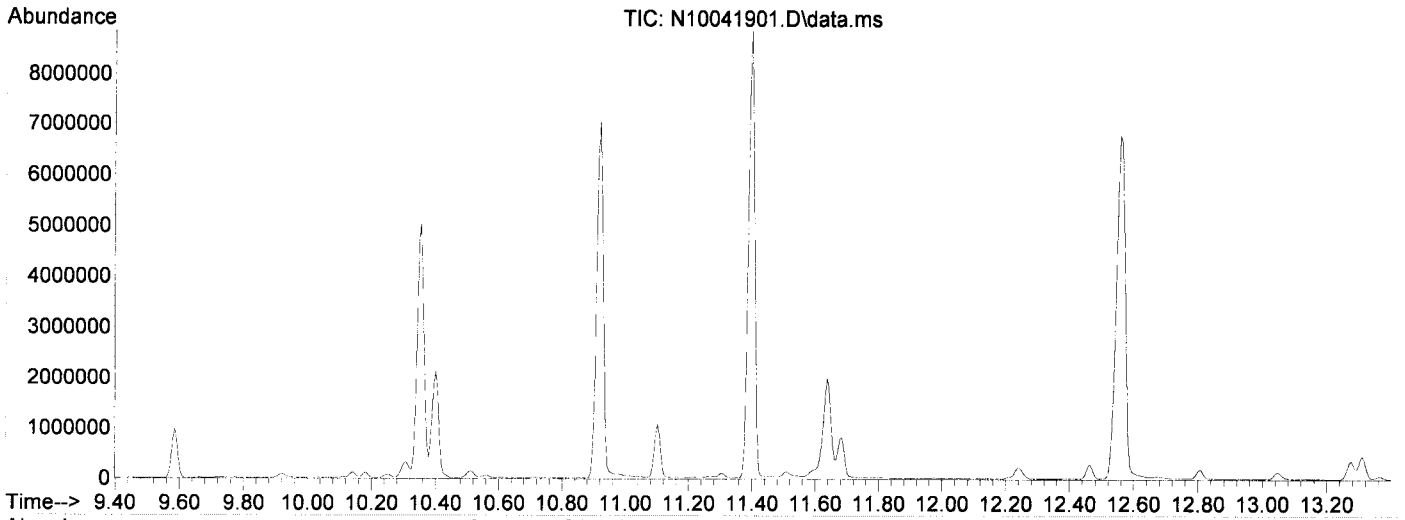
Data Reviewed By: [signature] 10/7/19

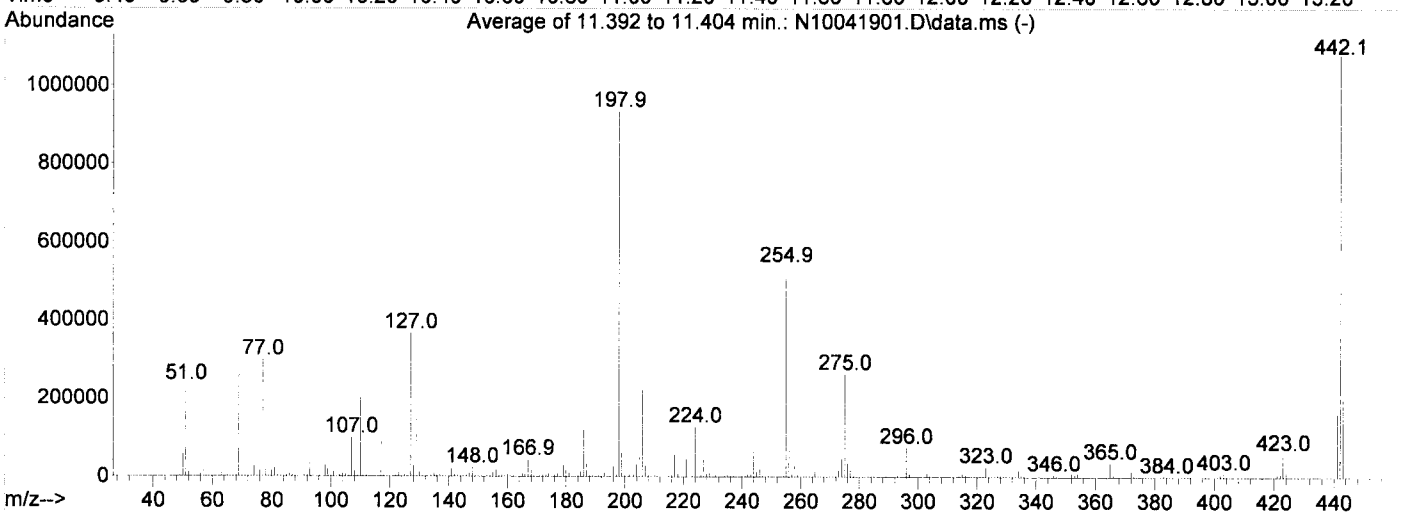
Data Path : U:\data\2019-10\9J04014\
Data File : N10041901.D
Acq On : 04 Oct 2019 08:26 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

AMS 10/7/19

Integration File: rteint.p

Method : S:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019





AutoFind: Scans 1218, 1219, 1220; Background Corrected with Scan 1212

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.7	4303	PASS
69	69	100	100	100.0	259435	PASS
70	69	0.00	2	0.5	1380	PASS
197	198	0.00	2	0.5	4739	PASS
198	198	100	100	100.0	932594	PASS
199	198	5	9	6.9	64218	PASS
365	198	1	100	3.9	36011	PASS
441	443	0.01	150	77.8	162261	PASS
442	198	0.10	200	115.8	1079595	PASS
443	442	15	24	19.3	208576	PASS

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041901.D
Acq On : 04 Oct 2019 08:26 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 07 09:39:36 2019
Quant Method : S:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

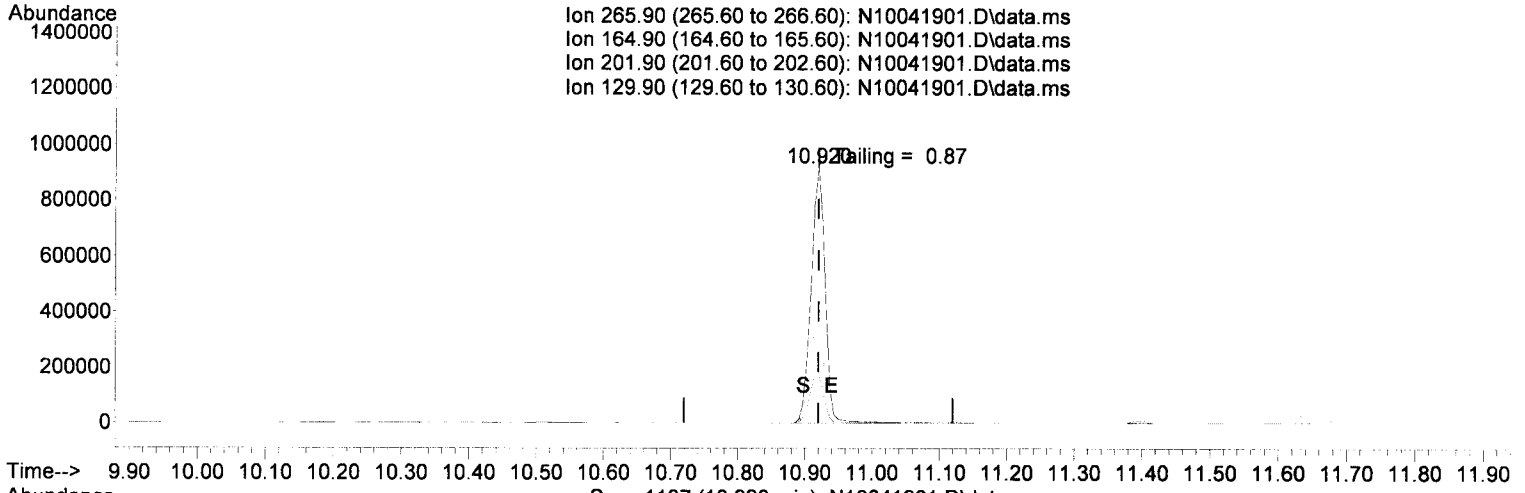
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.607	150	188161	2.00	ug/mL	0.00
2) Naphthalene-d8	7.819	136	526661	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.585	162	279842	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.100	188	528041	2.00	ug/mL	0.00
11) Chrysene-d12	14.778	240	482481	2.00	ug/mL	0.00
12) Perylene-d12	16.824	264	441269	2.00	ug/mL	-0.01
13) Dibenz(a,h)anthracene-...	18.048	292	363891	2.00	ug/mL	#-0.02
Target Compounds						Qvalue
4) Pentachlorophenol	10.920	266	1321586	50.01	ug/mL	87
6) DFTPP	11.398	442	1677846	39.36	ug/mL	86
7) Benzidine	12.558	184	5489556	29.22	ug/mL	98
8) 4,4-DDE	12.802	TIC	265654	No Calib		
9) 4,4-DDD	13.310	TIC	649488	No Calib		
10) 4,4-DDT	13.869	TIC	16530989	30.53	ug/mL	96

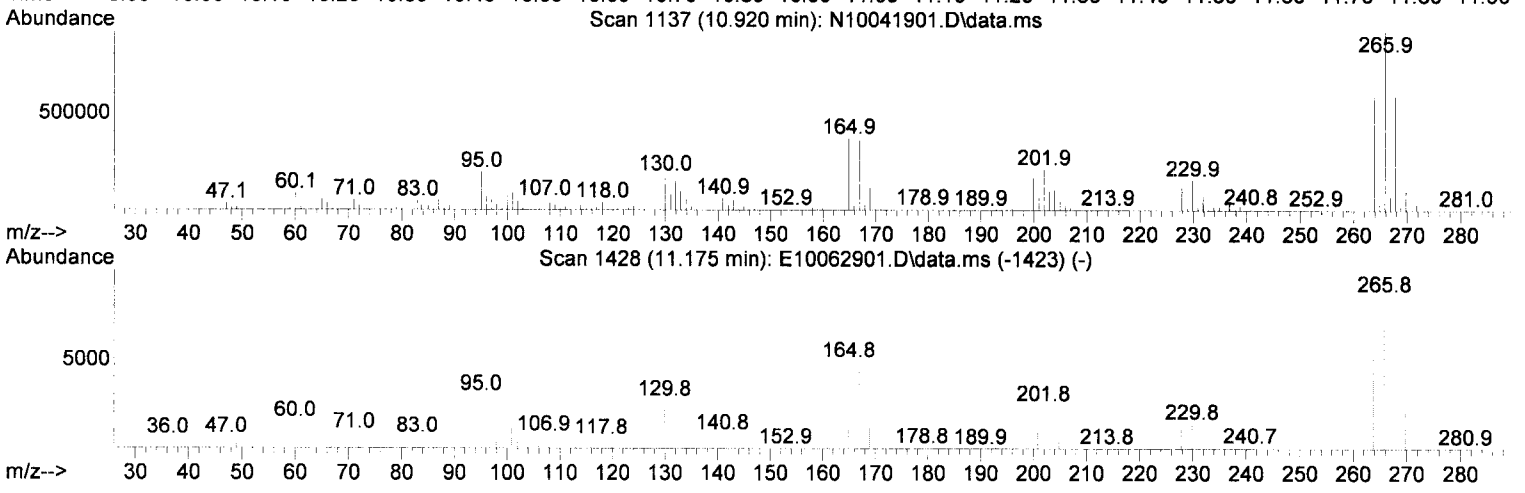
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041901.D
Acq On : 04 Oct 2019 08:26 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 07 09:39:36 2019
Quant Method : S:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14





TIC: N10041901.D\data.ms

(4) Pentachlorophenol

10.920min (-0.000) 50.01 ug/mL

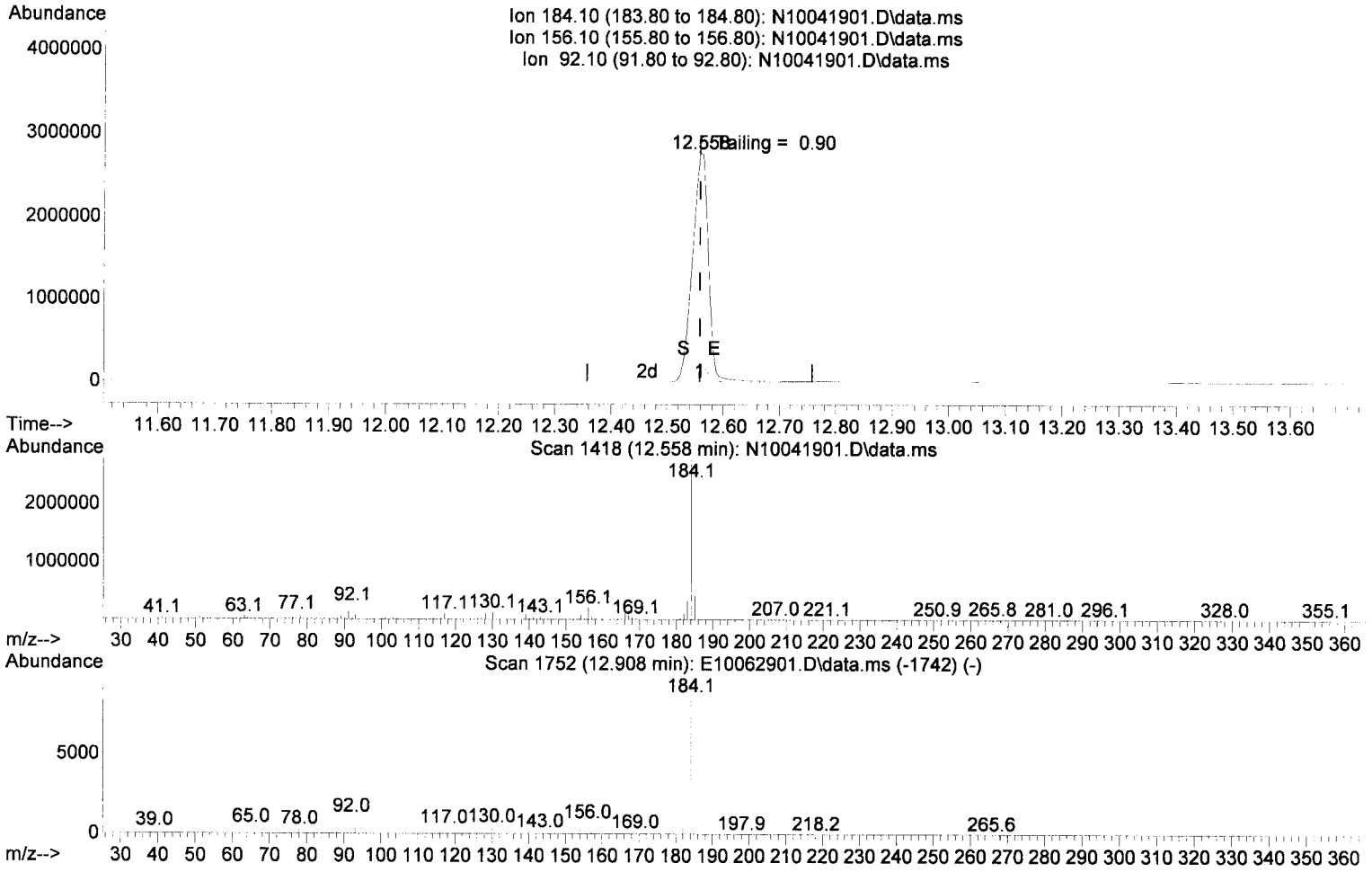
response 1321586 ✓

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	39.96
201.90	25.80	22.50
129.90	27.30	19.12

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041901.D
Acq On : 04 Oct 2019 08:26 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 07 09:39:36 2019
Quant Method : S:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10041901.D\data.ms

(7) Benzidine

12.558min (-0.000) 29.22 ug/mL

response 5489556

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.30
92.10	8.20	8.72
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

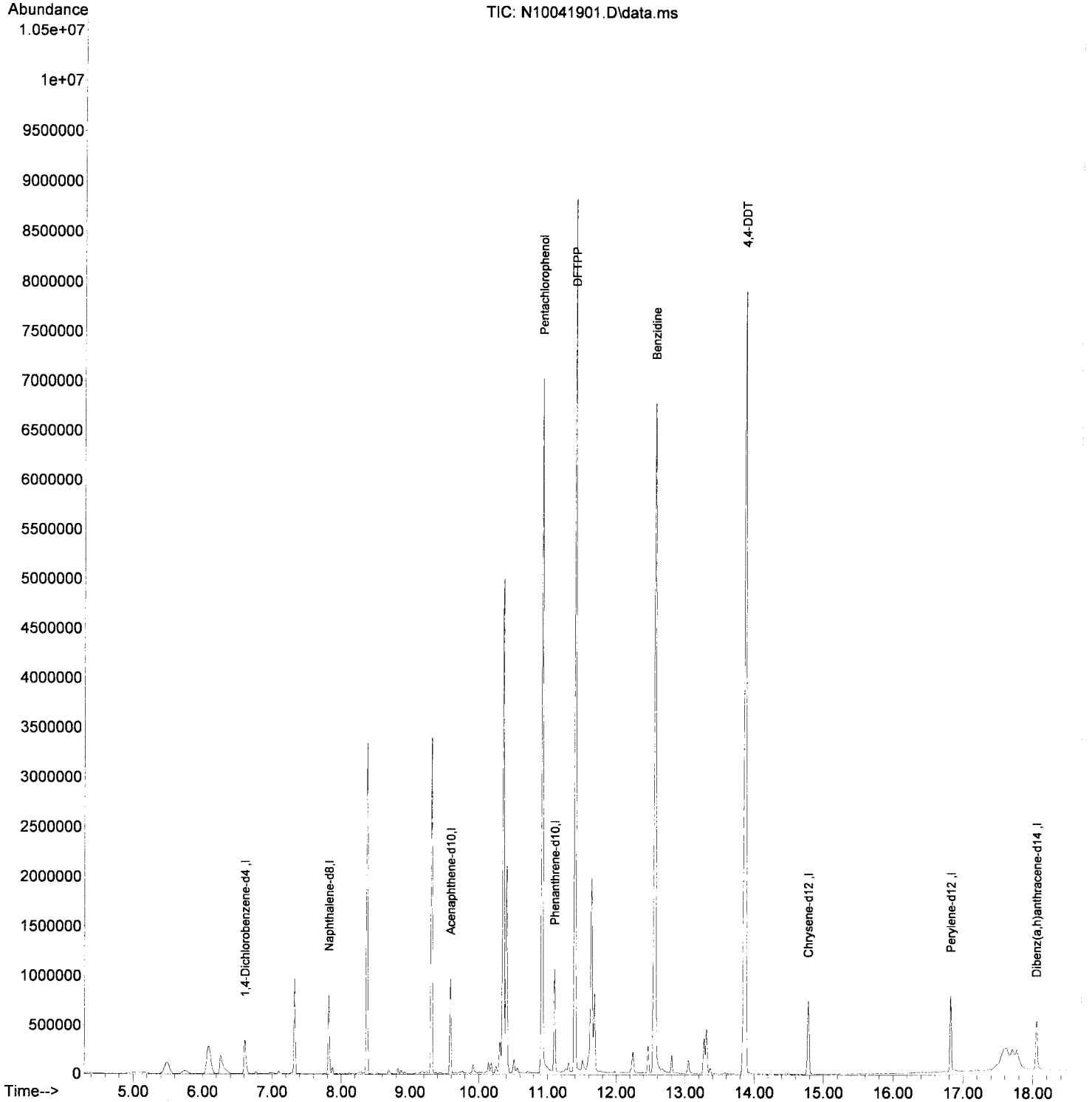
From:
9J04014-TUN1
SV-GCMS14

First Column Area Counts		Percent Breakdown	
DDE	265654		
DDD	649488		
DDT	16530989	**5.25**	**PASS**

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

Data Path : U:\data\2019-10\9J04014\
Data File : N10041901.D
Acq On : 04 Oct 2019 08:26 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 07 09:39:36 2019
Quant Method : S:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Evaluate Continuing Calibration Report

Data Path : U:\data\2019-10\9J04014\
Data File : N10041902.D
Acq On : 04 Oct 2019 08:53 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

AMS 10/7/19

Quant Time: Oct 07 09:40:51 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	149	0.00
2	S	Nitrobenzene-d5 (Surr)	50.000	49.371	1.3	151	0.00
3	T	Decalin	50.000	26.950	46.1#	80	0.00
4	T	Naphthalene	50.000	48.135	3.7	146	0.00
5	T	2-Methylnaphthalene	50.000	42.881	14.2	127	0.00
6	T	1-Methylnaphthalene	50.000	40.220	19.6	116	0.00
7	T	1,1'-Biphenyl	50.000	40.418	19.2	120	0.00
8	T	2,6-Dimethylnaphthalene	50.000	39.974	20.1#	116	0.00
9	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	114	0.00
10	S	2-Fluorobiphenyl (Surr)	50.000	51.315	-2.6	118	0.00
11	S	Acenaphthylene d-8 (Surr)	50.000	47.772	4.5	111	0.00
12	T	Acenaphthylene	50.000	48.364	3.3	110	0.00
13	T	Acenaphthene	50.000	49.717	0.6	115	0.00
14	T	Dibenzofuran	50.000	51.556	-3.1	118	0.00
15	T	1,6,7-Trimethylnaphthalene	50.000	49.029	1.9	114	0.00
16	T	Fluorene	50.000	50.647	-1.3	116	0.00
17	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	115	0.00
18	T	Dibenzothiopene	50.000	50.246	-0.5	117	0.00
19	T	Phenanthrene	50.000	48.965	2.1	115	0.00
20	T	Anthracene	50.000	49.464	1.1	115	0.00
21	T	Carbazole	50.000	49.611	0.8	116	0.00
22	T	1-Methylphenanthrene	50.000	49.669	0.7	115	0.00
23	T	Fluoranthene	50.000	49.437	1.1	115	0.00
24	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	122	0.00
25	T	Pyrene	50.000	46.869	6.3	113	0.00
26	S	Terphenyl-d14 (Surr)	50.000	49.284	1.4	120	0.00
27	T	Benz(a)anthracene	50.000	46.109	7.8	119	0.00
28	T	Chrysene	50.000	48.070	3.9	119	0.00
29	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	121	0.00
30	T	Benzo(b)fluoranthene	50.000	49.934	0.1	120	0.00
31	T	Benzo(k)fluoranthene	50.000	48.243	3.5	119	0.00
32	T	Benzo(b+k)fluoranthene	100.000	98.251	1.7	119	-0.06
33	S	Benzo(a)pyrene d-12 (Surr)	50.000	51.902	-3.8	124	0.00
34	T	Benzo(e)pyrene	50.000	47.520	5.0	117	0.00
35	T	Benzo(a)pyrene	50.000	50.249	-0.5	120	0.00
36	T	Perylene	50.000	49.763	0.5	120	0.00
37	I	Dibenz(a,h)Anthrcene-d14(IS	100.000	100.000	0.0	139	0.00
38	T	Indeno(1,2,3-cd)Pyrene	50.000	47.136	5.7	133	0.00
39	T	Dibenz(a,h)anthracene	50.000	48.520	3.0	137	0.00
40	T	Benzo(g,h,i)perylene	50.000	47.889	4.2	132	0.00

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041902.D
Acq On : 04 Oct 2019 08:53 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:40:51 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

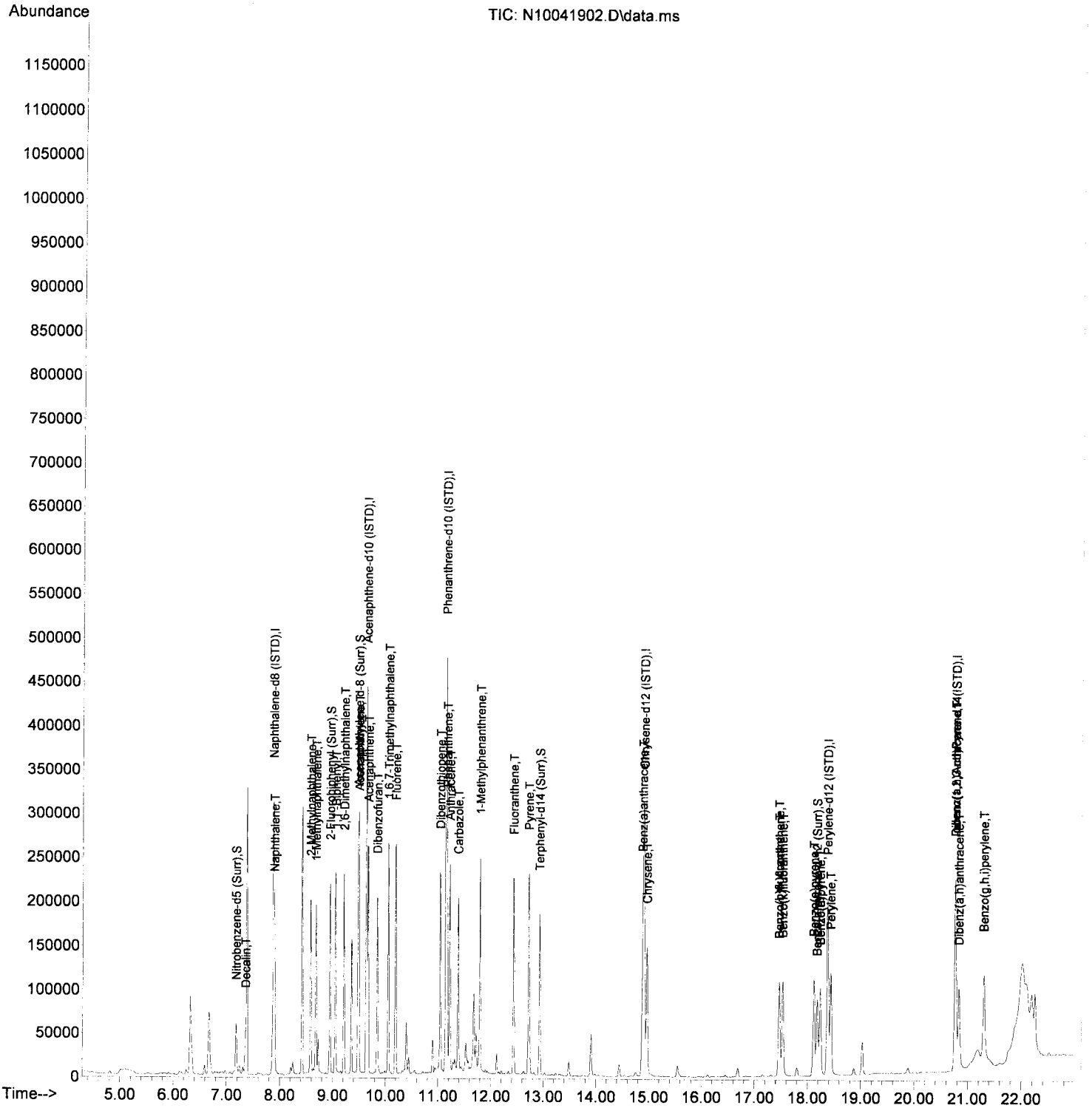
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	220733	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.637	162	134246	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	252888	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	206372	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	172505	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	130035	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	36213	49.37	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	102770	51.31	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	131870	47.77	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	106970	49.28	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.176	264	71600	51.90	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.358	138	4429	26.95	ng/ml	97
4) Naphthalene	7.901	128	117185	48.13	ng/ml	100
5) 2-Methylnaphthalene	8.582	142	88463	42.88	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	82960	40.22	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	112146	40.42	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.212	156	81002	39.97	ng/ml	98
12) Acenaphthylene	9.492	152	140955	48.36	ng/ml	99
13) Acenaphthene	9.667	153	94906	49.72	ng/ml	99
14) Dibenzofuran	9.841	168	123272	51.56	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	78491	49.03	ng/ml	98
16) Fluorene	10.191	166	98934	50.65	ng/ml	99
18) Dibenzothiopene	11.036	184	132895	50.25	ng/ml	97
19) Phenanthrene	11.165	178	144898	48.96	ng/ml	100
20) Anthracene	11.217	178	136153	49.46	ng/ml	99
21) Carbazole	11.380	167	110497	49.61	ng/ml	99
22) 1-Methylphenanthrene	11.794	192	102104	49.67	ng/ml	99
23) Fluoranthene	12.429	202	147396	49.44	ng/ml	97
25) Pyrene	12.721	202	151116	46.87	ng/ml	99
27) Benz(a)anthracene	14.883	228	110479	46.11	ng/ml	100
28) Chrysene	14.965	228	108994	48.07	ng/ml	100
30) Benzo(b)fluoranthene	17.465	252	99395	49.93	ng/ml	95
31) Benzo(k)fluoranthene	17.529	252	94547	48.24	ng/ml	95
32) Benzo(b+k)fluoranthene	17.465	252	200040	98.25	ng/ml	93
34) Benzo(e)pyrene	18.118	252	95646	47.52	ng/ml	97
35) Benzo(a)pyrene	18.235	252	85611	50.25	ng/ml	97
36) Perylene	18.433	252	104423	49.76	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.764	276	75594	47.14	ng/ml	84
39) Dibenz(a,h)anthracene	20.828	278	73115	48.52	ng/ml	85
40) Benzo(g,h,i)perylene	21.295	276	81472	47.89	ng/ml	86

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041902.D
Acq On : 04 Oct 2019 08:53 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:40:51 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041903.D
Acq On : 04 Oct 2019 09:25 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Jenn 10/7/19

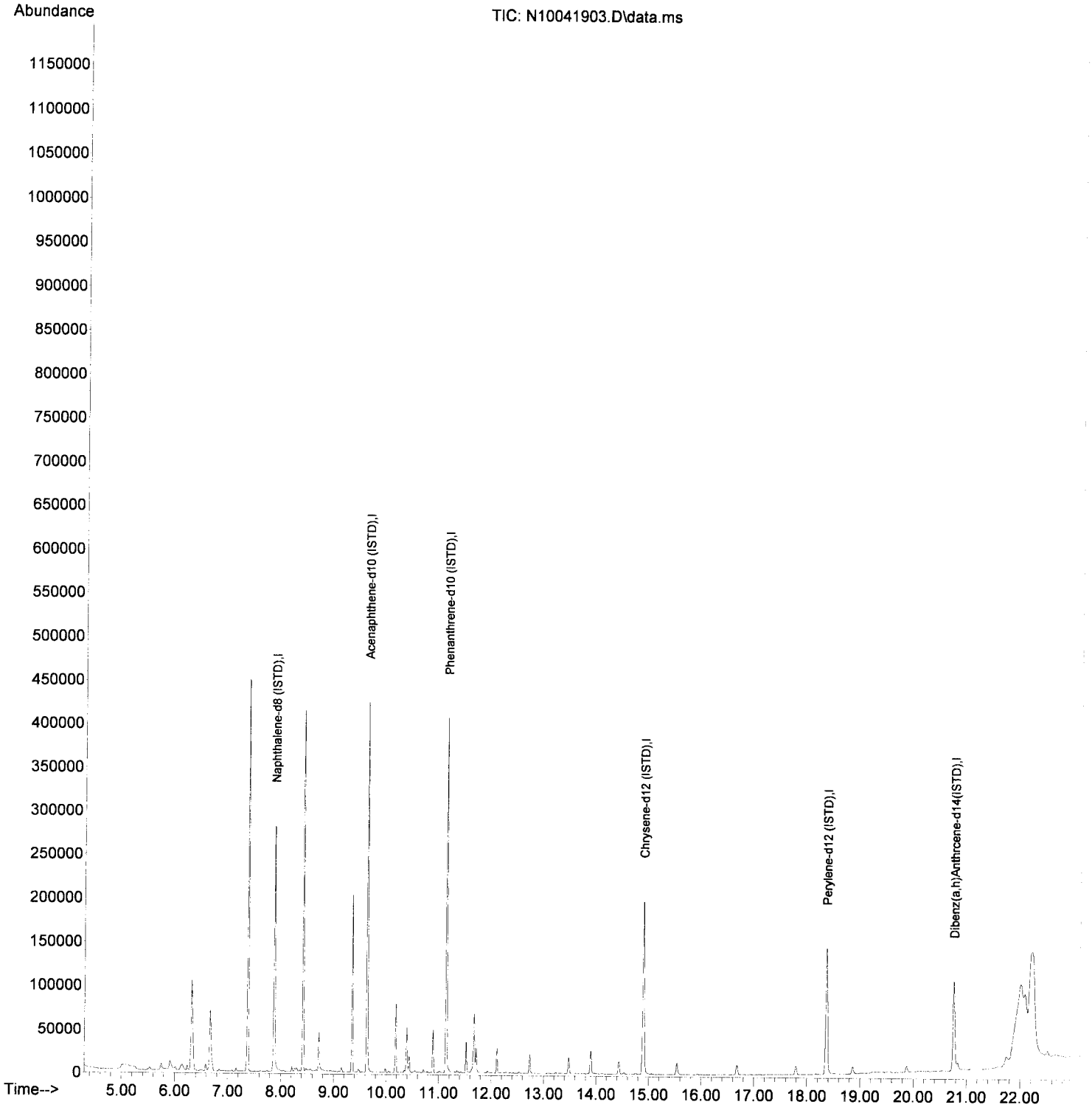
Quant Time: Oct 07 09:41:22 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	215264	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	128087	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	224767	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.895	240	152912	100.00	ng/ml	-0.01
29) Perylene-d12 (ISTD)	18.369	264	128160	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	102505	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.079	82	150	0.21	ng/ml	-0.10
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00	ng/ml	
11) Acenaphthylene d-8 (Surr)	9.474	160	2160	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	0.000	244	0	0.00	ng/ml	
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.901	128	153	N.D.		
5) 2-Methylnaphthalene	0.000		0	N.D.		
6) 1-Methylnaphthalene	0.000		0	N.D.		
7) 1,1'-Biphenyl	9.049	154	68	N.D.		
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.		
12) Acenaphthylene	9.492	152	244	N.D.		
13) Acenaphthene	9.638	153	52	N.D.		
14) Dibenzofuran	0.000		0	N.D.		
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
16) Fluorene	0.000		0	N.D.		
18) Dibenzothiopene	0.000		0	N.D.		
19) Phenanthrene	11.159	178	222	N.D.		
20) Anthracene	11.159	178	211	N.D.		
21) Carbazole	11.141	167	76	N.D.		
22) 1-Methylphenanthrene	0.000		0	N.D.		
23) Fluoranthene	0.000		0	N.D.		
25) Pyrene	12.715	202	94	N.D.		
27) Benz(a)anthracene	14.895	228	430	N.D.		
28) Chrysene	14.965	228	61	N.D.		
30) Benzo(b)fluoranthene	0.000		0	N.D.		
31) Benzo(k)fluoranthene	0.000		0	N.D.		
32) Benzo(b+k)fluoranthene	0.000		0	N.D.		
34) Benzo(e)pyrene	18.369	252	386	N.D.		
35) Benzo(a)pyrene	0.000		0	N.D.		
36) Perylene	18.369	252	403	N.D.		
38) Indeno(1,2,3-cd)Pyrene	0.000		0	N.D.		
39) Dibenz(a,h)anthracene	0.000		0	N.D.		
40) Benzo(g,h,i)perylene	0.000		0	N.D.		

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

Data Path : U:\data\2019-10\9J04014\
Data File : N10041903.D
Acq On : 04 Oct 2019 09:25 am
Operator : JK/ AMS/ DTH
Sample : 9J04014-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:22 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

fem 10/7/19

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

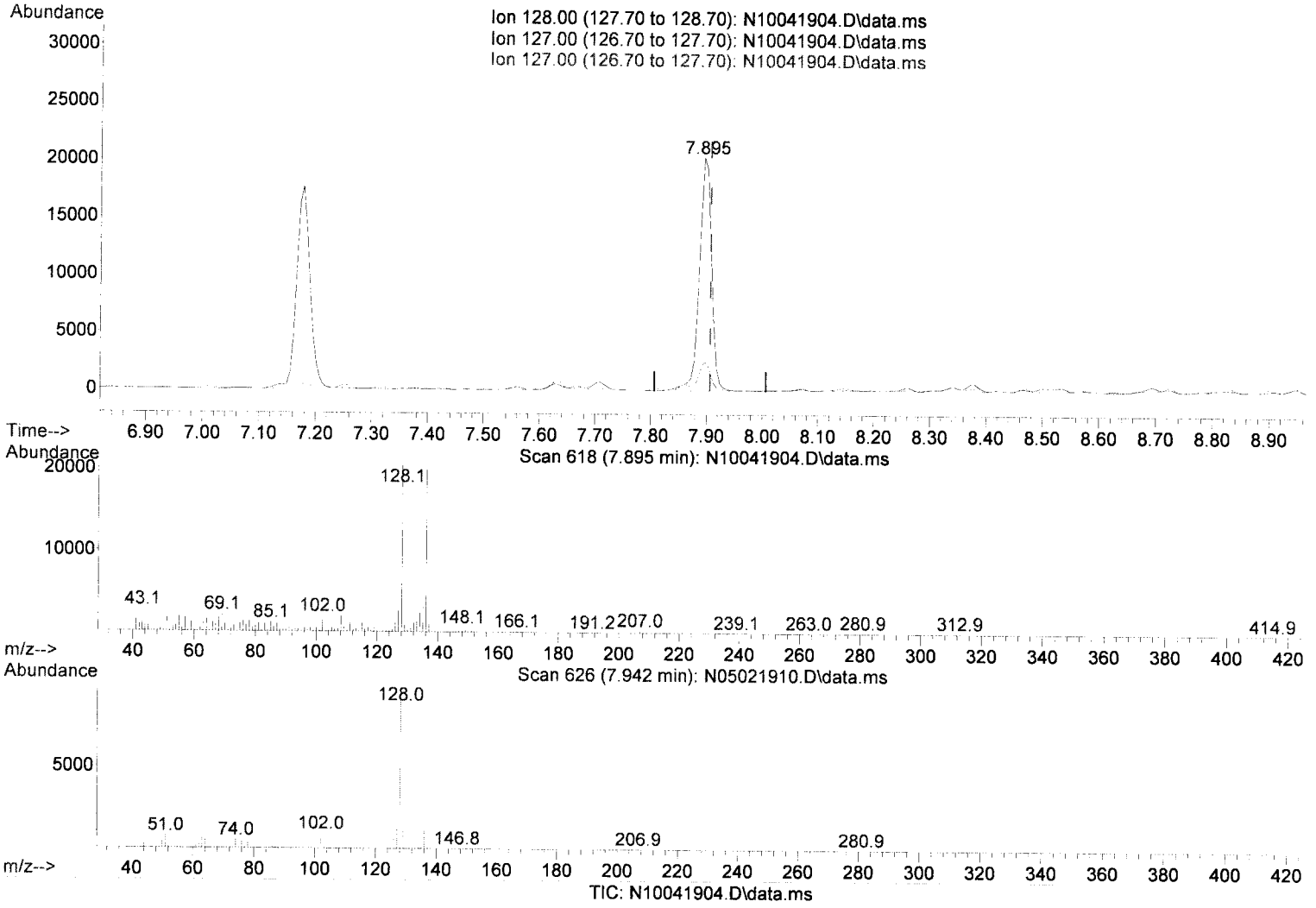
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Naphthalene-d8 (ISTD)	7.877	136	219877	100.00	ng/ml	0.00	
9) Acenaphthene-d10 (ISTD)	9.632	162	134755	100.00	ng/ml	0.00	
17) Phenanthrene-d10 (ISTD)	11.141	188	251728	100.00	ng/ml	0.00	
24) Chrysene-d12 (ISTD)	14.907	240	213441	100.00	ng/ml	0.00	
29) Perylene-d12 (ISTD)	18.369	264	183846	100.00	ng/ml	0.00	
37) Dibenz(a,h)Anthrcene-d...	20.759	292	142162	100.00	ng/ml	0.00	
System Monitoring Compounds							
2) Nitrobenzene-d5 (Surr)	7.178	82	59310	81.18	ng/ml	0.00	
10) 2-Fluorobiphenyl (Surr)	8.944	172	169253	84.19	ng/ml	0.00	
11) Acenaphthylene d-8 (Surr)	9.474	160	1229	-1.00	ng/ml	0.00	
26) Terphenyl-d14 (Surr)	12.925	244	197177	87.84	ng/ml	0.00	
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml		
Target Compounds						Qvalue	
3) Decalin	7.341	138	230	1.40	ng/ml#	56	
4) Naphthalene	7.895	128	30801	~~12.70~~	~~ng/ml~~	~~100~~	ME
5) 2-Methylnaphthalene	8.583	142	23489	11.43	ng/ml	98	
6) 1-Methylnaphthalene	8.682	142	23459	11.42	ng/ml	97	
7) 1,1'-Biphenyl	9.049	154	9019	(3.26)	ng/ml	91	J
8) 2,6-Dimethylnaphthalene	9.212	156	9005	(4.46)	ng/ml	96	J
12) Acenaphthylene	9.492	152	4558	1.56	ng/ml	81	
13) Acenaphthene	9.667	153	28072	14.65	ng/ml	99	
14) Dibenzofuran	9.842	168	3189	1.33	ng/ml	78	
15) 1,6,7-Trimethylnaphtha...	10.051	170	3442	2.14	ng/ml#	59	
16) Fluorene	10.185	166	12411	~~6.33~~	~~ng/ml~~	~~98~~	ME
18) Dibenzothiopene	11.036	184	11665	4.43	ng/ml	96	
19) Phenanthrene	11.165	178	95857	~~32.54~~	~~ng/ml~~	~~99~~	ME
20) Anthracene	11.217	178	15245	5.56	ng/ml	98	
21) Carbazole	11.374	167	2831	1.28	ng/ml	80	
22) 1-Methylphenanthrene	11.788	192	3039	1.49	ng/ml	87	
23) Fluoranthene	12.429	202	51238	17.26	ng/ml	98	
25) Pyrene	12.721	202	64783	19.43	ng/ml	98	
27) Benz(a)anthracene	14.883	228	10222	(4.12)	ng/ml	69	J
28) Chrysene	14.965	228	13972	(5.96)	ng/ml	96	J
30) Benzo(b)fluoranthene	17.465	252	10557	(4.98)	ng/ml	93	J
31) Benzo(k)fluoranthene	17.524	252	3065	1.47	ng/ml	95	
32) Benzo(b+k)fluoranthene	17.465	252	15187	7.00	ng/ml	91	
34) Benzo(e)pyrene	18.112	252	6446	3.01	ng/ml	100	
35) Benzo(a)pyrene	18.229	252	9026	(4.97)	ng/ml	95	J
36) Perylene	18.433	252	19166	8.57	ng/ml	99	
38) Indeno(1,2,3-cd)Pyrene	20.759	276	5904	~~(3.37)~~	~~ng/ml~~	~~99~~	J ME
39) Dibenz(a,h)anthracene	20.829	278	967	0.59	ng/ml	63	
40) Benzo(g,h,i)perylene	21.295	276	6524	(3.51)	ng/ml	92	J

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.895min (-0.012) 12.16 ng/ml (m)

JEM 10/7/19

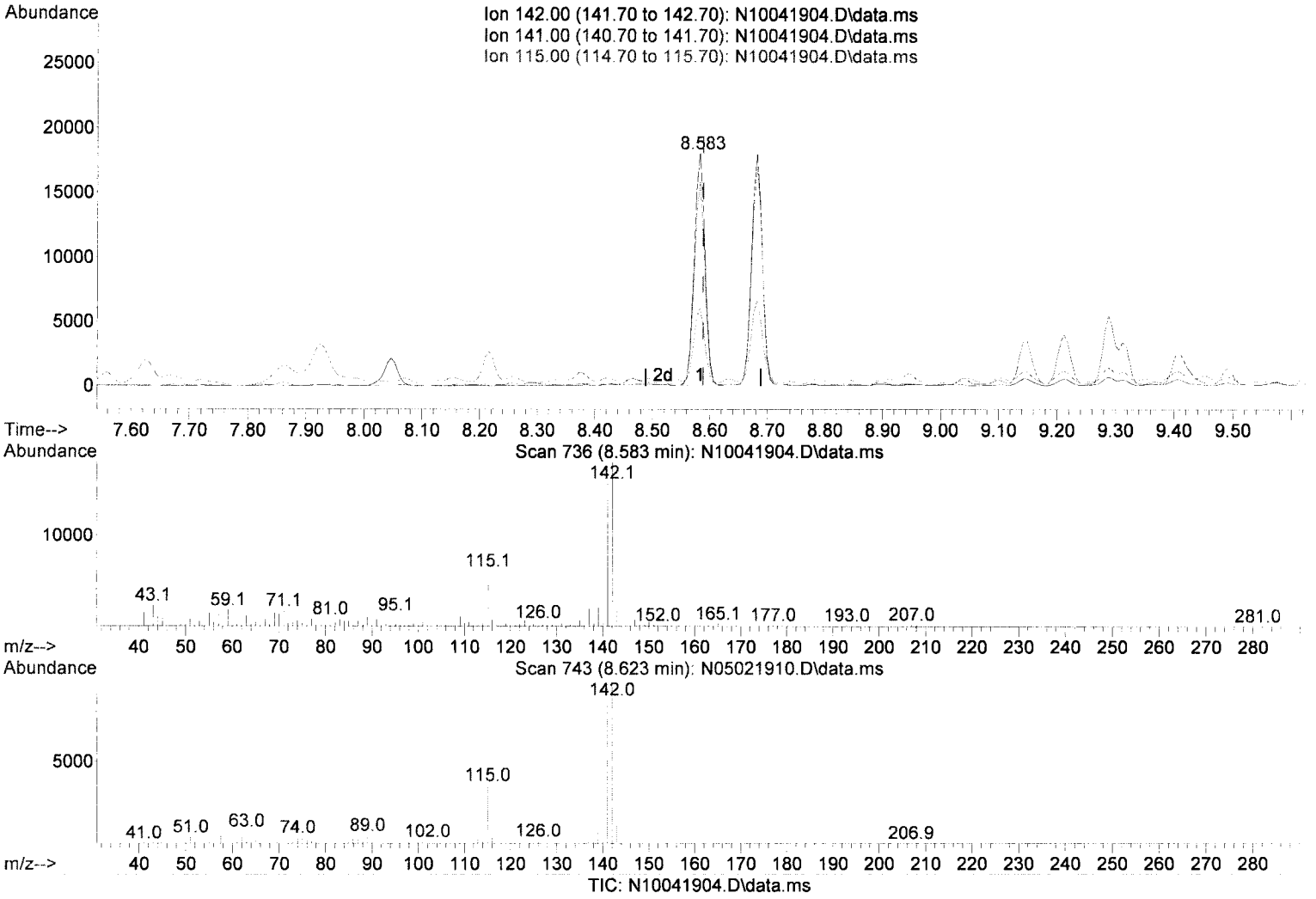
response 29499

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.57
127.00	12.60	12.57
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(5) 2-Methylnaphthalene (T)

8.583min (-0.006) 11.43 ng/ml

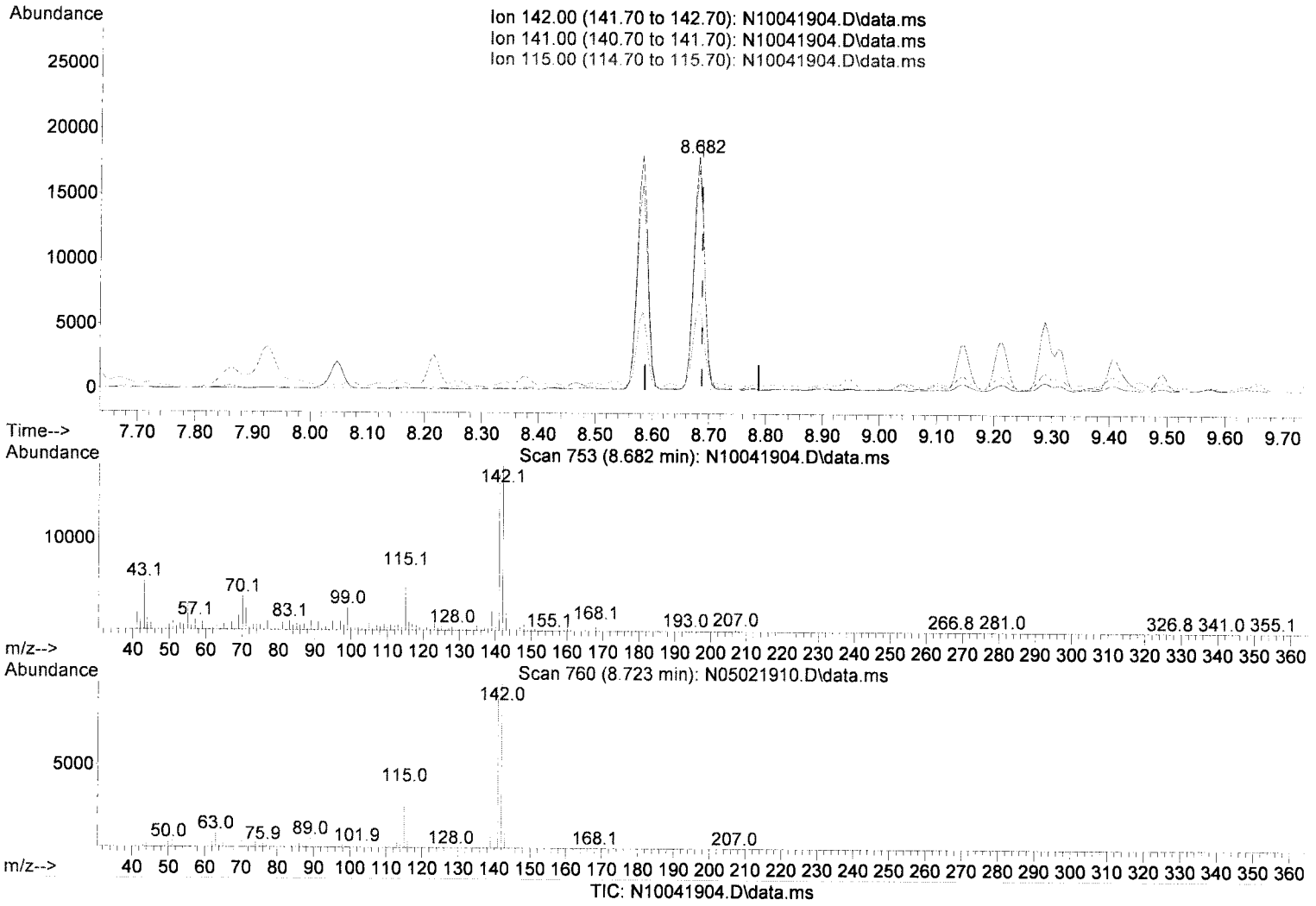
response 23489

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	86.60	87.64
115.00	35.70	33.68
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(6) 1-Methylnaphthalene (T)

8.682min (-0.006) 11.42 ng/ml

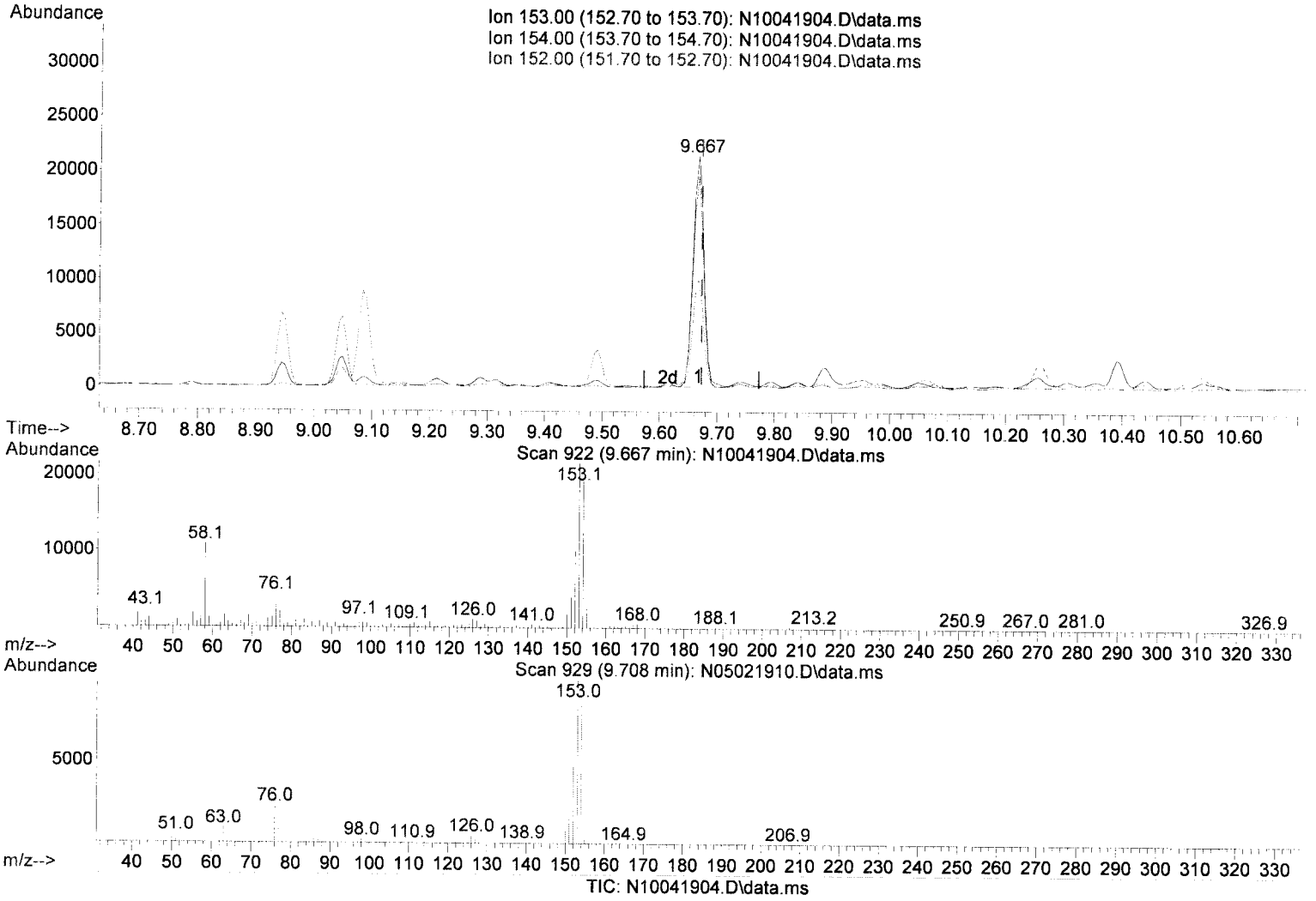
response 23459

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	94.36
115.00	37.80	37.02
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.667min (-0.006) 14.65 ng/ml

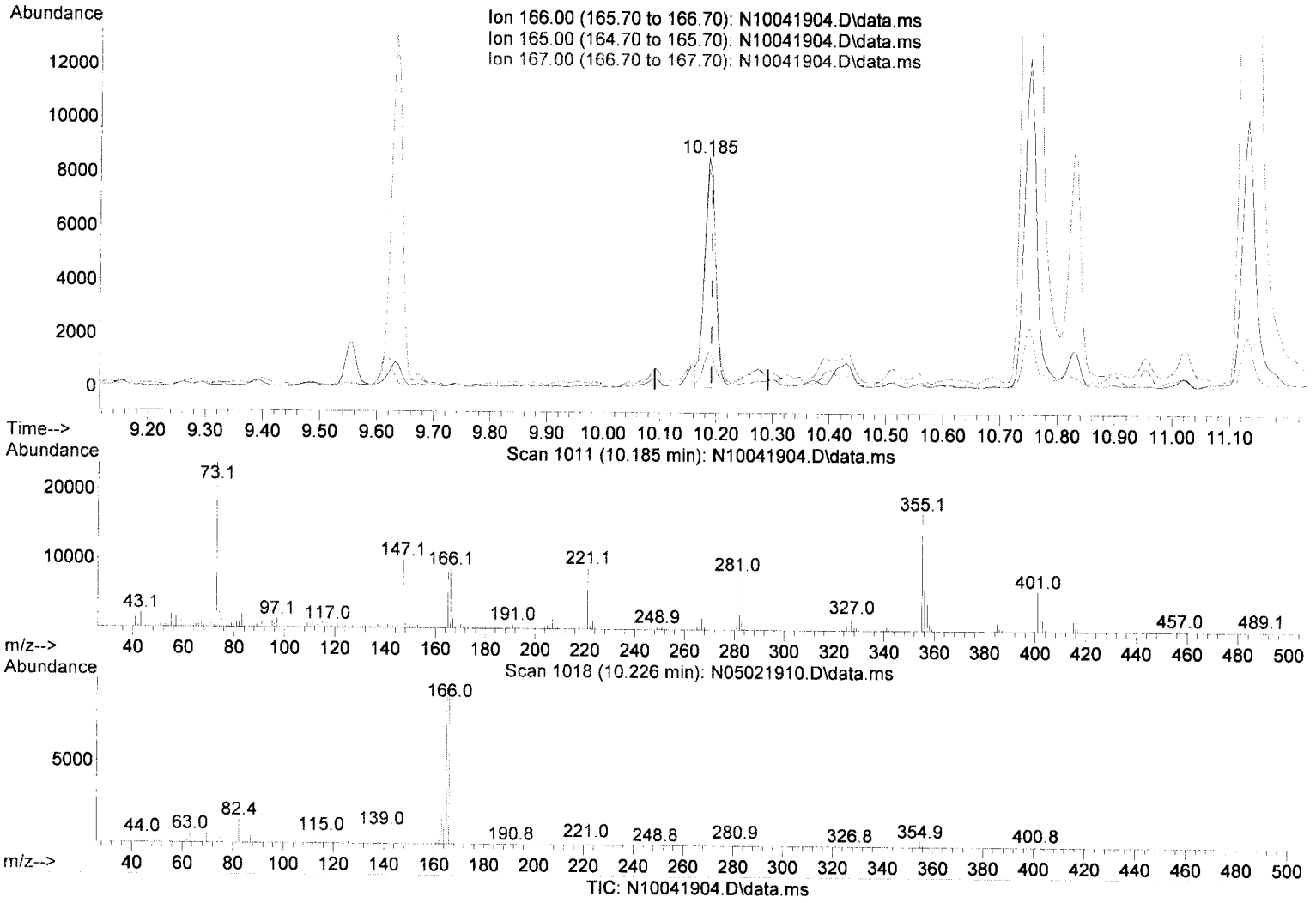
response 28072

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.30
152.00	46.80	47.23
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(16) Fluorene (T)

10.185min (-0.006) 6.04 ng/ml m

response 11847

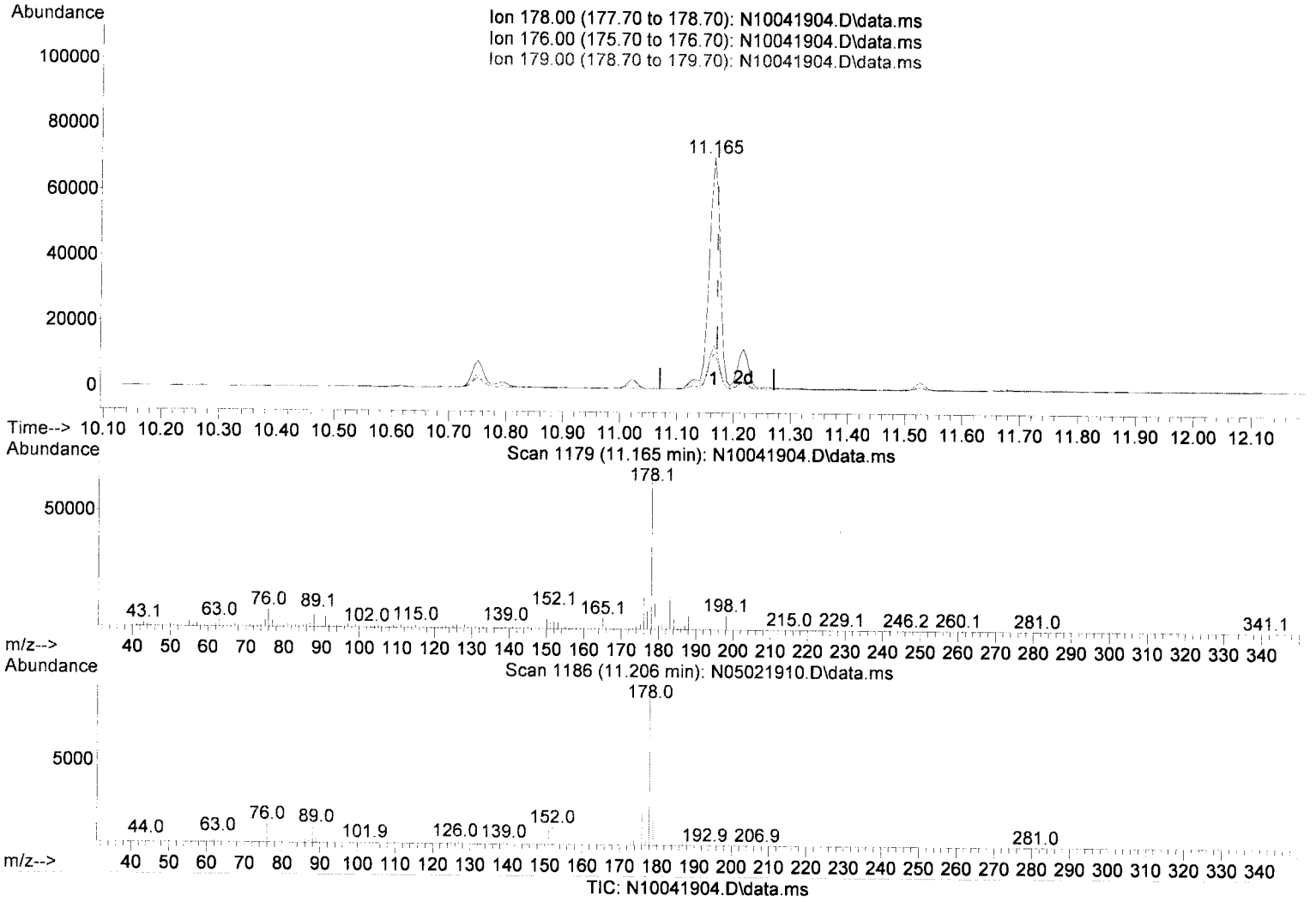
Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	94.88
167.00	13.60	16.38
0.00	0.00	0.00

10/7/19

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.165min (-0.006) 31.12 ng/ml (m)

jem 10/7/19

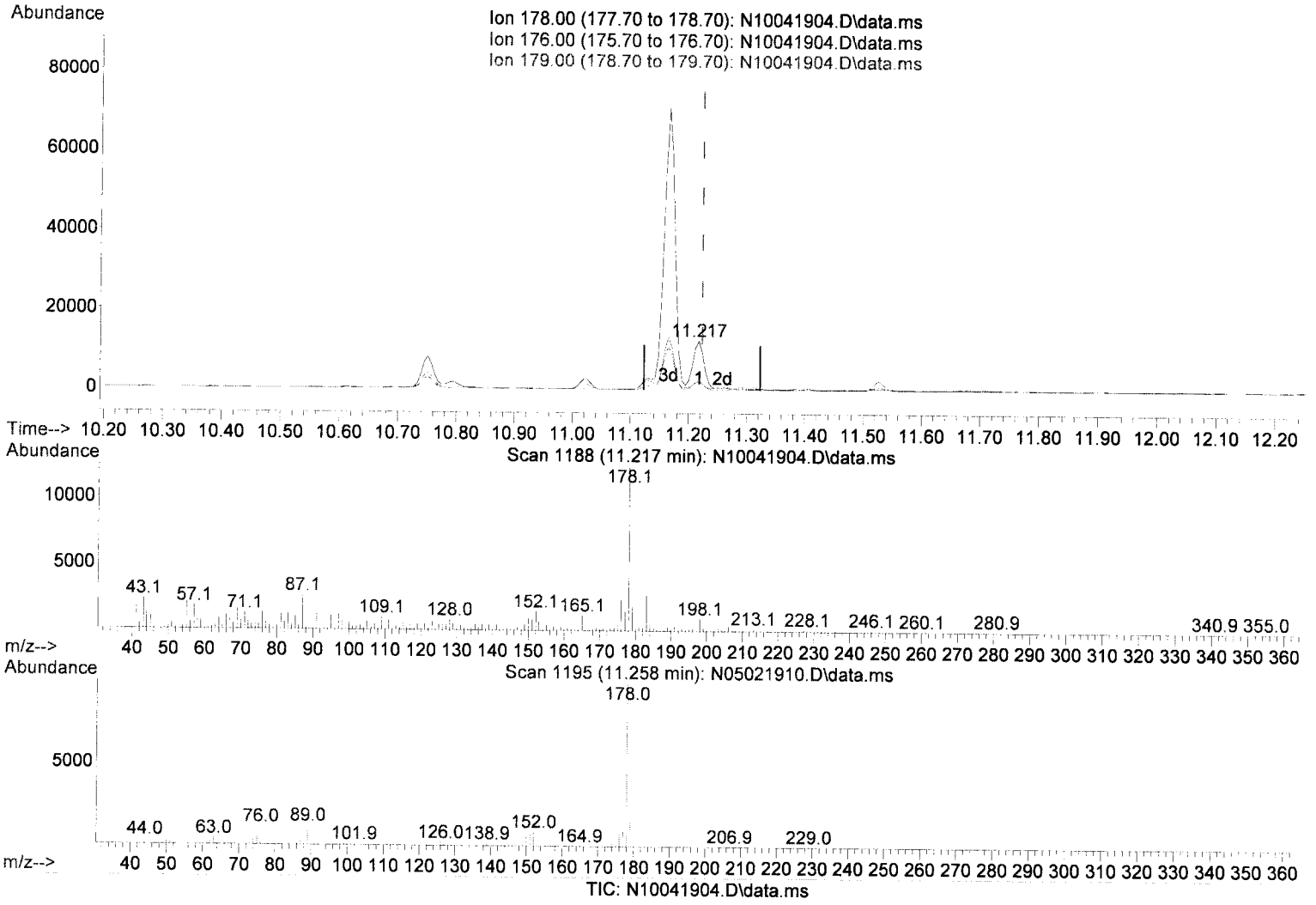
response 91663

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.97
179.00	15.10	15.57
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(20) Anthracene (T)

11.217min (-0.006) 5.56 ng/ml

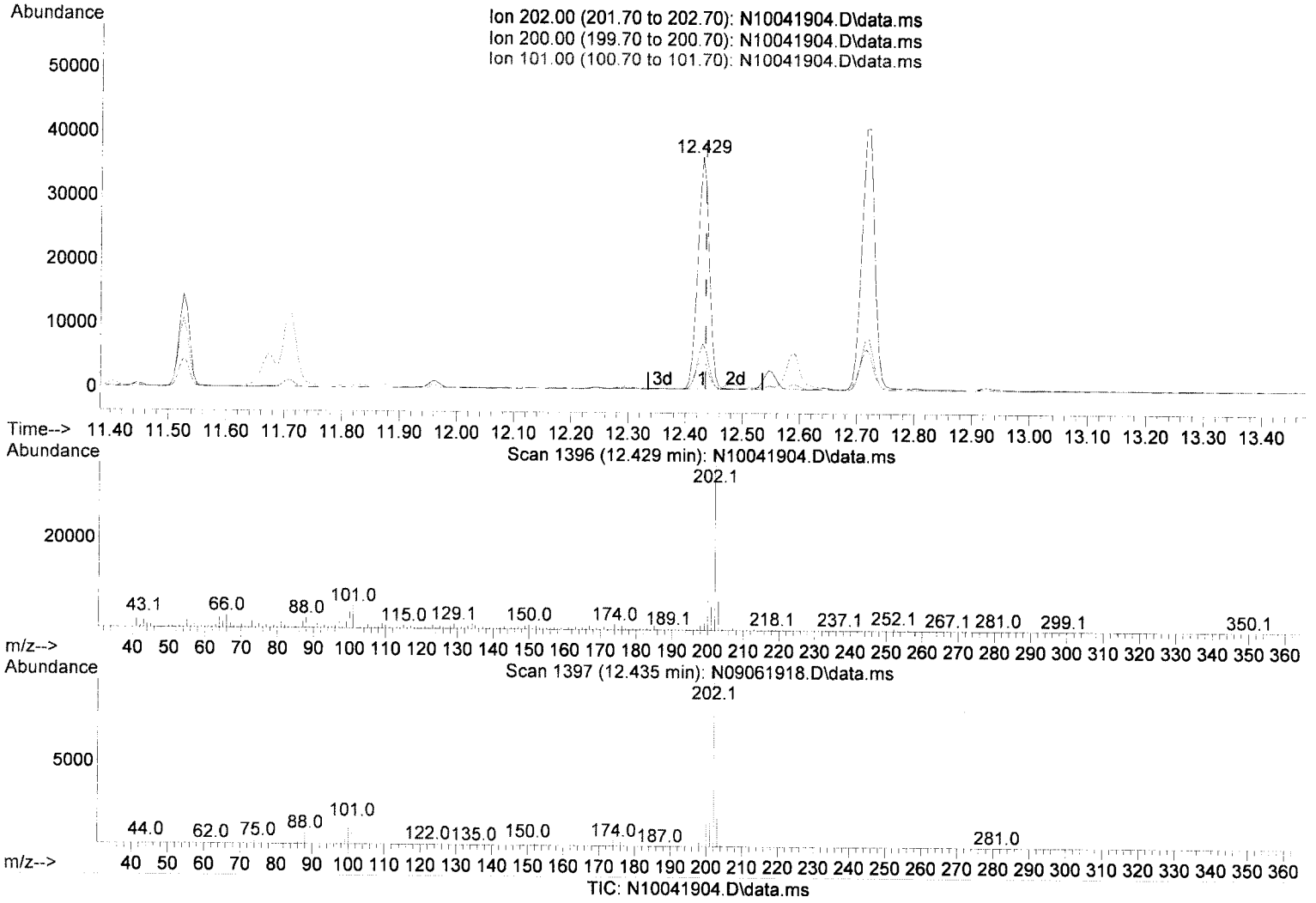
response 15245

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.85
179.00	15.30	17.39
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(23) Fluoranthene (T)

12.429min (-0.006) 17.26 ng/ml

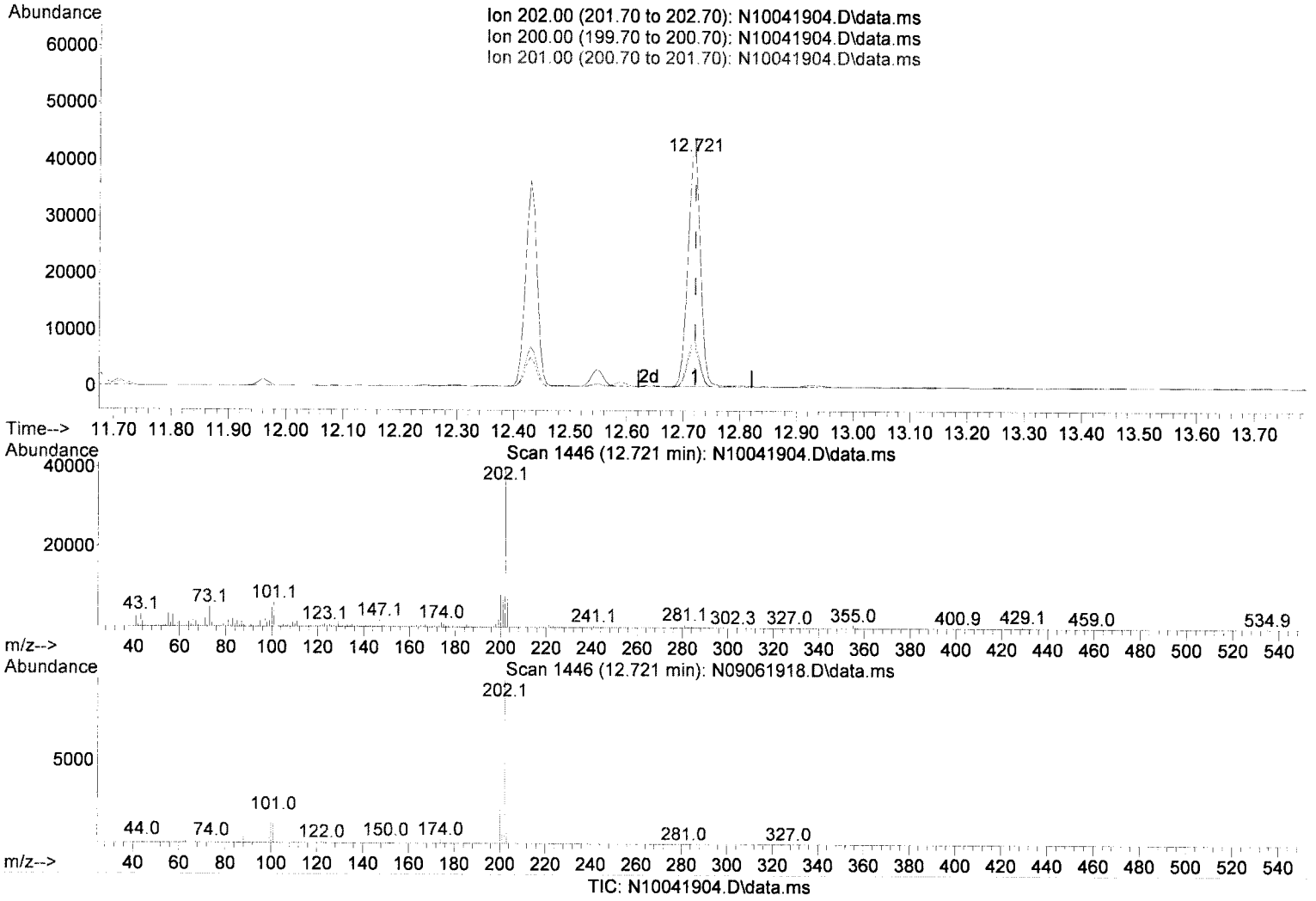
response 51238

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	19.80
101.00	15.30	13.75
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10041904.D\data.ms

(25) Pyrene (T)

12.721min (-0.000) 19.43 ng/ml

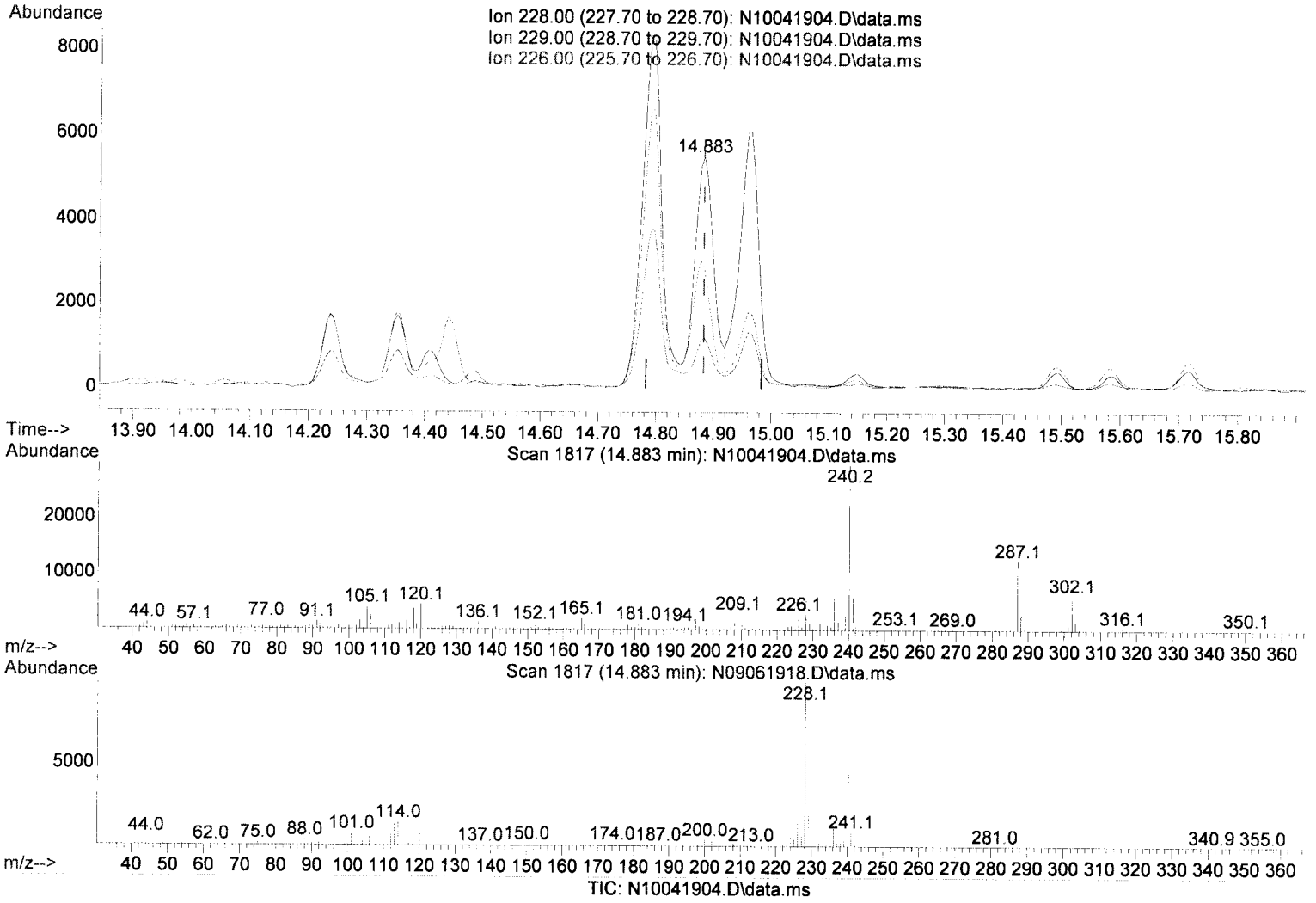
response 64783

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	19.59
201.00	16.80	17.21
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(27) Benz(a)anthracene (T)

14.883min (+ 0.000) 4.12 ng/ml

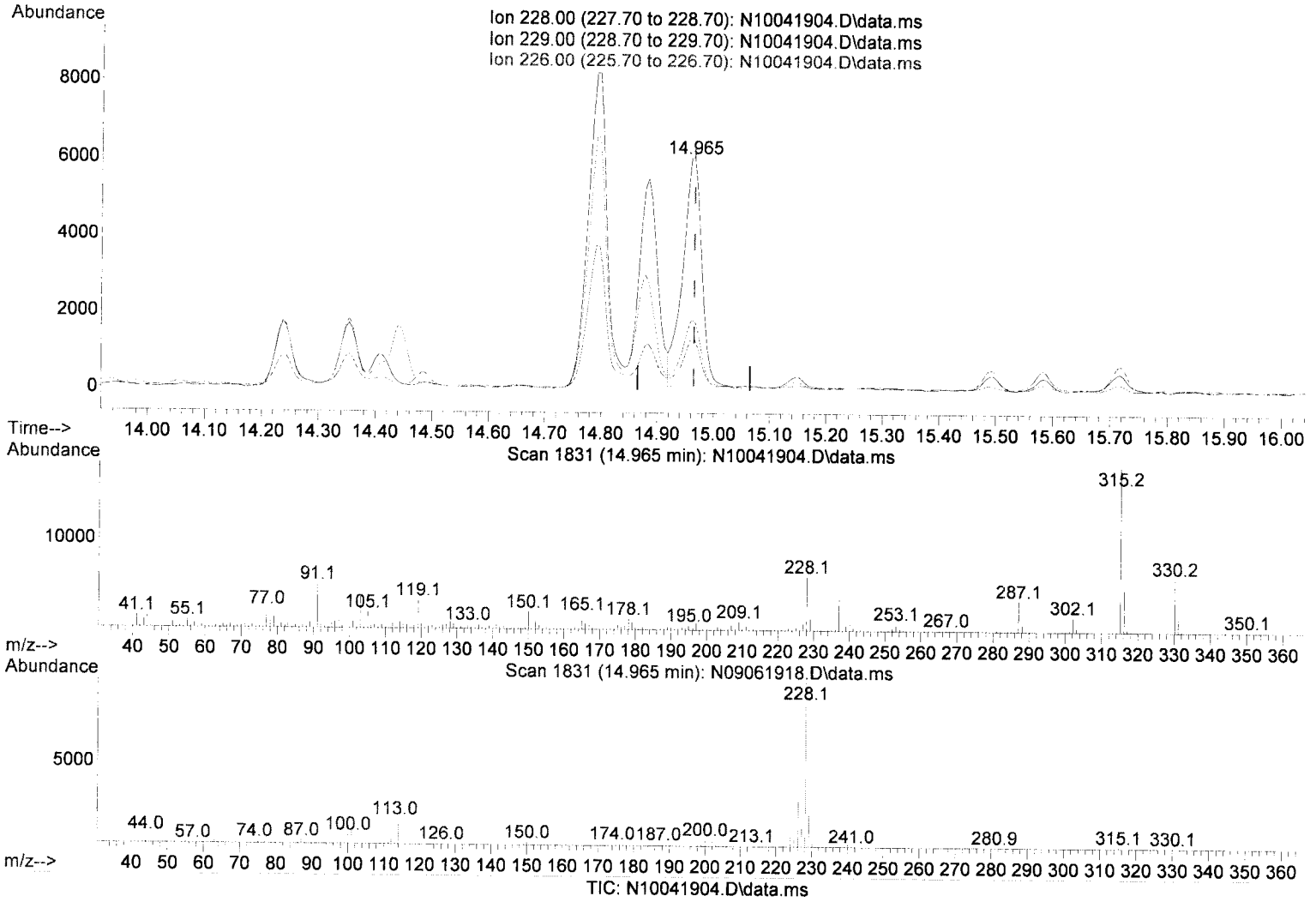
response 10222

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	21.78
226.00	26.20	51.65
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(28) Chrysene (T)

14.965min (-0.000) 5.96 ng/ml

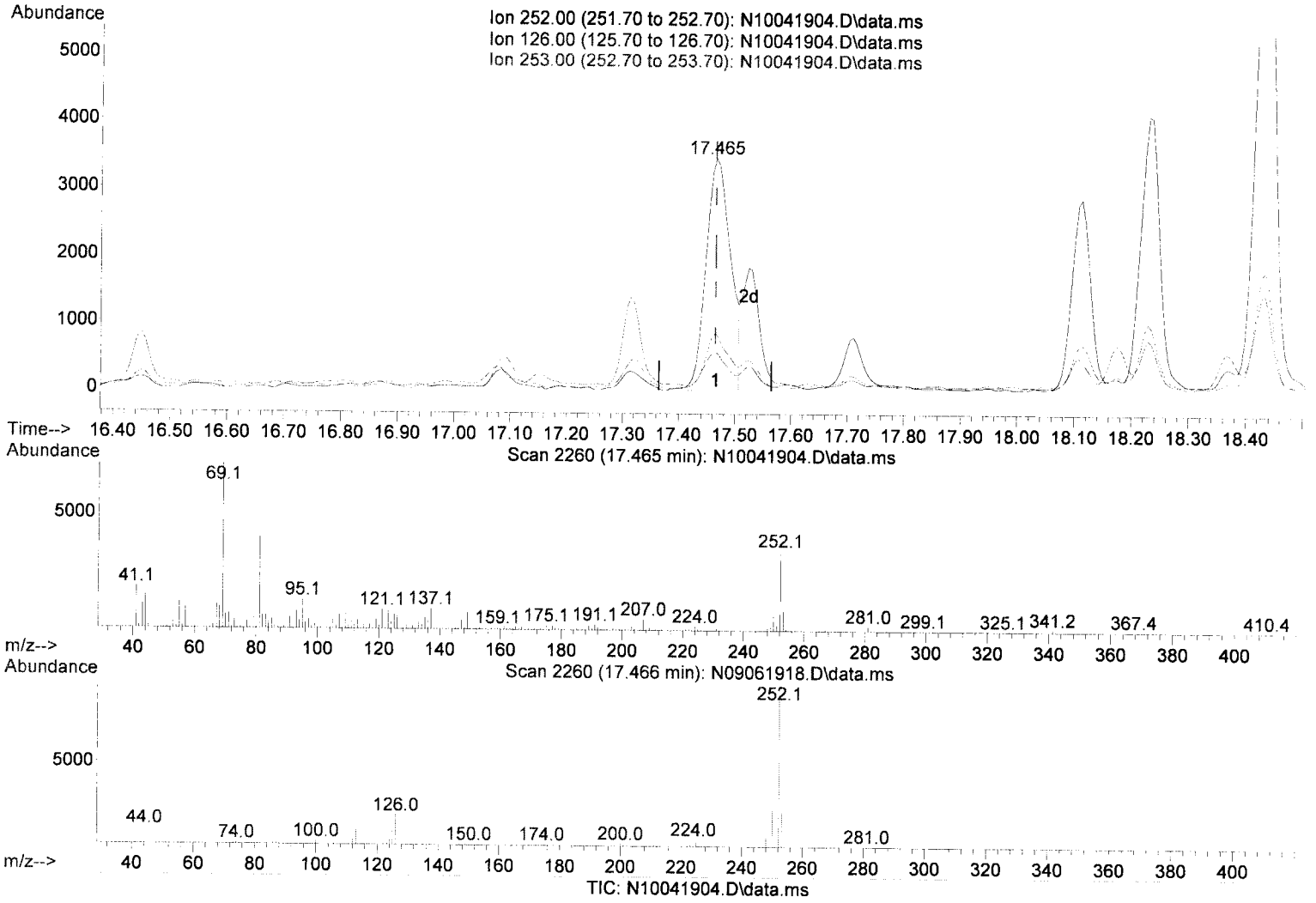
response 13972

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	22.08
226.00	28.60	29.96
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(30) Benzo(b)fluoranthene (T)

17.465min (+ 0.000) 4.98 ng/ml

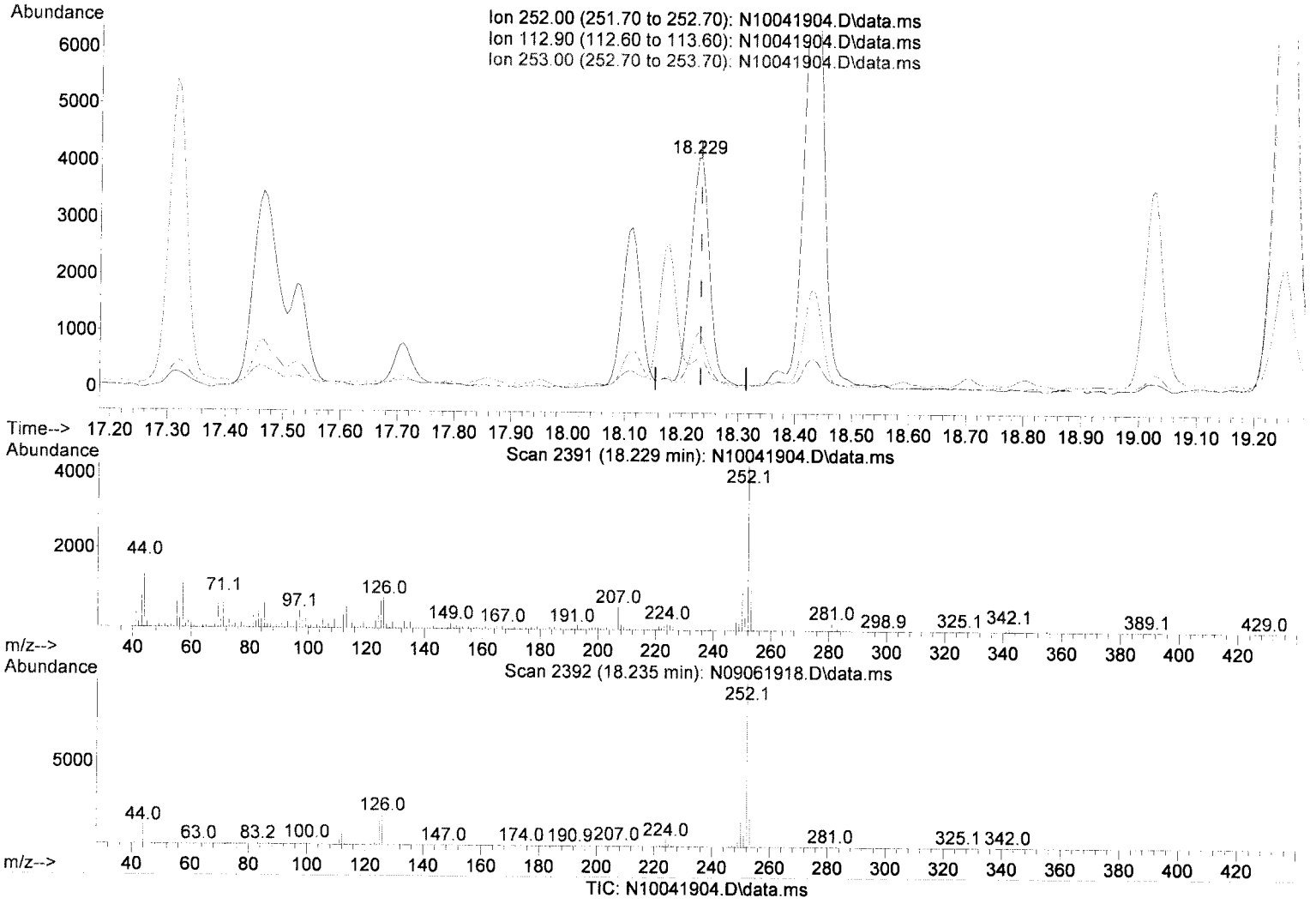
response 10557

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	16.46
253.00	21.10	24.47
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(35) Benzo(a)pyrene (T)

18.229min (-0.005) 4.97 ng/ml

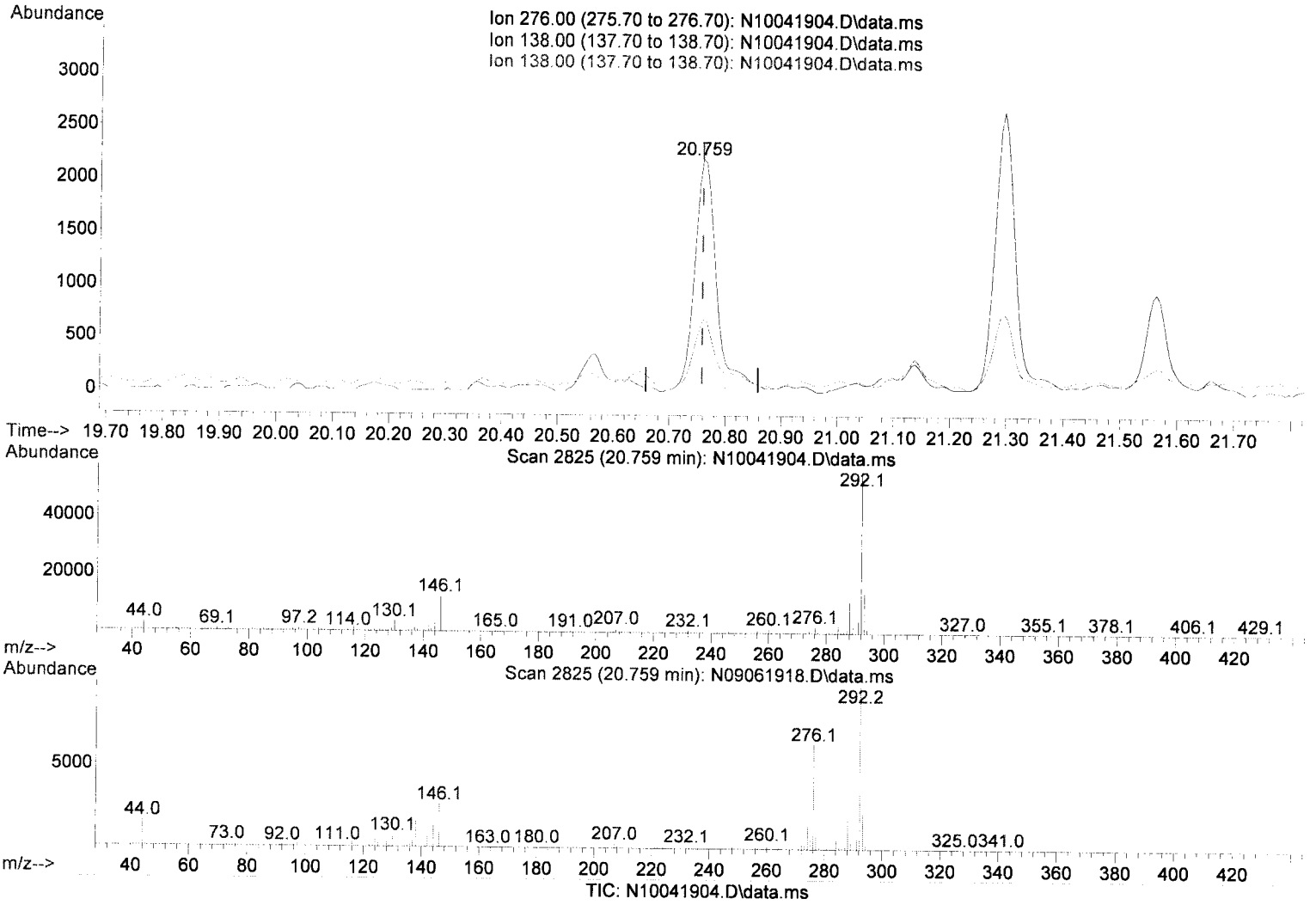
response 9026

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	13.61
253.00	21.90	24.77
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(38) Indeno(1,2,3-cd)Pyrene (T)

20.759min (+ 0.001) 3.15 ng/ml m

response 5526

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	30.93
138.00	31.60	30.93
0.00	0.00	0.00

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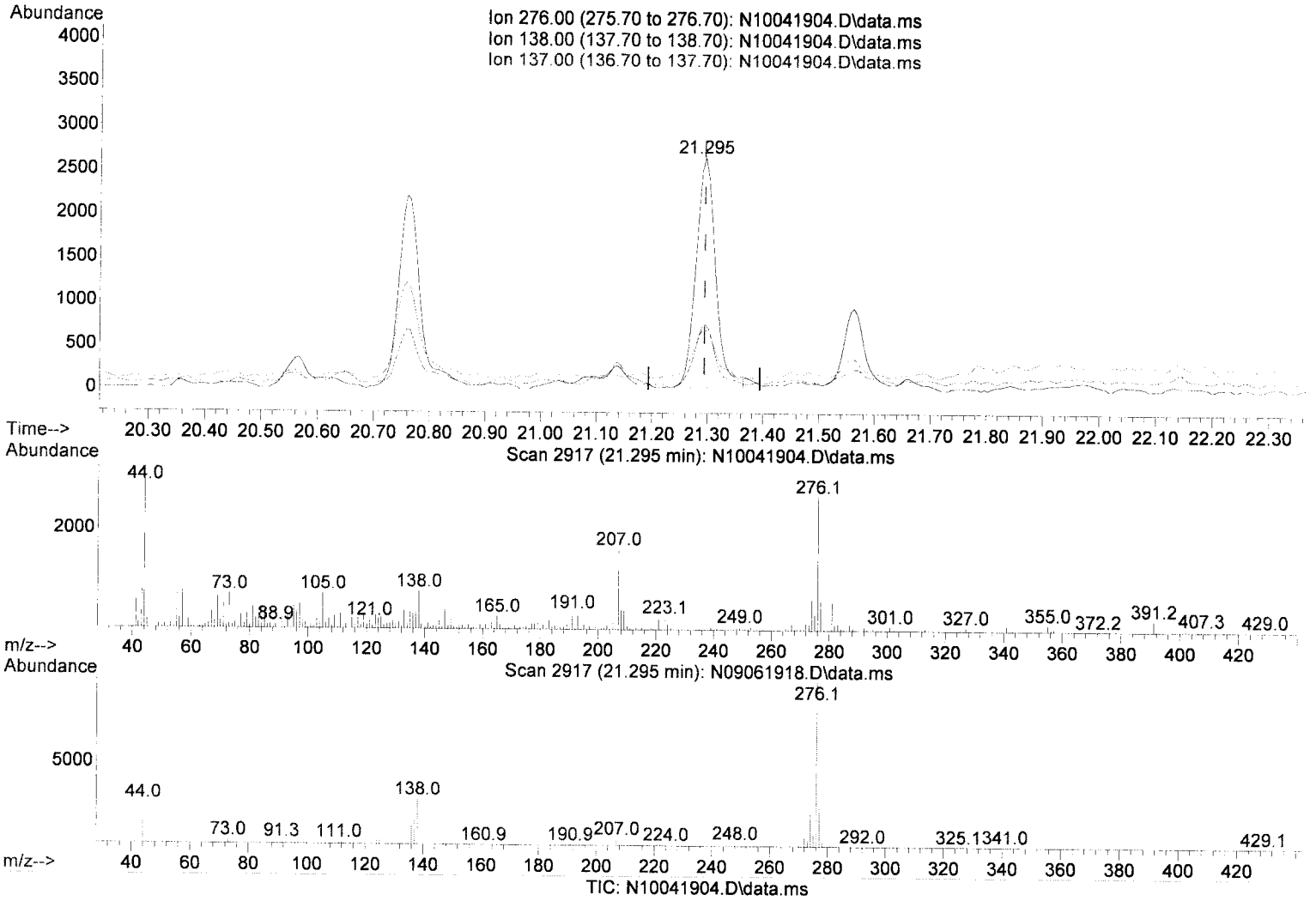
Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(40) Benzo(g,h,i)perylene (T)

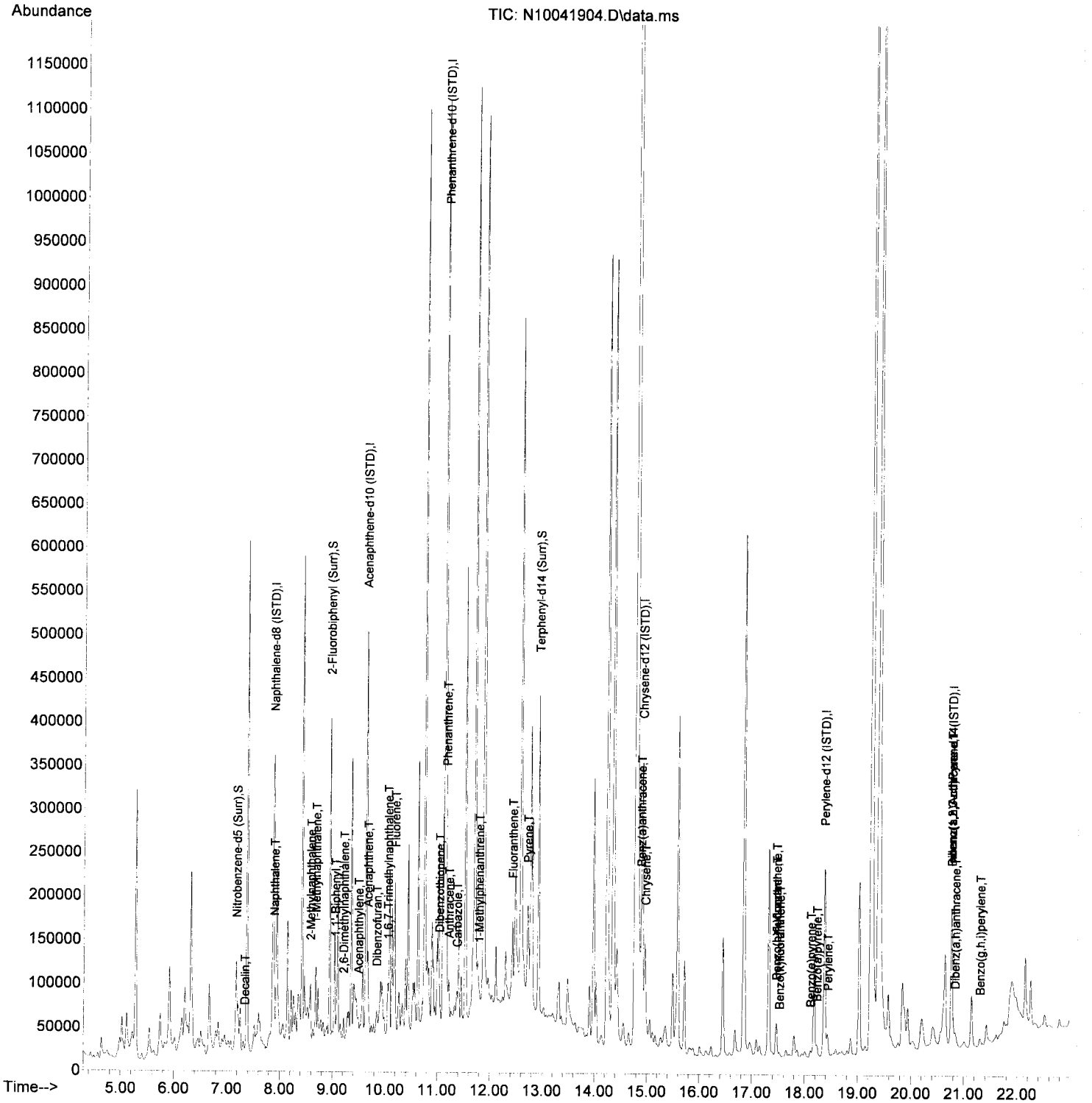
21.295min (+ 0.001) 3.51 ng/ml

response 6524

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	28.29
137.00	28.60	26.04
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041904.D
Acq On : 04 Oct 2019 09:57 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-07
Misc : 1x, 8270D PAH only
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:25 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041905.D
Acq On : 04 Oct 2019 10:29 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-08
Misc : 1x, 8270D PAH only
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

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Quant Time: Oct 07 09:41:28 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	198945	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	130161	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	250218	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	213263	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	186142	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	150996	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.178	82	47299	71.55 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	146116	75.25 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	845	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	182039	81.16 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	7.341	138	216	1.46 ng/ml	88
4) Naphthalene	7.901	128	9137	(4.16) ng/ml	99 J
5) 2-Methylnaphthalene	8.583	142	1762	0.95 ng/ml	91
6) 1-Methylnaphthalene	8.682	142	9397	[5.05] ng/ml	97
7) 1,1'-Biphenyl	9.049	154	944	N.D.	
8) 2,6-Dimethylnaphthalene	9.212	156	650	N.D.	
12) Acenaphthylene	9.492	152	2396	0.85 ng/ml	81
13) Acenaphthene	9.667	153	9334	[5.04] ng/ml	98
14) Dibenzofuran	9.842	168	354	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.051	170	313	N.D.	
16) Fluorene	10.191	166	1299	0.69 ng/ml	88
18) Dibenzothiopene	11.036	184	1152	0.44 ng/ml	75
19) Phenanthrene	11.165	178	6682	2.28 ng/ml	95
20) Anthracene	11.217	178	1848	0.68 ng/ml	89
21) Carbazole	11.380	167	463	N.D.	
22) 1-Methylphenanthrene	11.771	192	391	N.D.	
23) Fluoranthene	12.435	202	9096	(3.08) ng/ml	96 J
25) Pyrene	12.721	202	14529	(4.36) ng/ml	97 J
27) Benz(a)anthracene	14.883	228	3080	1.24 ng/ml#	52
28) Chrysene	14.959	228	3524	1.50 ng/ml	89
30) Benzo(b)fluoranthene	17.471	252	3126	1.46 ng/ml	89
31) Benzo(k)fluoranthene	17.471	252	3940	1.86 ng/ml	92
32) Benzo(b+k)fluoranthene	17.471	252	4151	1.89 ng/ml	92
34) Benzo(e)pyrene	18.112	252	2184	1.01 ng/ml	95
35) Benzo(a)pyrene	18.235	252	2436	1.33 ng/ml	90
36) Perylene	18.433	252	10949	4.84 ng/ml	98
38) Indeno(1,2,3-cd)Pyrene	20.764	276	2185	1.17 ng/ml	81
39) Dibenz(a,h)anthracene	20.823	278	432	N.D.	
40) Benzo(g,h,i)perylene	21.295	276	2583	1.31 ng/ml	88

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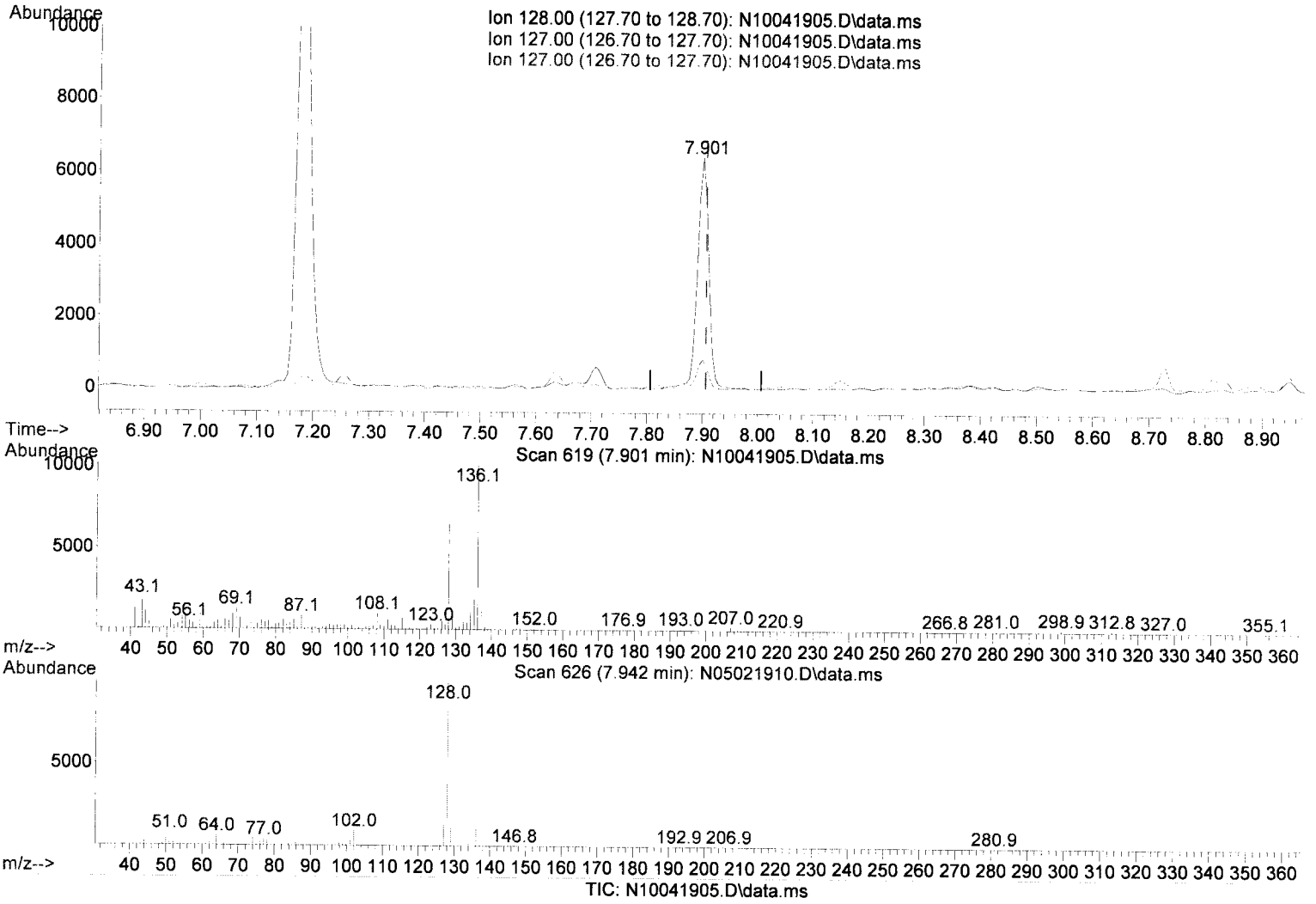
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041905.D
Acq On : 04 Oct 2019 10:29 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-08
Misc : 1x, 8270D PAH only
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 07 09:41:28 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.901min (-0.006) 4.16 ng/ml

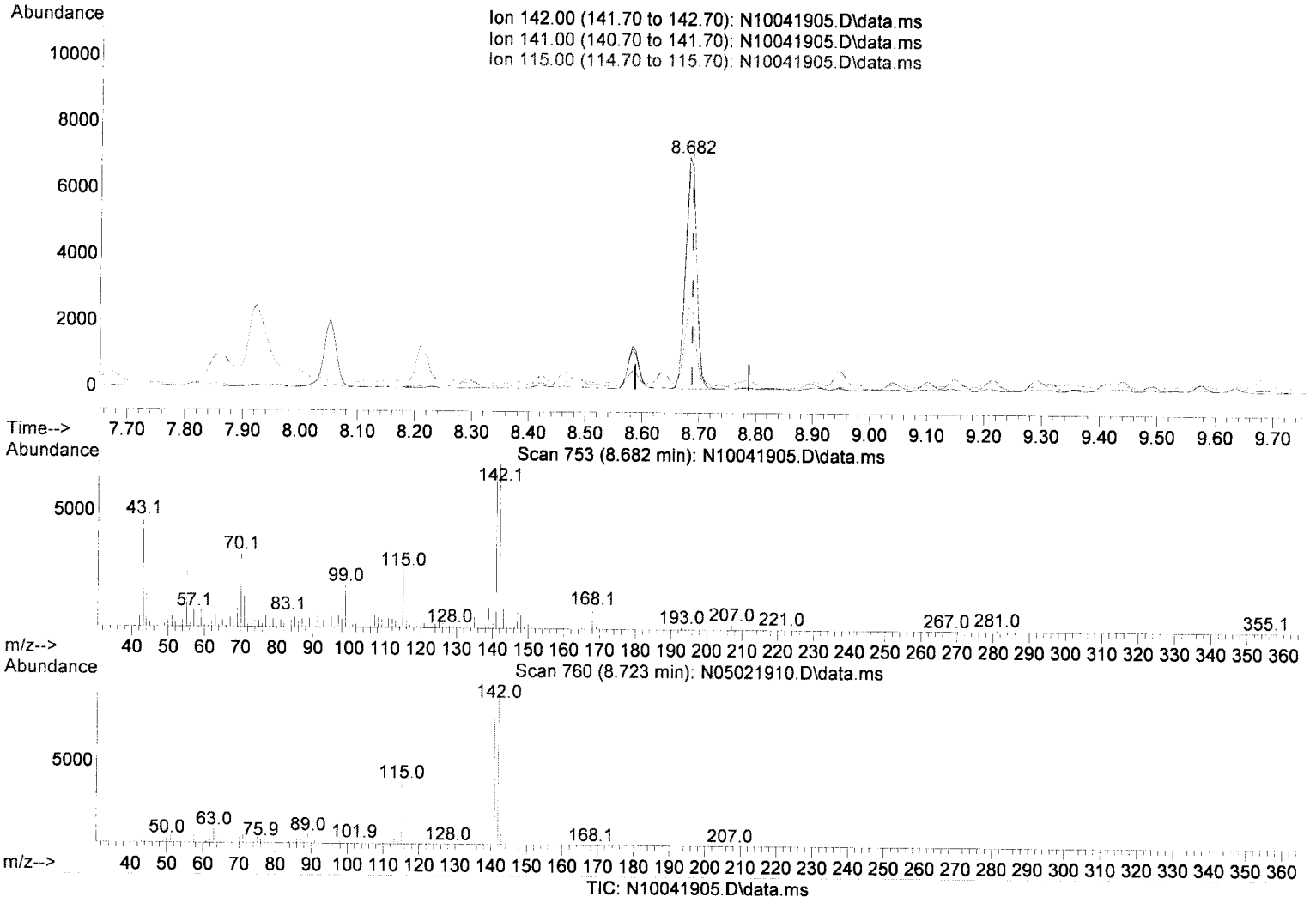
response 9137

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	13.17
127.00	12.60	13.17
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041905.D
Acq On : 04 Oct 2019 10:29 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-08
Misc : 1x, 8270D PAH only
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 07 09:41:28 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(6) 1-Methylnaphthalene (T)

8.682min (-0.006) 5.05 ng/ml

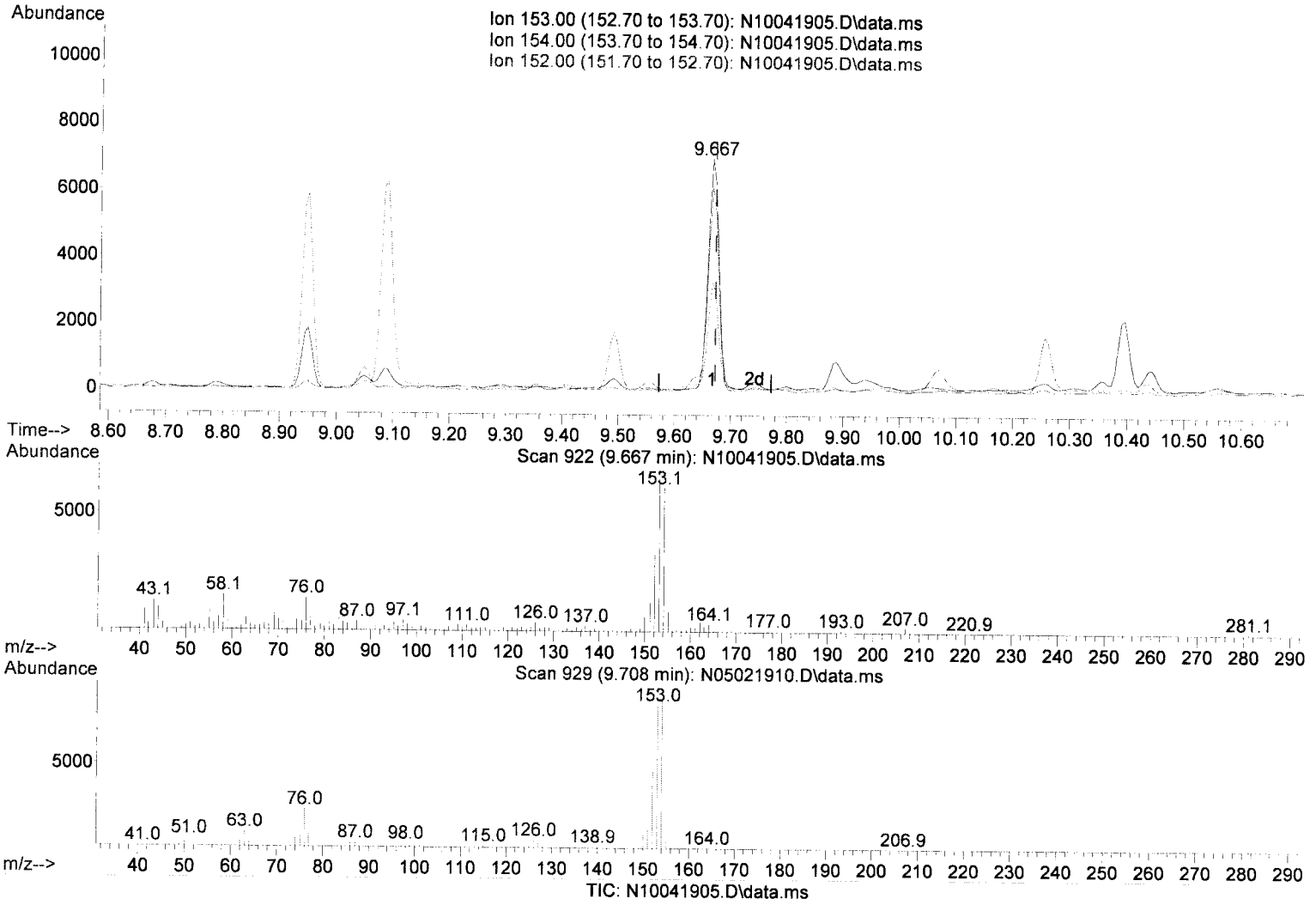
response 9397

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	93.83
115.00	37.80	35.74
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041905.D
Acq On : 04 Oct 2019 10:29 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-08
Misc : 1x, 8270D PAH only
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 07 09:41:28 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.667min (-0.006) 5.04 ng/ml

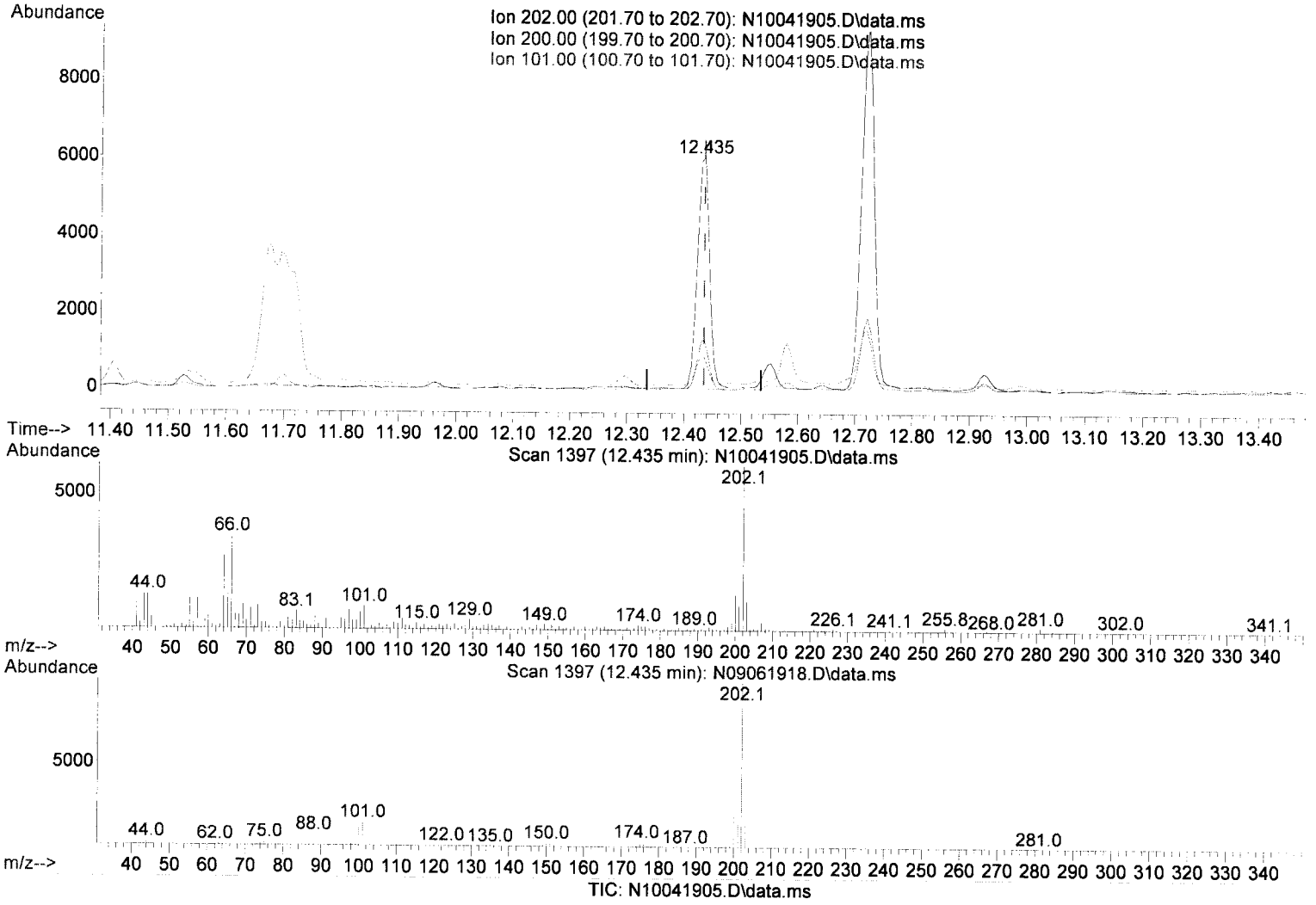
response 9334

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	87.75
152.00	46.80	46.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041905.D
Acq On : 04 Oct 2019 10:29 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-08
Misc : 1x, 8270D PAH only
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 07 09:41:28 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(23) Fluoranthene (T)

12.435min (+ 0.000) 3.08 ng/ml

response 9096

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	21.68
101.00	15.30	14.20
0.00	0.00	0.00

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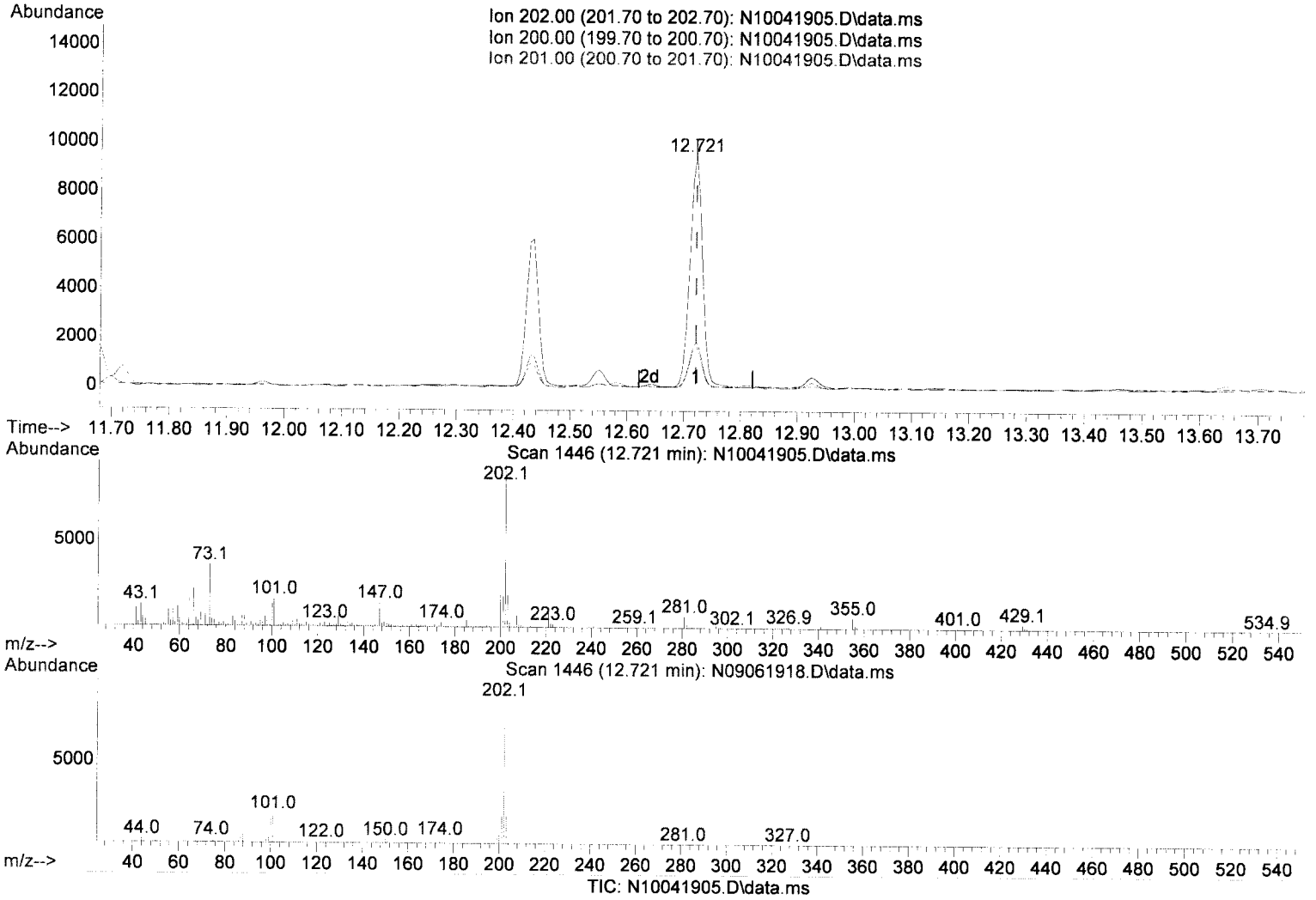
Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041905.D
Acq On : 04 Oct 2019 10:29 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-08
Misc : 1x, 8270D PAH only
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 07 09:41:28 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(25) Pyrene (T)

12.721min (-0.000) 4.36 ng/ml

response 14529

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	19.87
201.00	16.80	18.46
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041905.D
Acq On : 04 Oct 2019 10:29 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-08
Misc : 1x, 8270D PAH only
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

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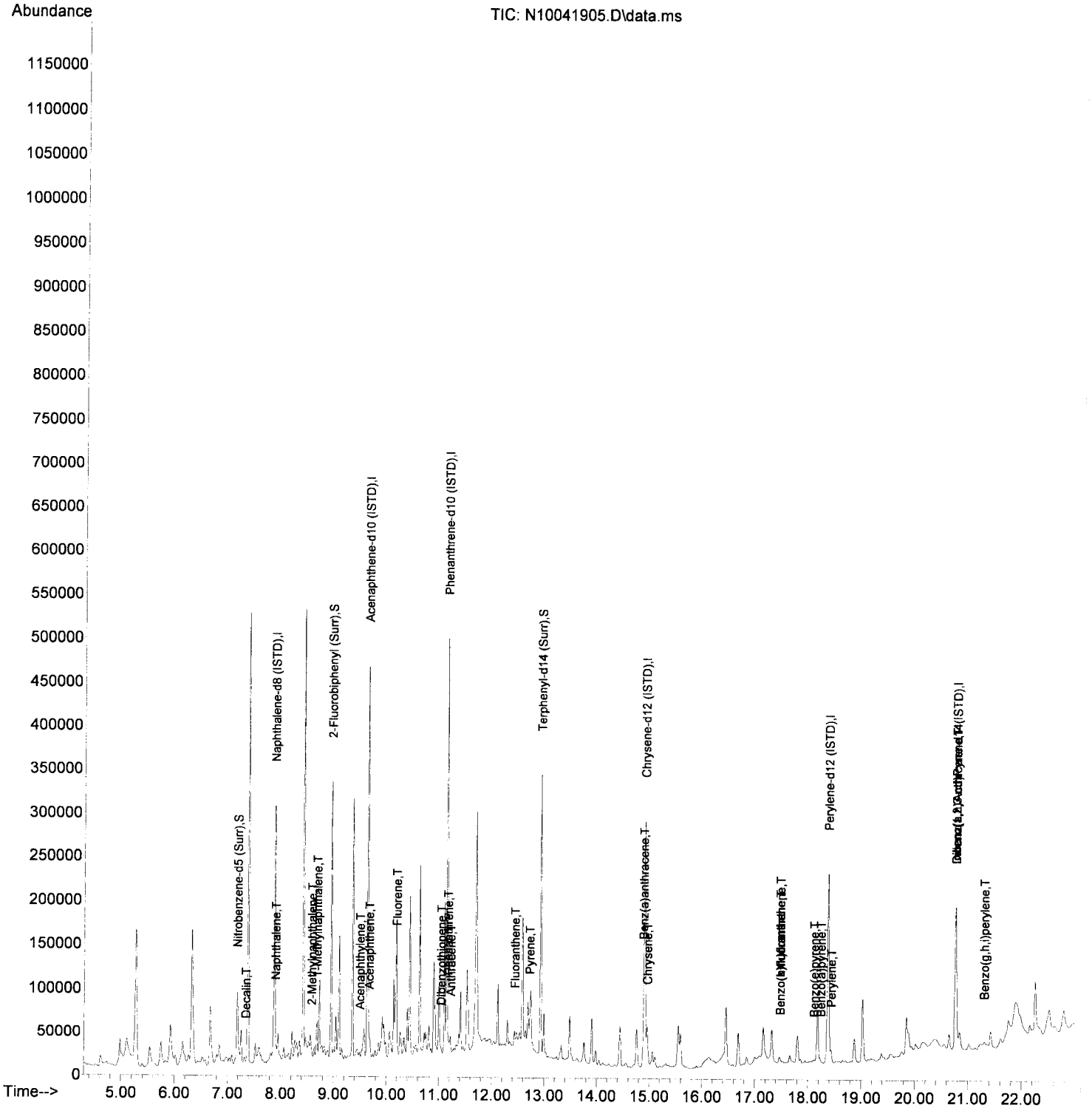
Quant Time: Oct 07 09:41:28 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041906.D
Acq On : 04 Oct 2019 11:02 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-10
Misc : 1x, 8270D PAH only
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

JEML 10/7/19

Quant Time: Oct 07 09:41:32 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

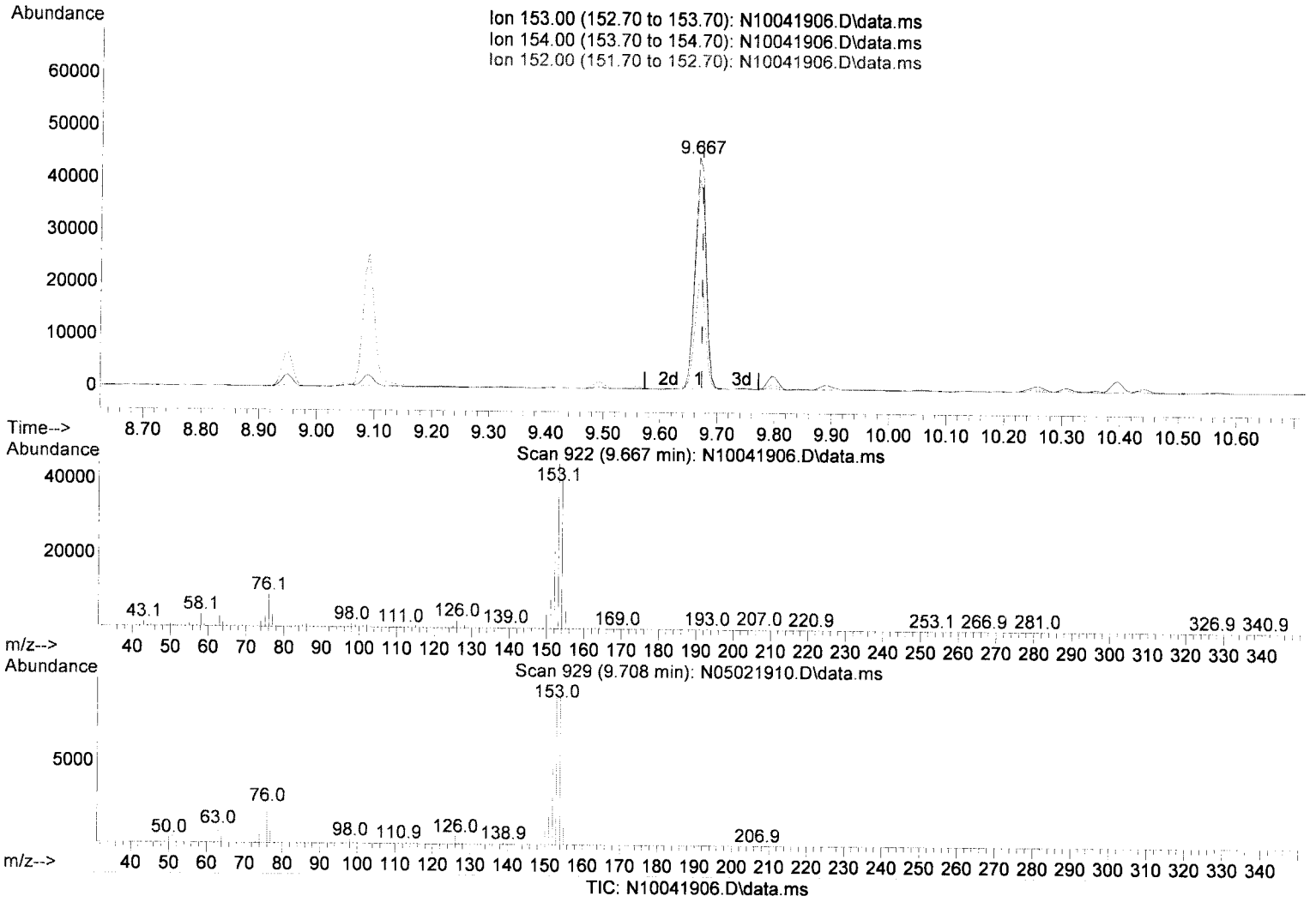
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	225289	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	135852	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.142	188	259499	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	221596	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	196934	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	154726	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	56467	75.43	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	171811	84.77	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	891	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	207169	88.89	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.124	264	66	0.04	ng/ml	-0.05
Target Compounds						Qvalue
3) Decalin	7.341	138	310	1.85	ng/ml#	59
4) Naphthalene	7.901	128	3174	1.28	ng/ml	92
5) 2-Methylnaphthalene	8.589	142	946	0.45	ng/ml	82
6) 1-Methylnaphthalene	8.688	142	1856	0.88	ng/ml	87
7) 1,1'-Biphenyl	9.049	154	1087	N.D.		
8) 2,6-Dimethylnaphthalene	9.212	156	1460	0.71	ng/ml	92
12) Acenaphthylene	9.492	152	1691	0.57	ng/ml	74
13) Acenaphthene	9.667	153	59813	30.96	ng/ml	100
14) Dibenzofuran	9.842	168	355	N.D.		
15) 1,6,7-Trimethylnaphtha...	10.052	170	683	0.42	ng/ml#	18
16) Fluorene	10.191	166	1576	0.80	ng/ml	79
18) Dibenzothiopene	11.042	184	690	N.D.		
19) Phenanthrene	11.165	178	6432	2.12	ng/ml	97
20) Anthracene	11.217	178	2399	0.85	ng/ml	91
21) Carbazole	11.380	167	349	N.D.		
22) 1-Methylphenanthrene	11.794	192	1240	0.59	ng/ml	71
23) Fluoranthene	12.435	202	2872	0.94	ng/ml	89
25) Pyrene	12.721	202	2858	0.83	ng/ml	84
27) Benz(a)anthracene	14.907	228	1213	0.47	ng/ml	75
28) Chrysene	14.965	228	1104	0.45	ng/ml#	40
30) Benzo(b)fluoranthene	17.471	252	775	N.D.		
31) Benzo(k)fluoranthene	17.530	252	223	N.D.		
32) Benzo(b+k)fluoranthene	17.471	252	1096	0.47	ng/ml#	32
34) Benzo(e)pyrene	18.118	252	285	N.D.		
35) Benzo(a)pyrene	18.235	252	462	N.D.		
36) Perylene	18.433	252	11864	4.95	ng/ml	96
38) Indeno(1,2,3-cd)Pyrene	20.770	276	388	N.D.		
39) Dibenz(a,h)anthracene	20.835	278	124	N.D.		
40) Benzo(g,h,i)perylene	21.295	276	541	N.D.		

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041906.D
Acq On : 04 Oct 2019 11:02 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-10
Misc : 1x, 8270D PAH only
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 07 09:41:32 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

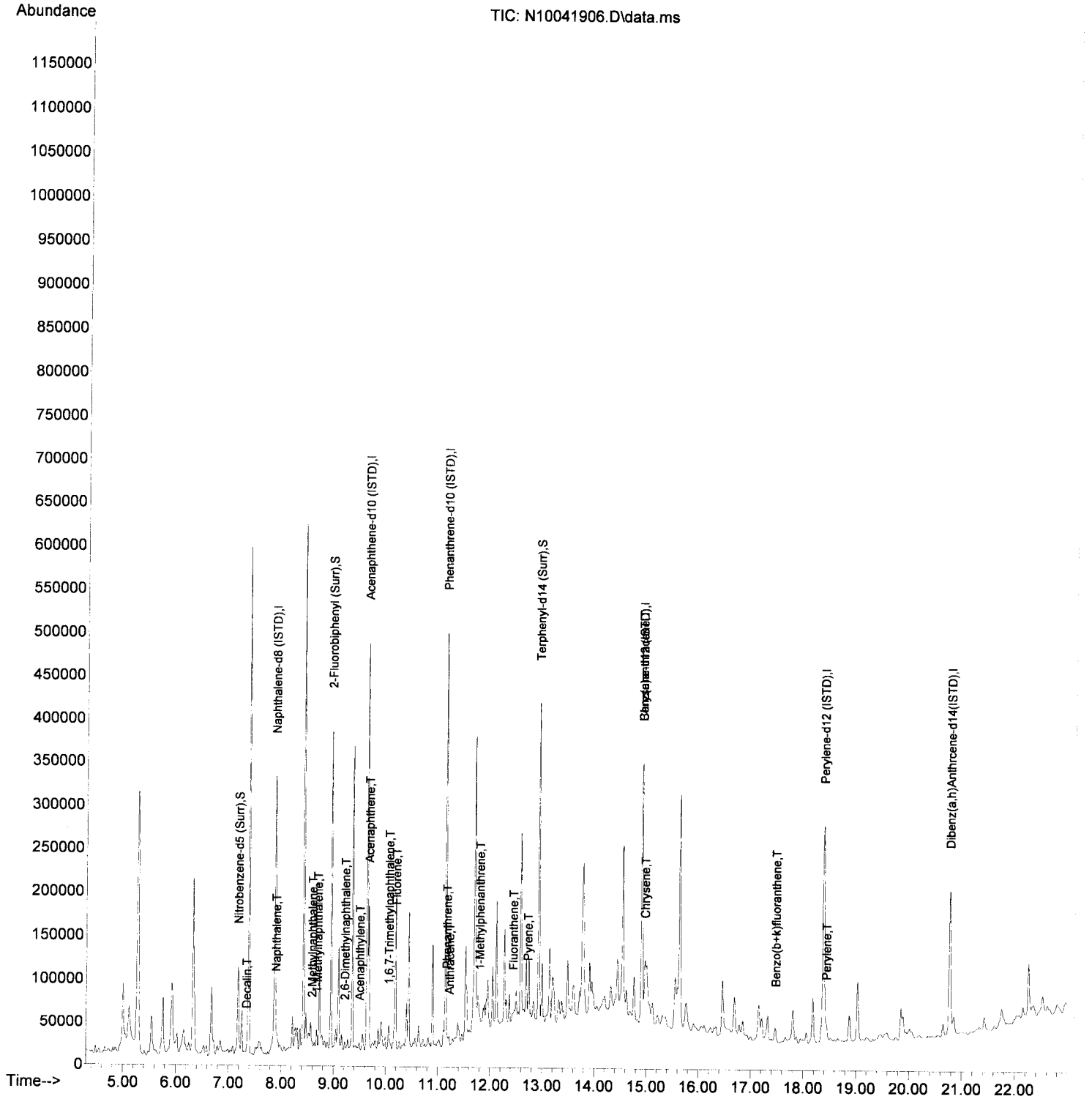
9.667min (-0.006) 30.96 ng/ml

response 59813

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.19
152.00	46.80	47.05
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041906.D
Acq On : 04 Oct 2019 11:02 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-10
Misc : 1x, 8270D PAH only
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:32 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041907.D
Acq On : 04 Oct 2019 11:34 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-11
Misc : 1x, 8270D PAH only
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

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Quant Time: Oct 07 09:41:35 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

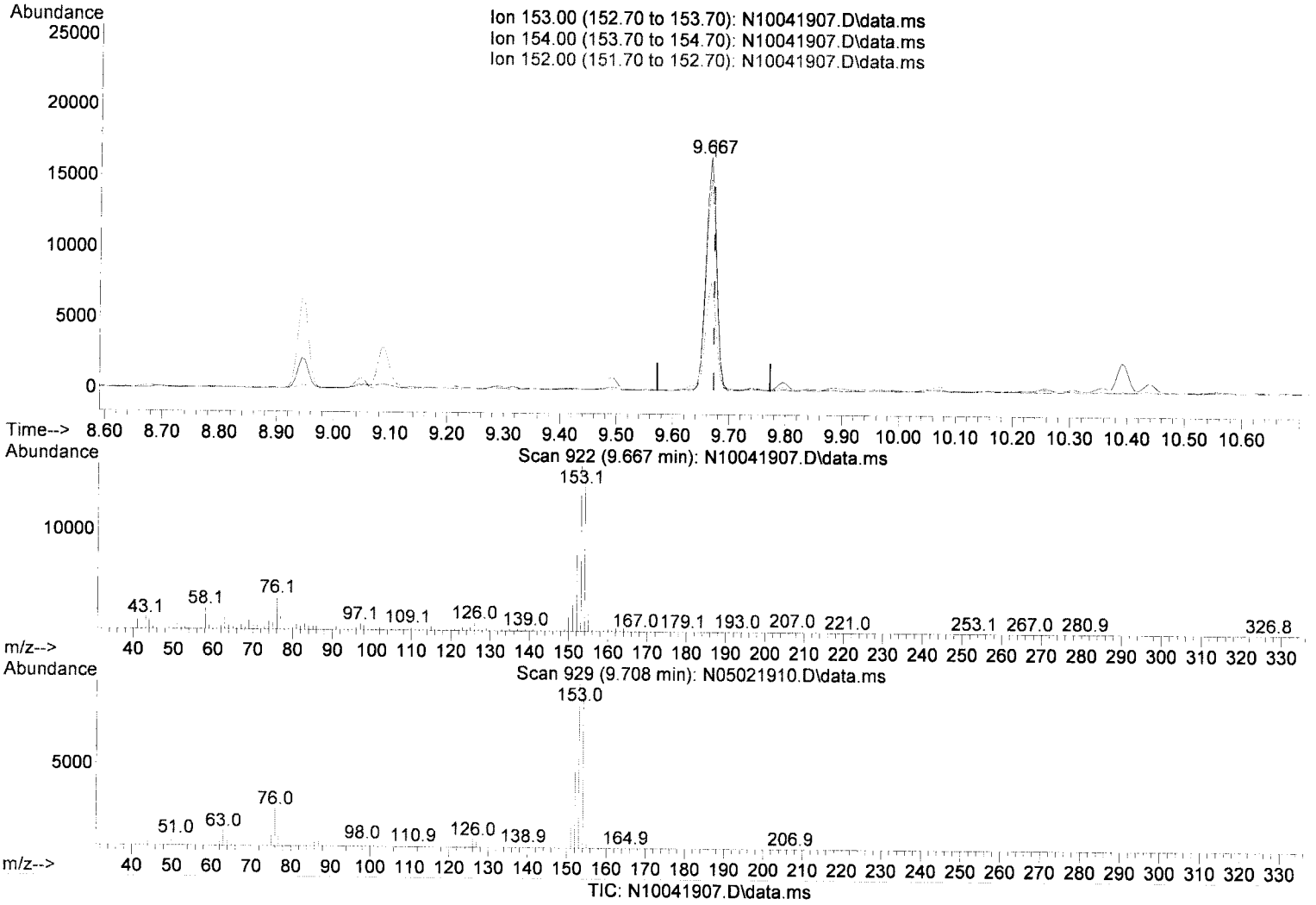
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	204275	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	130703	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	246592	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	203746	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	176460	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	141084	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	50755	74.77	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	162953	83.57	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	814	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	194853	90.93	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.335	138	194	1.28	ng/ml	76
4) Naphthalene	7.901	128	3268	1.45	ng/ml	90
5) 2-Methylnaphthalene	8.583	142	2700	1.41	ng/ml	96
6) 1-Methylnaphthalene	8.682	142	2098	1.10	ng/ml	90
7) 1,1'-Biphenyl	9.049	154	1089	0.42	ng/ml	87
8) 2,6-Dimethylnaphthalene	9.212	156	1572	0.84	ng/ml	96
12) Acenaphthylene	9.492	152	1239	0.44	ng/ml	69
13) Acenaphthene	9.667	153	21782	11.72	ng/ml	100
14) Dibenzofuran	9.842	168	354	N.D.		
15) 1,6,7-Trimethylnaphtha...	10.051	170	678	0.43	ng/ml#	1
16) Fluorene	10.186	166	645	N.D.		
18) Dibenzothiopene	11.037	184	551	N.D.		
19) Phenanthrene	11.165	178	2975	1.03	ng/ml	90
20) Anthracene	11.217	178	392	N.D.		
21) Carbazole	11.380	167	365	N.D.		
22) 1-Methylphenanthrene	11.788	192	524	N.D.		
23) Fluoranthene	12.430	202	3439	1.18	ng/ml	93
25) Pyrene	12.721	202	3762	1.18	ng/ml	92
27) Benz(a)anthracene	14.883	228	1726	0.73	ng/ml	66
28) Chrysene	14.959	228	1768	0.79	ng/ml	95
30) Benzo(b)fluoranthene	17.465	252	1603	0.79	ng/ml	92
31) Benzo(k)fluoranthene	17.465	252	1945	0.97	ng/ml	90
32) Benzo(b+k)fluoranthene	17.465	252	2078	1.00	ng/ml	90
34) Benzo(e)pyrene	18.112	252	1023	0.50	ng/ml	89
35) Benzo(a)pyrene	18.229	252	1181	0.68	ng/ml	73
36) Perylene	18.433	252	3043	1.42	ng/ml	93
38) Indeno(1,2,3-cd)Pyrene	20.759	276	1179	0.68	ng/ml	53
39) Dibenz(a,h)anthracene	20.817	278	112	N.D.		
40) Benzo(g,h,i)perylene	21.295	276	1203	0.65	ng/ml#	72

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041907.D
Acq On : 04 Oct 2019 11:34 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-11
Misc : 1x, 8270D PAH only
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 07 09:41:35 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

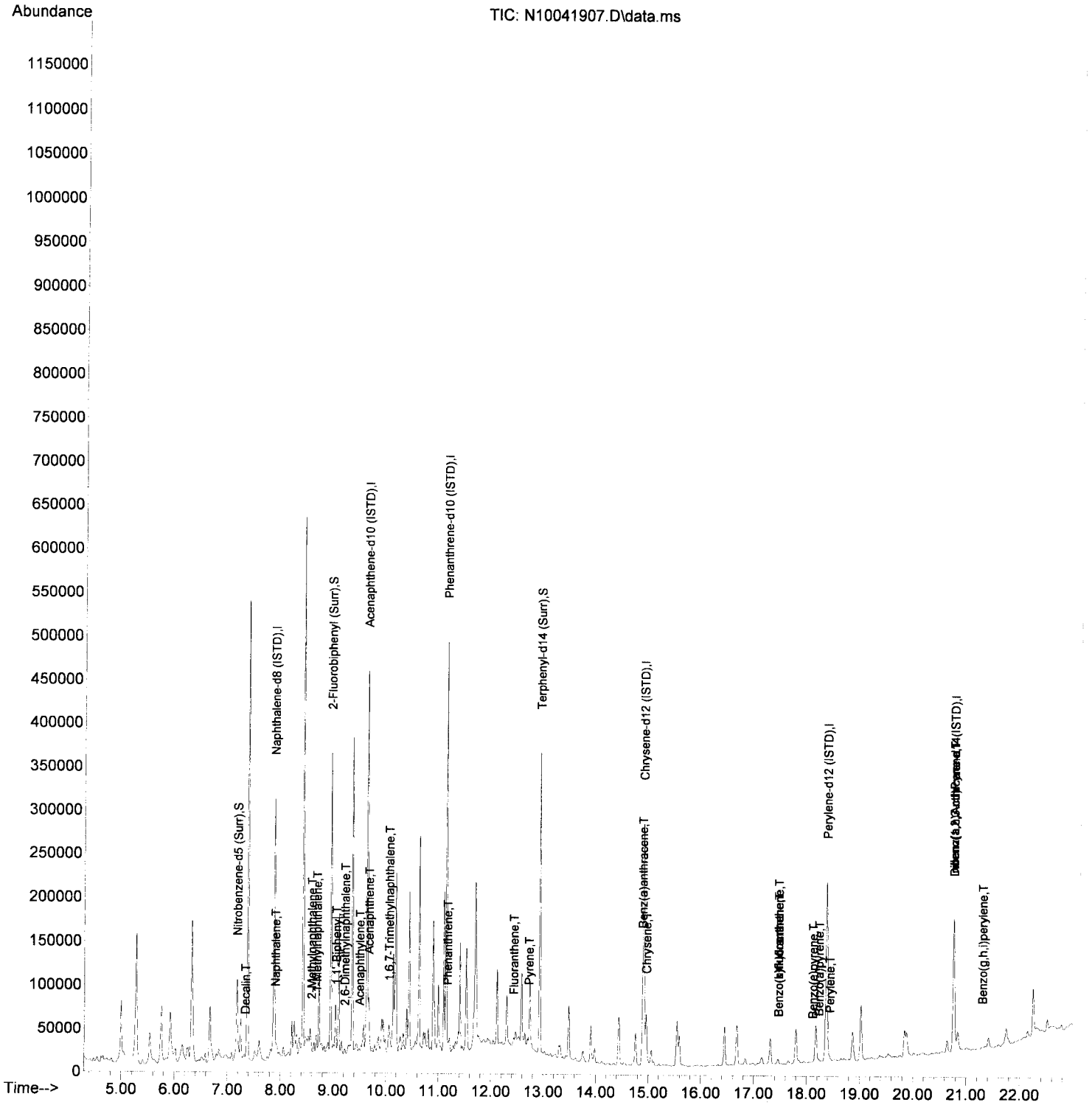
9.667min (-0.006) 11.72 ng/ml

response 21782

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.96
152.00	46.80	46.39
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041907.D
Acq On : 04 Oct 2019 11:34 am
Operator : JK/ AMS/ DTH
Sample : A9I0922-11
Misc : 1x, 8270D PAH only
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:35 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041908.D
Acq On : 04 Oct 2019 12:06 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-12
Misc : 1x, 8270D PAH only
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

JEM 10/7/19

Quant Time: Oct 07 09:41:39 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

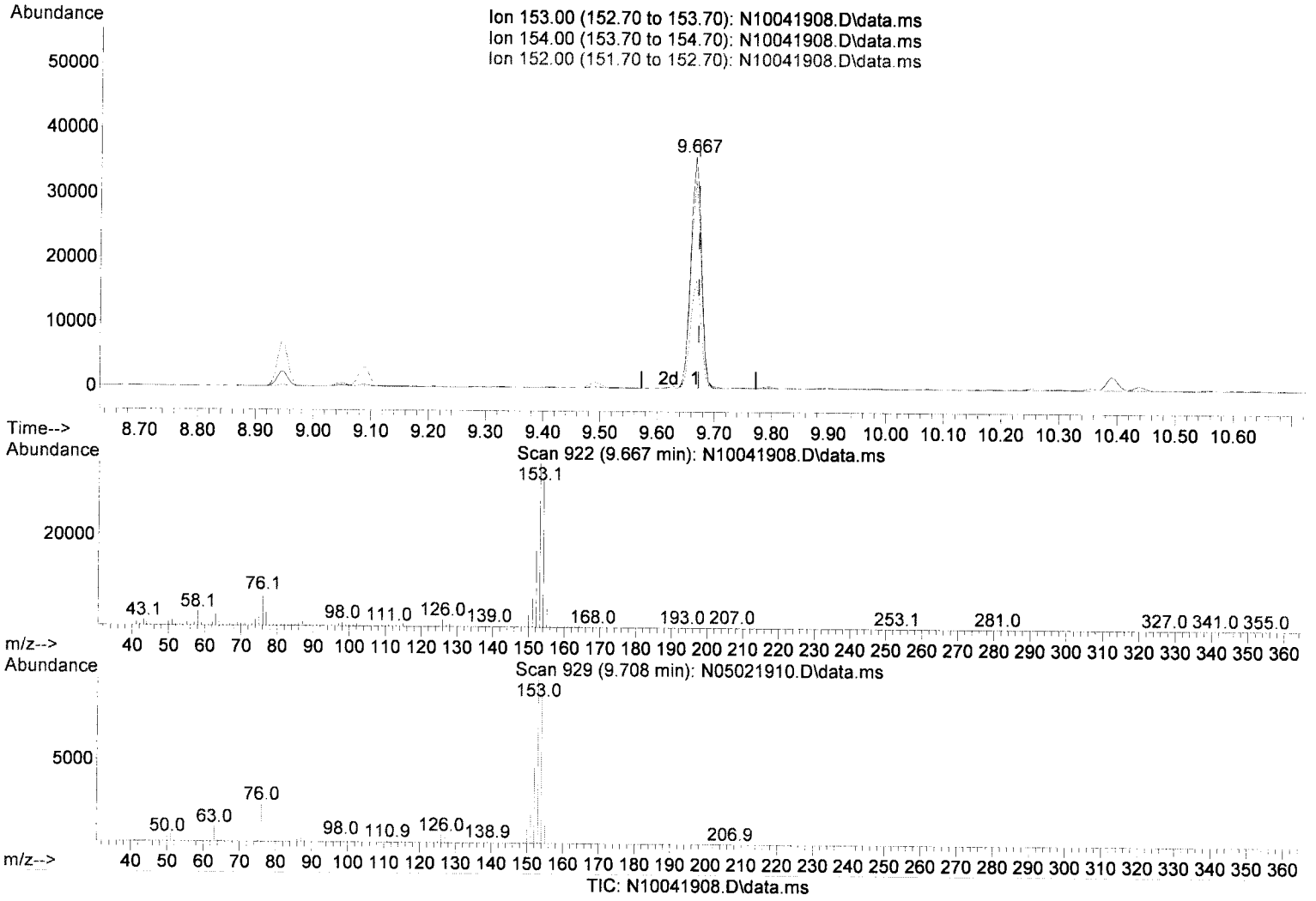
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	210748	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	132770	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	248085	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	210109	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	184970	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.758	292	149444	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.178	82	54872	78.35 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	173369	87.53 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	1064	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	203286	91.99 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	7.341	138	183	1.17 ng/ml#	67
4) Naphthalene	7.901	128	3161	1.36 ng/ml	93
5) 2-Methylnaphthalene	8.582	142	1473	0.75 ng/ml	84
6) 1-Methylnaphthalene	8.682	142	3480	1.77 ng/ml	92
7) 1,1'-Biphenyl	9.049	154	949	N.D.	
8) 2,6-Dimethylnaphthalene	9.212	156	910	0.47 ng/ml	88
12) Acenaphthylene	9.492	152	1333	0.46 ng/ml	61
13) Acenaphthene	9.667	153	47076	24.94 ng/ml	99
14) Dibenzofuran	9.841	168	244	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.045	170	331	N.D.	
16) Fluorene	10.185	166	1047	0.54 ng/ml	91
18) Dibenzothiopene	11.036	184	620	N.D.	
19) Phenanthrene	11.165	178	2115	0.73 ng/ml	86
20) Anthracene	11.217	178	279	N.D.	
21) Carbazole	11.380	167	501	N.D.	
22) 1-Methylphenanthrene	11.788	192	257	N.D.	
23) Fluoranthene	12.435	202	3066	1.05 ng/ml	97
25) Pyrene	12.721	202	3770	1.15 ng/ml	98
27) Benz(a)anthracene	14.895	228	977	0.40 ng/ml	83
28) Chrysene	14.959	228	845	N.D.	
30) Benzo(b)fluoranthene	17.471	252	656	N.D.	
31) Benzo(k)fluoranthene	17.518	252	251	N.D.	
32) Benzo(b+k)fluoranthene	17.471	252	937	0.43 ng/ml	83
34) Benzo(e)pyrene	18.118	252	352	N.D.	
35) Benzo(a)pyrene	18.229	252	396	N.D.	
36) Perylene	18.433	252	11797	5.24 ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.764	276	457	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	21.295	276	420	N.D.	

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041908.D
Acq On : 04 Oct 2019 12:06 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-12
Misc : 1x, 8270D PAH only
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 07 09:41:39 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

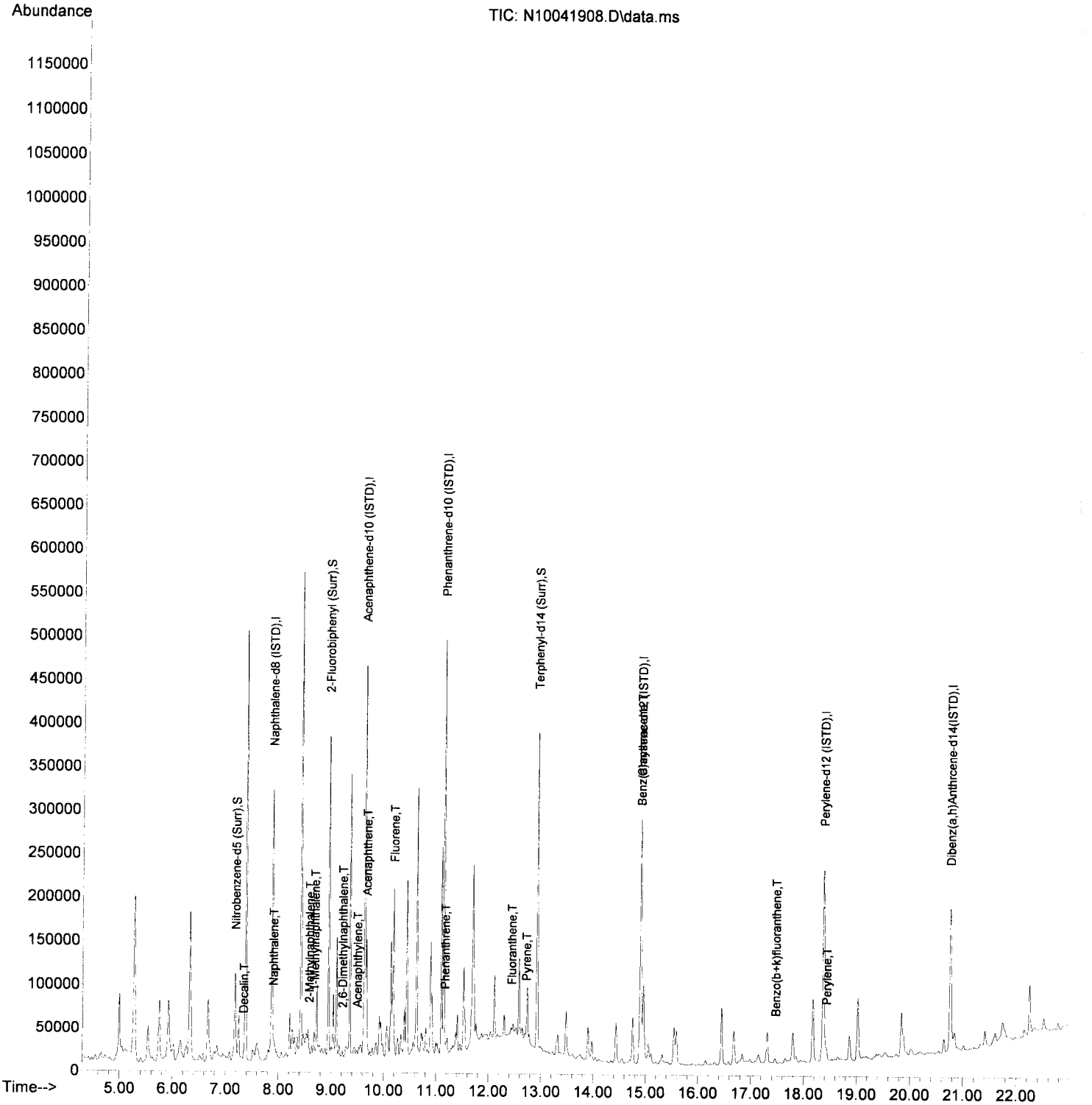
9.667min (-0.006) 24.94 ng/ml

response 47076

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	89.27
152.00	46.80	46.63
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041908.D
Acq On : 04 Oct 2019 12:06 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-12
Misc : 1x, 8270D PAH only
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:39 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

JRM 10/7/19

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

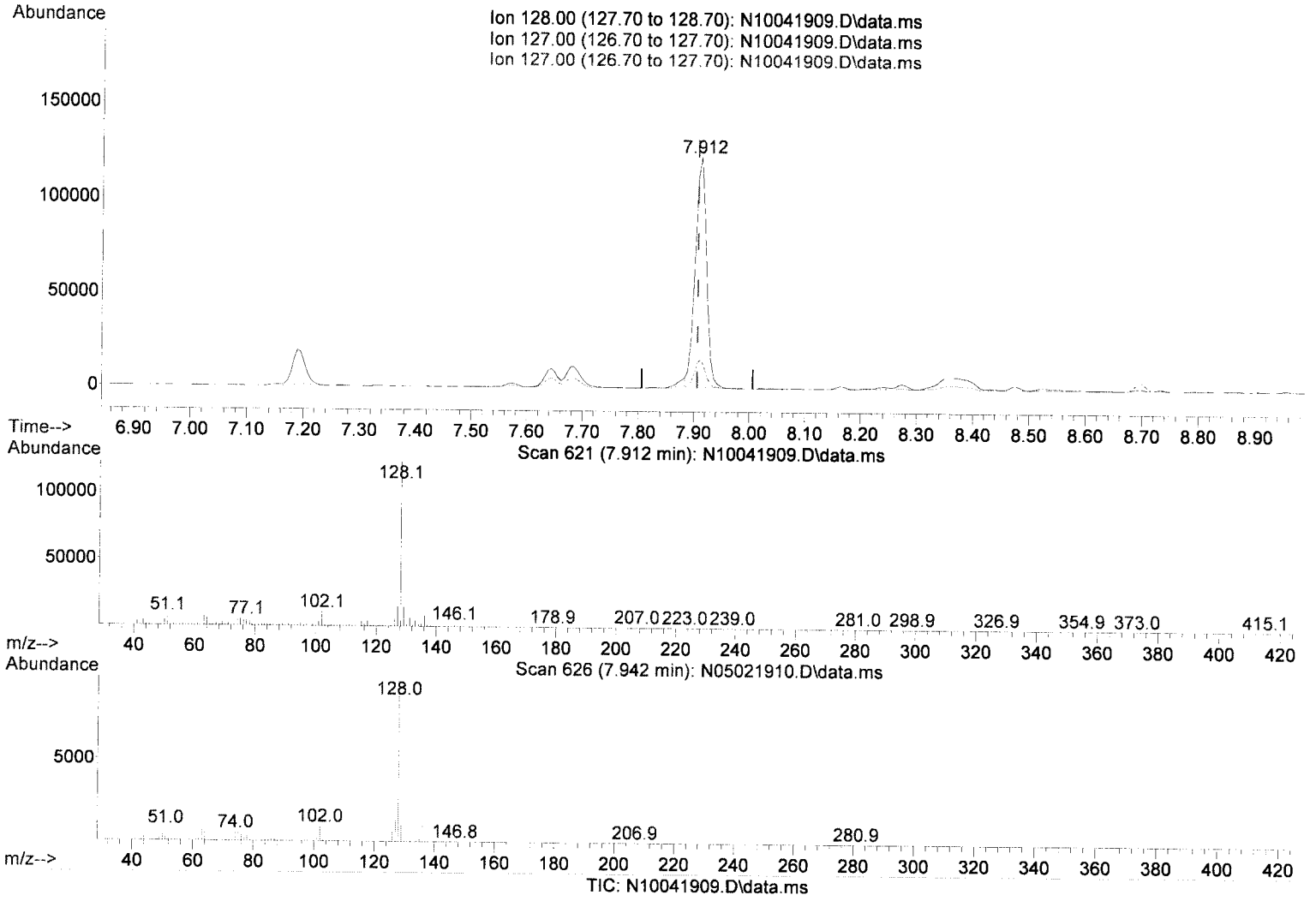
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.889	136	220828	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.649	162	135680	100.00	ng/ml	0.01
17) Phenanthrene-d10 (ISTD)	11.153	188	259943	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.924	240	228579	100.00	ng/ml	0.02
29) Perylene-d12 (ISTD)	18.398	264	194543	100.00	ng/ml	0.02
37) Dibenz(a,h)Anthrcene-d...	20.788	292	156210	100.00	ng/ml	0.02
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.190	82	58198	79.31	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	172329	85.14	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.492	160	614	-1.00	ng/ml	0.01
26) Terphenyl-d14 (Surr)	12.937	244	210059	87.38	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.194	264	108	0.07	ng/ml	0.02
Target Compounds						Qvalue
3) Decalin	7.353	138	424	2.58	ng/ml#	80
4) Naphthalene	7.912	128	179471	~~73.69~~	~~ng/ml~~	~~100~~ MF
5) 2-Methylnaphthalene	8.594	142	55340	26.81	ng/ml	97
6) 1-Methylnaphthalene	8.699	142	956857	463.70	ng/ml	~~98~~ → MR
7) 1,1'-Biphenyl	9.061	154	3789	1.36	ng/ml	88
8) 2,6-Dimethylnaphthalene	9.224	156	58178	28.70	ng/ml	97
12) Acenaphthylene	9.504	152	18290	6.21	ng/ml	73
13) Acenaphthene	9.684	153	1126268	583.77	ng/ml	100 → RR2
14) Dibenzofuran	9.853	168	6345	2.63	ng/ml	91
15) 1,6,7-Trimethylnaphtha...	10.057	170	4723	2.92	ng/ml	74
16) Fluorene	10.197	166	153718	77.86	ng/ml	98
18) Dibenzothiopene	11.048	184	19142	7.04	ng/ml	98
19) Phenanthrene	11.176	178	63078	20.74	ng/ml	99
20) Anthracene	11.229	178	3143	1.11	ng/ml	80
21) Carbazole	11.386	167	18479	8.07	ng/ml	96
22) 1-Methylphenanthrene	11.800	192	2406	1.14	ng/ml	61
23) Fluoranthene	12.465	202	6015	1.96	ng/ml	86
25) Pyrene	12.733	202	6740	1.89	ng/ml	94
27) Benz(a)anthracene	14.901	228	1873	0.71	ng/ml	69
28) Chrysene	14.977	228	1522	0.61	ng/ml	71
30) Benzo(b)fluoranthene	17.489	252	2360	1.05	ng/ml	76
31) Benzo(k)fluoranthene	17.489	252	2055	0.93	ng/ml	80
32) Benzo(b+k)fluoranthene	17.489	252	2914	1.27	ng/ml	80
34) Benzo(e)pyrene	18.136	252	812	N.D.		
35) Benzo(a)pyrene	18.258	252	889	0.46	ng/ml#	1
36) Perylene	18.456	252	81541	34.46	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.788	276	1040	0.54	ng/ml#	1
39) Dibenz(a,h)anthracene	20.829	278	620	N.D.		
40) Benzo(g,h,i)perylene	21.324	276	996	0.49	ng/ml#	1

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.912min (+ 0.006) 70.17 ng/ml (m)

Jem 10/7/19

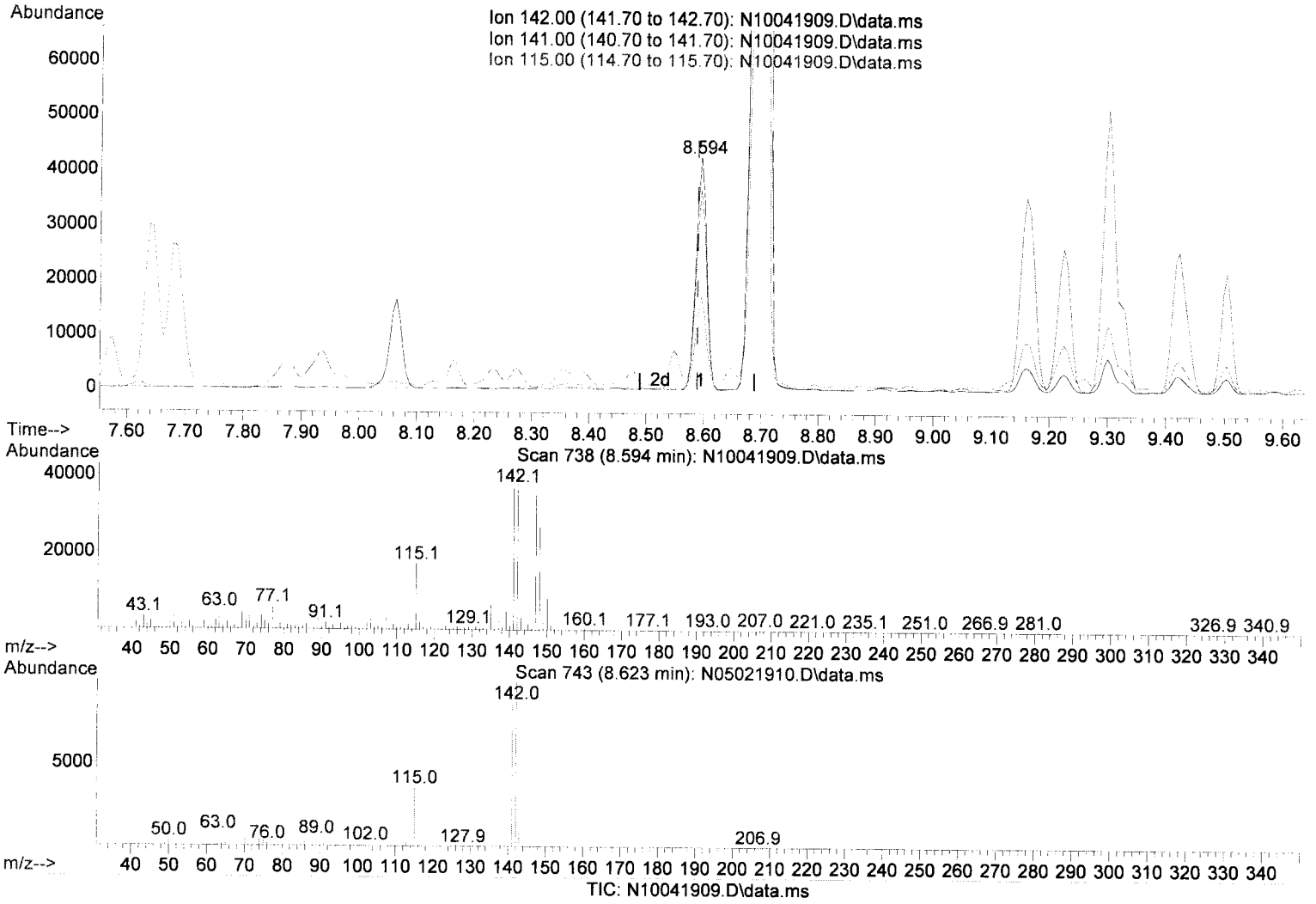
response 170896

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.73
127.00	12.60	12.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(5) 2-Methylnaphthalene (T)

8.594min (+ 0.006) 26.81 ng/ml

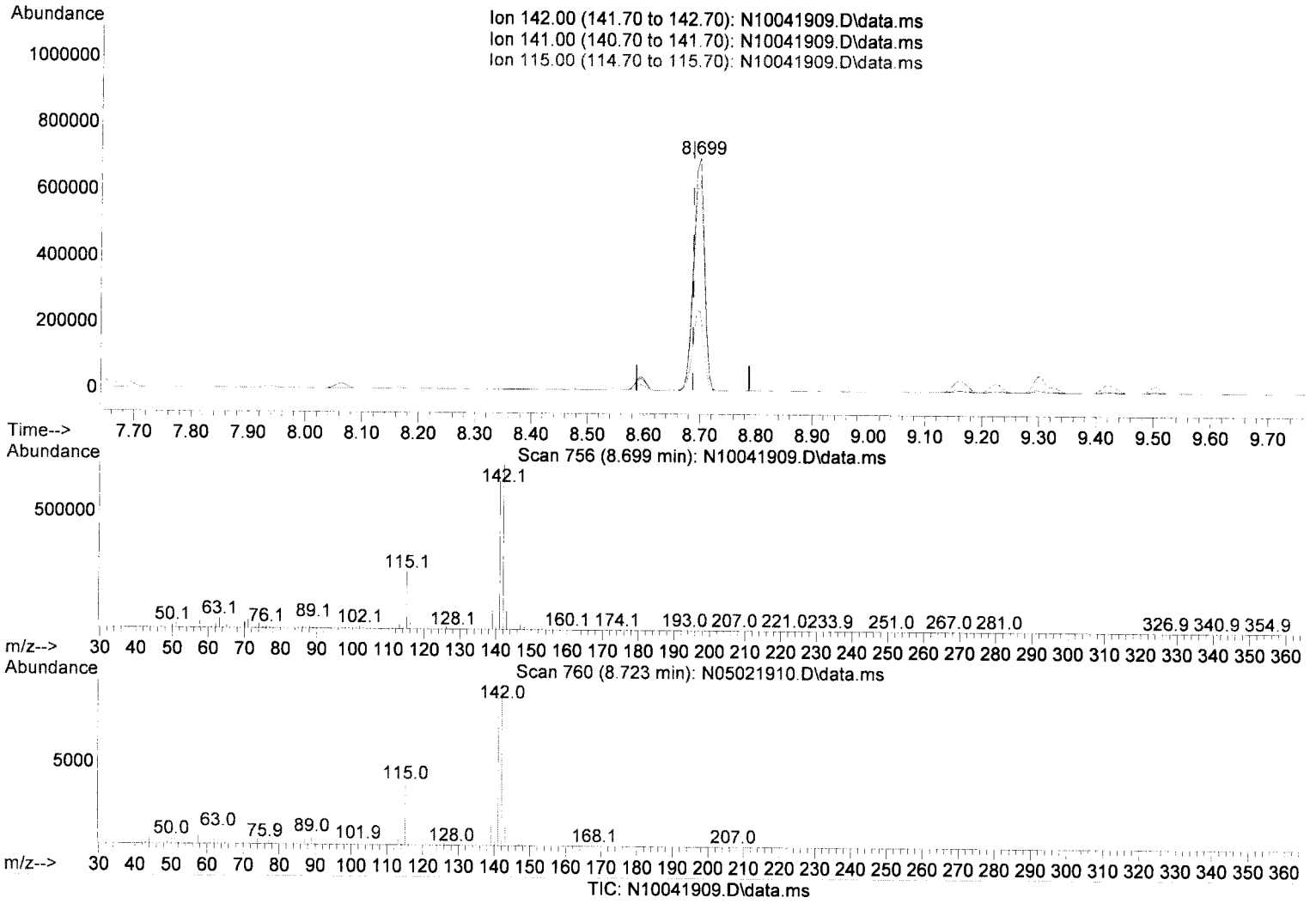
response 55340

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	86.60	86.02
115.00	35.70	40.21
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(6) 1-Methylnaphthalene (T)

8.699min (+ 0.012) 463.70 ng/ml

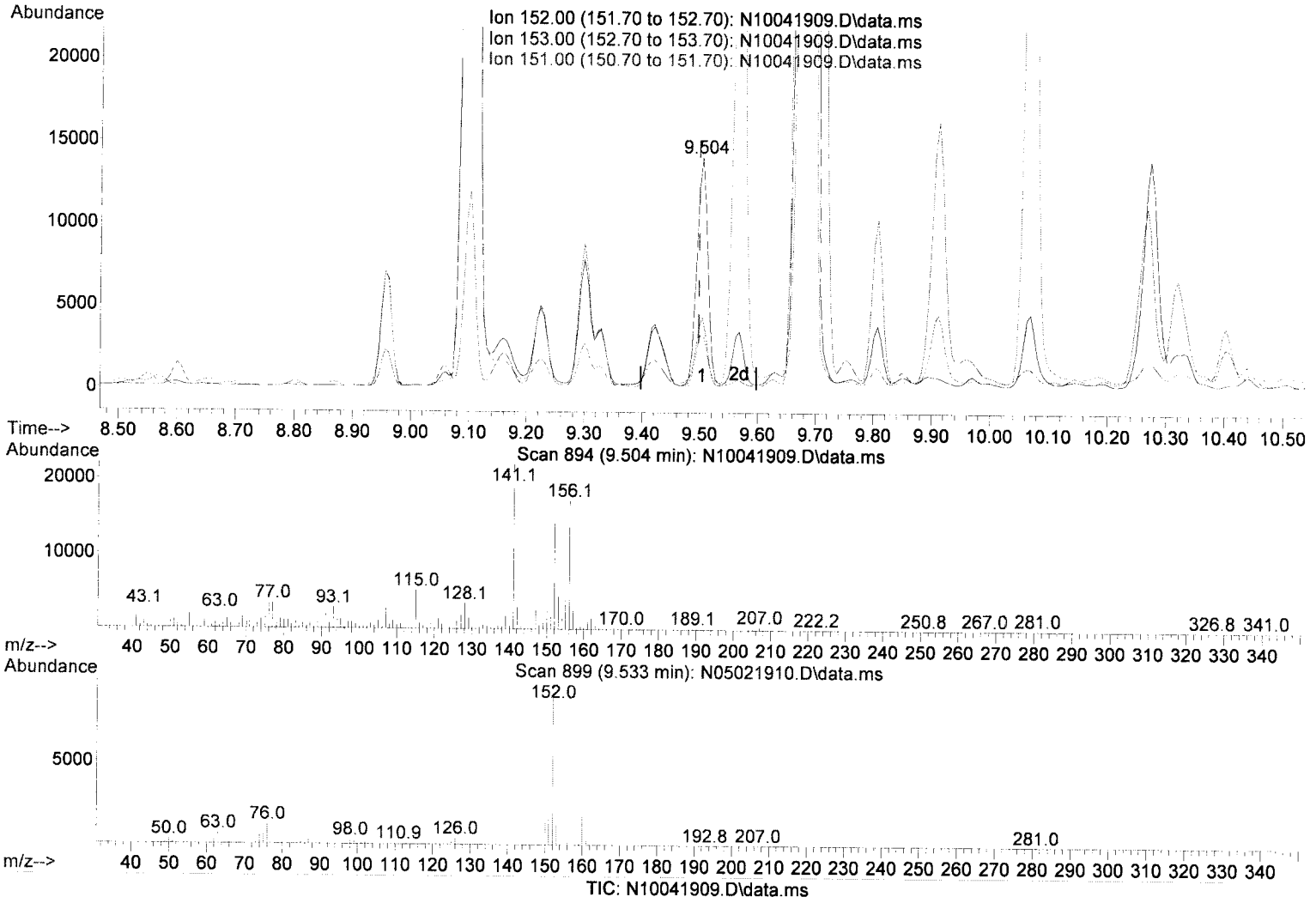
response 956857

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	90.47
115.00	37.80	34.75
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(12) Acenaphthylene (T)

9.504min (+ 0.006) 6.21 ng/ml

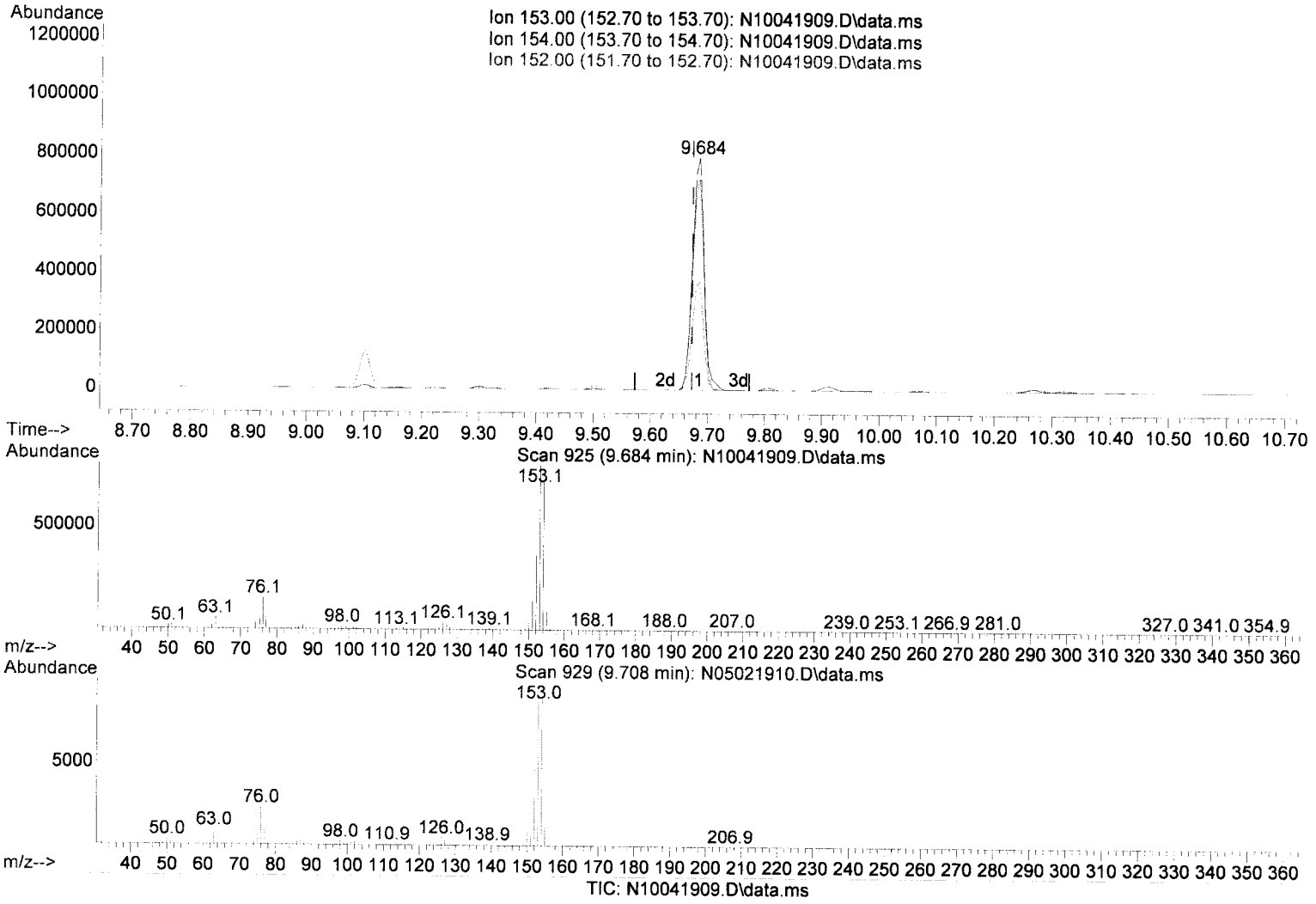
response 18290

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	31.16
151.00	19.30	25.39
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.684min (+ 0.012) 583.77 ng/ml

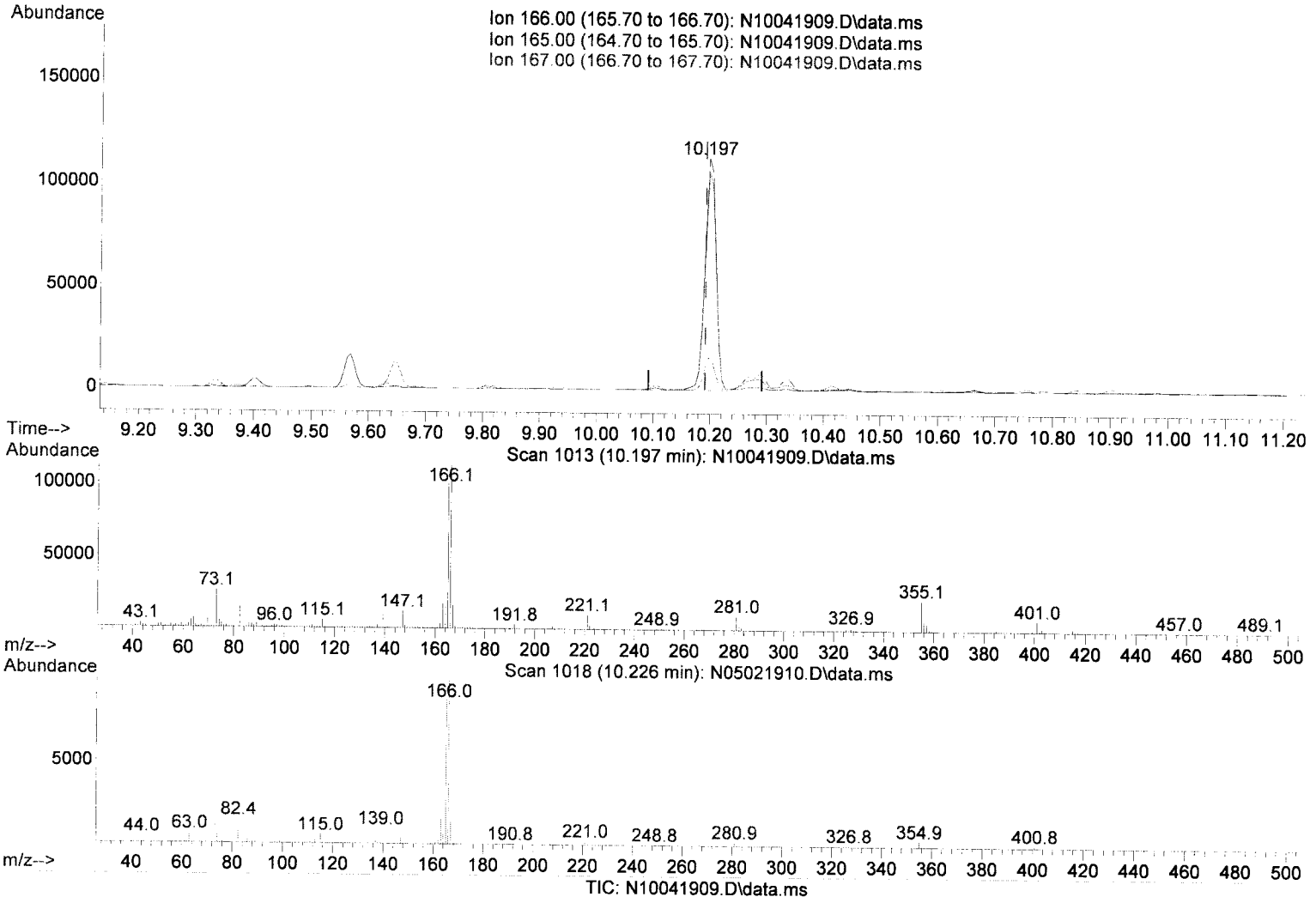
response 1126268

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.01
152.00	46.80	47.17
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(16) Fluorene (T)

10.197min (+ 0.006) 77.86 ng/ml

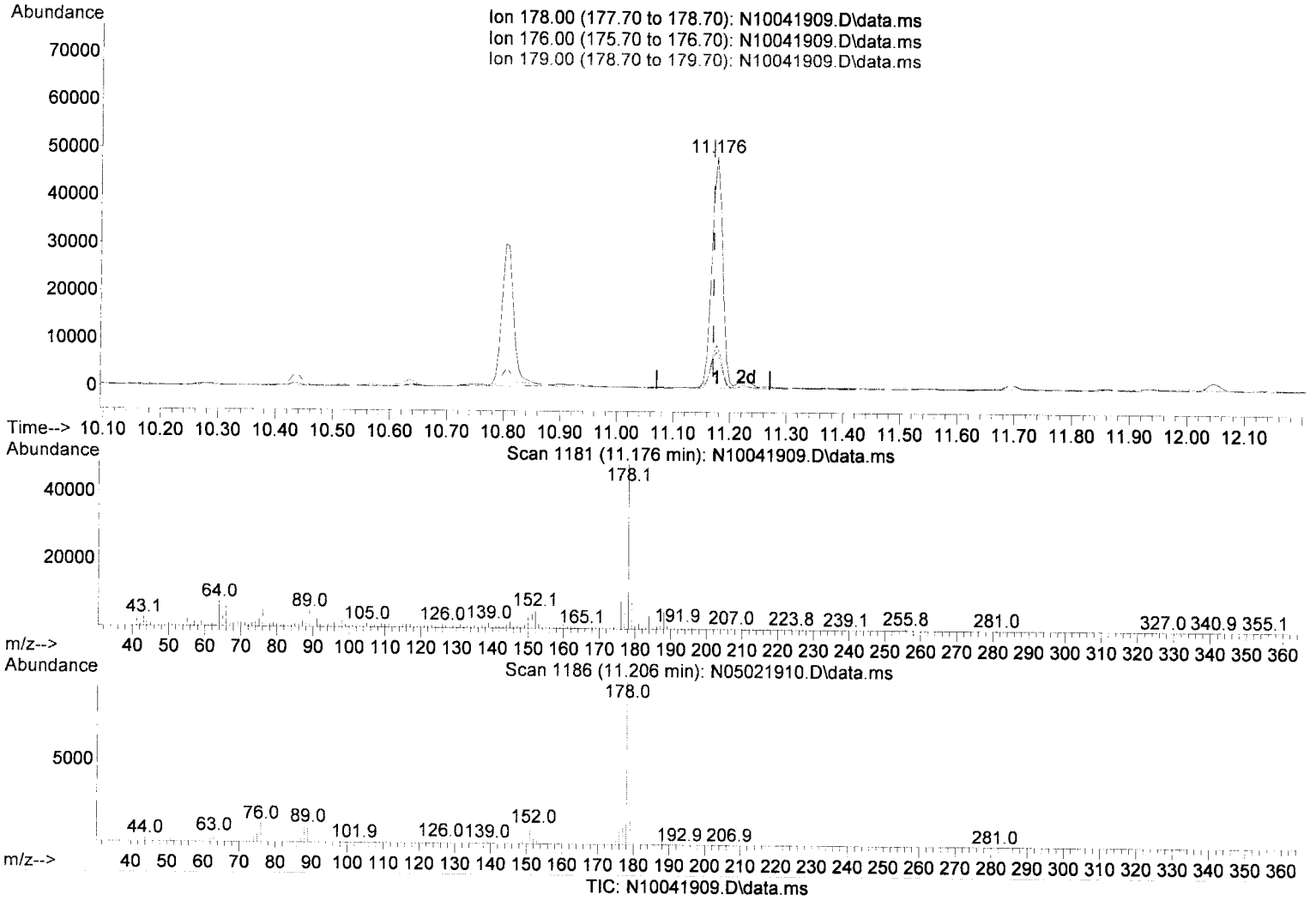
response 153718

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	93.89
167.00	13.60	14.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.176min (+ 0.006) 20.74 ng/ml

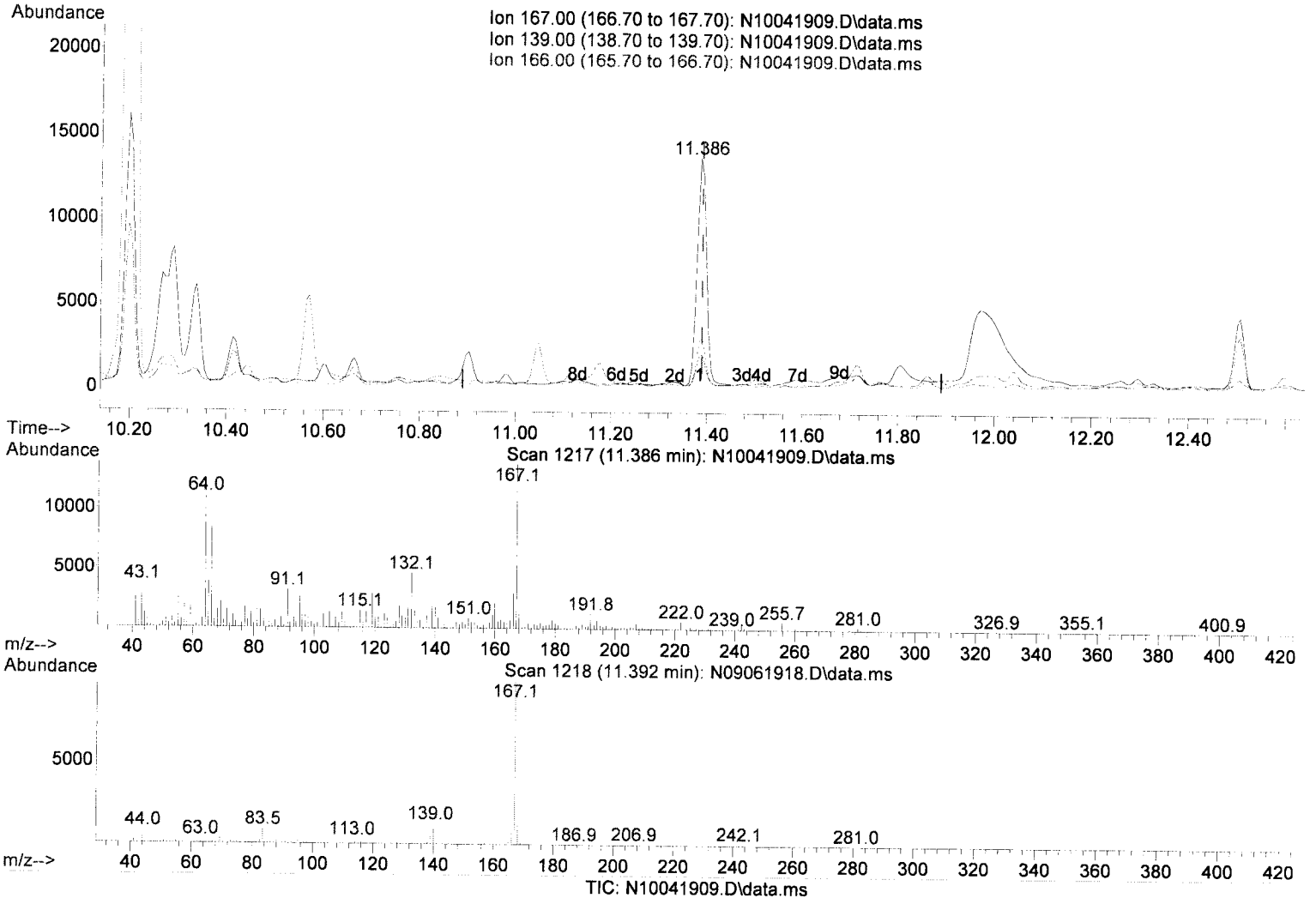
response 63078

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.96
179.00	15.10	16.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(21) Carbazole (T)

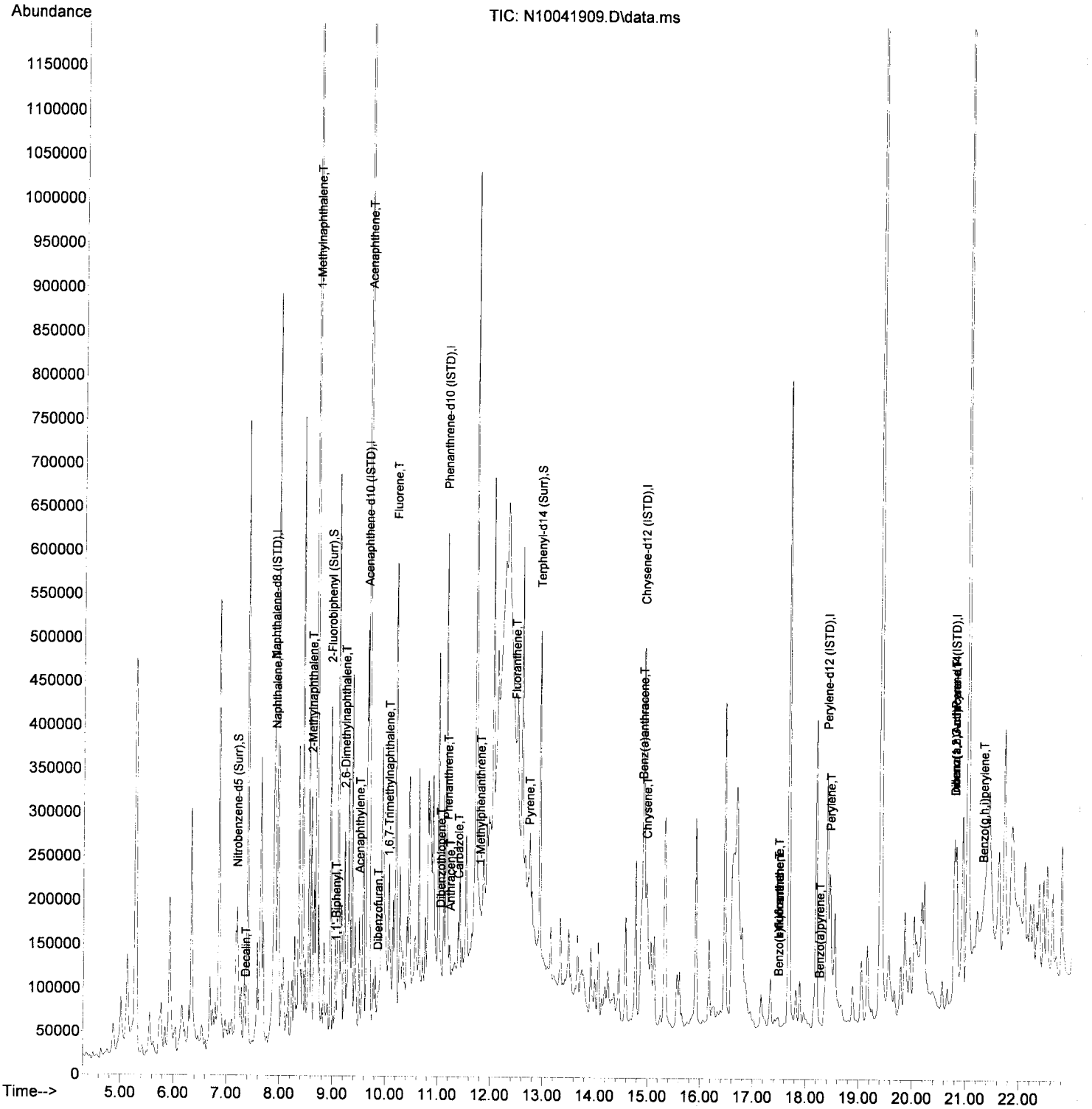
11.386min (-0.004) 8.07 ng/ml

response 18479

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	13.50	15.81
166.00	21.10	22.40
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041909.D
Acq On : 04 Oct 2019 12:38 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13
Misc : 1x, 8270D PAH only
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:42 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041910.D
Acq On : 04 Oct 2019 01:10 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-14
Misc : 1x, 8270D PAH only
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

JEM 10/07/19

Quant Time: Oct 07 09:41:46 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

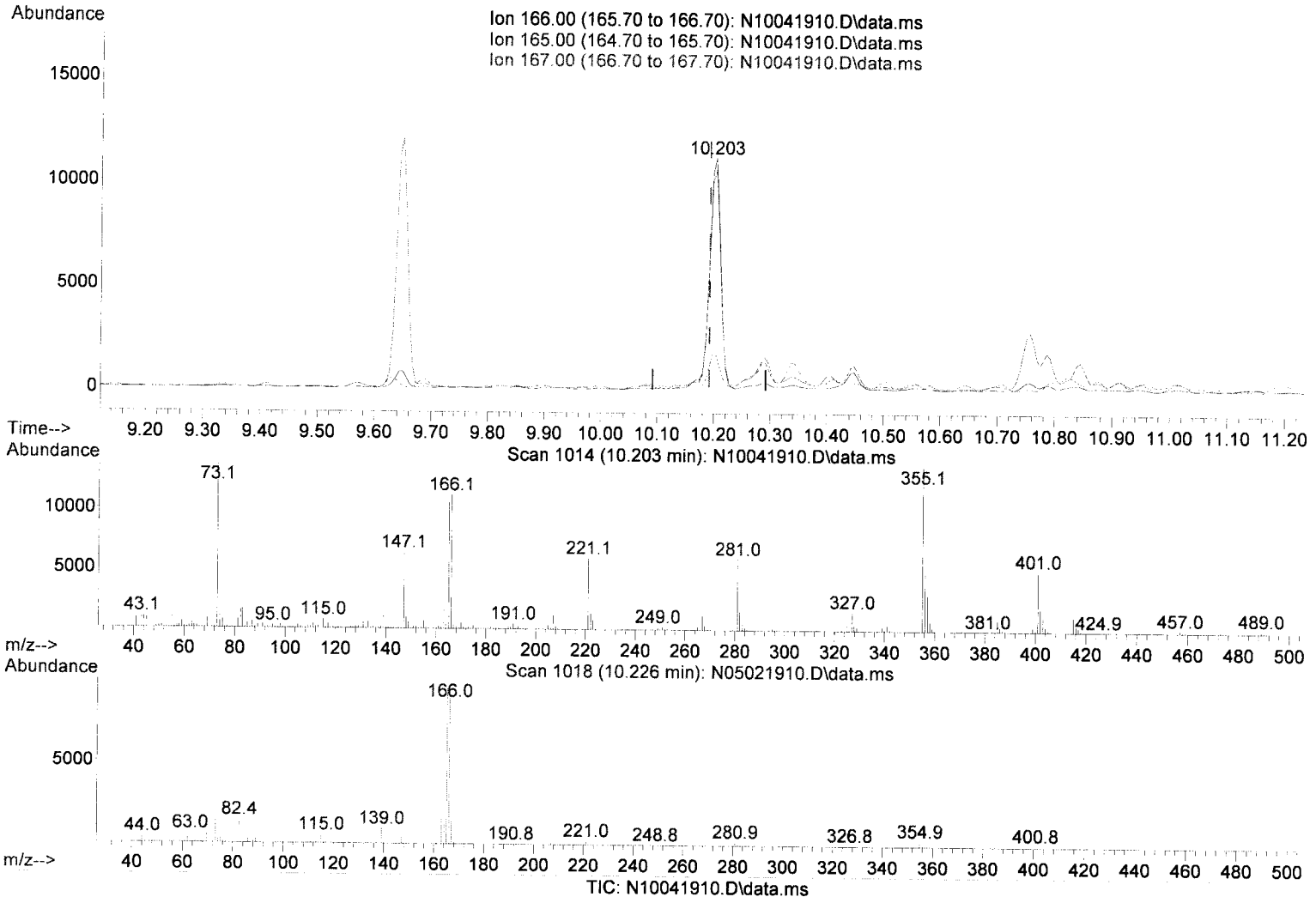
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.895	136	201281	100.00 ng/ml	0.01
9) Acenaphthene-d10 (ISTD)	9.649	162	129247	100.00 ng/ml	0.01
17) Phenanthrene-d10 (ISTD)	11.153	188	244098	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.924	240	194199	100.00 ng/ml	0.02
29) Perylene-d12 (ISTD)	18.392	264	165771	100.00 ng/ml	0.02
37) Dibenz(a,h)Anthrcene-d...	20.782	292	133595	100.00 ng/ml	0.02
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.195	82	49661	74.25 ng/ml	0.01
10) 2-Fluorobiphenyl (Surr)	8.961	172	168376	87.32 ng/ml	0.01
11) Acenaphthylene d-8 (Surr)	9.492	160	587	-1.00 ng/ml	0.01
26) Terphenyl-d14 (Surr)	12.936	244	197741	96.82 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	7.353	138	202	1.35 ng/ml#	76
4) Naphthalene	7.918	128	2350	1.06 ng/ml	97
5) 2-Methylnaphthalene	8.600	142	1251	0.66 ng/ml	81
6) 1-Methylnaphthalene	8.699	142	1416	0.75 ng/ml	94
7) 1,1'-Biphenyl	9.060	154	987	N.D.	
8) 2,6-Dimethylnaphthalene	9.229	156	2327	1.26 ng/ml	97
12) Acenaphthylene	9.503	152	1323	0.47 ng/ml	67
13) Acenaphthene	9.678	153	13548	7.37 ng/ml	97
14) Dibenzofuran	9.853	168	482	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.063	170	3030	1.97 ng/ml#	62
16) Fluorene	10.203	166	15691	8.34 ng/ml	99
18) Dibenzothiopene	11.048	184	31073	12.17 ng/ml	97
19) Phenanthrene	11.176	178	163162	57.12 ng/ml	100
20) Anthracene	11.229	178	16527	6.22 ng/ml	99
21) Carbazole	11.392	167	2294	1.07 ng/ml	90
22) 1-Methylphenanthrene	11.800	192	2684	1.35 ng/ml	79
23) Fluoranthene	12.441	202	15554	5.40 ng/ml	98
25) Pyrene	12.732	202	14807	4.88 ng/ml	99 J
27) Benz(a)anthracene	14.901	228	2750	1.22 ng/ml#	60
28) Chrysene	14.982	228	3840	1.80 ng/ml	92
30) Benzo(b)fluoranthene	17.489	252	2552	1.33 ng/ml	87
31) Benzo(k)fluoranthene	17.489	252	3124	1.66 ng/ml	86
32) Benzo(b+k)fluoranthene	17.489	252	3491	1.78 ng/ml	86
34) Benzo(e)pyrene	18.136	252	1908	0.99 ng/ml	93
35) Benzo(a)pyrene	18.252	252	2020	1.23 ng/ml	87
36) Perylene	18.450	252	2450	1.21 ng/ml	96
38) Indeno(1,2,3-cd)Pyrene	20.782	276	1808	1.10 ng/ml	66
39) Dibenz(a,h)anthracene	20.840	278	371	N.D.	
40) Benzo(g,h,i)perylene	21.318	276	2129	1.22 ng/ml	88

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041910.D
Acq On : 04 Oct 2019 01:10 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-14
Misc : 1x, 8270D PAH only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 07 09:41:46 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(16) Fluorene (T)

10.203min (+ 0.011) 8.34 ng/ml

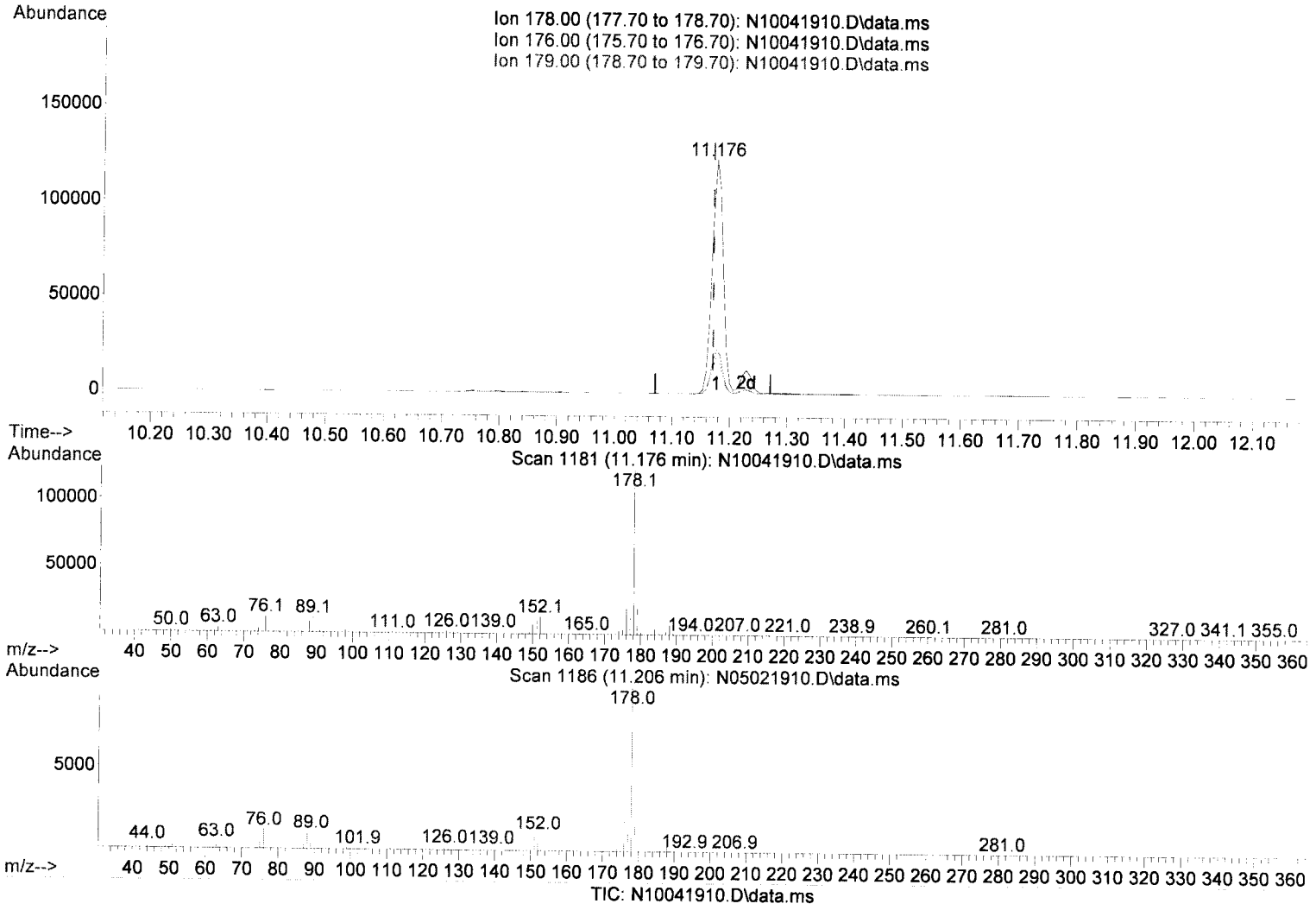
response 15691

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	94.83
167.00	13.60	15.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041910.D
Acq On : 04 Oct 2019 01:10 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-14
Misc : 1x, 8270D PAH only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 07 09:41:46 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.176min (+ 0.006) 57.12 ng/ml

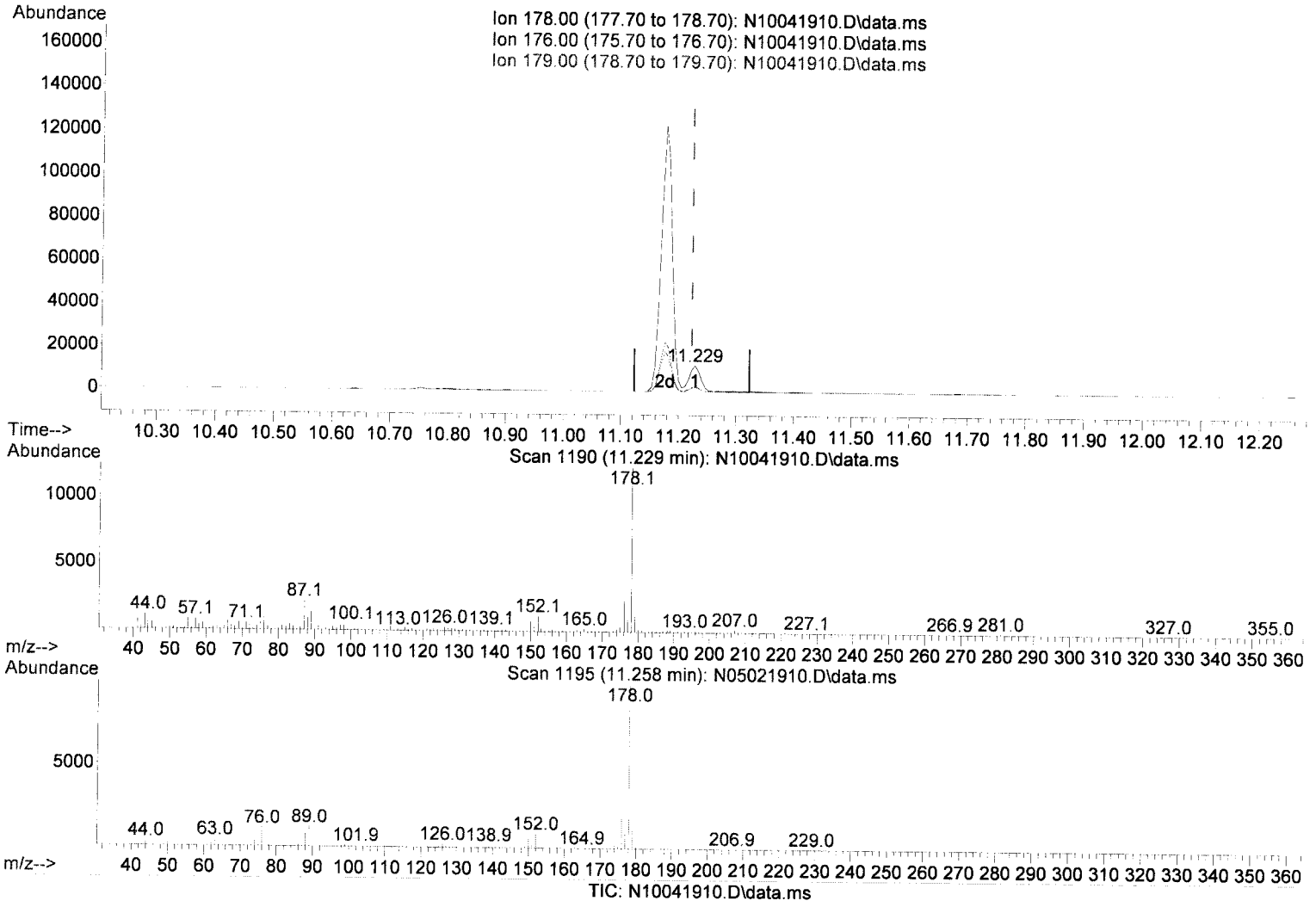
response 163162

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.93
179.00	15.10	15.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041910.D
Acq On : 04 Oct 2019 01:10 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-14
Misc : 1x, 8270D PAH only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 07 09:41:46 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(20) Anthracene (T)

11.229min (+ 0.006) 6.22 ng/ml

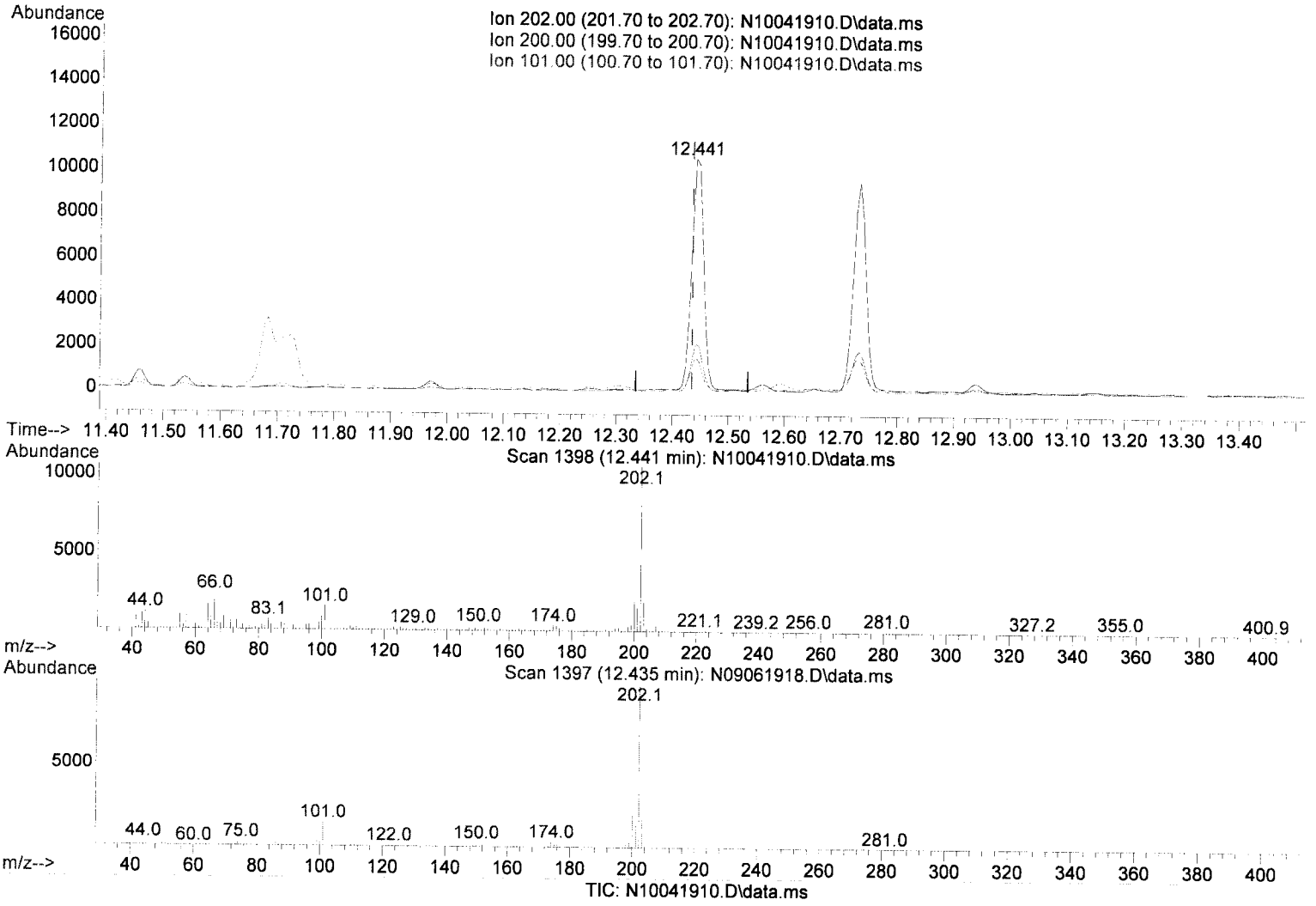
response 16527

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	19.02
179.00	15.30	16.49
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041910.D
Acq On : 04 Oct 2019 01:10 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-14
Misc : 1x, 8270D PAH only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 07 09:41:46 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(23) Fluoranthene (T)

12.441min (+ 0.006) 5.40 ng/ml

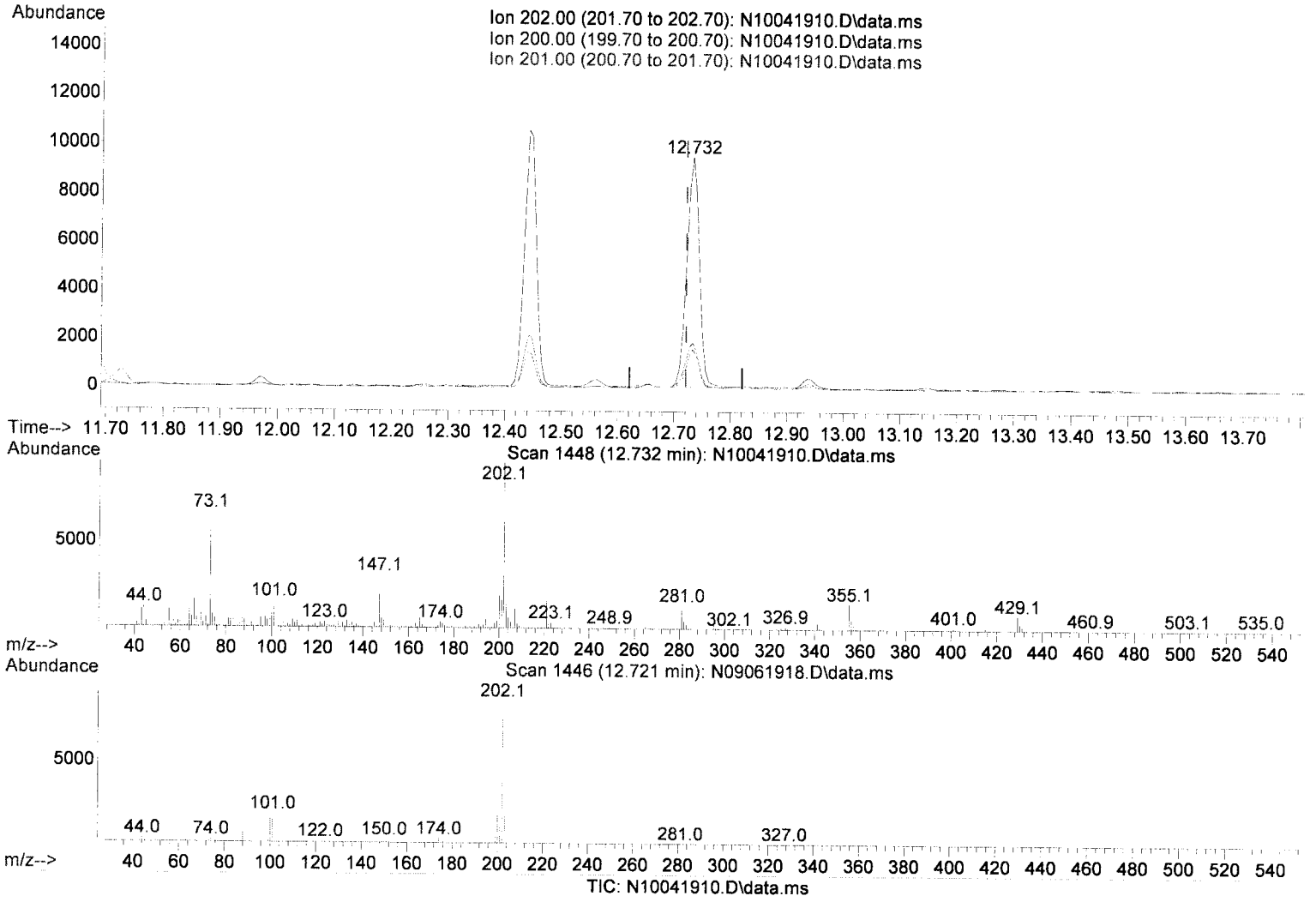
response 15554

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.43
101.00	15.30	14.68
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041910.D
Acq On : 04 Oct 2019 01:10 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-14
Misc : 1x, 8270D PAH only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 07 09:41:46 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(25) Pyrene (T)

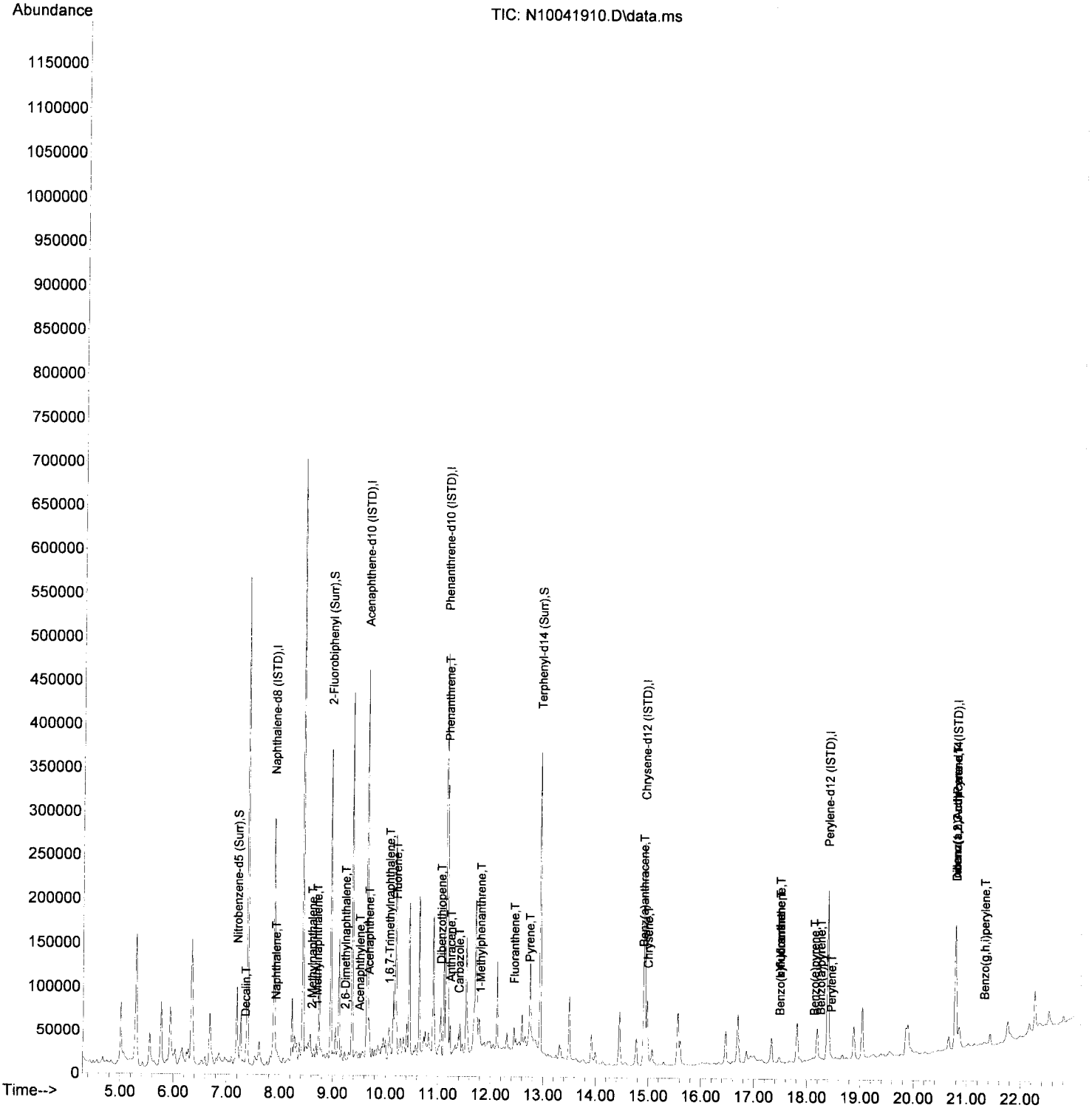
12.732min (+ 0.011) 4.88 ng/ml

response 14807

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	19.75
201.00	16.80	17.05
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041910.D
Acq On : 04 Oct 2019 01:10 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-14
Misc : 1x, 8270D PAH only
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:46 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041911.D
Acq On : 04 Oct 2019 01:42 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-15
Misc : 1x, 8270D PAH only
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

HEM 10/7/19

Quant Time: Oct 07 09:41:50 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.889	136	213126	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	134158	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	250839	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.912	240	207565	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.386	264	177856	100.00 ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.776	292	143073	100.00 ng/ml	0.01
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.189	82	43425	61.32 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	136186	68.04 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	661	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.937	244	183775	84.18 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	7.347	138	312	1.97 ng/ml#	50
4) Naphthalene	7.906	128	4624	1.97 ng/ml	93
5) 2-Methylnaphthalene	8.594	142	2602	1.31 ng/ml	88
6) 1-Methylnaphthalene	8.693	142	6334	(3.18) ng/ml	98 J
7) 1,1'-Biphenyl	9.055	154	1132	0.42 ng/ml	87
8) 2,6-Dimethylnaphthalene	9.224	156	4045	2.07 ng/ml	96
12) Acenaphthylene	9.498	152	4112	1.41 ng/ml	72
13) Acenaphthene	9.672	153	163330	[85.62] ng/ml	100
14) Dibenzofuran	9.847	168	498	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.057	170	3191	1.99 ng/ml#	63
16) Fluorene	10.197	166	25055	[12.83] ng/ml	98
18) Dibenzothiopene	11.042	184	23323	8.89 ng/ml	98
19) Phenanthrene	11.170	178	88448	[30.13] ng/ml	99
20) Anthracene	11.223	178	5994	2.20 ng/ml	98
21) Carbazole	11.386	167	1827	0.83 ng/ml	90
22) 1-Methylphenanthrene	11.800	192	335	N.D.	
23) Fluoranthene	12.441	202	2277	0.77 ng/ml	86
25) Pyrene	12.727	202	3095	0.95 ng/ml	97
27) Benz(a)anthracene	14.895	228	1419	0.59 ng/ml	67
28) Chrysene	14.971	228	1508	0.66 ng/ml	85
30) Benzo(b)fluoranthene	17.477	252	1497	0.73 ng/ml	89
31) Benzo(k)fluoranthene	17.477	252	1859	0.92 ng/ml	92
32) Benzo(b+k)fluoranthene	17.477	252	1946	0.93 ng/ml	92
34) Benzo(e)pyrene	18.124	252	921	0.44 ng/ml	96
35) Benzo(a)pyrene	18.241	252	1022	0.58 ng/ml	70
36) Perylene	18.445	252	26008	12.02 ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.776	276	1124	0.64 ng/ml#	28
39) Dibenz(a,h)anthracene	20.840	278	197	N.D.	
40) Benzo(g,h,i)perylene	21.312	276	1418	0.76 ng/ml	72

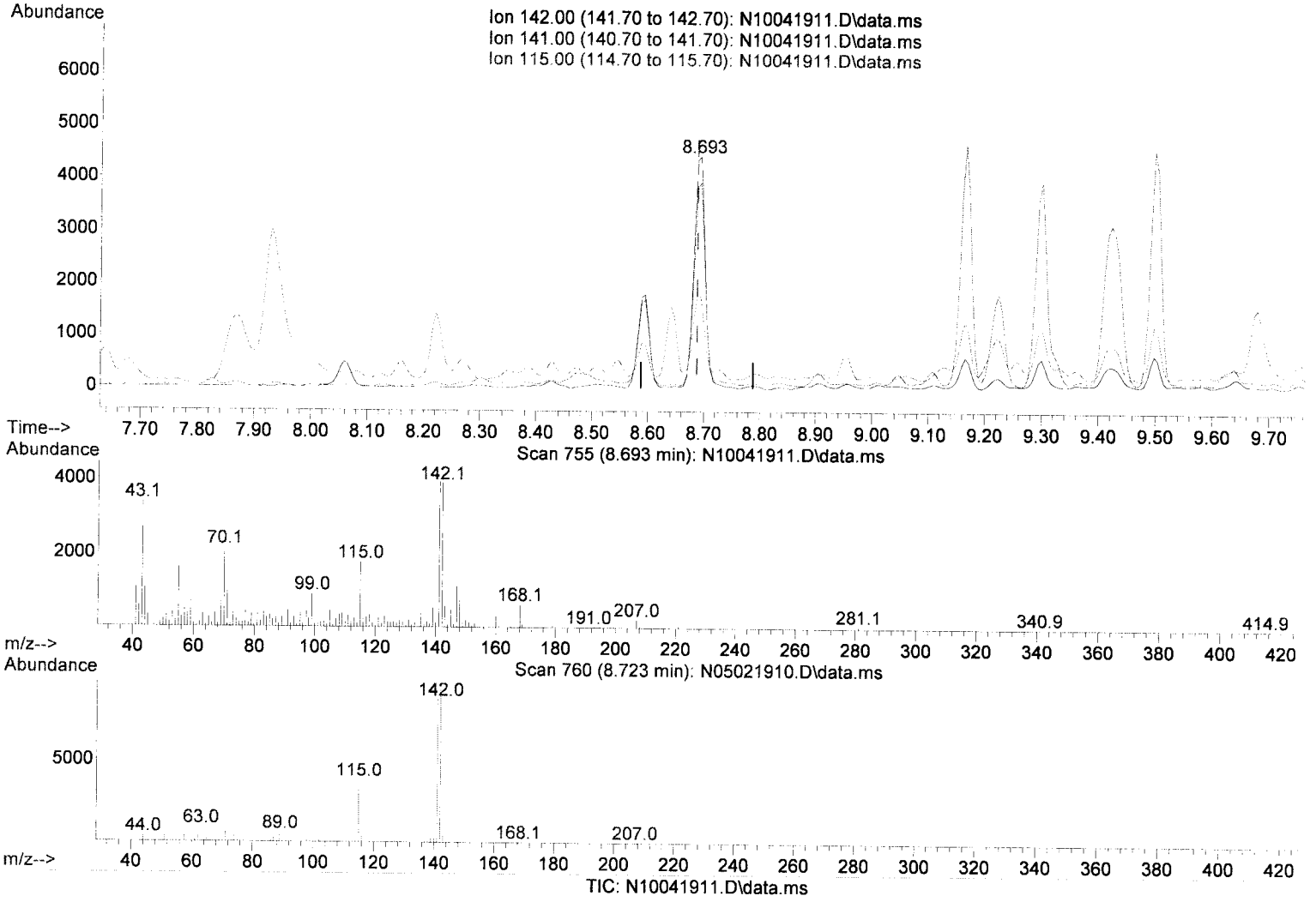
J

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041911.D
Acq On : 04 Oct 2019 01:42 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-15
Misc : 1x, 8270D PAH only
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 07 09:41:50 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(6) 1-Methylnaphthalene (T)

8.693min (+ 0.006) 3.18 ng/ml

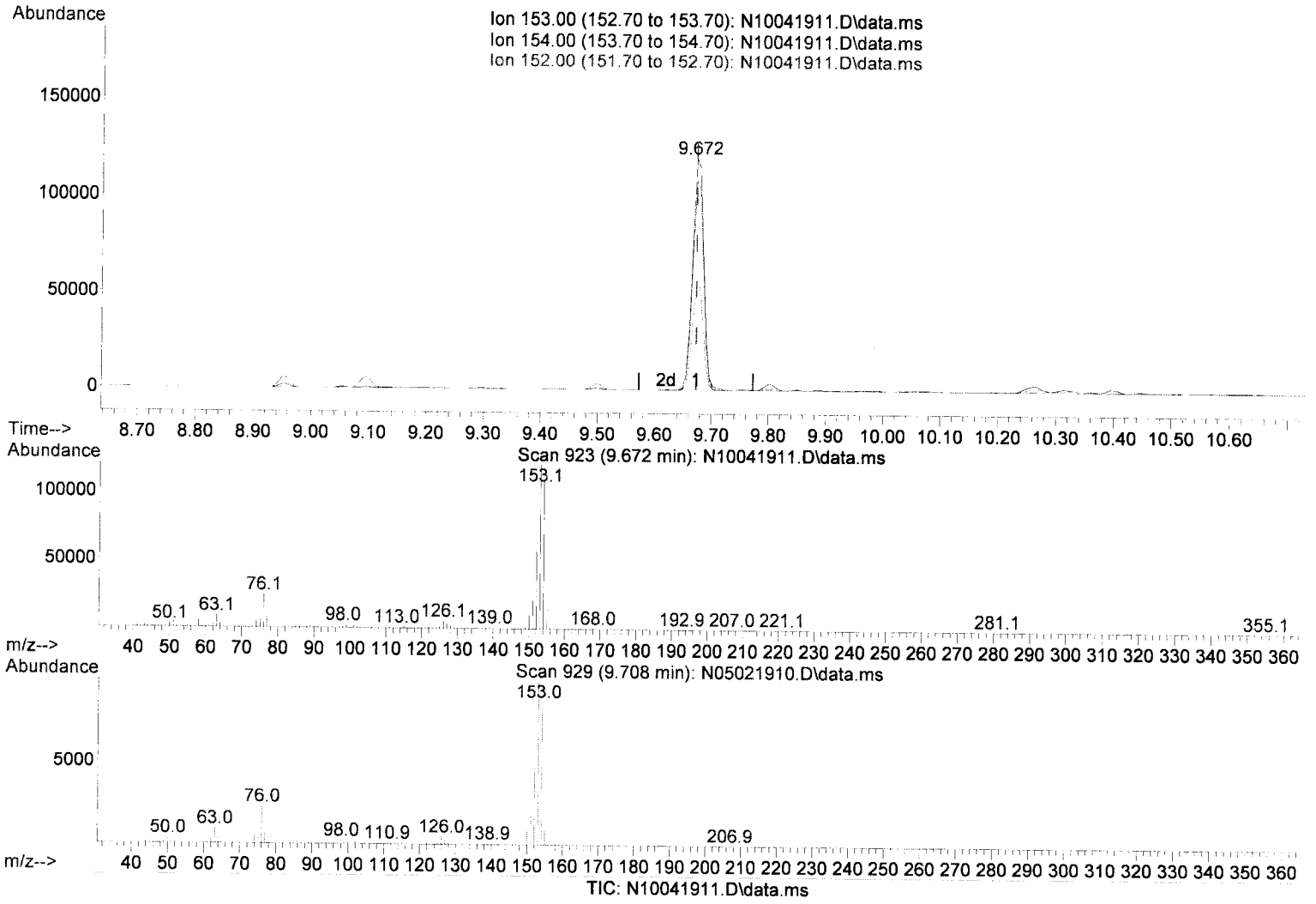
response 6334

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	88.79
115.00	37.80	39.59
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041911.D
Acq On : 04 Oct 2019 01:42 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-15
Misc : 1x, 8270D PAH only
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 07 09:41:50 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.672min (-0.000) 85.62 ng/ml

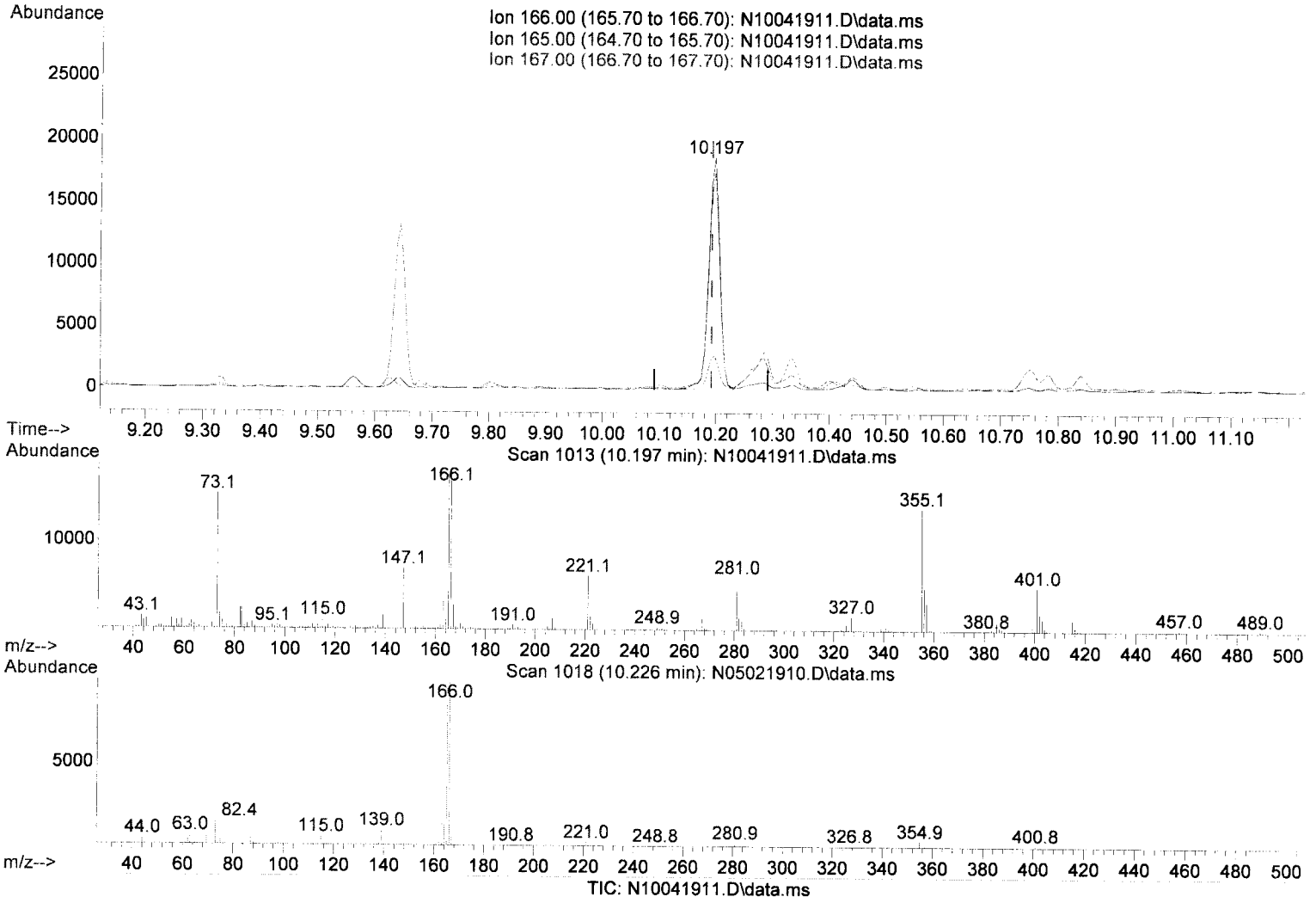
response 163330

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.42
152.00	46.80	46.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041911.D
Acq On : 04 Oct 2019 01:42 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-15
Misc : 1x, 8270D PAH only
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 07 09:41:50 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(16) Fluorene (T)

10.197min (+ 0.006) 12.83 ng/ml

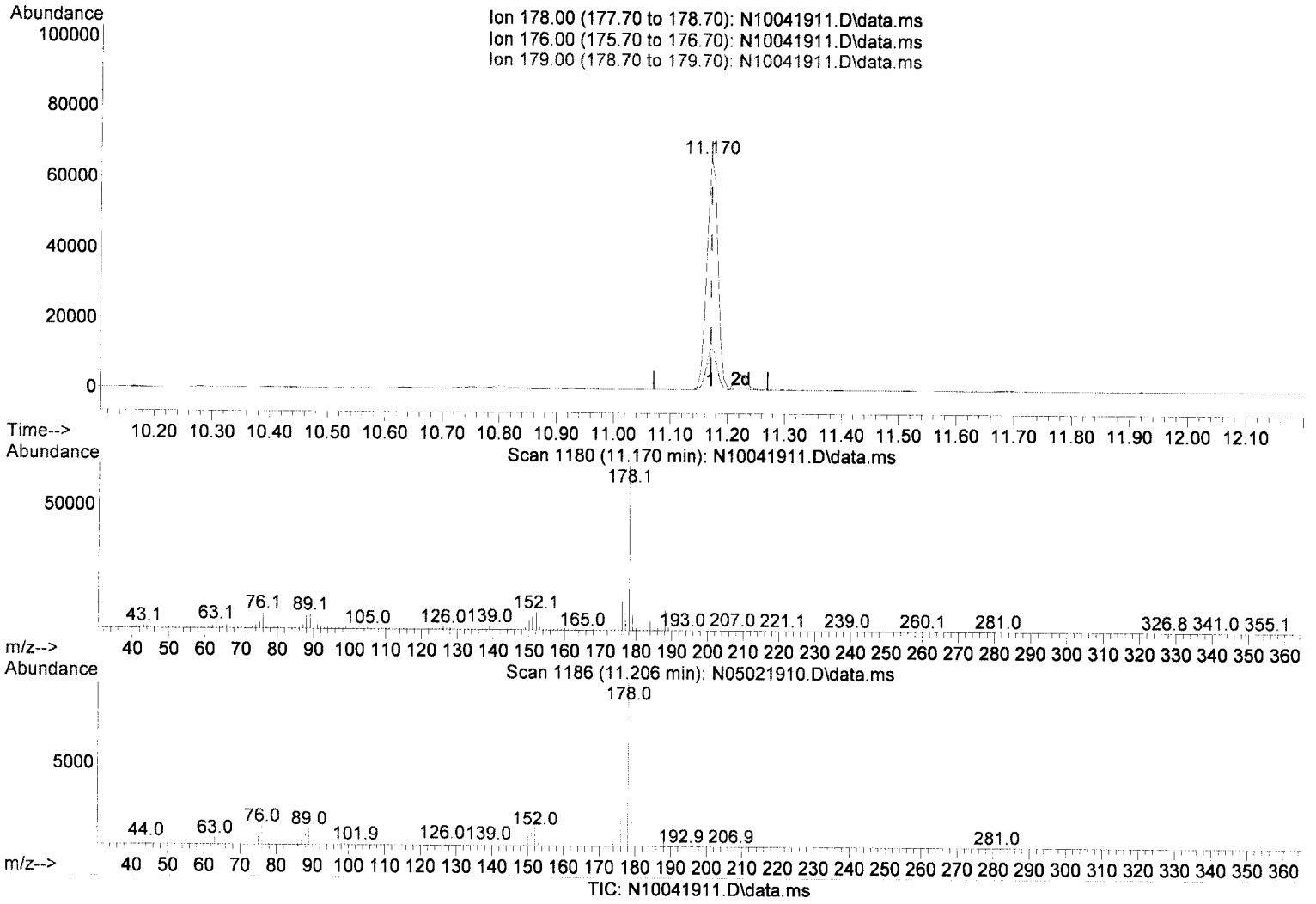
response 25055

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	93.67
167.00	13.60	14.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041911.D
Acq On : 04 Oct 2019 01:42 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-15
Misc : 1x, 8270D PAH only
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Oct 07 09:41:50 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

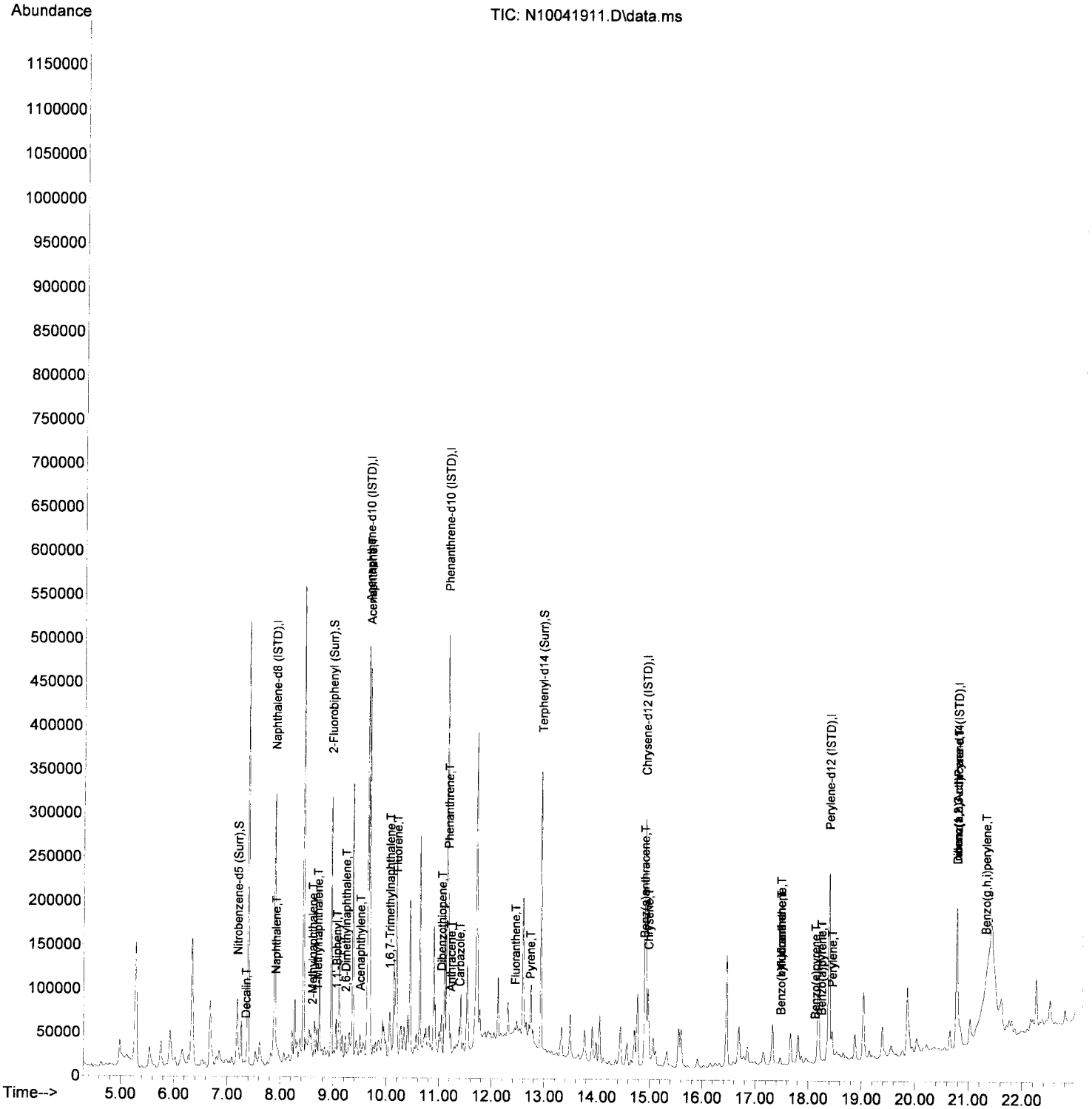
11.170min (-0.000) 30.13 ng/ml

response 88448

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.40
179.00	15.10	15.27
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041911.D
Acq On : 04 Oct 2019 01:42 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-15
Misc : 1x, 8270D PAH only
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:50 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

RMM 10/7/19
MJS

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

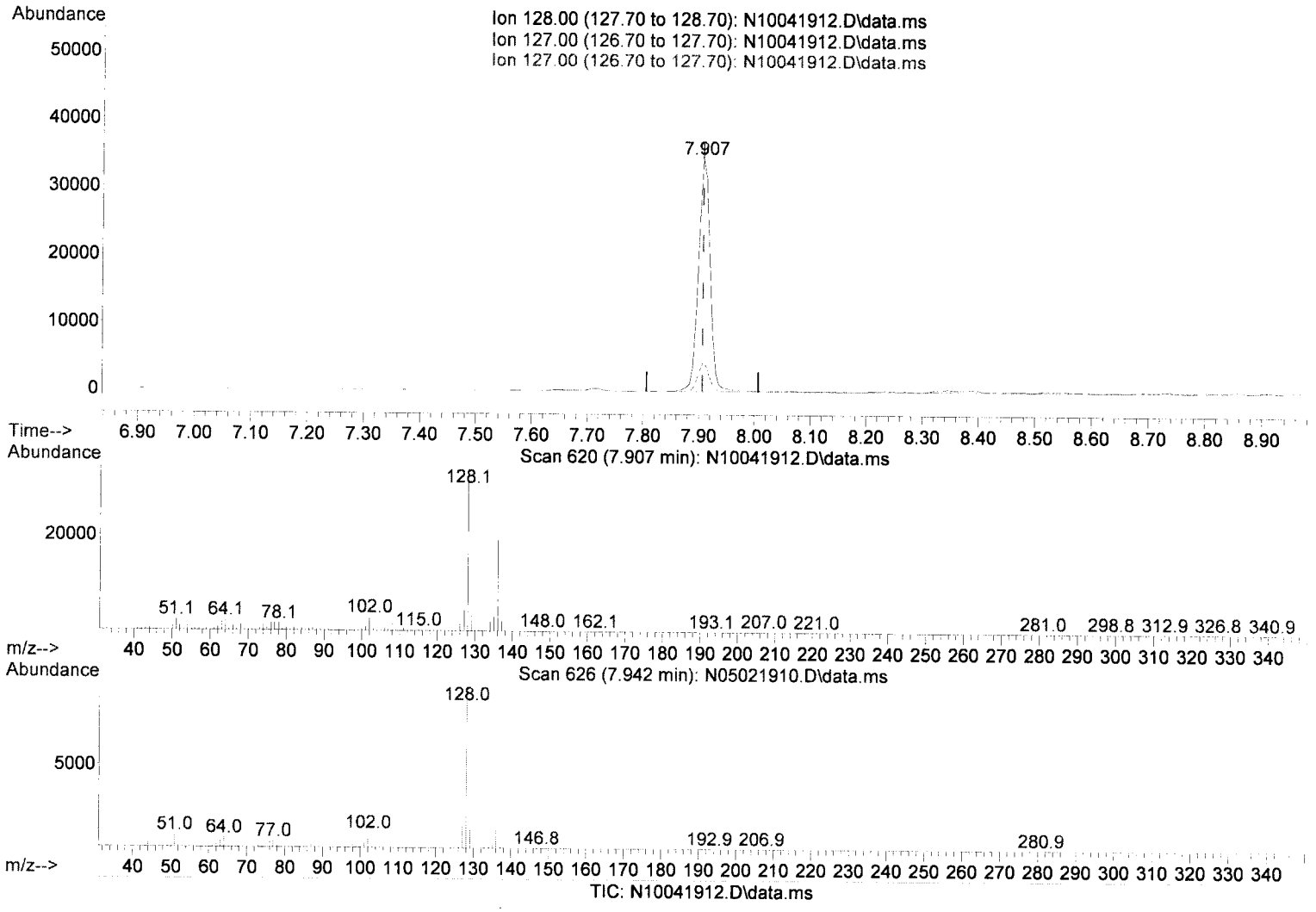
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.889	136	215305	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	132494	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	249141	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.918	240	213690	100.00	ng/ml	0.01
29) Perylene-d12 (ISTD)	18.386	264	186317	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.776	292	144862	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.201	82	170	0.24	ng/ml	0.02
10) 2-Fluorobiphenyl (Surr)	8.956	172	263	0.13	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	808	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	462	0.21	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.171	264	73	0.05	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.907	128	50494	21.26	ng/ml	99
5) 2-Methylnaphthalene	8.594	142	9338	(4.64)	ng/ml	98
6) 1-Methylnaphthalene	8.693	142	43809	21.77	ng/ml	96
7) 1,1'-Biphenyl	9.055	154	2790	1.03	ng/ml	93
8) 2,6-Dimethylnaphthalene	9.224	156	17952	9.08	ng/ml	98
12) Acenaphthylene	9.498	152	65420	22.74	ng/ml	98
13) Acenaphthene	9.673	153	225572	119.73	ng/ml	99
14) Dibenzofuran	9.847	168	12982	5.50	ng/ml	96
15) 1,6,7-Trimethylnaphtha...	10.057	170	8467	5.36	ng/ml	96
16) Fluorene	10.197	166	114649	59.47	ng/ml	100 MJ
18) Dibenzothiopene	11.042	184	156969	60.24	ng/ml	97
19) Phenanthrene	11.176	178	992082	340.29	ng/ml	99
20) Anthracene	11.223	178	187883	69.28	ng/ml	99
21) Carbazole	11.386	167	19134	8.72	ng/ml	98
22) 1-Methylphenanthrene	11.794	192	59681	29.47	ng/ml	92
23) Fluoranthene	12.441	202	974484	331.76	ng/ml	97
25) Pyrene	12.733	202	1175247	352.02	ng/ml	100
27) Benz(a)anthracene	14.895	228	223186	89.96	ng/ml	72
28) Chrysene	14.977	228	265397	113.04	ng/ml	98
30) Benzo(b)fluoranthene	17.483	252	246279	114.55	ng/ml	93
31) Benzo(k)fluoranthene	17.483	252	309672	146.30	ng/ml	92 MJ MJS
32) Benzo(b+k)fluoranthene	17.483	252	337921	153.67	ng/ml	92
34) Benzo(e)pyrene	18.130	252	155274	71.43	ng/ml	98
35) Benzo(a)pyrene	18.252	252	240914	130.92	ng/ml	97
36) Perylene	18.451	252	69437	30.64	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.776	276	145534	81.46	ng/ml	84
39) Dibenz(a,h)anthracene	20.834	278	17116	10.20	ng/ml	91
40) Benzo(g,h,i)perylene	21.312	276	177622	93.72	ng/ml	83

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.907min (-0.000) 21.26 ng/ml

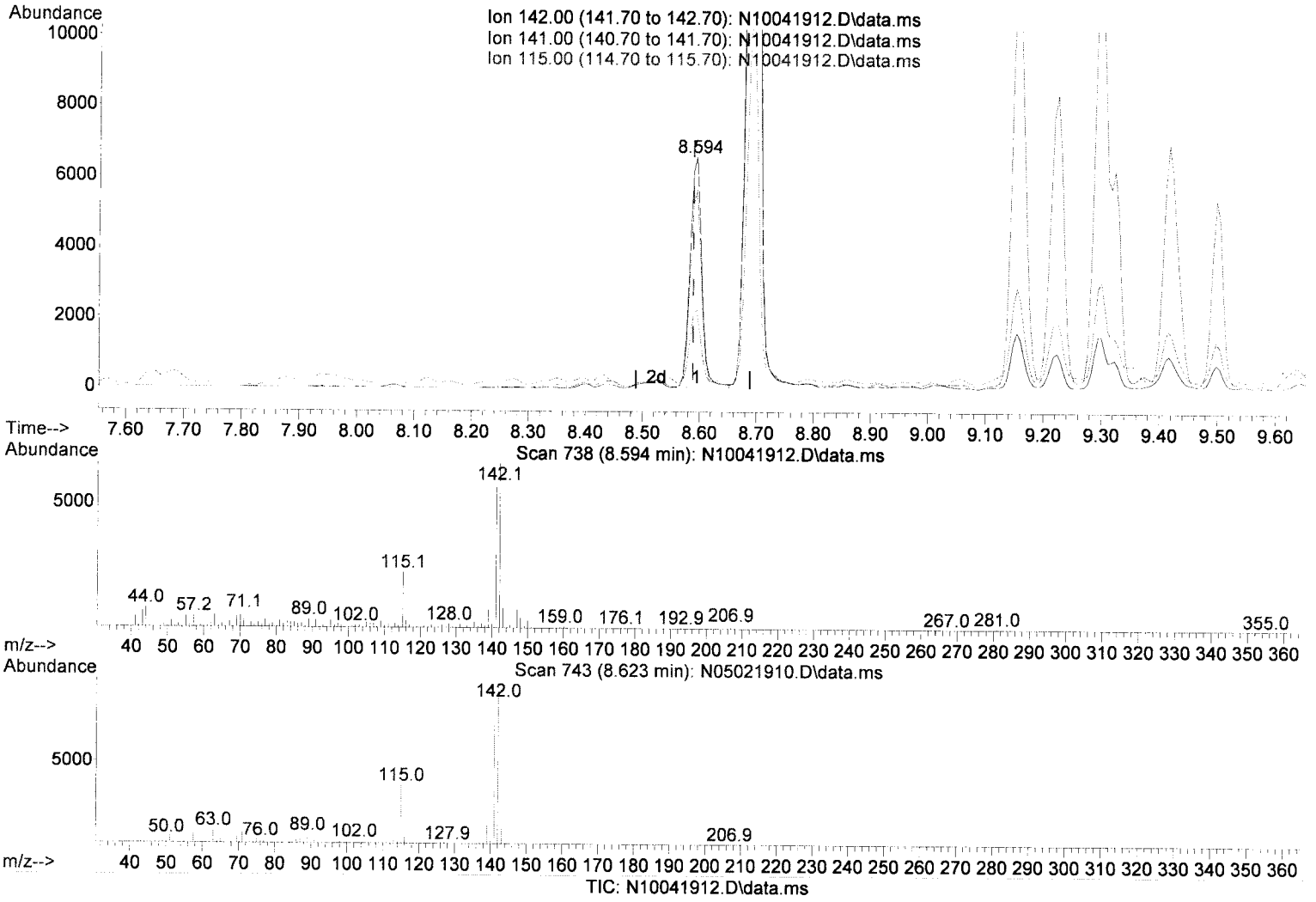
response 50494

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.34
127.00	12.60	12.34
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(5) 2-Methylnaphthalene (T)

8.594min (+ 0.006) 4.64 ng/ml

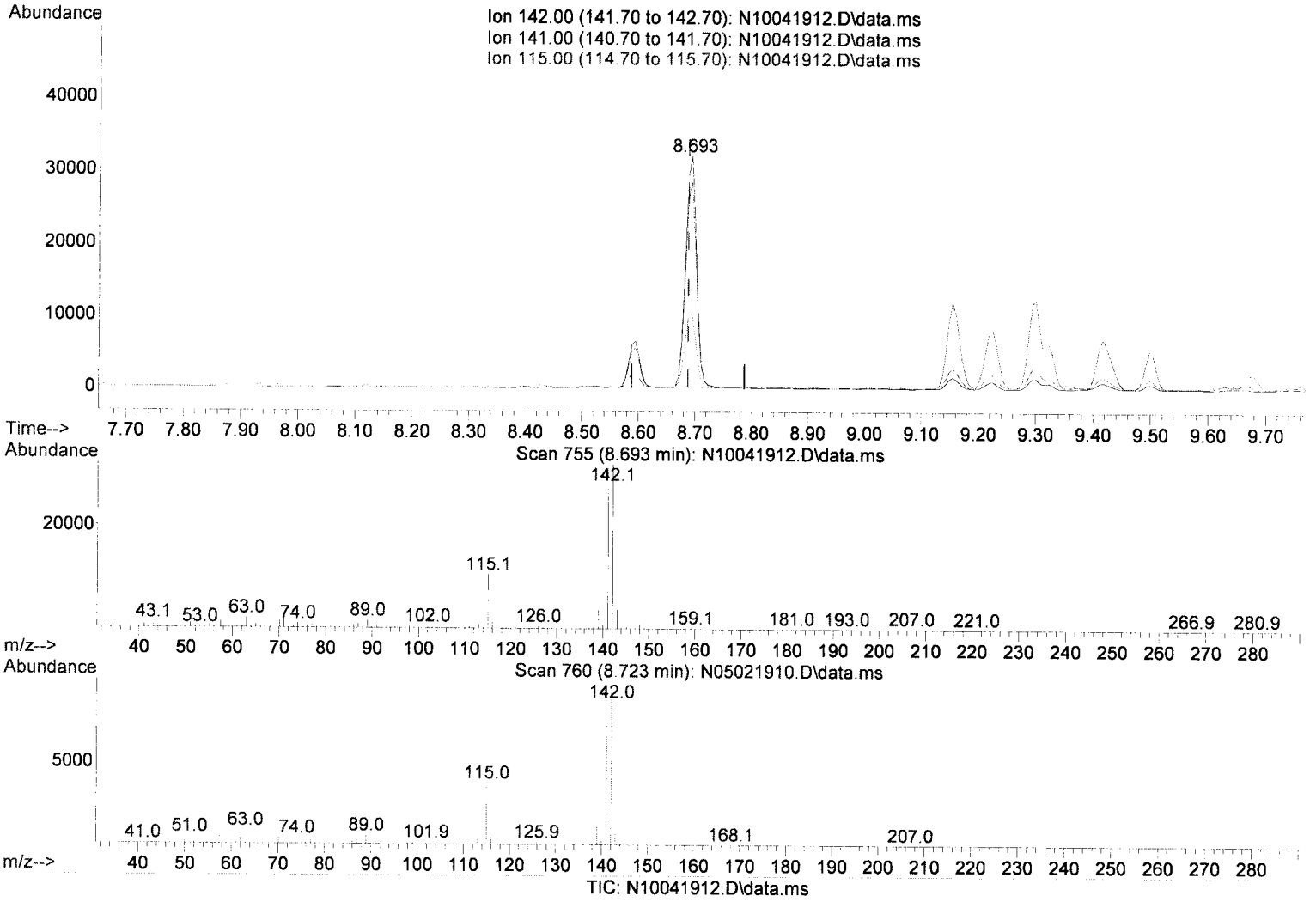
response 9338

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	86.60	85.55
115.00	35.70	33.90
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10041912.D\data.ms

(6) 1-Methylnaphthalene (T)

8.693min (+ 0.006) 21.77 ng/ml

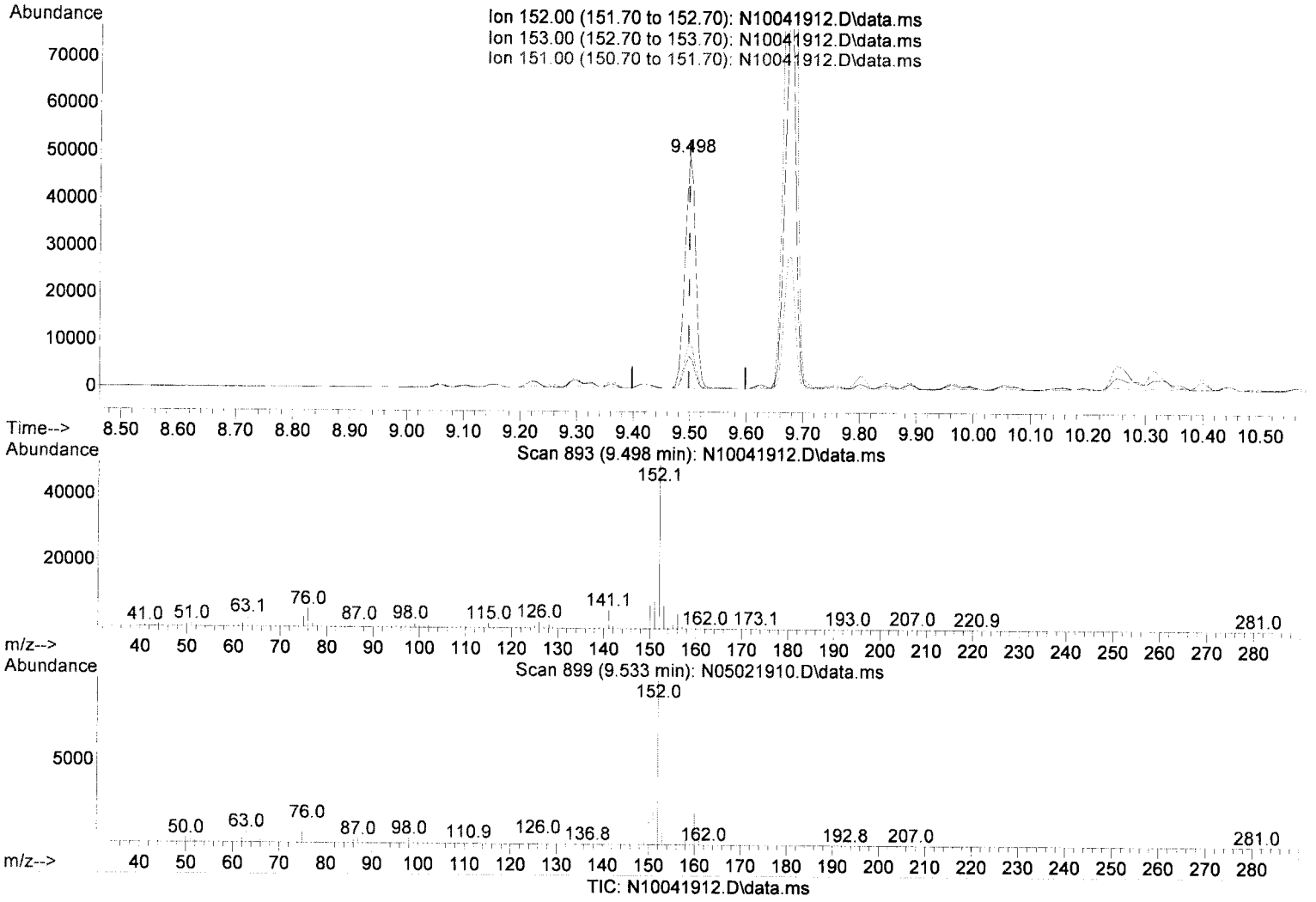
response 43809

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	88.76
115.00	37.80	33.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(12) Acenaphthylene (T)

9.498min (-0.000) 22.74 ng/ml

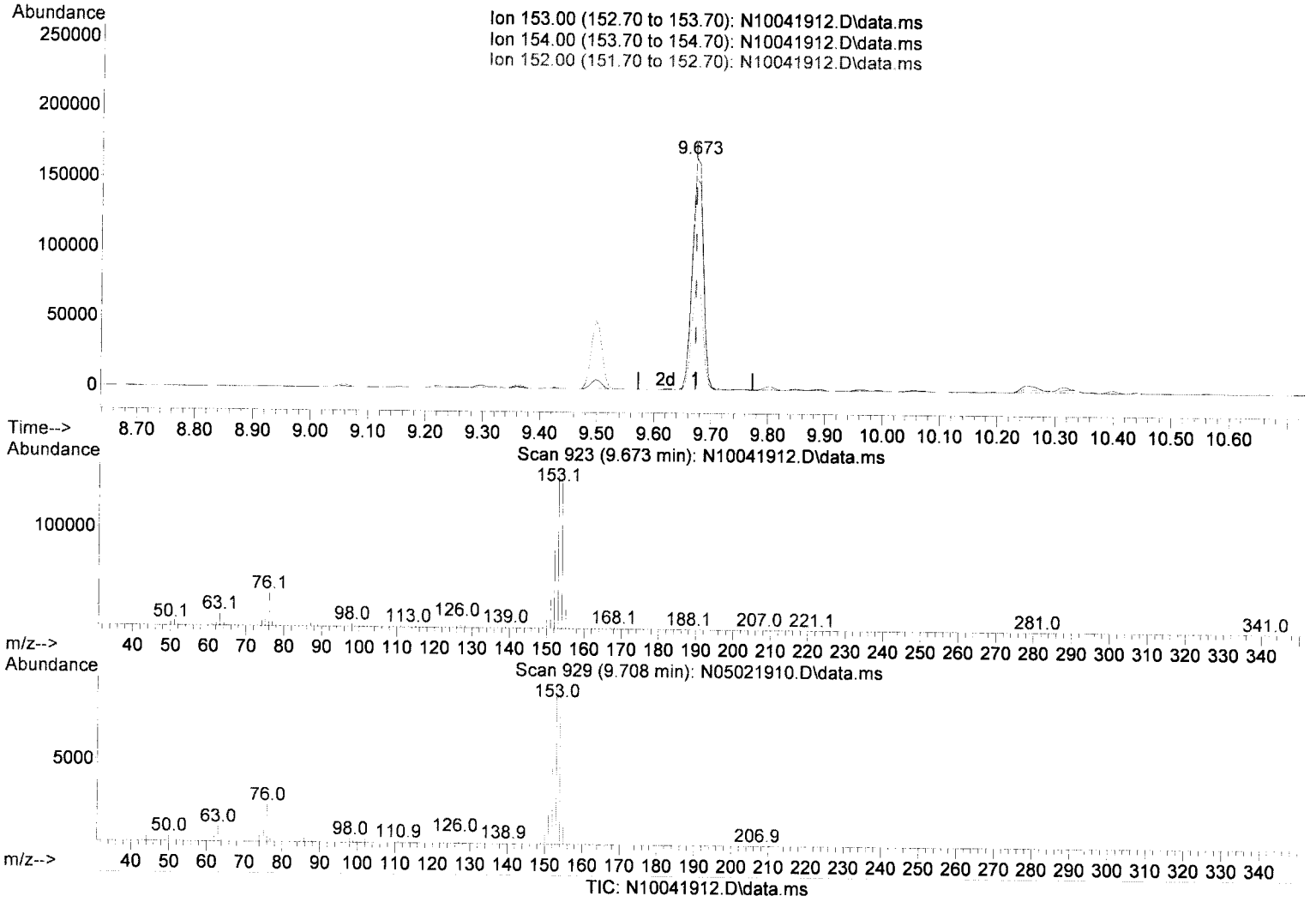
response 65420

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	14.00
151.00	19.30	20.08
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.673min (-0.000) 119.73 ng/ml

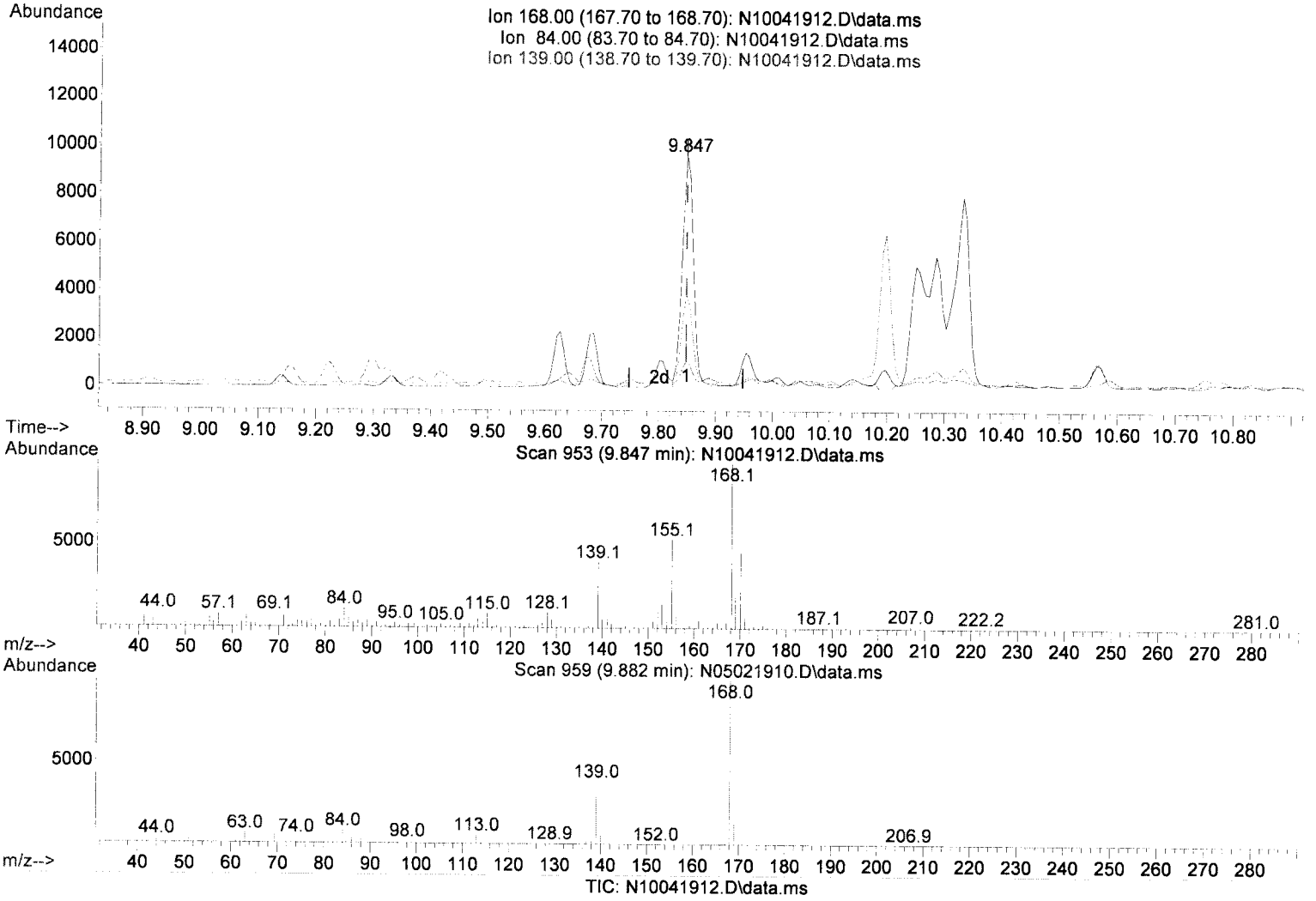
response 225572

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	91.12
152.00	46.80	47.51
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(14) Dibenzofuran (T)

9.847min (-0.000) 5.50 ng/ml

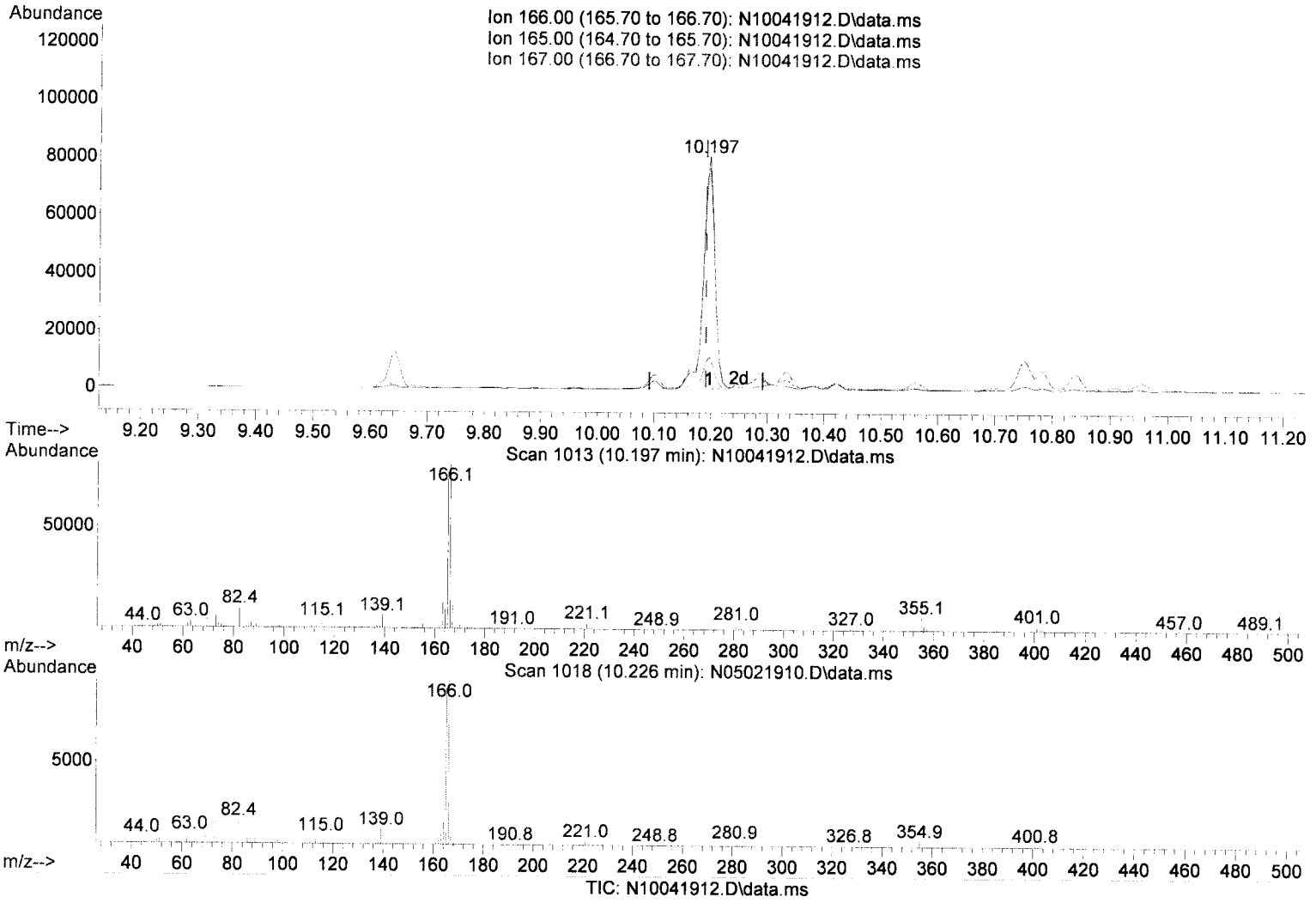
response 12982

Ion	Exp%	Act%
168.00	100.00	100.00
84.00	7.70	11.47
139.00	38.40	40.34
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(16) Fluorene (T)

10.197min (+ 0.006) 54.86 ng/ml (m)

response 105768

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	95.41
167.00	13.60	14.06
0.00	0.00	0.00

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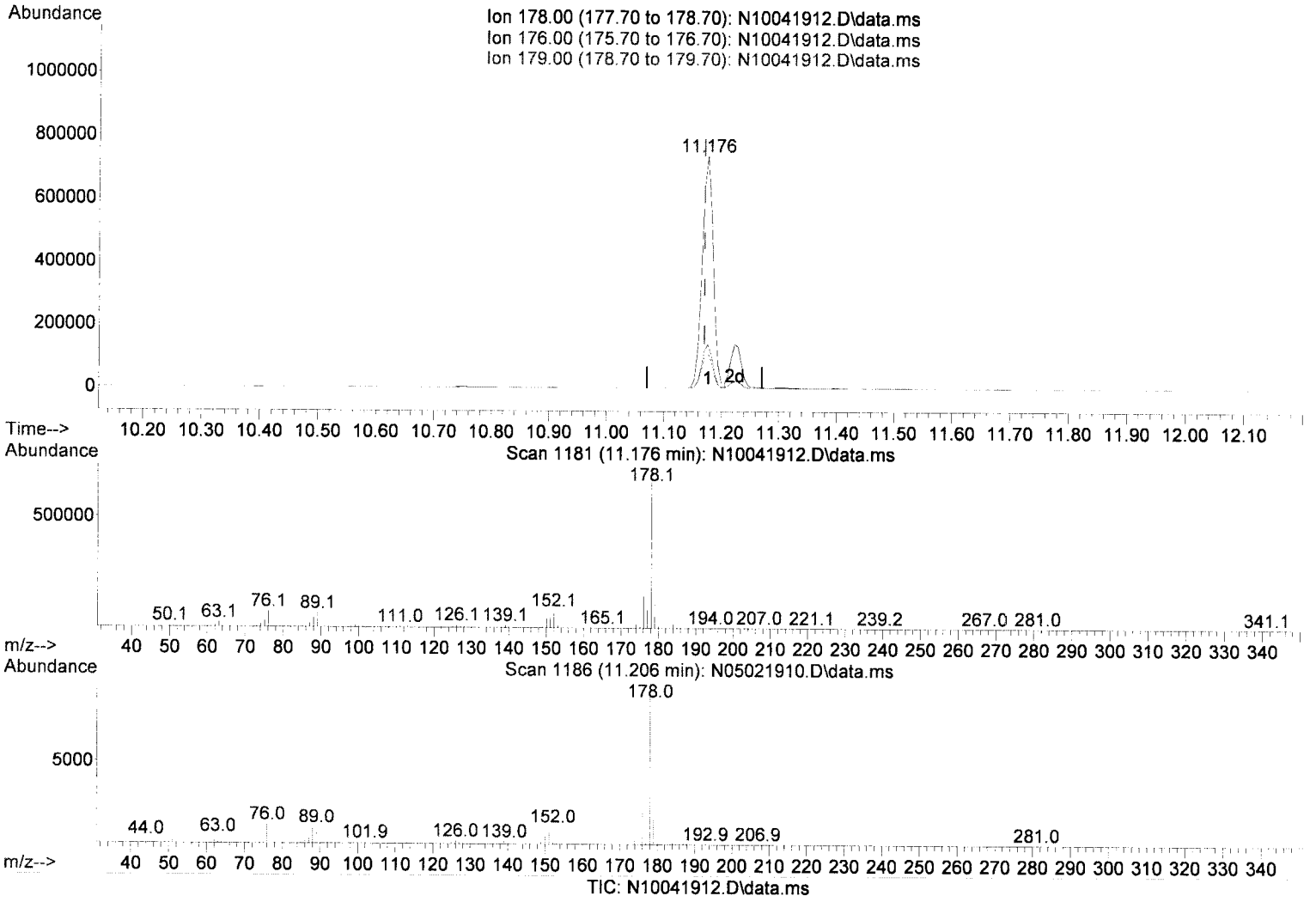
Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.176min (+ 0.006) 340.29 ng/ml

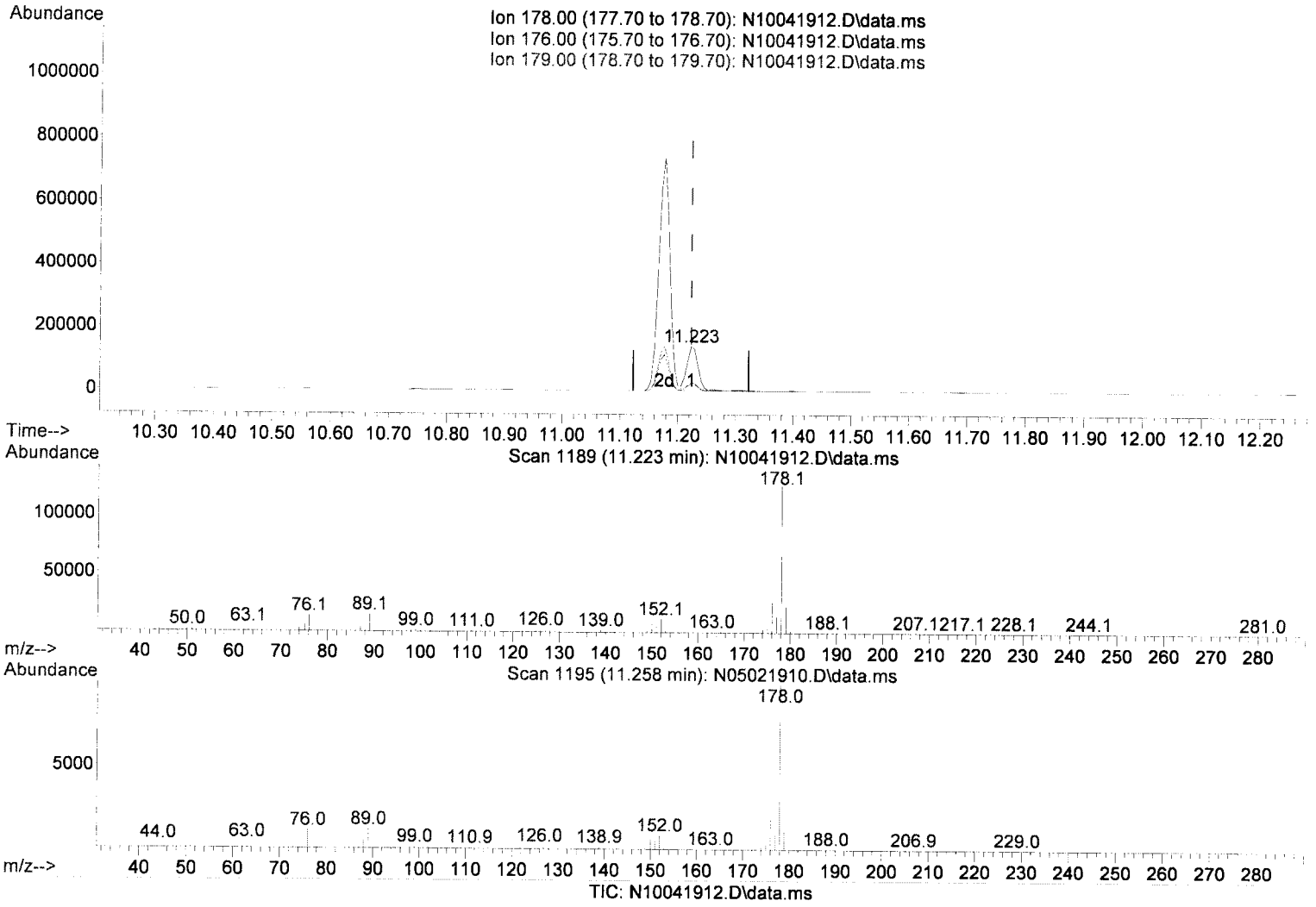
response 992082

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.10
179.00	15.10	15.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(20) Anthracene (T)

11.223min (-0.000) 69.28 ng/ml

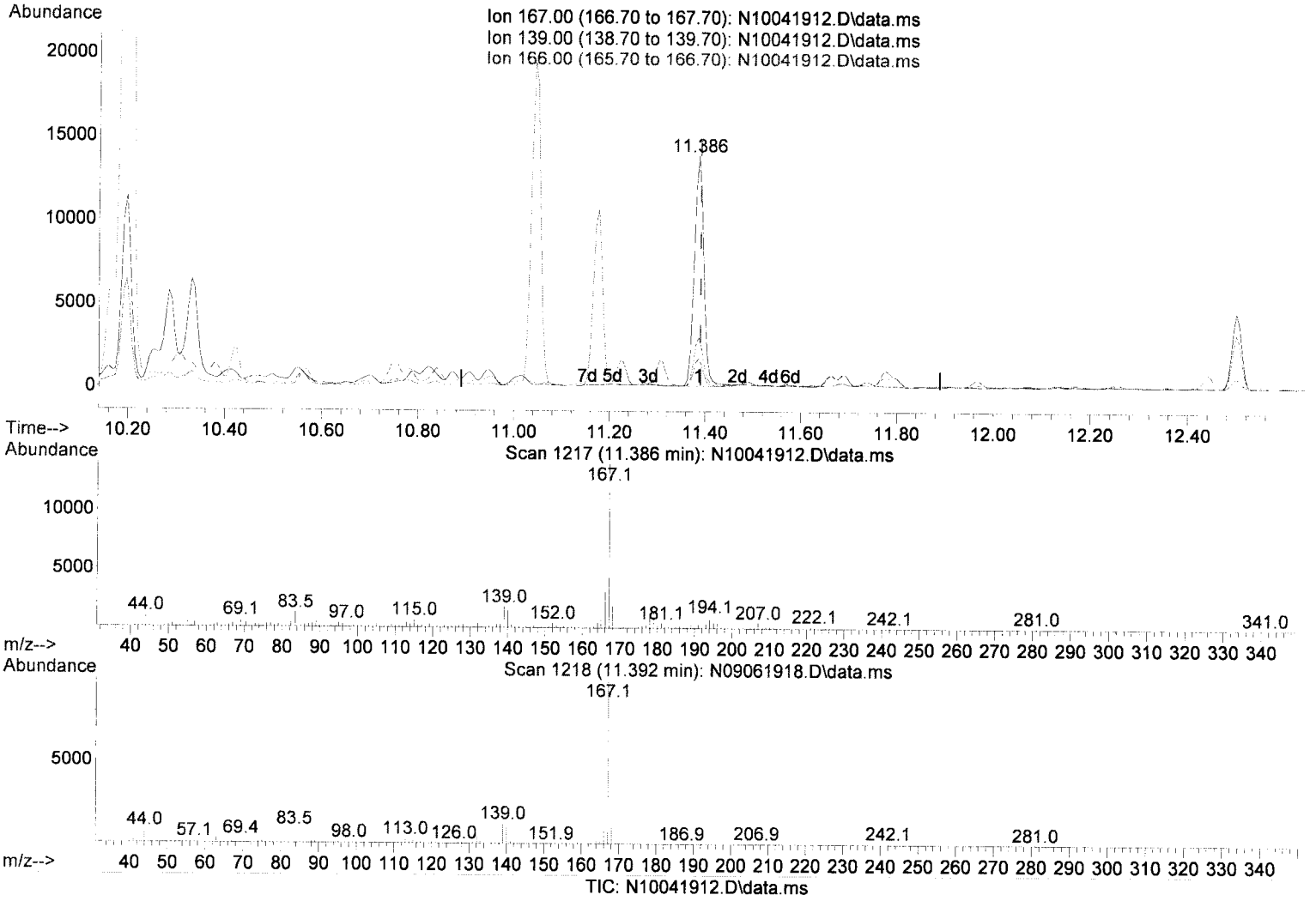
response 187883

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.45
179.00	15.30	15.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(21) Carbazole (T)

11.386min (-0.004) 8.72 ng/ml

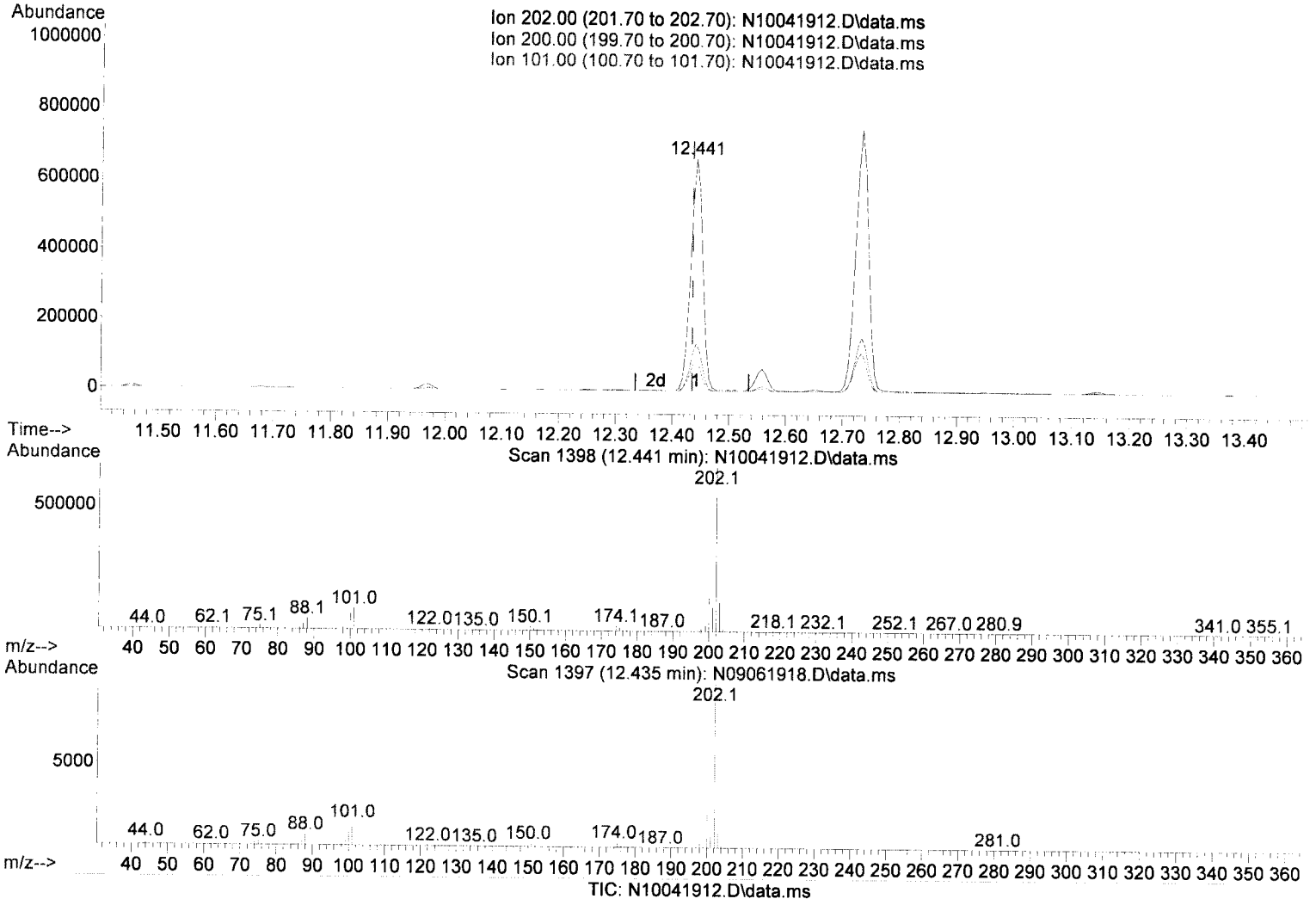
response 19134

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	13.50	12.93
166.00	21.10	22.13
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(23) Fluoranthene (T)

12.441min (+ 0.006) 331.76 ng/ml

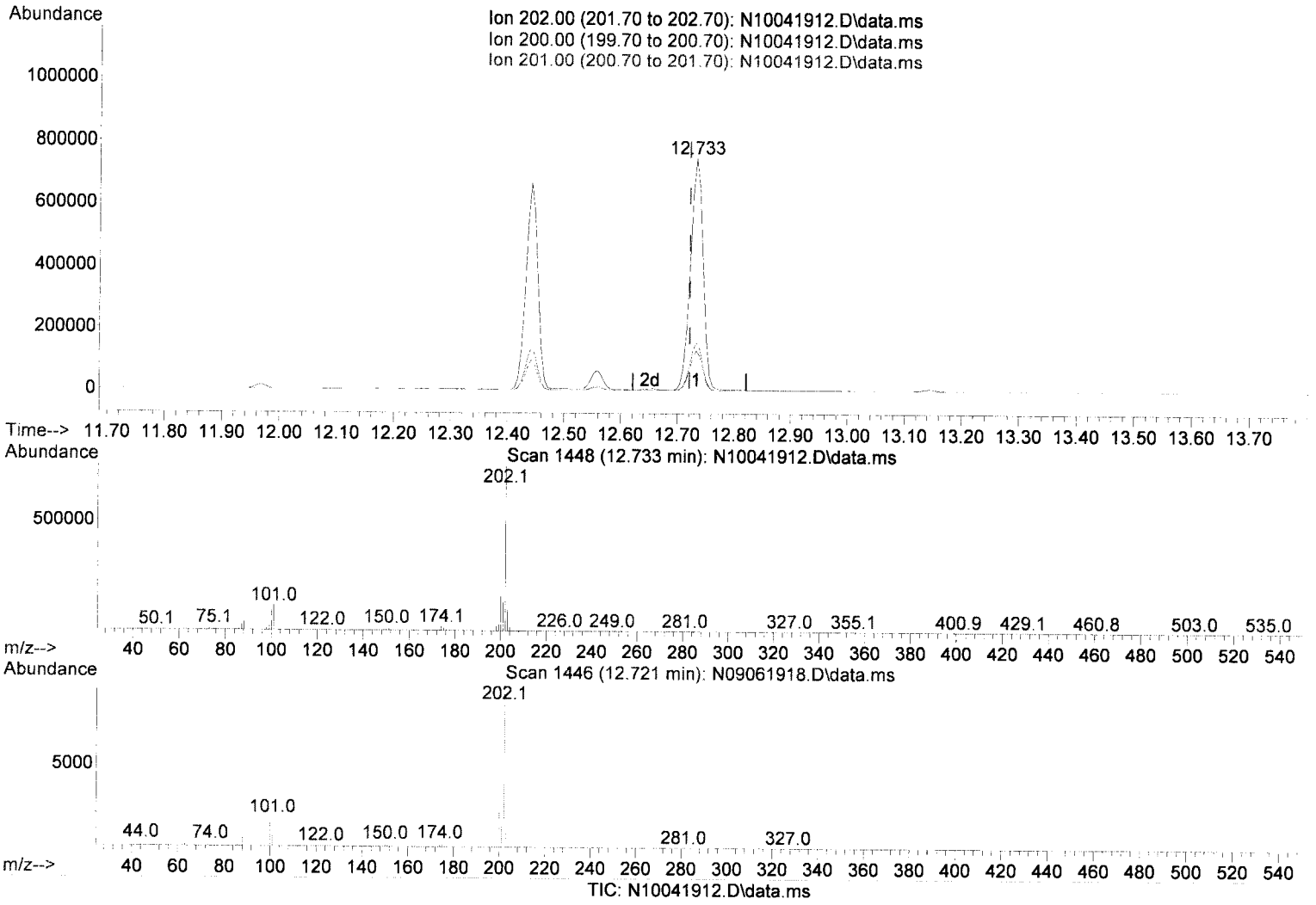
response 974484

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.31
101.00	15.30	12.84
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(25) Pyrene (T)

12.733min (+ 0.012) 352.02 ng/ml

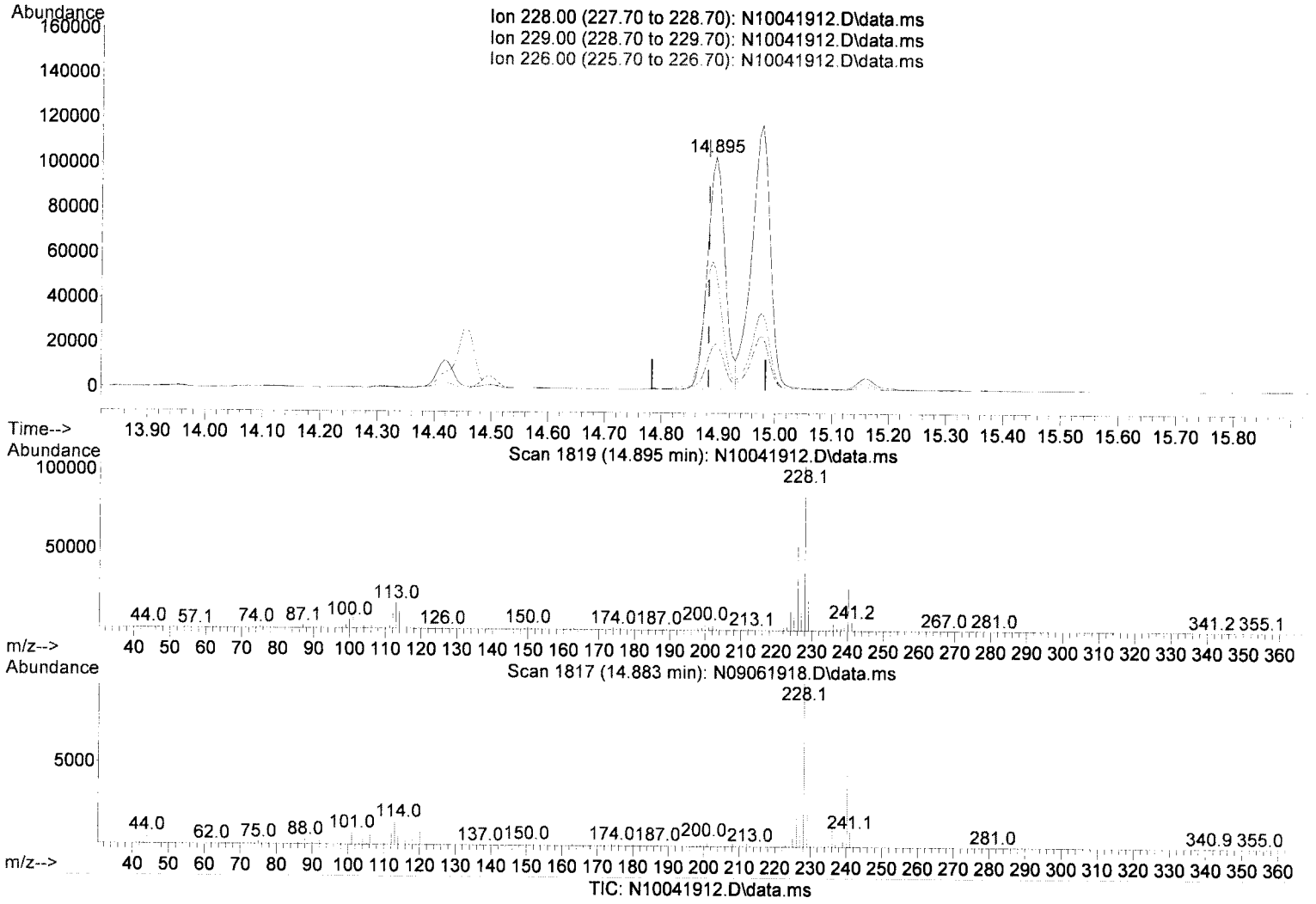
response 1175247

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.60
201.00	16.80	17.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(27) Benz(a)anthracene (T)

14.895min (+ 0.012) 89.96 ng/ml

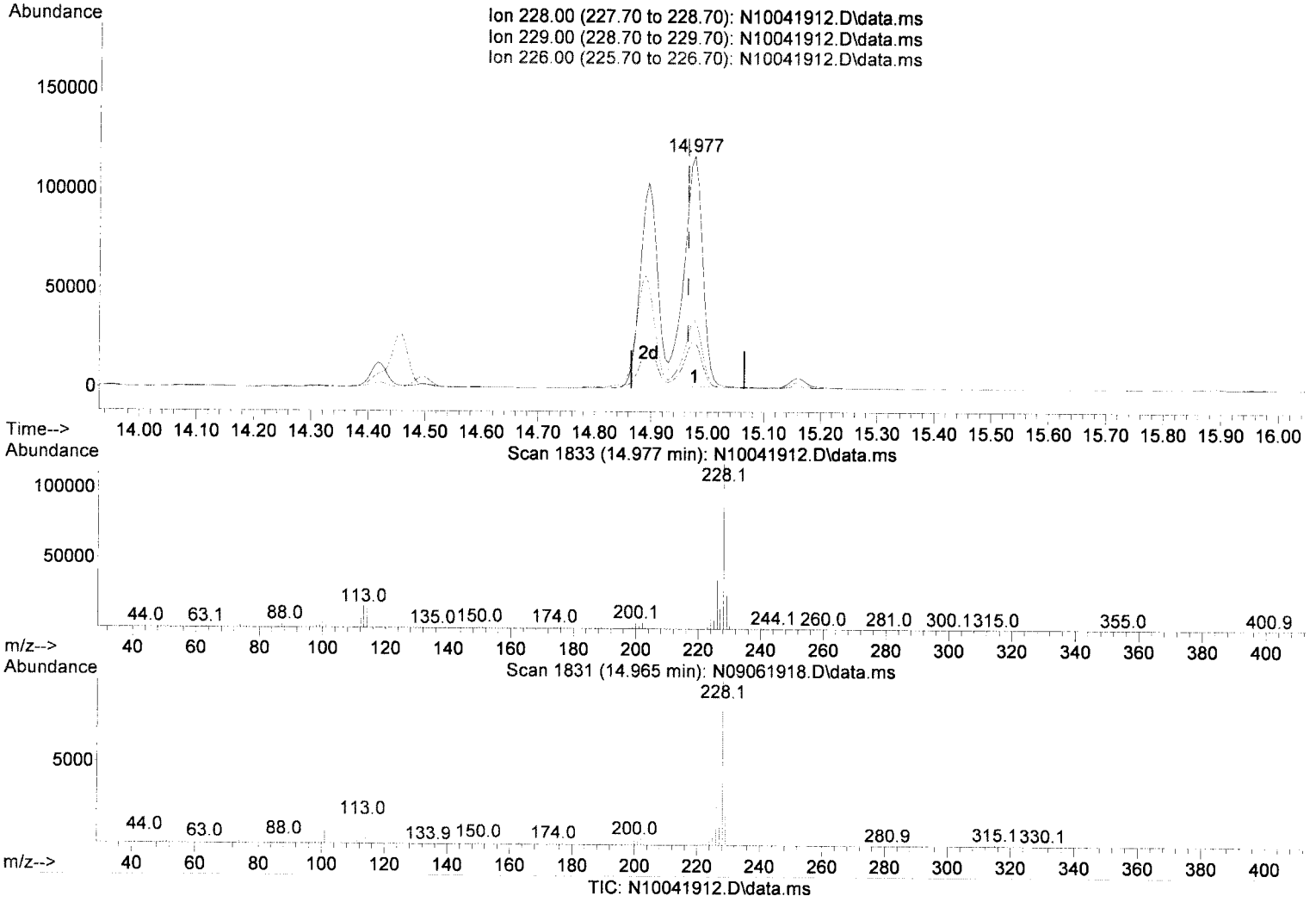
response 223186

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	19.95
226.00	26.20	51.04
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(28) Chrysene (T)

14.977min (+ 0.012) 113.04 ng/ml

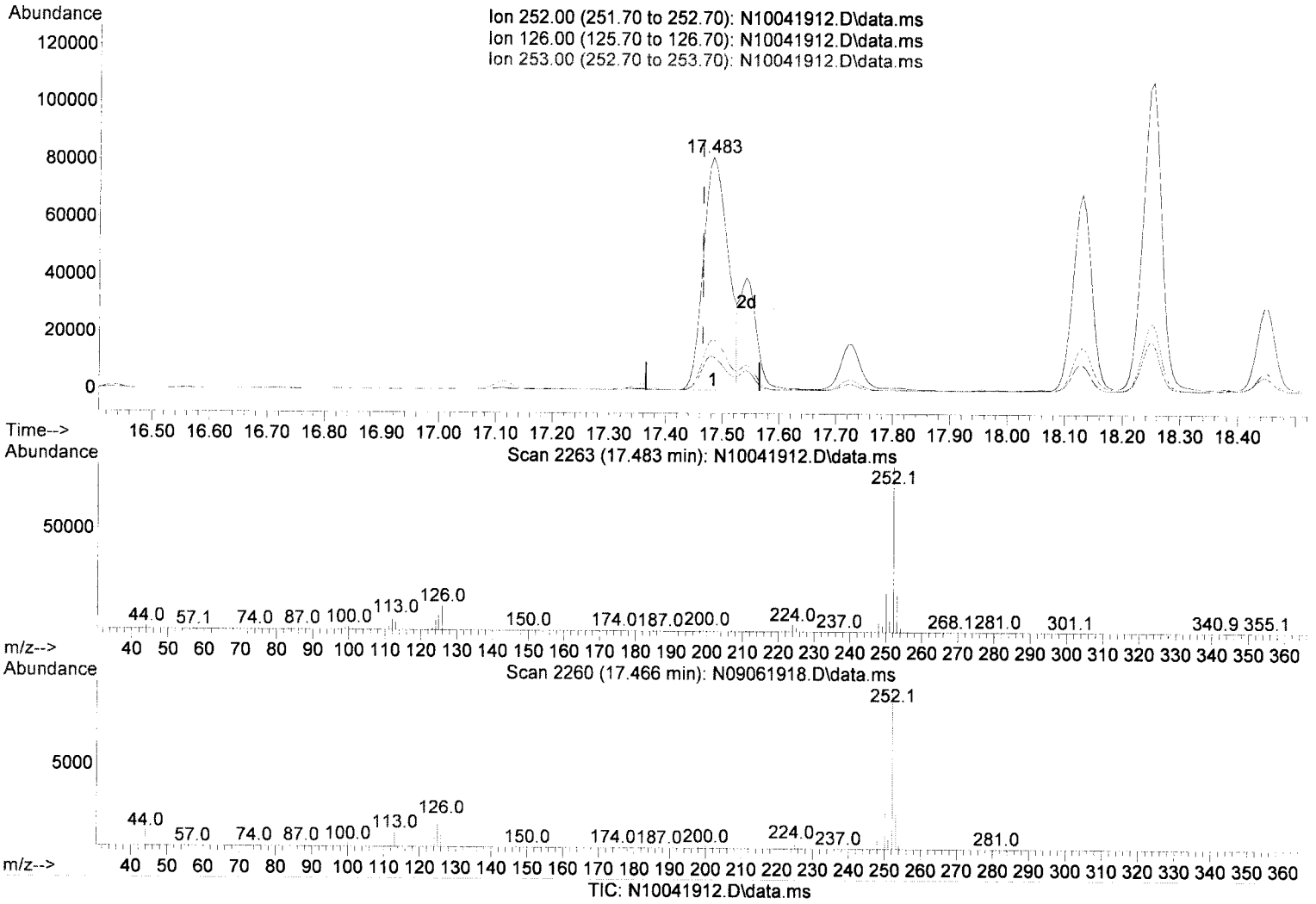
response 265397

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.38
226.00	28.60	29.46
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(30) Benzo(b)fluoranthene (T)

17.483min (+ 0.018) 114.55 ng/ml

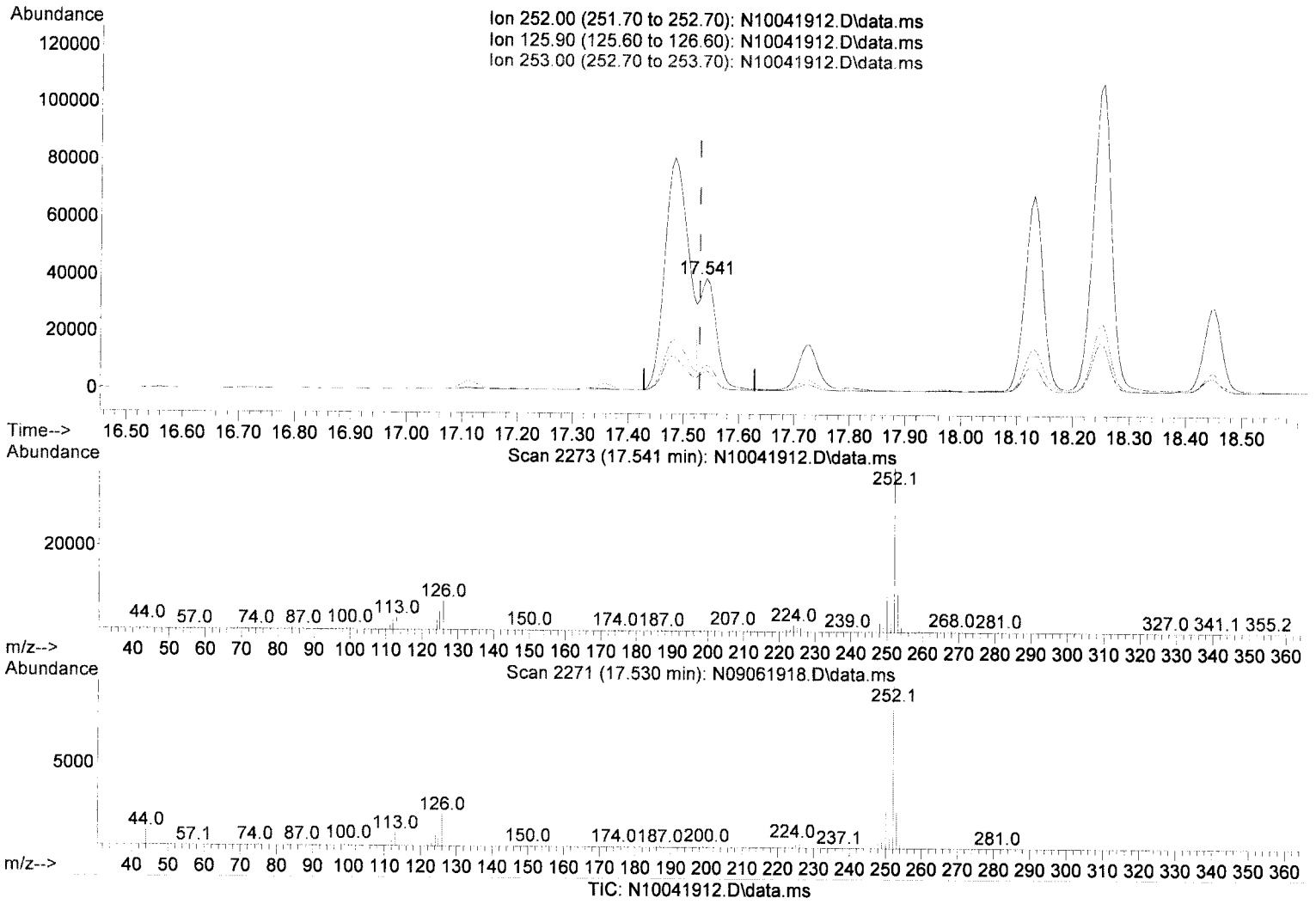
response 246279

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	14.59
253.00	21.10	21.89
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(31) Benzo(k)fluoranthene (T)

17.541min (+ 0.012) 37.75 ng/ml (m)

HRM 10/7/19

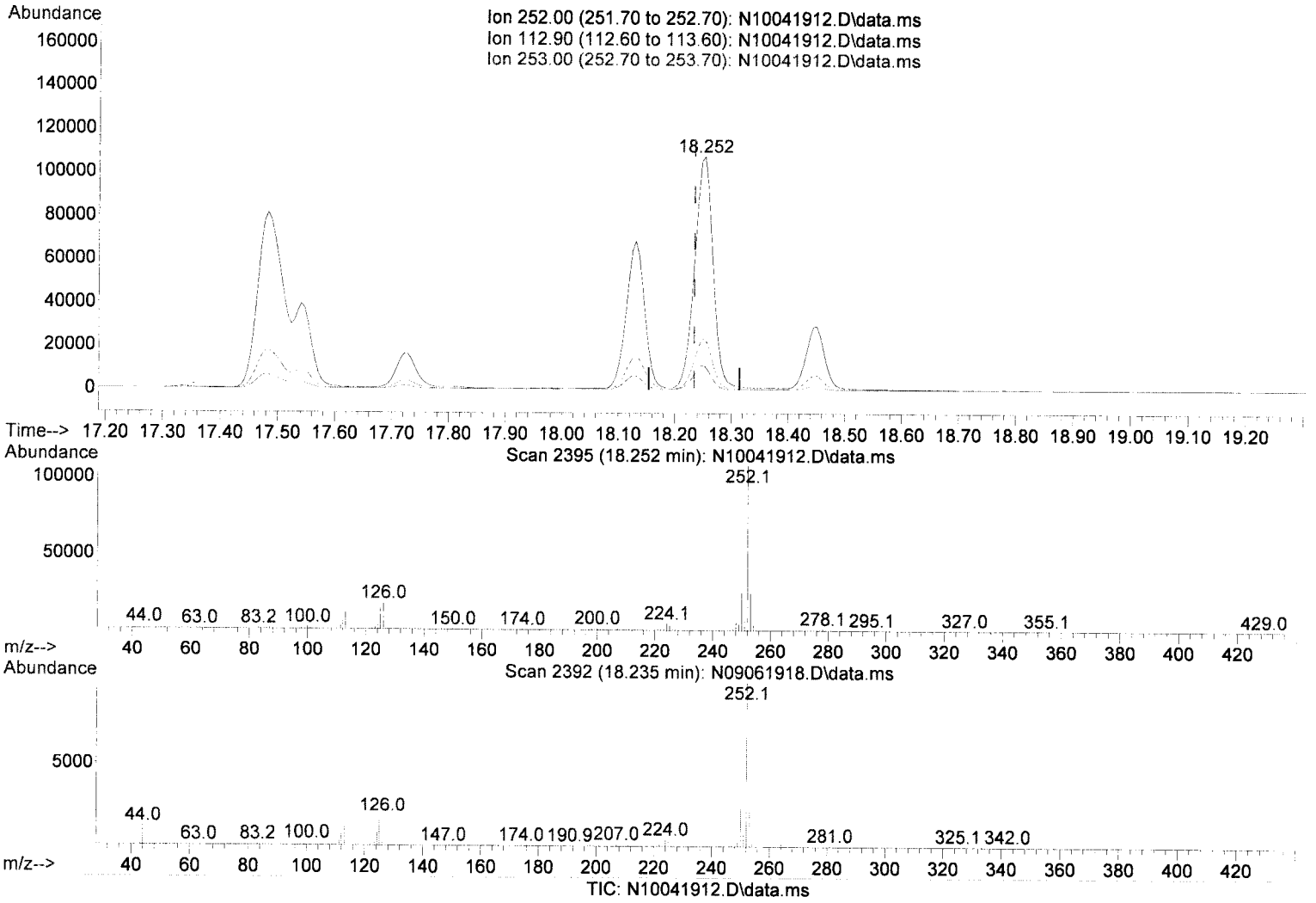
response 79897

Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	17.53
253.00	21.50	22.65
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(35) Benzo(a)pyrene (T)

18.252min (+ 0.018) 130.92 ng/ml

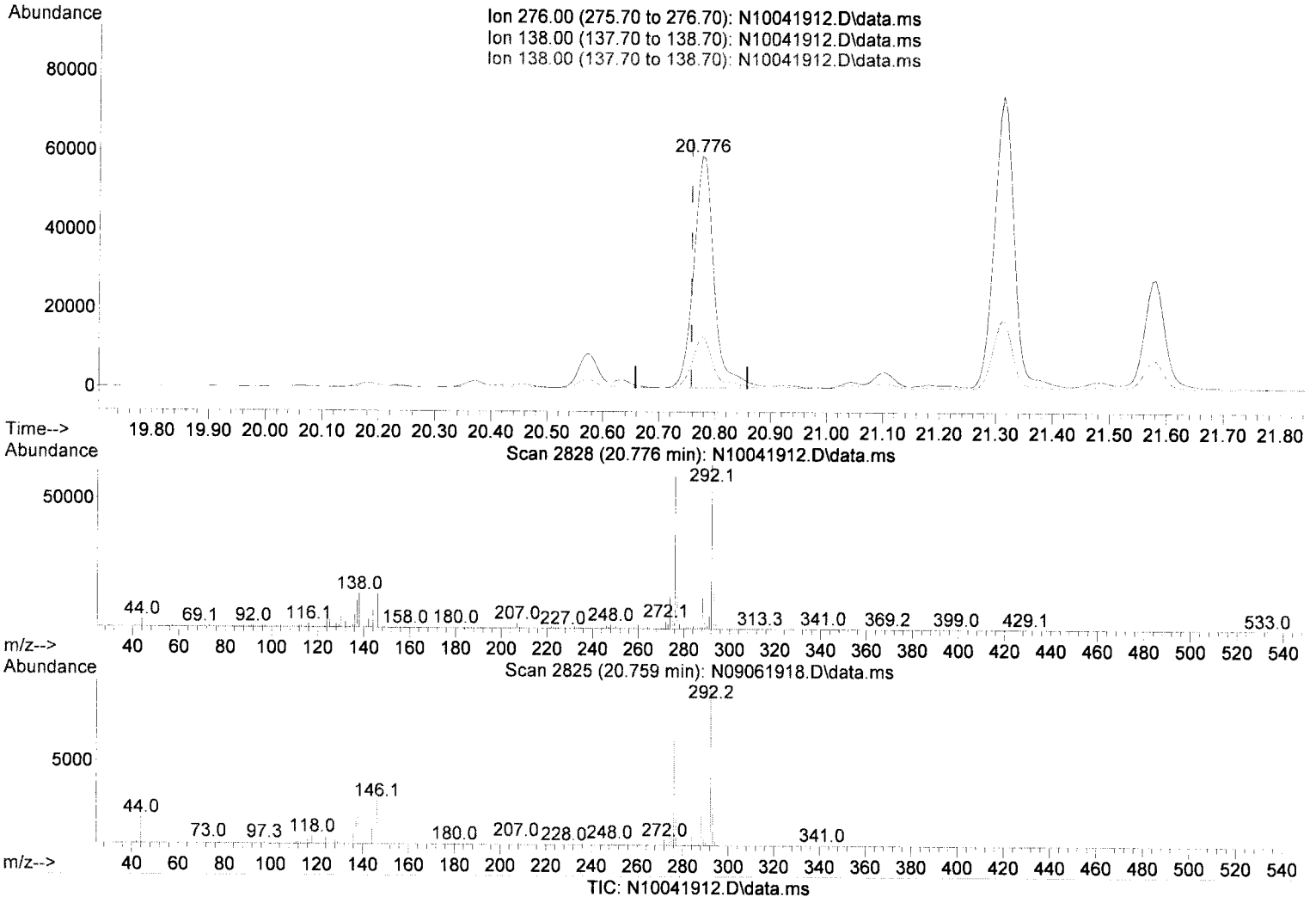
response 240914

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	10.17
253.00	21.90	22.12
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(38) Indeno(1,2,3-cd)Pyrene (T)

20.776min (+ 0.018) 81.46 ng/ml

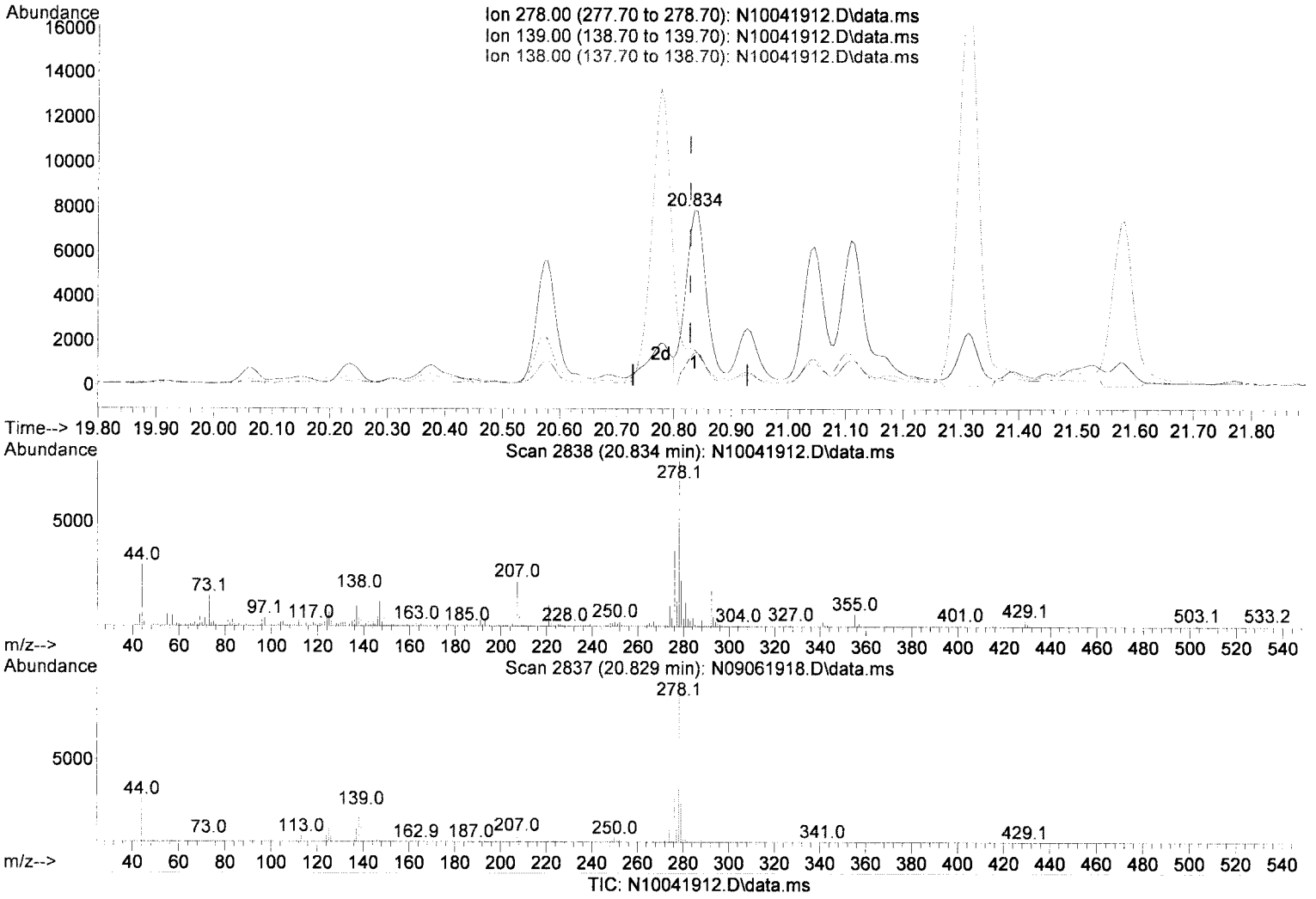
response 145534

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	22.50
138.00	31.60	22.50
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(39) Dibenz(a,h)anthracene (T)

20.834min (+ 0.006) 10.20 ng/ml

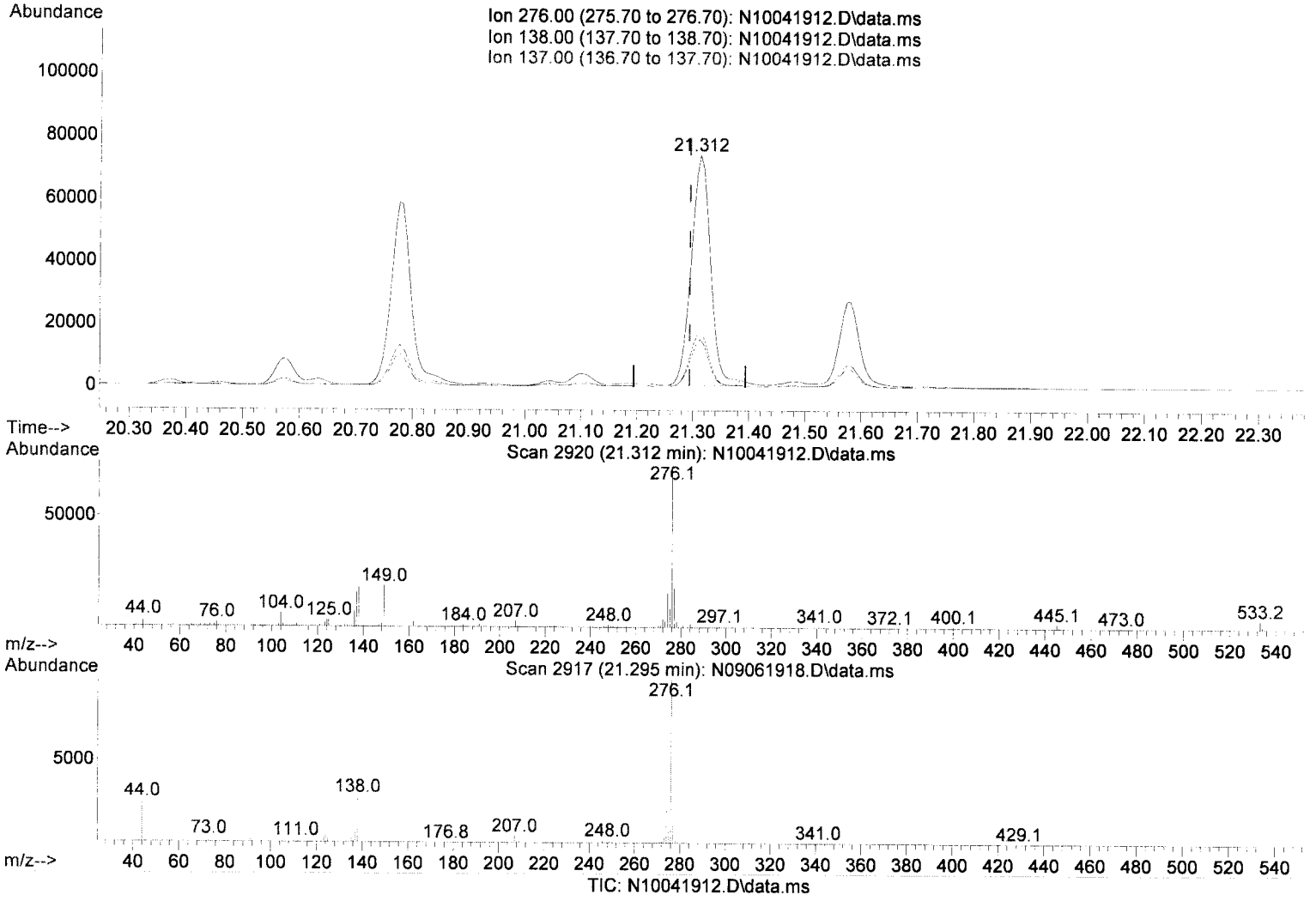
response 17116

Ion	Exp%	Act%
278.00	100.00	100.00
139.00	26.00	18.59
138.00	19.90	20.90
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(40) Benzo(g,h,i)perylene (T)

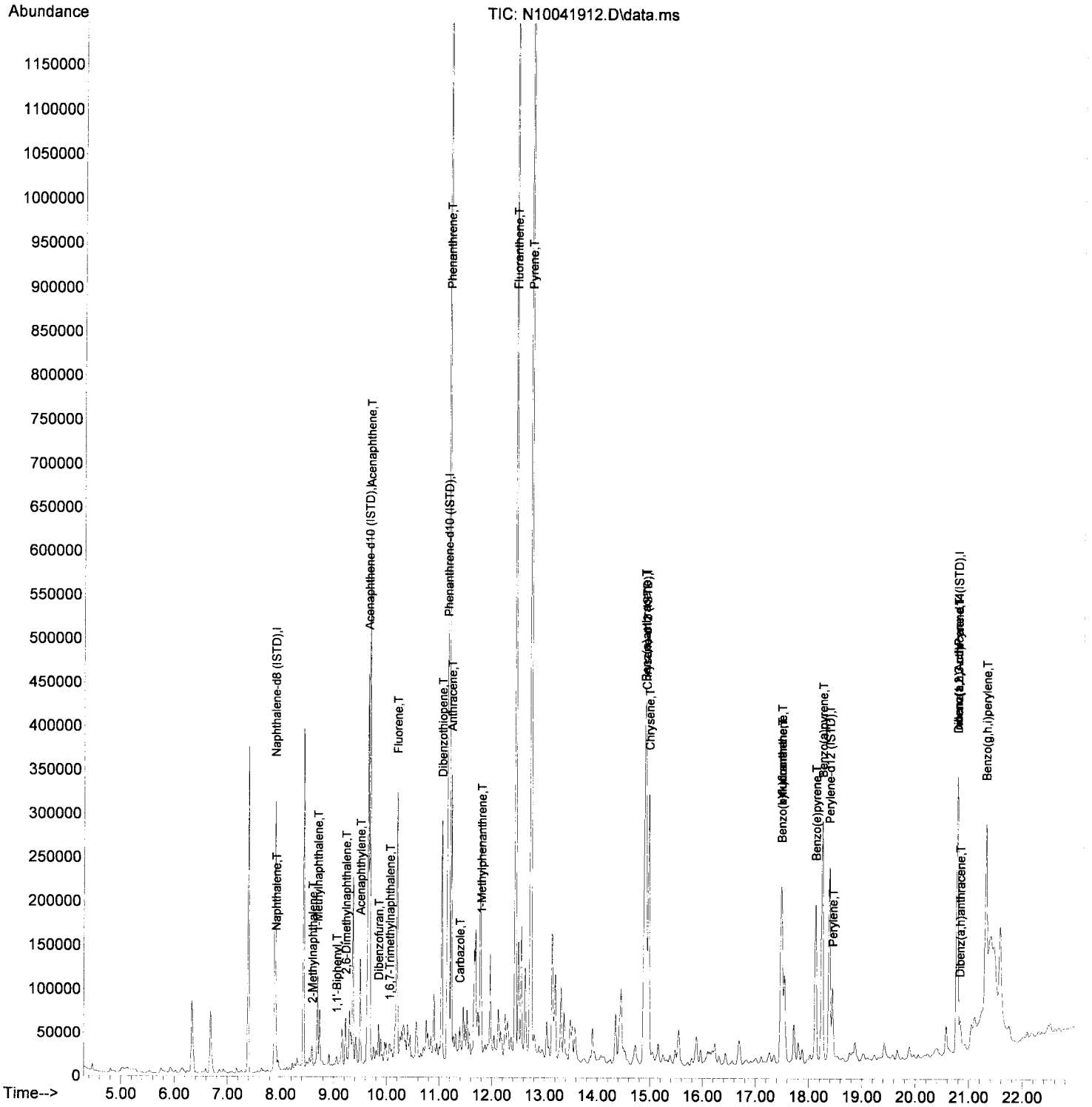
21.312min (+ 0.018) 93.72 ng/ml

response 177622

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	23.81
137.00	28.60	20.72
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041912.D
Acq On : 04 Oct 2019 02:14 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-04@1000
Misc : 1000x, 8270D PAH only
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

JAM 10/7/19
MOS

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	212520	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.644	162	133467	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	251040	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.918	240	213166	100.00	ng/ml	0.01
29) Perylene-d12 (ISTD)	18.387	264	182101	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.776	292	137652	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.190	82	681	0.96	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	1836	0.92	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	933	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	2137	0.95	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	50	0.03	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.907	128	33856	14.44	ng/ml	99
5) 2-Methylnaphthalene	8.594	142	4502	2.27	ng/ml	97
6) 1-Methylnaphthalene	8.693	142	14988	7.55	ng/ml	95
7) 1,1'-Biphenyl	9.055	154	2253	0.84	ng/ml	95
8) 2,6-Dimethylnaphthalene	9.224	156	7210	3.70	ng/ml	97
12) Acenaphthylene	9.498	152	68136	23.52	ng/ml	98
13) Acenaphthene	9.673	153	134998	71.13	ng/ml	100
14) Dibenzofuran	9.848	168	5114	2.15	ng/ml	95
15) 1,6,7-Trimethylnaphtha...	10.057	170	6192	(3.89	ng/ml	90
16) Fluorene	10.197	166	57469	29.59	ng/ml	99
18) Dibenzothiopene	11.042	184	92648	35.29	ng/ml	97
19) Phenanthrene	11.171	178	443530	150.98	ng/ml	99
20) Anthracene	11.223	178	139535	51.07	ng/ml	98
21) Carbazole	11.386	167	8725	(3.95)	ng/ml	96
22) 1-Methylphenanthrene	11.794	192	39718	19.46	ng/ml	89
23) Fluoranthene	12.441	202	800057	270.32	ng/ml	96
25) Pyrene	12.733	202	1015727	304.99	ng/ml	99
27) Benz(a)anthracene	14.895	228	212267	85.77	ng/ml	73
28) Chrysene	14.977	228	333288	142.30	ng/ml	99
30) Benzo(b)fluoranthene	17.483	252	259953	123.71	ng/ml	93
31) Benzo(k)fluoranthene	17.483	252	320910	155.12	ng/ml	91
32) Benzo(b+k)fluoranthene	17.483	252	354162	164.78	ng/ml	91
34) Benzo(e)pyrene	18.130	252	161069	75.81	ng/ml	98
35) Benzo(a)pyrene	18.247	252	250367	139.21	ng/ml	96
36) Perylene	18.445	252	73459	33.16	ng/ml	98
38) Indeno(1,2,3-cd)Pyrene	20.776	276	154565	91.05	ng/ml	83
39) Dibenz(a,h)anthracene	20.835	278	17595	11.03	ng/ml	90
40) Benzo(g,h,i)perylene	21.312	276	189708	105.34	ng/ml	84

J

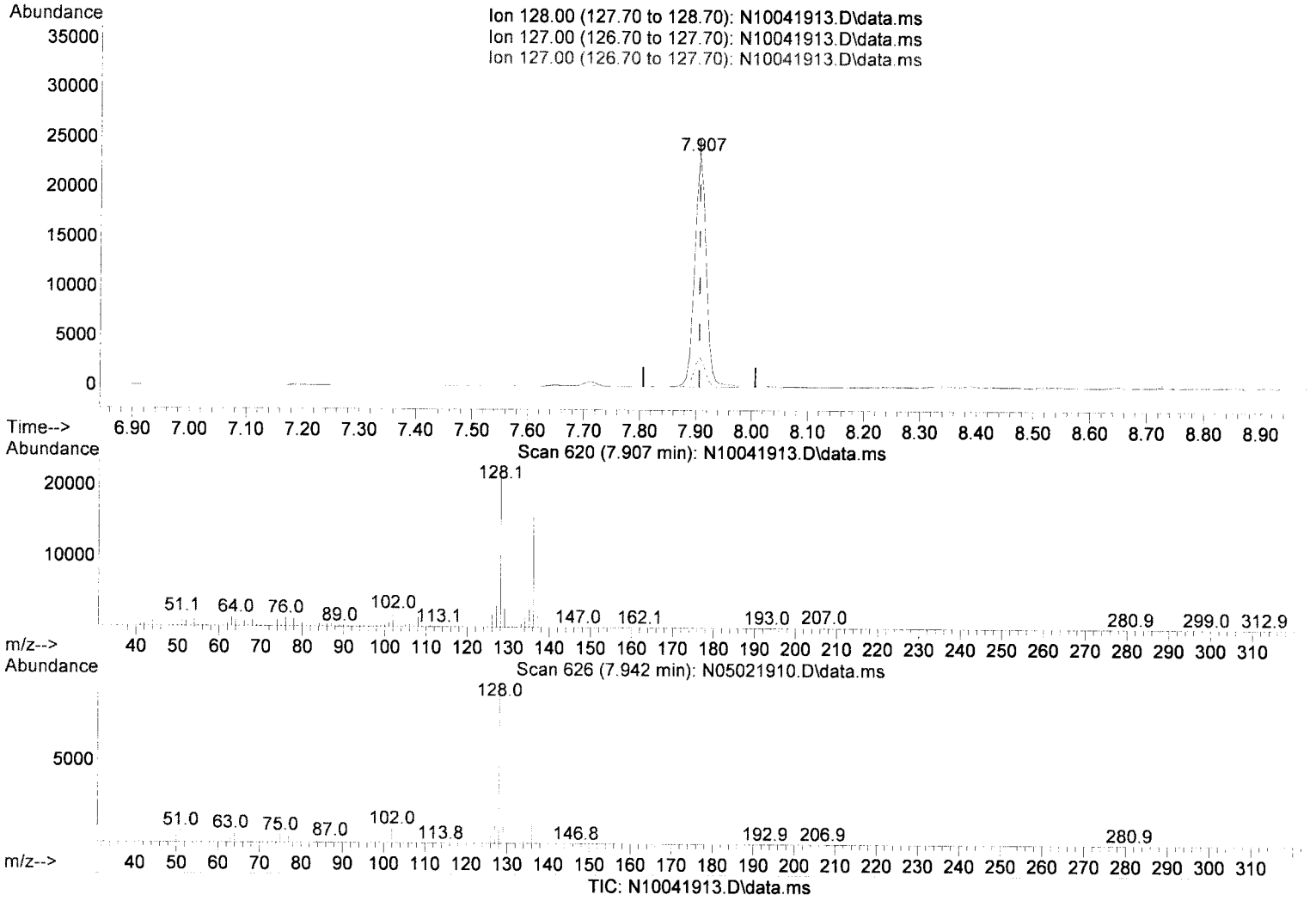
MF MOS

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.907min (+ 0.000) 14.44 ng/ml

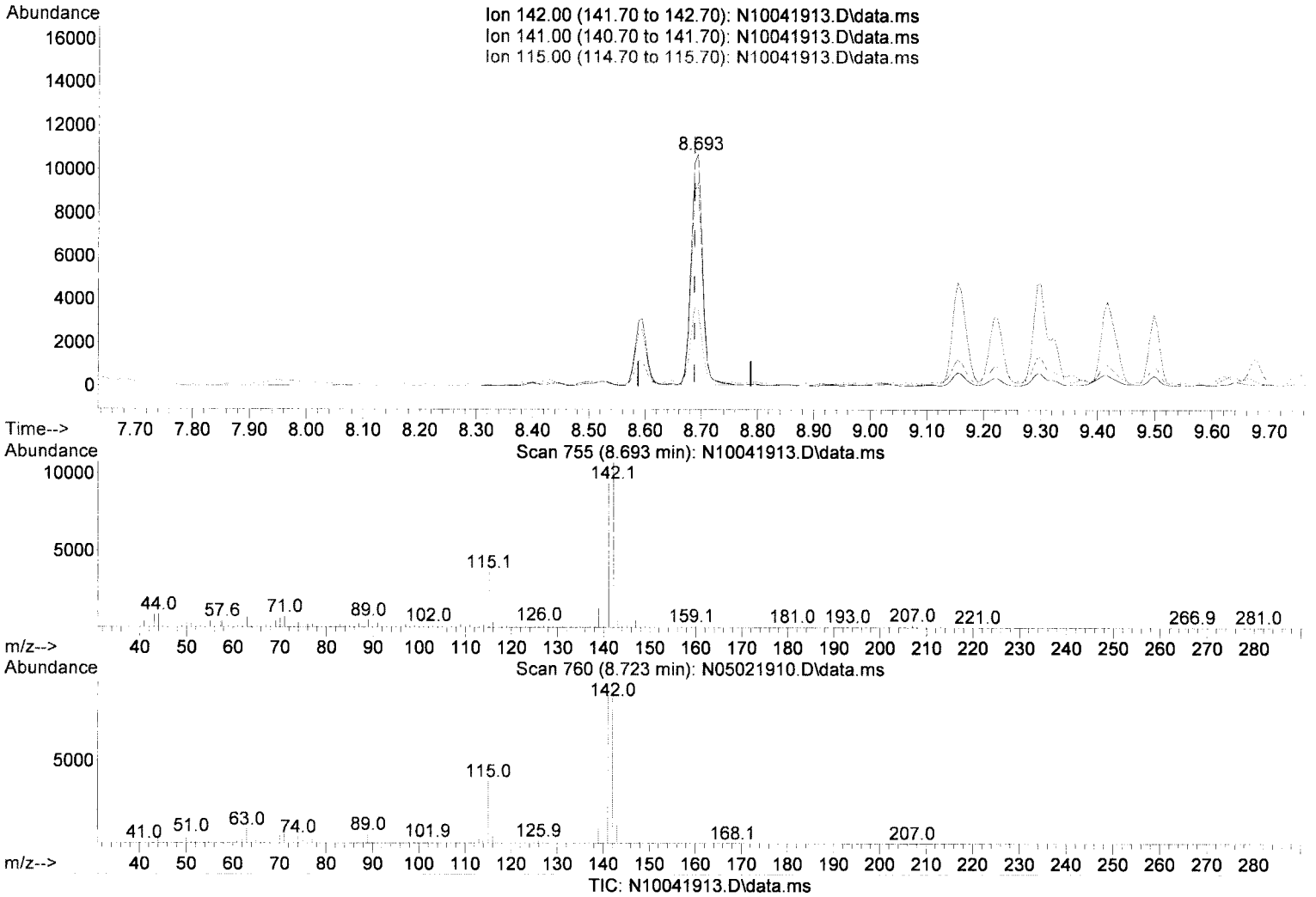
response 33856

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.97
127.00	12.60	12.97
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(6) 1-Methylnaphthalene (T)

8.693min (+ 0.006) 7.55 ng/ml

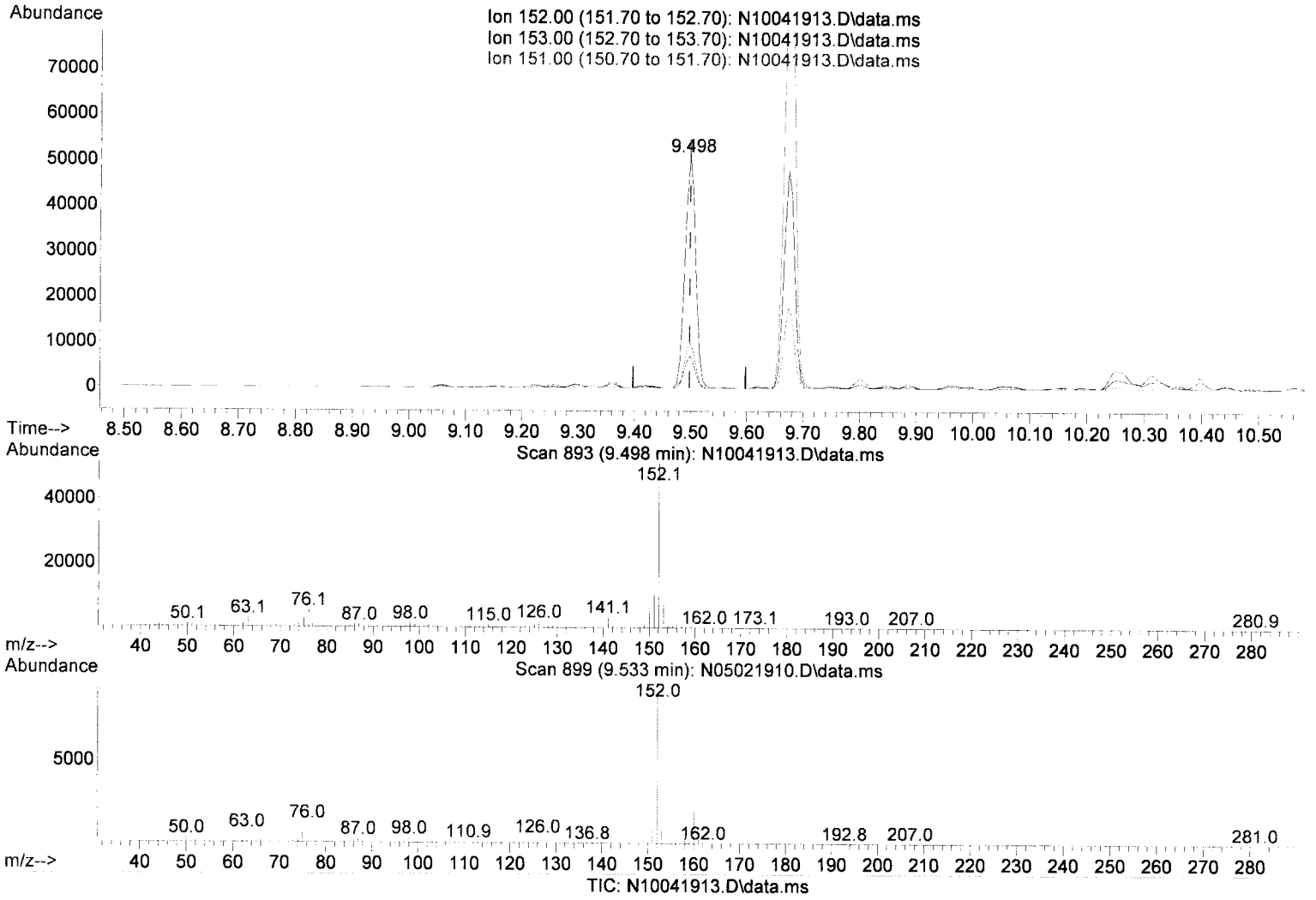
response 14988

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	87.40
115.00	37.80	33.56
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(12) Acenaphthylene (T)

9.498min (+ 0.000) 23.52 ng/ml

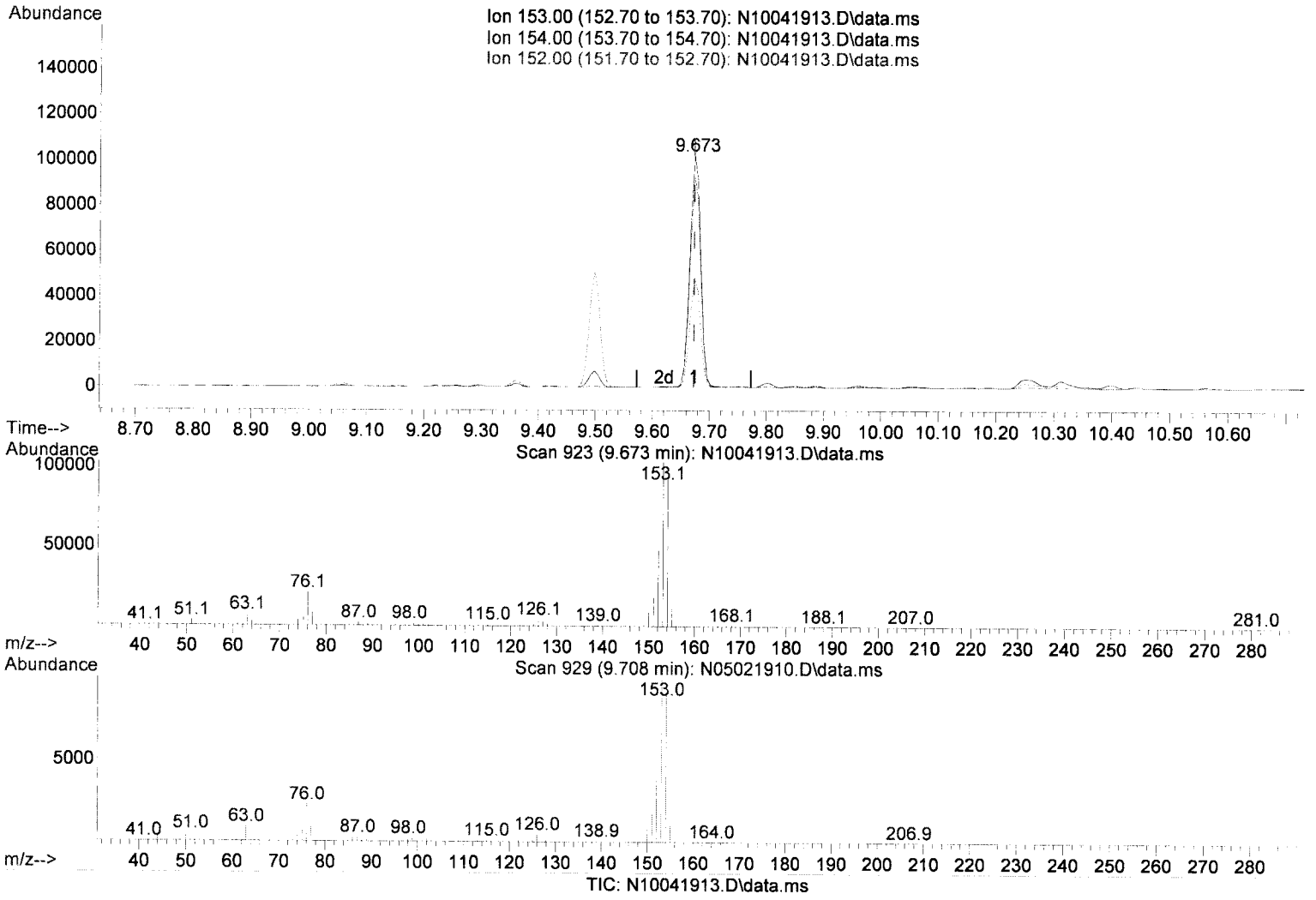
response 68136

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	13.95
151.00	19.30	20.04
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.673min (+ 0.000) 71.13 ng/ml

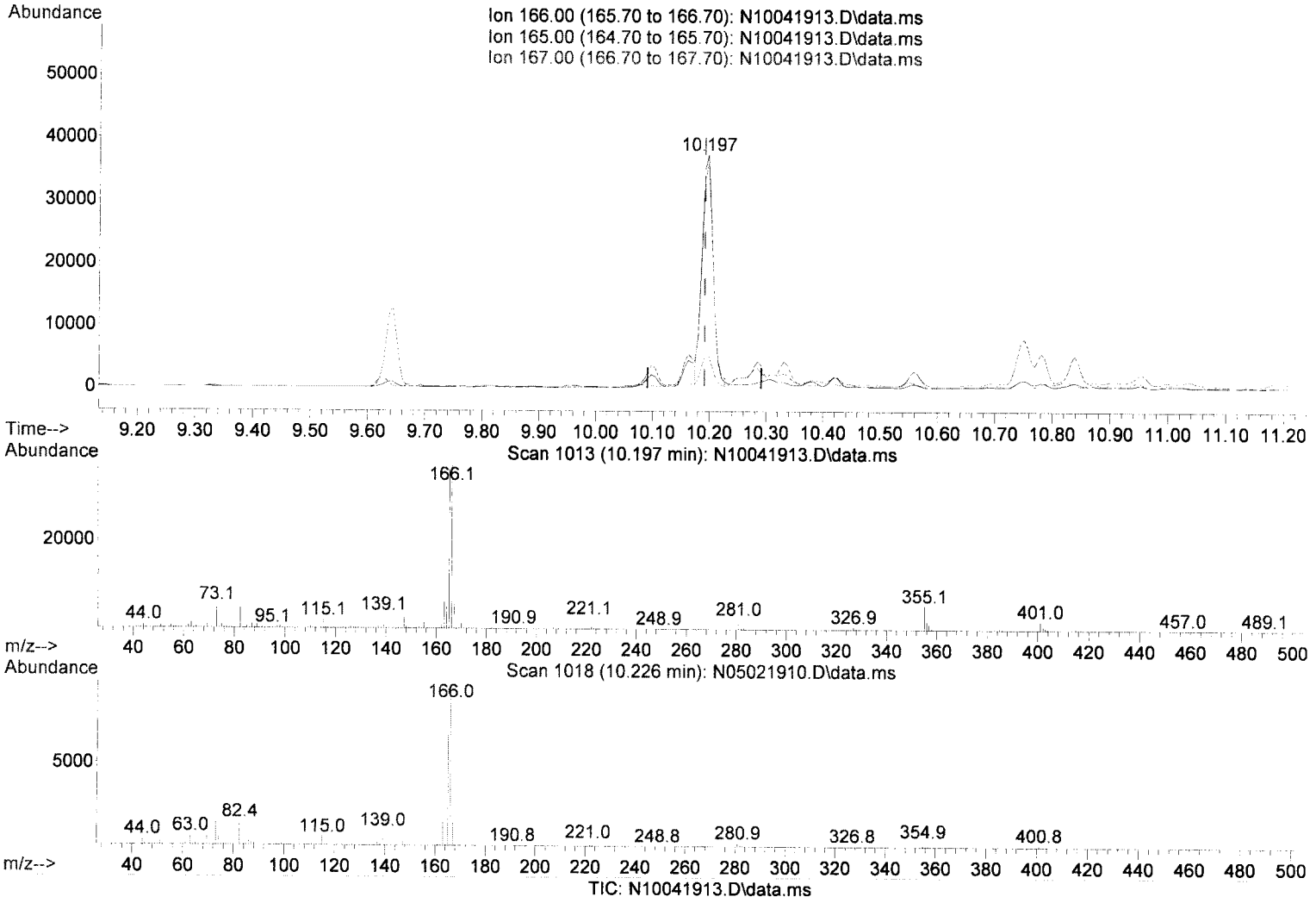
response 134998

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.87
152.00	46.80	46.95
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(16) Fluorene (T)

10.197min (+ 0.006) 26.45 ng/ml (m)

response 51360

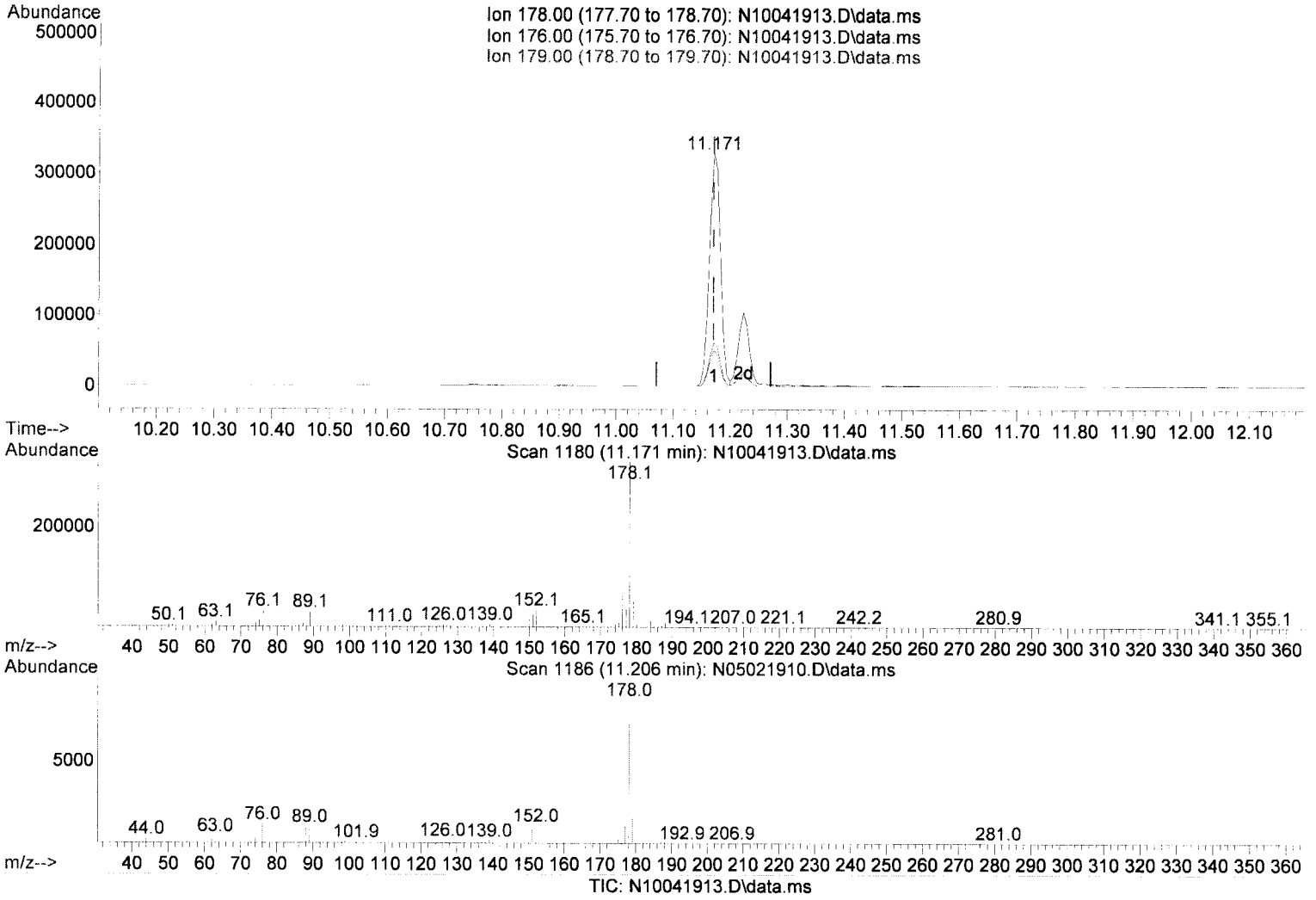
Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	96.43
167.00	13.60	14.48
0.00	0.00	0.00

HMM 10/7/19

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.171min (+ 0.000) 150.98 ng/ml

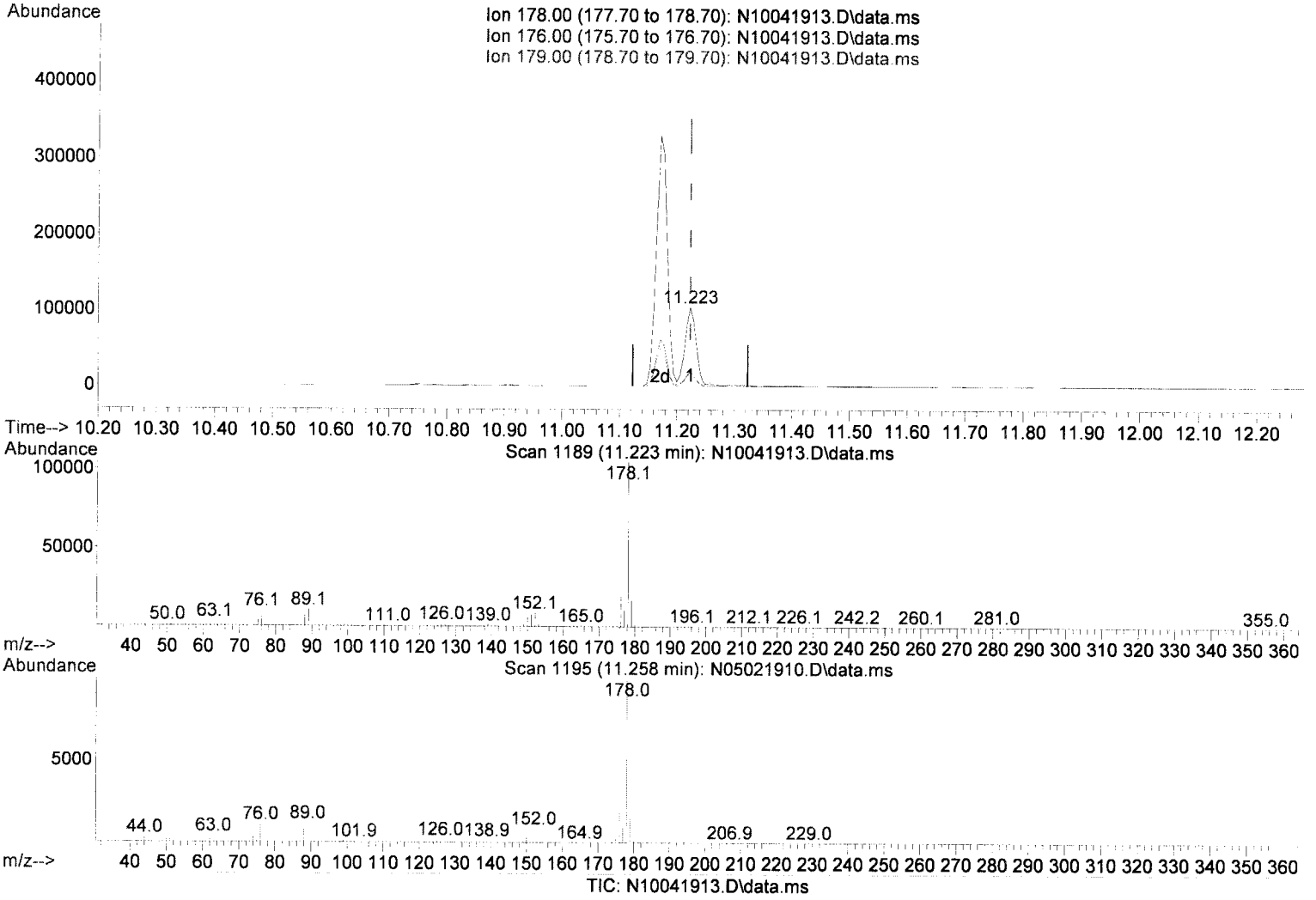
response 443530

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.80
179.00	15.10	15.52
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(20) Anthracene (T)

11.223min (+ 0.000) 51.07 ng/ml

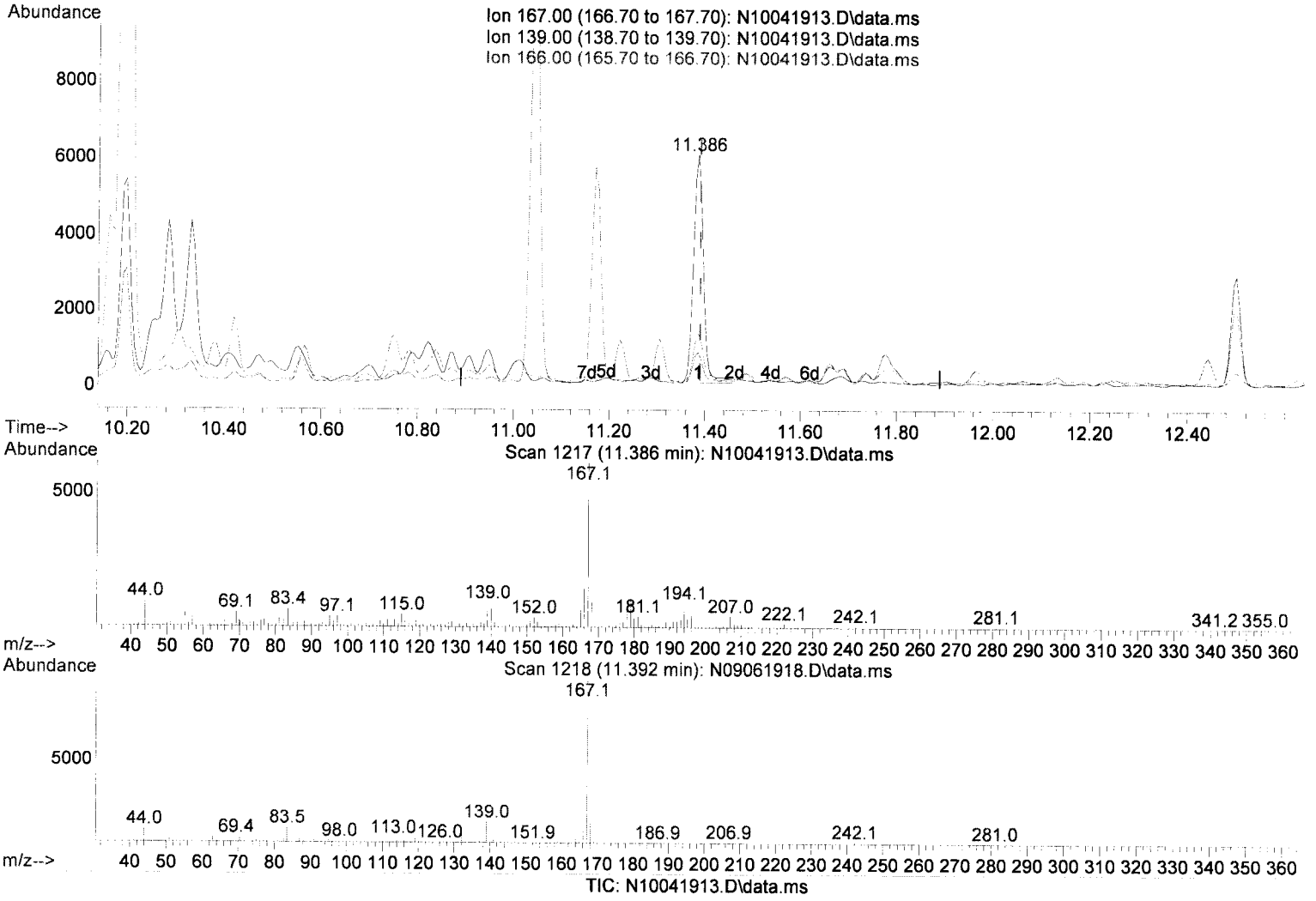
response 139535

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.15
179.00	15.30	16.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(21) Carbazole (T)

11.386min (-0.004) 3.95 ng/ml

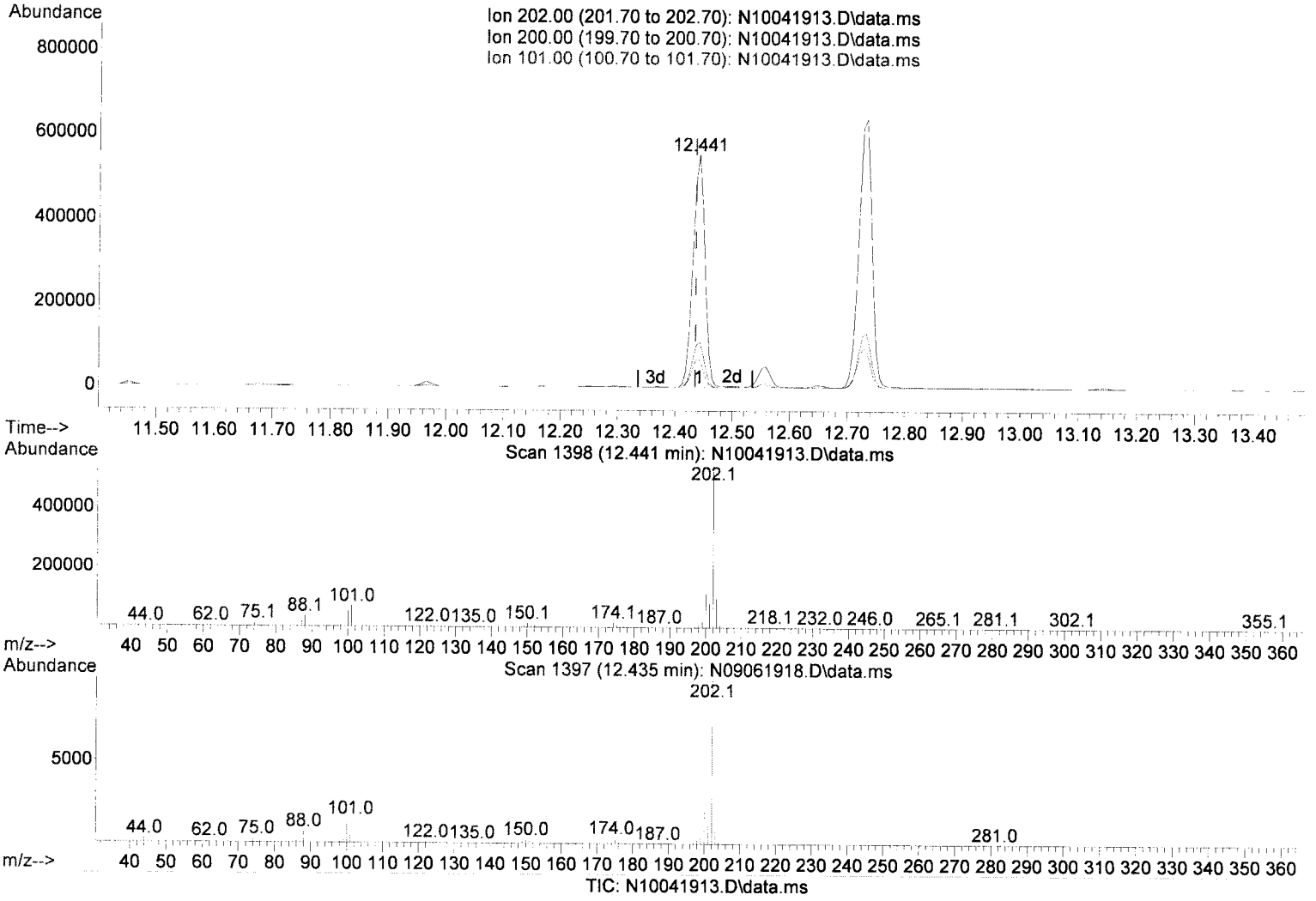
response 8725

Ion	Exp%	Act%
167.00	100.00	100.00
139.00	13.50	14.84
166.00	21.10	23.18
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(23) Fluoranthene (T)

12.441min (+ 0.006) 270.32 ng/ml

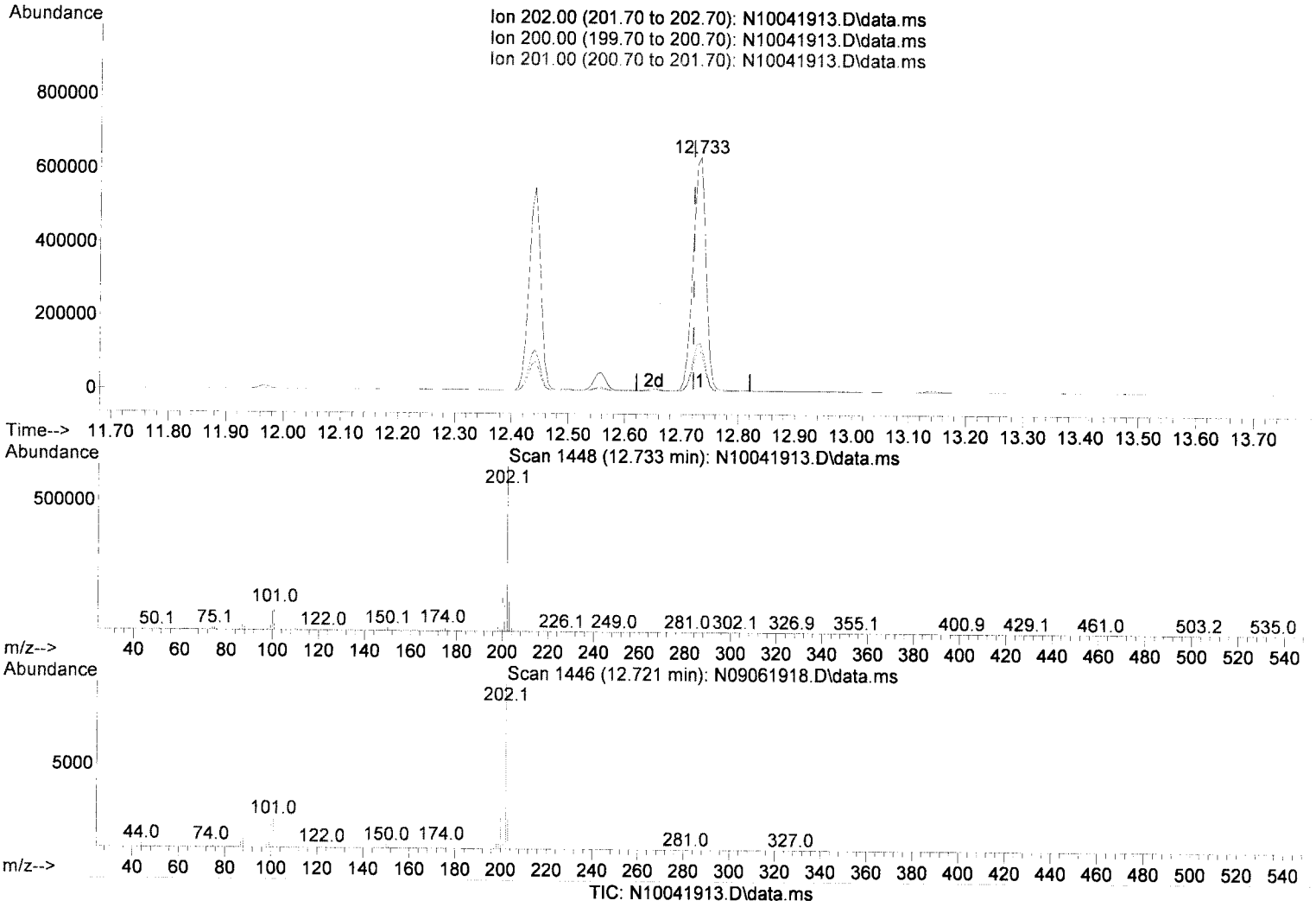
response 800057

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.24
101.00	15.30	12.36
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(25) Pyrene (T)

12.733min (+ 0.012) 304.99 ng/ml

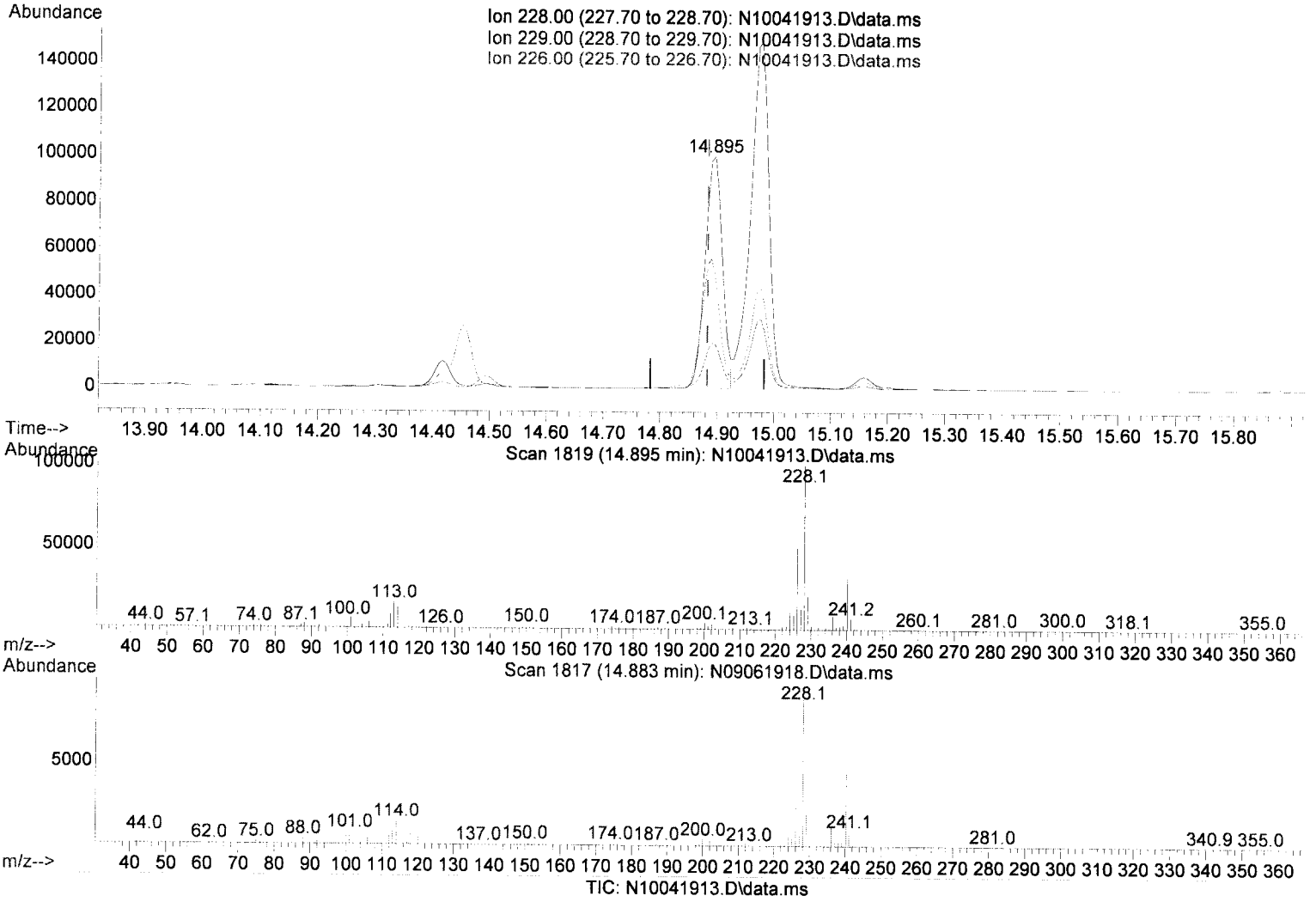
response 1015727

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.52
201.00	16.80	17.18
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(27) Benz(a)anthracene (T)

14.895min (+ 0.012) 85.77 ng/ml

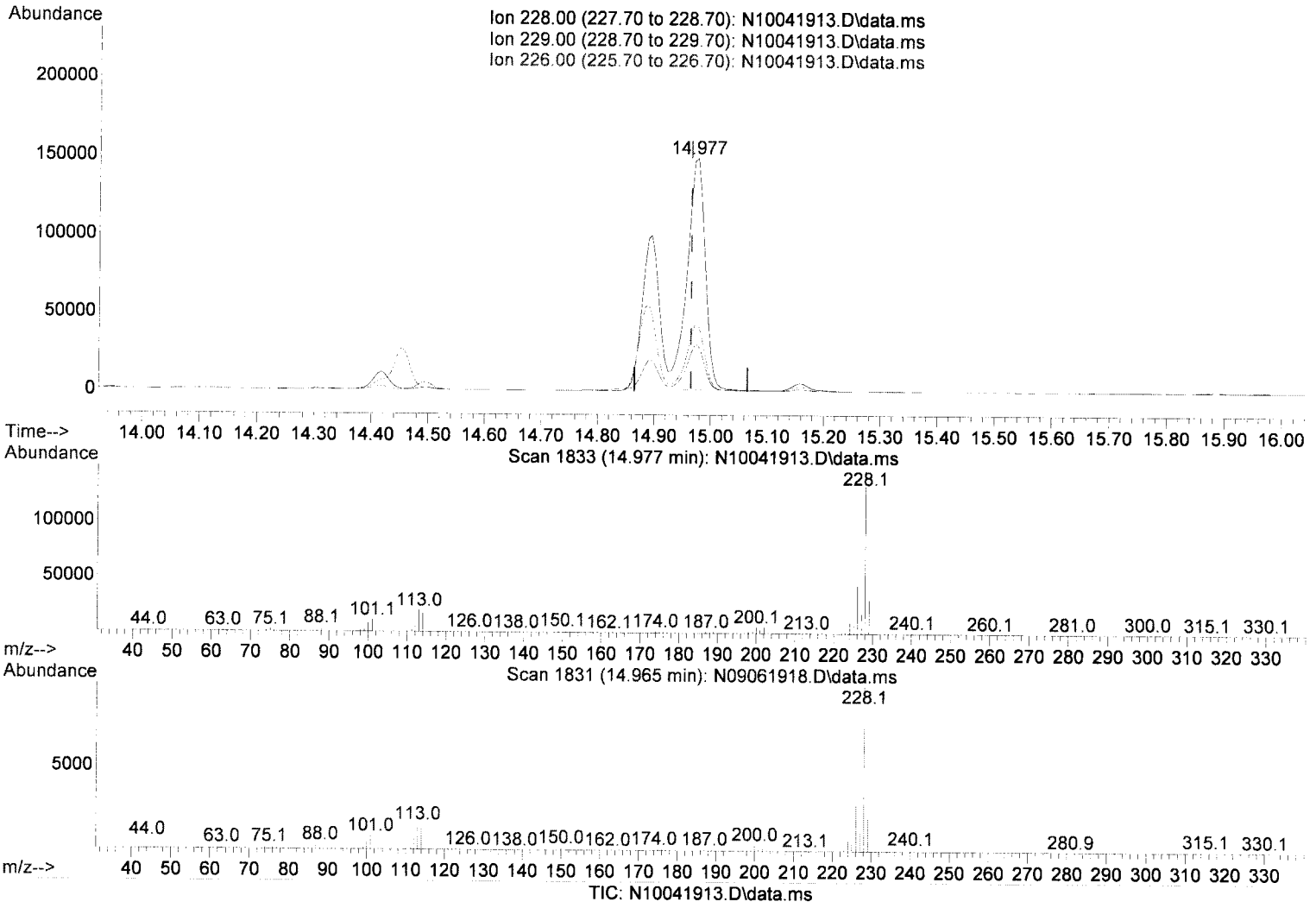
response 212267

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	19.93
226.00	26.20	49.62
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(28) Chrysene (T)

14.977min (+ 0.012) 142.30 ng/ml

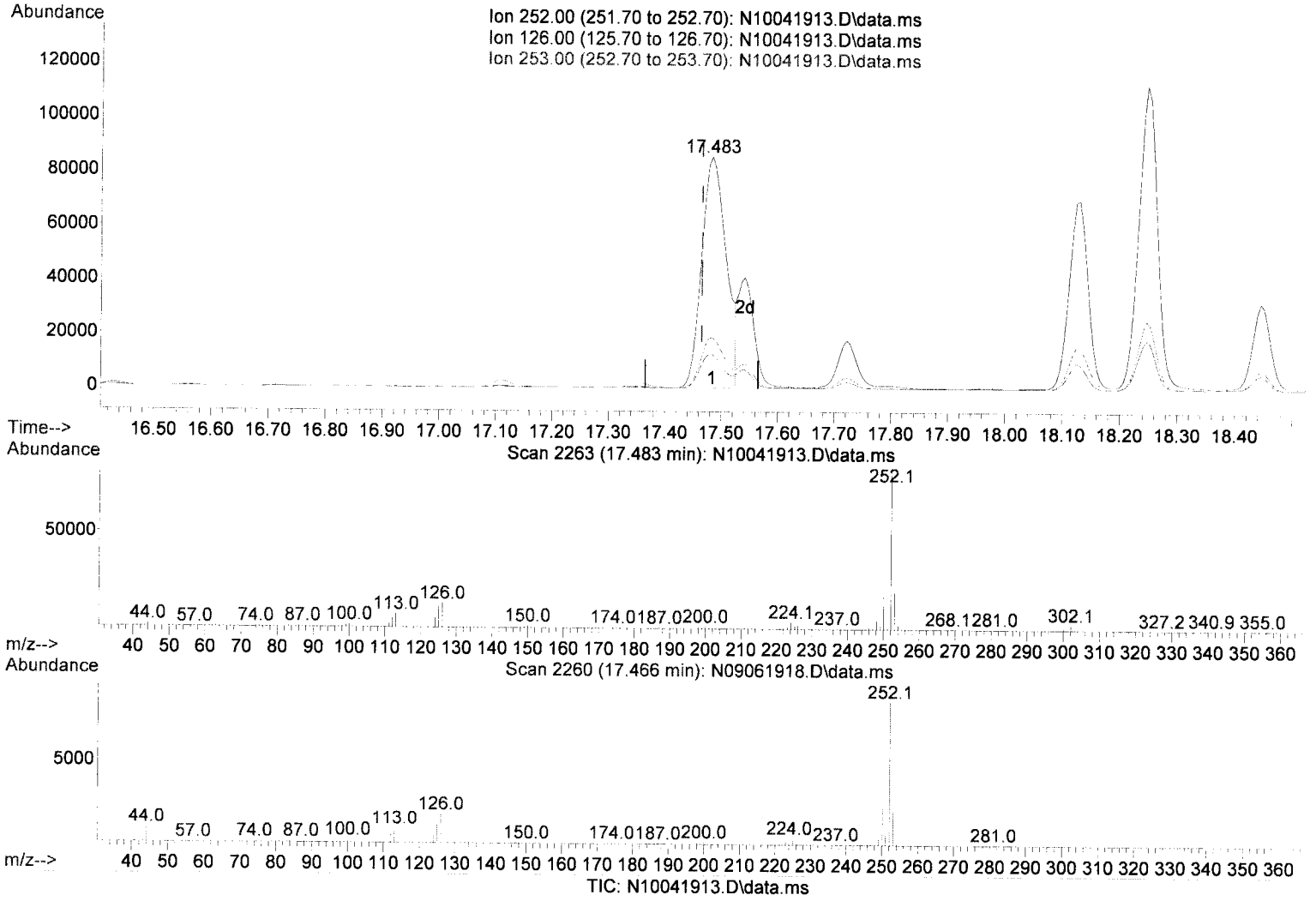
response 333288

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.16
226.00	28.60	28.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(30) Benzo(b)fluoranthene (T)

17.483min (+ 0.018) 123.71 ng/ml

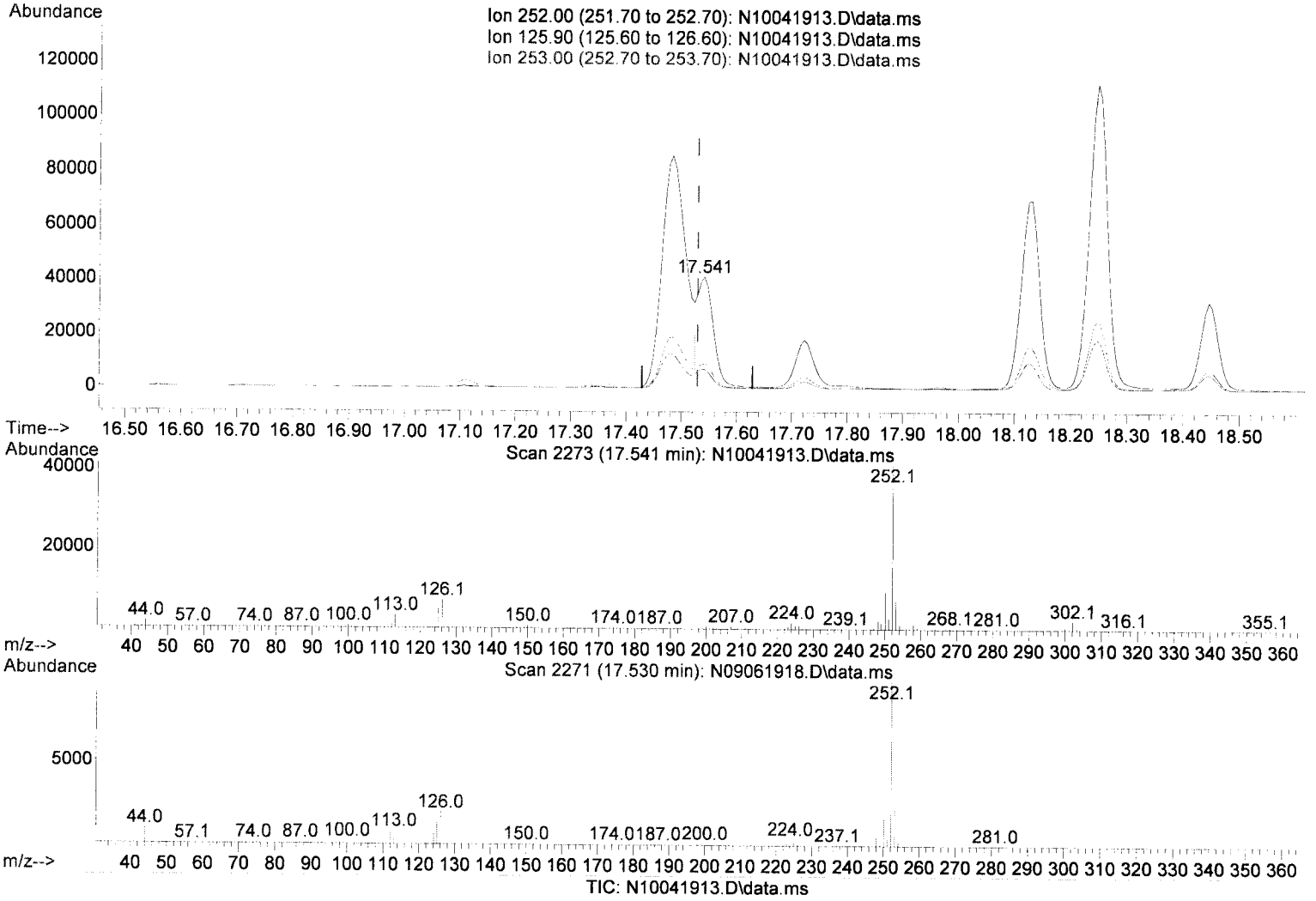
response 259953

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	14.64
253.00	21.10	22.17
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(31) Benzo(k)fluoranthene (T)

17.541min (+ 0.012) 37.76 ng/ml m

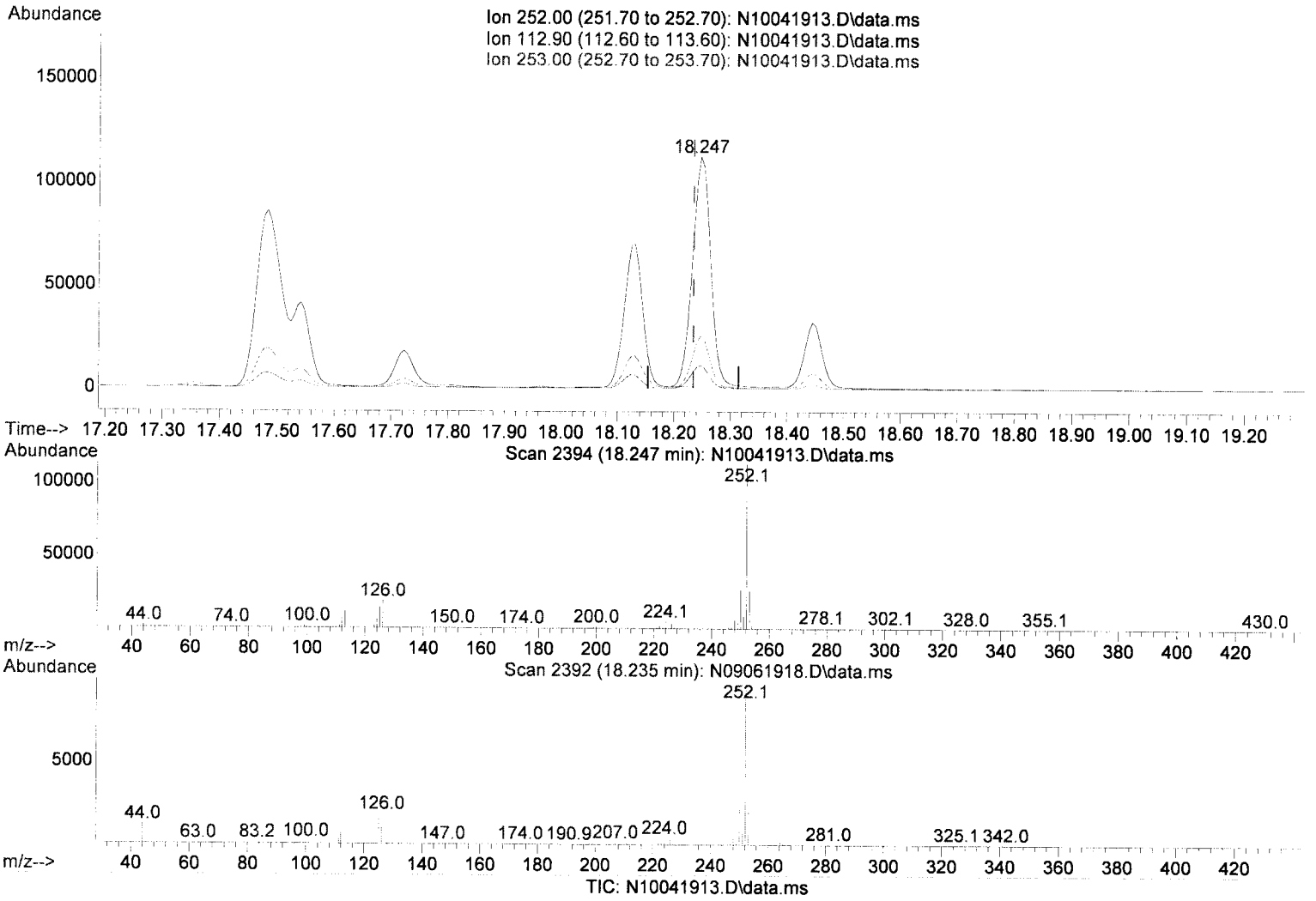
response 78129

Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	16.94
253.00	21.50	22.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(35) Benzo(a)pyrene (T)

18.247min (+ 0.013) 139.21 ng/ml

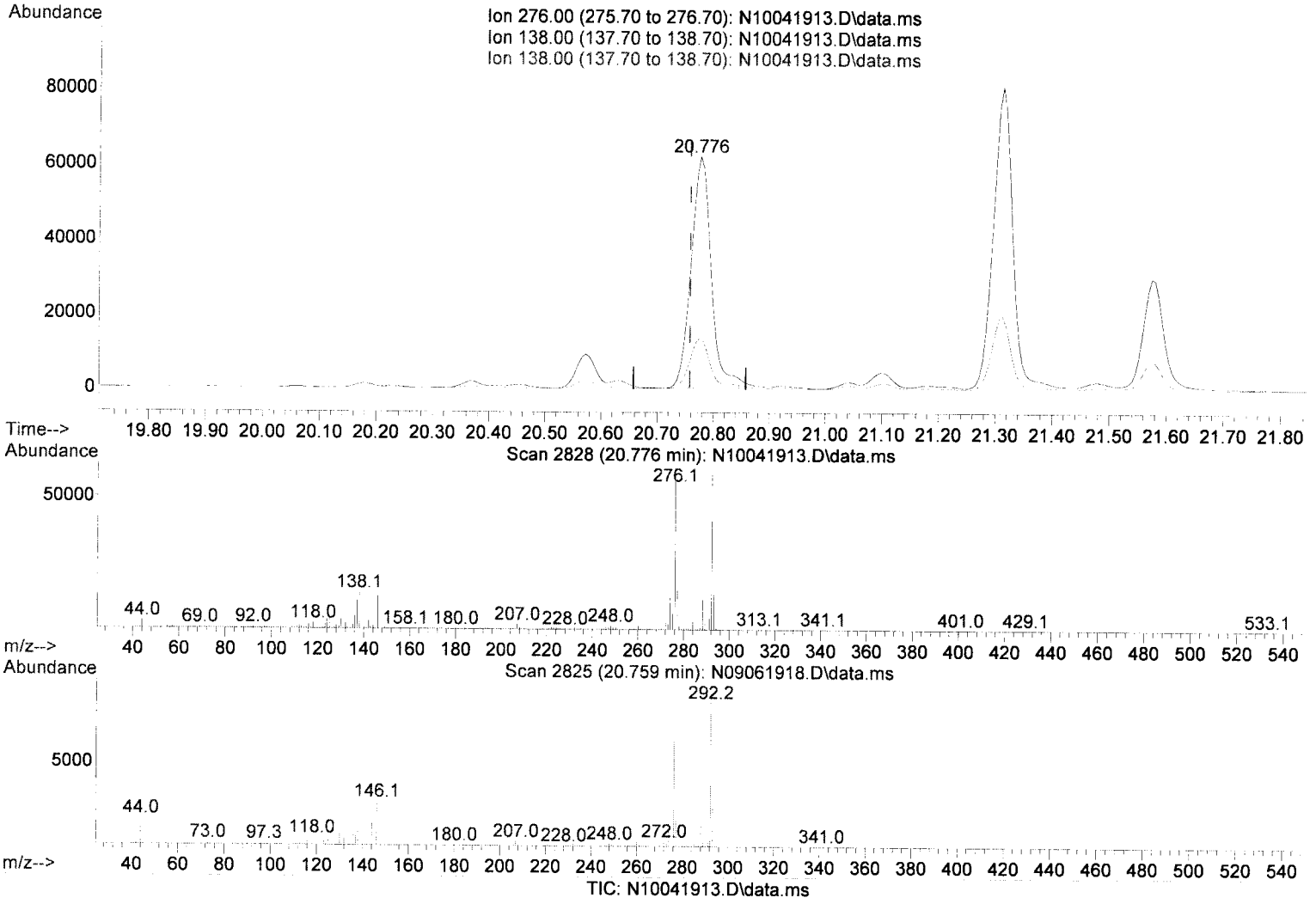
response 250367

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	9.94
253.00	21.90	22.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(38) Indeno(1,2,3-cd)Pyrene (T)

20.776min (+ 0.018) 91.05 ng/ml

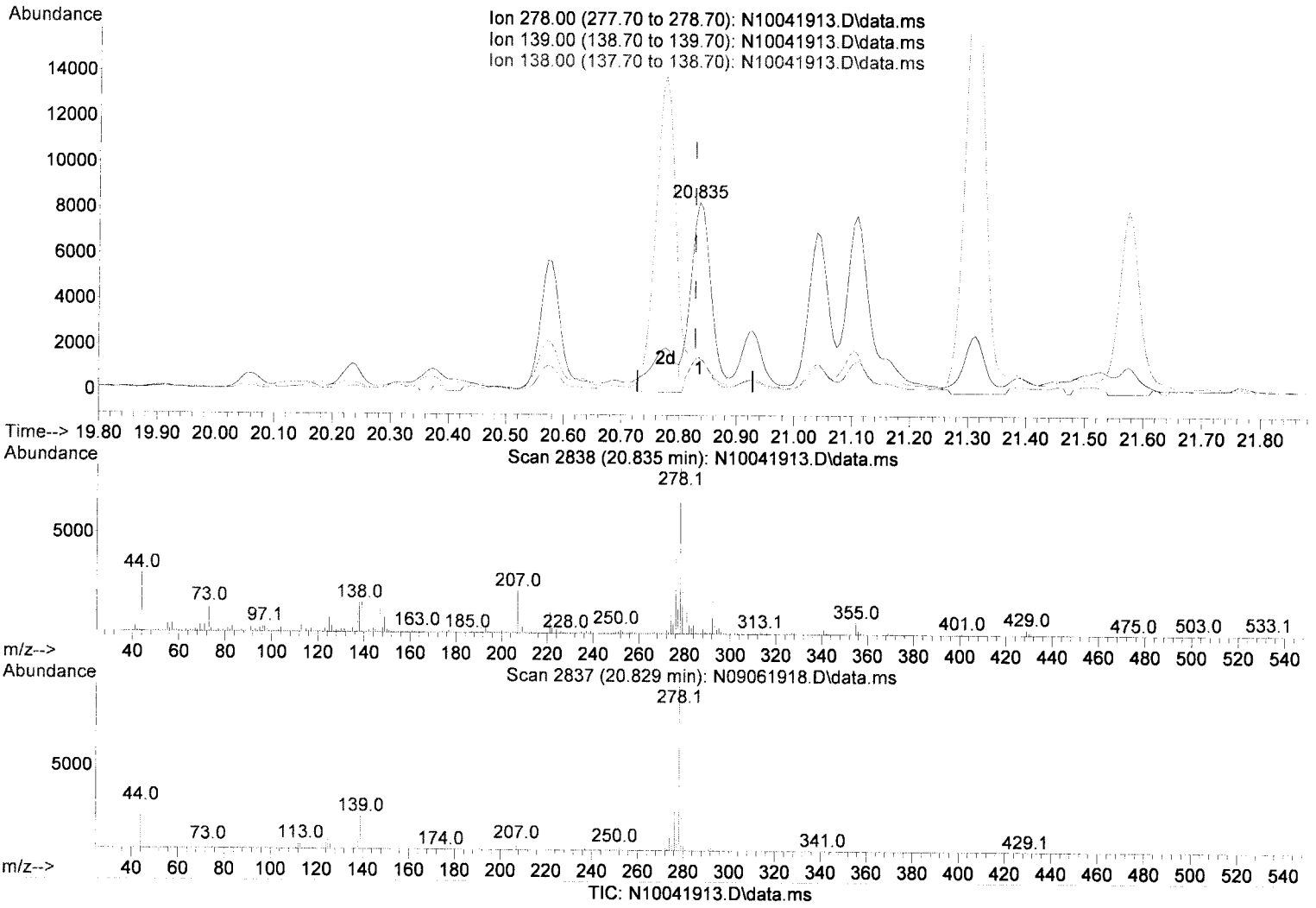
response 154565

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	22.19
138.00	31.60	22.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(39) Dibenz(a,h)anthracene (T)

20.835min (+ 0.007) 11.03 ng/ml

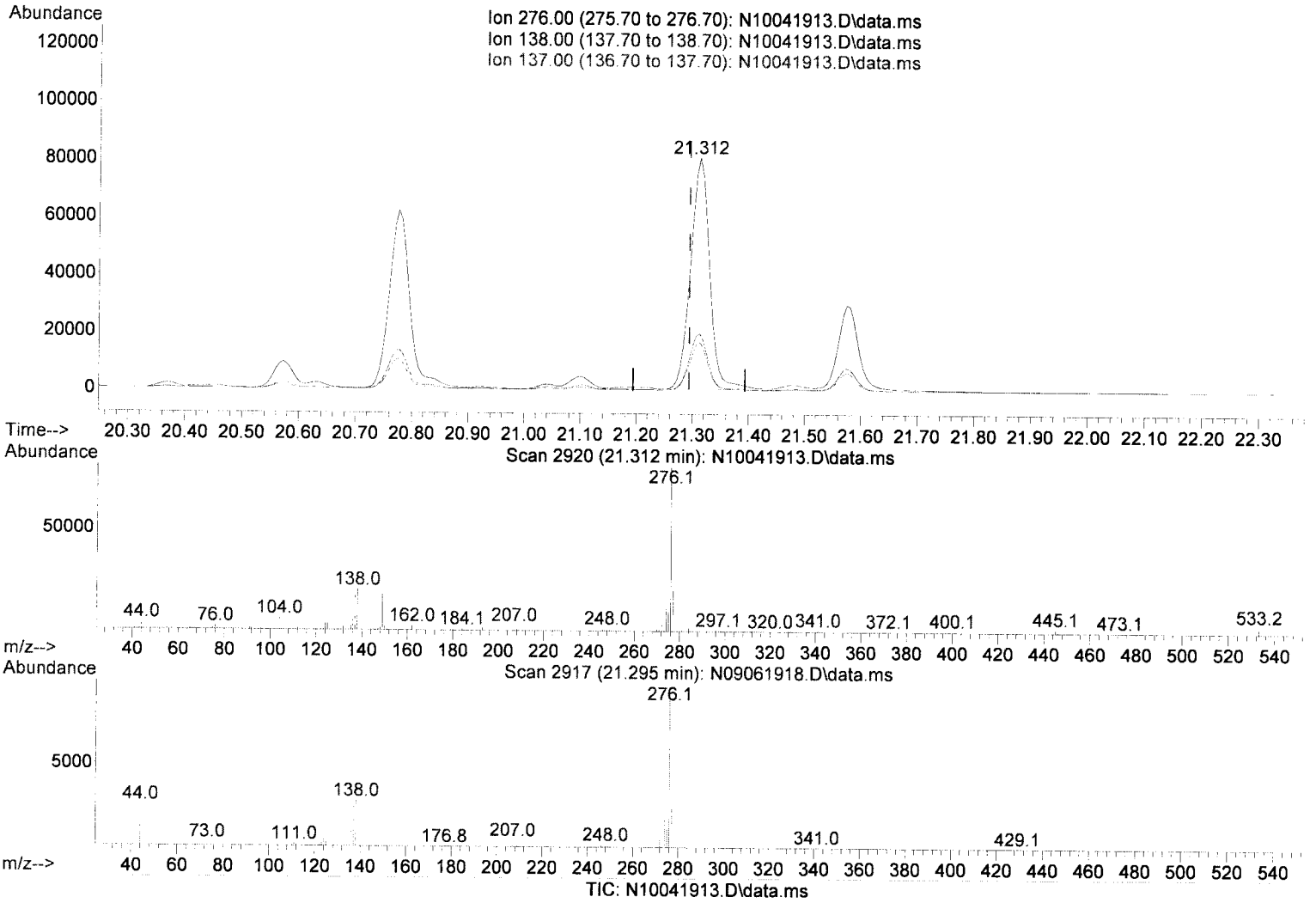
response 17595

Ion	Exp%	Act%
278.00	100.00	100.00
139.00	26.00	18.25
138.00	19.90	18.40
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(40) Benzo(g,h,i)perylene (T)

21.312min (+ 0.018) 105.34 ng/ml

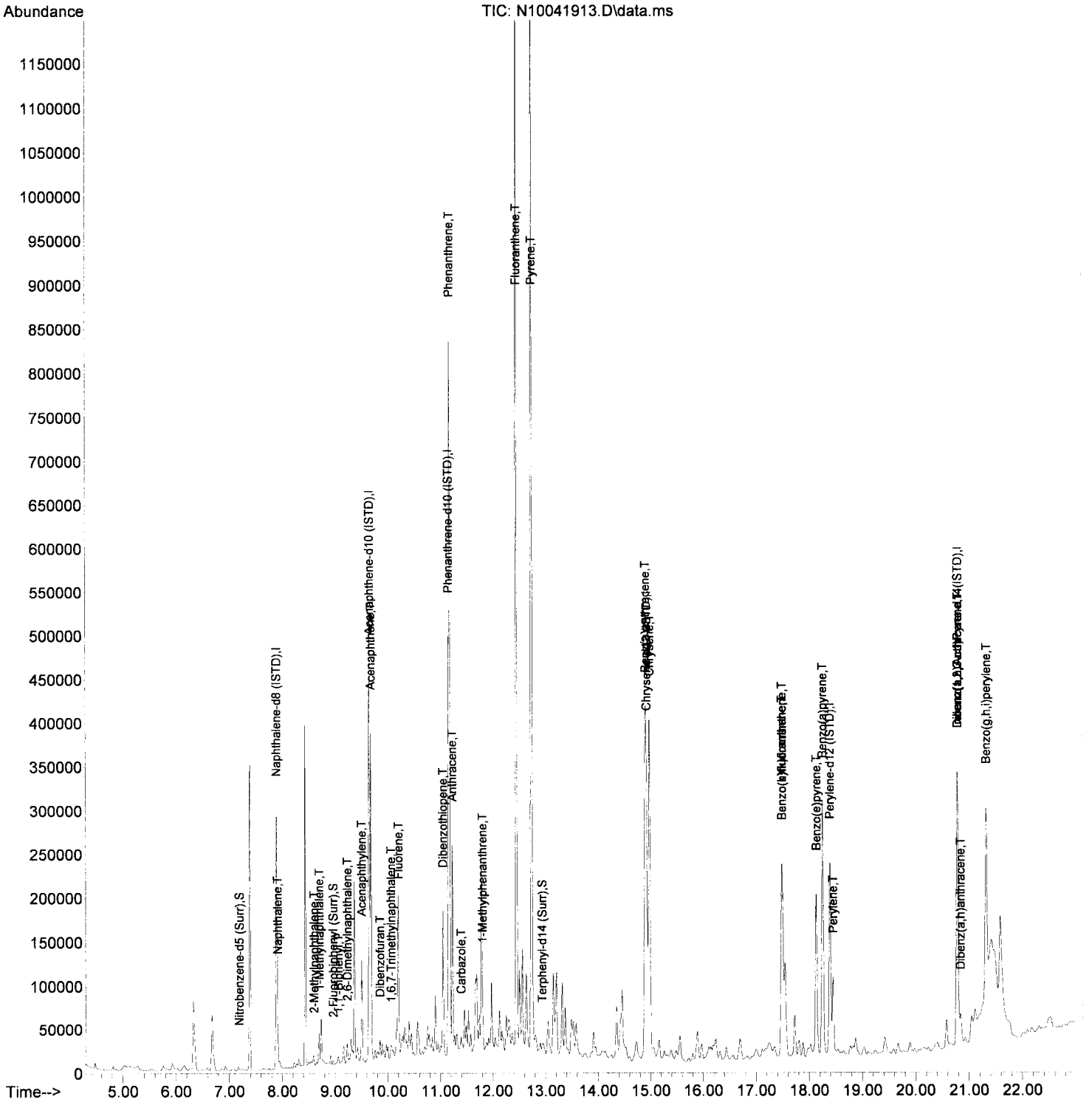
response 189708

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	24.51
137.00	28.60	20.75
0.00	0.00	0.00

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041913.D
Acq On : 04 Oct 2019 02:47 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-05@100
Misc : 100x, 8270D PAH only
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:41:58 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J04014\
Data File : N10041914.D
Acq On : 04 Oct 2019 03:19 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13RE1 RML 10/7/19
Misc : 10x, #13
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

RML 10/7/19

Quant Time: Oct 07 09:42:01 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

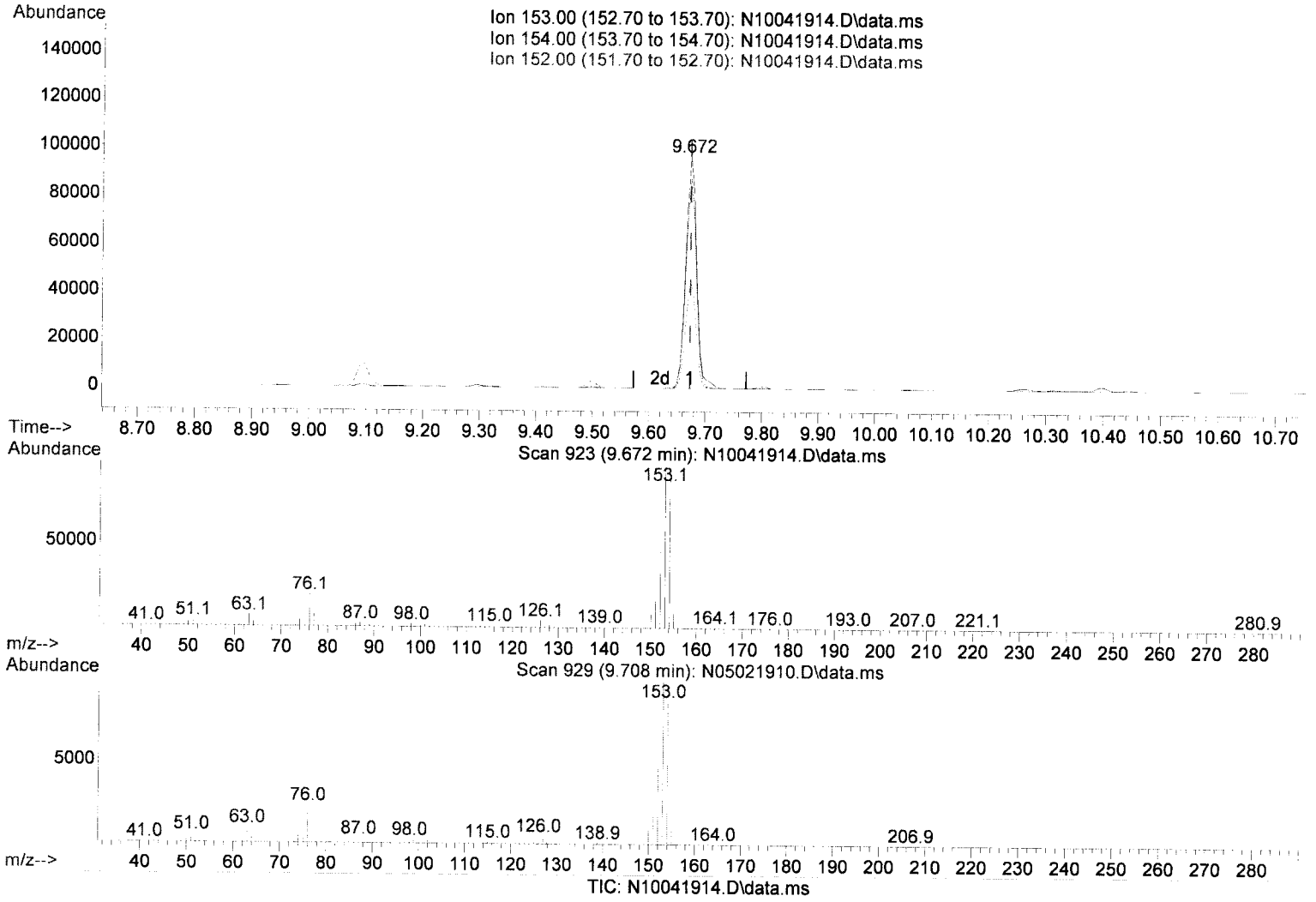
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)	
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	212627	100.00 ng/ml	0.00	
9) Acenaphthene-d10 (ISTD)	9.643	162	130160	100.00 ng/ml	0.00	
17) Phenanthrene-d10 (ISTD)	11.147	188	240611	100.00 ng/ml	0.00	
24) Chrysene-d12 (ISTD)	14.912	240	194655	100.00 ng/ml	0.00	
29) Perylene-d12 (ISTD)	18.386	264	171453	100.00 ng/ml	0.01	
37) Dibenz(a,h)Anthrcene-d...	20.770	292	139734	100.00 ng/ml	0.00	
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.189	82	6041	8.55 ng/ml	0.00	
10) 2-Fluorobiphenyl (Surr)	8.956	172	18099	9.32 ng/ml	0.00	
11) Acenaphthylene d-8 (Surr)	9.486	160	882	-1.00 ng/ml	0.00	
26) Terphenyl-d14 (Surr)	12.931	244	19519	9.53 ng/ml	0.00	
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml		
Target Compounds					Qvalue	
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.906	128	19563	8.34 ng/ml	99	J NR
5) 2-Methylnaphthalene	8.588	142	5665	(2.85) ng/ml	93	
6) 1-Methylnaphthalene	8.687	142	111019	55.88 ng/ml	98	
7) 1,1'-Biphenyl	9.055	154	572	N.D.		
8) 2,6-Dimethylnaphthalene	9.218	156	5994	3.07 ng/ml	99	
12) Acenaphthylene	9.498	152	3718	1.32 ng/ml	84	
13) Acenaphthene	9.672	153	131227	70.90 ng/ml	100	
14) Dibenzofuran	9.847	168	711	N.D.		
15) 1,6,7-Trimethylnaphtha...	10.051	170	549	N.D.		
16) Fluorene	10.197	166	15928	8.41 ng/ml	98	NR
18) Dibenzothiopene	11.042	184	1939	0.77 ng/ml	93	
19) Phenanthrene	11.170	178	6608	2.35 ng/ml	98	
20) Anthracene	11.223	178	408	N.D.		
21) Carbazole	11.386	167	1975	0.93 ng/ml	95	
22) 1-Methylphenanthrene	11.794	192	152	N.D.		
23) Fluoranthene	12.435	202	890	N.D.		
25) Pyrene	12.727	202	993	N.D.		
27) Benz(a)anthracene	14.907	228	786	N.D.		
28) Chrysene	14.971	228	287	N.D.		
30) Benzo(b)fluoranthene	17.471	252	232	N.D.		
31) Benzo(k)fluoranthene	17.471	252	361	N.D.		
32) Benzo(b+k)fluoranthene	17.471	252	374	N.D.		
34) Benzo(e)pyrene	18.141	252	125	N.D.		
35) Benzo(a)pyrene	18.246	252	210	N.D.		
36) Perylene	18.445	252	7312	3.51 ng/ml	97	
38) Indeno(1,2,3-cd)Pyrene	20.770	276	237	N.D.		
39) Dibenz(a,h)anthracene	0.000		0	N.D.		
40) Benzo(g,h,i)perylene	21.295	276	226	N.D.		

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J04014\
Data File : N10041914.D
Acq On : 04 Oct 2019 03:19 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13RE1 kem 10/7/19
Misc : 10x, #13
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 07 09:42:01 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

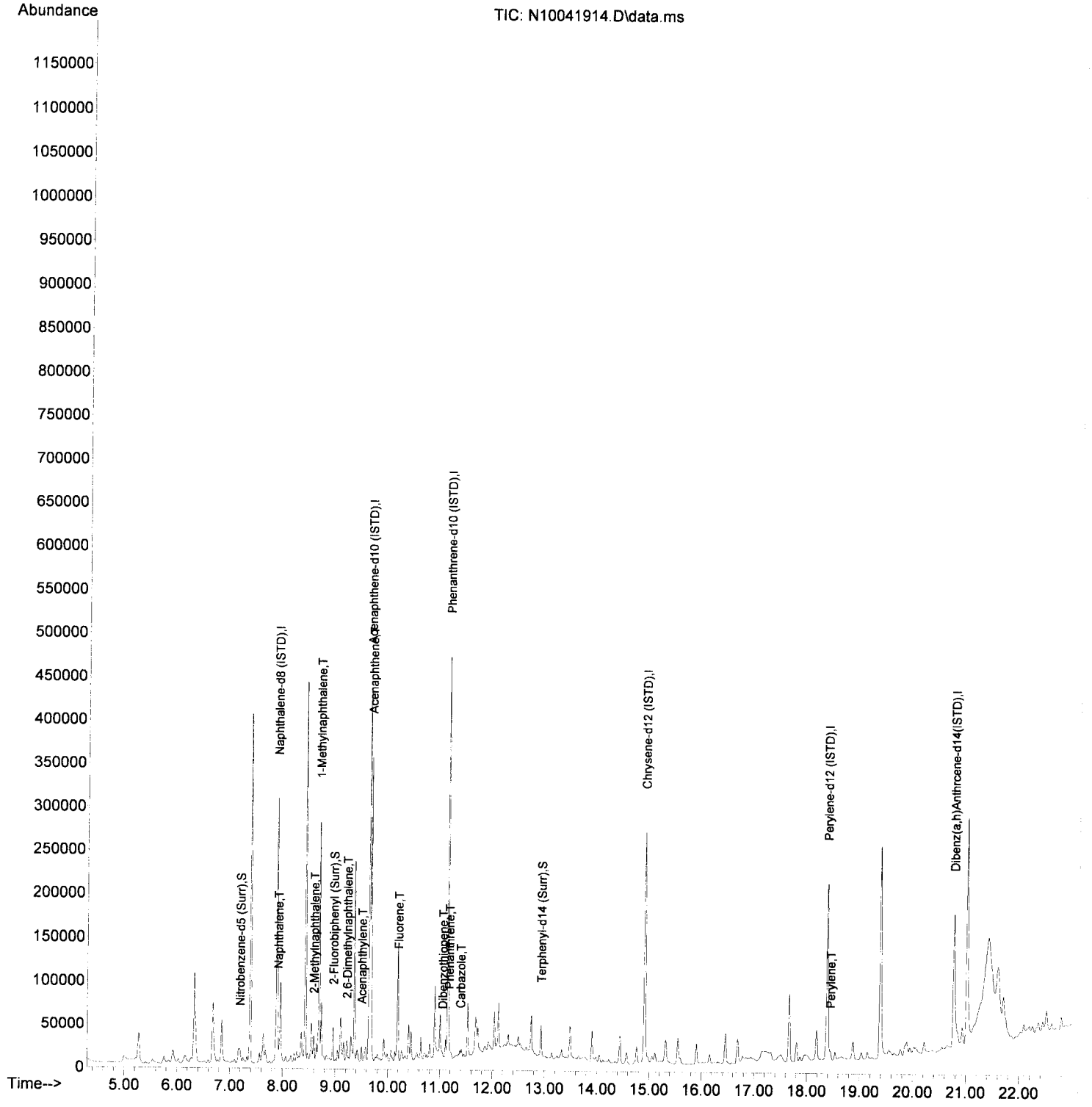
9.672min (-0.000) 70.90 ng/ml

response 131227

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.55
152.00	46.80	46.58
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J04014\
Data File : N10041914.D
Acq On : 04 Oct 2019 03:19 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-13 RE1 hmm 10/17/19
Misc : 10x, #13
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 09:42:01 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



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

Semivolatile Organic Compounds (PAHs) by EPA 8270D
Benchsheet & Analysis Sequence Data

Batch 9100706
Sequence 9J07048 (A9I0922-16,17,18,21)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100706 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100706-BLK1		QC	10/06/19 07:51	11	5				100					
	9100706-BS1		QC	10/06/19 07:51	10	5	A19H078		100	100					
	A9I0922-16	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.33	5				100	PDI-036SC-B-8.2-10.2-190929				
	A9I0922-17	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.71	5				100	PDI-064SC-B-8-10-190929				
	A9I0922-18	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.86	5				100	PDI-064SC-B-10-12-190929				
	A9I0922-19	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.54	5				100	PDI-064SC-B-12-14-190929				
	A9I0922-19RE1	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.54	5				100	PDI-064SC-B-12-14-190929	RR-1, 1x. Added 10/8/2019 By jk			
	A9I0922-20	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.93	5				100	PDI-064SC-B-14-15.8-190929				
	A9I0922-20RE1	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.93	5				100	PDI-064SC-B-14-15.8-190929	Added 10/8/2019 By hml			
	A9I0922-21	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.13	5				100	PDI-1064SC-B-08-10-190929				
	A9I0936-03RE1	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.84	5				100	PDI-024SC-A-10-11-190927	Due to blank contamination. Added 10/4/2019 By jk			
	A9I0936-18RE1	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.49	5				100	PDI-064SC-A-14-15-190929	SURR FAILURE, Added 10/4/2019 By hml			
	A9J0058-01	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.61	5				100	PDI-039SC-A-12-13-190930				
	A9J0058-02	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.23	5				100	PDI-039SC-A-13-13.7-190930				
	A9J0058-03	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.41	5				100	PDI-1039SC-A-12-13-190930				
	A9J0058-04	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.83	5				100	PDI-039SC-B-11.8-13.7-190930				
	A9J0058-05	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.73	5				100	PDI-039SC-B-3.8-5.8-190930				
	A9J0058-06	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.49	5				100	PDI-039SC-B-5.8-7.8-190930				
	A9J0058-07	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.19	5				100	PDI-039SC-B-7.8-9.8-190930				

Prepared By: Date

Reviewed By: 10/10/19 Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100706 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH other	pH >11
	A9J0058-08	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.09	5				100	PDI-039SC-B-9.8-11.8-190930				
	A9J0058-09	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.61	5				100	PDI-040SC-A-09-10-190930				
	A9J0058-10	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.86	5				100	PDI-040SC-A-10-11.3-190930				
	A9J0058-11	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10.21	5				100	PDI-040SC-B-5.3-7.3-190930				
	A9J0058-12	H	8270D LL PAH Only (Scan)	10/06/19 07:51	10.36	5				100	PDI-040SC-B-7.3-9.3-190930	MS/MSD			
	9100706-MS1		QC	10/06/19 07:51	10.4	5	A19H078	A9J0058-12	100	100					
	9100706-MSD1		QC	10/06/19 07:51	10.6	5	A19H078	A9J0058-12	100	100					

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19H436	07/31/21	Sodium Sulfate Lot # 190116
A19I027	01/01/22	DCM CHEM PROD. 190351

Analyte Spike(s)

Std ID	Exp. Date	Description
A19H078	02/02/20	LVI PAH Spike @2000ng/ml

Surrogate(s)

Std ID	Exp. Date	Description
A19I094	03/03/20	8270D LL PAH Only Surr. (5ppm)

Method 3546 digestion time and temperture achieved.
Initial:

Witness:_____

Prepared By: Date

Reviewed By: Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100706 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
1	9100706-BLK1		QC	10/06/19 07:51	~~10~~ 11	5 ✓				100					
2	9100706-BS1		QC	10/06/19 07:51	10	5 ✓	A19H078		100	100					
3	A9I0922-16	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.33	5 ✓				100	PDI-036SC-B-8.2-10.2-190929	Sand			
4	A9I0922-17	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.71	5 ✓				100	PDI-064SC-B-8-10-190929	MUD			
5	A9I0922-18	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.86	5 ✓				100	PDI-064SC-B-10-12-190929	Sand			
6	A9I0922-19	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.54	5 ✓				100	PDI-064SC-B-12-14-190929	Sand			
7	A9I0922-20	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.93	5 ✓				100	PDI-064SC-B-14-15.8-190929	Wet Sand			
8	A9I0922-21	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.13	5 ✓				100	PDI-1064SC-B-08-10-190929	MUD			
9	A9I0936-03RE1	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.84	5 ✓				100	PDI-024SC-A-10-11-190927	Due to blank contamination. Added 10/4/2019 By jk Sand			
10	A9I0936-18RE1	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.49	5 ✓				100	PDI-064SC-A-14-15-190929	SURR FAILURE. Added 10/4/2019 By hml MUD			
11	A9J0058-01	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.61	5 ✓				100	PDI-039SC-A-12-13-190930	Sand			
12	A9J0058-02	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.23	5 ✓				100	PDI-039SC-A-13-13.7-190930	Sand			
13	A9J0058-03	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.41	5 ✓				100	PDI-1039SC-A-12-13-190930	Sand			
14	A9J0058-04	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.83	5 ✓				100	PDI-039SC-B-11.8-13.7-190930	Sand			
15	A9J0058-05	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.73	5 ✓				100	PDI-039SC-B-3.8-5.8-190930	Sand			
16	A9J0058-06	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.49	5 ✓				100	PDI-039SC-B-5.8-7.8-190930	Sand			
17	A9J0058-07	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.19	5 ✓				100	PDI-039SC-B-7.8-9.8-190930	Sand			
18	A9J0058-08	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.09	5 ✓				100	PDI-039SC-B-9.8-11.8-190930	Sand			
19	A9J0058-09	D	8270D LL PAH Only (Scan)	10/06/19 07:51	~~10~~ 10.61	5 ✓				100	PDI-040SC-A-09-10-190930	Sand			

JC 10/6/19
Prepared By: Date

CAS 10/6/19
Reviewed By: Date

JAG 10/6/19

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100706 (Sediment)

Prep Method: EPA 3546

#	Lab Number		Analysis	Prepared	Initial (g)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
20	A9J0058-10	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10 / 10.86	5 ✓				100	PDI-040SC-A-10 -11.3-190930	Sand			
21	A9J0058-11	D	8270D LL PAH Only (Scan)	10/06/19 07:51	10 / 10.21	5 ✓				100	PDI-040SC-B-5. 3-7.3-190930	Sand			
22	A9J0058-12	H	8270D LL PAH Only (Scan)	10/06/19 07:51	10 / 10.36	5 ✓				100	PDI-040SC-B-7. 3-9.3-190930	MS/MSD Sand			
23	9100706-MS1		QC	10/06/19 07:51	10 / 10.40	5 ✓	A19H078	A9J0058-12	100	100		Sand			
24	9100706-MSD1		QC	10/06/19 07:51	10 / 10.600	5 ✓	A19H078	A9J0058-12	100	100		Sand			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L219	11/30/23	Extractions Balance
A18K311	12/31/20	Glass Wool
A19H436	07/31/21	Sodium Sulfate Lot # 190116
~~A19I262~~ A19IC27	~~08/30/22~~	DCM CHEM PROD ~~186806~~

JC 10/6/19

Analyte Spike(s)

Std ID	Exp. Date	Description
A19H078	02/02/20	LVI PAH Spike @2000ng/ml

JC

Surrogate(s)

Std ID	Exp. Date	Description
A19I094	03/03/20	8270D LL PAH Only Surr. (5ppm)

JC

Method 3546 digestion time and temperture achieved.

Initial: JAG

Witness: JAG 10/6/19

Prepared By: JAG Date 10/6/19

Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

APEX LABORATORIES

Sequence: 9J07048
Date: 10/07/19 11:44
Instrument: SV-GCMS14
Calibration: A9I1001

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J07048-TUN1	Water	QC	QC			A19I102	A19J016
2	9J07048-CCV1	Water	QC	QC			A19I102	A19I020
3	9J07048-CCB1	Water	QC	QC			A19I102	
4	9100706-BLK1	Sediment	QC	QC		9100706	A19I102	
5	9100706-BS1	Sediment	QC	QC		9100706	A19I102	
6	A9J0058-12	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
7	9100706-MS1	Sediment	QC	QC		9100706	A19I102	
8	9100706-MSD1	Sediment	QC	QC		9100706	A19I102	
9	A9I0922-17	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
10	A9I0922-21	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
11	A9I0922-19	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
12	A9I0922-20	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
13	A9I0922-16	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
14	A9I0922-18	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
15	A9I0936-03RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
16	A9I0936-18RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
17	A9J0058-01	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
18	A9J0058-02	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
19	A9J0058-03	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
20	A9J0058-04	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
21	A9J0058-05	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
22	A9J0058-06	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
23	A9J0058-07	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
24	9J07048-IBL1	Water	QC	QC			A19I102	

Data Entered By: tenul 10/8/18

Comments:

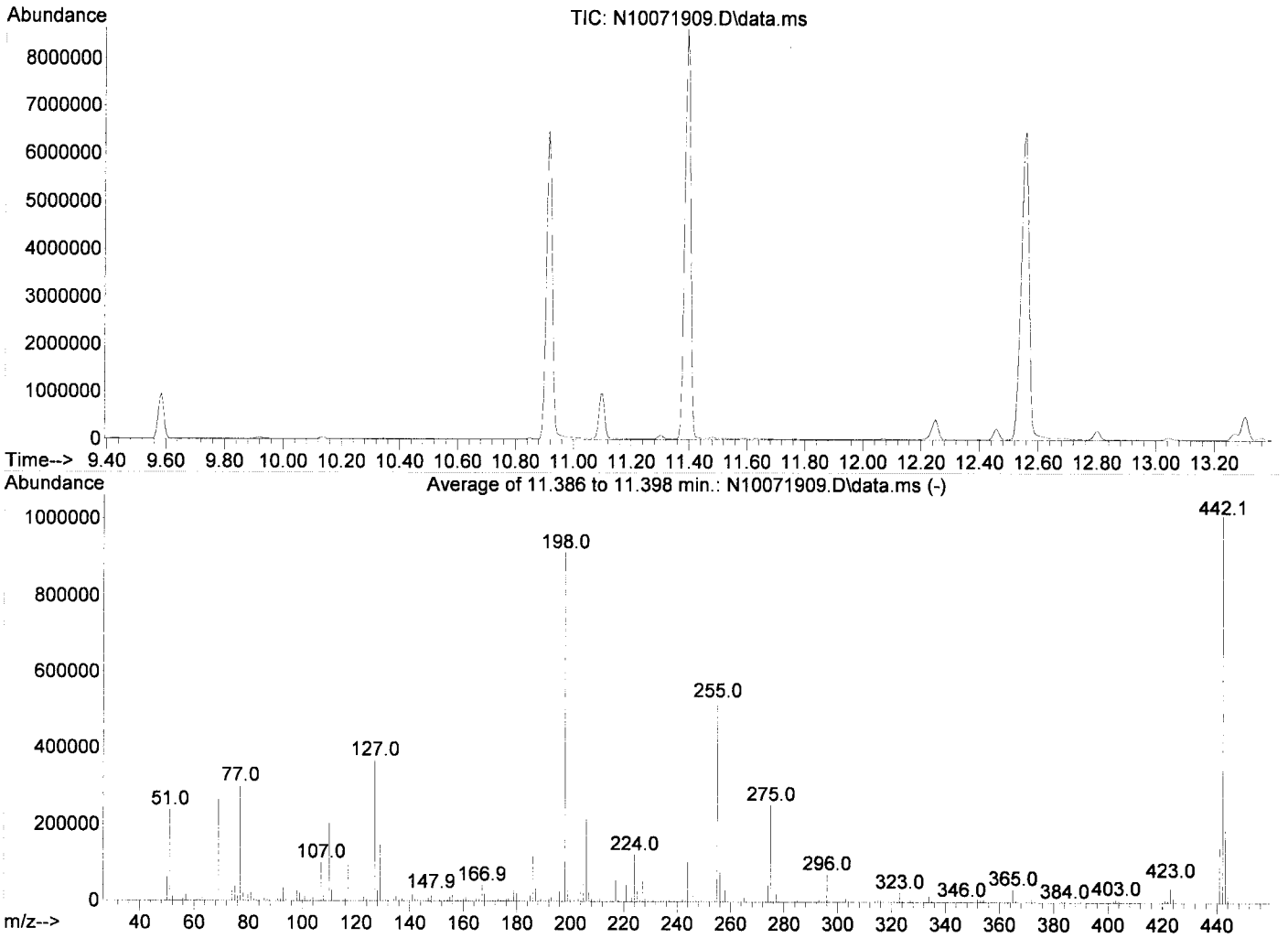
Data Reviewed By: [signature] 10/8/19

Data Path : U:\data\2019-10\9J07048\
Data File : N10071909.D
Acq On : 07 Oct 2019 11:51 am
Operator : JK/ AMS/ DTH
Sample : 9J07048-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

DTH 10/7/19

Method : S:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019



AutoFind: Scans 1217, 1218, 1219; Background Corrected with Scan 1211

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.6	4347	PASS
69	69	100	100	100.0	264197	PASS
70	69	0.00	2	0.5	1333	PASS
197	198	0.00	2	0.5	4418	PASS
198	198	100	100	100.0	912875	PASS
199	198	5	9	6.7	61179	PASS
365	198	1	100	3.8	34824	PASS
441	443	0.01	150	76.7	151333	PASS
442	198	0.10	200	110.7	1010795	PASS
443	442	15	24	19.5	197248	PASS

Data Path : U:\data\2019-10\9J07048\
Data File : N10071909.D
Acq On : 07 Oct 2019 11:51 am
Operator : JK/ AMS/ DTH
Sample : 9J07048-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 07 16:10:38 2019
Quant Method : S:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

DMT 10/7/19

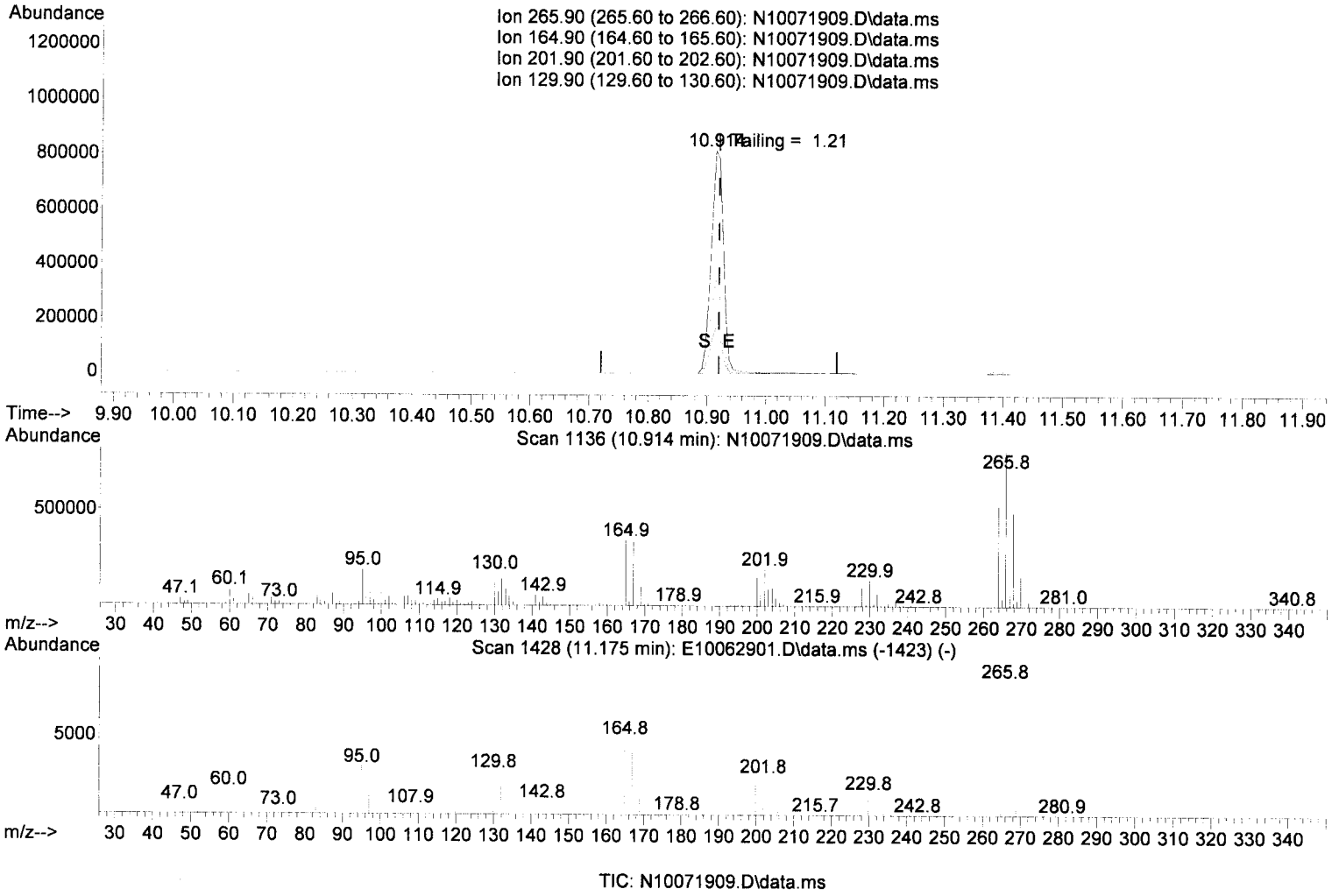
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.612	150	196913	2.00	ug/mL	0.00
2) Naphthalene-d8	7.819	136	540588	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.585	162	277105	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.101	188	508624	2.00	ug/mL	0.00
11) Chrysene-d12	14.773	240	400954	2.00	ug/mL	-0.01
12) Perylene-d12	16.818	264	357781	2.00	ug/mL	-0.02
13) Dibenz(a,h)anthracene-...	18.042	292	314370	2.00	ug/mL	#-0.02
Target Compounds						Qvalue
4) Pentachlorophenol	10.914	266	1175004	44.90	ug/mL	89
6) DFTPP	11.398	442	1642881	40.01	ug/mL	78
7) Benzidine	12.558	184	5092304	28.14	ug/mL	98
8) 4,4-DDE	12.803	TIC	272749	No Calib		
9) 4,4-DDD	13.304	TIC	789224	No Calib		
10) 4,4-DDT	13.863	TIC	16245138	31.15	ug/mL	96

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071909.D
Acq On : 07 Oct 2019 11:51 am
Operator : JK/ AMS/ DTH
Sample : 9J07048-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 07 16:10:38 2019
Quant Method : S:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10071909.D\data.ms

(4) Pentachlorophenol

10.914min (-0.006) 44.90 ug/mL

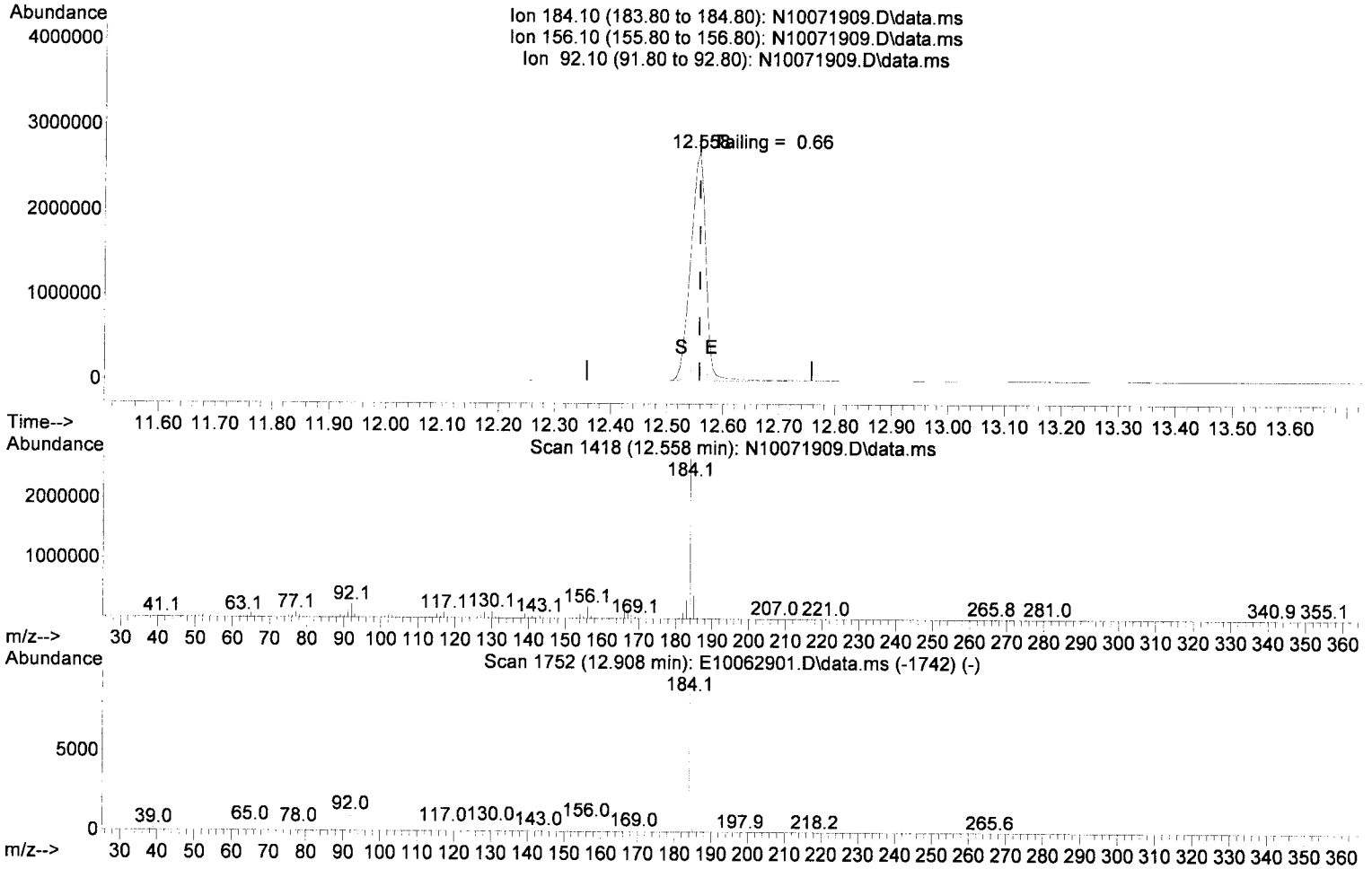
response 1175004

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	41.78
201.90	25.80	23.28
129.90	27.30	20.42

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071909.D
Acq On : 07 Oct 2019 11:51 am
Operator : JK/ AMS/ DTH
Sample : 9J07048-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 07 16:10:38 2019
Quant Method : S:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10071909.D\data.ms

(7) Benzidine

12.558min (+ 0.000) 28.14 ug/mL

response 5092304

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.22
92.10	8.20	8.36
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

From:
9J07048-TUN1
SV-GCMS14

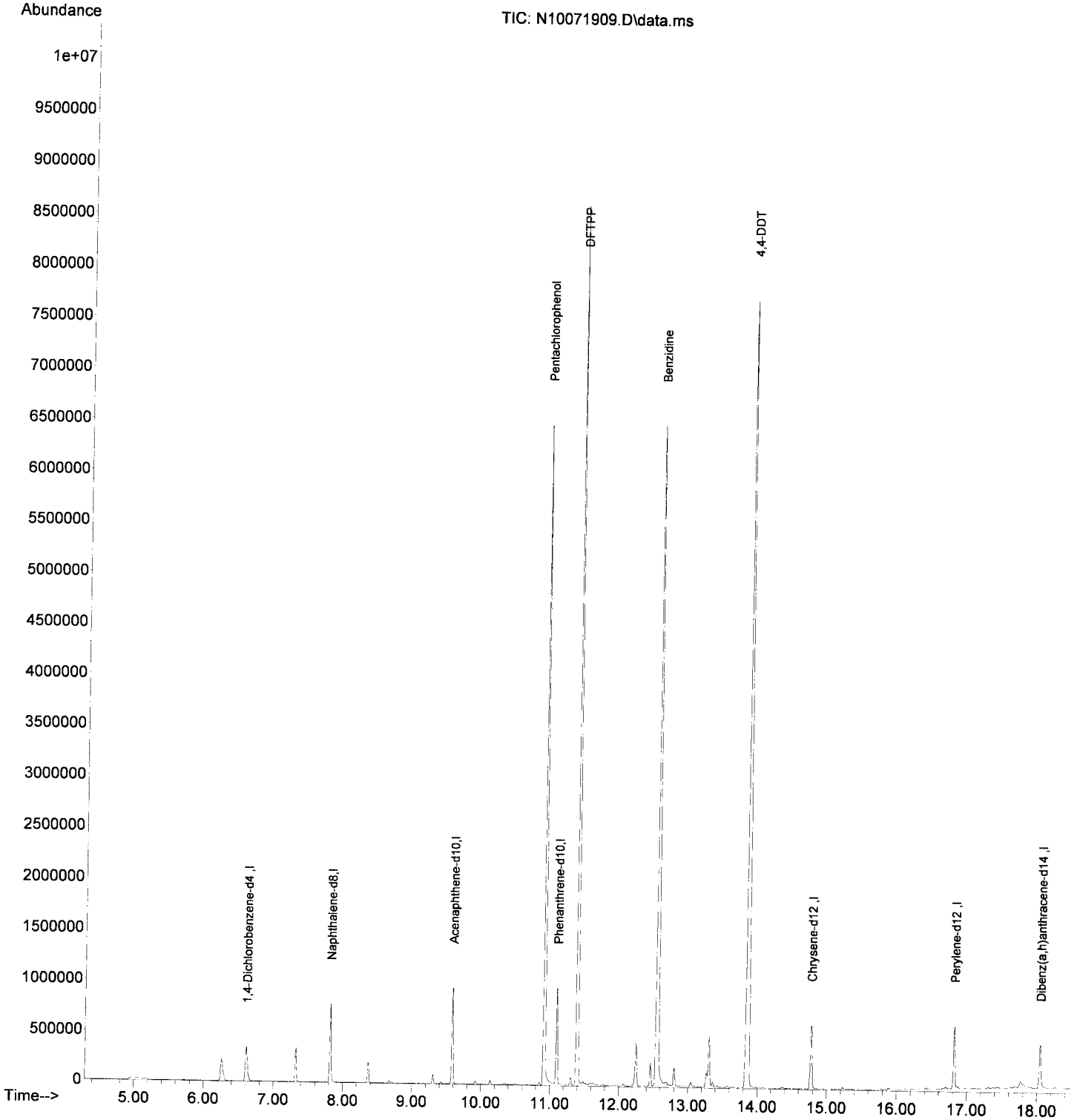
First Column Area Counts		Percent Breakdown	
DDE	272749		
DDD	789224		
DDT	16245138	**6.14**	**PASS**

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071909.D
Acq On : 07 Oct 2019 11:51 am
Operator : JK/ AMS/ DTH
Sample : 9J07048-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 07 16:10:38 2019
Quant Method : S:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Evaluate Continuing Calibration Report

Data Path : U:\data\2019-10\9J07048\
Data File : N10071910.D
Acq On : 07 Oct 2019 12:19 pm
Operator : JK/ AMS/ DTH
Sample : 9J07048-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:13:31 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

DTH 10/7/19

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	155	0.00
2	S	Nitrobenzene-d5 (Surr)	50.000	49.007	2.0	156	0.00
3	T	Decalin	50.000	24.962	50.1#	77	0.00
4	T	Naphthalene	50.000	48.592	2.8	153	0.00
5	T	2-Methylnaphthalene	50.000	41.485	17.0	127	0.00
6	T	1-Methylnaphthalene	50.000	39.356	21.3#	118	0.00
7	T	1,1'-Biphenyl	50.000	38.990	22.0#	121	0.00
8	T	2,6-Dimethylnaphthalene	50.000	38.482	23.0#	116	0.00
9	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	112	0.00
10	S	2-Fluorobiphenyl (Surr)	50.000	52.419	-4.8	118	0.00
11	S	Acenaphthylene d-8 (Surr)	50.000	47.391	5.2	108	0.00
12	T	Acenaphthylene	50.000	48.980	2.0	110	0.00
13	T	Acenaphthene	50.000	49.267	1.5	113	0.00
14	T	Dibenzofuran	50.000	51.561	-3.1	116	0.00
15	T	1,6,7-Trimethylnaphthalene	50.000	48.351	3.3	111	0.00
16	T	Fluorene	50.000	50.114	-0.2	113	0.00
17	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	112	0.00
18	T	Dibenzothiopene	50.000	49.681	0.6	112	0.00
19	T	Phenanthrene	50.000	48.462	3.1	110	0.00
20	T	Anthracene	50.000	48.698	2.6	110	0.00
21	T	Carbazole	50.000	46.718	6.6	106	0.00
22	T	1-Methylphenanthrene	50.000	49.340	1.3	111	0.00
23	T	Fluoranthene	50.000	48.131	3.7	108	0.00
24	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	111	0.00
25	T	Pyrene	50.000	48.877	2.2	108	0.00
26	S	Terphenyl-d14 (Surr)	50.000	49.287	1.4	110	0.00
27	T	Benz(a)anthracene	50.000	44.754	10.5	105	0.00
28	T	Chrysene	50.000	47.901	4.2	108	0.00
29	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	110	0.00
30	T	Benzo(b)fluoranthene	50.000	48.533	2.9	106	0.00
31	T	Benzo(k)fluoranthene	50.000	49.739	0.5	112	0.00
32	T	Benzo(b+k)fluoranthene	100.000	98.834	1.2	109	0.00
33	S	Benzo(a)pyrene d-12 (Surr)	50.000	51.498	-3.0	112	0.00
34	T	Benzo(e)pyrene	50.000	48.250	3.5	108	0.00
35	T	Benzo(a)pyrene	50.000	50.362	-0.7	109	0.00
36	T	Perylene	50.000	50.100	-0.2	110	0.00
37	I	Dibenz(a,h)Anthrcene-d14(IS	100.000	100.000	0.0	132	0.00
38	T	Indeno(1,2,3-cd)Pyrene	50.000	46.079	7.8	122	0.01
39	T	Dibenz(a,h)anthracene	50.000	47.820	4.4	128	0.00
40	T	Benzo(g,h,i)perylene	50.000	46.531	6.9	121	0.00

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071910.D
Acq On : 07 Oct 2019 12:19 pm
Operator : JK/ AMS/ DTH
Sample : 9J07048-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

DTH 10/7/19

Quant Time: Oct 07 16:13:31 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	229540	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	132113	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	245549	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	188539	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.380	264	157182	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	122824	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	37380	49.01	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	103314	52.42	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	128773	47.39	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	97731	49.29	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.182	264	64733	51.50	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.359	138	4266	24.96	ng/ml	92
4) Naphthalene	7.901	128	123019	48.59	ng/ml	100
5) 2-Methylnaphthalene	8.588	142	88998	41.48	ng/ml	98
6) 1-Methylnaphthalene	8.687	142	84416	39.36	ng/ml	97
7) 1,1'-Biphenyl	9.049	154	112499	38.99	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	81089	38.48	ng/ml	97
12) Acenaphthylene	9.492	152	140481	48.98	ng/ml	99
13) Acenaphthene	9.667	153	92553	49.27	ng/ml	98
14) Dibenzofuran	9.842	168	121325	51.56	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.051	170	76177	48.35	ng/ml	97
16) Fluorene	10.191	166	96337	50.11	ng/ml	99
18) Dibenzothiopene	11.042	184	127587	49.68	ng/ml	96
19) Phenanthrene	11.170	178	139249	48.46	ng/ml	99
20) Anthracene	11.223	178	130154	48.70	ng/ml	99
21) Carbazole	11.380	167	101033	46.72	ng/ml	99
22) 1-Methylphenanthrene	11.794	192	98485	49.34	ng/ml	99
23) Fluoranthene	12.435	202	139338	48.13	ng/ml	97
25) Pyrene	12.721	202	143973	48.88	ng/ml	99
27) Benz(a)anthracene	14.883	228	97966	44.75	ng/ml	100
28) Chrysene	14.965	228	99226	47.90	ng/ml	100
30) Benzo(b)fluoranthene	17.471	252	88024	48.53	ng/ml	94
31) Benzo(k)fluoranthene	17.535	252	88821	49.74	ng/ml	94
32) Benzo(b+k)fluoranthene	17.535	252	183353	98.83	ng/ml	94
34) Benzo(e)pyrene	18.118	252	88489	48.25	ng/ml	97
35) Benzo(a)pyrene	18.241	252	78181	50.36	ng/ml	97
36) Perylene	18.439	252	95793	50.10	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.770	276	69800	46.08	ng/ml	84
39) Dibenz(a,h)anthracene	20.834	278	68065	47.82	ng/ml	85
40) Benzo(g,h,i)perylene	21.301	276	74772	46.53	ng/ml	83

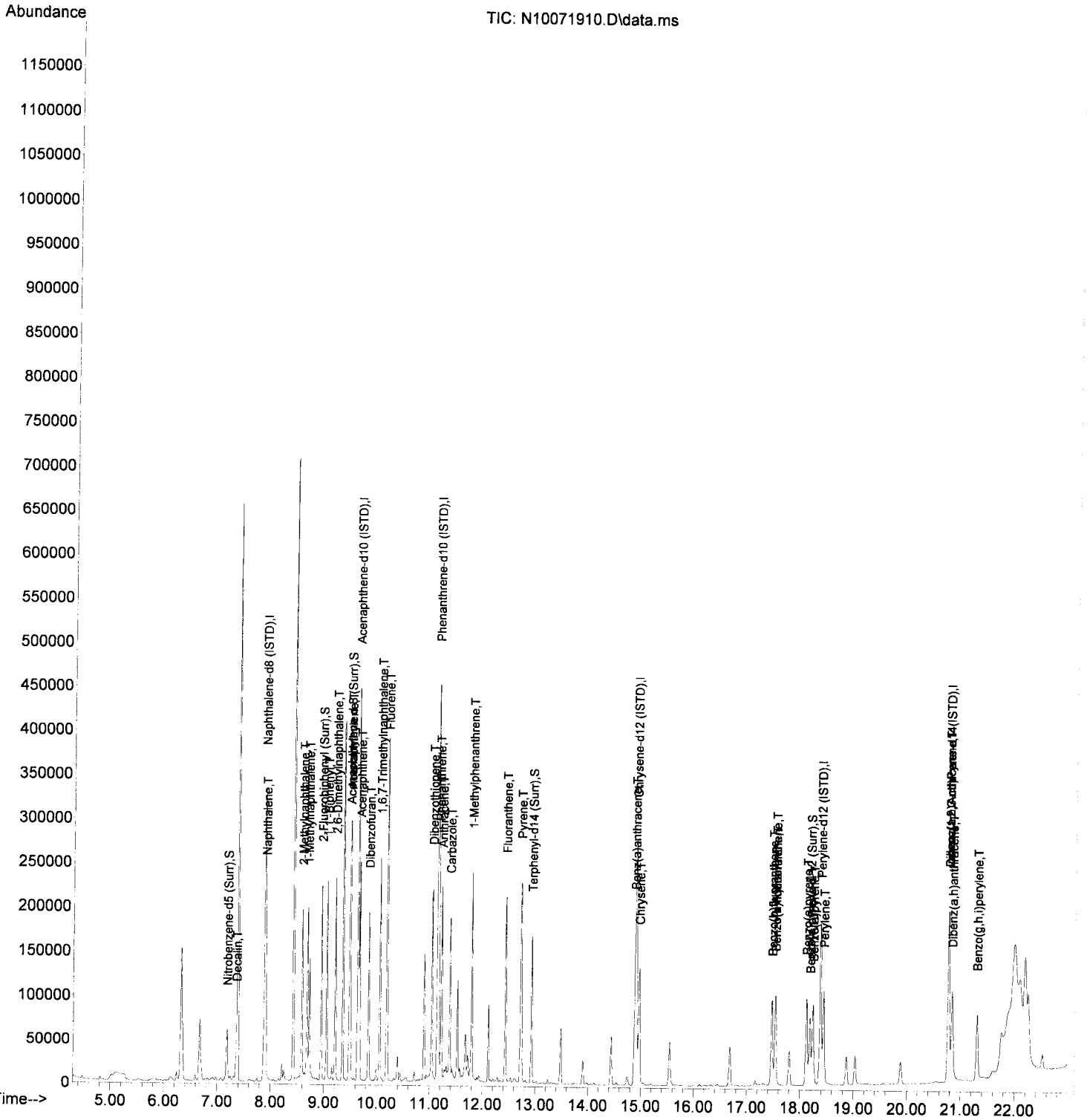
(#) = qualifier out of range (m) = manual integration (+) = signals summed

J

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071910.D
Acq On : 07 Oct 2019 12:19 pm
Operator : JK/ AMS/ DTH
Sample : 9J07048-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:13:31 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071911.D
Acq On : 07 Oct 2019 12:51 pm
Operator : JK/ AMS/ DTH
Sample : 9J07048-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:14:13 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

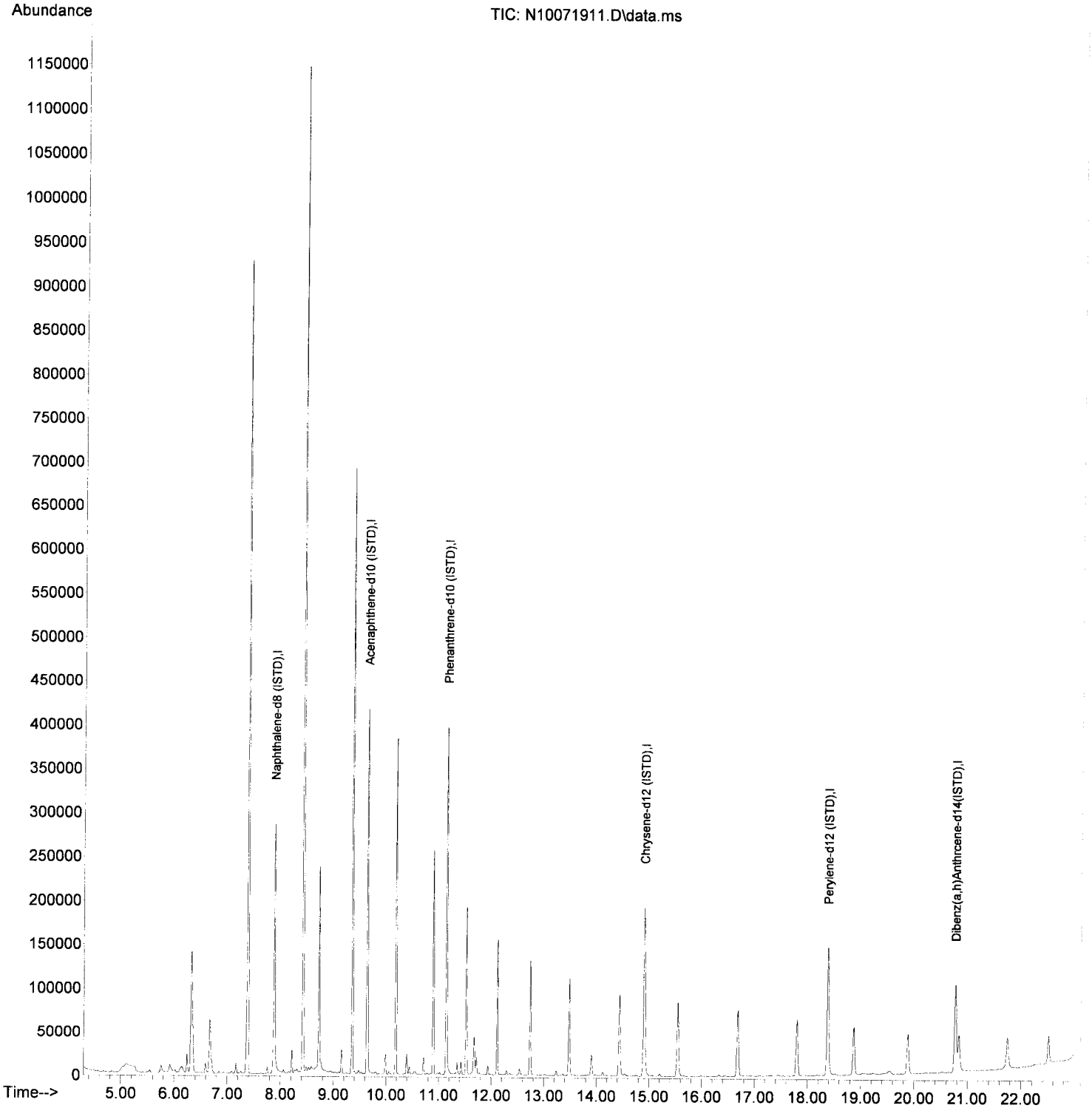
DTH 10/7/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.883	136	220954	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	130308	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	224511	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	151035	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	129496	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	103251	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.265	82	50	0.07 ng/ml	0.08
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00 ng/ml	
11) Acenaphthylene d-8 (Surr)	9.480	160	2484	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	182	0.11 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.907	128	231	N.D.	
5) 2-Methylnaphthalene	0.000		0	N.D.	
6) 1-Methylnaphthalene	0.000		0	N.D.	
7) 1,1'-Biphenyl	9.061	154	84	N.D.	
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.	
12) Acenaphthylene	9.498	152	154	N.D.	
13) Acenaphthene	9.678	153	75	N.D.	
14) Dibenzofuran	0.000		0	N.D.	
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	
16) Fluorene	0.000		0	N.D.	
18) Dibenzothiopene	11.042	184	76	N.D.	
19) Phenanthrene	11.171	178	271	N.D.	
20) Anthracene	11.223	178	62	N.D.	
21) Carbazole	11.392	167	63	N.D.	
22) 1-Methylphenanthrene	0.000		0	N.D.	
23) Fluoranthene	12.441	202	214	N.D.	
25) Pyrene	12.727	202	293	N.D.	
27) Benz(a)anthracene	14.901	228	442	N.D.	
28) Chrysene	14.959	228	103	N.D.	
30) Benzo(b)fluoranthene	0.000		0	N.D.	
31) Benzo(k)fluoranthene	0.000		0	N.D.	
32) Benzo(b+k)fluoranthene	0.000		0	N.D.	
34) Benzo(e)pyrene	18.381	252	445	N.D.	
35) Benzo(a)pyrene	0.000		0	N.D.	
36) Perylene	18.439	252	70	N.D.	
38) Indeno(1,2,3-cd)Pyrene	0.000		0	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Data Path : U:\data\2019-10\9J07048\
Data File : N10071911.D
Acq On : 07 Oct 2019 12:51 pm
Operator : JK/ AMS/ DTH
Sample : 9J07048-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:14:13 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071912.D
Acq On : 07 Oct 2019 01:22 pm
Operator : JK/ AMS/ DTH
Sample : 9100706-BLK1
Misc : 1x, 8270D LL PAH Only
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:14:16 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

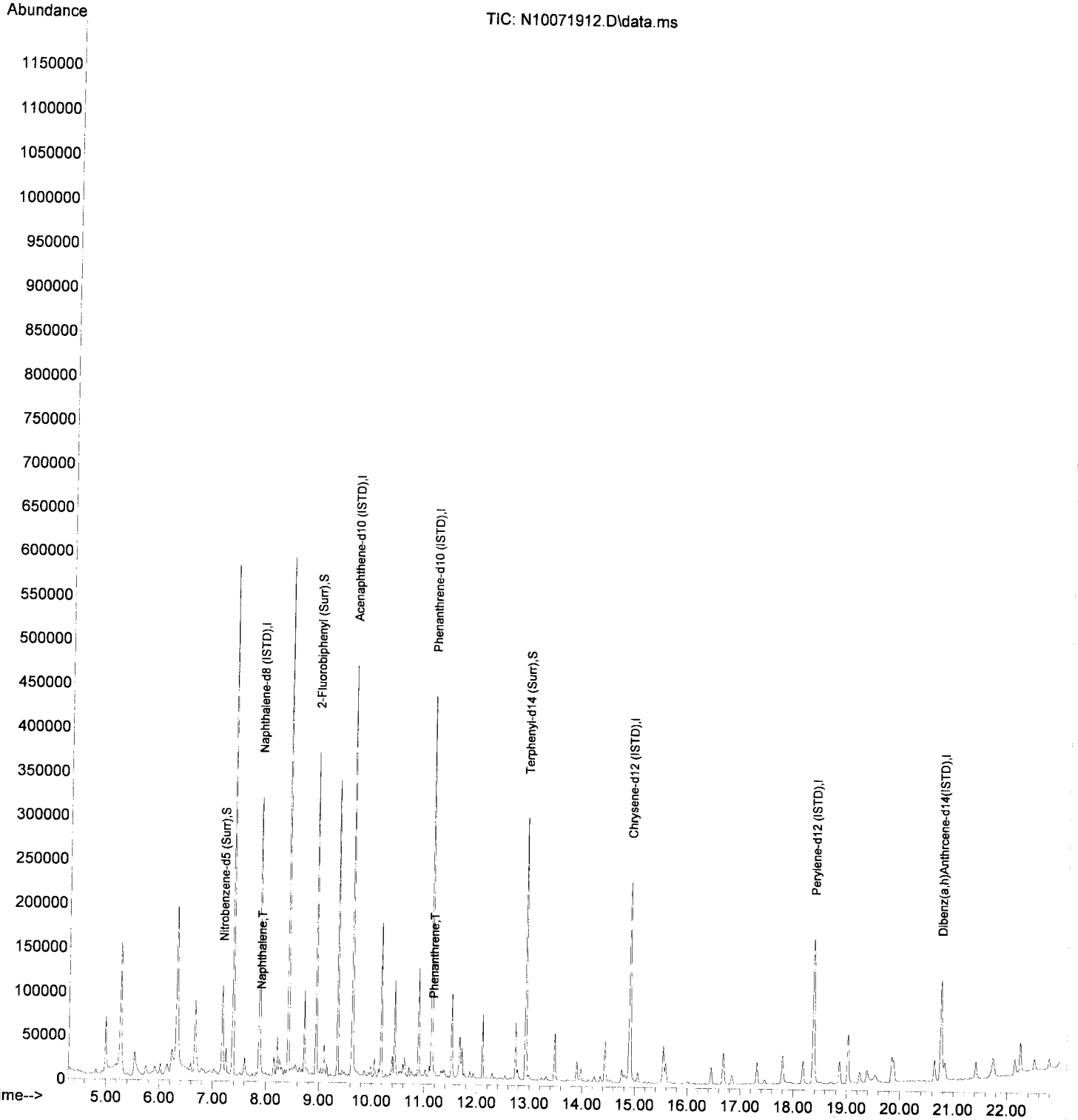
JTK 10/7/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.883	136	228641	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	133662	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	240732	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	171761	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.380	264	142801	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	113855	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.184	82	62717	82.55 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	172270	86.39 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	2152	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	172979	95.76 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.901	128	1969	0.78 ng/ml	98
5) 2-Methylnaphthalene	8.588	142	587	N.D.	
6) 1-Methylnaphthalene	8.687	142	411	N.D.	
7) 1,1'-Biphenyl	9.049	154	653	N.D.	
8) 2,6-Dimethylnaphthalene	9.212	156	376	N.D.	
12) Acenaphthylene	9.492	152	308	N.D.	
13) Acenaphthene	9.667	153	504	N.D.	
14) Dibenzofuran	9.847	168	161	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.051	170	198	N.D.	
16) Fluorene	10.191	166	409	N.D.	
18) Dibenzothiopene	11.042	184	255	N.D.	
19) Phenanthrene	11.165	178	2092	0.74 ng/ml	94
20) Anthracene	11.217	178	409	N.D.	
21) Carbazole	11.386	167	207	N.D.	
22) 1-Methylphenanthrene	11.794	192	245	N.D.	
23) Fluoranthene	12.435	202	721	N.D.	
25) Pyrene	12.721	202	728	N.D.	
27) Benz(a)anthracene	14.907	228	592	N.D.	
28) Chrysene	14.965	228	206	N.D.	
30) Benzo(b)fluoranthene	17.471	252	60	N.D.	
31) Benzo(k)fluoranthene	17.471	252	60	N.D.	
32) Benzo(b+k)fluoranthene	17.500	252	106	N.D.	
34) Benzo(e)pyrene	18.380	252	419	N.D.	
35) Benzo(a)pyrene	0.000		0	N.D.	
36) Perylene	18.380	252	428	N.D.	
38) Indeno(1,2,3-cd)Pyrene	0.000		0	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Data Path : U:\data\2019-10\9J07048\
Data File : N10071912.D
Acq On : 07 Oct 2019 01:22 pm
Operator : JK/ AMS/ DTH
Sample : 9100706-BLK1
Misc : 1x, 8270D LL PAH Only
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:14:16 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071913.D
Acq On : 07 Oct 2019 01:54 pm
Operator : JK/ AMS/ DTH
Sample : 9100706-BS1
Misc : 1x, 8270D LL PAH Only
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:14:19 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

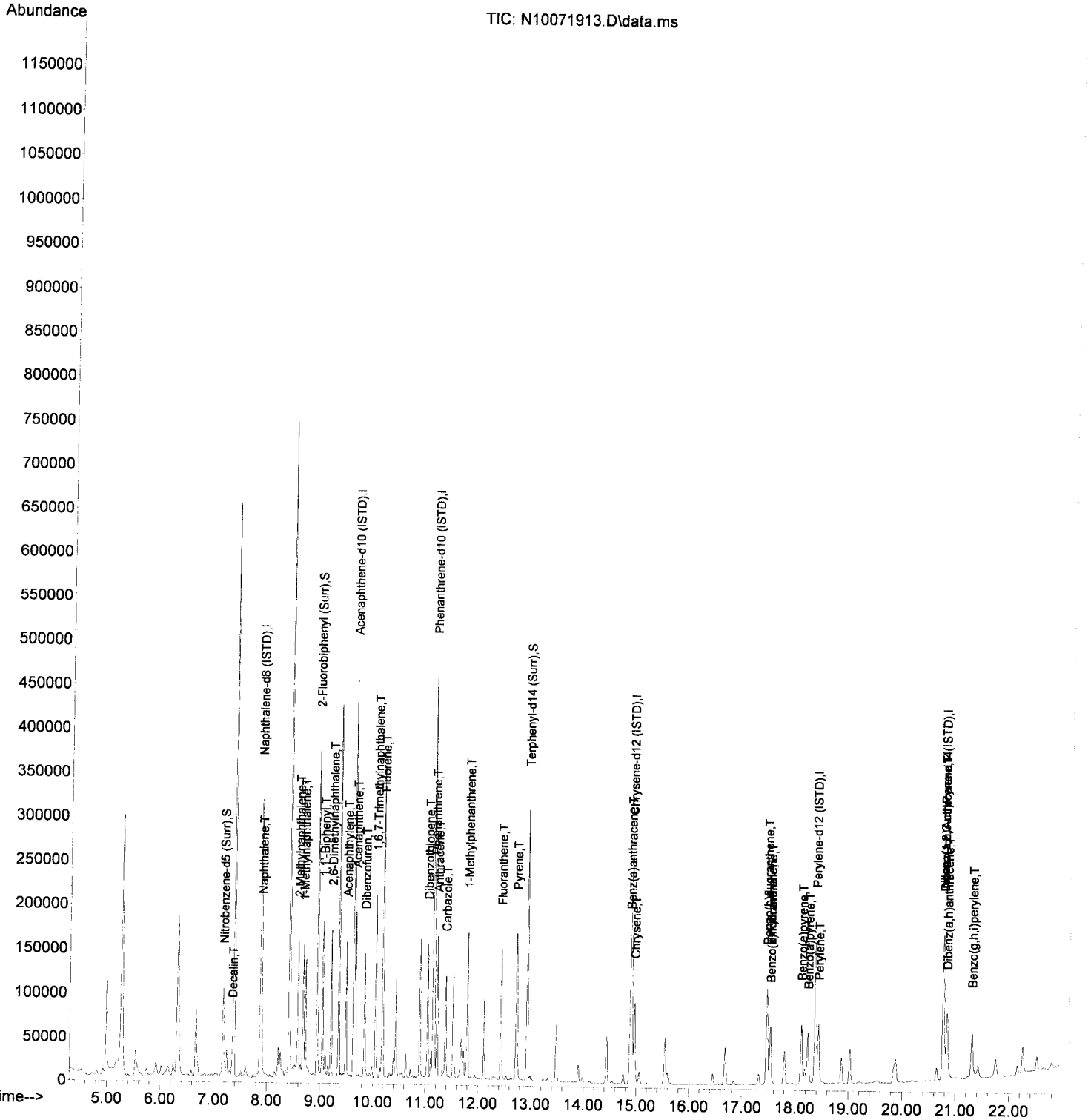
DTH 10/7/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	224354	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.637	162	133653	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	244445	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	177788	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	147208	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	114528	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	61163	82.04	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	176504	88.52	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	1546	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	173973	93.04	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.353	138	3020	18.08	ng/ml	98
4) Naphthalene	7.901	128	89301	36.09	ng/ml	100
5) 2-Methylnaphthalene	8.582	142	65019	31.01	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	62154	29.65	ng/ml	97
7) 1,1'-Biphenyl	9.049	154	82666	29.31	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.212	156	58870	28.58	ng/ml	98
12) Acenaphthylene	9.492	152	98846	34.07	ng/ml	99
13) Acenaphthene	9.667	153	67915	35.74	ng/ml	99
14) Dibenzofuran	9.841	168	86277	36.24	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	56373	35.37	ng/ml	98
16) Fluorene	10.191	166	69791	35.89	ng/ml	97
18) Dibenzothiopene	11.036	184	89828	35.14	ng/ml	97
19) Phenanthrene	11.165	178	101284	35.41	ng/ml	99
20) Anthracene	11.217	178	92513	34.77	ng/ml	99
21) Carbazole	11.380	167	71153	33.05	ng/ml	99
22) 1-Methylphenanthrene	11.794	192	70612	35.54	ng/ml	98
23) Fluoranthene	12.429	202	98152	34.06	ng/ml	97
25) Pyrene	12.721	202	100658	36.24	ng/ml	99
27) Benz(a)anthracene	14.883	228	68071	32.98	ng/ml	98
28) Chrysene	14.965	228	70499	36.09	ng/ml	100
30) Benzo(b)fluoranthene	17.465	252	61477	36.19	ng/ml	94
31) Benzo(k)fluoranthene	17.529	252	60249	36.03	ng/ml	94
32) Benzo(b+k)fluoranthene	17.529	252	126467	72.79	ng/ml	94
34) Benzo(e)pyrene	18.118	252	59560	34.68	ng/ml	98
35) Benzo(a)pyrene	18.235	252	51503	35.42	ng/ml	97
36) Perylene	18.433	252	62666	35.00	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.764	276	47725	33.79	ng/ml	85
39) Dibenz(a,h)anthracene	20.834	278	44867	33.81	ng/ml	86
40) Benzo(g,h,i)perylene	21.301	276	50302	33.57	ng/ml	84

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

Data Path : U:\data\2019-10\9J07048\
Data File : N10071913.D
Acq On : 07 Oct 2019 01:54 pm
Operator : JK/ AMS/ DTH
Sample : 9100706-BS1
Misc : 1x, 8270D LL PAH Only
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:14:19 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071917.D
Acq On : 07 Oct 2019 04:02 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-17@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:43:24 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

DTH 10/7/19 MOS

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	225021	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	134163	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	247259	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	193422	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	169753	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	130031	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	600	0.80	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	1621	0.81	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	1484	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	1832	0.90	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.901	128	18776	7.57	ng/ml	100
5) 2-Methylnaphthalene	8.588	142	3129	1.49	ng/ml	94
6) 1-Methylnaphthalene	8.682	142	1817	0.86	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	3469	1.23	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.218	156	1682	0.81	ng/ml	99
12) Acenaphthylene	9.492	152	6594	2.26	ng/ml	96
13) Acenaphthene	9.667	153	18691	9.80	ng/ml	98
14) Dibenzofuran	9.842	168	1697	0.71	ng/ml	89
15) 1,6,7-Trimethylnaphtha...	10.051	170	843	0.53	ng/ml	79
16) Fluorene	10.191	166	11599	5.94	ng/ml	99
18) Dibenzothiopene	11.036	184	12388	4.79	ng/ml	98
19) Phenanthrene	11.165	178	161429	55.79	ng/ml	99
20) Anthracene	11.217	178	21818	8.11	ng/ml	100
21) Carbazole	11.380	167	1067	0.49	ng/ml	72
22) 1-Methylphenanthrene	11.771	192	11382	5.66	ng/ml#	48
23) Fluoranthene	12.429	202	206989	71.01	ng/ml	97
25) Pyrene	12.721	202	265073	87.72	ng/ml	99
27) Benz(a)anthracene	14.883	228	37170	16.55	ng/ml#	51
28) Chrysene	14.965	228	45371	21.35	ng/ml	98
30) Benzo(b)fluoranthene	17.471	252	46766	23.88	ng/ml	94
31) Benzo(k)fluoranthene	17.471	252	56785	29.44	ng/ml	92
32) Benzo(b+k)fluoranthene	17.471	252	64401	32.14	ng/ml	92
34) Benzo(e)pyrene	18.118	252	31005	15.65	ng/ml	99
35) Benzo(a)pyrene	18.235	252	44935	26.80	ng/ml	97
36) Perylene	18.433	252	19418	9.40	ng/ml	98
38) Indeno(1,2,3-cd)Pyrene	20.764	276	32838	20.48	ng/ml	89
39) Dibenz(a,h)anthracene	20.829	278	2666	1.77	ng/ml	86
40) Benzo(g,h,i)perylene	21.301	276	47520	27.93	ng/ml	85

J

MI Hit MOS

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

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QLast Update : Mon Sep 09 14:58:53 2019
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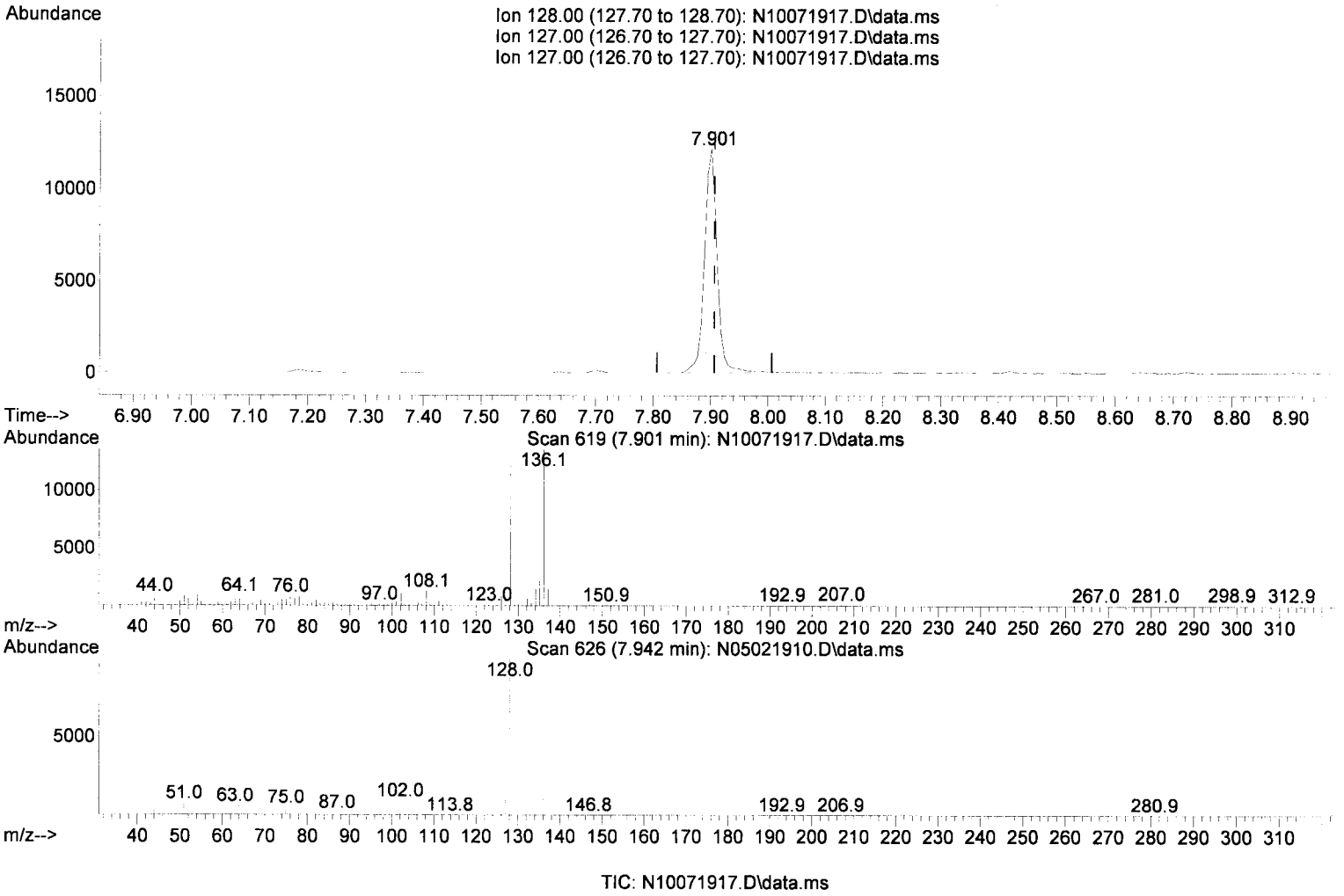
InstName : SV-GCMS14



TIC: N10071917.D\data.ms

(4) Naphthalene (T)

7.901min (-0.006) 7.57 ng/ml

response 18776

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.45
127.00	12.60	12.45
0.00	0.00	0.00

Quantitation Report (Qedit)

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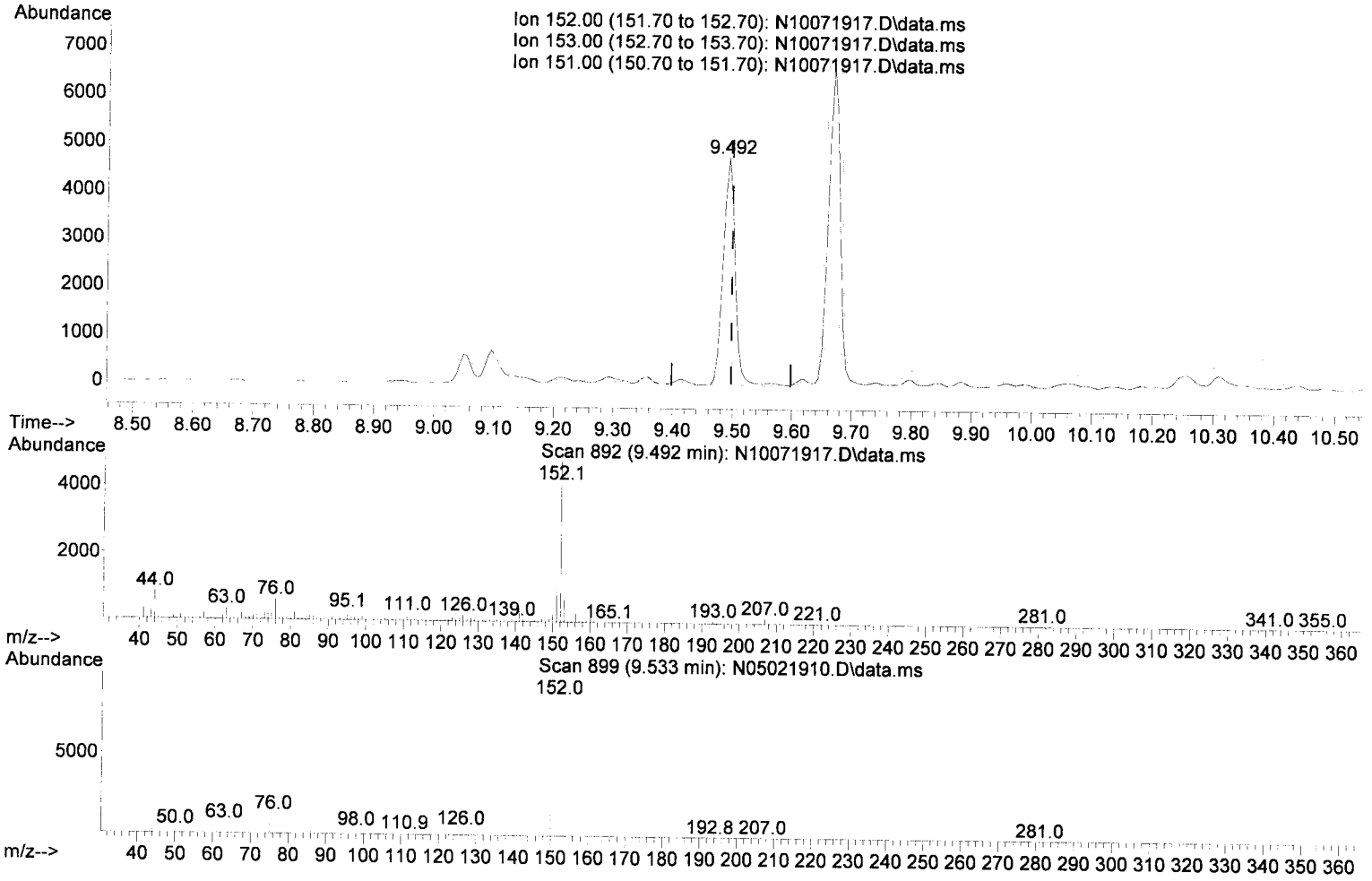

TIC: N10071917.D\data.ms

(12) Acenaphthylene (T)

9.492min (-0.006) 2.26 ng/ml J

response 6594

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	14.25
151.00	19.30	20.95
0.00	0.00	0.00

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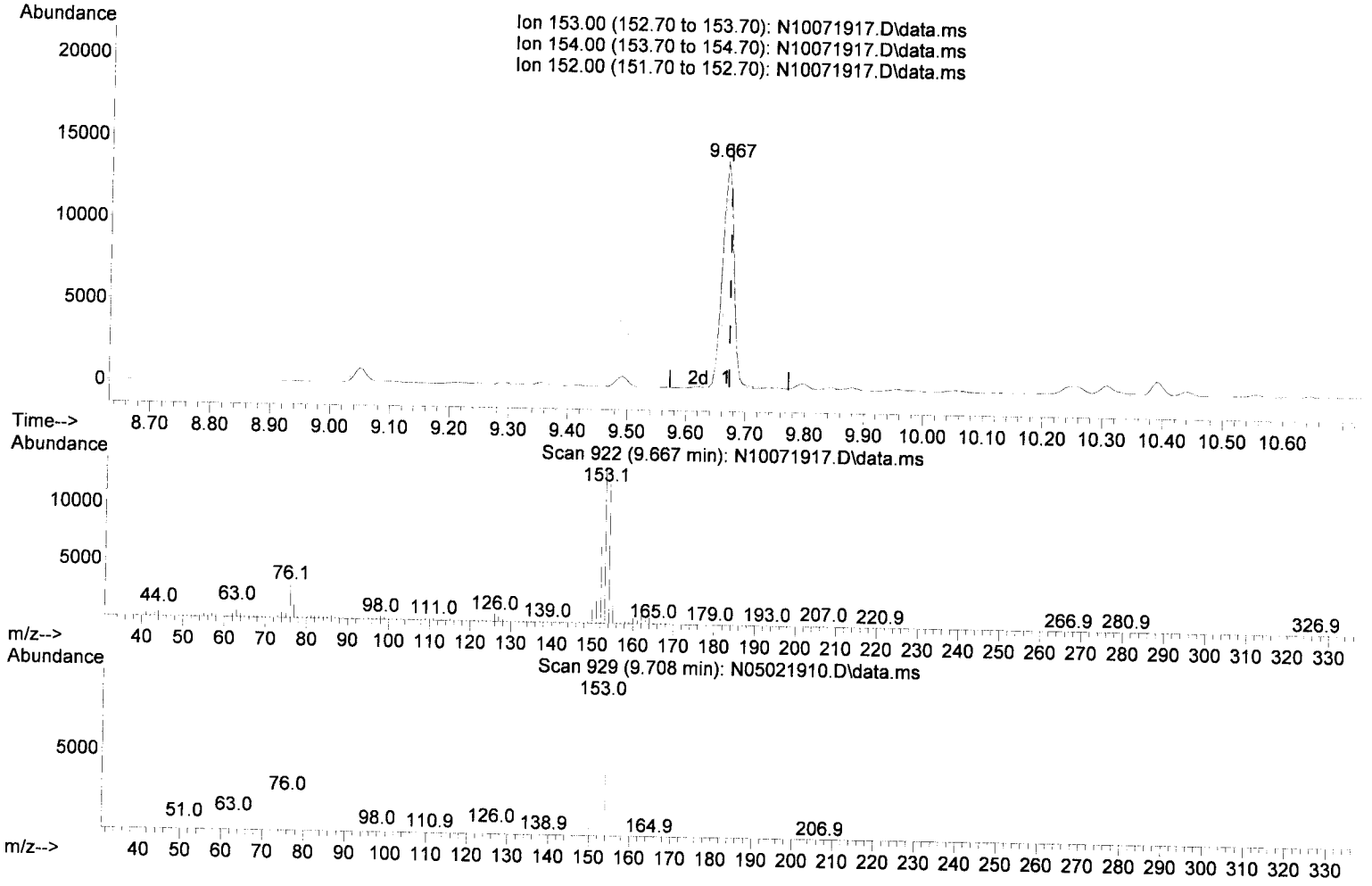

TIC: N10071917.D\data.ms

(13) Acenaphthene (T)

9.667min (-0.006) 9.80 ng/ml

response 18691

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	88.45
152.00	46.80	47.84
0.00	0.00	0.00

Quantitation Report (Qedit)

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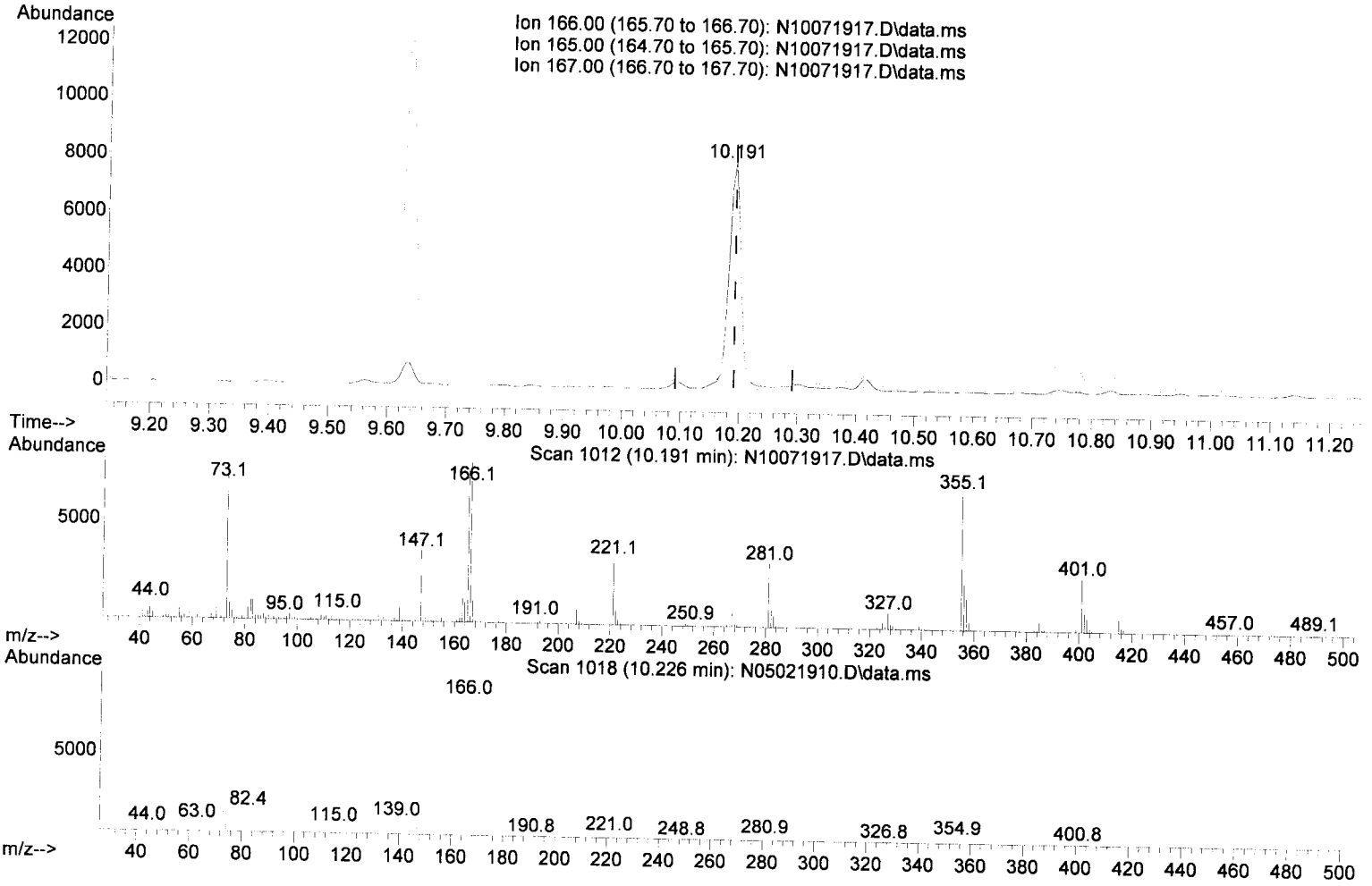

TIC: N10071917.D\data.ms

(16) Fluorene (T)

10.191min (-0.000) 5.94 ng/ml

response 11599

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	96.65
167.00	13.60	13.75
0.00	0.00	0.00

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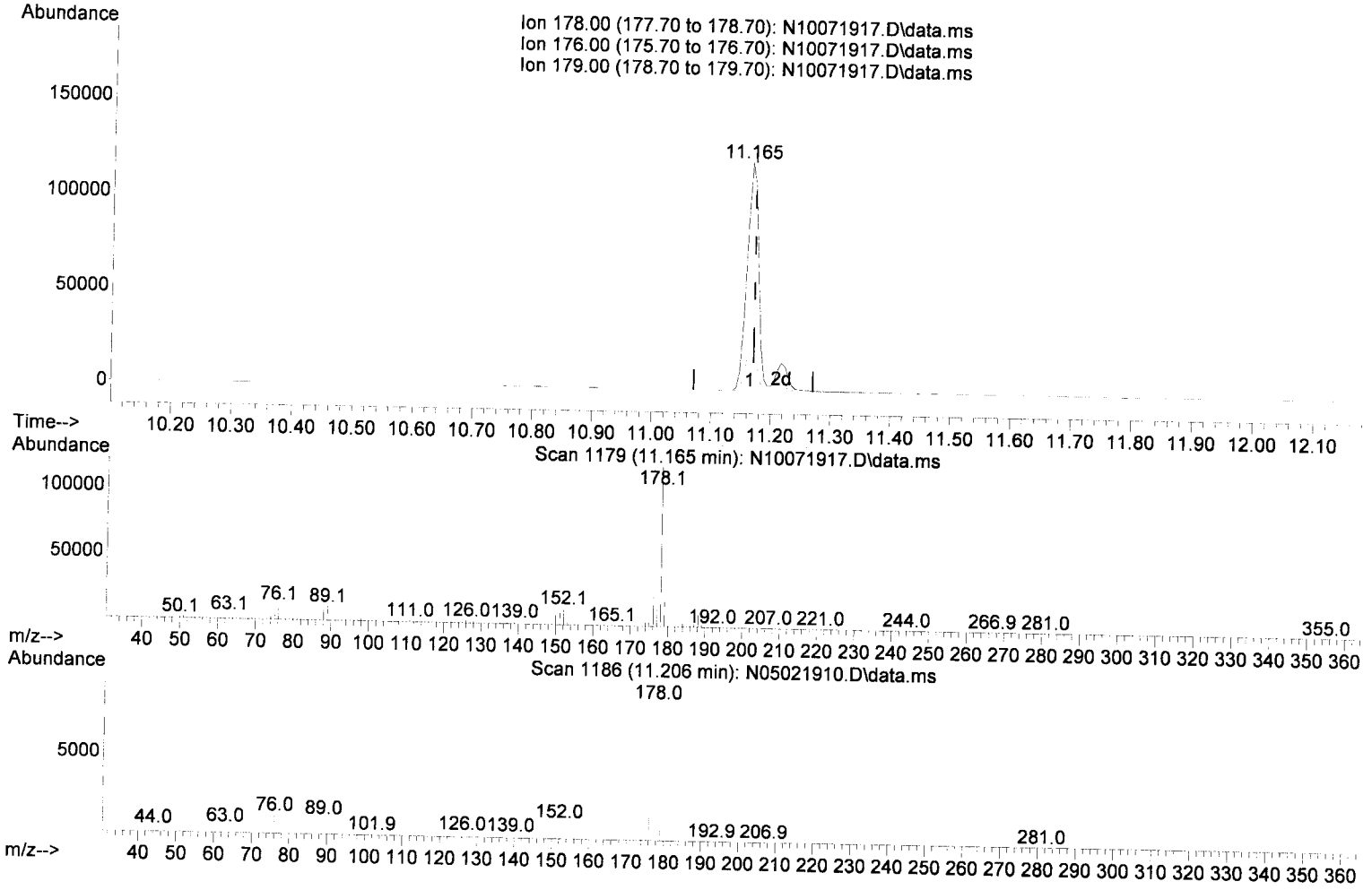

TIC: N10071917.D\data.ms

(19) Phenanthrene (T)

11.165min (-0.006) 55.79 ng/ml

response 161429

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.28
179.00	15.10	15.82
0.00	0.00	0.00

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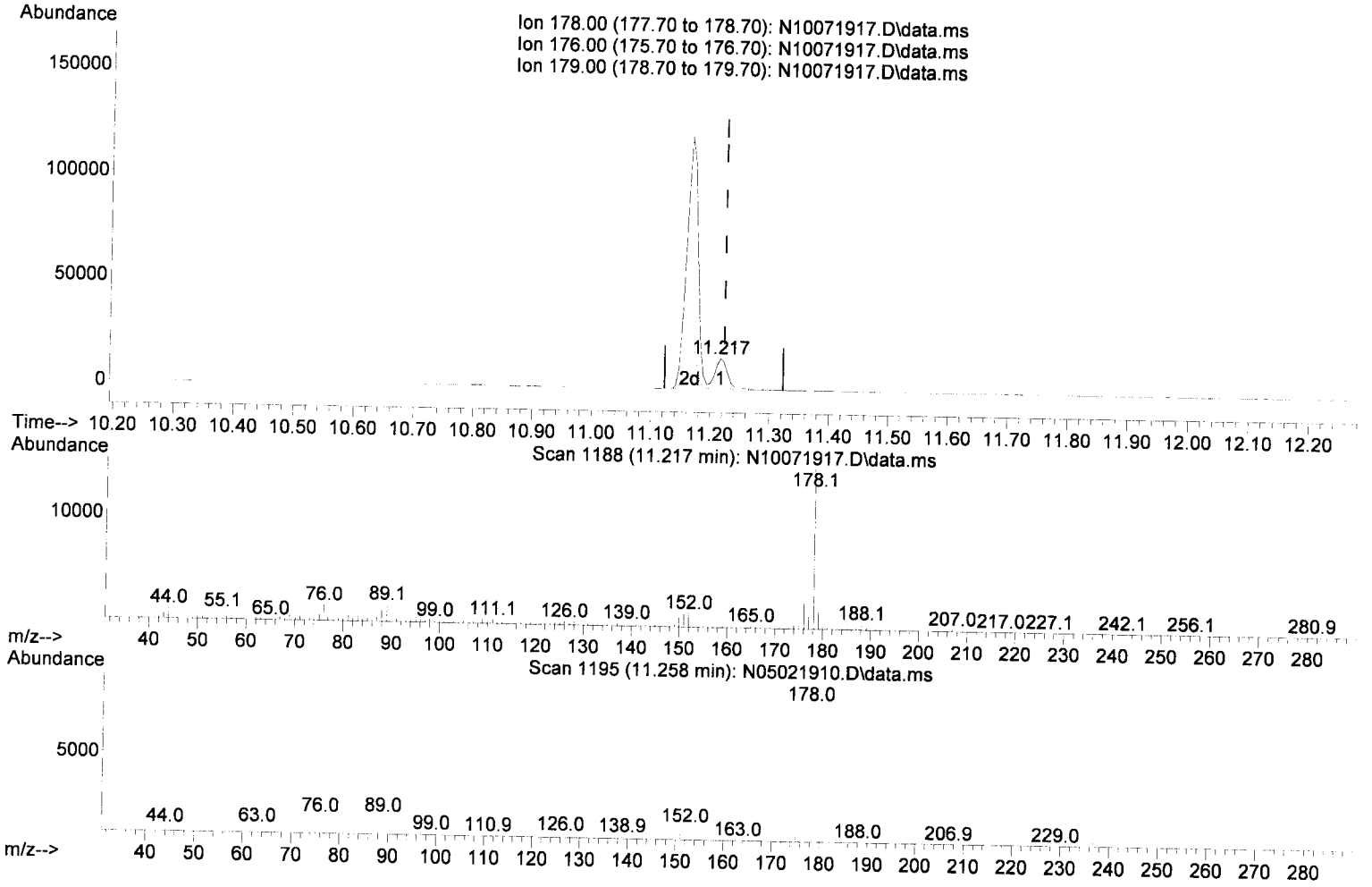

TIC: N10071917.D\data.ms

(20) Anthracene (T)

11.217min (-0.006) 8.11 ng/ml

response 21818

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.97
179.00	15.30	15.69
0.00	0.00	0.00

Quantitation Report (Qedit)

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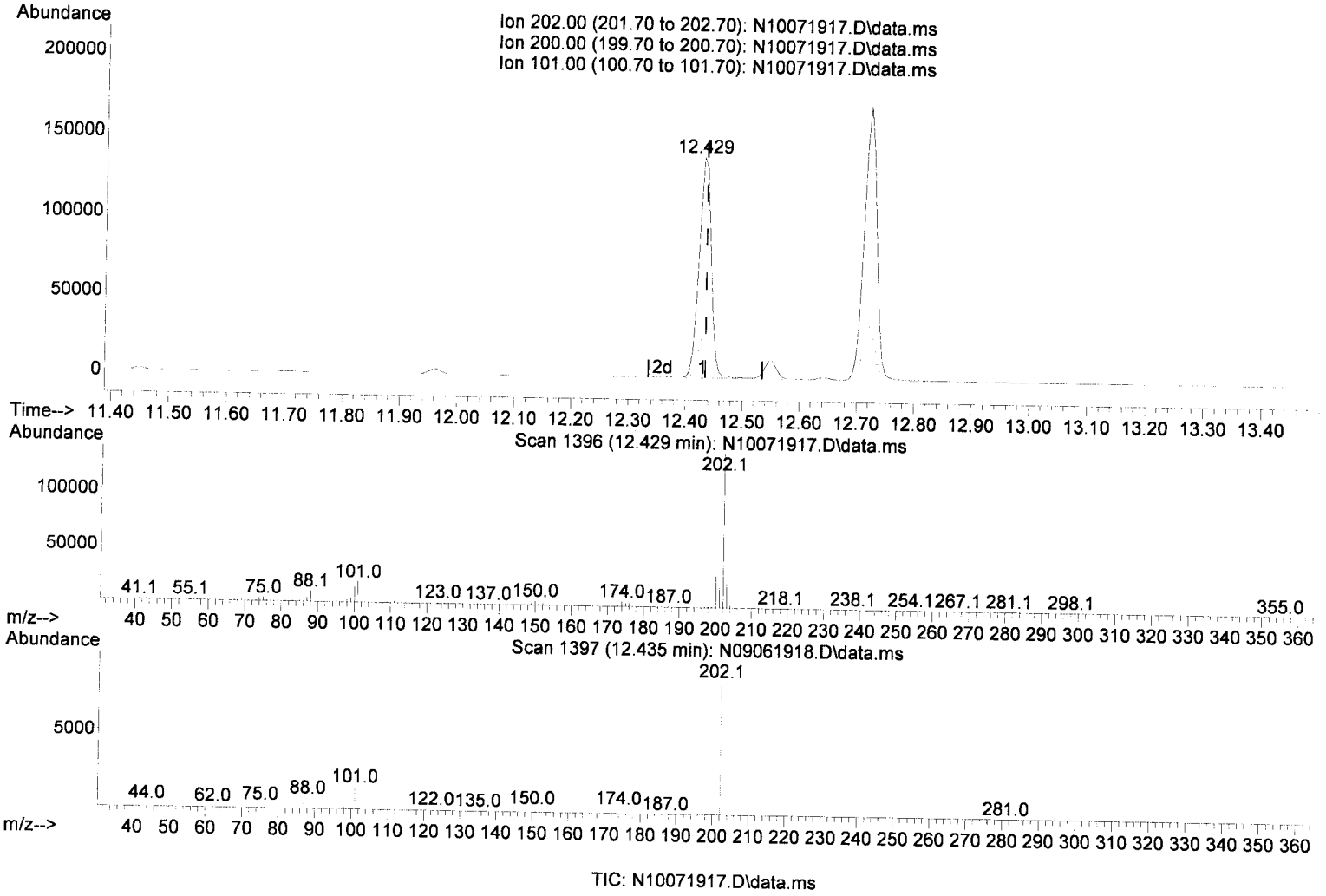

TIC: N10071917.D\data.ms

(23) Fluoranthene (T)

12.429min (-0.006) 71.01 ng/ml

response 206989

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.20
101.00	15.30	13.20
0.00	0.00	0.00

Quantitation Report (Qedit)

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ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

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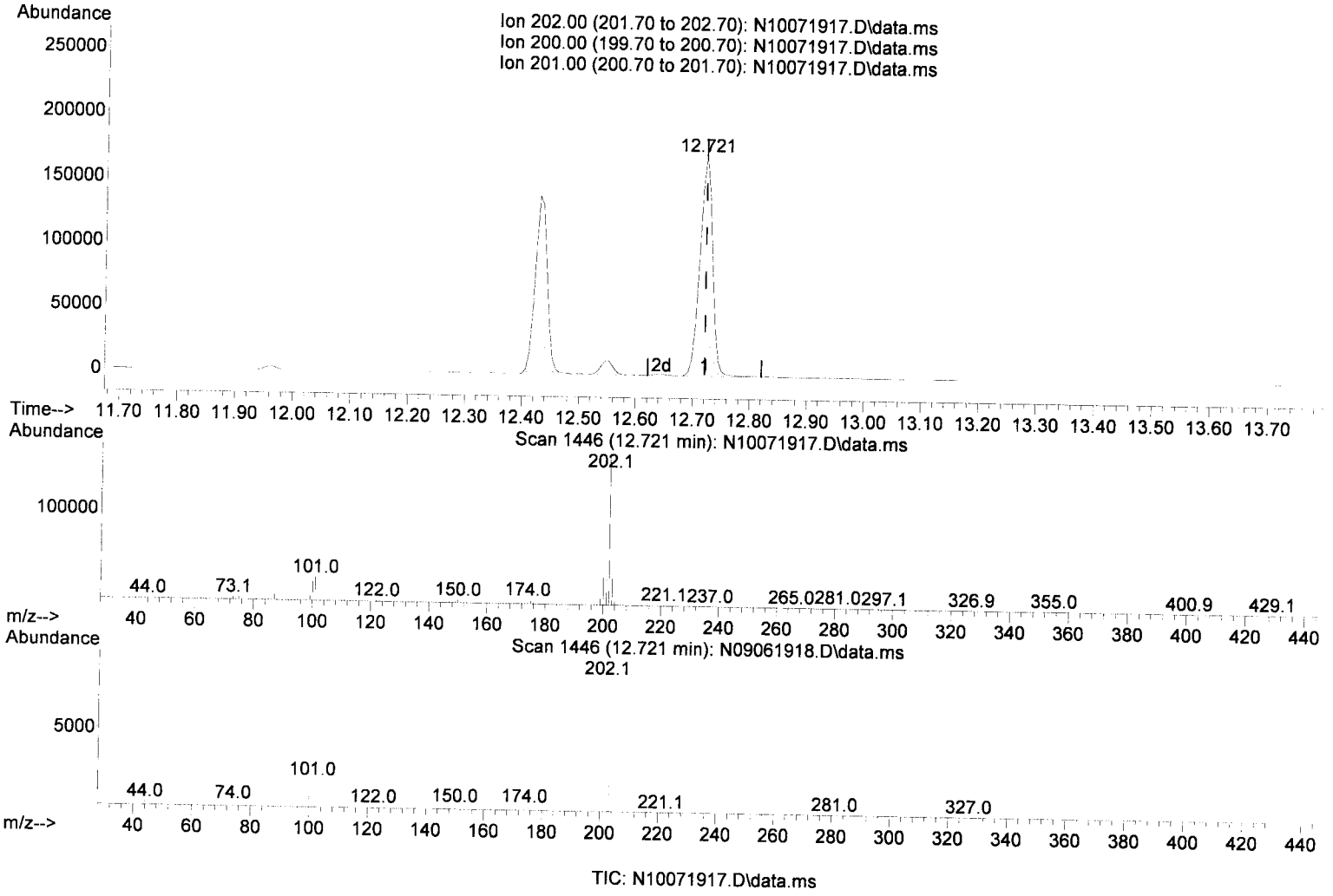
InstName : SV-GCMS14



TIC: N10071917.D\data.ms

(25) Pyrene (T)

12.721min (-0.000) 87.72 ng/ml

response 265073

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.13
201.00	16.80	16.98
0.00	0.00	0.00

Quantitation Report (Qedit)

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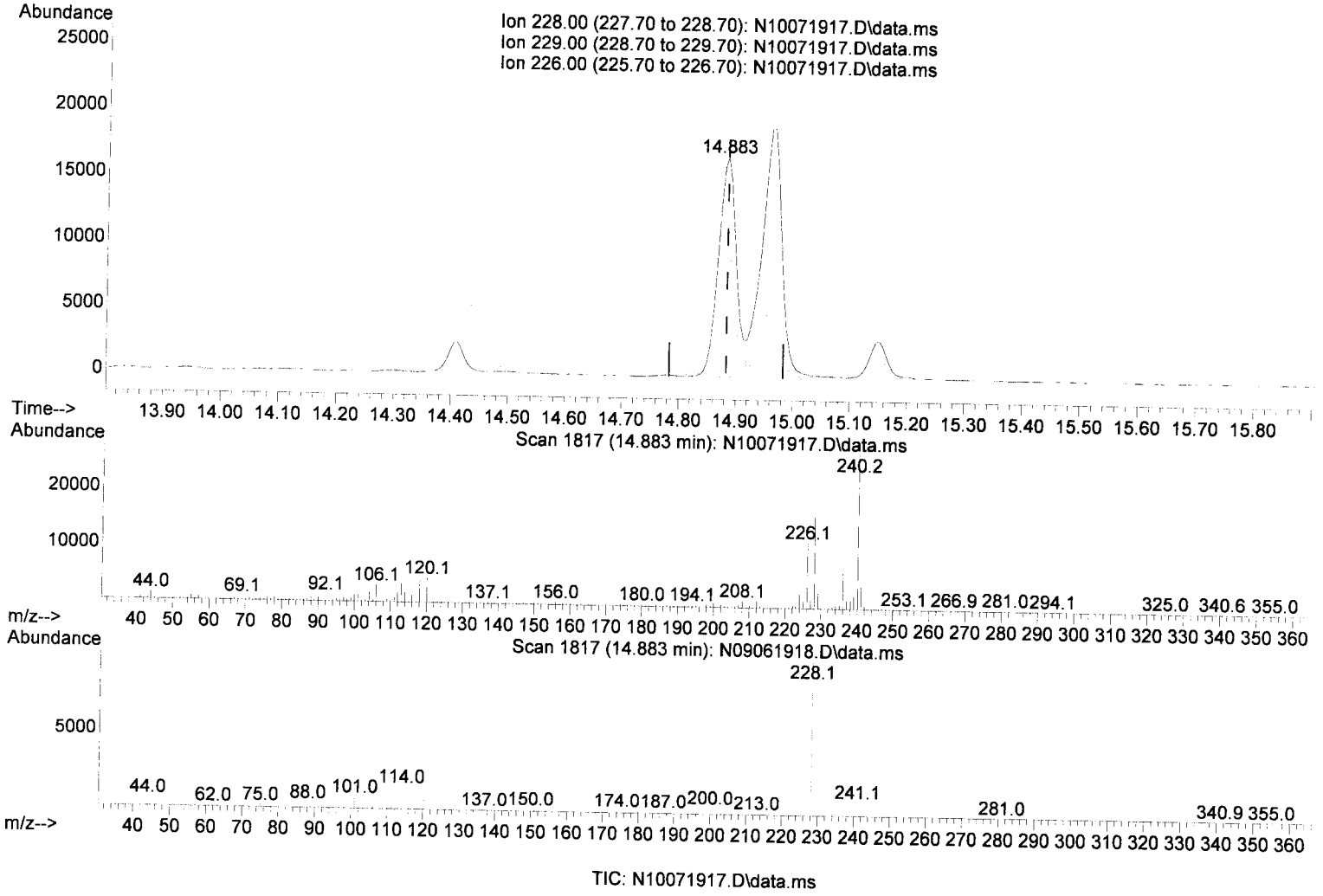

TIC: N10071917.D\data.ms

(27) Benz(a)anthracene (T)

14.883min (+ 0.000) 16.55 ng/ml

response 37170

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	20.25
226.00	26.20	69.34#
0.00	0.00	0.00

Quantitation Report (Qedit)

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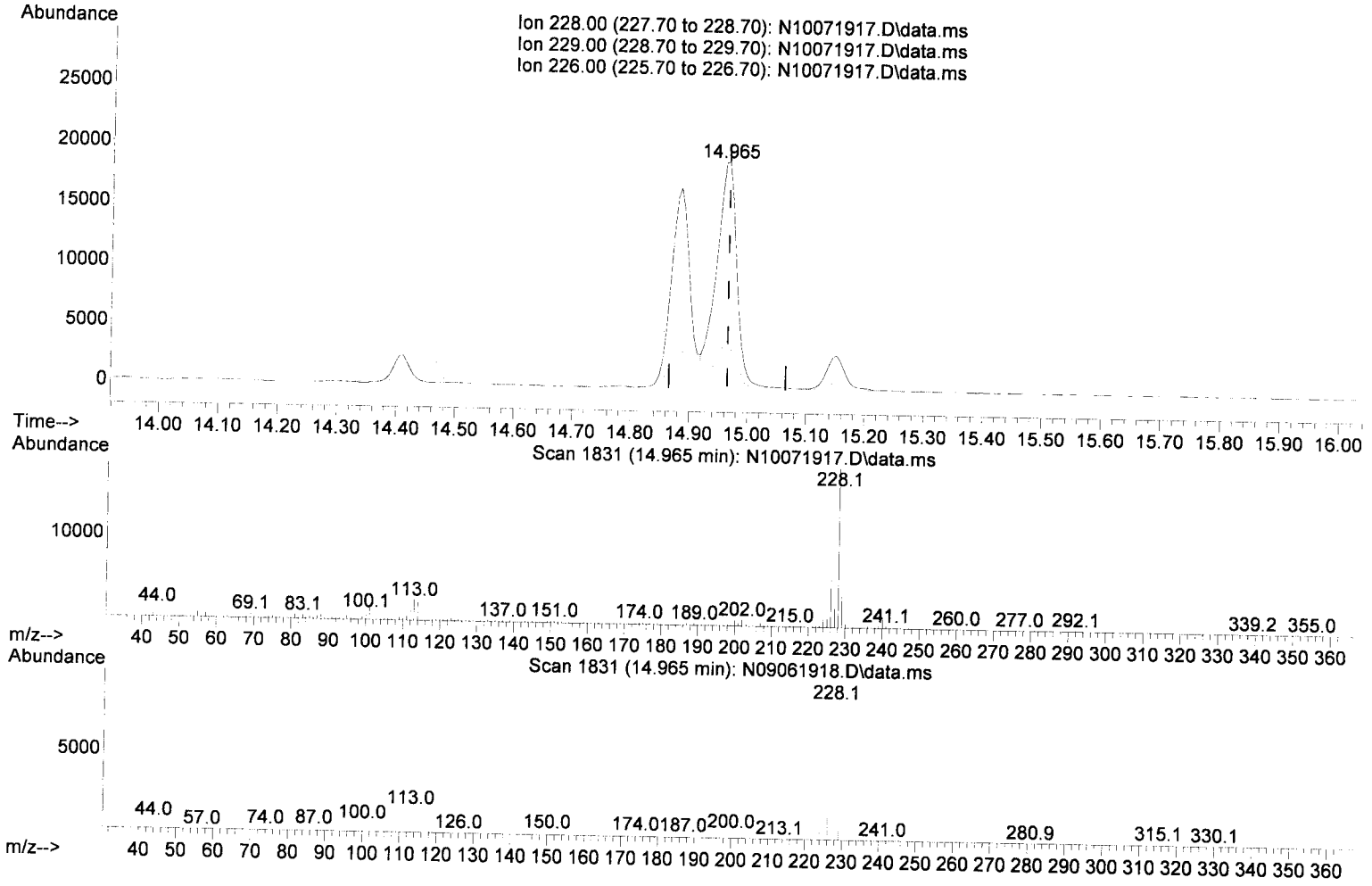
InstName : SV-GCMS14



TIC: N10071917.D\data.ms

(28) Chrysene (T)

14.965min (-0.000) 21.35 ng/ml

response 45371

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.36
226.00	28.60	29.78
0.00	0.00	0.00

Quantitation Report (Qedit)

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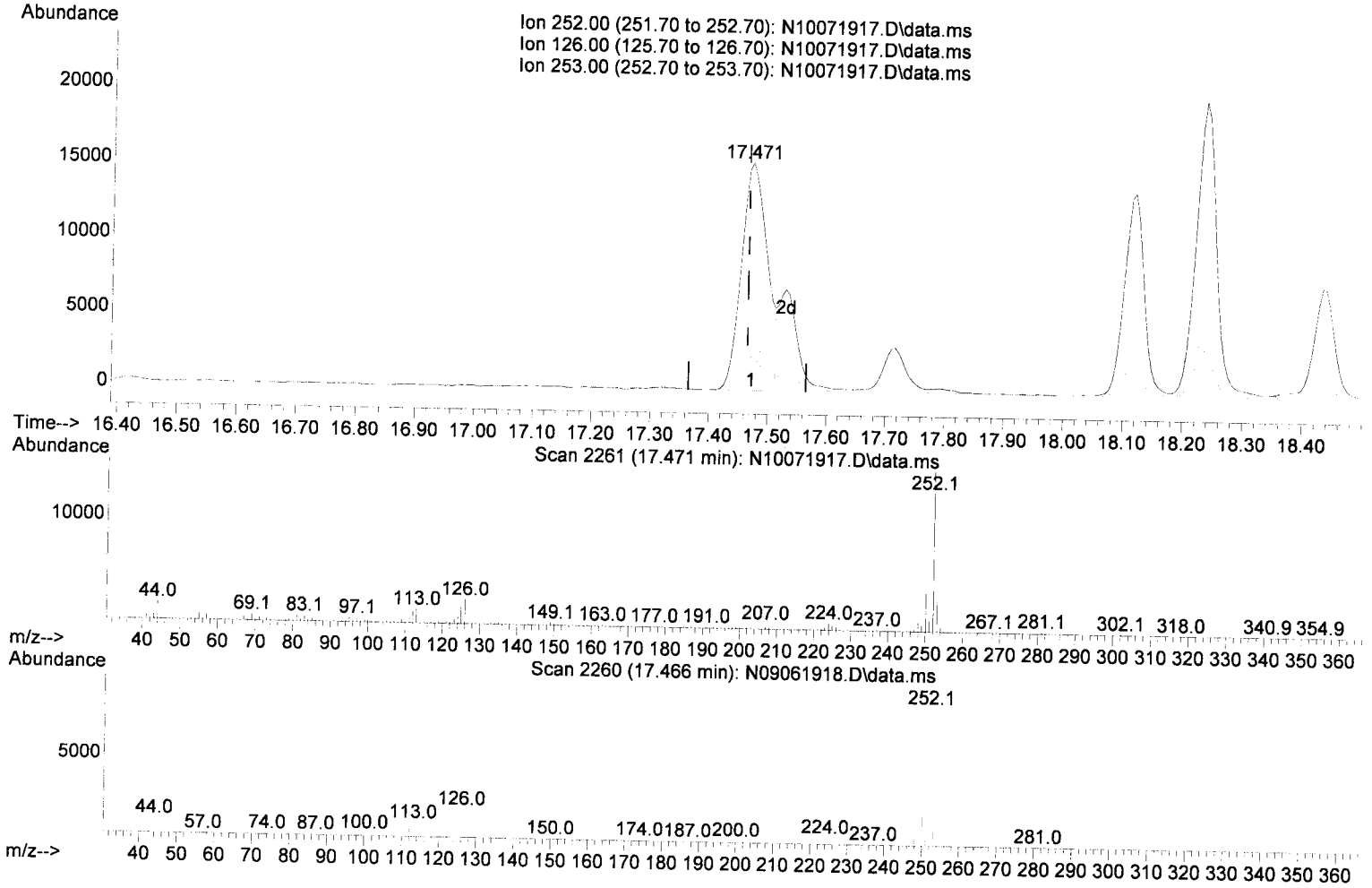
Quant Time: Oct 07 16:43:24 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10071917.D\data.ms

(30) Benzo(b)fluoranthene (T)

17.471min (+ 0.006) 23.88 ng/ml

response 46766

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	15.14
253.00	21.10	22.25
0.00	0.00	0.00

Quantitation Report (Qedit)

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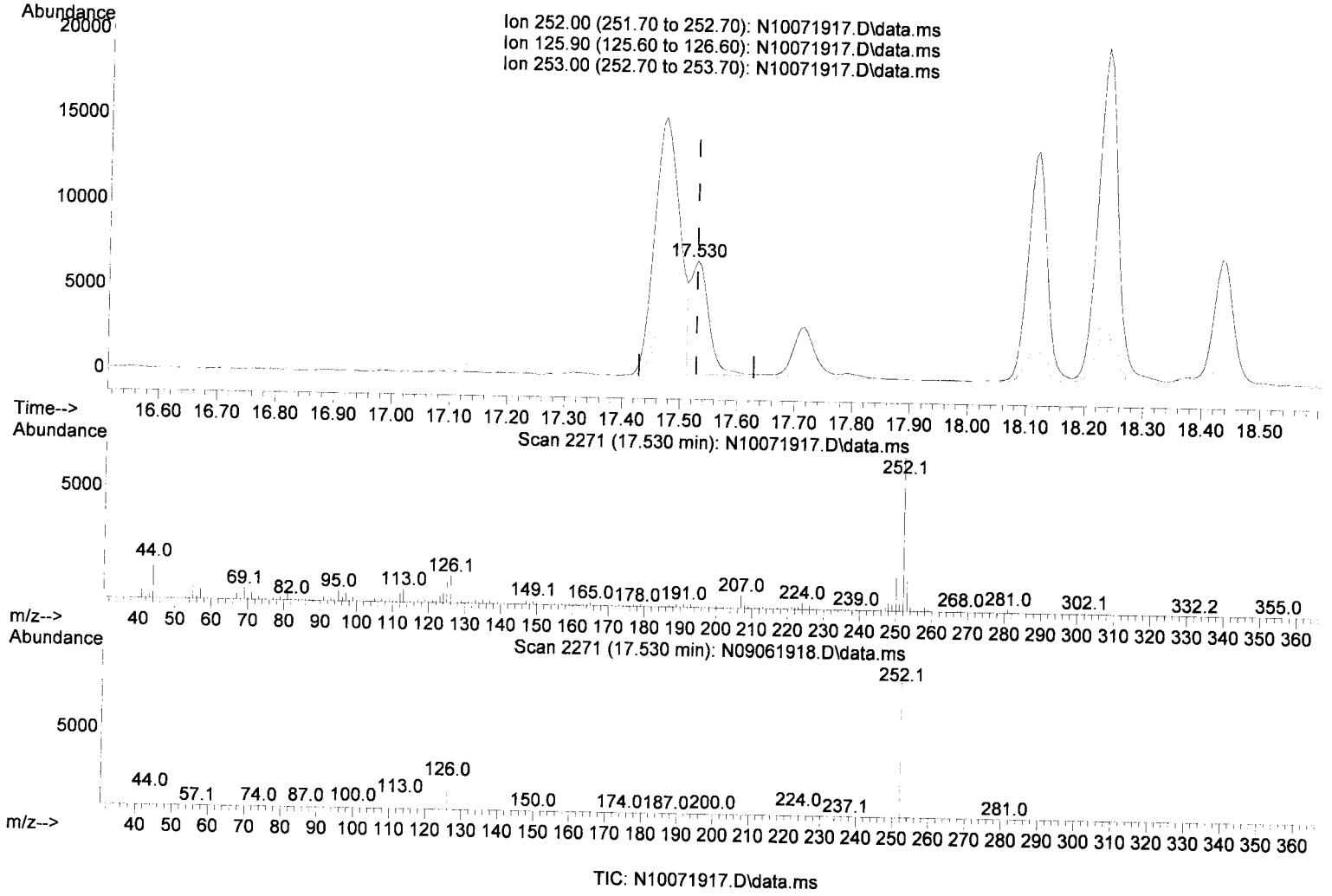

TIC: N10071917.D\data.ms

(31) Benzo(k)fluoranthene (T)

17.530min (+ 0.001) 7.50 ng/ml (m) MOS

response 14461

Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	17.99
253.00	21.50	21.66
0.00	0.00	0.00

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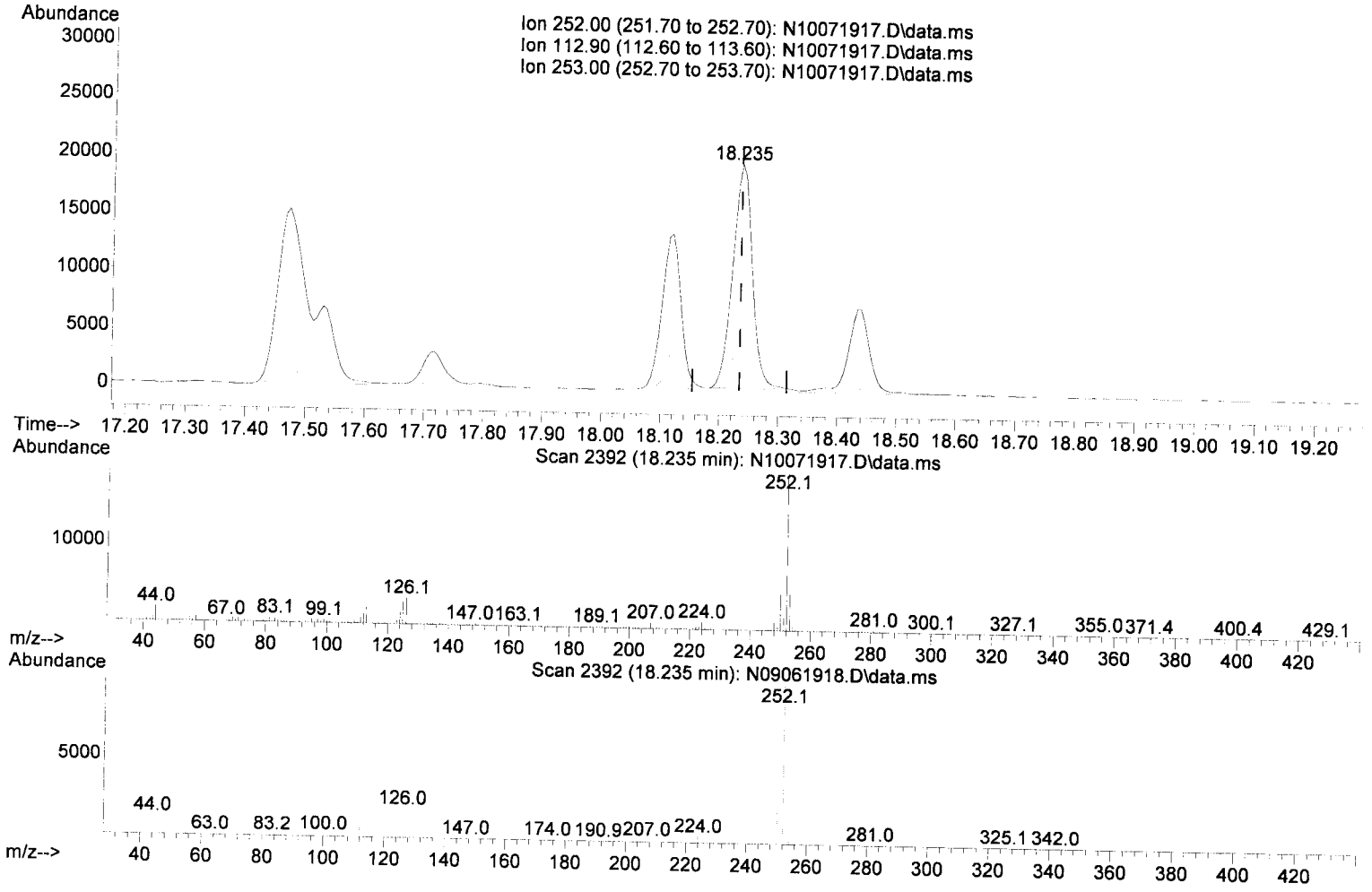

TIC: N10071917.D\data.ms

(35) Benzo(a)pyrene (T)

18.235min (+ 0.001) 26.80 ng/ml

response 44935

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	10.86
253.00	21.90	22.60
0.00	0.00	0.00

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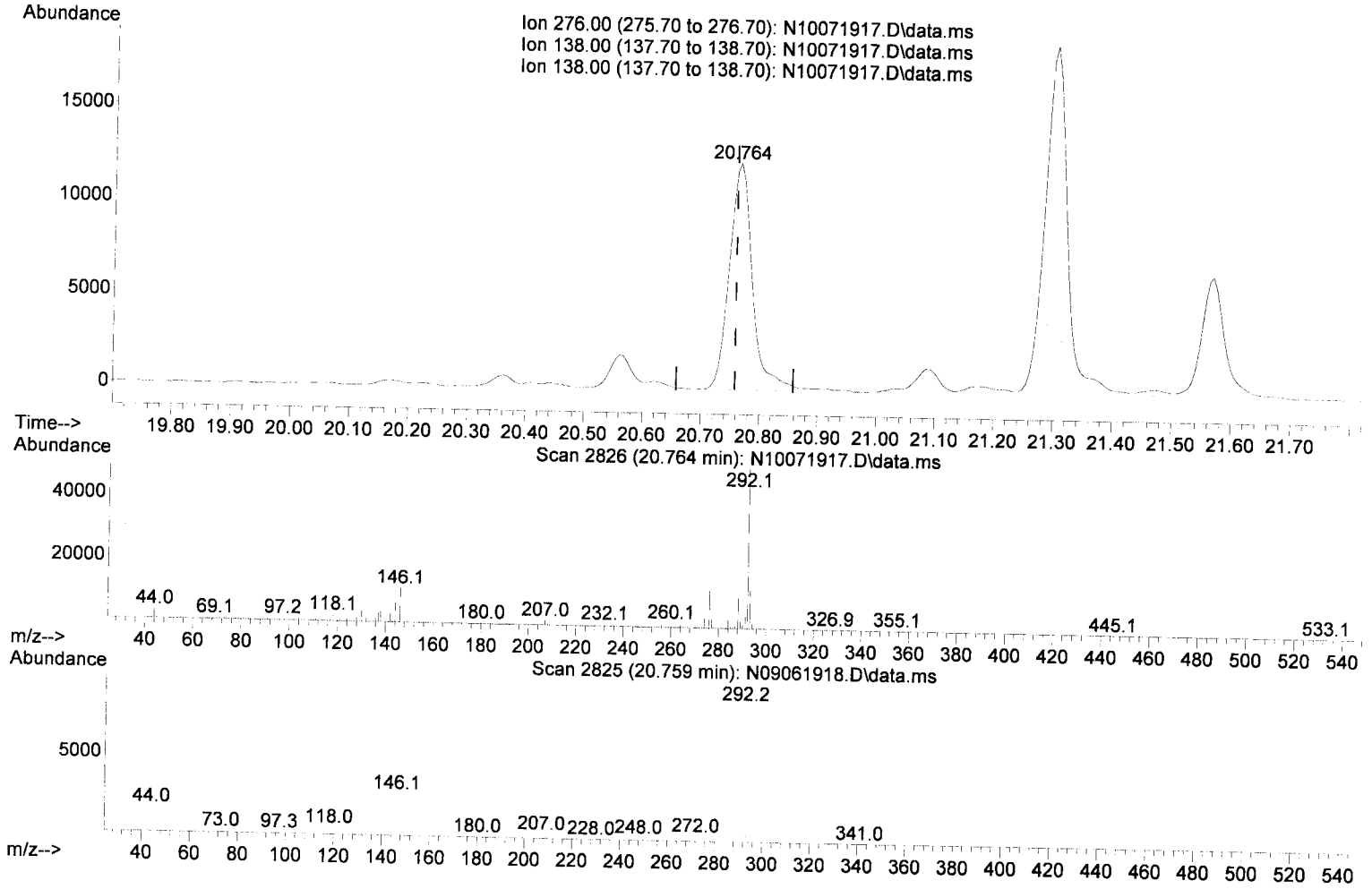


TIC: N10071917.D\data.ms

(38) Indeno(1,2,3-cd)Pyrene (T)

20.764min (+ 0.006) 20.48 ng/ml

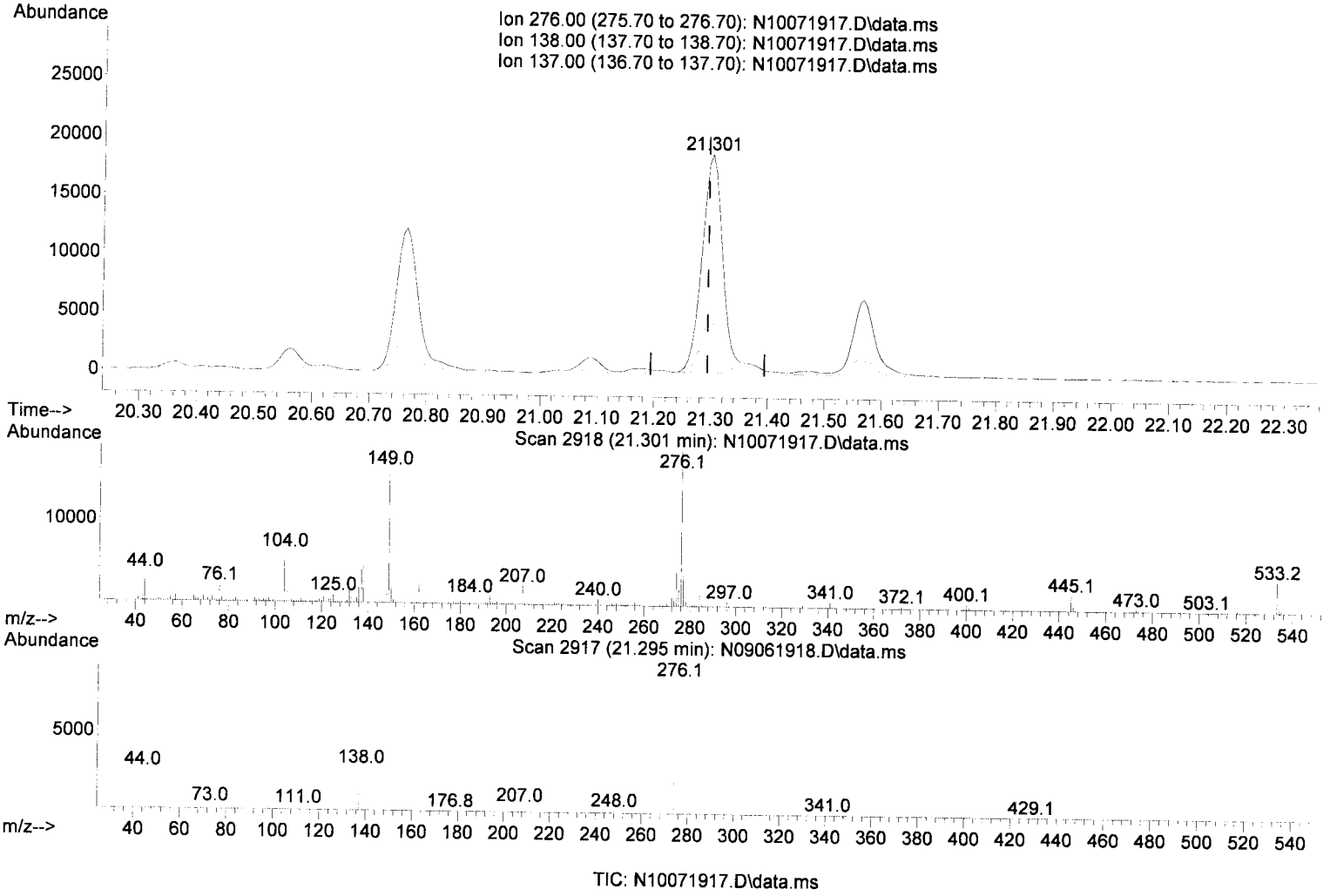
response 32838

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	25.60
138.00	31.60	25.60
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071917.D
Acq On : 07 Oct 2019 04:02 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-17@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:43:24 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10071917.D\data.ms

(40) Benzo(g,h,i)perylene (T)

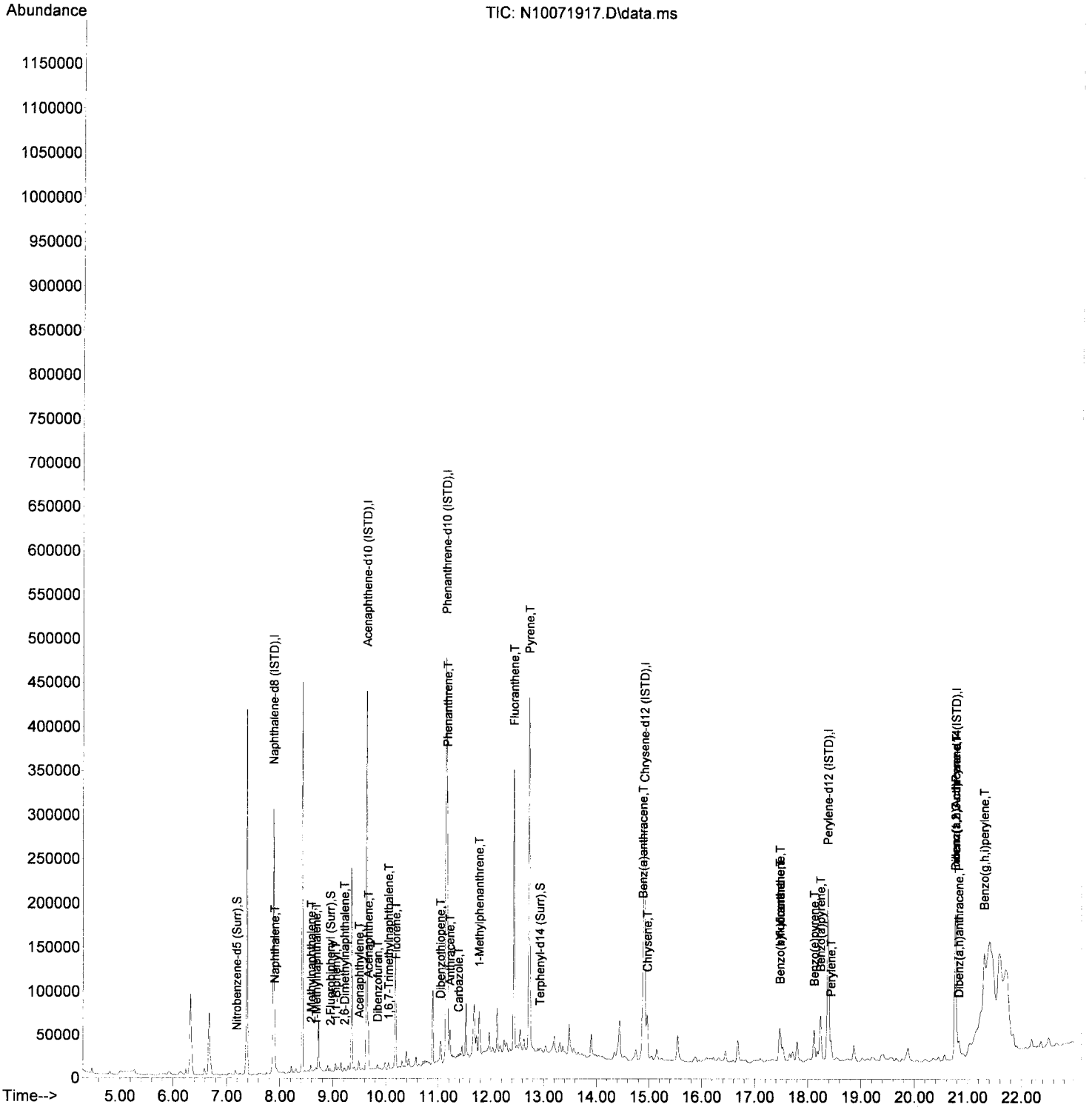
21.301min (+ 0.007) 27.93 ng/ml

response 47520

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	24.65
137.00	28.60	21.40
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J07048\
Data File : N10071917.D
Acq On : 07 Oct 2019 04:02 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-17@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 07 16:43:24 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

fcm 10/8/19

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

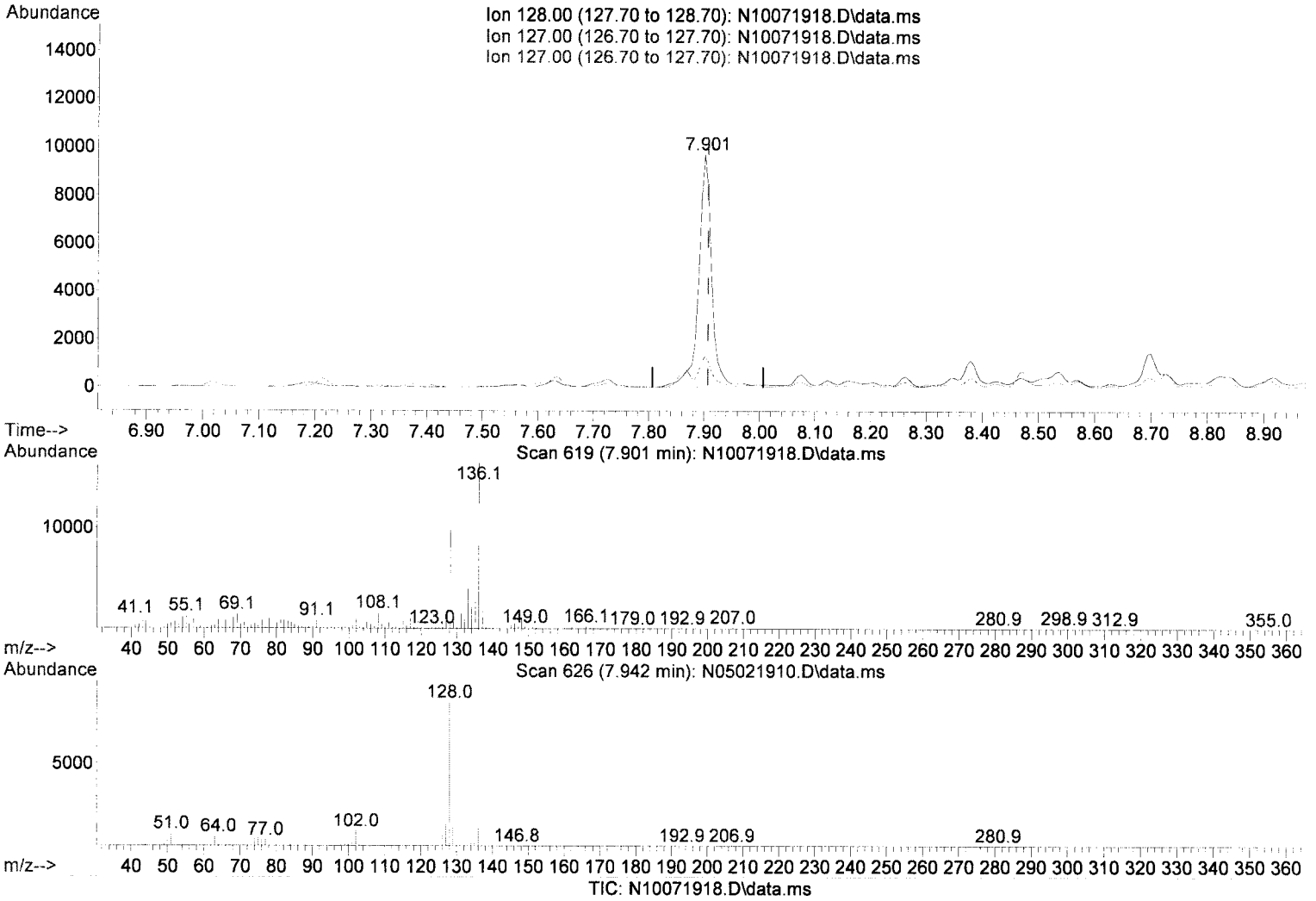
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	221265	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	133361	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	243642	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	181620	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	156413	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	116350	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	1280	1.74	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	1935	0.97	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	1528	-1.00	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	1815	0.95	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	7.353	138	293	1.78	ng/ml#	1
4) Naphthalene	7.901	128	16028	6.57	ng/ml	98
5) 2-Methylnaphthalene	8.588	142	3783	1.83	ng/ml	94
6) 1-Methylnaphthalene	8.688	142	2468	1.19	ng/ml#	60
7) 1,1'-Biphenyl	9.049	154	3141	1.13	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.218	156	3071	1.51	ng/ml	98
12) Acenaphthylene	9.492	152	4322	1.49	ng/ml	93
13) Acenaphthene	9.667	153	13020	6.87	ng/ml	99
14) Dibenzofuran	9.847	168	1297	0.55	ng/ml#	73
15) 1,6,7-Trimethylnaphtha...	10.051	170	1197	0.75	ng/ml	97
16) Fluorene	10.191	166	7807	(4.02)	ng/ml	98 J
18) Dibenzothiopene	11.042	184	8230	(3.23)	ng/ml	97
19) Phenanthrene	11.165	178	109600	38.44	ng/ml	100
20) Anthracene	11.223	178	13404	5.05	ng/ml	97
21) Carbazole	11.386	167	525	N.D.		
22) 1-Methylphenanthrene	11.794	192	3413	1.72	ng/ml	96
23) Fluoranthene	12.435	202	138886	48.35	ng/ml	97
25) Pyrene	12.721	202	178108	62.77	ng/ml	99
27) Benz(a)anthracene	14.883	228	23581	11.18	ng/ml#	50
28) Chrysene	14.965	228	29952	15.01	ng/ml	99
30) Benzo(b)fluoranthene	17.477	252	31823	17.63	ng/ml	94
31) Benzo(k)fluoranthene	17.477	252	37438	21.07	ng/ml	92 MI-MOS
32) Benzo(b+k)fluoranthene	17.477	252	43336	23.47	ng/ml	92
34) Benzo(e)pyrene	18.118	252	21697	11.89	ng/ml	98
35) Benzo(a)pyrene	18.241	252	30522	19.76	ng/ml	98
36) Perylene	18.439	252	12892	6.78	ng/ml	96
38) Indeno(1,2,3-cd)Pyrene	20.770	276	22182	15.46	ng/ml	85
39) Dibenz(a,h)anthracene	20.829	278	1856	1.38	ng/ml	87
40) Benzo(g,h,i)perylene	21.301	276	31190	20.49	ng/ml	84

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.901min (-0.006) 6.57 ng/ml

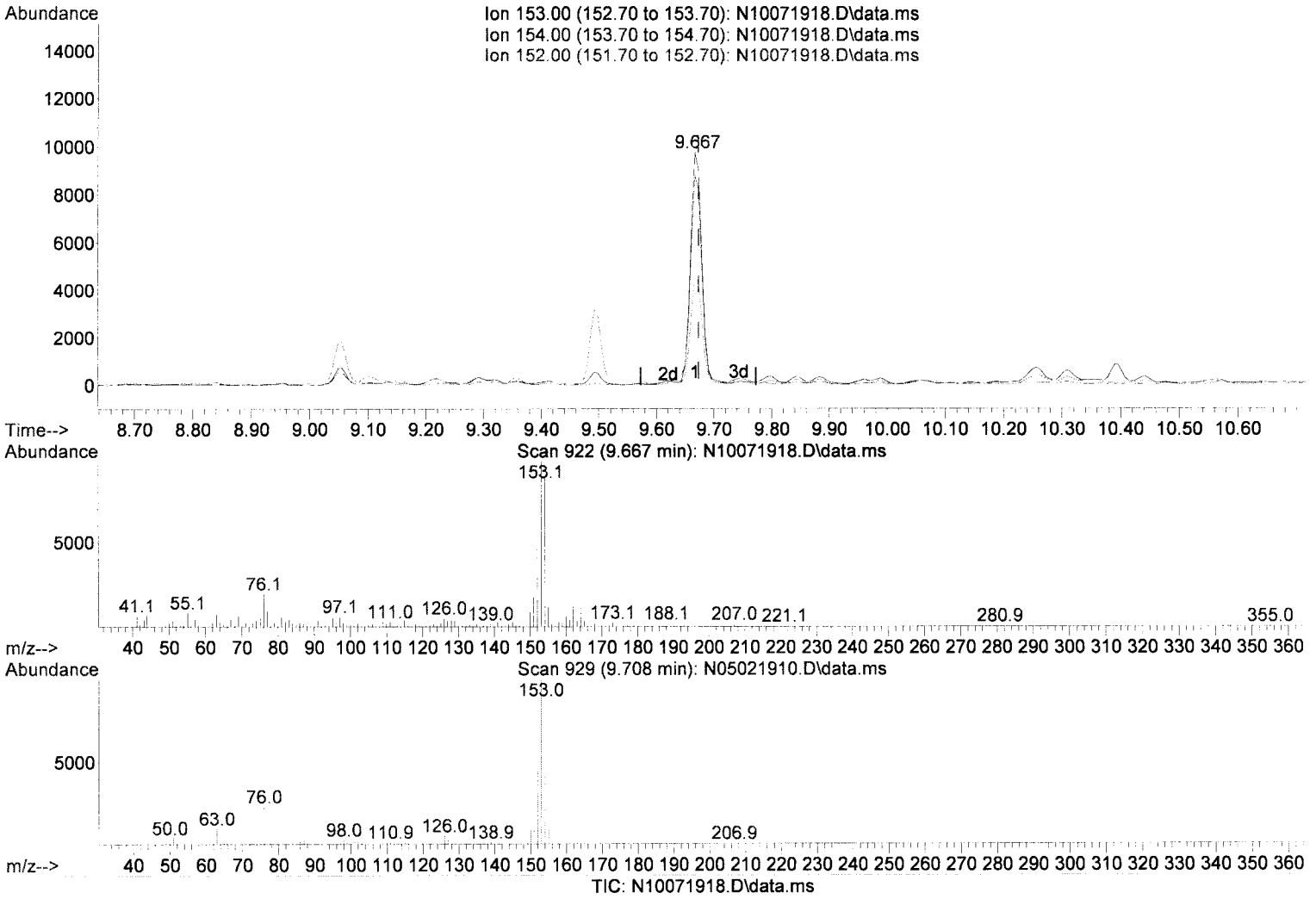
response 16028

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	13.31
127.00	12.60	13.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.667min (-0.006) 6.87 ng/ml

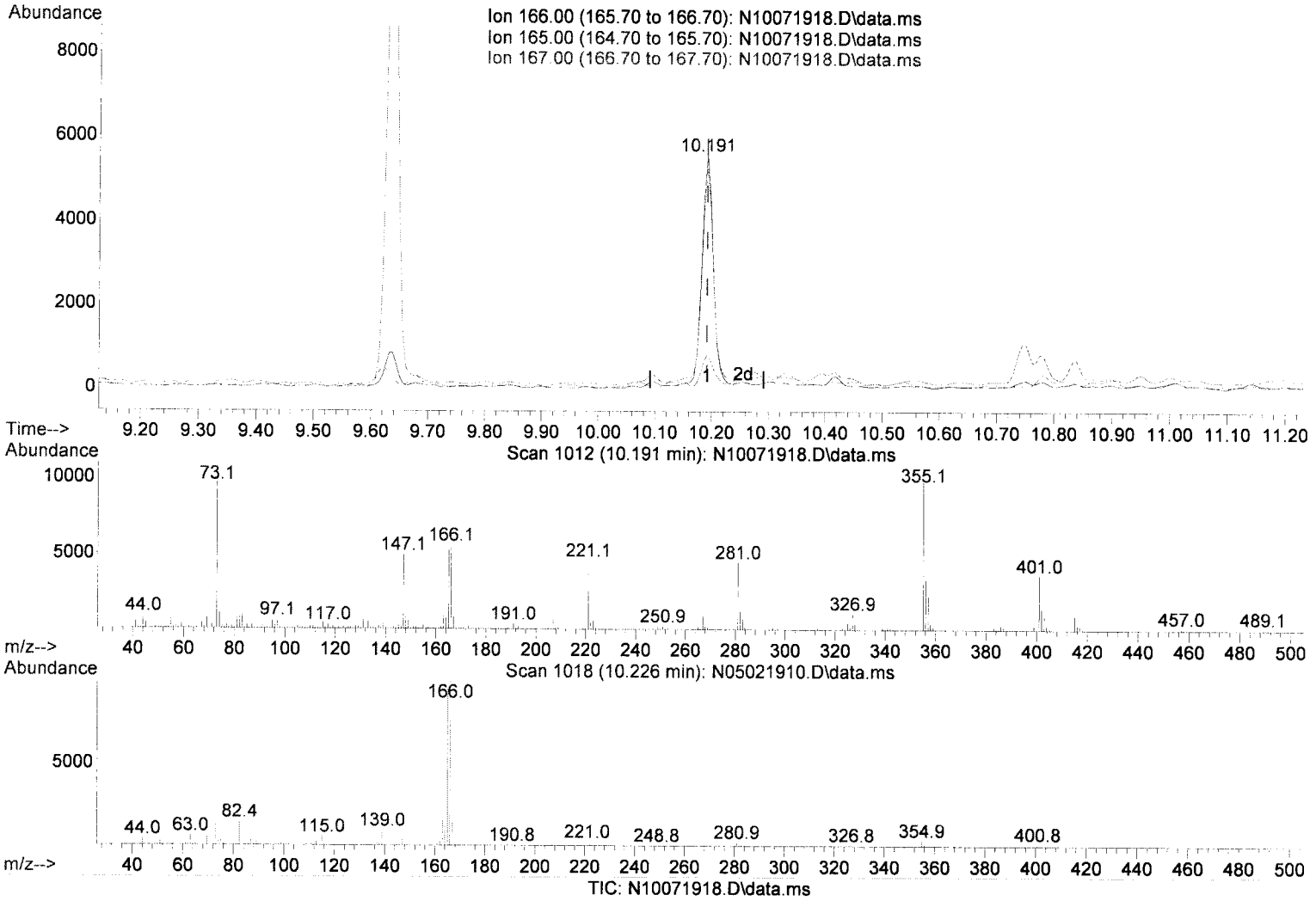
response 13020

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.22
152.00	46.80	47.17
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(16) Fluorene (T)

10.191min (-0.000) 4.02 ng/ml

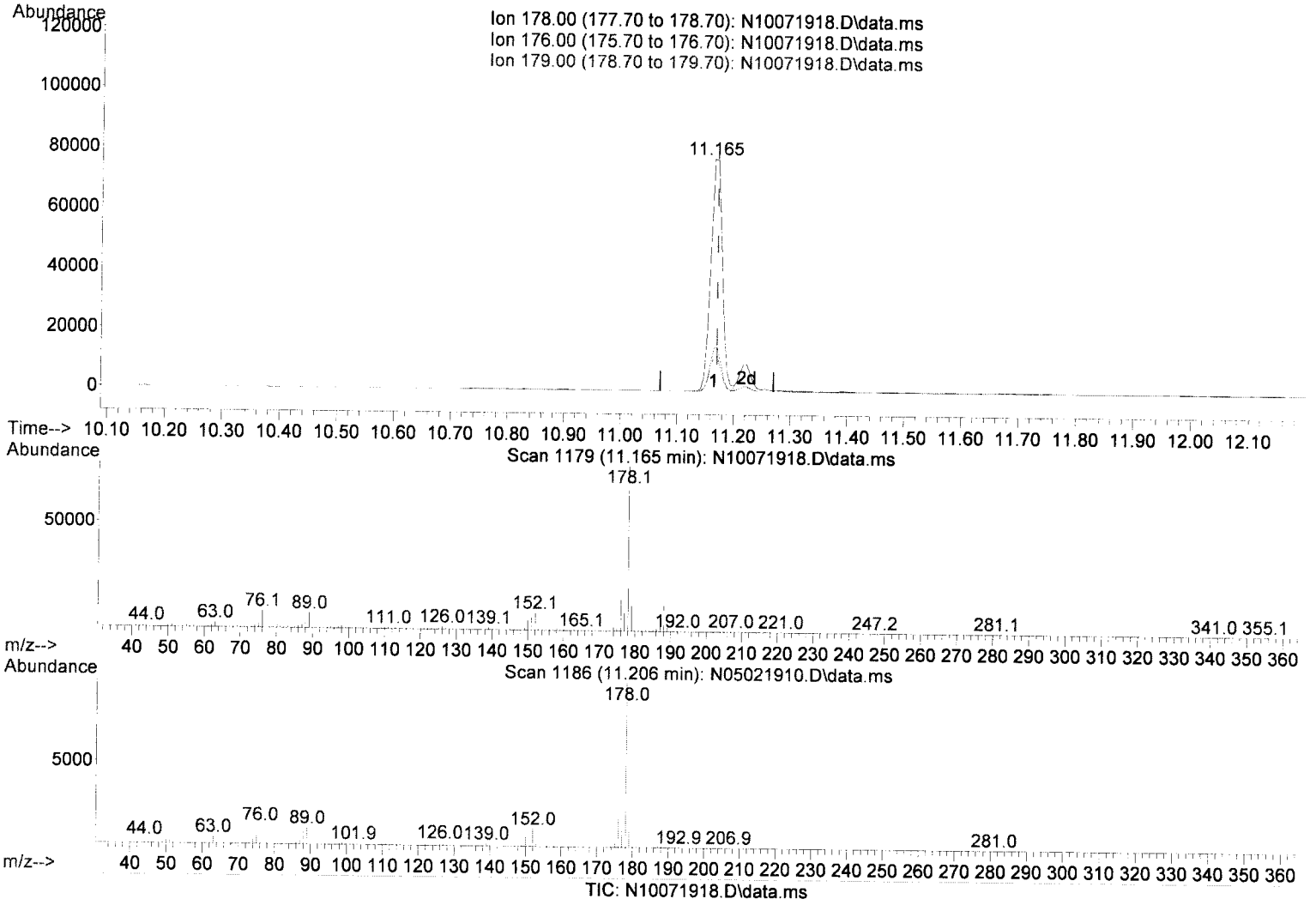
response 7807

Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	94.22
167.00	13.60	14.33
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.165min (-0.006) 38.44 ng/ml

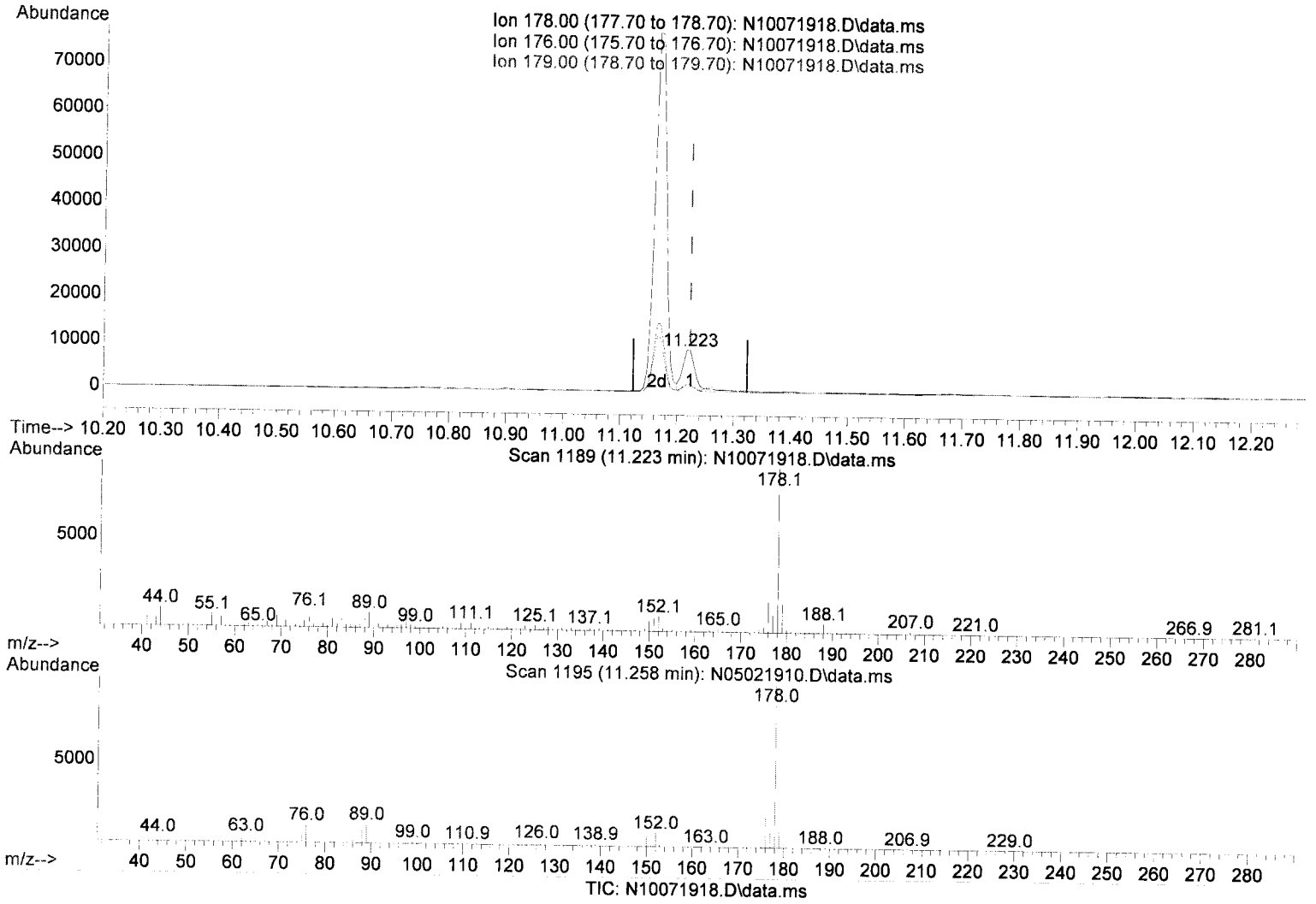
response 109600

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.94
179.00	15.10	15.44
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(20) Anthracene (T)

11.223min (-0.000) 5.05 ng/ml

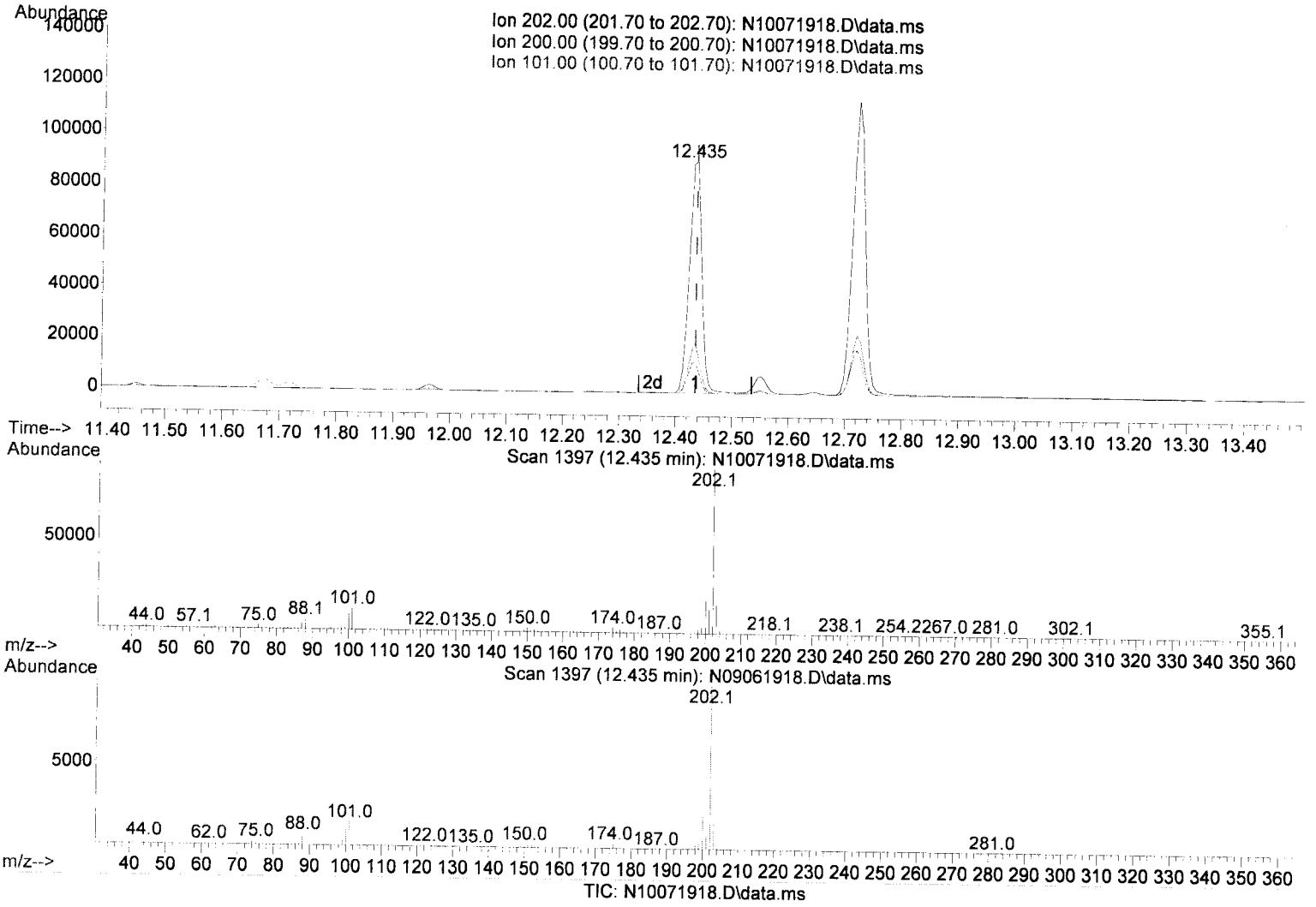
response 13404

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.42
179.00	15.30	17.26
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(23) Fluoranthene (T)

12.435min (+ 0.000) 48.35 ng/ml

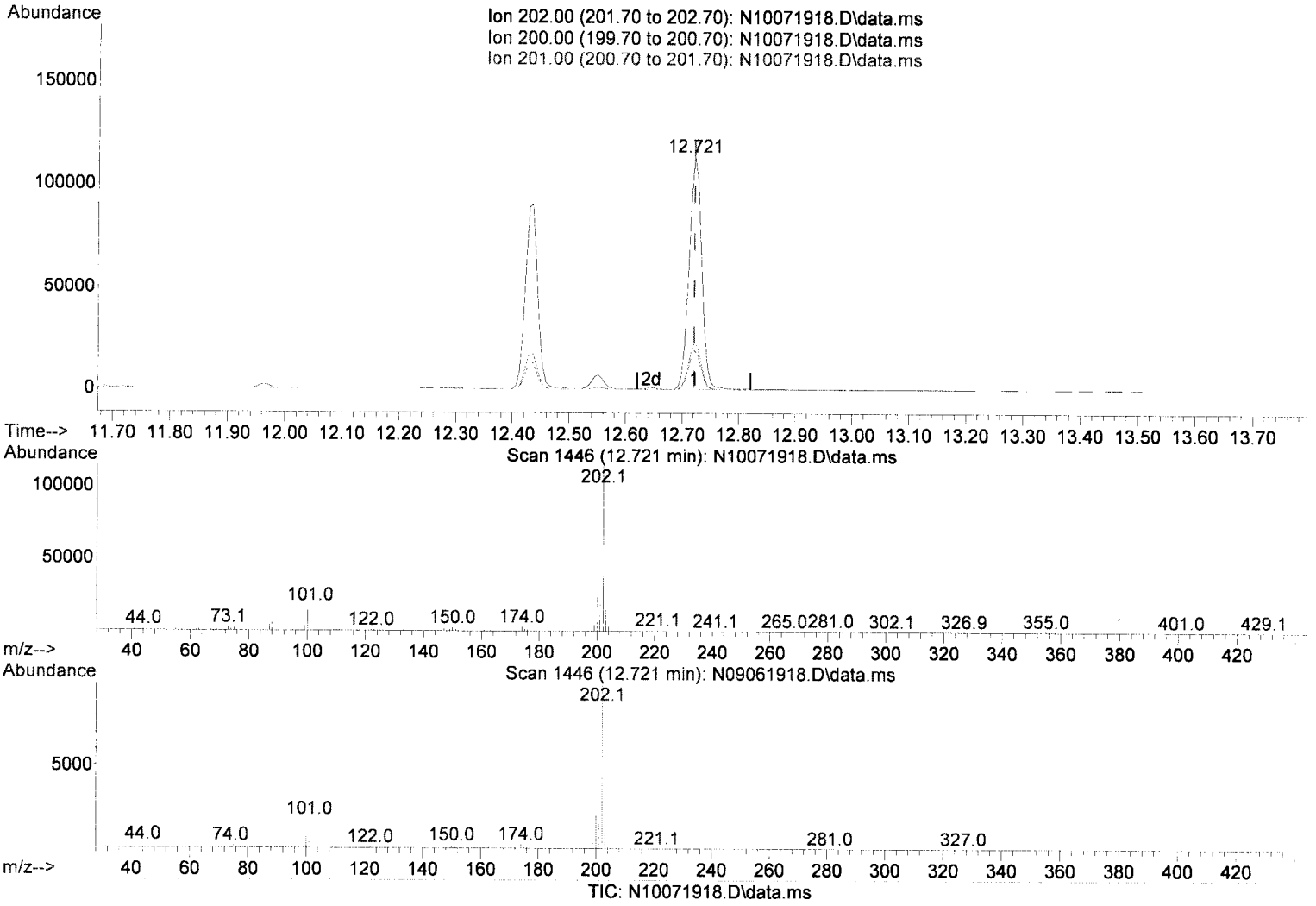
response 138886

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	19.75
101.00	15.30	12.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(25) Pyrene (T)

12.721min (-0.000) 62.77 ng/ml

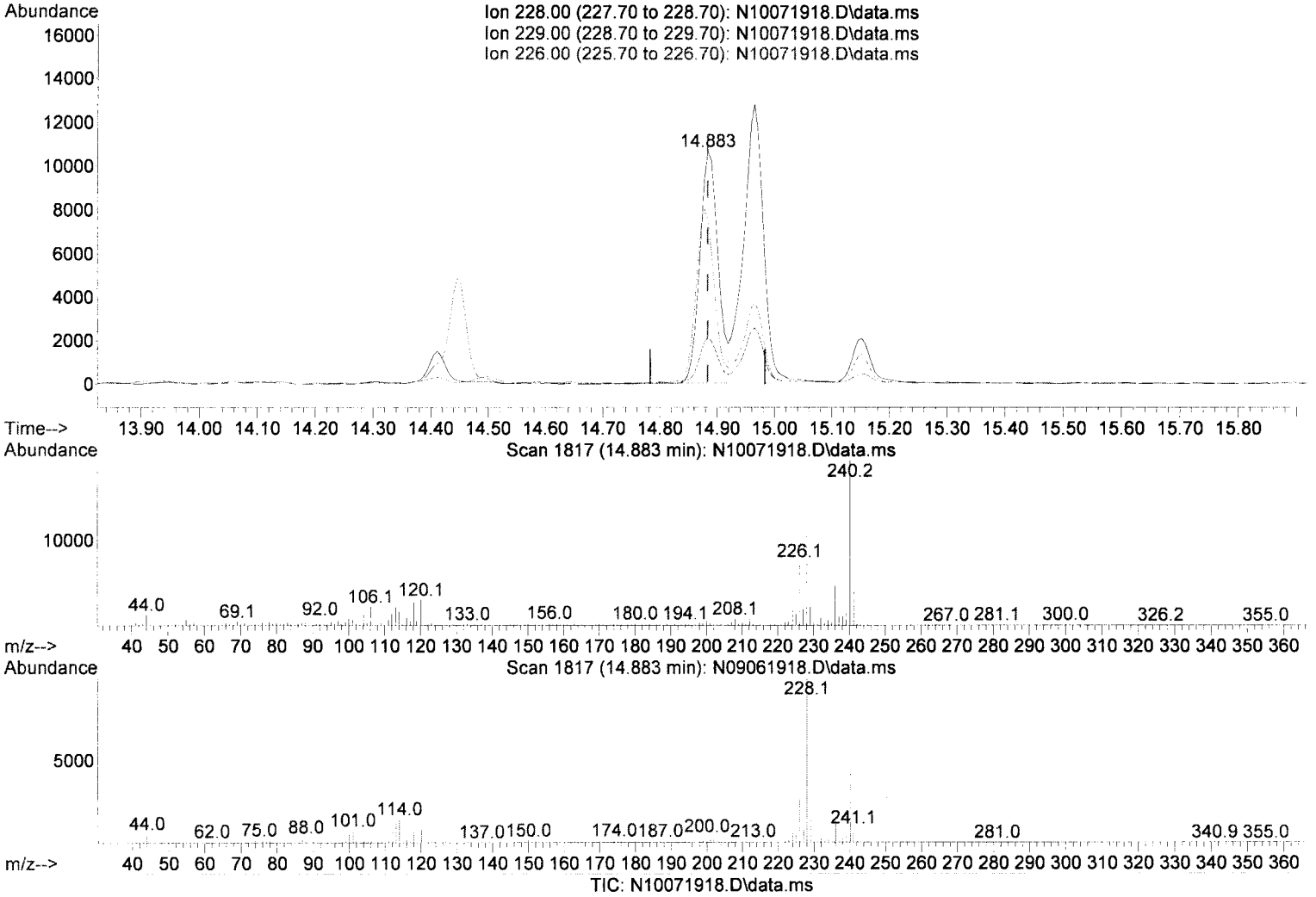
response 178108

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.39
201.00	16.80	17.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(27) Benz(a)anthracene (T)

14.883min (+ 0.000) 11.18 ng/ml

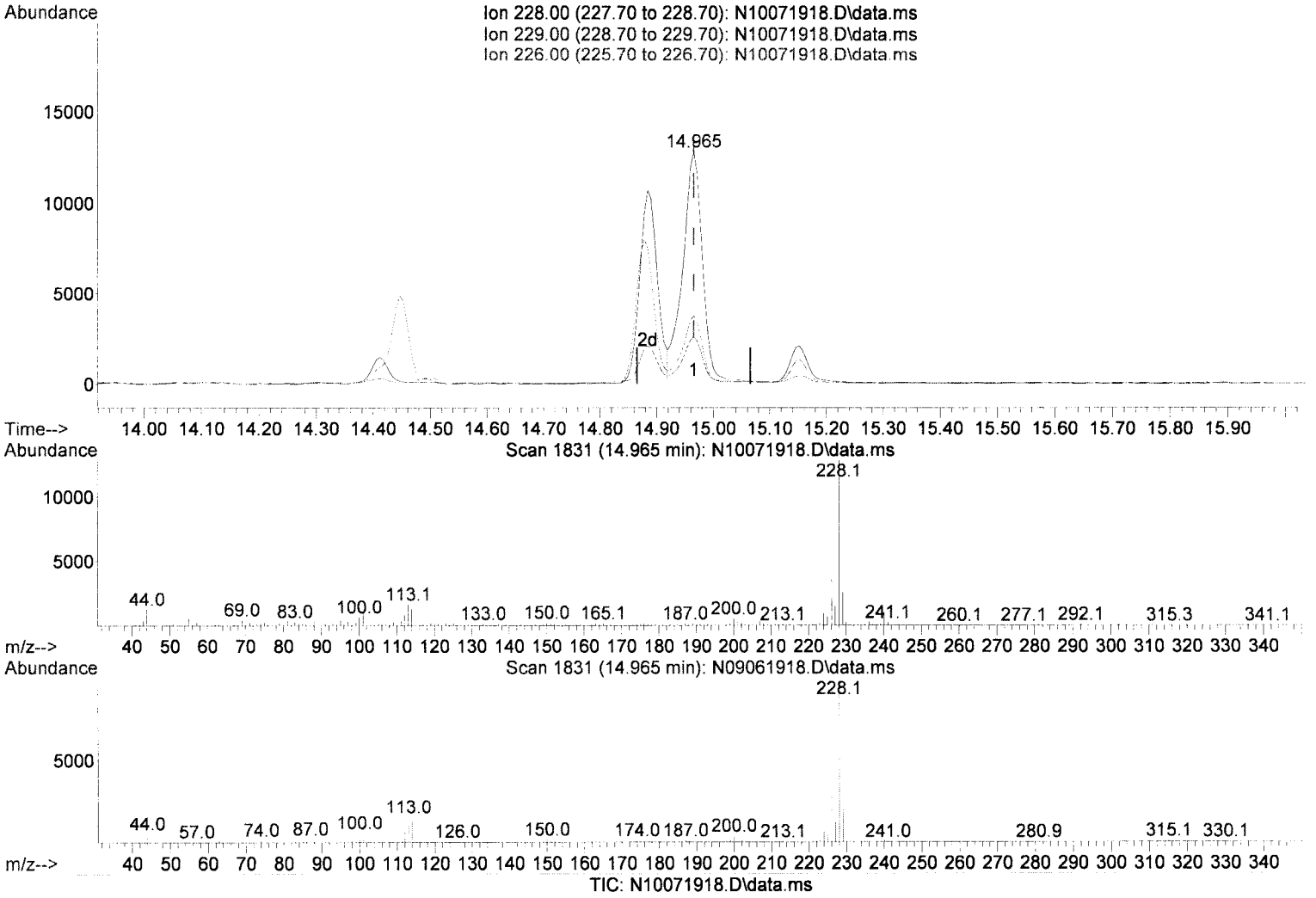
response 23581

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	19.96
226.00	26.20	70.35#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(28) Chrysene (T)

14.965min (0.000) 15.01 ng/ml

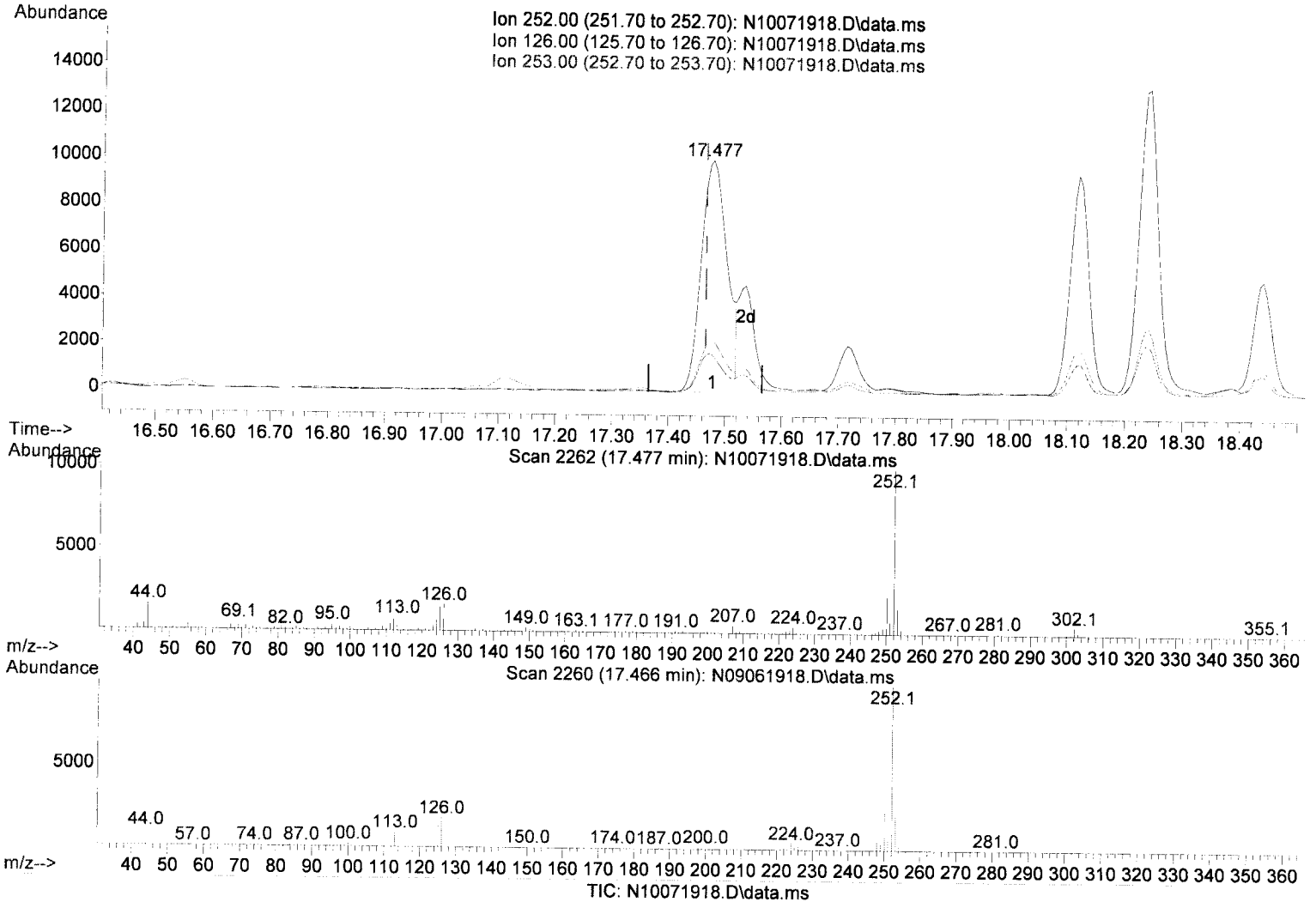
response 29952

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.13
226.00	28.60	29.26
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(30) Benzo(b)fluoranthene (T)

17.477min (+ 0.012) 17.63 ng/ml

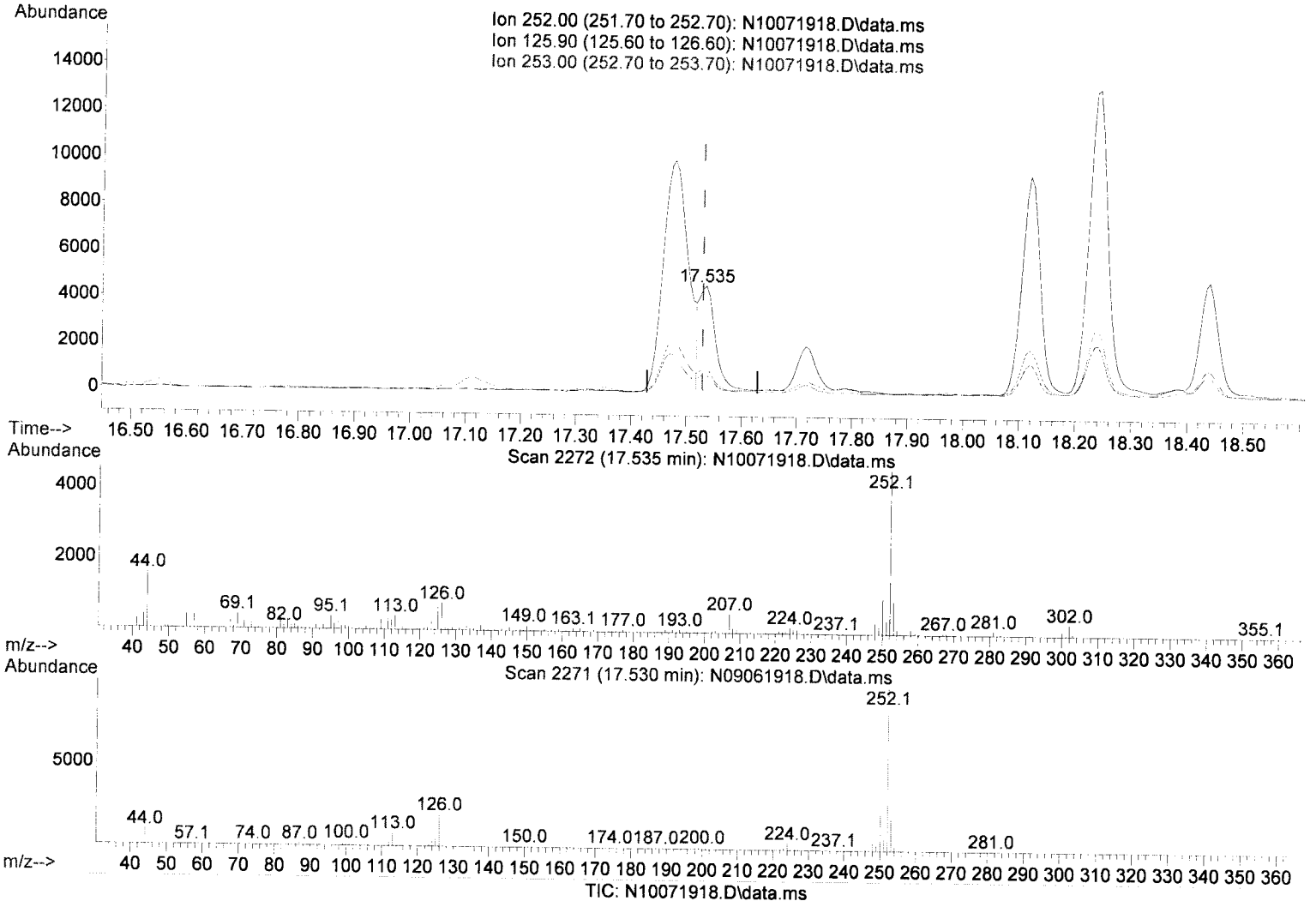
response 31823

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	16.09
253.00	21.10	22.74
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(31) Benzo(k)fluoranthene (T)

17.535min (+ 0.006) 5.02 ng/ml (m)

response 8923

Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	16.58
253.00	21.50	23.10
0.00	0.00	0.00

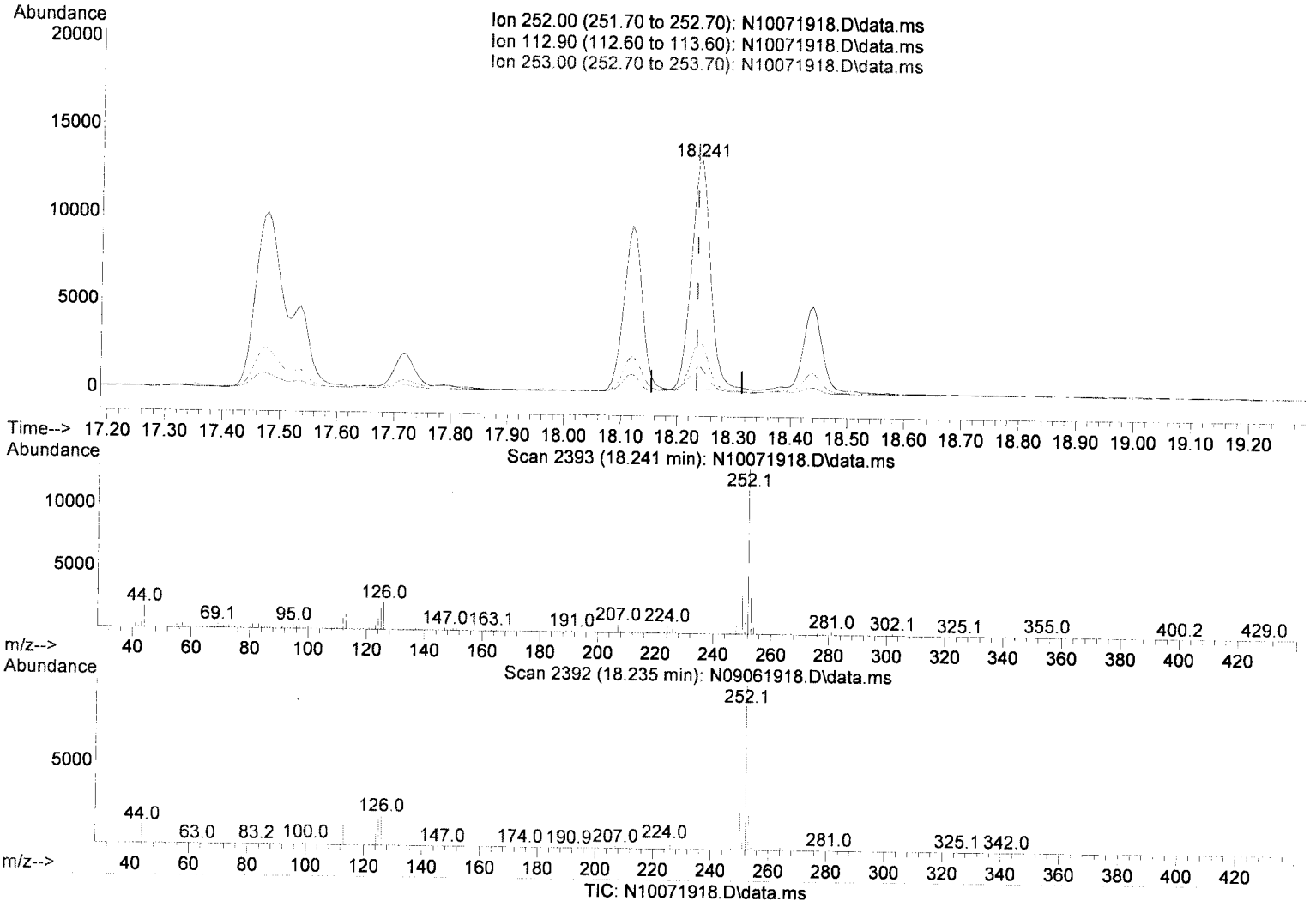
HM 10/8/19

MOS

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(35) Benzo(a)pyrene (T)

18.241min (+ 0.007) 19.76 ng/ml

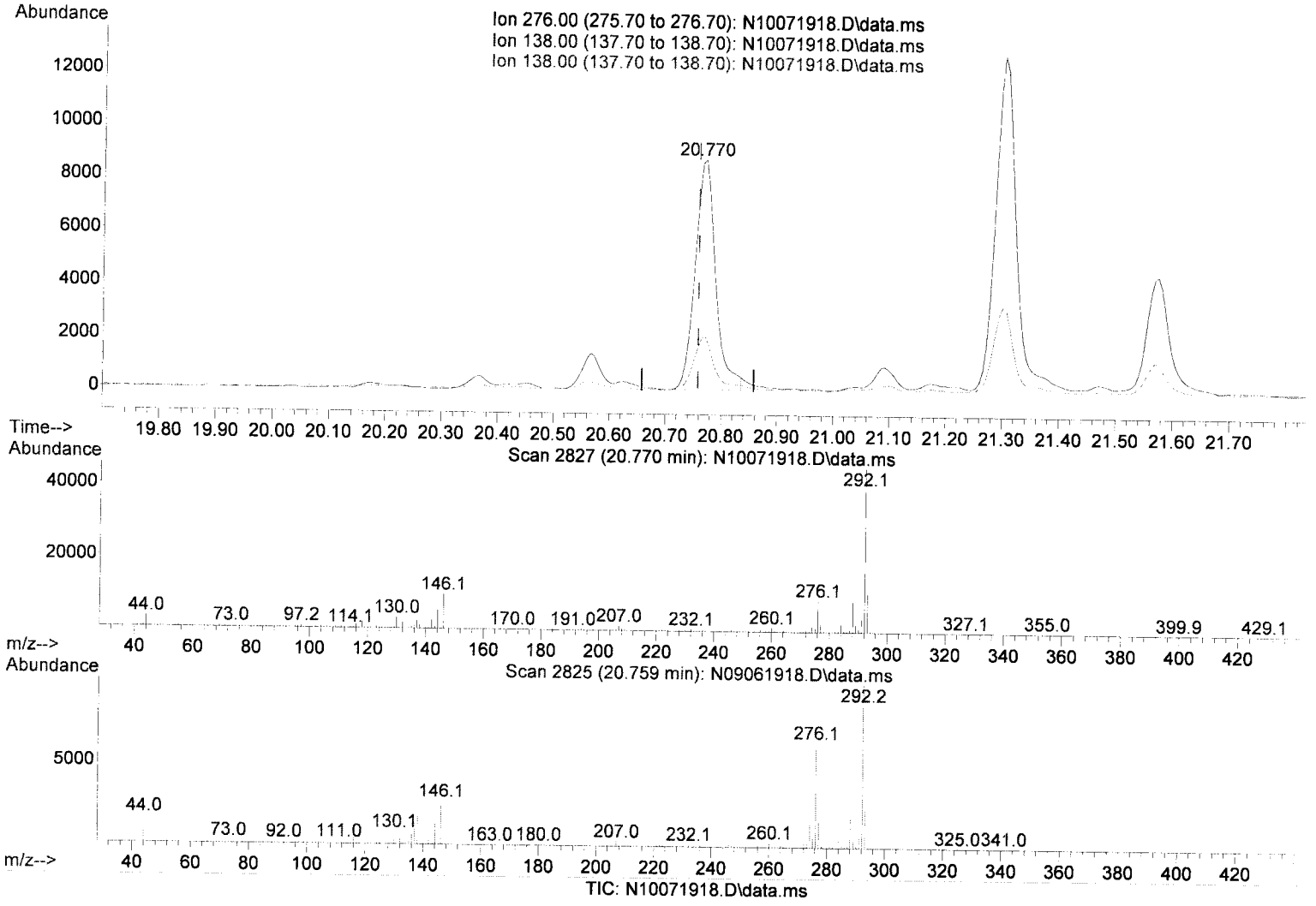
response 30522

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	10.94
253.00	21.90	22.05
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(38) Indeno(1,2,3-cd)Pyrene (T)

20.770min (+ 0.012) 15.46 ng/ml

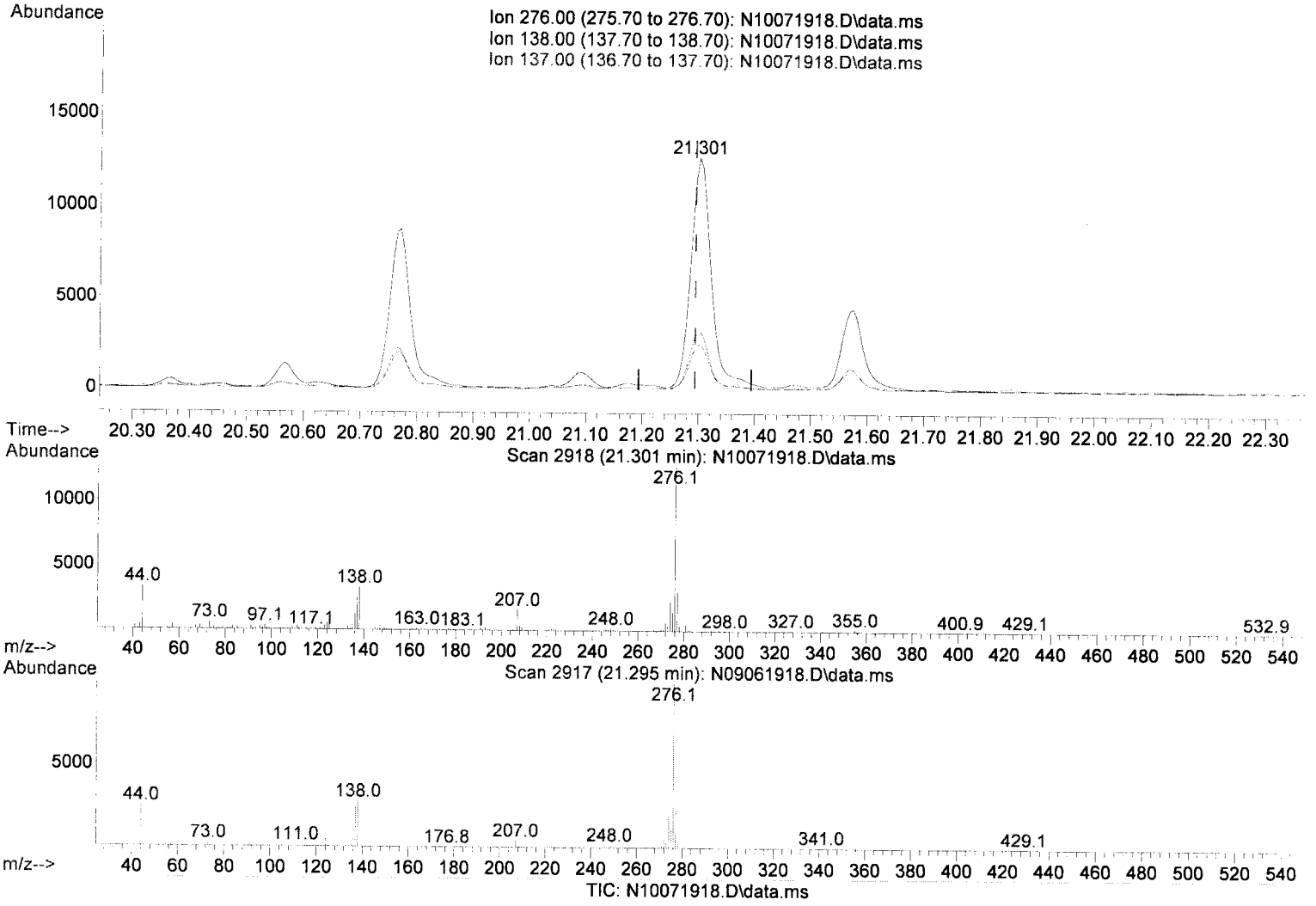
response 22182

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	23.53
138.00	31.60	23.53
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(40) Benzo(g,h,i)perylene (T)

21.301min (+ 0.007) 20.49 ng/ml

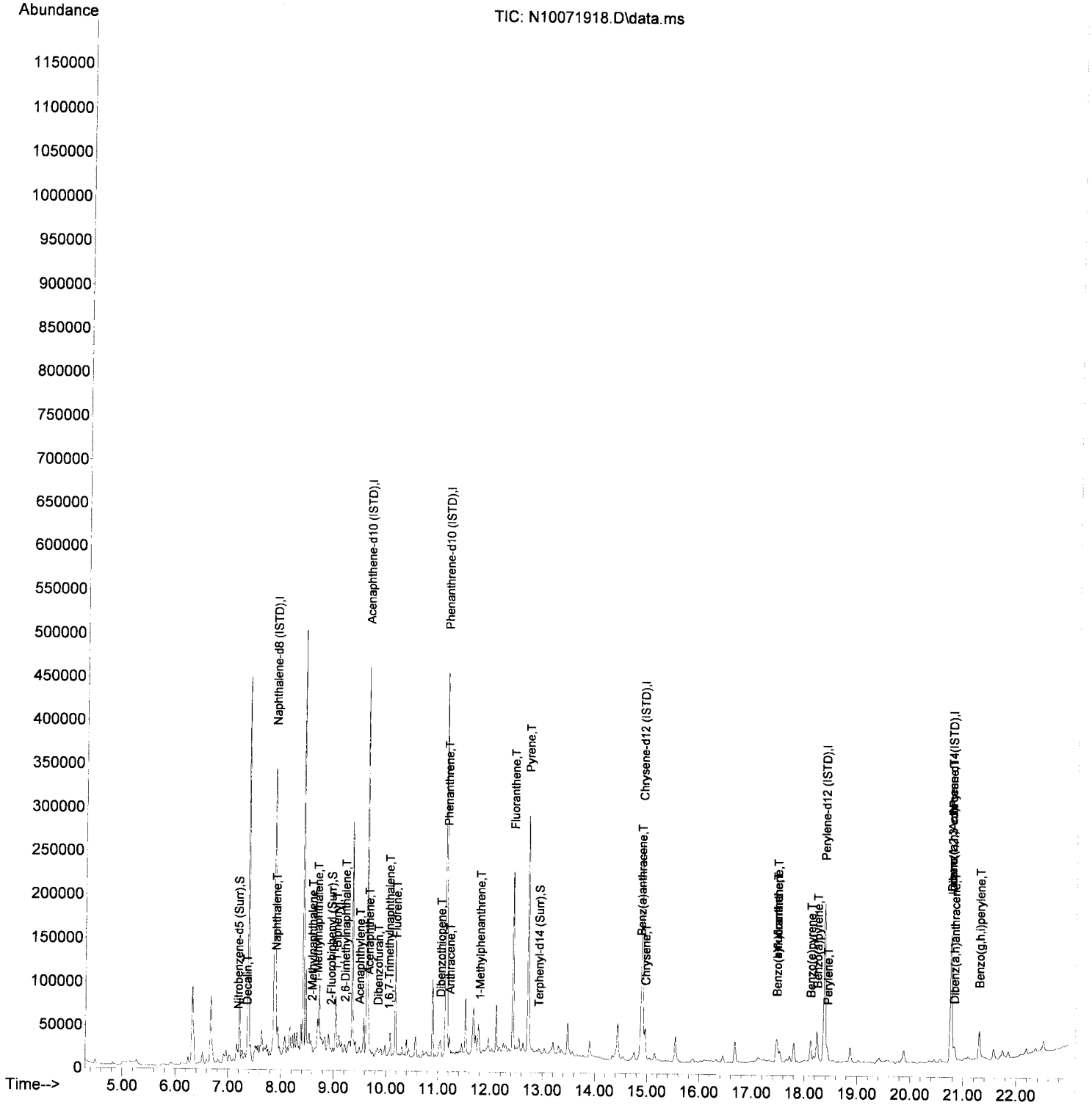
response 31190

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	25.94
137.00	28.60	19.80
0.00	0.00	0.00

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071918.D
Acq On : 07 Oct 2019 04:34 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-21@100
Misc : 100x, 8270D LL PAH Only
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 08 07:35:54 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Data Path : U:\data\2019-10\9J07048\
Data File : N10071919.D
Acq On : 07 Oct 2019 05:06 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-19@4
Misc : 4x, 8270D LL PAH Only
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Hemm 10/9/19

R-04

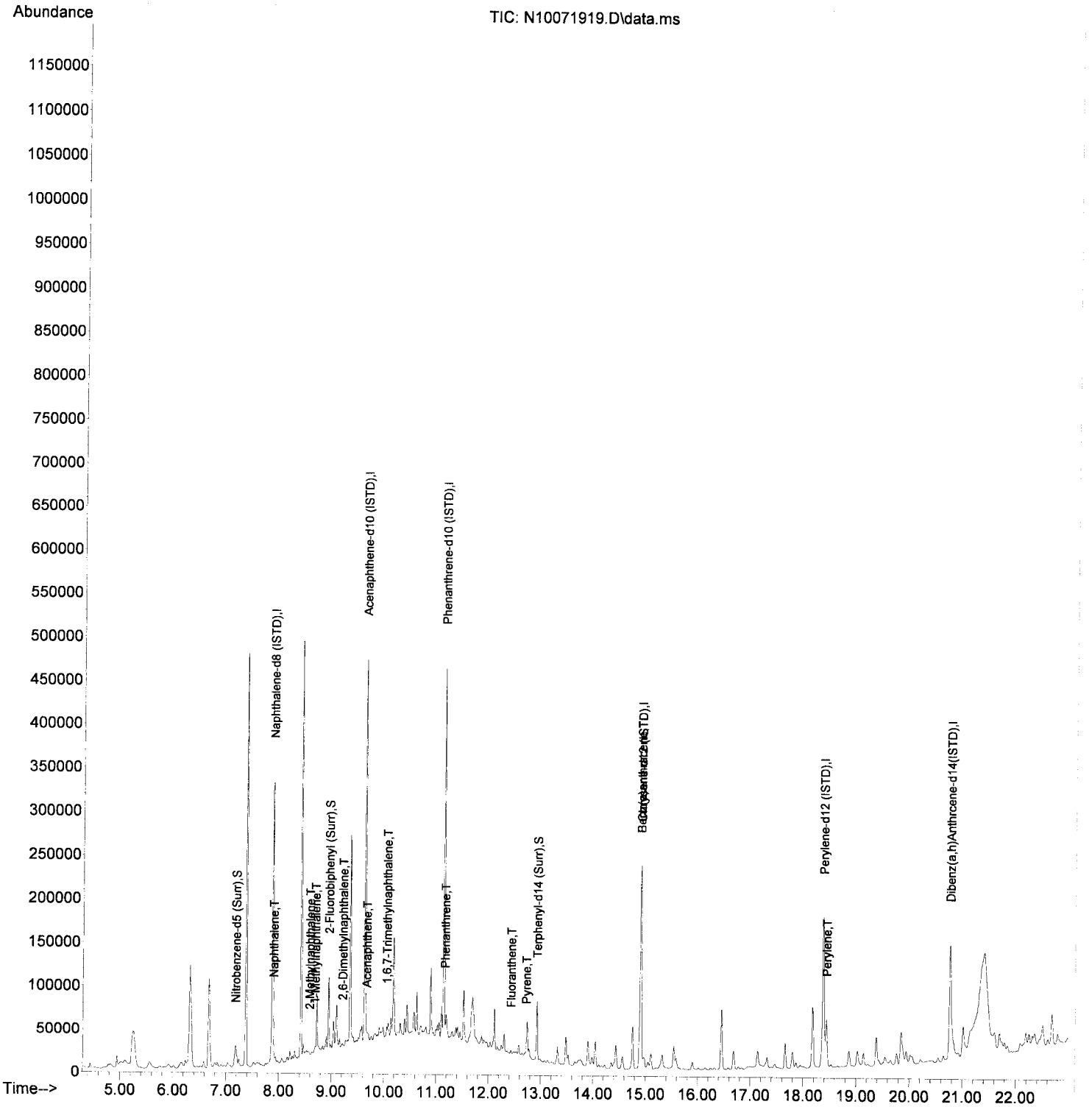
Quant Time: Oct 08 07:35:57 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.883	136	237570	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	129758	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	230814	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	176290	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	149571	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	120306	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.184	82	14472	18.33 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	38837	20.06 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	2543	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	38985	21.03 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.901	128	4113	1.57 ng/ml	94
5) 2-Methylnaphthalene	8.589	142	1070	0.48 ng/ml	92
6) 1-Methylnaphthalene	8.688	142	1127	0.51 ng/ml#	67
7) 1,1'-Biphenyl	9.049	154	602	N.D.	
8) 2,6-Dimethylnaphthalene	9.212	156	950	0.44 ng/ml	89
12) Acenaphthylene	9.492	152	589	N.D.	
13) Acenaphthene	9.667	153	1969	1.07 ng/ml	95
14) Dibenzofuran	9.842	168	384	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.052	170	756	0.49 ng/ml#	64
16) Fluorene	10.191	166	743	N.D.	
18) Dibenzothiopene	11.037	184	634	N.D.	
19) Phenanthrene	11.165	178	3145	1.16 ng/ml	88
20) Anthracene	11.223	178	443	N.D.	
21) Carbazole	11.380	167	167	N.D.	
22) 1-Methylphenanthrene	11.788	192	189	N.D.	
23) Fluoranthene	12.430	202	1754	0.64 ng/ml	97
25) Pyrene	12.721	202	2513	0.91 ng/ml	93
27) Benz(a)anthracene	14.901	228	889	0.43 ng/ml	71
28) Chrysene	14.959	228	515	N.D.	
30) Benzo(b)fluoranthene	17.471	252	511	N.D.	
31) Benzo(k)fluoranthene	17.471	252	667	N.D.	
32) Benzo(b+k)fluoranthene	17.471	252	692	N.D.	
34) Benzo(e)pyrene	18.113	252	292	N.D.	
35) Benzo(a)pyrene	18.235	252	364	N.D.	
36) Perylene	18.439	252	48992	26.93 ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.770	276	308	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	21.295	276	326	N.D.	

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

Data Path : U:\data\2019-10\9J07048\
Data File : N10071919.D
Acq On : 07 Oct 2019 05:06 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-19@4
Misc : 4x, 8270D LL PAH Only
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 08 07:35:57 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071920.D
Acq On : 07 Oct 2019 05:38 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-20@4
Misc : 4x, 8270D LL PAH Only
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

HRM 10/8/19

RR1

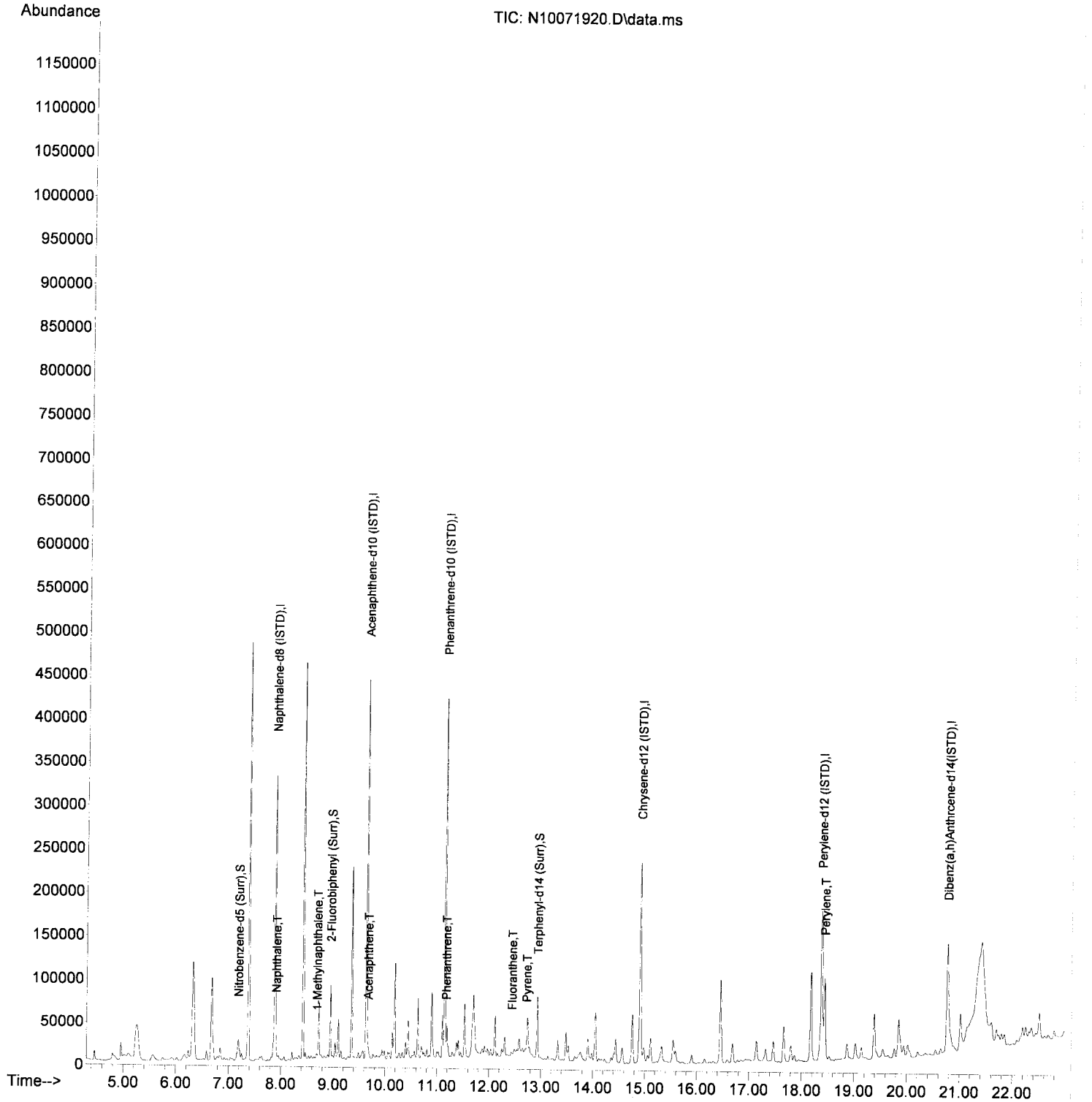
Quant Time: Oct 08 07:36:00 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.883	136	237838	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	130044	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	230901	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	176896	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	151620	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	118766	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.190	82	13382	16.93 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	39394	20.31 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	2307	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	41108	22.10 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.906	128	4893	1.87 ng/ml	94
5) 2-Methylnaphthalene	8.588	142	820	N.D.	
6) 1-Methylnaphthalene	8.687	142	2078	0.93 ng/ml	92
7) 1,1'-Biphenyl	9.055	154	629	N.D.	
8) 2,6-Dimethylnaphthalene	9.218	156	556	N.D.	
12) Acenaphthylene	9.492	152	825	N.D.	
13) Acenaphthene	9.667	153	4552	2.46 ng/ml	99
14) Dibenzofuran	9.847	168	218	N.D.	
15) 1,6,7-Trimethylnaphtha...	10.057	170	147	N.D.	
16) Fluorene	10.191	166	731	N.D.	
18) Dibenzothiopene	11.042	184	233	N.D.	
19) Phenanthrene	11.170	178	1838	0.68 ng/ml	95
20) Anthracene	11.217	178	439	N.D.	
21) Carbazole	11.386	167	350	N.D.	
22) 1-Methylphenanthrene	11.794	192	438	N.D.	
23) Fluoranthene	12.435	202	1180	0.43 ng/ml	95
25) Pyrene	12.721	202	1611	0.58 ng/ml	92
27) Benz(a)anthracene	14.901	228	779	N.D.	
28) Chrysene	14.965	228	522	N.D.	
30) Benzo(b)fluoranthene	17.483	252	422	N.D.	
31) Benzo(k)fluoranthene	17.541	252	96	N.D.	
32) Benzo(b+k)fluoranthene	17.483	252	534	N.D.	
34) Benzo(e)pyrene	18.118	252	259	N.D.	
35) Benzo(a)pyrene	18.235	252	320	N.D.	
36) Perylene	18.439	252	84458	45.79 ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.770	276	289	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	21.312	276	156	N.D.	

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

Data Path : U:\data\2019-10\9J07048\
Data File : N10071920.D
Acq On : 07 Oct 2019 05:38 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-20@4
Misc : 4x, 8270D LL PAH Only
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 08 07:36:00 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

HLM 10/8/19

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

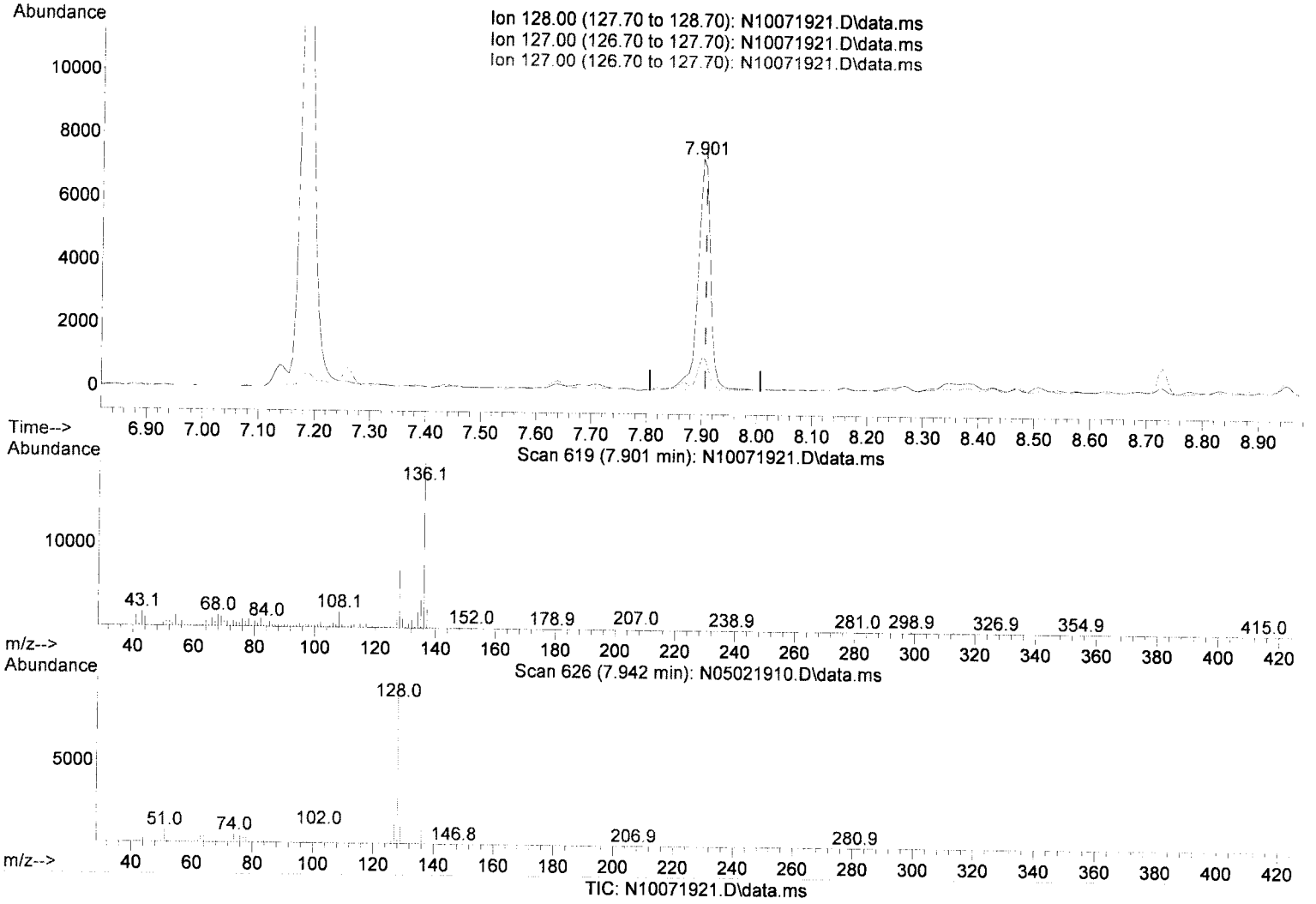
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.883	136	221327	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	136425	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	250106	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.913	240	201138	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	172170	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	135334	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.184	82	52990	72.05 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	158796	78.02 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	1217	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	180625	85.38 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	7.353	138	125	0.76 ng/ml#	63
4) Naphthalene	7.901	128	11555	(4.73) ng/ml	95 J
5) 2-Methylnaphthalene	8.588	142	4783	2.31 ng/ml	99
6) 1-Methylnaphthalene	8.688	142	10967	[5.30] ng/ml	99
7) 1,1'-Biphenyl	9.049	154	3068	1.10 ng/ml	99
8) 2,6-Dimethylnaphthalene	9.218	156	2482	1.22 ng/ml	93
12) Acenaphthylene	9.492	152	13435	(4.54) ng/ml	95 J
13) Acenaphthene	9.673	153	75255	[38.79] ng/ml	99
14) Dibenzofuran	9.847	168	1540	0.63 ng/ml	75
15) 1,6,7-Trimethylnaphtha...	10.051	170	1160	0.71 ng/ml#	28
16) Fluorene	10.191	166	8330	~~(4.20) ng/ml~~	~~100~~ J MF
18) Dibenzothiopene	11.042	184	11270	4.31 ng/ml	97
19) Phenanthrene	11.171	178	92548	[31.62] ng/ml	99
20) Anthracene	11.223	178	14252	[5.24] ng/ml	99
21) Carbazole	11.380	167	3024	1.37 ng/ml	92
22) 1-Methylphenanthrene	11.794	192	2970	1.46 ng/ml	100
23) Fluoranthene	12.435	202	69005	[23.40] ng/ml	98
25) Pyrene	12.721	202	86339	[27.48] ng/ml	99
27) Benz(a)anthracene	14.889	228	13051	[5.59] ng/ml	85
28) Chrysene	14.965	228	16376	[7.41] ng/ml	98
30) Benzo(b)fluoranthene	17.477	252	13842	[6.97] ng/ml	92
31) Benzo(k)fluoranthene	17.477	252	16859	~~8.62 ng/ml~~	~~91~~ MF
32) Benzo(b+k)fluoranthene	17.477	252	18959	[9.33] ng/ml	91
34) Benzo(e)pyrene	18.124	252	9124	4.54 ng/ml	98
35) Benzo(a)pyrene	18.241	252	12613	[7.42] ng/ml	99
36) Perylene	18.439	252	13097	6.25 ng/ml	98
38) Indeno(1,2,3-cd)Pyrene	20.770	276	9059	[5.43] ng/ml	94
39) Dibenz(a,h)anthracene	20.834	278	869	0.55 ng/ml	80
40) Benzo(g,h,i)perylene	21.307	276	11104	[6.27] ng/ml	92

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.901min (-0.006) 4.73 ng/ml

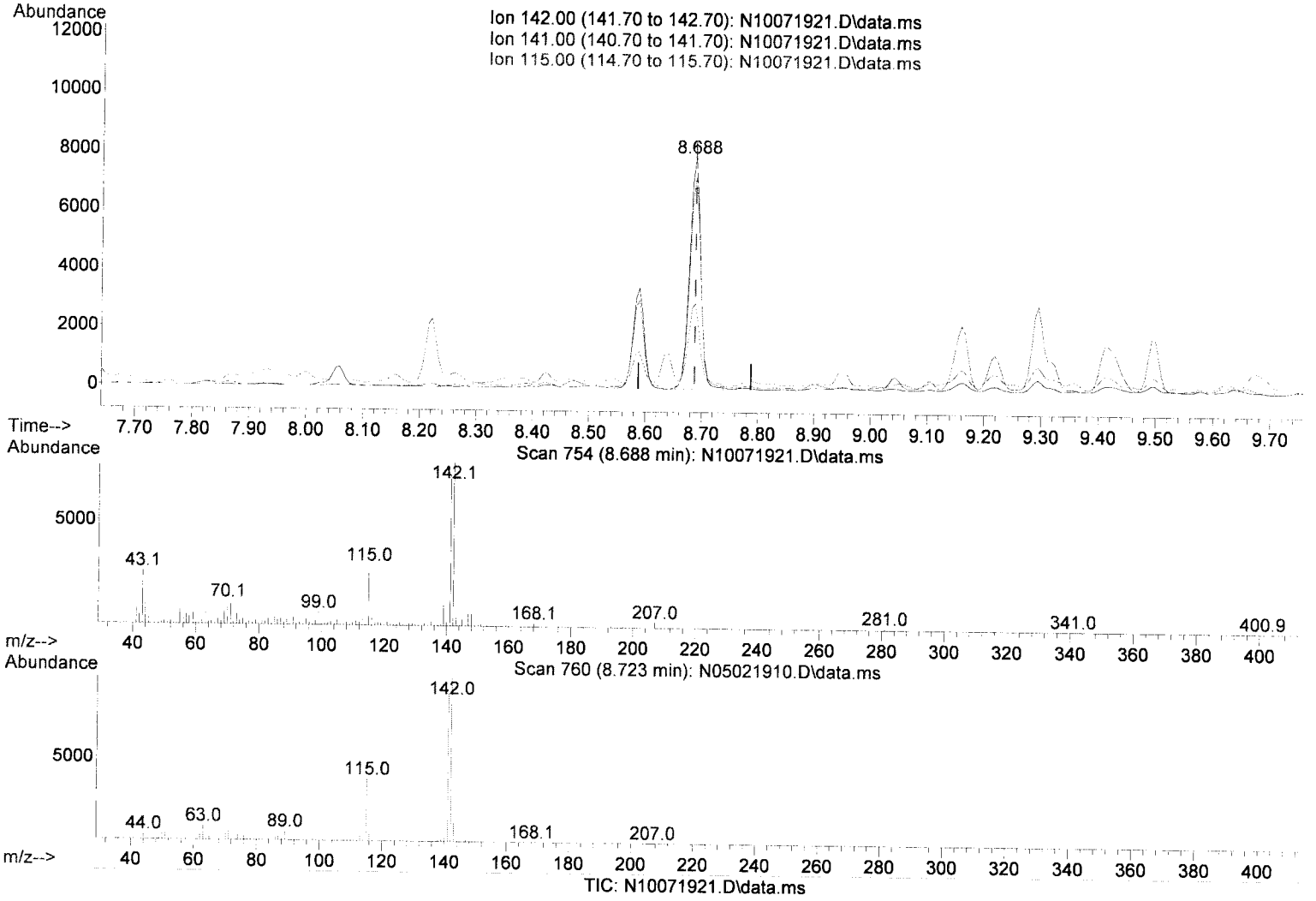
response 11555

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	14.46
127.00	12.60	14.46
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(6) 1-Methylnaphthalene (T)

8.688min (-0.000) 5.30 ng/ml

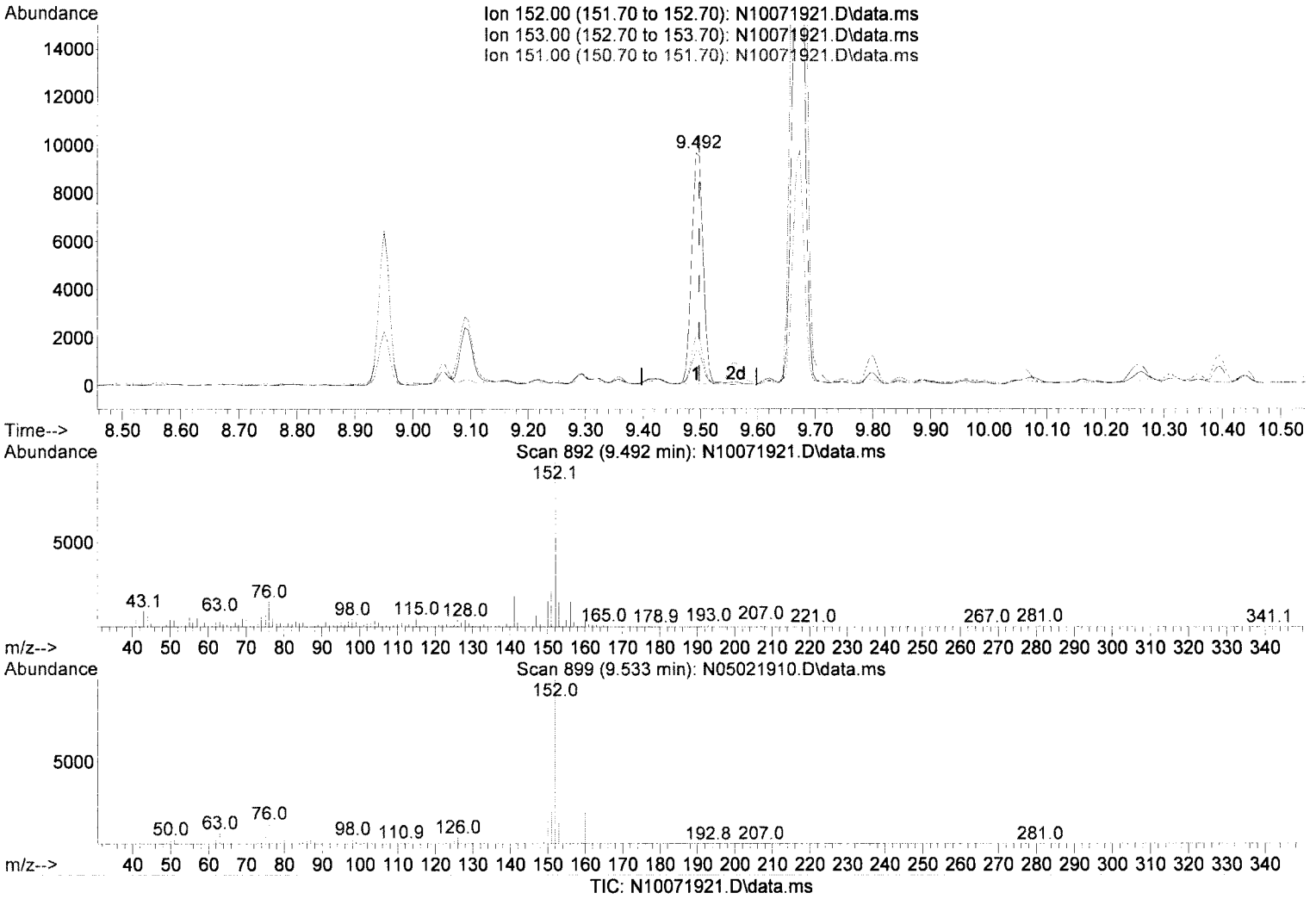
response 10967

Ion	Exp%	Act%
142.00	100.00	100.00
141.00	90.70	91.89
115.00	37.80	36.97
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10071921.D\data.ms

(12) Acenaphthylene (T)

9.492min (-0.006) 4.54 ng/ml

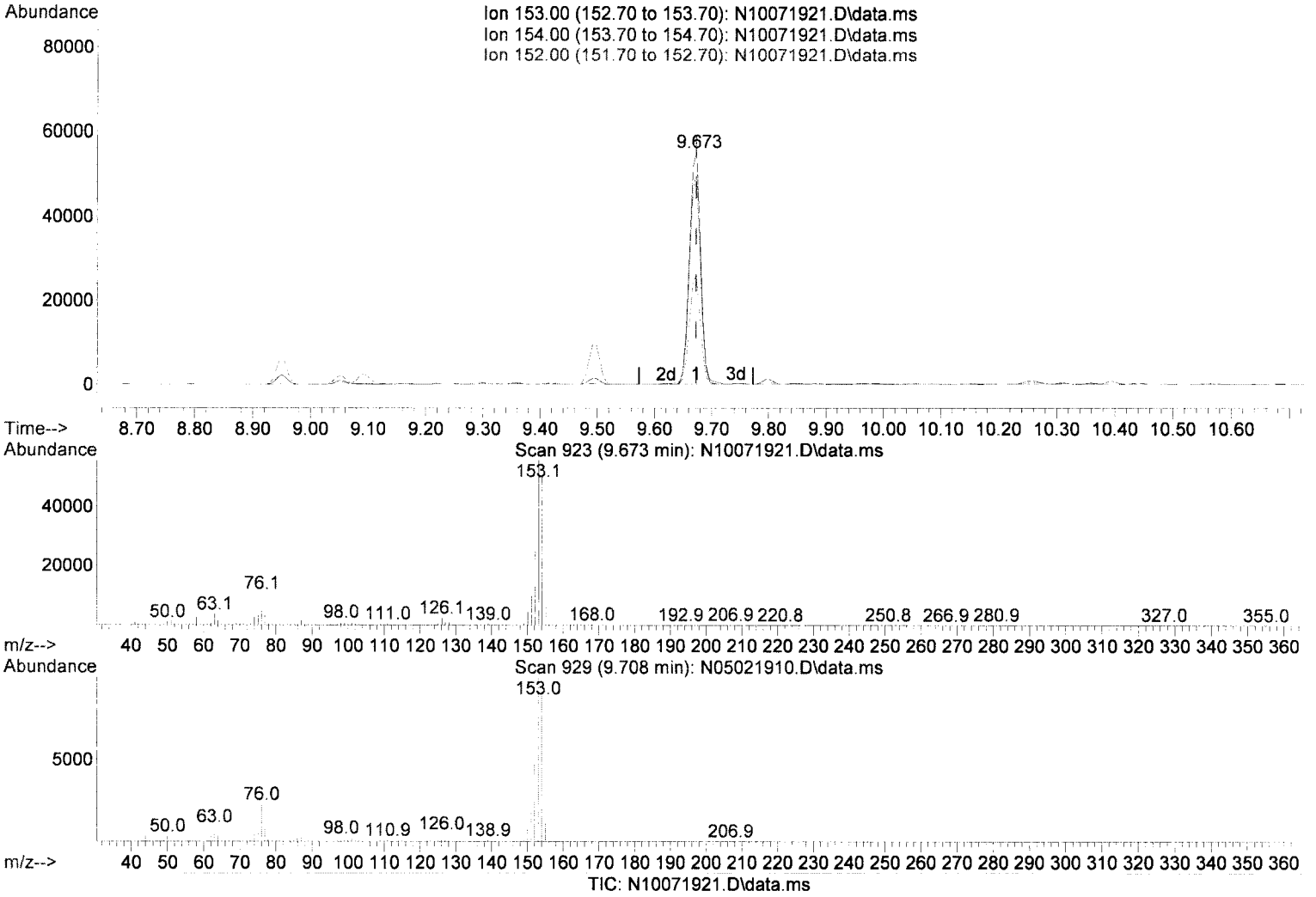
response 13435

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	15.06
151.00	19.30	21.55
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.673min (-0.000) 38.79 ng/ml

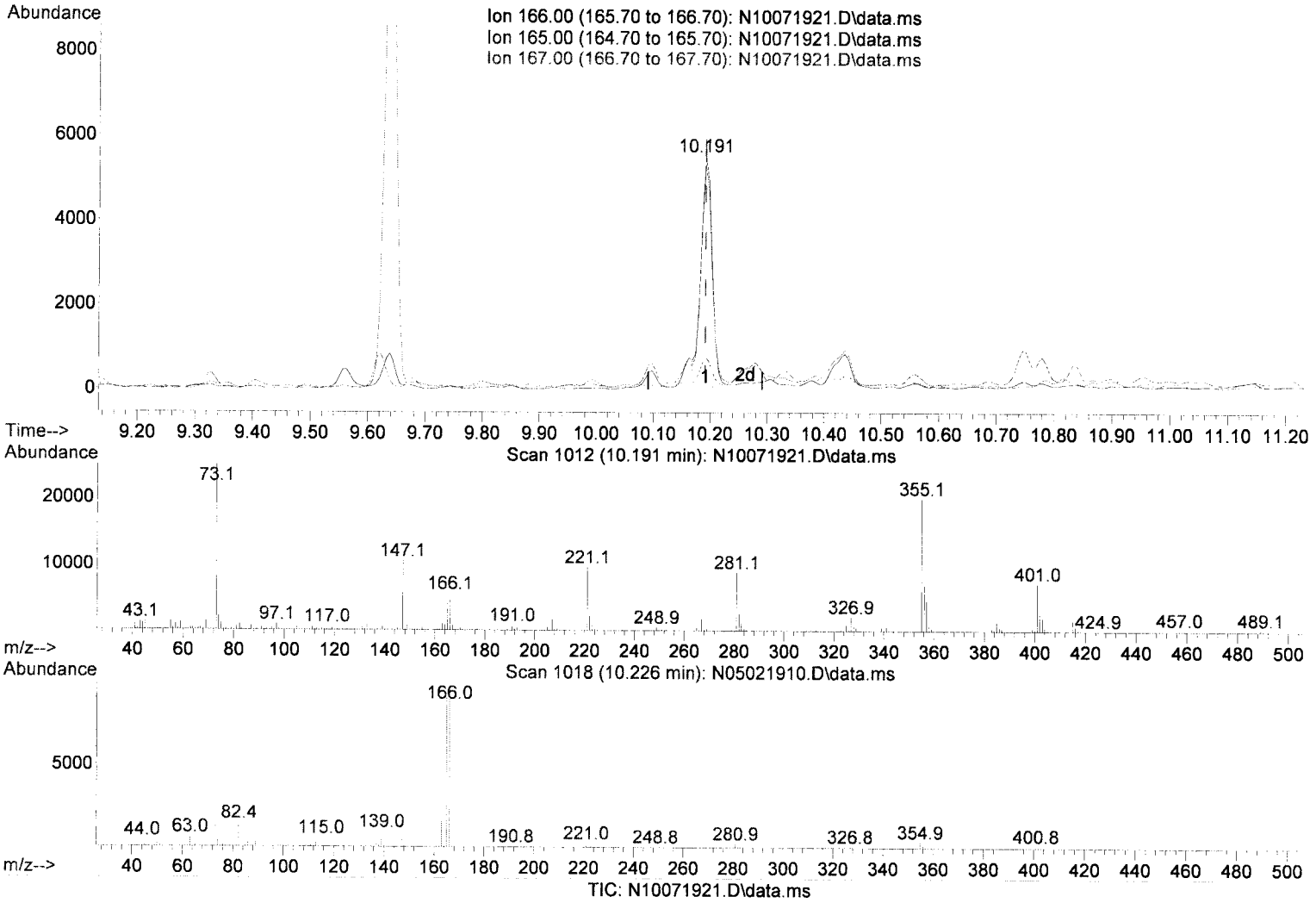
response 75255

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	90.01
152.00	46.80	46.74
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(16) Fluorene (T)

10.191min (-0.000) 3.79 ng/ml m

response 7519

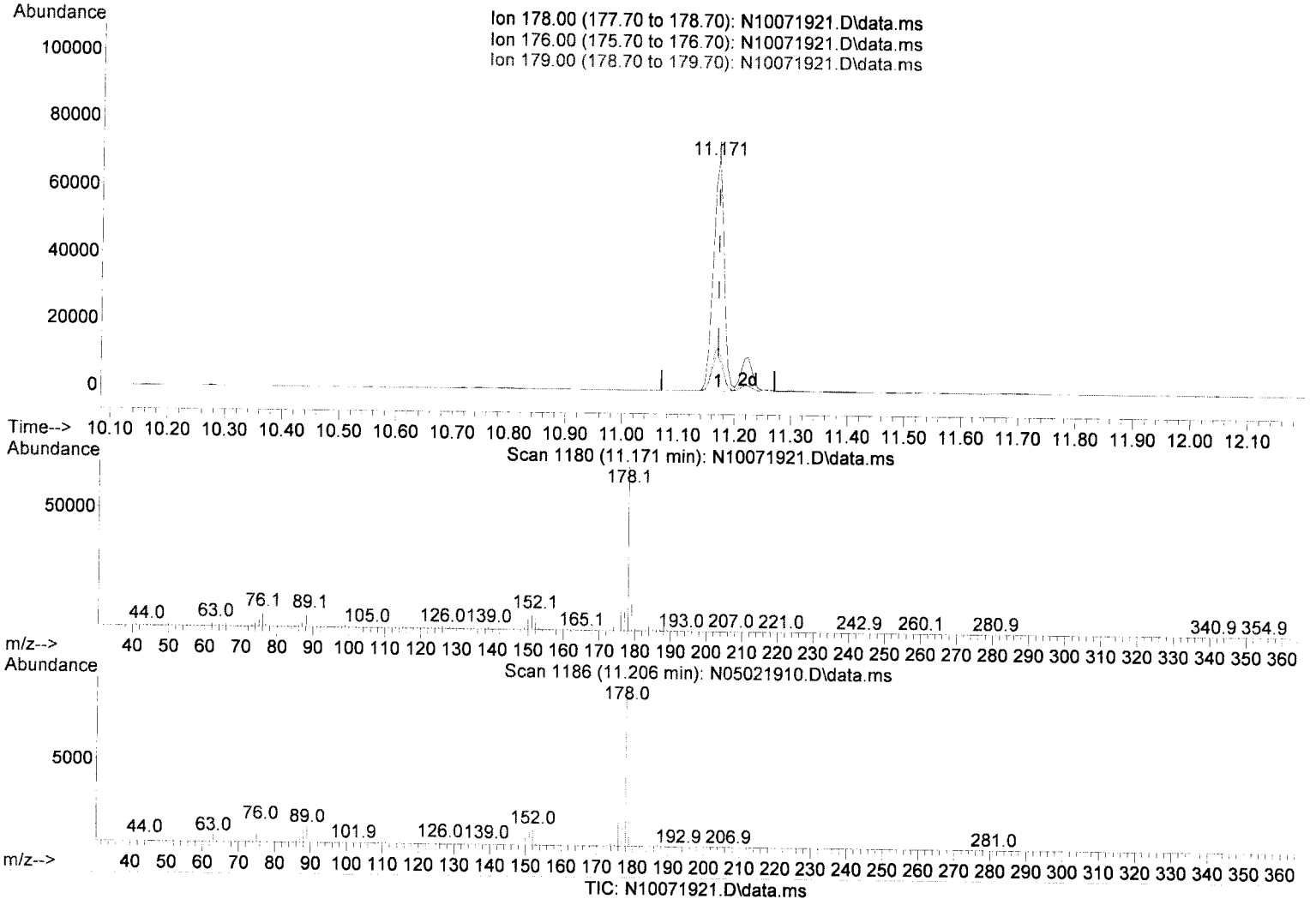
Ion	Exp%	Act%
166.00	100.00	100.00
165.00	95.70	96.13
167.00	13.60	13.73
0.00	0.00	0.00

JRM 10/8/19

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.171min (-0.000) 31.62 ng/ml

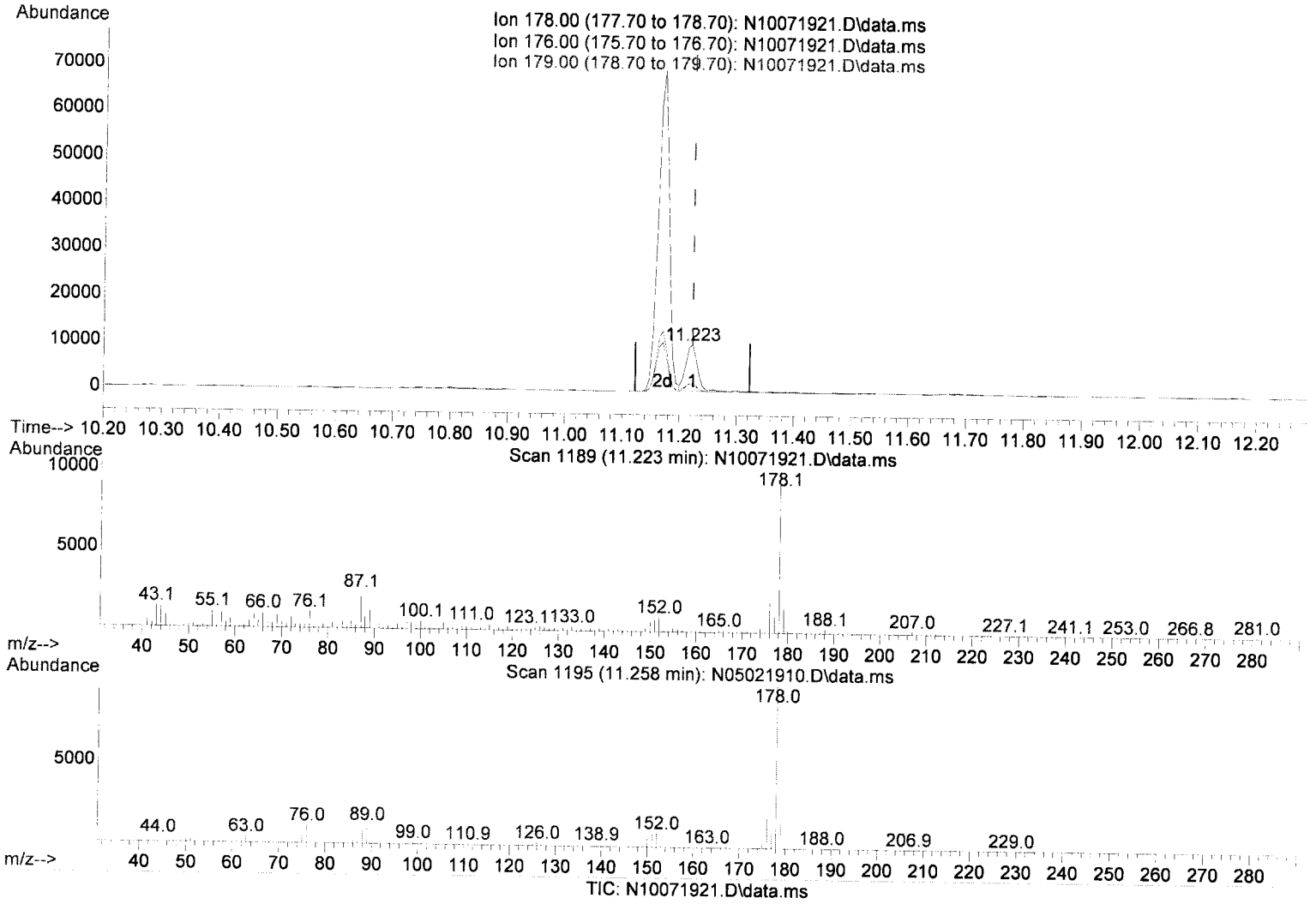
response 92548

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.17
179.00	15.10	15.57
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(20) Anthracene (T)

11.223min (-0.000) 5.24 ng/ml

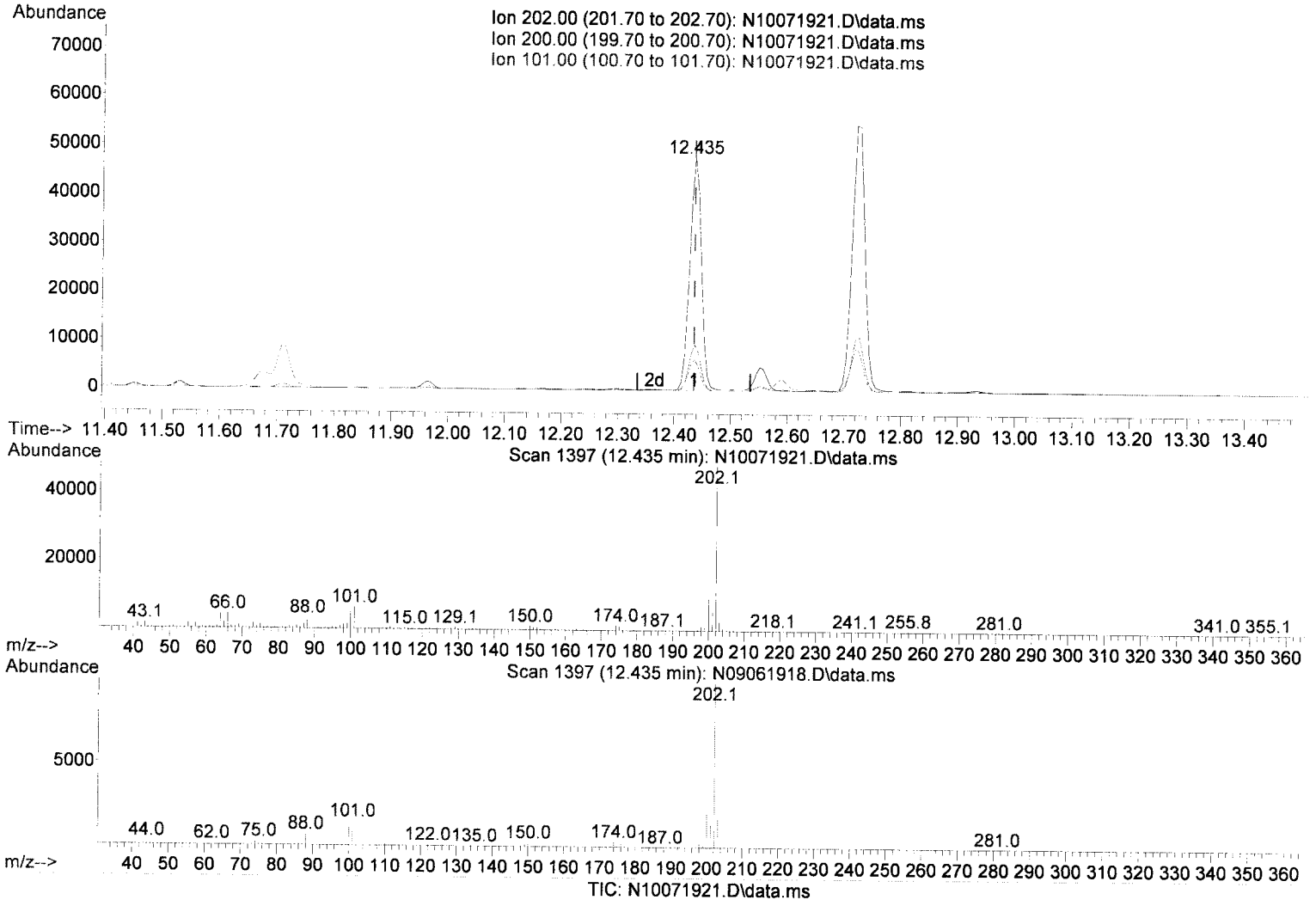
response 14252

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	18.60
179.00	15.30	16.14
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(23) Fluoranthene (T)

12.435min (+ 0.000) 23.40 ng/ml

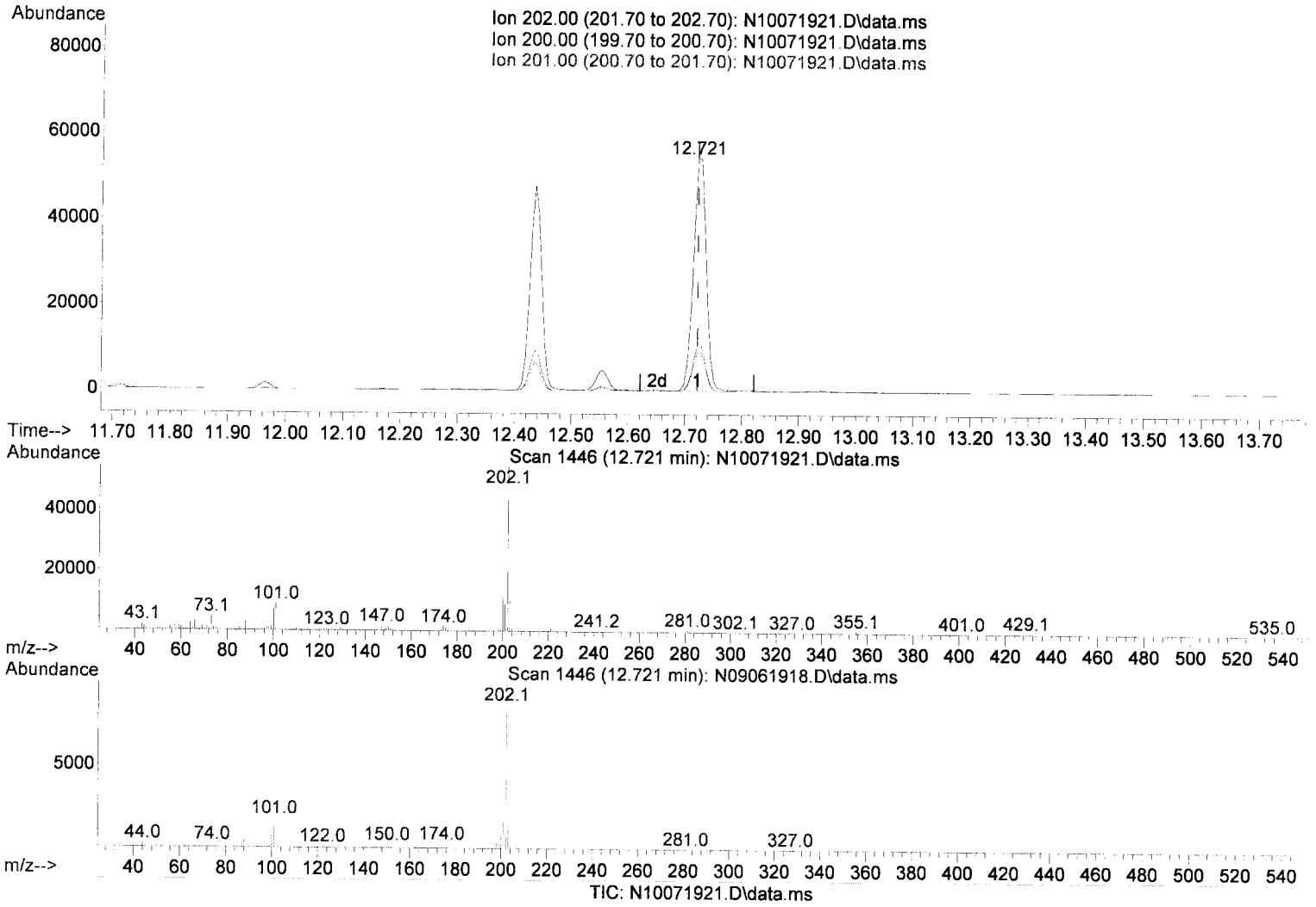
response 69005

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	19.71
101.00	15.30	13.37
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(25) Pyrene (T)

12.721min (0.000) 27.48 ng/ml

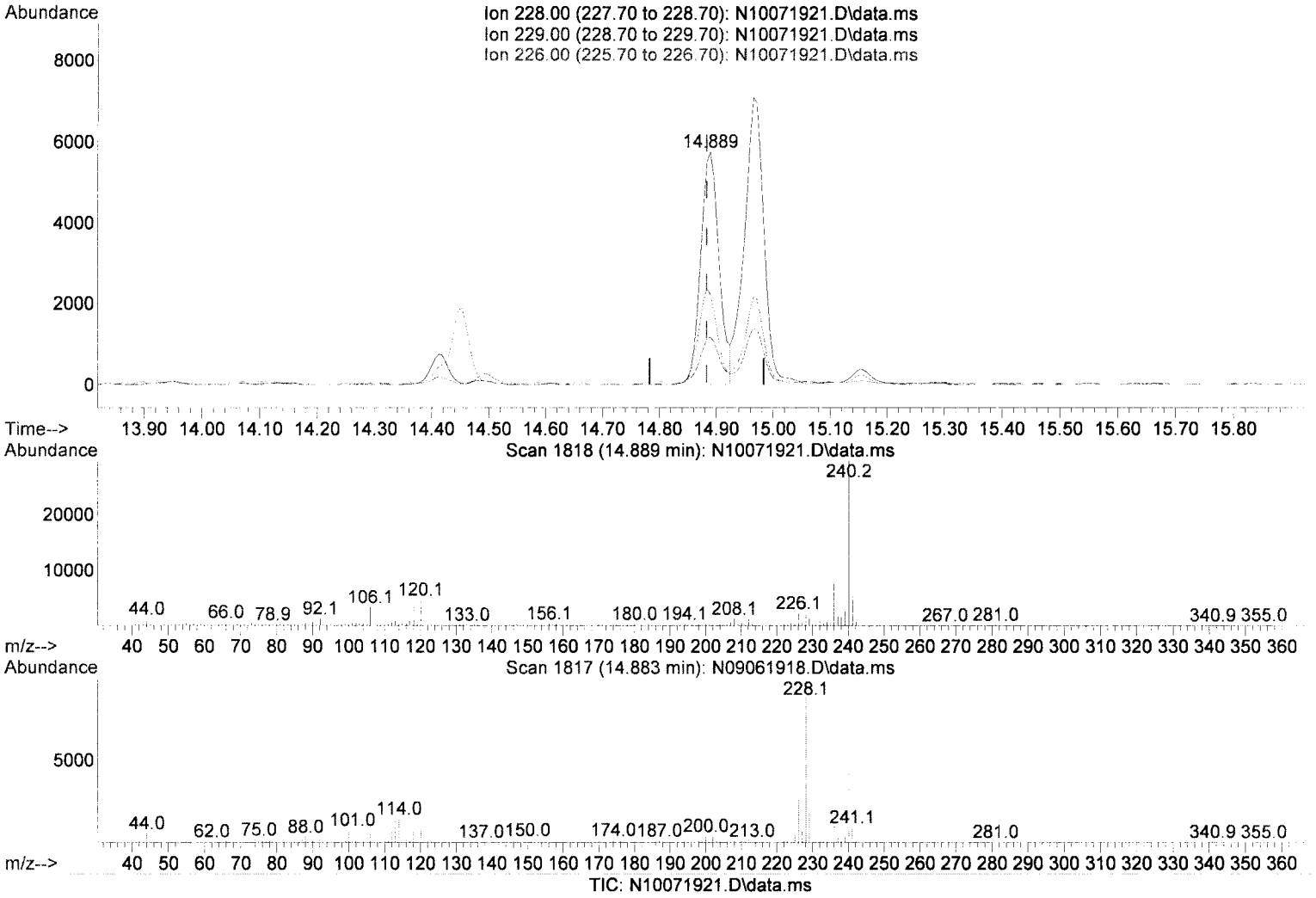
response 86339

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.49
201.00	16.80	17.31
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(27) Benz(a)anthracene (T)

14.889min (+ 0.006) 5.59 ng/ml

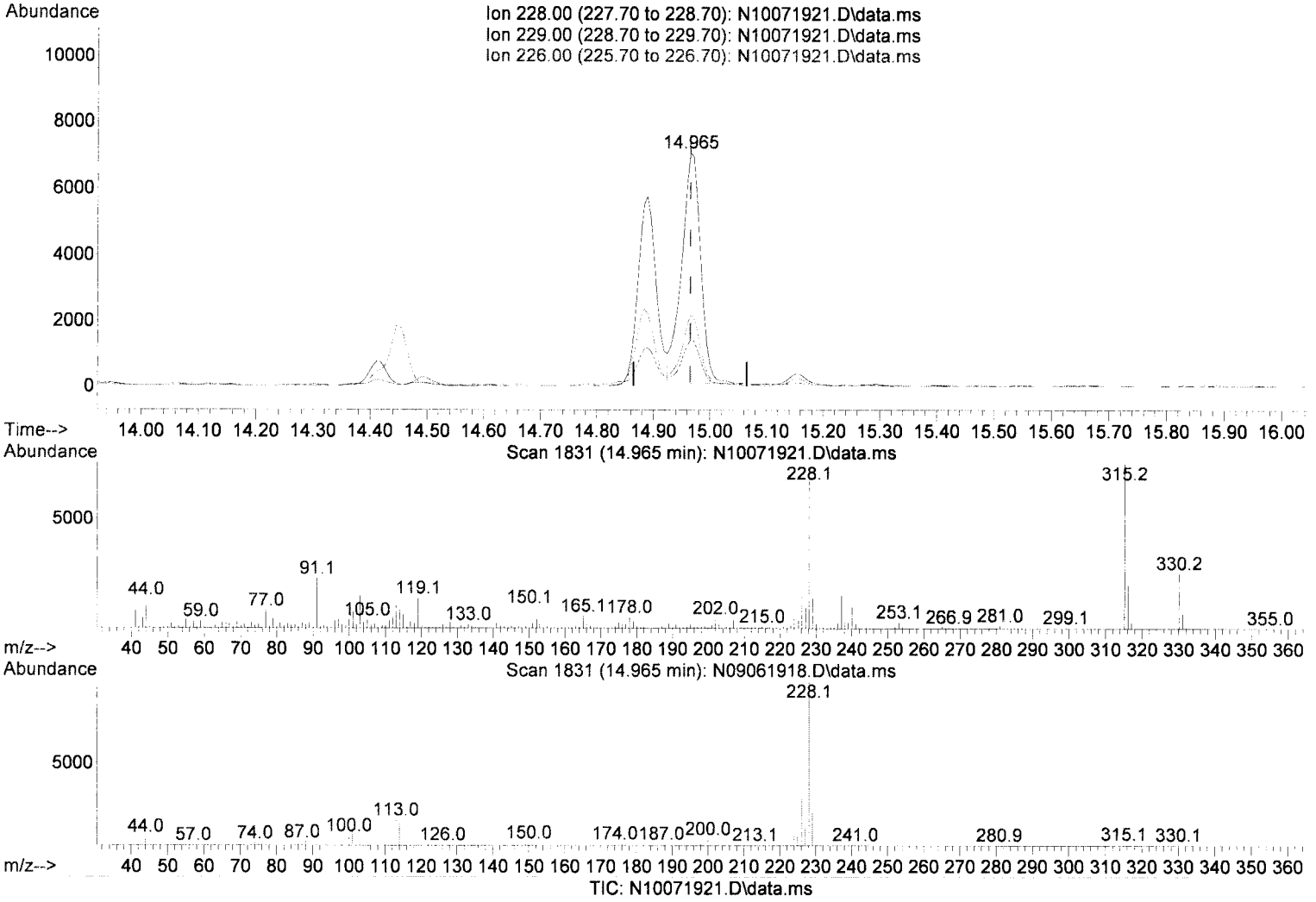
response 13051

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	20.53
226.00	26.20	38.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(28) Chrysene (T)

14.965min (+ 0.000) 7.41 ng/ml

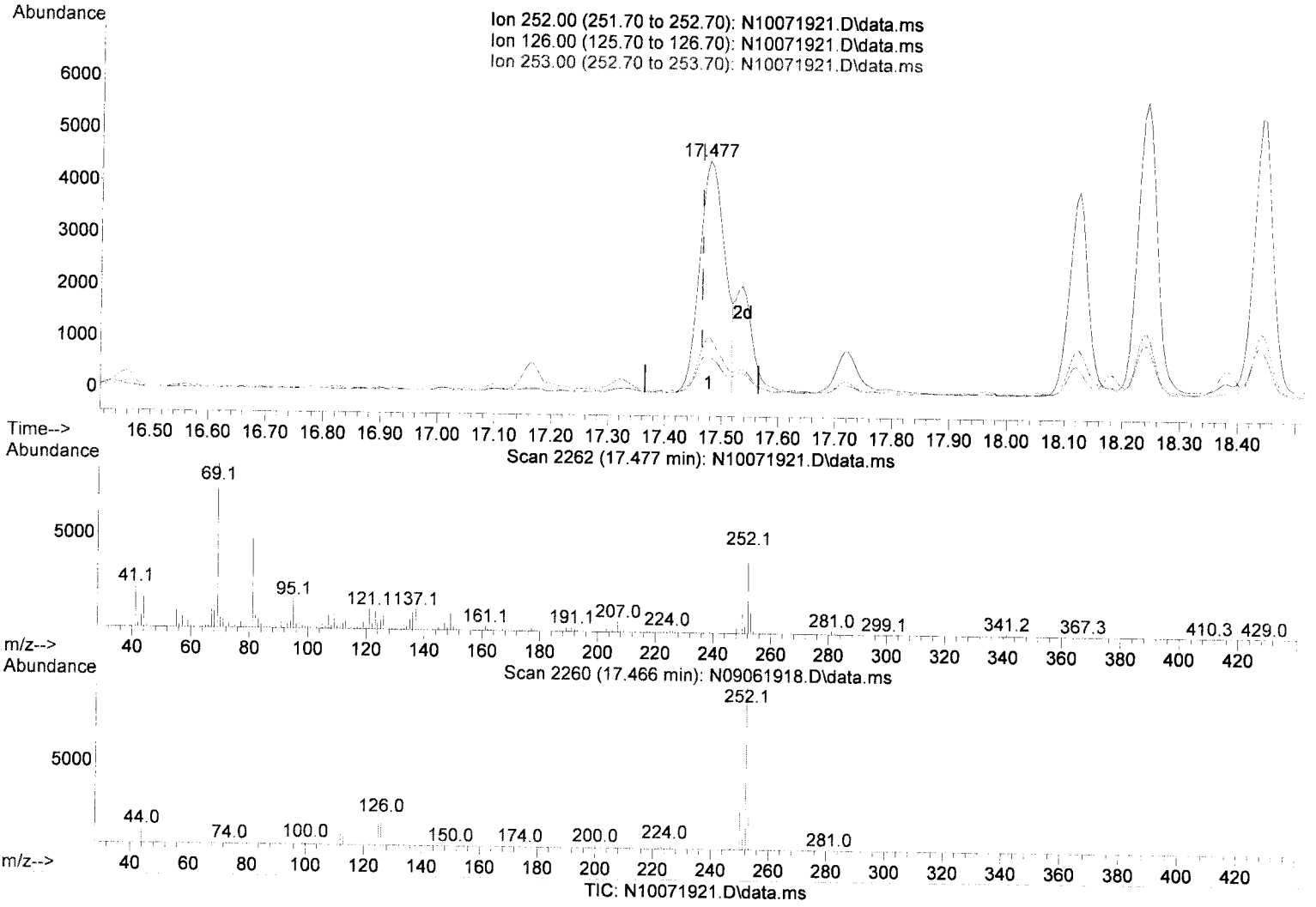
response 16376

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	19.79
226.00	28.60	30.54
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(30) Benzo(b)fluoranthene (T)

17.477min (+ 0.012) 6.97 ng/ml

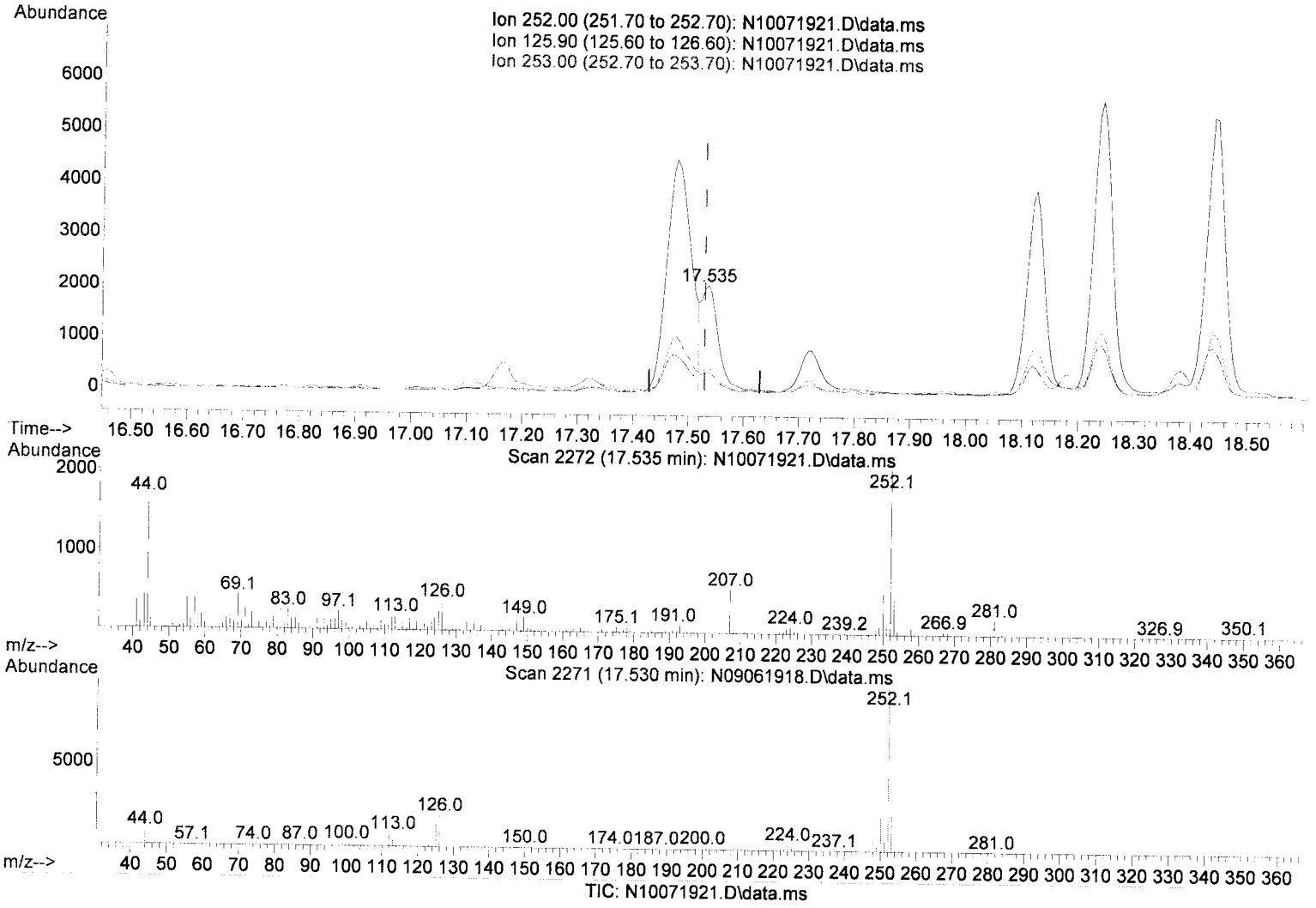
response 13842

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	15.90
253.00	21.10	24.25
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(31) Benzo(k)fluoranthene (T)

17.535min (+ 0.006) 2.12 ng/ml (m) Jem 10/8/19

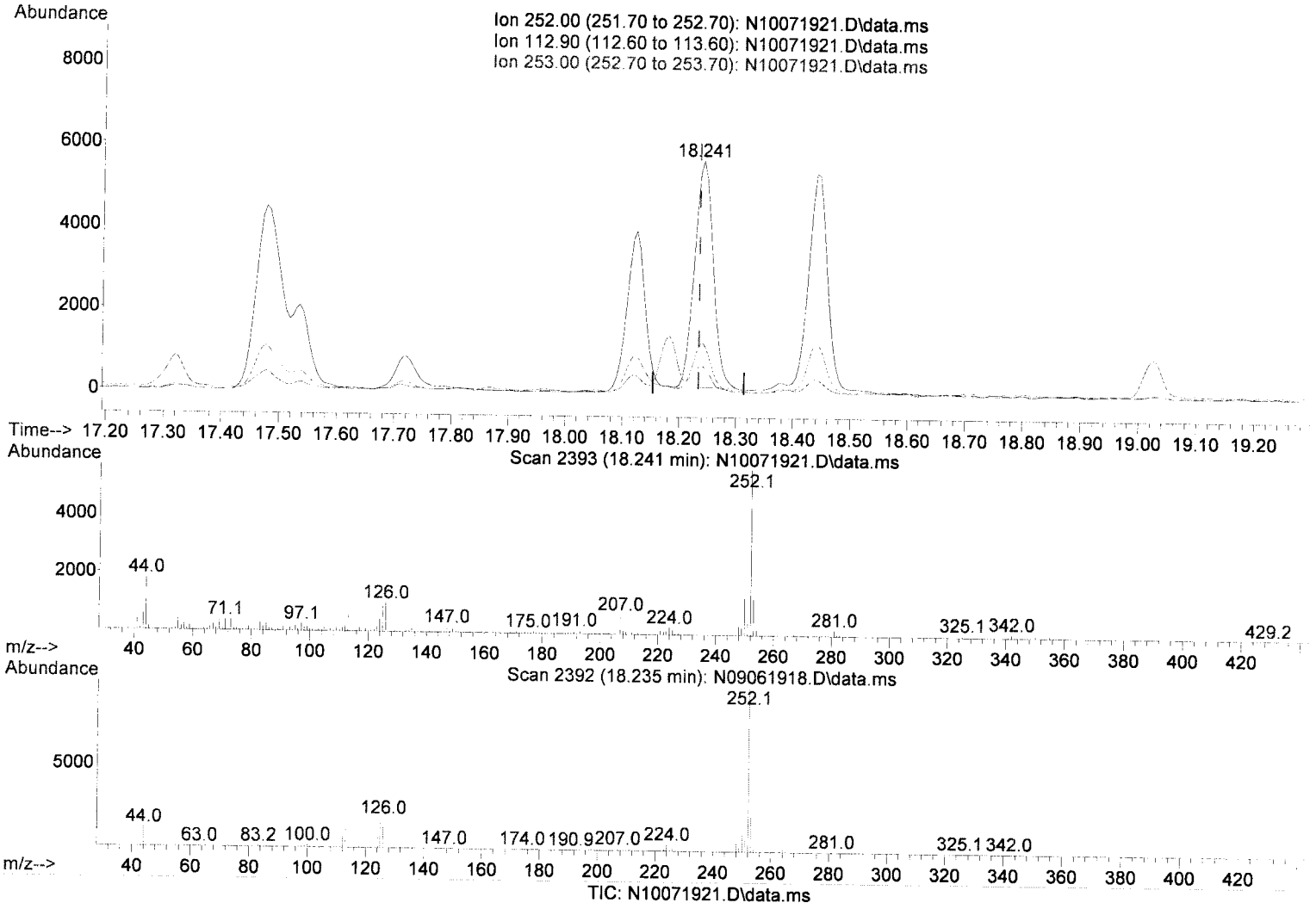
response 4139

Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	18.62
253.00	21.50	22.43
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(35) Benzo(a)pyrene (T)

18.241min (+ 0.007) 7.42 ng/ml

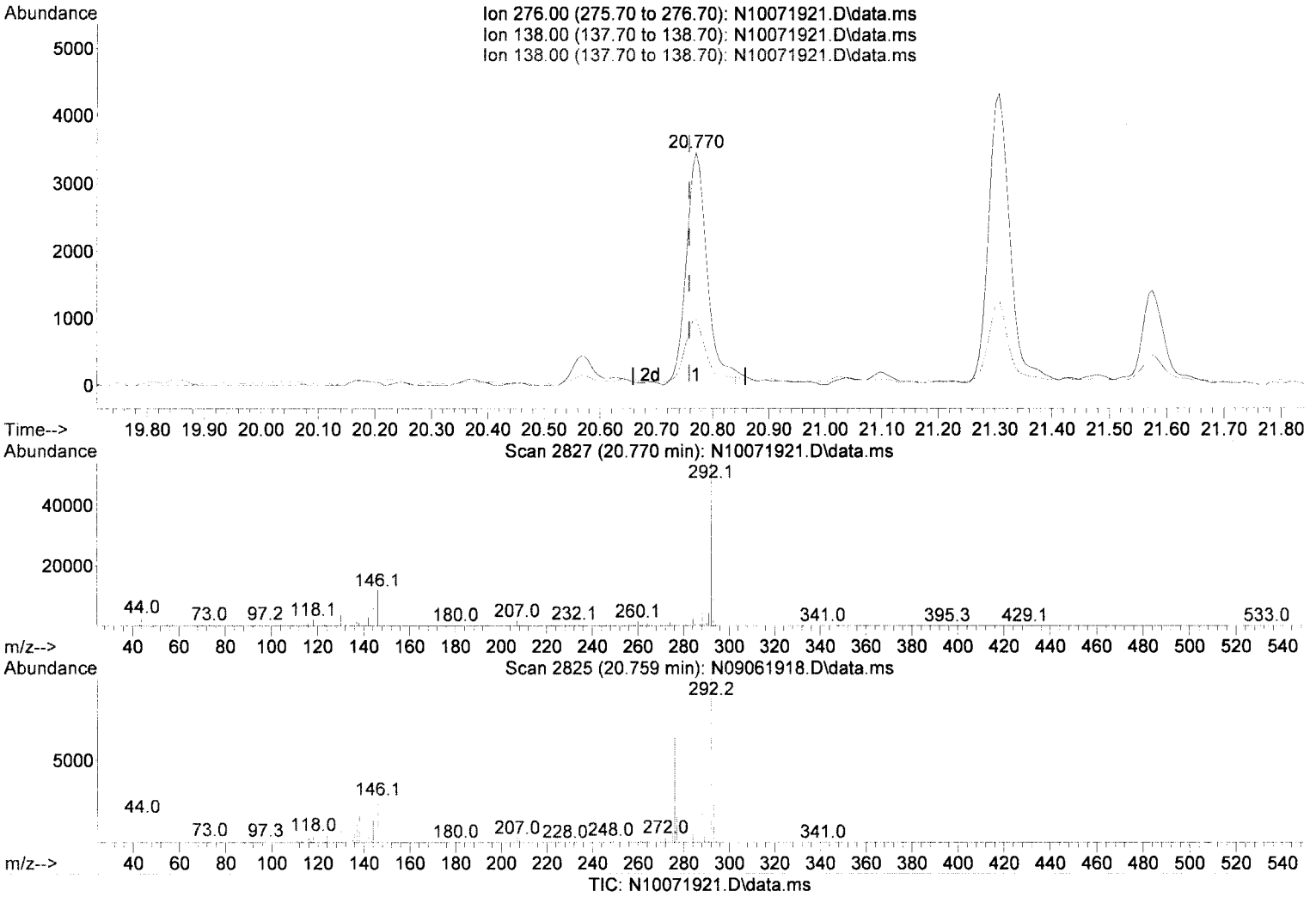
response 12613

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	11.91
253.00	21.90	21.78
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(38) Indeno(1,2,3-cd)Pyrene (T)

20.770min (+ 0.012) 5.43 ng/ml

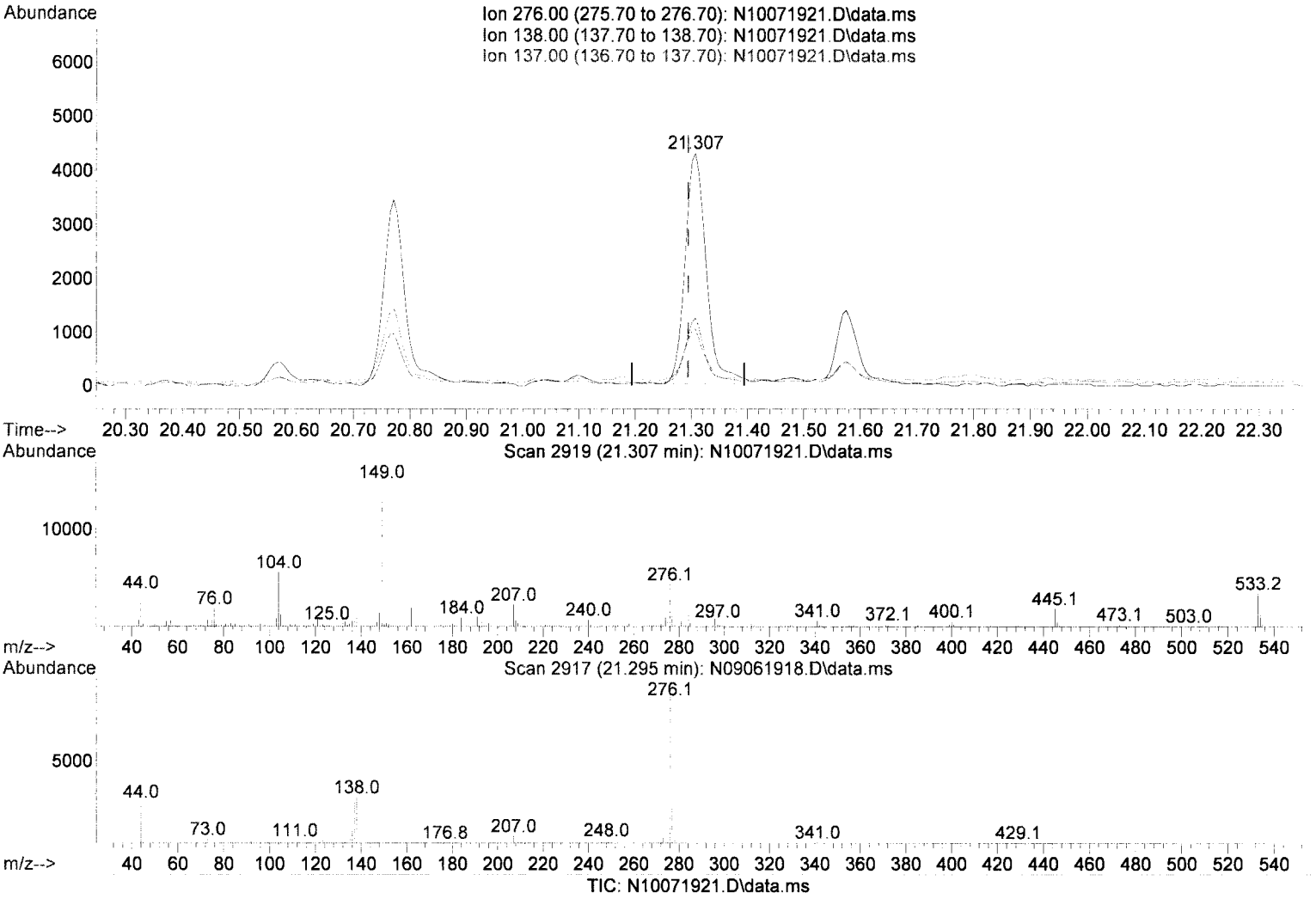
response 9059

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	28.19
138.00	31.60	28.19
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(40) Benzo(g,h,i)perylene (T)

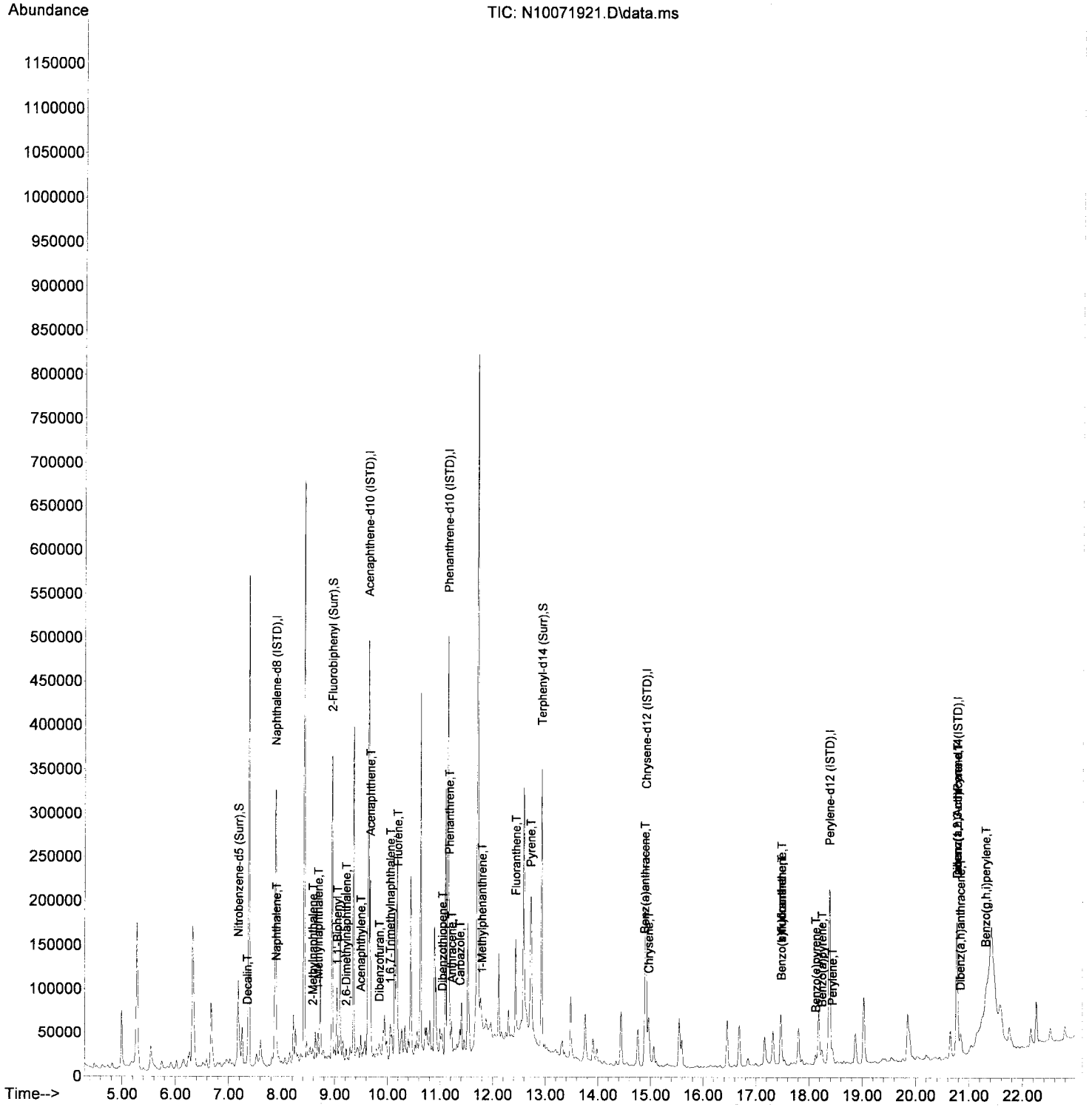
21.307min (+ 0.013) 6.27 ng/ml

response 11104

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	29.15
137.00	28.60	24.58
0.00	0.00	0.00

Data Path : U:\data\2019-10\9J07048\
Data File : N10071921.D
Acq On : 07 Oct 2019 06:09 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-16
Misc : 1x, 8270D LL PAH Only
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 08 07:36:03 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

JenM 10/8/19

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.883	136	240237	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.637	162	135243	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	247509	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.912	240	207190	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.386	264	182226	100.00 ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.770	292	142715	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.184	82	52010	65.15 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	141930	70.35 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	1643	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	186299	85.49 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.188	264	73	0.05 ng/ml	0.01
Target Compounds					Qvalue
3) Decalin	7.347	138	266	1.49 ng/ml#	68
4) Naphthalene	7.906	128	15261	5.76 ng/ml	96
5) 2-Methylnaphthalene	8.588	142	4797	2.14 ng/ml	98
6) 1-Methylnaphthalene	8.687	142	5017	2.23 ng/ml	93
7) 1,1'-Biphenyl	9.055	154	1665	0.55 ng/ml	86
8) 2,6-Dimethylnaphthalene	9.218	156	2514	1.14 ng/ml	98
12) Acenaphthylene	9.498	152	11268	3.84 ng/ml	95
13) Acenaphthene	9.672	153	12347	6.42 ng/ml	98
14) Dibenzofuran	9.847	168	1115	0.46 ng/ml#	68
15) 1,6,7-Trimethylnaphtha...	10.057	170	961	0.60 ng/ml#	13
16) Fluorene	10.191	166	4294	2.18 ng/ml	97
18) Dibenzothiopene	11.042	184	3932	1.52 ng/ml	91
19) Phenanthrene	11.170	178	35843	12.38 ng/ml	99
20) Anthracene	11.223	178	7376	2.74 ng/ml	95
21) Carbazole	11.380	167	1421	0.65 ng/ml	77
22) 1-Methylphenanthrene	11.794	192	1862	0.93 ng/ml	90
23) Fluoranthene	12.435	202	48930	16.77 ng/ml	97
25) Pyrene	12.727	202	64898	20.05 ng/ml	99
27) Benz(a)anthracene	14.889	228	16361	6.80 ng/ml#	59
28) Chrysene	14.971	228	20760	9.12 ng/ml	98
30) Benzo(b)fluoranthene	17.477	252	21189	10.08 ng/ml	95
31) Benzo(k)fluoranthene	17.477	252	26003	~~12.56 ng/ml~~	~~94~~
32) Benzo(b+k)fluoranthene	17.477	252	29855	13.88 ng/ml	94
34) Benzo(e)pyrene	18.124	252	14051	6.61 ng/ml	99
35) Benzo(a)pyrene	18.241	252	19234	10.69 ng/ml	97
36) Perylene	18.445	252	138256	62.37 ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.776	276	14342	8.15 ng/ml	93
39) Dibenz(a,h)anthracene	20.834	278	1812	1.10 ng/ml	55
40) Benzo(g,h,i)perylene	21.306	276	17920	9.60 ng/ml	87

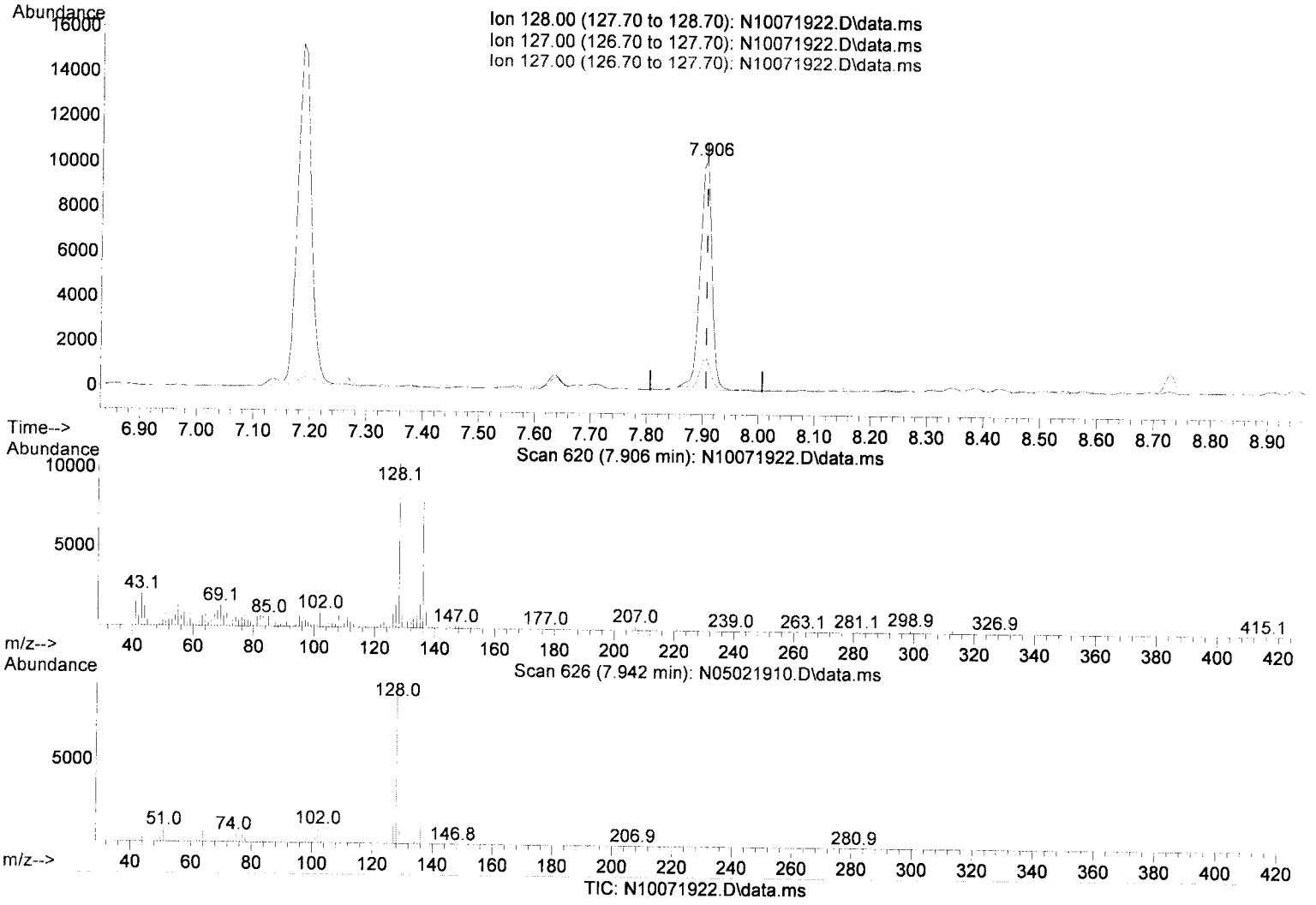
MI - j

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.906min (-0.000) 5.76 ng/ml

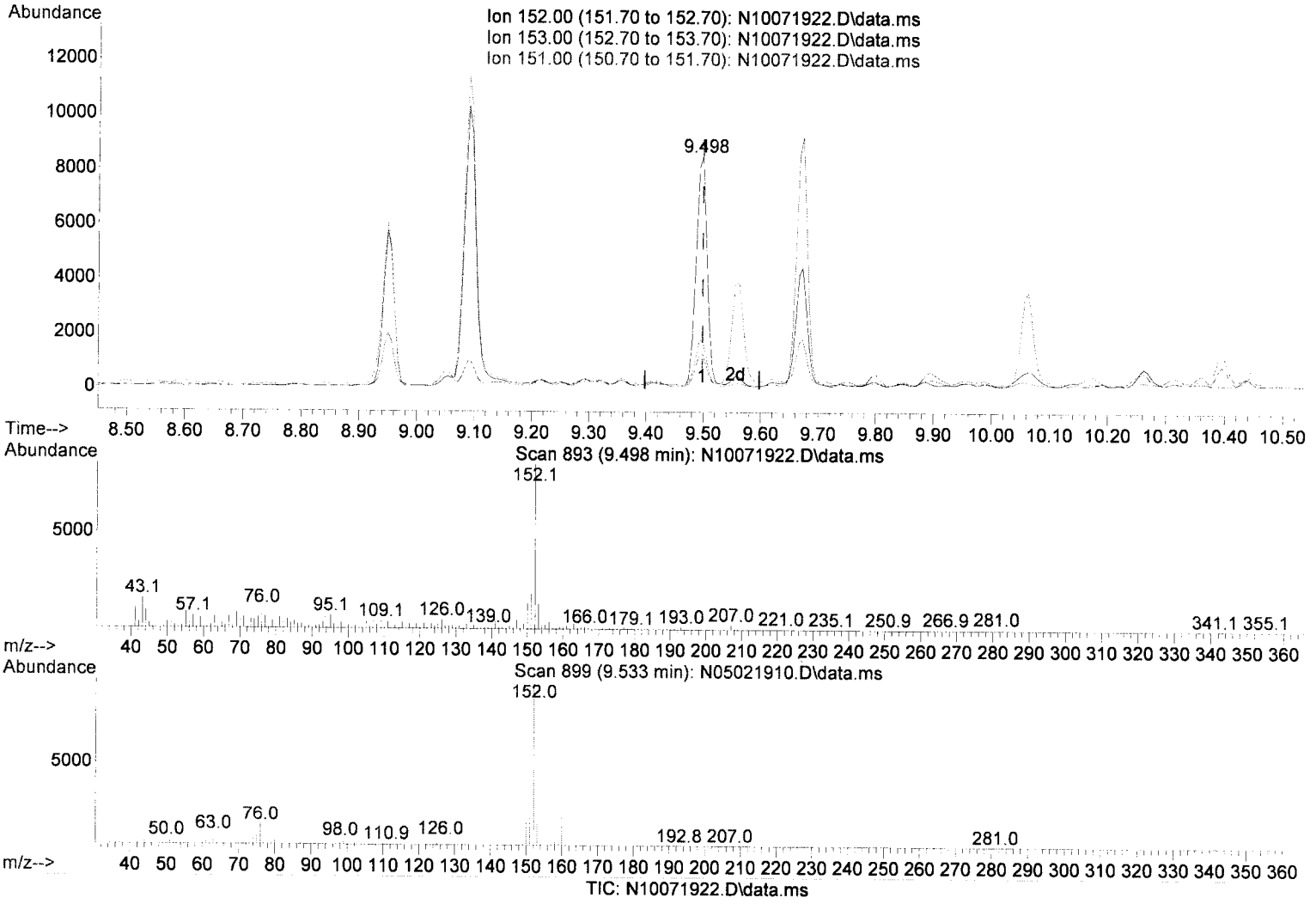
response 15261

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	14.00
127.00	12.60	14.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(12) Acenaphthylene (T)

9.498min (-0.000) 3.84 ng/ml

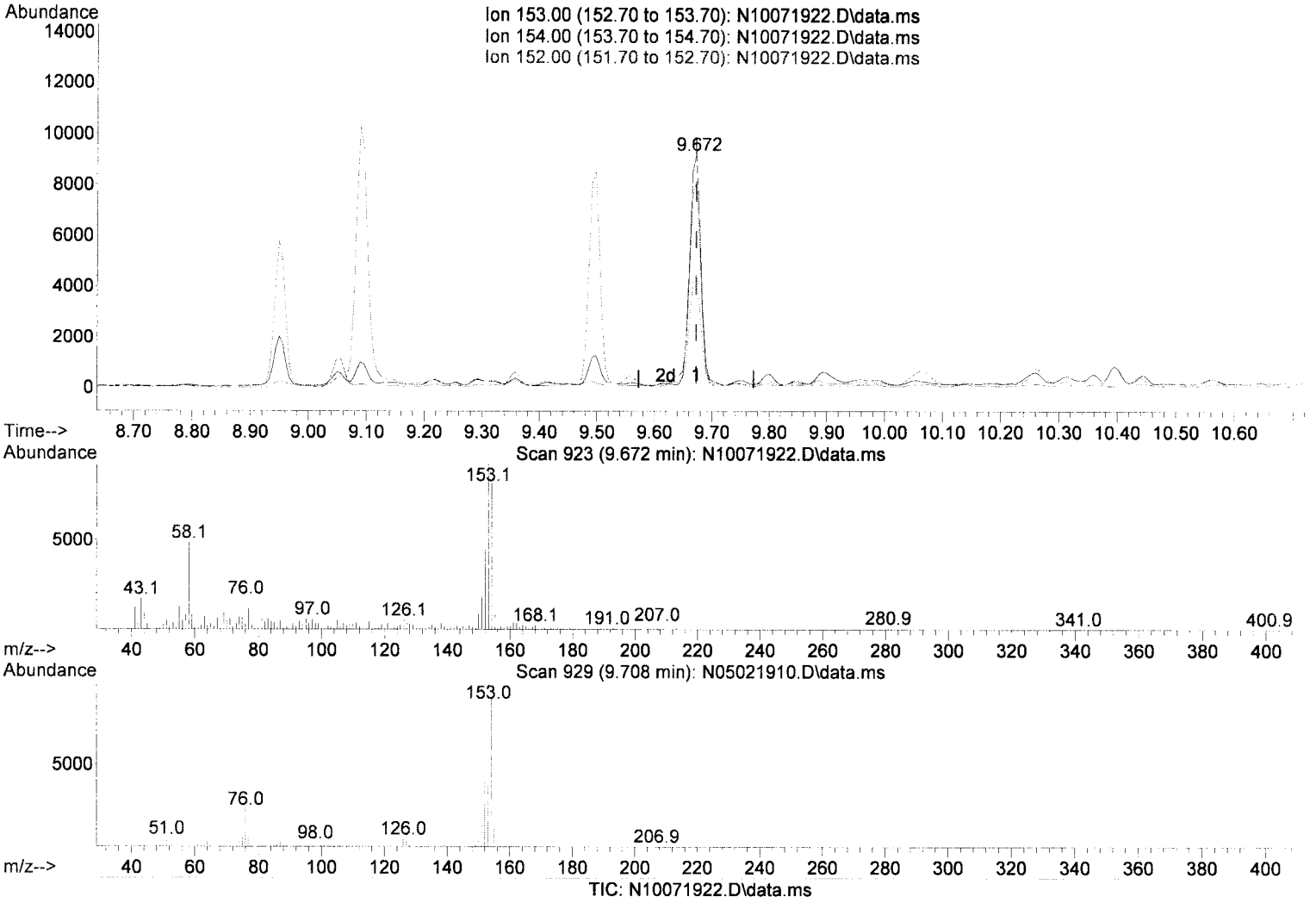
response 11268

Ion	Exp%	Act%
152.00	100.00	100.00
153.00	12.70	15.16
151.00	19.30	21.20
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10071922.D\data.ms

(13) Acenaphthene (T)

9.672min (-0.000) 6.42 ng/ml

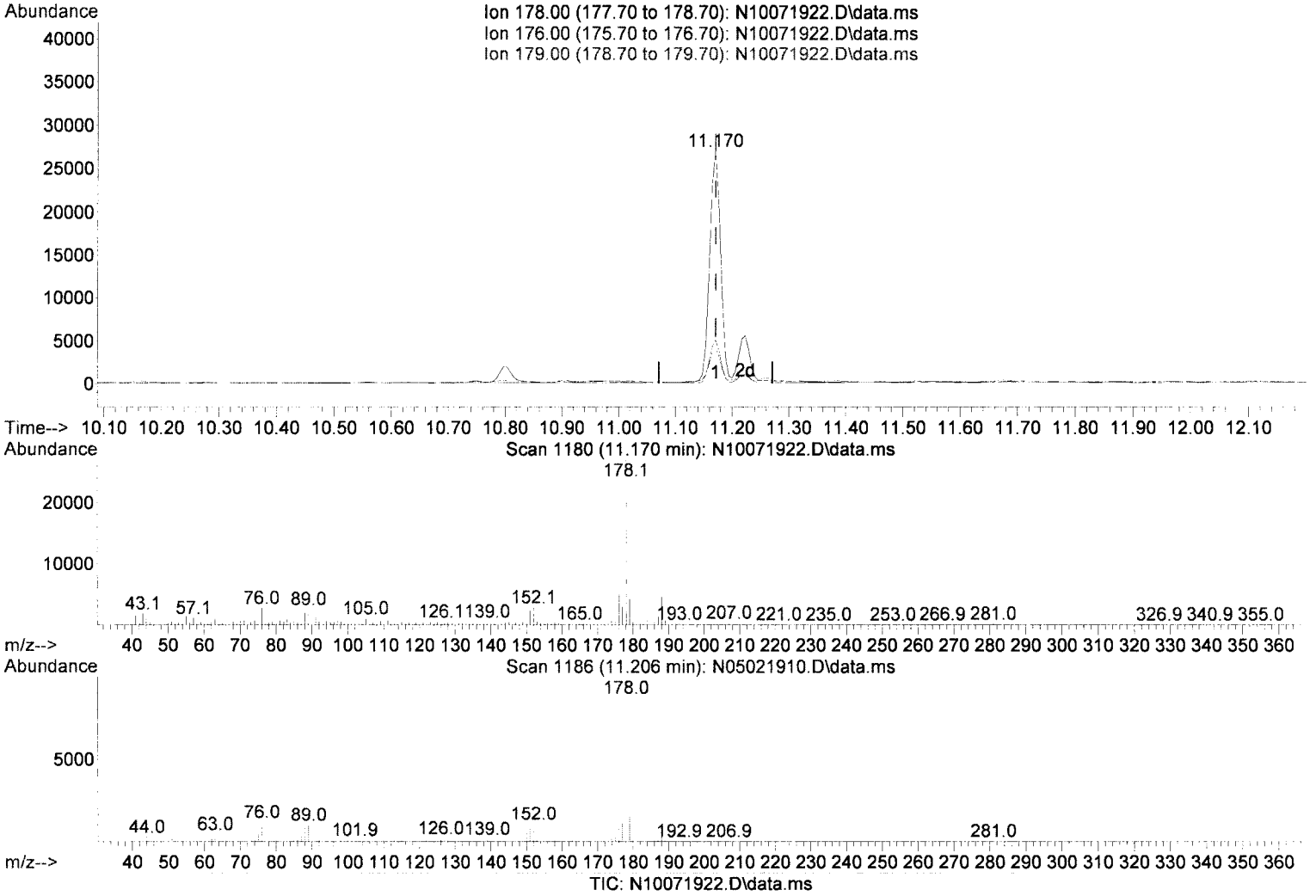
response 12347

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	88.82
152.00	46.80	48.30
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.170min (-0.000) 12.38 ng/ml

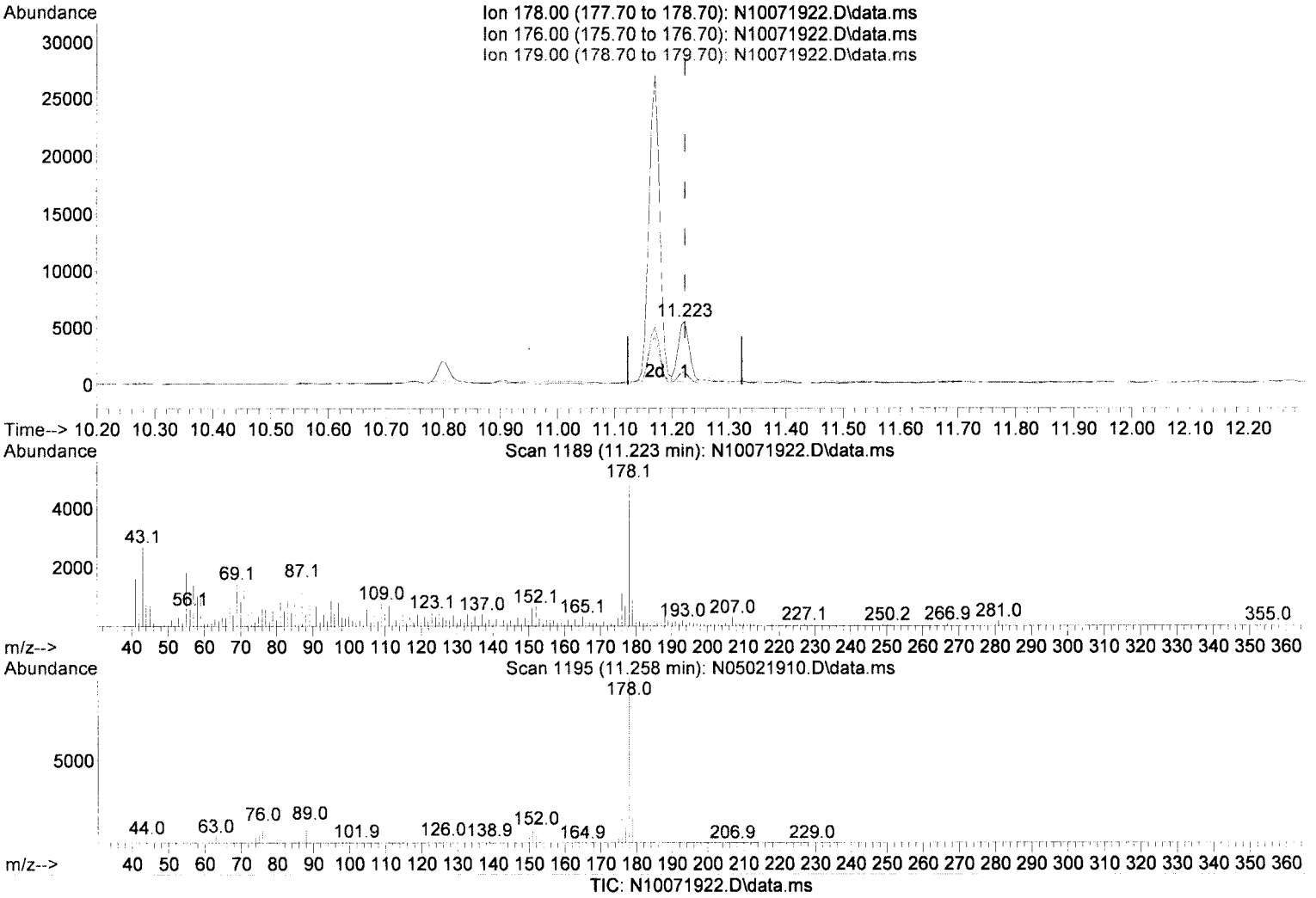
response 35843

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	18.75
179.00	15.10	15.72
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(20) Anthracene (T)

11.223min (-0.000) 2.74 ng/ml

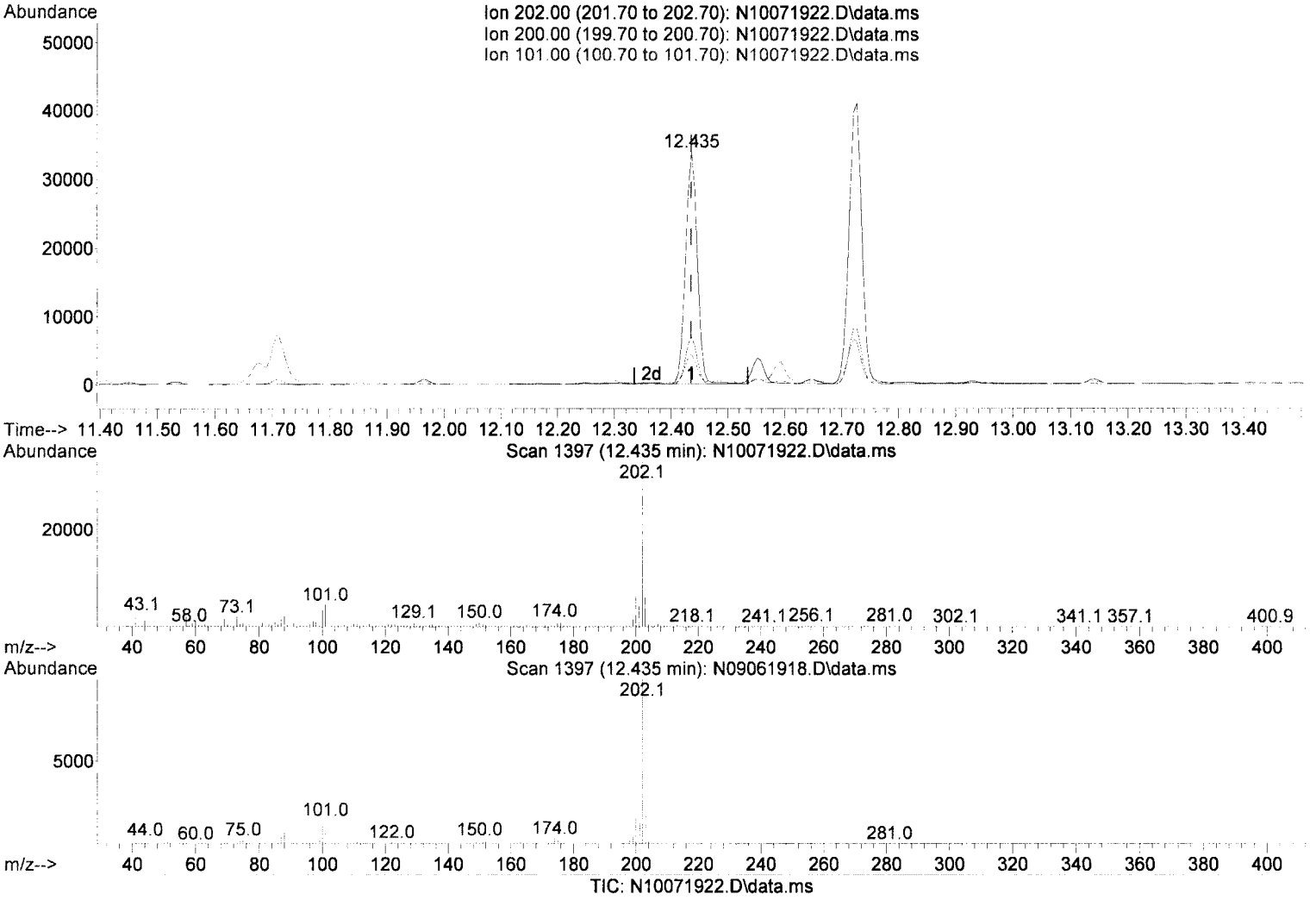
response 7376

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	18.90	19.86
179.00	15.30	18.81
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(23) Fluoranthene (T)

12.435min (+ 0.000) 16.77 ng/ml

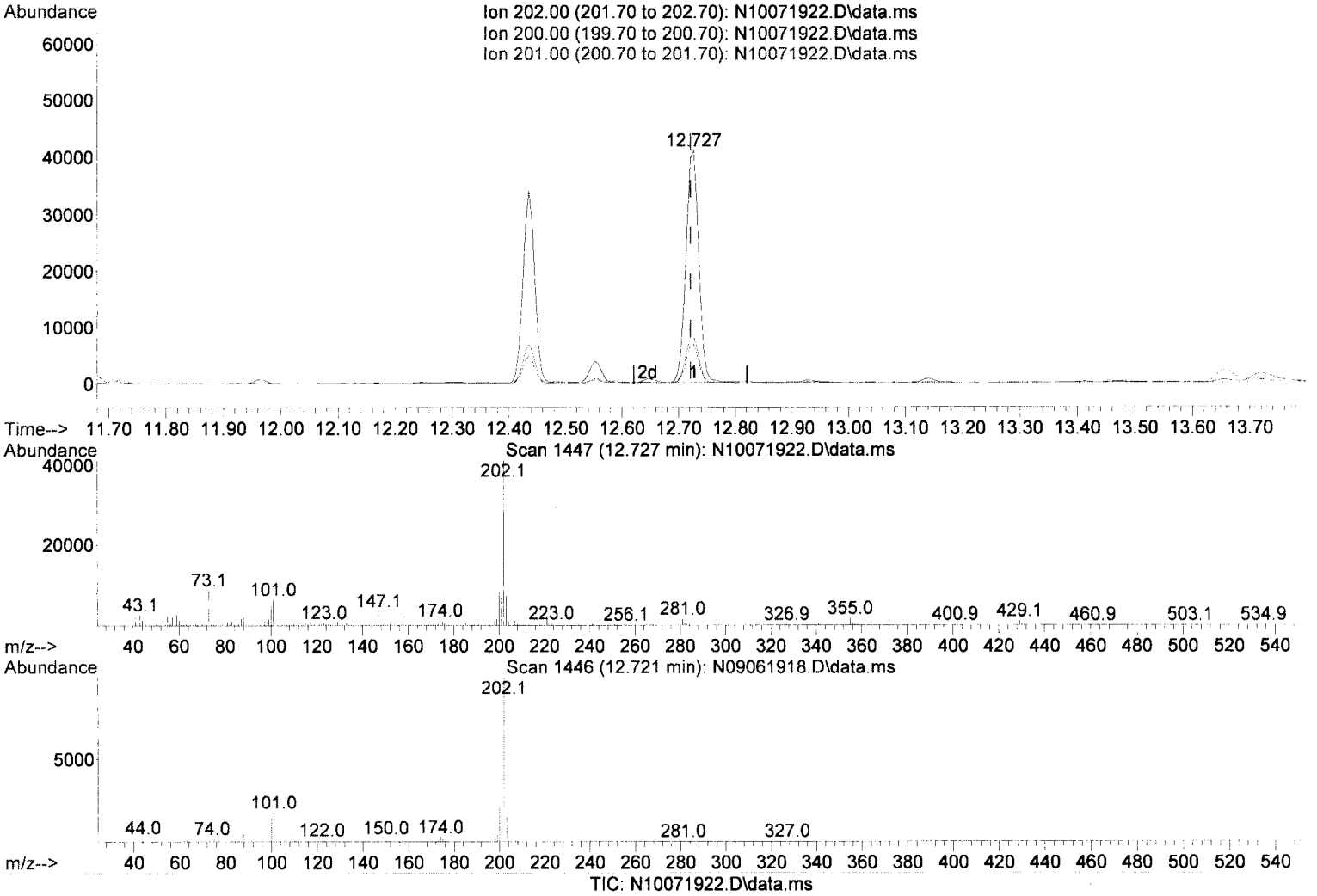
response 48930

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	19.70	20.76
101.00	15.30	13.40
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(25) Pyrene (T)

12.727min (+ 0.006) 20.05 ng/ml

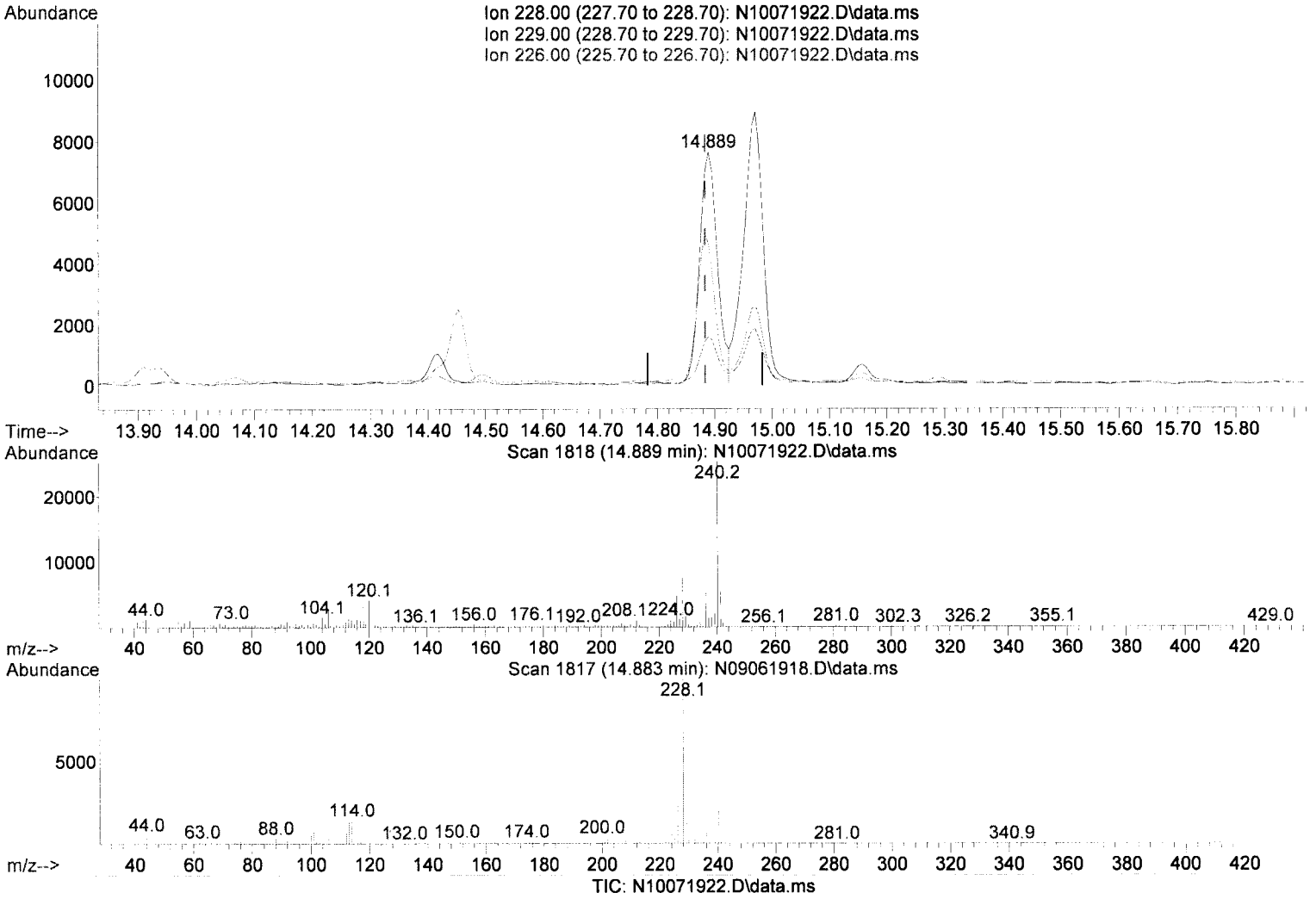
response 64898

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	20.37
201.00	16.80	17.01
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(27) Benz(a)anthracene (T)

14.889min (+ 0.006) 6.80 ng/ml

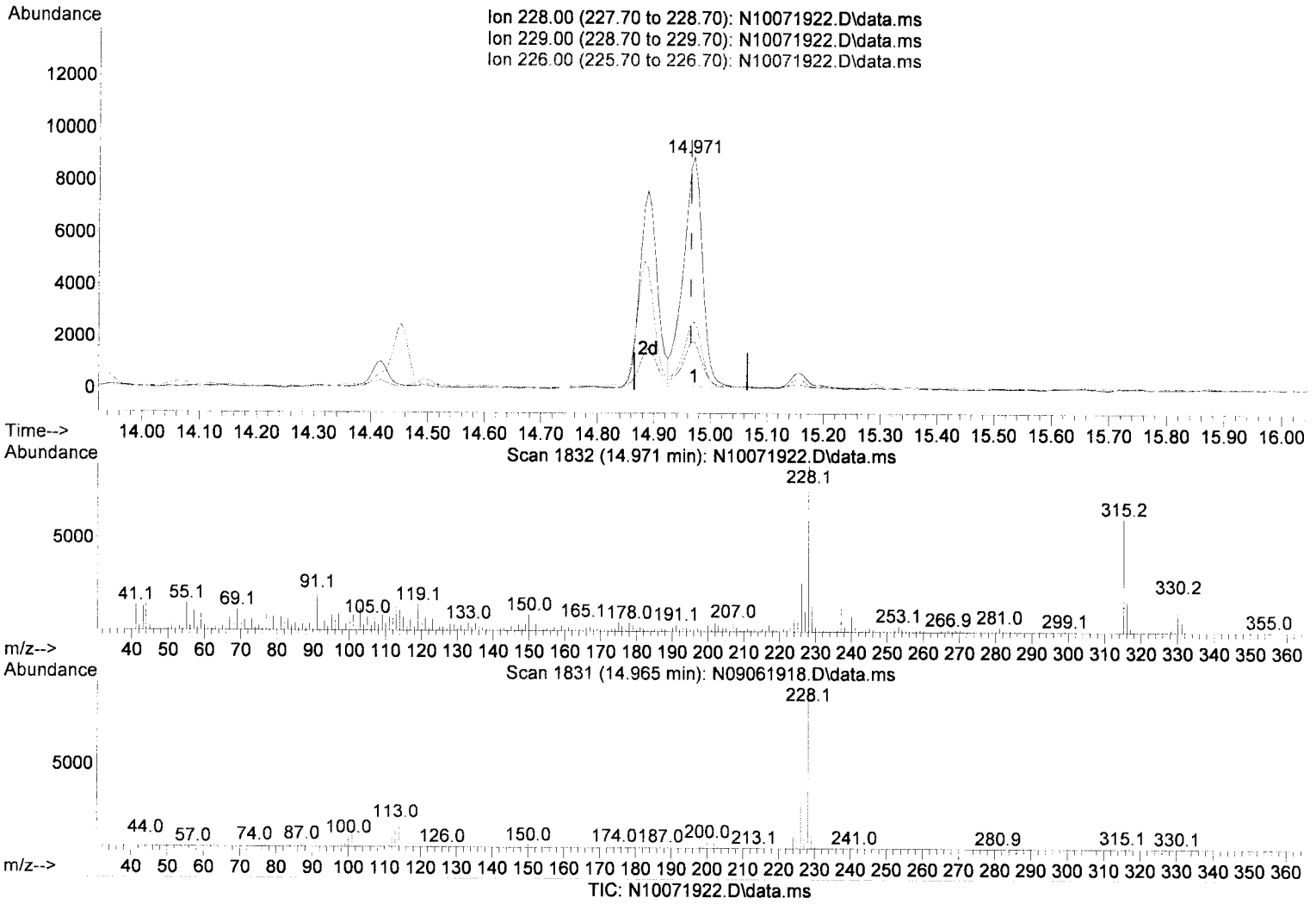
response 16361

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.40	20.82
226.00	26.20	61.16#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(28) Chrysene (T)

14.971min (+ 0.006) 9.12 ng/ml

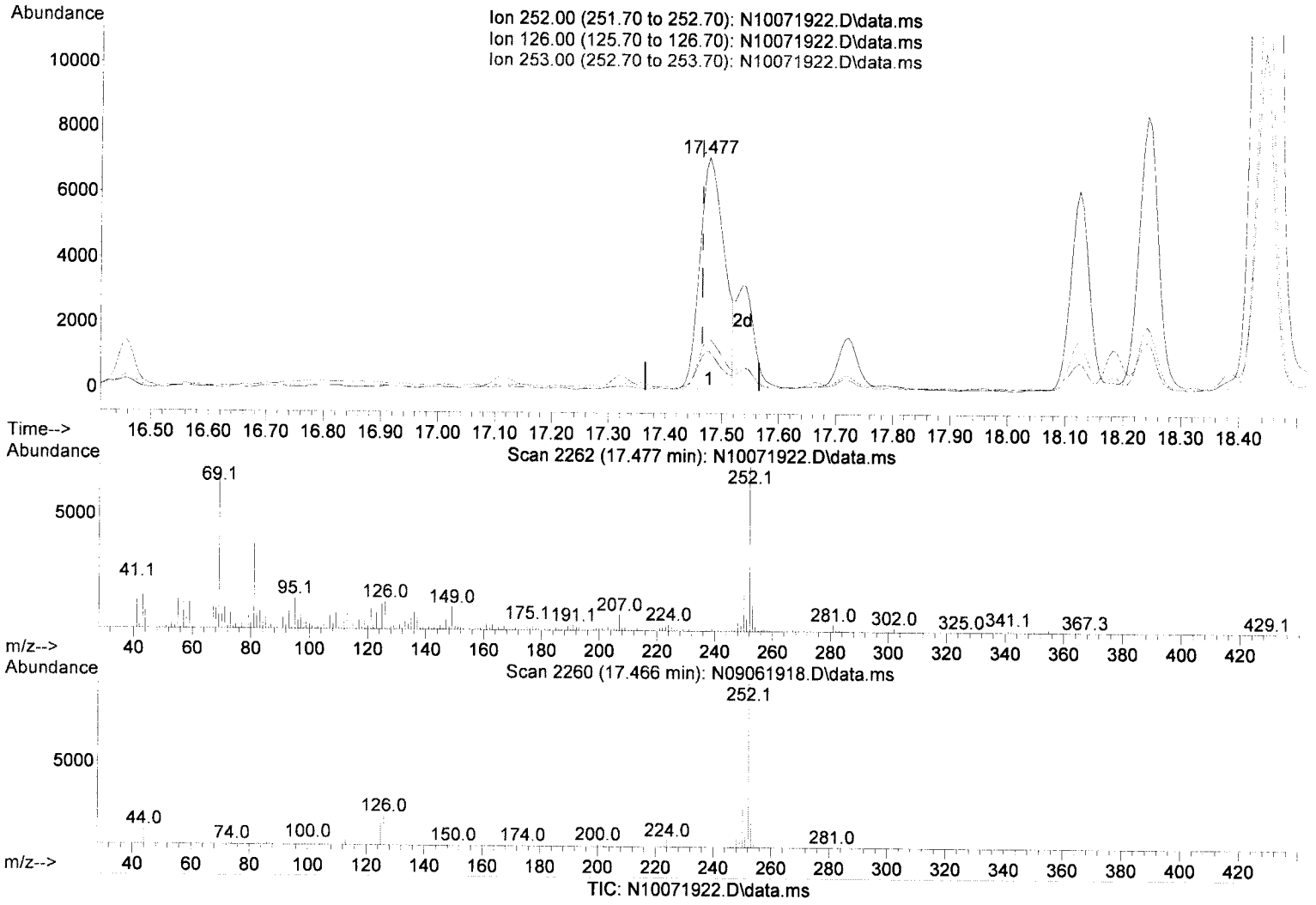
response 20760

Ion	Exp%	Act%
228.00	100.00	100.00
229.00	19.60	20.67
226.00	28.60	29.16
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(30) Benzo(b)fluoranthene (T)

17.477min (+ 0.012) 10.08 ng/ml

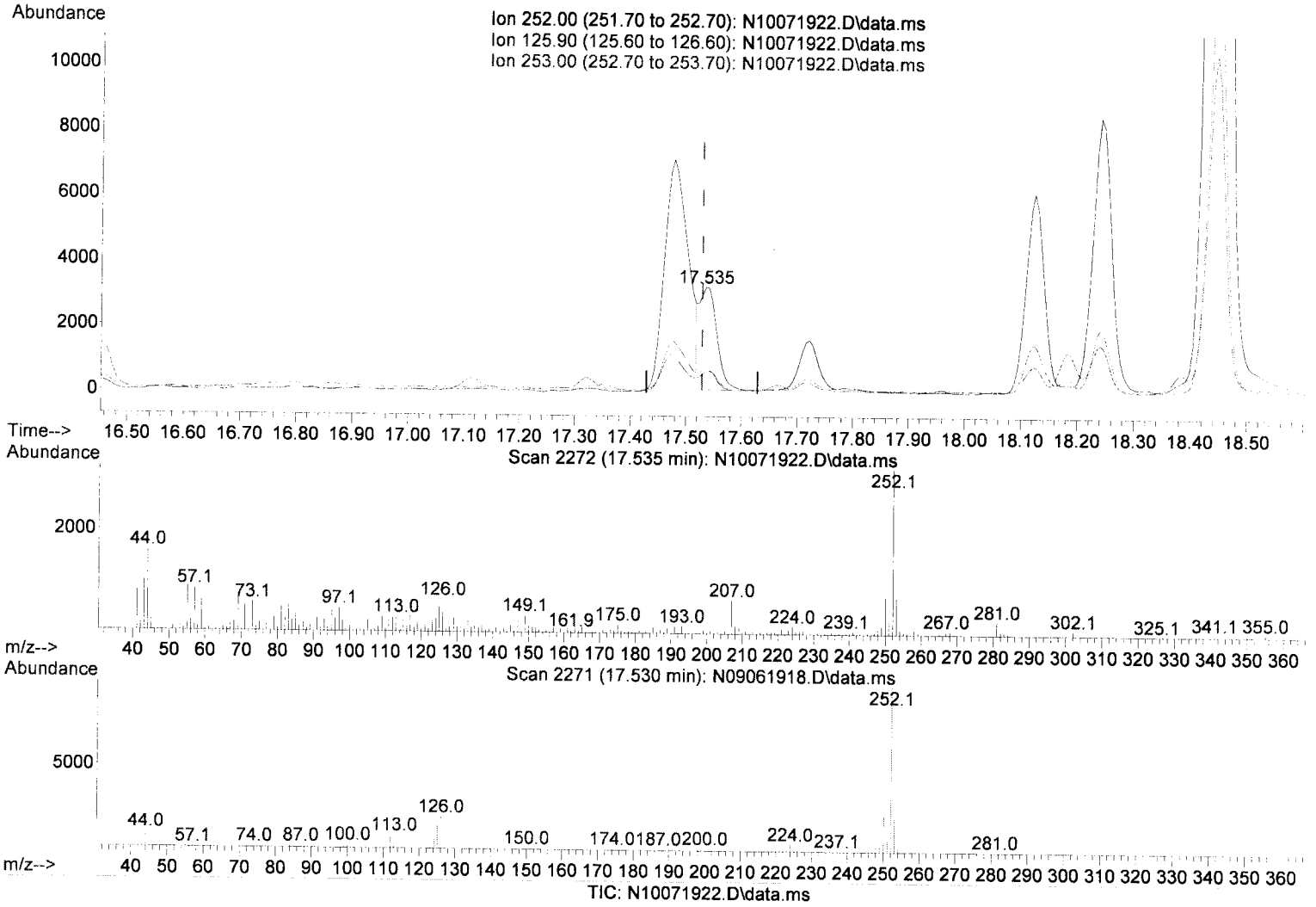
response 21189

Ion	Exp%	Act%
252.00	100.00	100.00
126.00	20.00	16.82
253.00	21.10	22.32
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(31) Benzo(k)fluoranthene (T)

17.535min (+ 0.006) 3.30 ng/ml (m)

jem 10/8/19

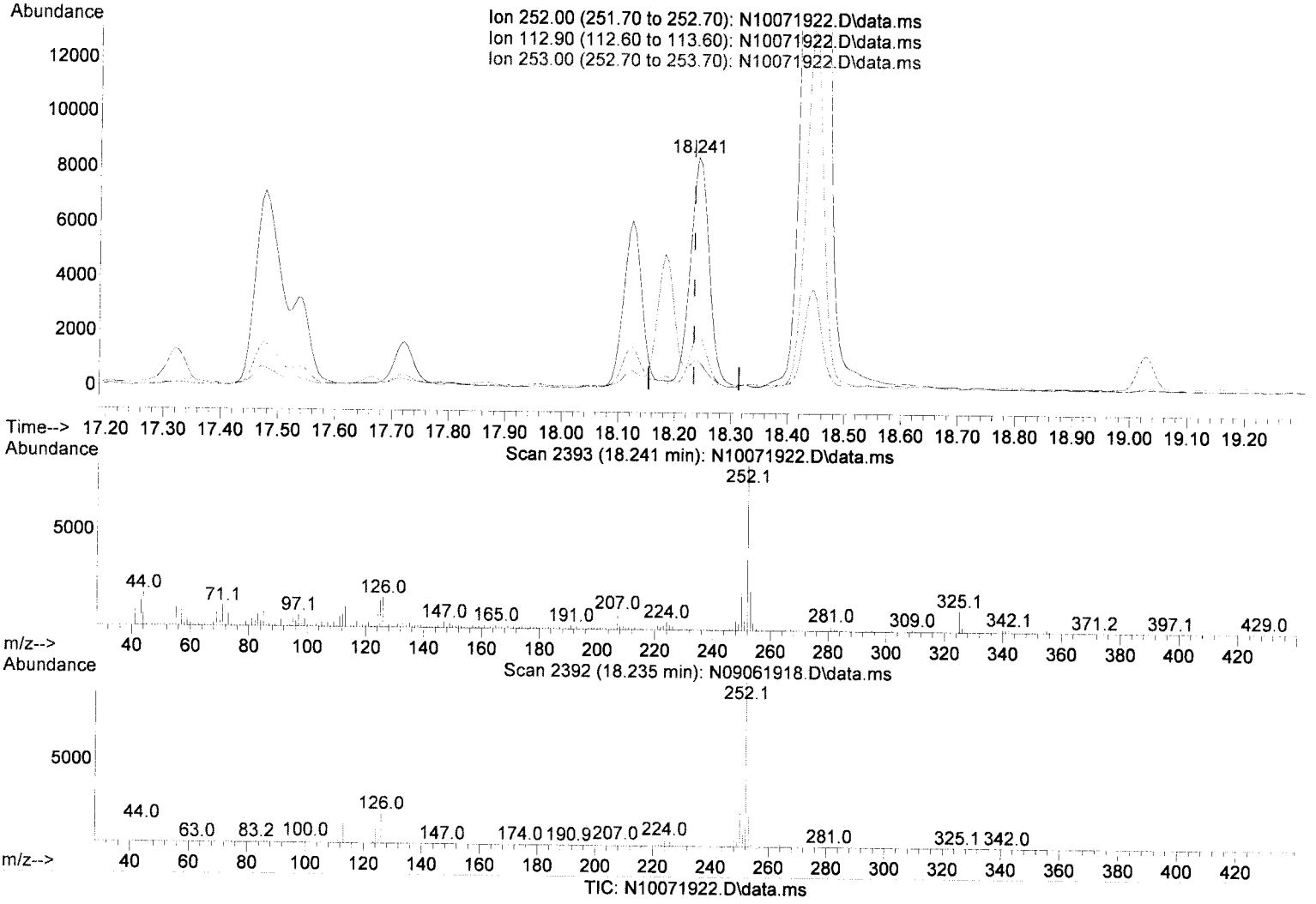
response 6832

Ion	Exp%	Act%
252.00	100.00	100.00
125.90	22.10	20.04
253.00	21.50	22.60
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(35) Benzo(a)pyrene (T)

18.241min (+ 0.007) 10.69 ng/ml

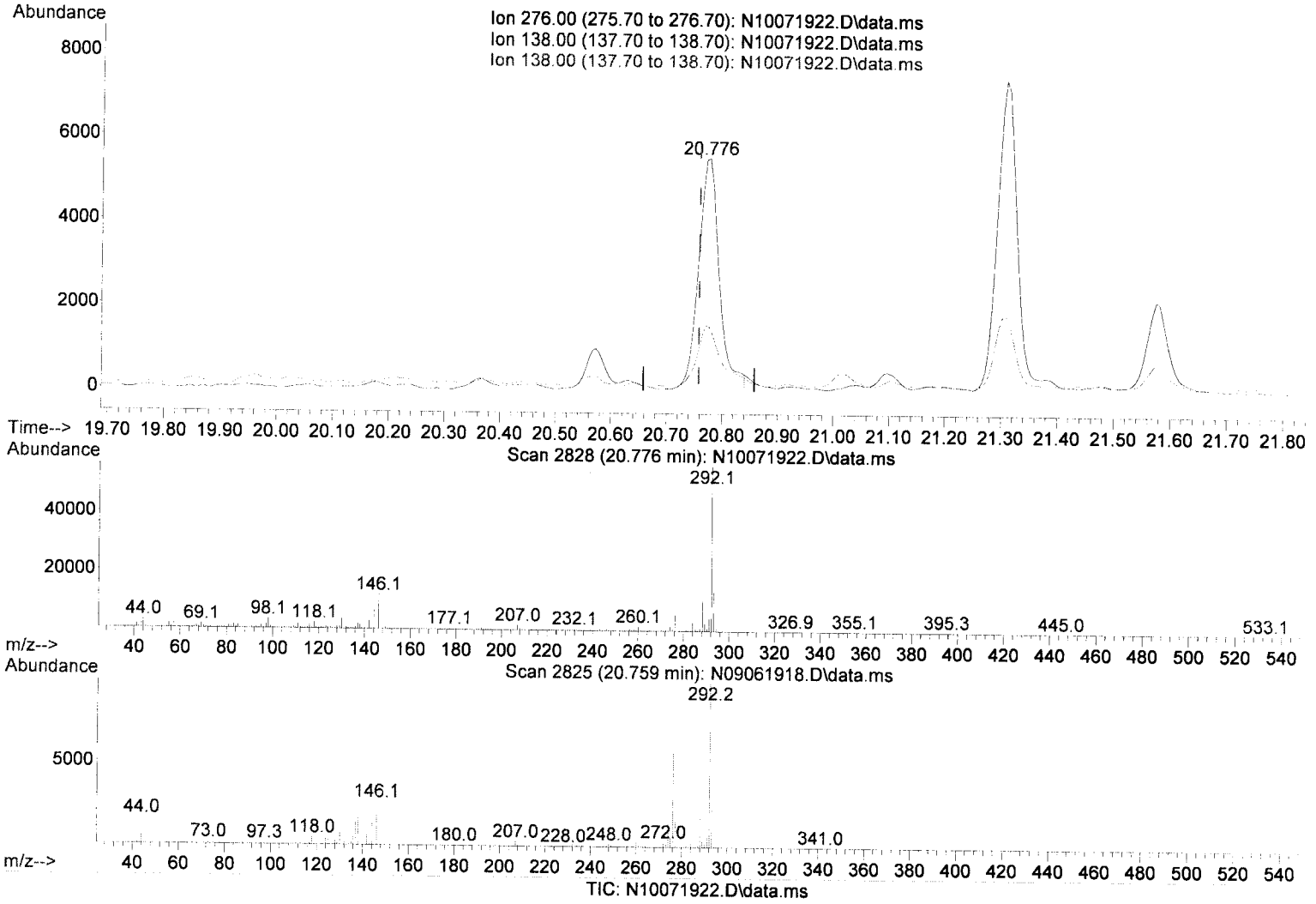
response 19234

Ion	Exp%	Act%
252.00	100.00	100.00
112.90	12.70	12.43
253.00	21.90	23.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(38) Indeno(1,2,3-cd)Pyrene (T)

20.776min (+ 0.018) 8.15 ng/ml

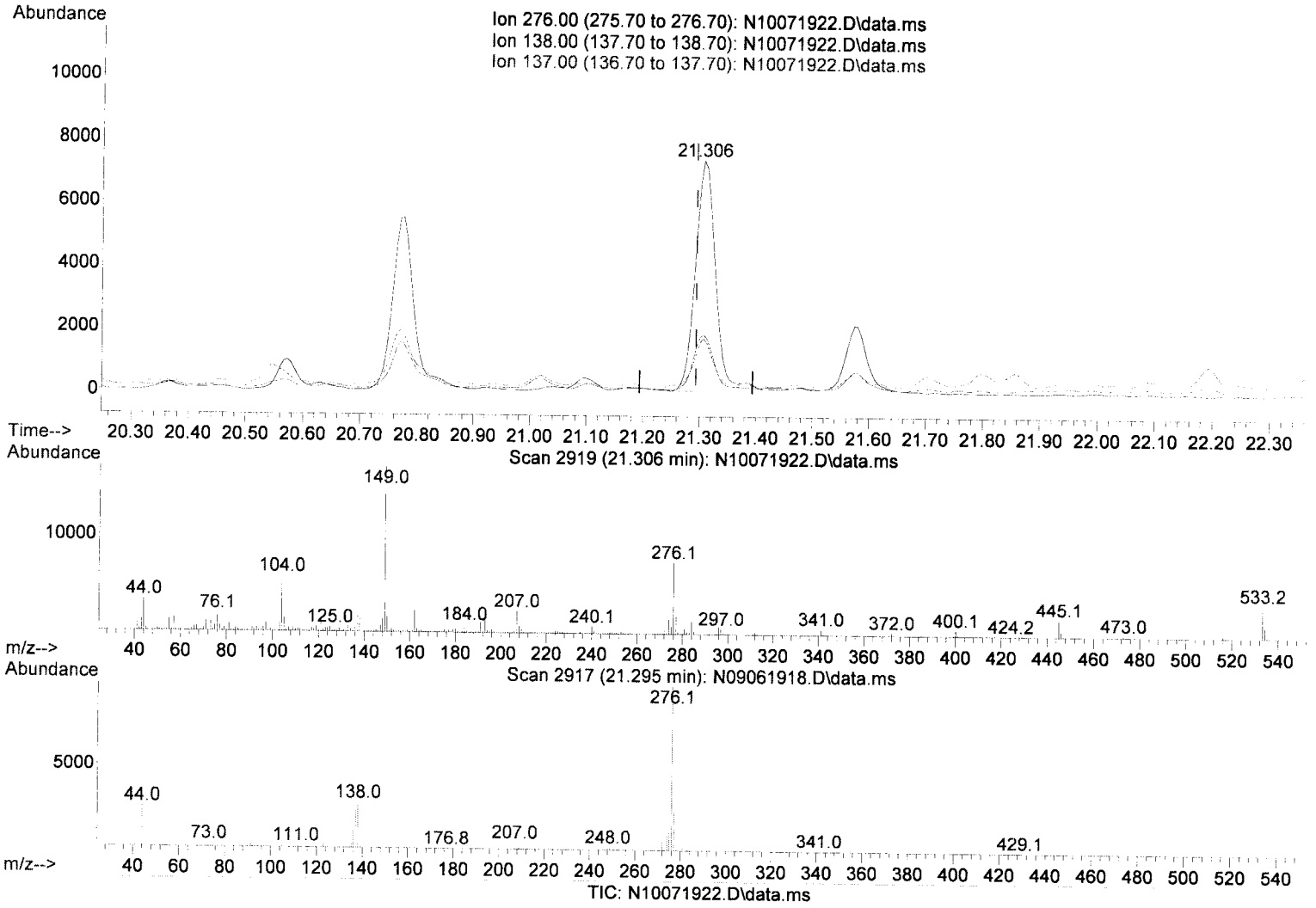
response 14342

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	31.60	27.45
138.00	31.60	27.45
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(40) Benzo(g,h,i)perylene (T)

21.306min (+ 0.012) 9.60 ng/ml

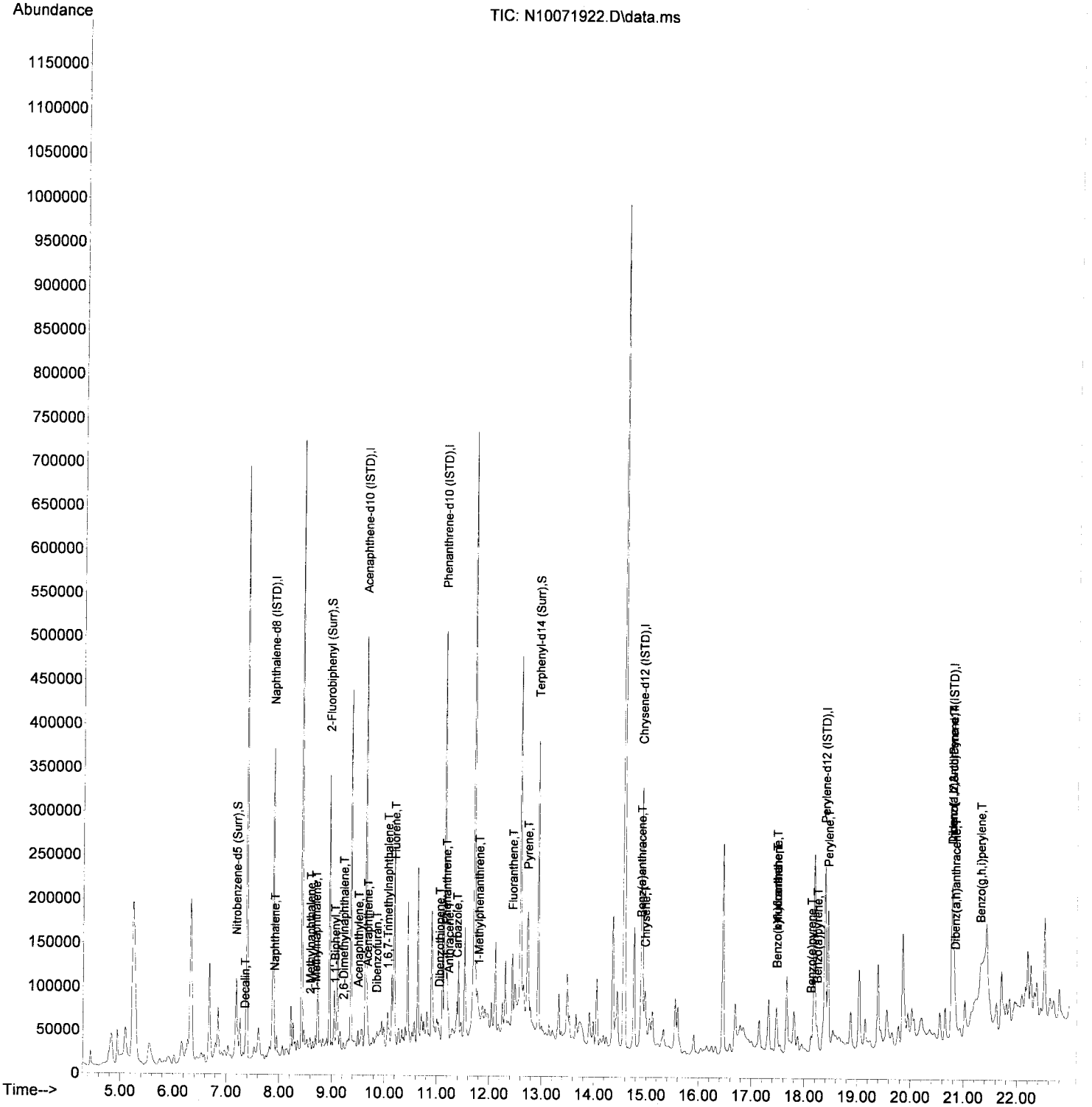
response 17920

Ion	Exp%	Act%
276.00	100.00	100.00
138.00	34.40	25.14
137.00	28.60	23.49
0.00	0.00	0.00

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J07048\
Data File : N10071922.D
Acq On : 07 Oct 2019 06:41 pm
Operator : JK/ AMS/ DTH
Sample : A9i0922-18
Misc : 1x, 8270D LL PAH Only
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 08 07:36:06 2019
Quant Method : S:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



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

Semivolatile Organic Compounds (PAHs) by EPA 8270D
Benchsheet & Analysis Sequence Data

Sequence 9J08040 (A9I0922-20RE1)

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9J08040** Instrument: **SV-GCMS14**

Date: **10/08/19 08:12** Calibration: **A9I1001**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J08040-TUN1	Water	QC	QC			A19I102	A19J016
2	9J08040-CCV1	Water	QC	QC			A19I102	A19I020
3	9J08040-CCB1	Water	QC	QC			A19I102	
4	9100712-BLK1	Sediment	QC	QC		9100712	A19I102	
5	9100712-BS1	Sediment	QC	QC		9100712	A19I102	
6	A9J0058-15	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
7	9100712-MS1	Sediment	QC	QC		9100712	A19I102	
8	9100712-MSD1	Sediment	QC	QC		9100712	A19I102	
9	9100775-BLK1	Sediment	QC	QC		9100775	A19I102	
10	9100775-BS1	Sediment	QC	QC		9100775	A19I102	
11	9100775-BSD1	Sediment	QC	QC		9100775		
12	A9I0936-11RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100775	A19I102	
13	A9I0936-16RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100775	A19I102	
14	A9I0936-17RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100775	A19I102	
15	A9I0922-20RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
16	A9J0058-08	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
17	A9J0058-09	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
18	A9J0058-10	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
19	A9J0058-11	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100706	A19I102	
20	A9J0058-13	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
21	A9J0058-14	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
22	A9J0058-16	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
23	A9J0058-17	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
24	9J08040-IBL1	Water	QC	QC			A19I102	

Data Entered By: [signature] 10/9/19

Data Reviewed By: [signature] 10/9/19

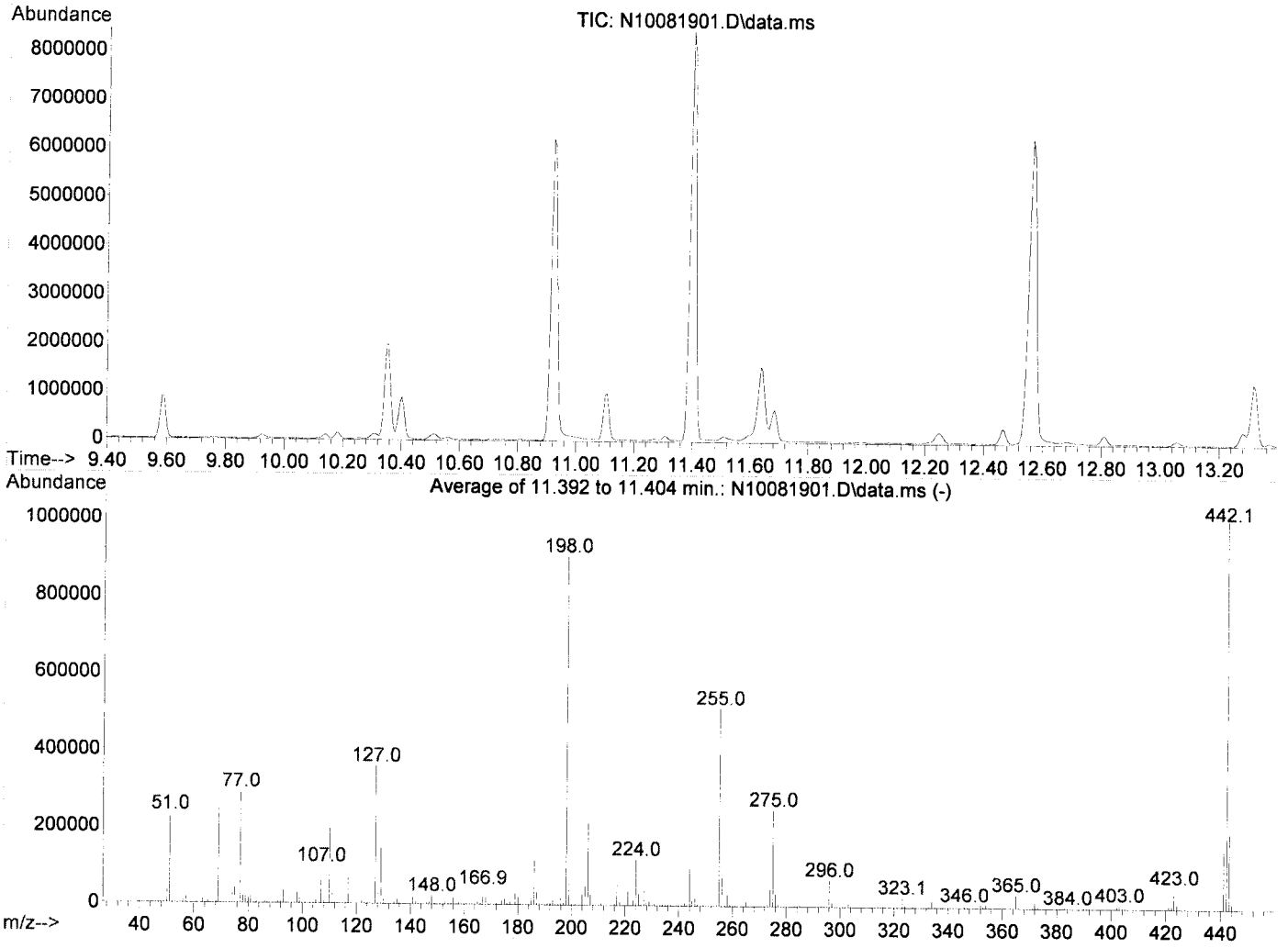
Comments:

Data Path : R:\data\2019-10\9J08040\
Data File : N10081901.D
Acq On : 08 Oct 2019 08:19 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

tem 10/8/19

Integration File: rteint.p

Method : R:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019



AutoFind: Scans 1218, 1219, 1220; Background Corrected with Scan 1212

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.7	4320	PASS
69	69	100	100	100.0	254747	PASS
70	69	0.00	2	0.5	1378	PASS
197	198	0.00	2	0.5	4664	PASS
198	198	100	100	100.0	905117	PASS
199	198	5	9	6.8	61867	PASS
365	198	1	100	3.7	33896	PASS
441	443	0.01	150	76.8	149461	PASS
442	198	0.10	200	111.3	1007723	PASS
443	442	15	24	19.3	194603	PASS

✓

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081901.D
Acq On : 08 Oct 2019 08:19 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 08 14:34:52 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

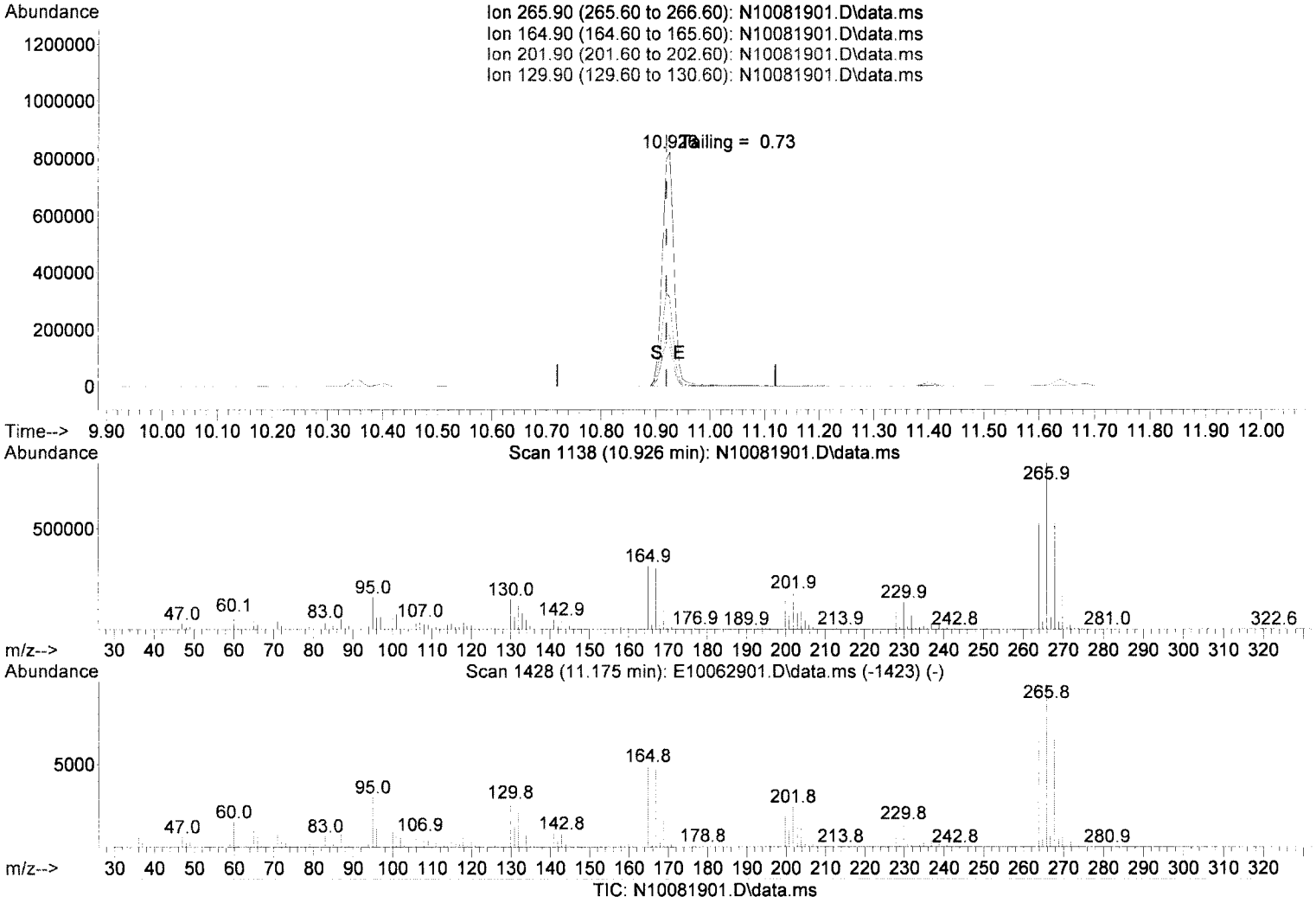
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	6.613	150	192488	2.00 ug/mL	0.00
2) Naphthalene-d8	7.825	136	513531	2.00 ug/mL	0.00
3) Acenaphthene-d10	9.585	162	262679	2.00 ug/mL	0.00
5) Phenanthrene-d10	11.106	188	508564	2.00 ug/mL	0.00
11) Chrysene-d12	14.790	240	439153	2.00 ug/mL	0.00
12) Perylene-d12	16.836	264	399234	2.00 ug/mL	0.00
13) Dibenz(a,h)anthracene-...	18.066	292	329602	2.00 ug/mL	# 0.00
Target Compounds					Qvalue
4) Pentachlorophenol	10.926	266	1254537	50.58 ug/mL	84
6) DFTPP	11.404	442	1681260	40.95 ug/mL	77
7) Benzidine	12.564	184	4958604	27.41 ug/mL	98
8) 4,4-DDE	12.808	TIC	262165	No Calib	
9) 4,4-DDD	13.315	TIC	1983951	No Calib	
10) 4,4-DDT	13.869	TIC	14222074	27.27 ug/mL	96

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081901.D
Acq On : 08 Oct 2019 08:19 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 08 14:34:52 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Pentachlorophenol

10.926min (+ 0.006) 50.58 ug/mL

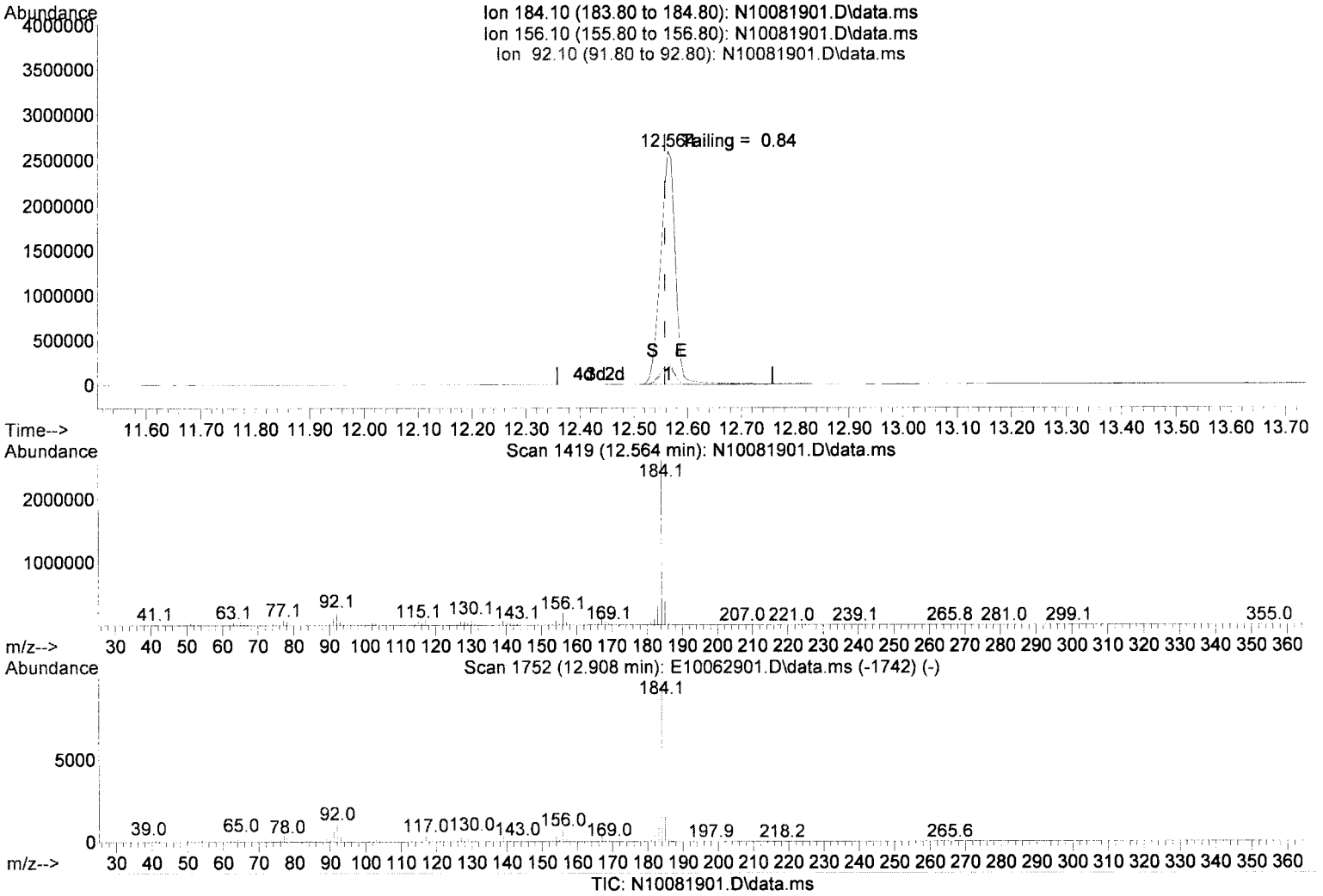
response 1254537

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	37.98
201.90	25.80	21.92
129.90	27.30	17.83

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081901.D
Acq On : 08 Oct 2019 08:19 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 08 14:34:52 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(7) Benzidine

12.564min (+ 0.006) 27.37 ug/mL m

response 4951071

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.19
92.10	8.20	8.52
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

From:
9J08040-TUN1
SV-GCMS14

First Column Area Counts		Percent Breakdown	
DDE	262165		
DDD	1983951		
DDT	14222074	**13.64**	**PASS**

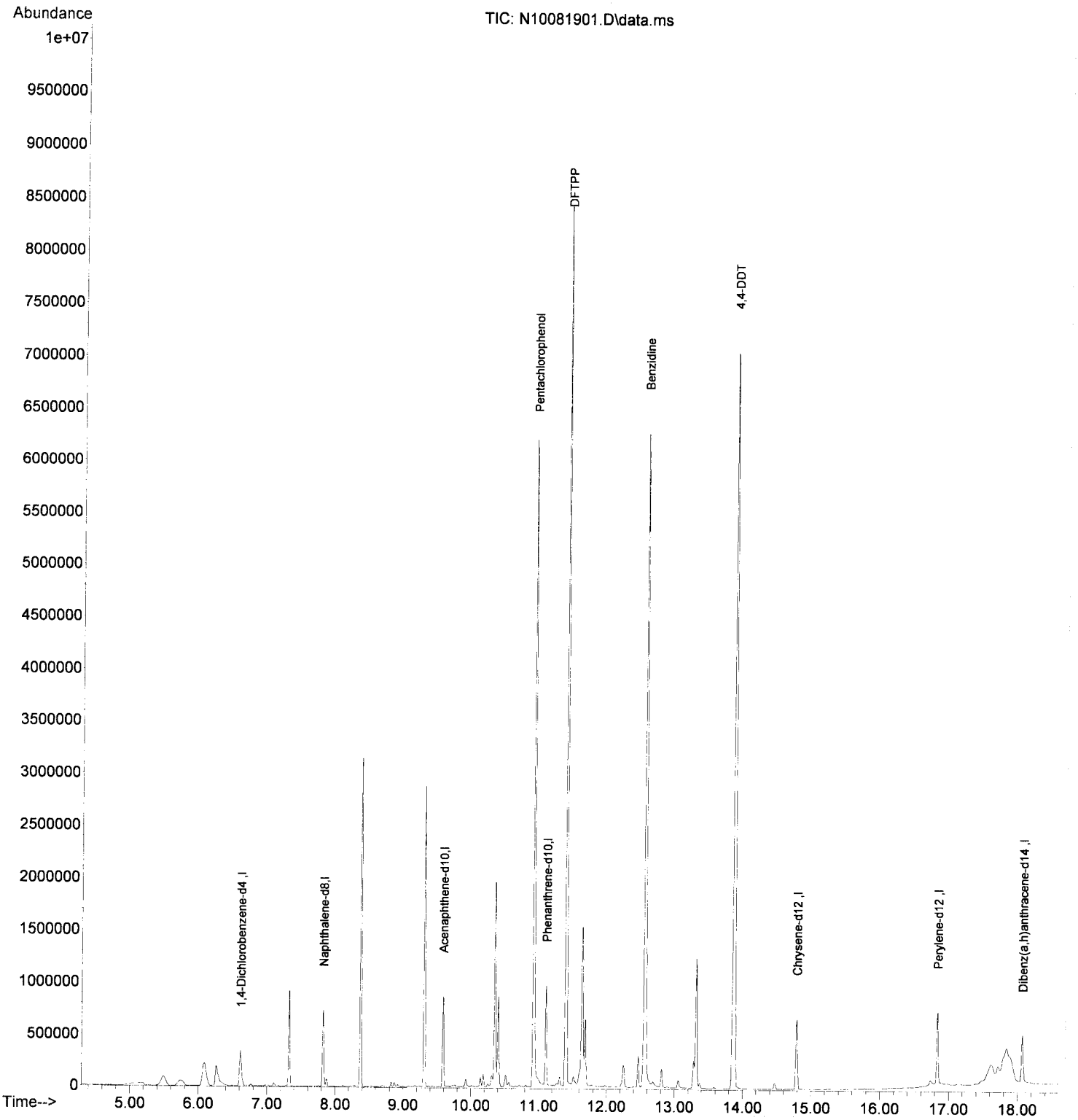
Breakdown must be less than 20% to accept sample data.

J

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081901.D
Acq On : 08 Oct 2019 08:19 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 08 14:34:52 2019
Quant Method : R:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Evaluate Continuing Calibration Report

Data Path : R:\data\2019-10\9J08040\
Data File : N10081902.D
Acq On : 08 Oct 2019 08:47 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

tem 10/8/19

Quant Time: Oct 08 09:10:18 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	146	0.00
2	S	Nitrobenzene-d5 (Surr)	50.000	47.760	4.5	143	0.00
3	T	Decalin	50.000	37.241	25.5#	108	-0.01
4	T	Naphthalene	50.000	48.940	2.1	146	0.00
5	T	2-Methylnaphthalene	50.000	40.054	19.9	116	0.00
6	T	1-Methylnaphthalene	50.000	38.827	22.3#	110	0.00
7	T	1,1'-Biphenyl	50.000	36.881	26.2#	108	0.00
8	T	2,6-Dimethylnaphthalene	50.000	36.788	26.4#	105	0.00
9	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	102	0.00
10	S	2-Fluorobiphenyl (Surr)	50.000	52.354	-4.7	108	0.00
11	S	Acenaphthylene d-8 (Surr)	50.000	47.486	5.0	99	0.00
12	T	Acenaphthylene	50.000	49.209	1.6	101	0.00
13	T	Acenaphthene	50.000	49.461	1.1	103	0.00
14	T	Dibenzofuran	50.000	49.785	0.4	102	0.00
15	T	1,6,7-Trimethylnaphthalene	50.000	48.141	3.7	101	0.00
16	T	Fluorene	50.000	48.483	3.0	100	0.00
17	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	98	0.00
18	T	Dibenzothiopene	50.000	49.860	0.3	99	0.00
19	T	Phenanthrene	50.000	49.014	2.0	98	0.00
20	T	Anthracene	50.000	48.336	3.3	96	0.00
21	T	Carbazole	50.000	45.007	10.0	89	0.00
22	T	1-Methylphenanthrene	50.000	49.713	0.6	98	0.00
23	T	Fluoranthene	50.000	48.640	2.7	96	0.00
24	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	95	0.00
25	T	Pyrene	50.000	50.033	-0.1	95	0.00
26	S	Terphenyl-d14 (Surr)	50.000	50.559	-1.1	97	0.00
27	T	Benz(a)anthracene	50.000	45.656	8.7	92	0.00
28	T	Chrysene	50.000	48.023	4.0	93	0.00
29	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	97	0.00
30	T	Benzo(b)fluoranthene	50.000	49.417	1.2	95	0.00
31	T	Benzo(k)fluoranthene	50.000	48.952	2.1	96	0.00
32	T	Benzo(b+k)fluoranthene	100.000	98.937	1.1	96	-0.06
33	S	Benzo(a)pyrene d-12 (Surr)	50.000	51.553	-3.1	99	0.00
34	T	Benzo(e)pyrene	50.000	47.780	4.4	94	0.00
35	T	Benzo(a)pyrene	50.000	50.606	-1.2	96	0.00
36	T	Perylene	50.000	49.120	1.8	95	0.01
37	I	Dibenz(a,h)Anthrcene-d14(IS	100.000	100.000	0.0	118	0.00
38	T	Indeno(1,2,3-cd)Pyrene	50.000	46.108	7.8	110	0.01
39	T	Dibenz(a,h)anthracene	50.000	47.790	4.4	115	0.01
40	T	Benzo(g,h,i)perylene	50.000	46.202	7.6	108	0.01

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081902.D
Acq On : 08 Oct 2019 08:47 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 08 14:39:13 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

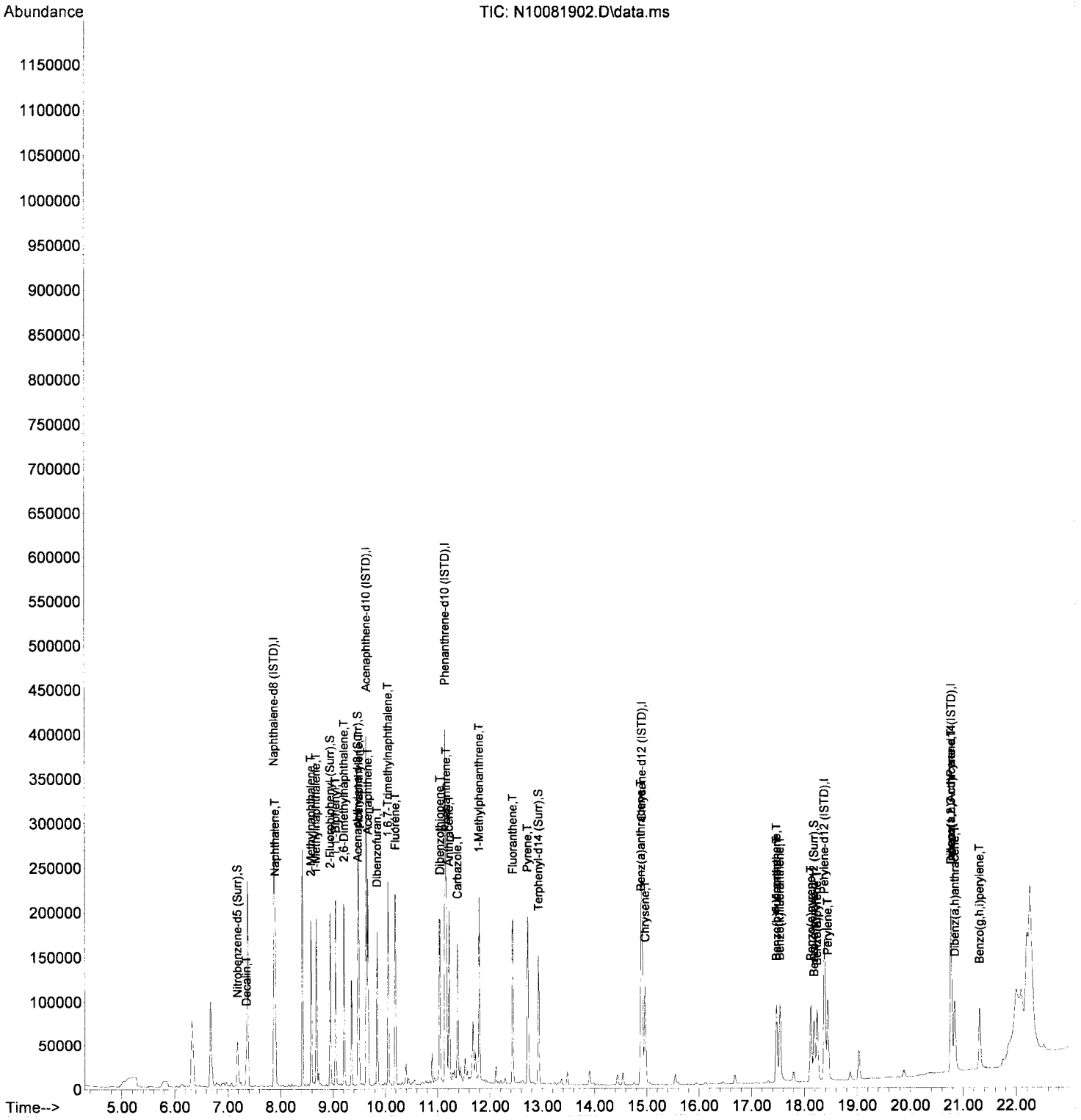
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	216725	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	120632	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	215468	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	161629	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	137691	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	110477	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	34395	47.76	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	94218	52.35	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	117810	47.49	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	85945	50.56	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.182	264	56766	51.55	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.353	138	6009	37.24	ng/ml	92
4) Naphthalene	7.901	128	116983	48.94	ng/ml	100
5) 2-Methylnaphthalene	8.583	142	81132	40.05	ng/ml	98
6) 1-Methylnaphthalene	8.682	142	78631	38.83	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	100473	36.88	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.212	156	73191	36.79	ng/ml	97
12) Acenaphthylene	9.492	152	128874	49.21	ng/ml	99
13) Acenaphthene	9.667	153	84842	49.46	ng/ml	99
14) Dibenzofuran	9.842	168	106965	49.79	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	69255	48.14	ng/ml	99
16) Fluorene	10.191	166	85102	48.48	ng/ml	98
18) Dibenzothiopene	11.042	184	112361	49.86	ng/ml	96
19) Phenanthrene	11.165	178	123582	49.01	ng/ml	99
20) Anthracene	11.217	178	113360	48.34	ng/ml	99
21) Carbazole	11.380	167	85410	45.01	ng/ml	99
22) 1-Methylphenanthrene	11.794	192	87073	49.71	ng/ml	99
23) Fluoranthene	12.435	202	123562	48.64	ng/ml	96
25) Pyrene	12.721	202	126342	50.03	ng/ml	99
27) Benz(a)anthracene	14.889	228	85676	45.66	ng/ml	100
28) Chrysene	14.971	228	85280	48.02	ng/ml	100
30) Benzo(b)fluoranthene	17.471	252	78514	49.42	ng/ml	94
31) Benzo(k)fluoranthene	17.535	252	76576	48.95	ng/ml	93
32) Benzo(b+k)fluoranthene	17.471	252	160784	98.94	ng/ml	92
34) Benzo(e)pyrene	18.124	252	76761	47.78	ng/ml	97
35) Benzo(a)pyrene	18.241	252	68819	50.61	ng/ml	98
36) Perylene	18.445	252	82273	49.12	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.770	276	62823	46.11	ng/ml	83
39) Dibenz(a,h)anthracene	20.840	278	61184	47.79	ng/ml	83
40) Benzo(g,h,i)perylene	21.307	276	66779	46.20	ng/ml	84

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081902.D
Acq On : 08 Oct 2019 08:47 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 08 14:39:13 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081903.D
Acq On : 08 Oct 2019 09:19 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1

tem 10/8/19

Quant Time: Oct 08 14:40:30 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

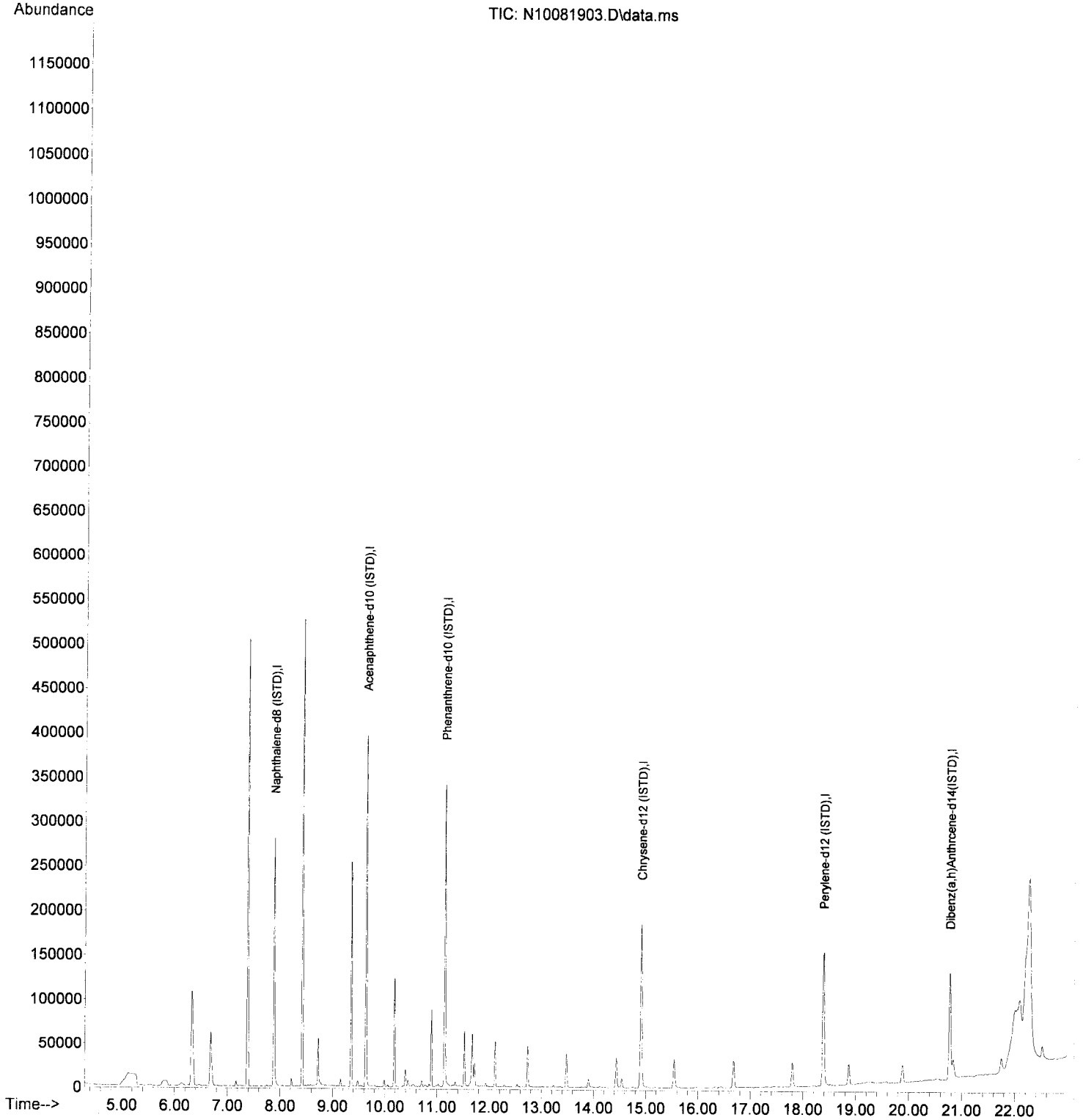
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.883	136	201981	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.637	162	118531	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	195468	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.912	240	142208	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.386	264	130719	100.00 ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.770	292	114295	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.248	82	53	0.08 ng/ml	0.06
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00 ng/ml	
11) Acenaphthylene d-8 (Surr)	9.480	160	4189	0.31 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.936	244	55	0.04 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.906	128	311	N.D.	
5) 2-Methylnaphthalene	8.588	142	68	N.D.	
6) 1-Methylnaphthalene	8.687	142	57	N.D.	
7) 1,1'-Biphenyl	9.055	154	162	N.D.	
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.	
12) Acenaphthylene	0.000		0	N.D.	
13) Acenaphthene	0.000		0	N.D.	
14) Dibenzofuran	0.000		0	N.D.	
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	
16) Fluorene	0.000		0	N.D.	
18) Dibenzothiopene	0.000		0	N.D.	
19) Phenanthrene	11.170	178	134	N.D.	
20) Anthracene	11.223	178	104	N.D.	
21) Carbazole	0.000		0	N.D.	
22) 1-Methylphenanthrene	11.771	192	50	N.D.	
23) Fluoranthene	0.000		0	N.D.	
25) Pyrene	0.000		0	N.D.	
27) Benz(a)anthracene	14.907	228	412	N.D.	
28) Chrysene	14.907	228	377	N.D.	
30) Benzo(b)fluoranthene	0.000		0	N.D.	
31) Benzo(k)fluoranthene	0.000		0	N.D.	
32) Benzo(b+k)fluoranthene	0.000		0	N.D.	
34) Benzo(e)pyrene	18.380	252	425	N.D.	
35) Benzo(a)pyrene	0.000		0	N.D.	
36) Perylene	18.380	252	445	N.D.	
38) Indeno(1,2,3-cd)Pyrene	20.782	276	62	N.D.	
39) Dibenz(a,h)anthracene	0.000		0	N.D.	
40) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081903.D
Acq On : 08 Oct 2019 09:19 am
Operator : JK/ AMS/ DTH
Sample : 9J08040-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 08 14:40:30 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081915.D
Acq On : 08 Oct 2019 03:54 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-20RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 15 Sample Multiplier: 1

HAM 10/9/19

Quant Time: Oct 08 16:39:25 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

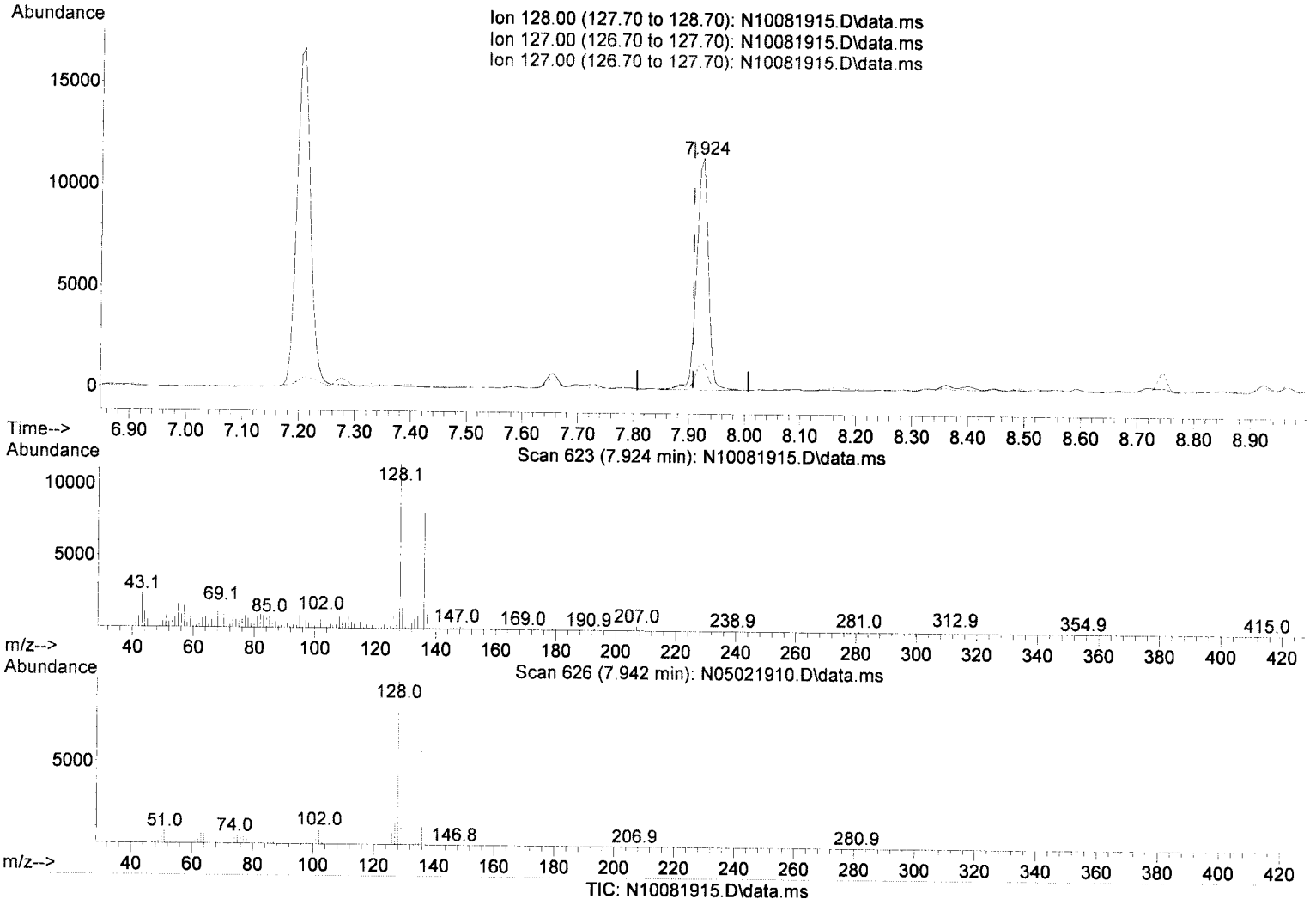
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.901	136	235293	100.00	ng/ml	0.02
9) Acenaphthene-d10 (ISTD)	9.655	162	131359	100.00	ng/ml	0.02
17) Phenanthrene-d10 (ISTD)	11.159	188	240745	100.00	ng/ml	0.01
24) Chrysene-d12 (ISTD)	14.936	240	201321	100.00	ng/ml	0.03
29) Perylene-d12 (ISTD)	18.415	264	172208	100.00	ng/ml	0.04
37) Dibenz(a,h)Anthrcene-d...	20.805	292	137732	100.00	ng/ml	0.04
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.201	82	54643	69.89	ng/ml	0.02
10) 2-Fluorobiphenyl (Surr)	8.967	172	154683	78.93	ng/ml	0.02
11) Acenaphthylene d-8 (Surr)	9.498	160	1121	-1.00	ng/ml	0.02
26) Terphenyl-d14 (Surr)	12.948	244	182978	86.42	ng/ml	0.02
33) Benzo(a)pyrene d-12 (S...	18.206	264	63	0.05	ng/ml	0.03
Target Compounds						Qvalue
3) Decalin	7.370	138	266	1.52	ng/ml#	44
4) Naphthalene	7.924	128	16633	6.41	ng/ml	100
5) 2-Methylnaphthalene	8.606	142	3462	1.57	ng/ml	97
6) 1-Methylnaphthalene	8.705	142	8317	3.78	ng/ml	98
7) 1,1'-Biphenyl	9.066	154	1923	0.65	ng/ml	87
8) 2,6-Dimethylnaphthalene	9.230	156	2164	1.00	ng/ml	97
12) Acenaphthylene	9.509	152	2234	0.78	ng/ml	79
13) Acenaphthene	9.684	153	17397	9.31	ng/ml	99
14) Dibenzofuran	9.859	168	743	N.D.		
15) 1,6,7-Trimethylnaphtha...	10.069	170	614	N.D.		
16) Fluorene	10.209	166	2351	1.23	ng/ml	88
18) Dibenzothiopene	11.054	184	866	N.D.		
19) Phenanthrene	11.182	178	7920	2.81	ng/ml	97
20) Anthracene	11.235	178	1583	0.60	ng/ml	72
21) Carbazole	11.398	167	724	N.D.		
22) 1-Methylphenanthrene	11.812	192	510	N.D.		
23) Fluoranthene	12.453	202	3782	1.33	ng/ml	82
25) Pyrene	12.744	202	5771	1.83	ng/ml	94
27) Benz(a)anthracene	14.918	228	1586	0.68	ng/ml	54
28) Chrysene	15.000	228	2007	0.91	ng/ml	84
30) Benzo(b)fluoranthene	17.506	252	1283	0.65	ng/ml	59
31) Benzo(k)fluoranthene	17.506	252	1587	0.81	ng/ml	63
32) Benzo(b+k)fluoranthene	17.506	252	1798	0.88	ng/ml	63
34) Benzo(e)pyrene	18.153	252	1053	0.52	ng/ml#	52
35) Benzo(a)pyrene	18.276	252	957	0.56	ng/ml#	9
36) Perylene	18.480	252	360245	171.97	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.805	276	808	0.48	ng/ml#	1
39) Dibenz(a,h)anthracene	20.834	278	289	N.D.		
40) Benzo(g,h,i)perylene	21.341	276	1159	0.64	ng/ml#	1

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

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081915.D
Acq On : 08 Oct 2019 03:54 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-20RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 08 16:39:25 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(4) Naphthalene (T)

7.924min (+ 0.017) 6.41 ng/ml

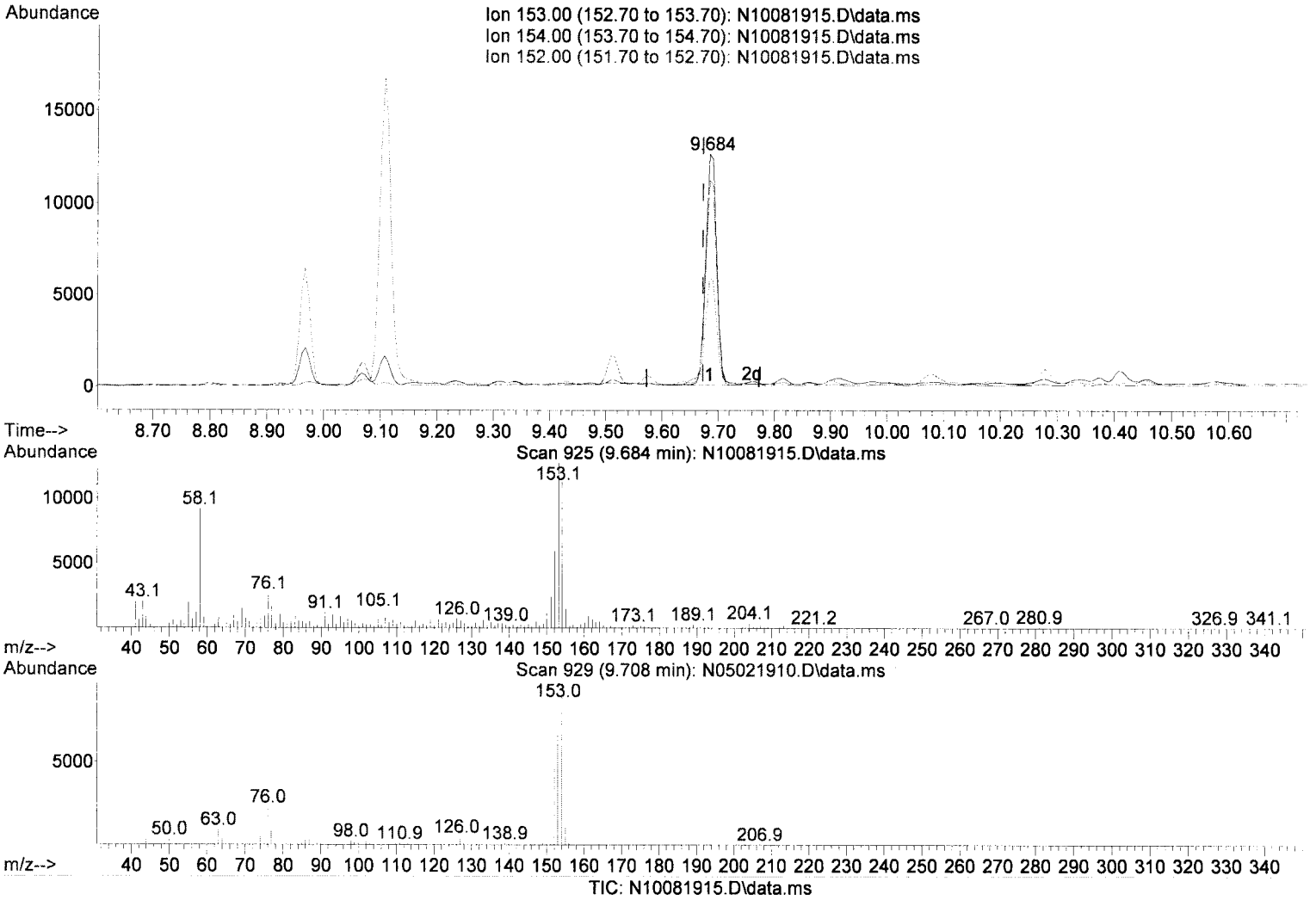
response 16633

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	12.56
127.00	12.60	12.56
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081915.D
Acq On : 08 Oct 2019 03:54 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-20RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 08 16:39:25 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(13) Acenaphthene (T)

9.684min (+ 0.012) 9.31 ng/ml

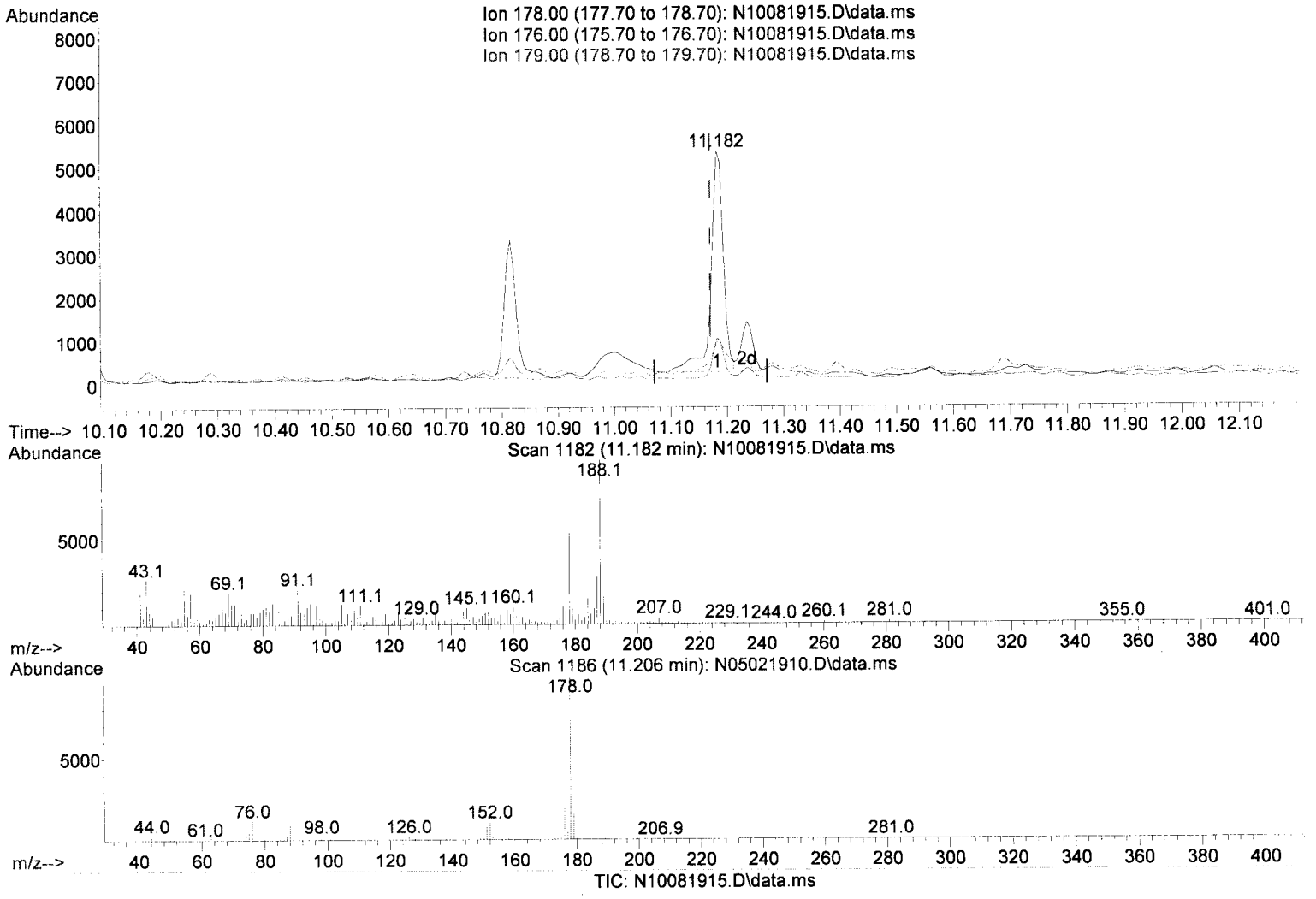
response 17397

Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	88.73
152.00	46.80	46.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081915.D
Acq On : 08 Oct 2019 03:54 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-20RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 08 16:39:25 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



(19) Phenanthrene (T)

11.182min (+ 0.012) 2.81 ng/ml

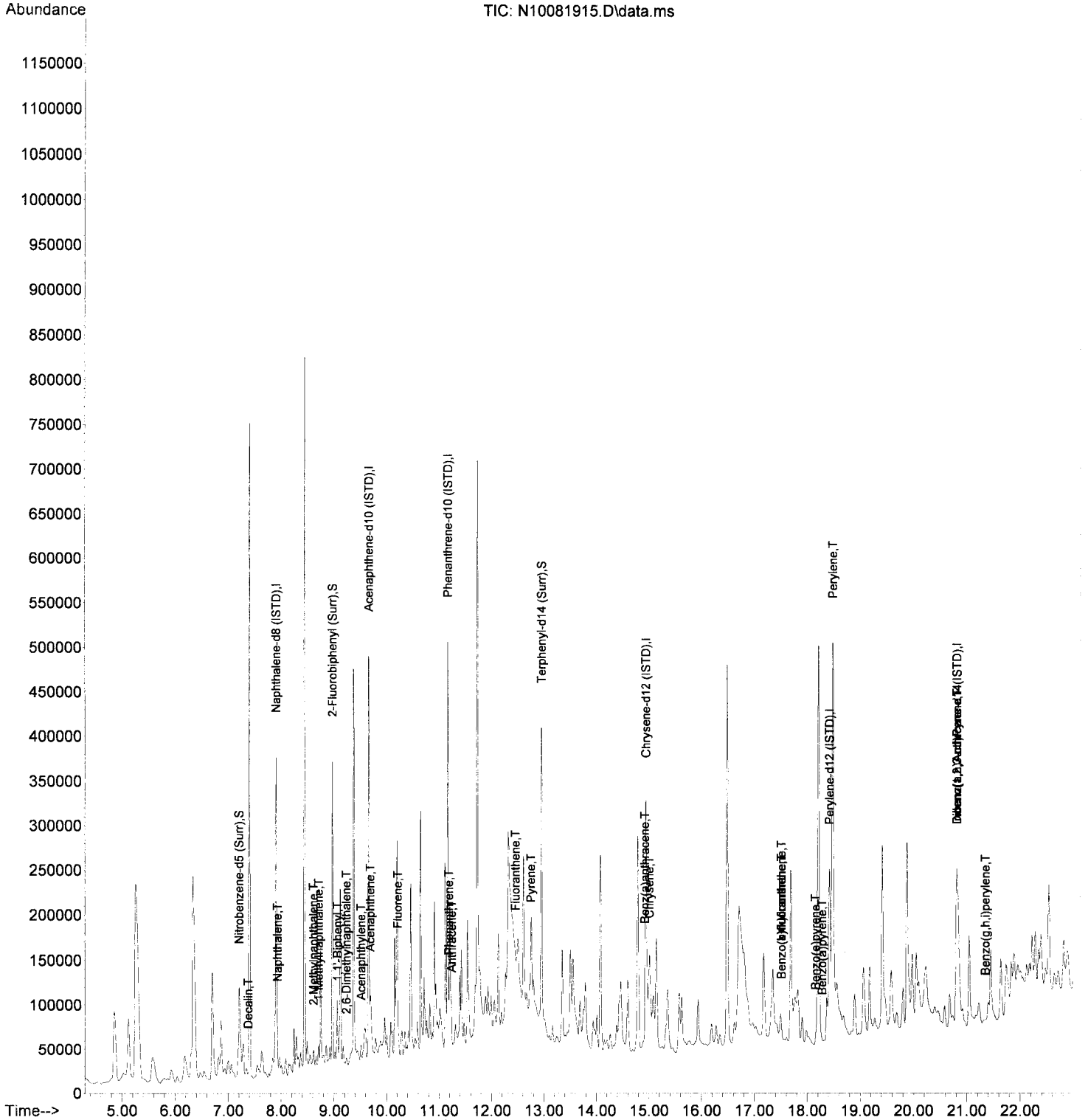
response 7920

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	19.36
179.00	15.10	17.76
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : R:\data\2019-10\9J08040\
Data File : N10081915.D
Acq On : 08 Oct 2019 03:54 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-20RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Oct 08 16:39:25 2019
Quant Method : R:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



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

Semivolatile Organic Compounds (PAHs) by EPA 8270D
Benchsheet & Analysis Sequence Data

Sequence 9J09031 (A9I0922-19RE1)

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9J09031**	Instrument:	**SV-GCMS14**
Date:	**10/09/19 08:07**	Calibration:	**A9I1001**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J09031-TUN1	Sediment	QC	QC			A19I102	A19J016
2	9J09031-CCV1	Sediment	QC	QC			A19I102	A19I020
3	9J09031-IBL1	Sediment	QC	QC			A19I102	
4	9J09031-TUN2	Sediment	QC	QC			A19I102	A19J016
5	9J09031-CCV2	Sediment	QC	QC			A19I102	A19I020
6	9J09031-CCB1	Sediment	QC	QC			A19I102	
7	A9J0058-18	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
8	A9J0058-19	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
9	A9J0058-20	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
10	A9J0058-21	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
11	A9J0058-22	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
12	A9J0058-23	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
13	A9J0058-24	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
14	A9J0058-25	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
15	A9J0058-26	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
16	A9J0063-02	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
17	A9J0063-03	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
18	A9J0063-04	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
19	A9J0063-05	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
20	A9J0063-06	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
21	A9J0063-07	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100712	A19I102	
22	A9I0936-17RE2	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100775	A19I102	
23	A9J0063-08	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100775	A19I102	
24	A9J0063-13	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100775	A19I102	
25	A9J0063-14	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100775	A19I102	
26	A9I0922-19RE1	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/11/19	9100706	A19I102	
27	A9J0063-16	Sediment	8270D LL PAH Only (Scan)	Anchor QEA, LLC	10/15/19	9100775	A19I102	
28	9J09031-IBL2	Sediment	QC	QC			A19I102	

Data Entered By: AMS 10/10/19

Data Reviewed By: 10/10/19

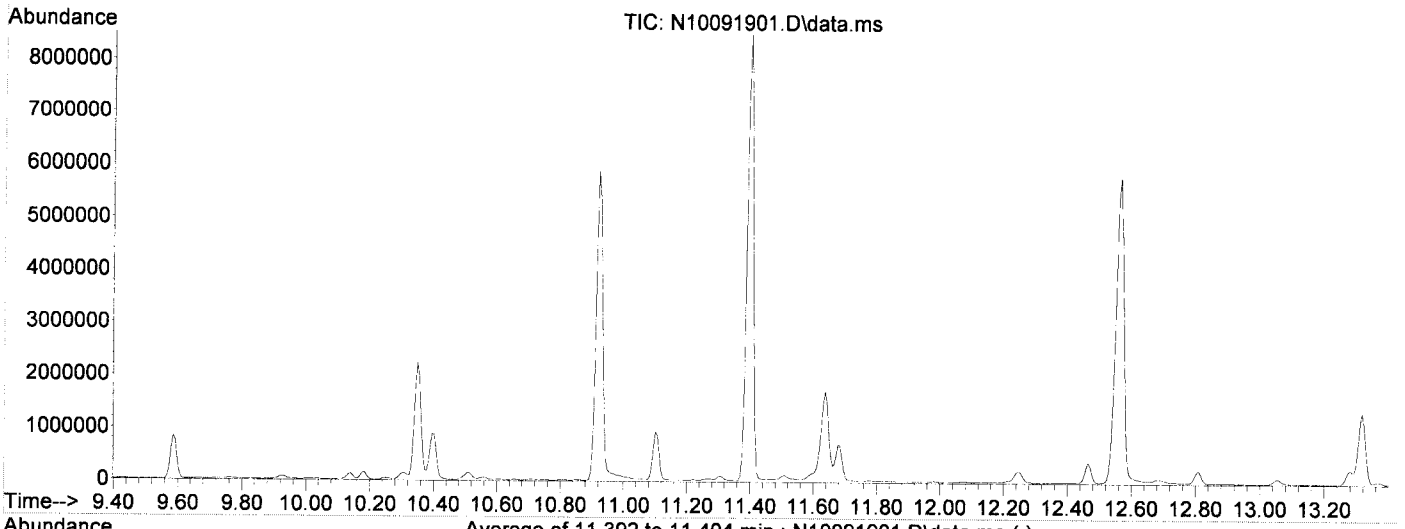
Comments:

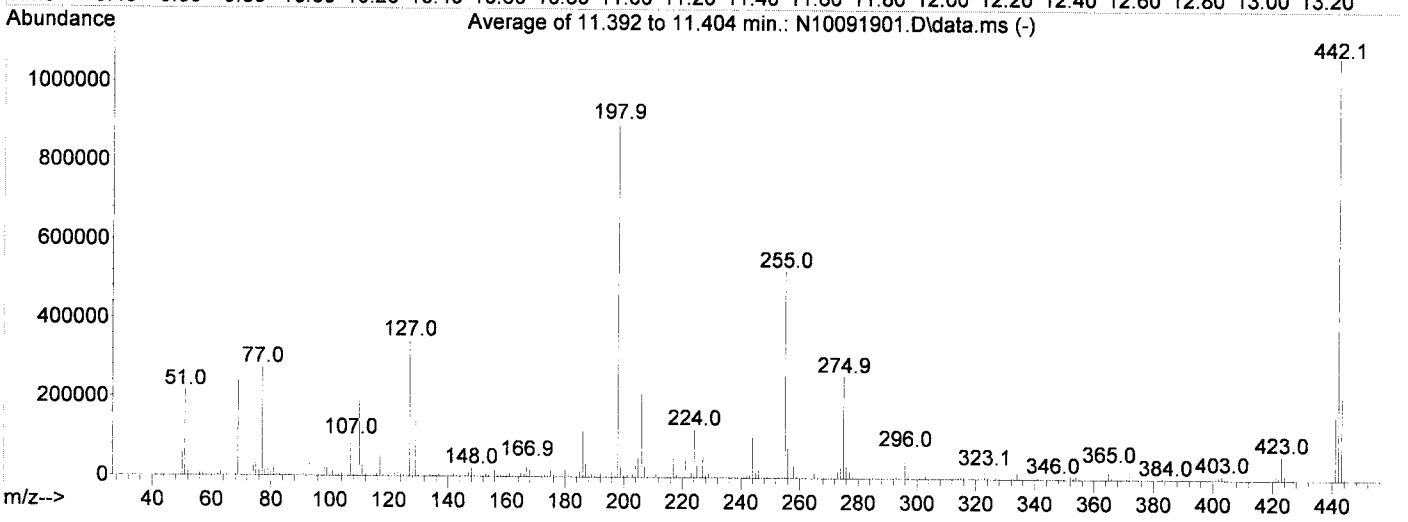
Data Path : U:\data\2019-10\9J09031\
Data File : N10091901.D
Acq On : 09 Oct 2019 08:15 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : U:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019

Q-14
AMS
10/9/19





AutoFind: Scans 1218, 1219, 1220; Background Corrected with Scan 1212

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.6	3941	PASS
69	69	100	100	100.0	239942	PASS
70	69	0.00	2	0.5	1278	PASS
197	198	0.00	2	0.5	4748	PASS
198	198	100	100	100.0	896208	PASS
199	198	5	9	6.8	60887	PASS
365	198	1	100	3.9	34757	PASS
441	443	0.01	150	77.2	158869	PASS
442	198	0.10	200	119.2	1068480	PASS
443	442	15	24	19.3	205867	PASS

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091901.D
Acq On : 09 Oct 2019 08:15 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 09 14:22:58 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

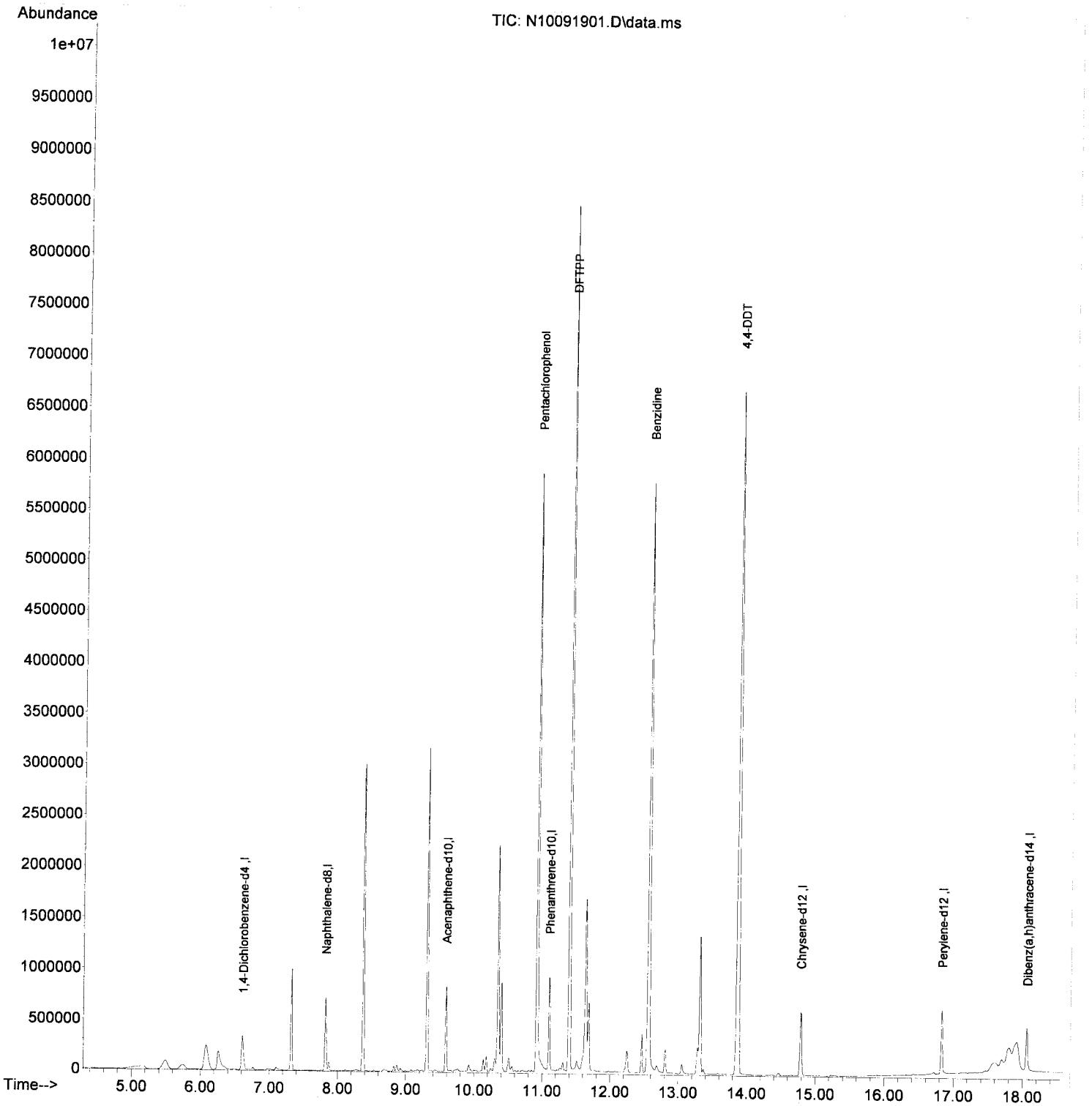
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenzene-d4	6.613	150	191335	2.00	ug/mL		0.00
2) Naphthalene-d8	7.819	136	496291	2.00	ug/mL		0.00
3) Acenaphthene-d10	9.585	162	251003	2.00	ug/mL		0.00
5) Phenanthrene-d10	11.101	188	479801	2.00	ug/mL		0.00
11) Chrysene-d12	14.784	240	417525	2.00	ug/mL		0.00
12) Perylene-d12	16.830	264	366328	2.00	ug/mL		0.00
13) Dibenz(a,h)anthracene-...	18.060	292	304901	2.00	ug/mL	#	0.00
Target Compounds							Qvalue
4) Pentachlorophenol	10.920	266	1163280	49.08	ug/mL		87
6) DFTPP	11.398	442	1657389	42.79	ug/mL		84
7) Benzidine	12.564	184	4410868	25.84	ug/mL		98
8) 4,4-DDE	12.808	TIC	340676	No Calib			
9) 4,4-DDD	13.316	TIC	2175483	No Calib			
10) 4,4-DDT	13.869	TIC	13256081	26.94	ug/mL		96

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

✓

Data Path : U:\data\2019-10\9J09031\
Data File : N10091901.D
Acq On : 09 Oct 2019 08:15 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-TUN1
Misc : 1x, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 09 14:22:58 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091902.D
Acq On : 09 Oct 2019 08:42 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Q-14

AMS 10/9/19

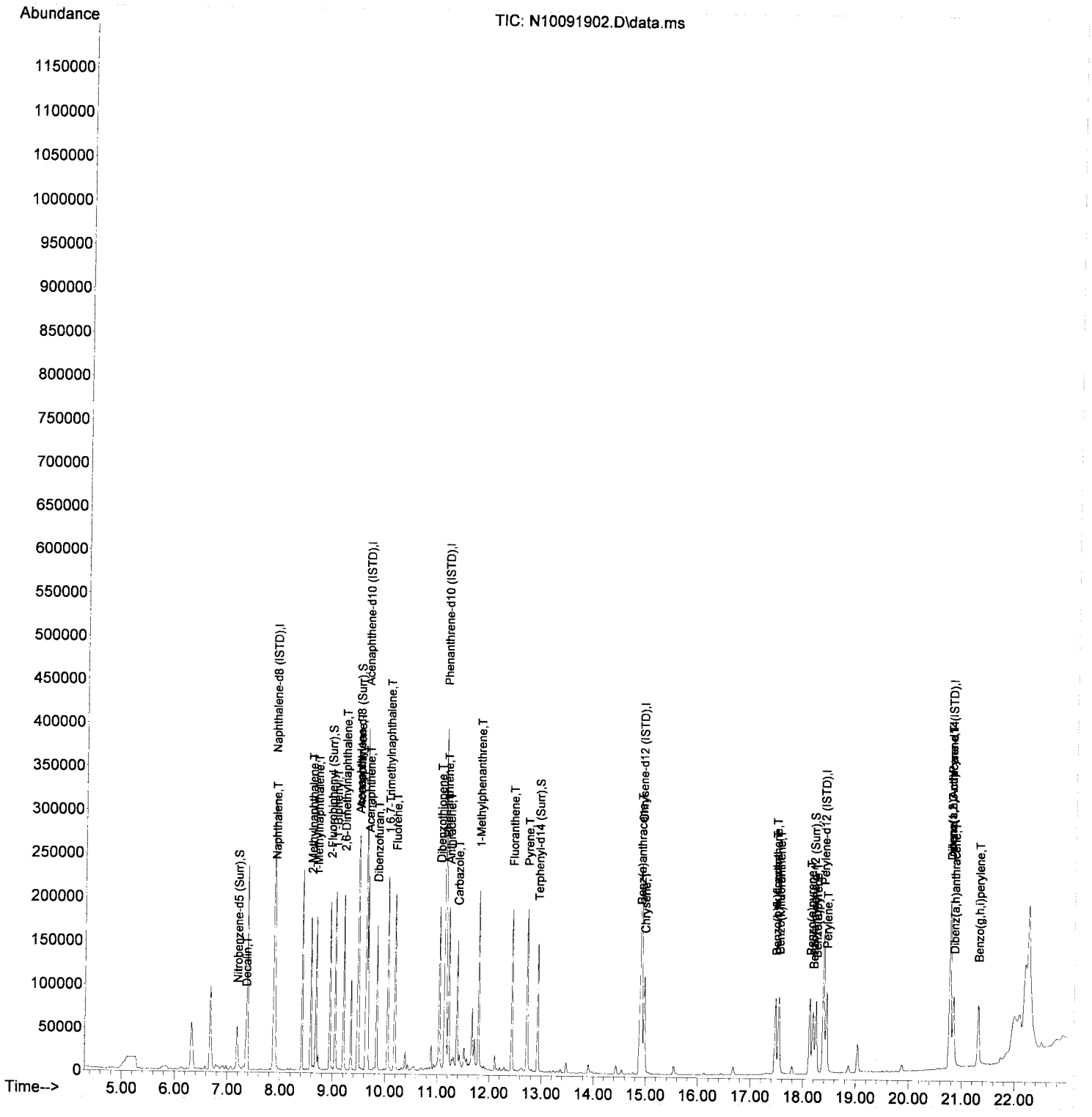
Quant Time: Oct 09 14:23:24 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	217768	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	119099	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	216200	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.913	240	163651	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.386	264	142134	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.776	292	118657	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.190	82	34003	46.99	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	94155	52.99	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	117200	47.86	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	86363	50.18	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.188	264	59405	52.26	ng/ml	0.01
Target Compounds						Qvalue
3) Decalin	7.353	138	6020	37.13	ng/ml	91
4) Naphthalene	7.901	128	117577	48.95	ng/ml	100
5) 2-Methylnaphthalene	8.583	142	81030	39.81	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	77634	38.15	ng/ml	97
7) 1,1'-Biphenyl	9.049	154	100596	36.75	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.212	156	71604	35.82	ng/ml	98
12) Acenaphthylene	9.492	152	128303	49.62	ng/ml	100
13) Acenaphthene	9.667	153	82067	48.46	ng/ml	99
14) Dibenzofuran	9.842	168	106893	50.39	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.051	170	69137	48.68	ng/ml	98
16) Fluorene	10.191	166	83848	48.38	ng/ml	98
18) Dibenzothiopene	11.042	184	112289	49.66	ng/ml	96
19) Phenanthrene	11.171	178	122055	48.24	ng/ml	100
20) Anthracene	11.223	178	113813	48.36	ng/ml	99
21) Carbazole	11.386	167	85659	44.99	ng/ml	99
22) 1-Methylphenanthrene	11.794	192	87321	49.69	ng/ml	98
23) Fluoranthene	12.435	202	122504	48.06	ng/ml	97
25) Pyrene	12.727	202	125328	49.02	ng/ml	99
27) Benz(a)anthracene	14.889	228	85813	45.16	ng/ml	99
28) Chrysene	14.971	228	85638	47.63	ng/ml	99
30) Benzo(b)fluoranthene	17.477	252	79227	48.31	ng/ml	93
31) Benzo(k)fluoranthene	17.541	252	79843	49.45	ng/ml	92
32) Benzo(b+k)fluoranthene	17.477	252	164534	98.08	ng/ml	91
34) Benzo(e)pyrene	18.130	252	79155	47.73	ng/ml	97
35) Benzo(a)pyrene	18.247	252	71023	50.59	ng/ml	96
36) Perylene	18.445	252	85021	49.17	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.776	276	66948	45.75	ng/ml	82
39) Dibenz(a,h)anthracene	20.846	278	65774	47.83	ng/ml	82
40) Benzo(g,h,i)perylene	21.312	276	71259	45.90	ng/ml	82

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

Data Path : U:\data\2019-10\9J09031\
Data File : N10091902.D
Acq On : 09 Oct 2019 08:42 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-CCV1
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 09 14:23:24 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

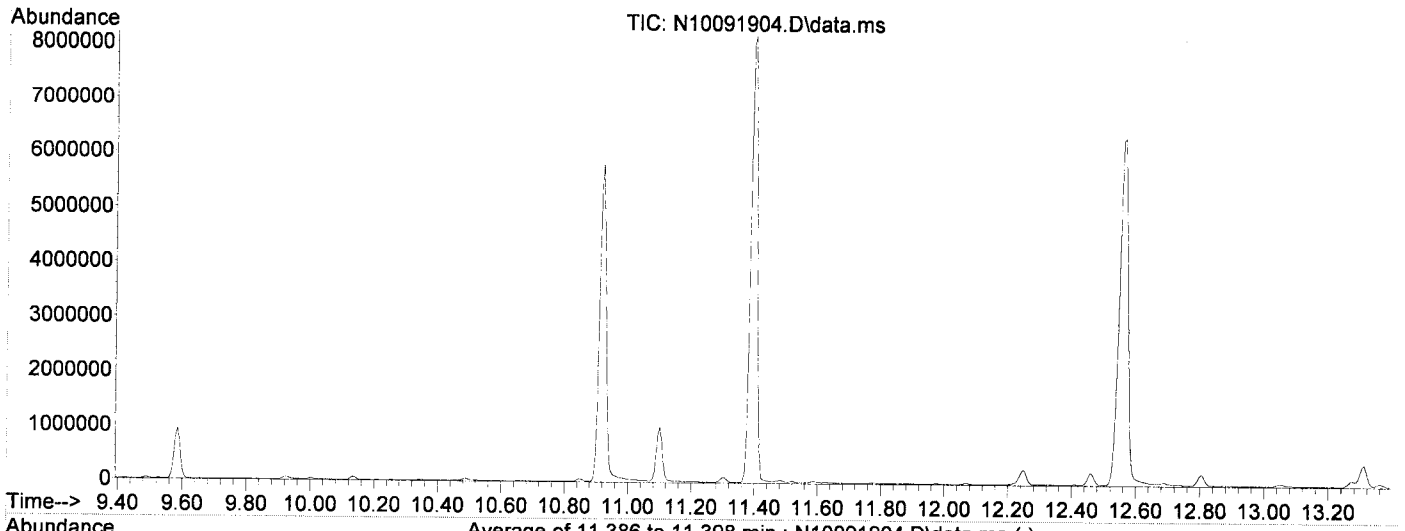


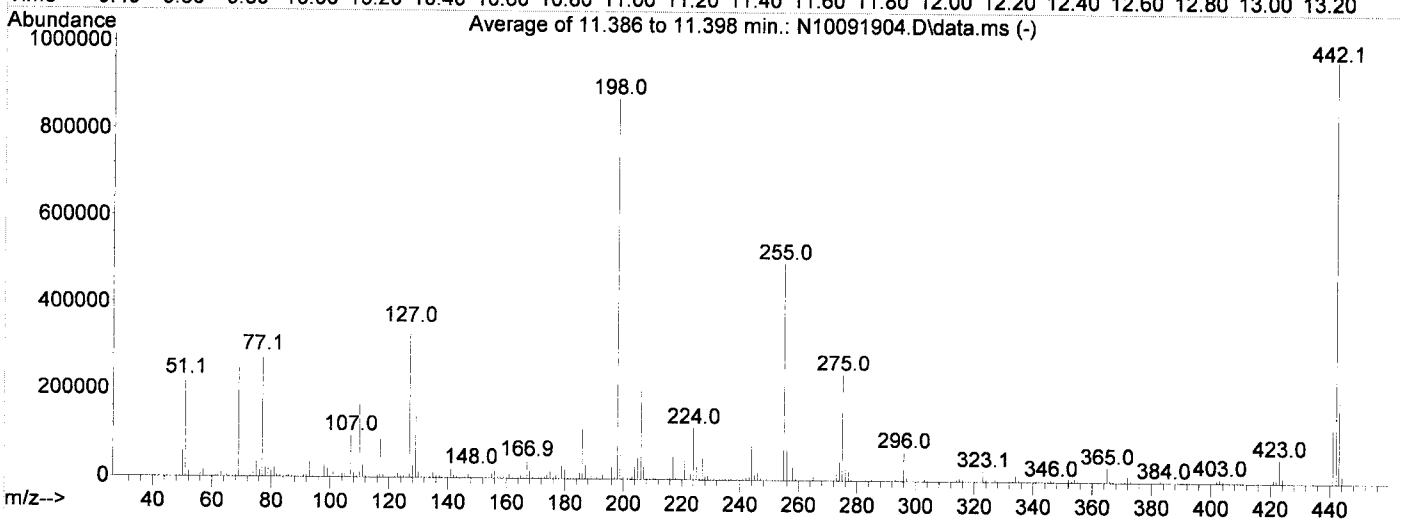
Data Path : U:\data\2019-10\9J09031\
Data File : N10091904.D
Acq On : 09 Oct 2019 10:05 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-TUN2
Misc : 1x, Replaced liner, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

AMS 10/9/19

Integration File: rteint.p

Method : U:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019





AutoFind: Scans 1217, 1218, 1219; Background Corrected with Scan 1211

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.6	3960	PASS
69	69	100	100	100.0	246506	PASS
70	69	0.00	2	0.5	1161	PASS
197	198	0.00	2	0.5	4716	PASS
198	198	100	100	100.0	871872	PASS
199	198	5	9	6.8	59200	PASS
365	198	1	100	3.7	32480	PASS
441	443	0.01	150	76.9	145019	PASS
442	198	0.10	200	110.8	965696	PASS
443	442	15	24	19.5	188616	PASS

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091904.D
Acq On : 09 Oct 2019 10:05 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-TUN2
Misc : 1x, Replaced liner, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 09 14:23:50 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

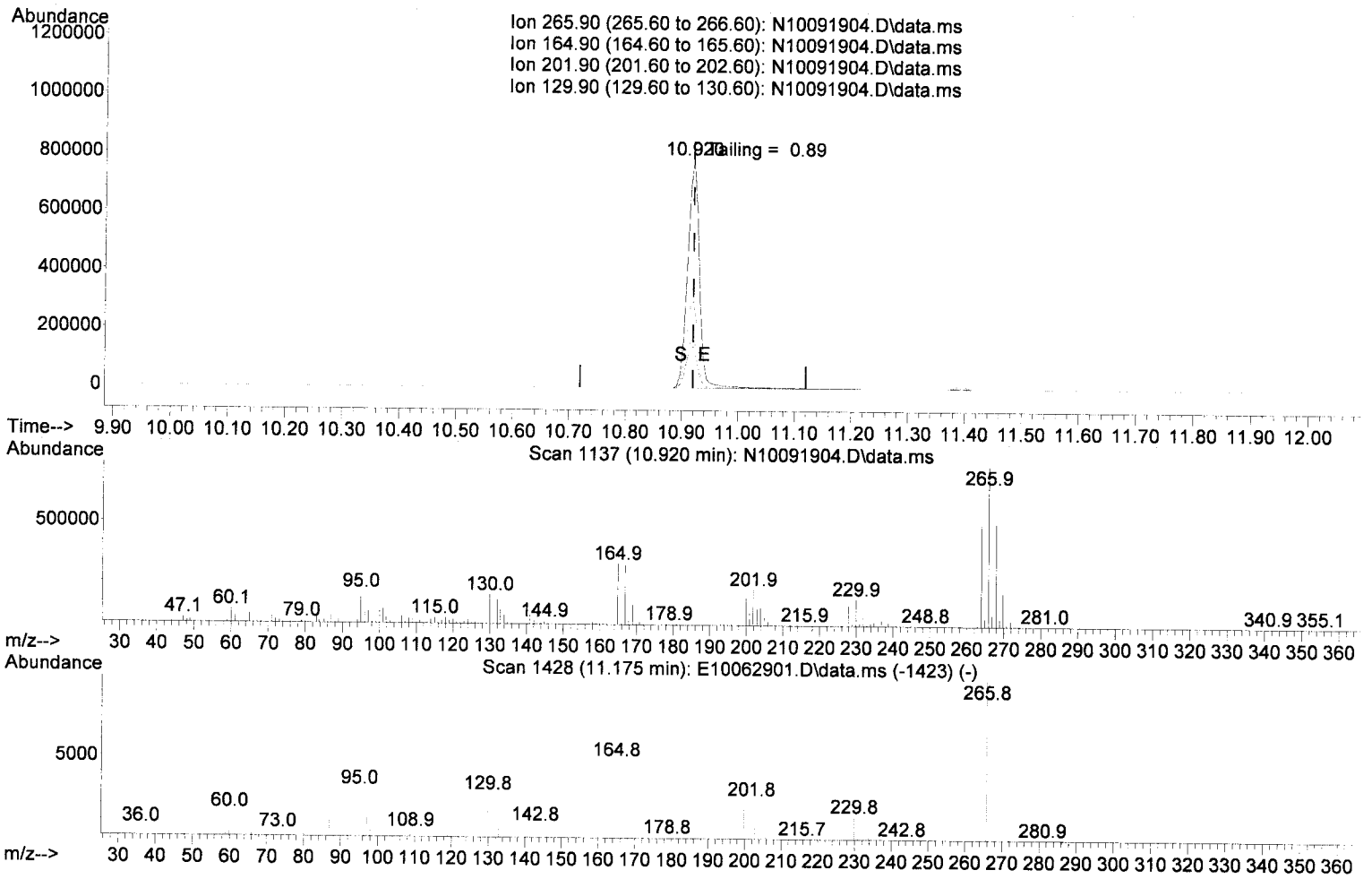
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.612	150	176592	2.00	ug/mL	0.00
2) Naphthalene-d8	7.819	136	508595	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.585	162	276132	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.101	188	514266	2.00	ug/mL	0.00
11) Chrysene-d12	14.778	240	407711	2.00	ug/mL	0.00
12) Perylene-d12	16.818	264	371590	2.00	ug/mL	-0.02
13) Dibenz(a,h)anthracene-...	18.048	292	338367	2.00	ug/mL	#-0.02
Target Compounds						Qvalue
4) Pentachlorophenol	10.920	266	1139438	43.70	ug/mL	85
6) DFTPP	11.398	442	1706560	41.11	ug/mL	78
7) Benzidine	12.564	184	5153778	28.17	ug/mL	98
8) 4,4-DDE	12.803	TIC	285222	No Calib		
9) 4,4-DDD	13.310	TIC	605571	No Calib		
10) 4,4-DDT	13.863	TIC	15854938	30.06	ug/mL	96

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091904.D
Acq On : 09 Oct 2019 10:05 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-TUN2
Misc : 1x, Replaced liner, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 09 14:23:50 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10091904.D\data.ms

(4) Pentachlorophenol

10.920min (+ 0.000) 43.70 ug/mL

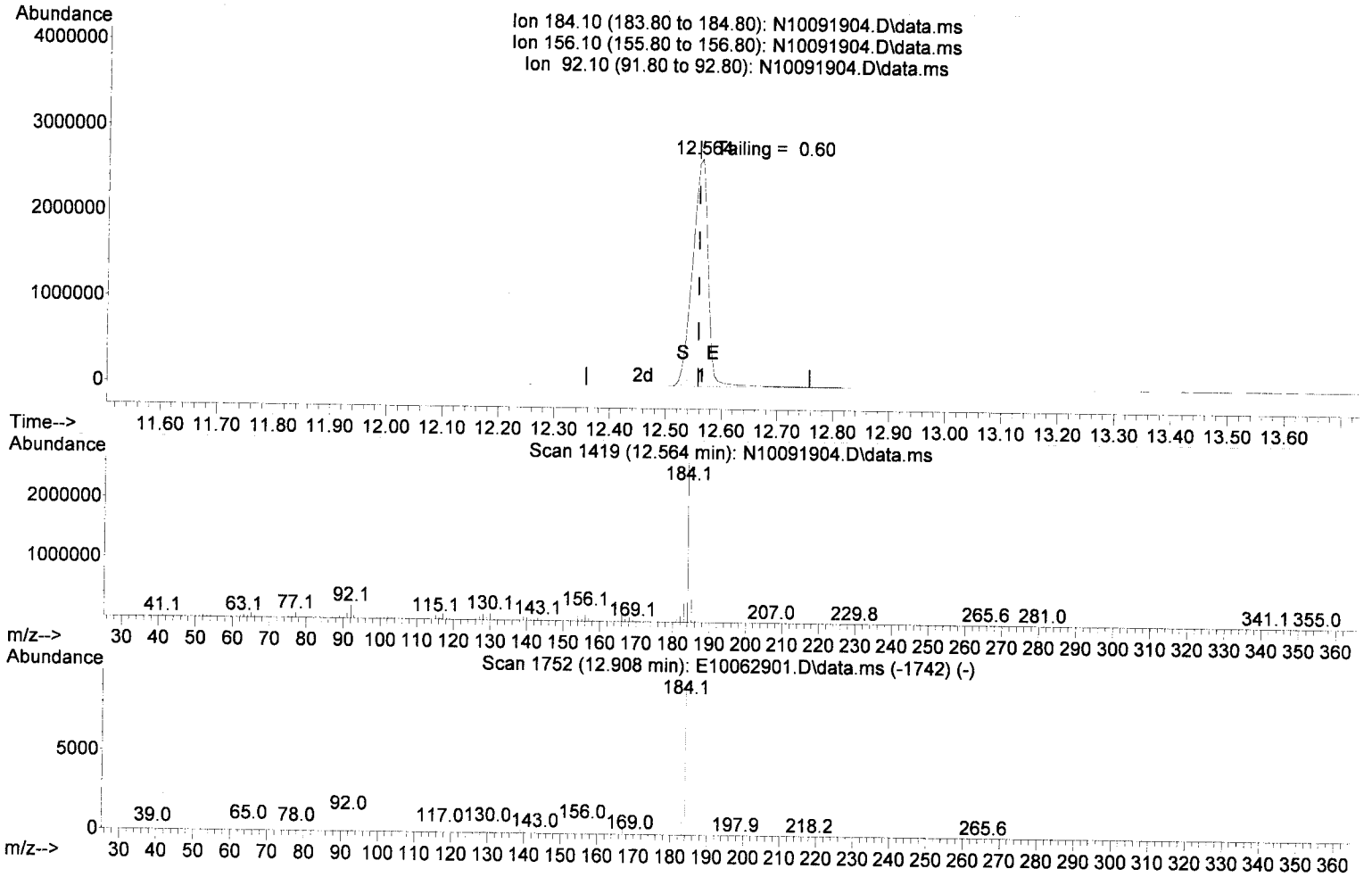
response 1139438

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	38.04
201.90	25.80	22.03
129.90	27.30	18.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091904.D
Acq On : 09 Oct 2019 10:05 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-TUN2
Misc : 1x, Replaced liner, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 09 14:23:50 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10091904.D\data.ms

(7) Benzidine

12.564min (+ 0.006) 28.17 ug/mL

response 5153778

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.12
92.10	8.20	7.96
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

From:
9J09031-TUN2
SV-GCMS14

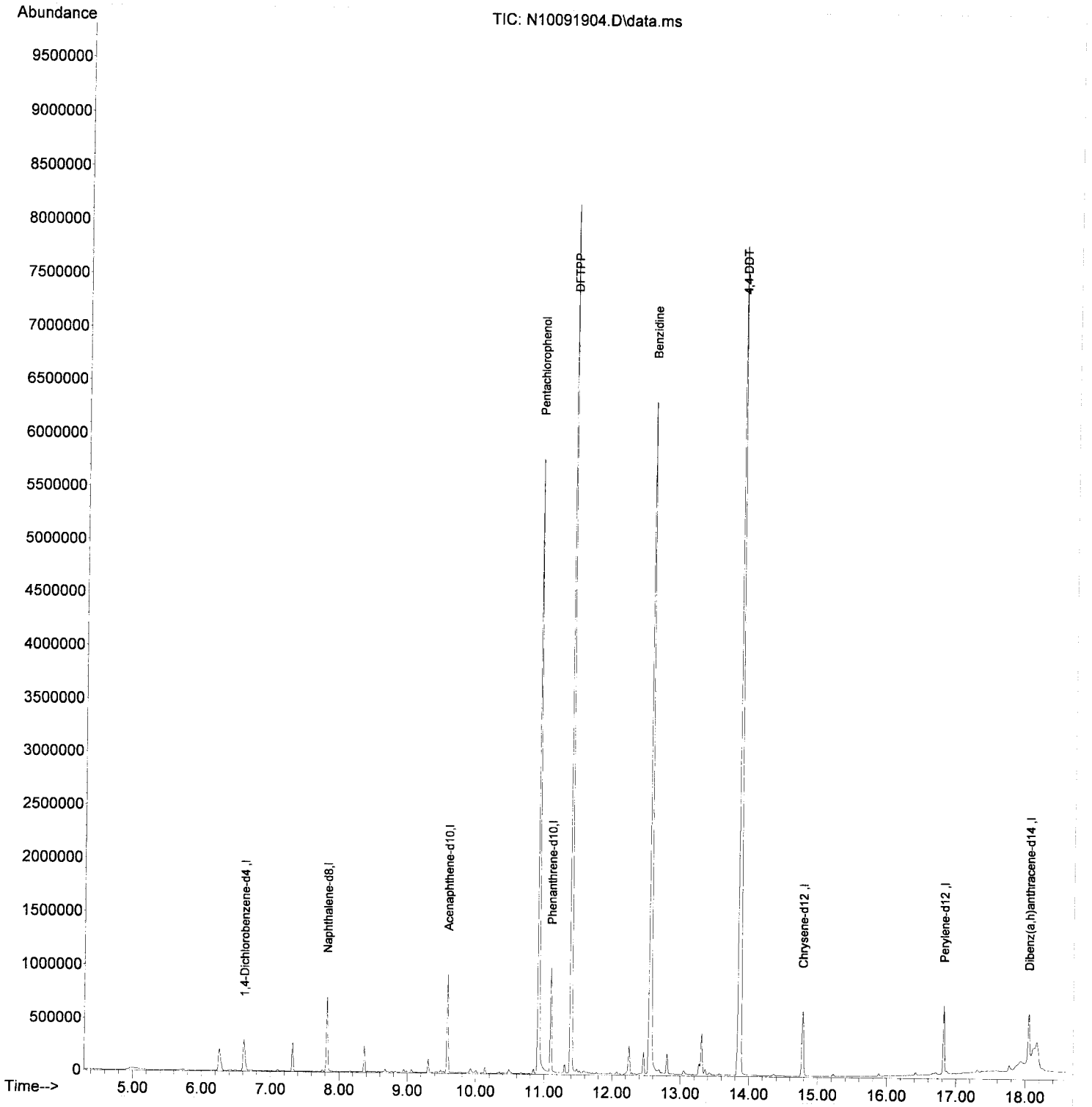
First Column Area Counts		Percent Breakdown	
DDE	285222		
DDD	605571		
DDT	15854938	**5.32**	**PASS**

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091904.D
Acq On : 09 Oct 2019 10:05 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-TUN2
Misc : 1x, Replaced liner, A19J016 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Oct 09 14:23:50 2019
Quant Method : U:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Evaluate Continuing Calibration Report

Data Path : U:\data\2019-10\9J09031\
Data File : N10091905.D
Acq On : 09 Oct 2019 10:33 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

AMS 10/9/19

Quant Time: Oct 09 14:25:31 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	139	0.00
2	S	Nitrobenzene-d5 (Surr)	50.000	48.149	3.7	138	0.00
3	T	Decalin	50.000	41.416	17.2	114	-0.01
4	T	Naphthalene	50.000	49.036	1.9	139	0.00
5	T	2-Methylnaphthalene	50.000	42.888	14.2	119	0.00
6	T	1-Methylnaphthalene	50.000	41.048	17.9	111	0.00
7	T	1,1'-Biphenyl	50.000	40.103	19.8	112	0.00
8	T	2,6-Dimethylnaphthalene	50.000	40.643	18.7	110	0.00
9	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	107	0.00
10	S	2-Fluorobiphenyl (Surr)	50.000	52.077	-4.2	112	0.00
11	S	Acenaphthylene d-8 (Surr)	50.000	47.104	5.8	102	0.00
12	T	Acenaphthylene	50.000	48.166	3.7	103	0.00
13	T	Acenaphthene	50.000	49.764	0.5	108	0.00
14	T	Dibenzofuran	50.000	51.029	-2.1	109	0.00
15	T	1,6,7-Trimethylnaphthalene	50.000	49.416	1.2	107	0.00
16	T	Fluorene	50.000	51.023	-2.0	109	0.00
17	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	107	0.00
18	T	Dibenzothiopene	50.000	49.627	0.7	108	0.00
19	T	Phenanthrene	50.000	48.659	2.7	106	0.00
20	T	Anthracene	50.000	49.332	1.3	107	0.00
21	T	Carbazole	50.000	48.405	3.2	105	0.00
22	T	1-Methylphenanthrene	50.000	50.303	-0.6	109	0.00
23	T	Fluoranthene	50.000	49.105	1.8	106	0.00
24	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	112	0.00
25	T	Pyrene	50.000	47.127	5.7	105	0.00
26	S	Terphenyl-d14 (Surr)	50.000	49.932	0.1	113	0.00
27	T	Benz(a)anthracene	50.000	46.317	7.4	110	0.00
28	T	Chrysene	50.000	47.675	4.7	109	0.00
29	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	118	0.00
30	T	Benzo(b)fluoranthene	50.000	48.910	2.2	114	0.00
31	T	Benzo(k)fluoranthene	50.000	48.582	2.8	116	0.00
32	T	Benzo(b+k)fluoranthene	100.000	97.960	2.0	116	0.00
33	S	Benzo(a)pyrene d-12 (Surr)	50.000	52.610	-5.2	123	0.00
34	T	Benzo(e)pyrene	50.000	46.706	6.6	112	0.00
35	T	Benzo(a)pyrene	50.000	51.160	-2.3	119	0.00
36	T	Perylene	50.000	49.878	0.2	117	0.01
37	I	Dibenz(a,h)Anthrcene-d14(IS	100.000	100.000	0.0	149	0.00
38	T	Indeno(1,2,3-cd)Pyrene	50.000	47.213	5.6	141	0.02
39	T	Dibenz(a,h)anthracene	50.000	48.070	3.9	145	0.01
40	T	Benzo(g,h,i)perylene	50.000	46.125	7.8	135	0.02

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

No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091905.D
Acq On : 09 Oct 2019 10:33 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

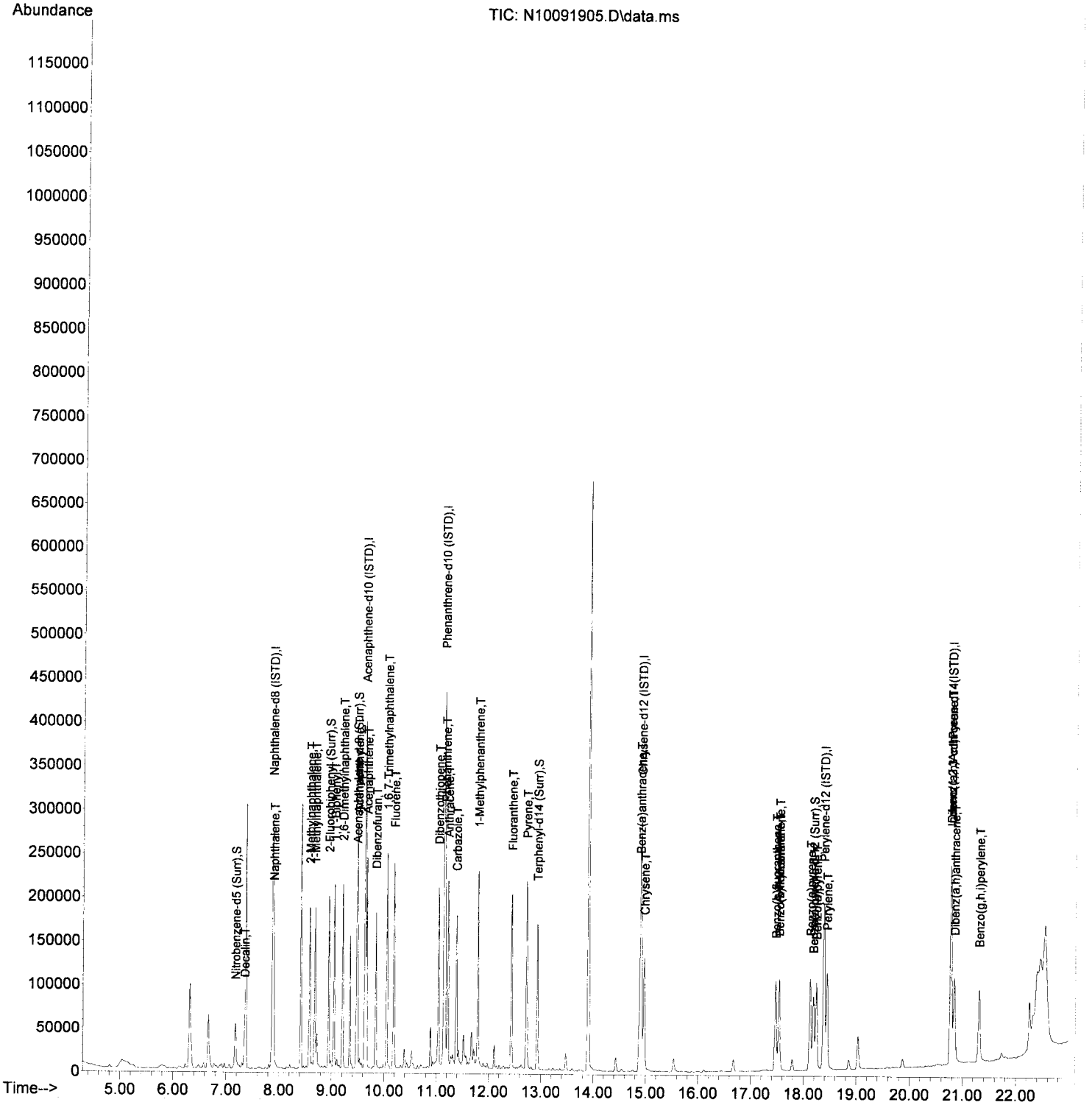
Quant Time: Oct 09 14:25:31 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	206747	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.632	162	125621	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	235020	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	190734	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	167849	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	138526	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	33079	48.15	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.944	172	97597	52.08	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	121724	47.10	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	100164	49.93	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.182	264	70618	52.61	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.353	138	6375	41.42	ng/ml	90
4) Naphthalene	7.901	128	111816	49.04	ng/ml	100
5) 2-Methylnaphthalene	8.583	142	82873	42.89	ng/ml	97
6) 1-Methylnaphthalene	8.682	142	79302	41.05	ng/ml	97
7) 1,1'-Biphenyl	9.049	154	104222	40.10	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.206	156	77139	40.64	ng/ml	98
12) Acenaphthylene	9.492	152	131359	48.17	ng/ml	99
13) Acenaphthene	9.667	153	88892	49.76	ng/ml	100
14) Dibenzofuran	9.842	168	114172	51.03	ng/ml	96
15) 1,6,7-Trimethylnaphtha...	10.051	170	74028	49.42	ng/ml	99
16) Fluorene	10.191	166	93265	51.02	ng/ml	99
18) Dibenzothiopene	11.037	184	121985	49.63	ng/ml	97
19) Phenanthrene	11.165	178	133820	48.66	ng/ml	100
20) Anthracene	11.217	178	126195	49.33	ng/ml	99
21) Carbazole	11.380	167	100194	48.41	ng/ml	99
22) 1-Methylphenanthrene	11.794	192	96100	50.30	ng/ml	98
23) Fluoranthene	12.435	202	136061	49.10	ng/ml	96
25) Pyrene	12.721	202	140434	47.13	ng/ml	99
27) Benz(a)anthracene	14.889	228	102568	46.32	ng/ml	99
28) Chrysene	14.971	228	99907	47.67	ng/ml	99
30) Benzo(b)fluoranthene	17.471	252	94728	48.91	ng/ml	94
31) Benzo(k)fluoranthene	17.535	252	92642	48.58	ng/ml	94
32) Benzo(b+k)fluoranthene	17.535	252	194064	97.96	ng/ml	94
34) Benzo(e)pyrene	18.124	252	91469	46.71	ng/ml	97
35) Benzo(a)pyrene	18.241	252	84810	51.16	ng/ml	97
36) Perylene	18.445	252	101840	49.88	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.776	276	80661	47.21	ng/ml	81
39) Dibenz(a,h)anthracene	20.840	278	77168	48.07	ng/ml	85
40) Benzo(g,h,i)perylene	21.312	276	83594	46.12	ng/ml	81

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

Data Path : U:\data\2019-10\9J09031\
Data File : N10091905.D
Acq On : 09 Oct 2019 10:33 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-CCV2
Misc : 1x, A19I020@50
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 09 14:25:31 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091906.D
Acq On : 09 Oct 2019 11:05 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

AMS 10/9/19

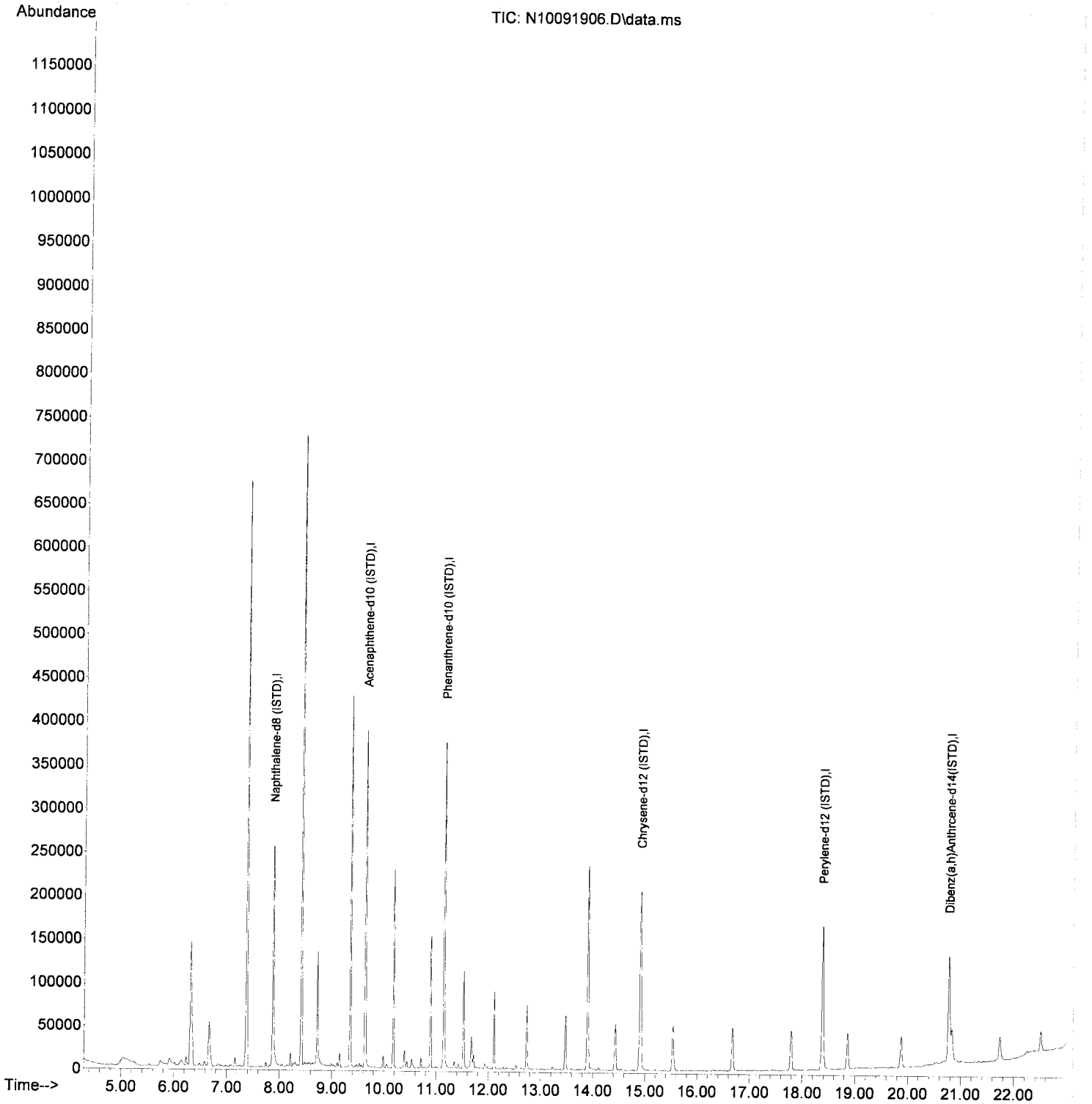
Quant Time: Oct 09 14:25:56 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.877	136	205914	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	123345	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	216729	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	165104	100.00 ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	146553	100.00 ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	124942	100.00 ng/ml	0.00
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.166	82	85	0.12 ng/ml	-0.02
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00 ng/ml	
11) Acenaphthylene d-8 (Surr)	9.480	160	1928	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	69	0.04 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00 ng/ml	
Target Compounds					Qvalue
3) Decalin	0.000		0	N.D.	
4) Naphthalene	7.907	128	413	N.D.	
5) 2-Methylnaphthalene	0.000		0	N.D.	
6) 1-Methylnaphthalene	8.688	142	54	N.D.	
7) 1,1'-Biphenyl	9.055	154	148	N.D.	
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.	
12) Acenaphthylene	9.492	152	73	N.D.	
13) Acenaphthene	0.000		0	N.D.	
14) Dibenzofuran	0.000		0	N.D.	
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.	
16) Fluorene	10.191	166	106	N.D.	
18) Dibenzothiopene	0.000		0	N.D.	
19) Phenanthrene	11.165	178	381	N.D.	
20) Anthracene	11.217	178	120	N.D.	
21) Carbazole	11.392	167	144	N.D.	
22) 1-Methylphenanthrene	0.000		0	N.D.	
23) Fluoranthene	12.435	202	190	N.D.	
25) Pyrene	12.727	202	183	N.D.	
27) Benz(a)anthracene	14.907	228	642	N.D.	
28) Chrysene	14.965	228	213	N.D.	
30) Benzo(b)fluoranthene	17.477	252	243	N.D.	
31) Benzo(k)fluoranthene	17.541	252	240	N.D.	
32) Benzo(b+k)fluoranthene	17.477	252	482	N.D.	
34) Benzo(e)pyrene	18.241	252	186	N.D.	
35) Benzo(a)pyrene	18.241	252	186	N.D.	
36) Perylene	18.386	252	481	N.D.	
38) Indeno(1,2,3-cd)Pyrene	20.776	276	201	N.D.	
39) Dibenz(a,h)anthracene	20.846	278	169	N.D.	
40) Benzo(g,h,i)perylene	21.324	276	228	N.D.	

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

Data Path : U:\data\2019-10\9J09031\
Data File : N10091906.D
Acq On : 09 Oct 2019 11:05 am
Operator : JK/ AMS/ DTH
Sample : 9J09031-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 09 14:25:56 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



No Name Entered Quantitation Report (Not Reviewed)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091926.D
Acq On : 09 Oct 2019 09:45 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-19RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

AMS 10/10/19

Quant Time: Oct 10 08:39:02 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

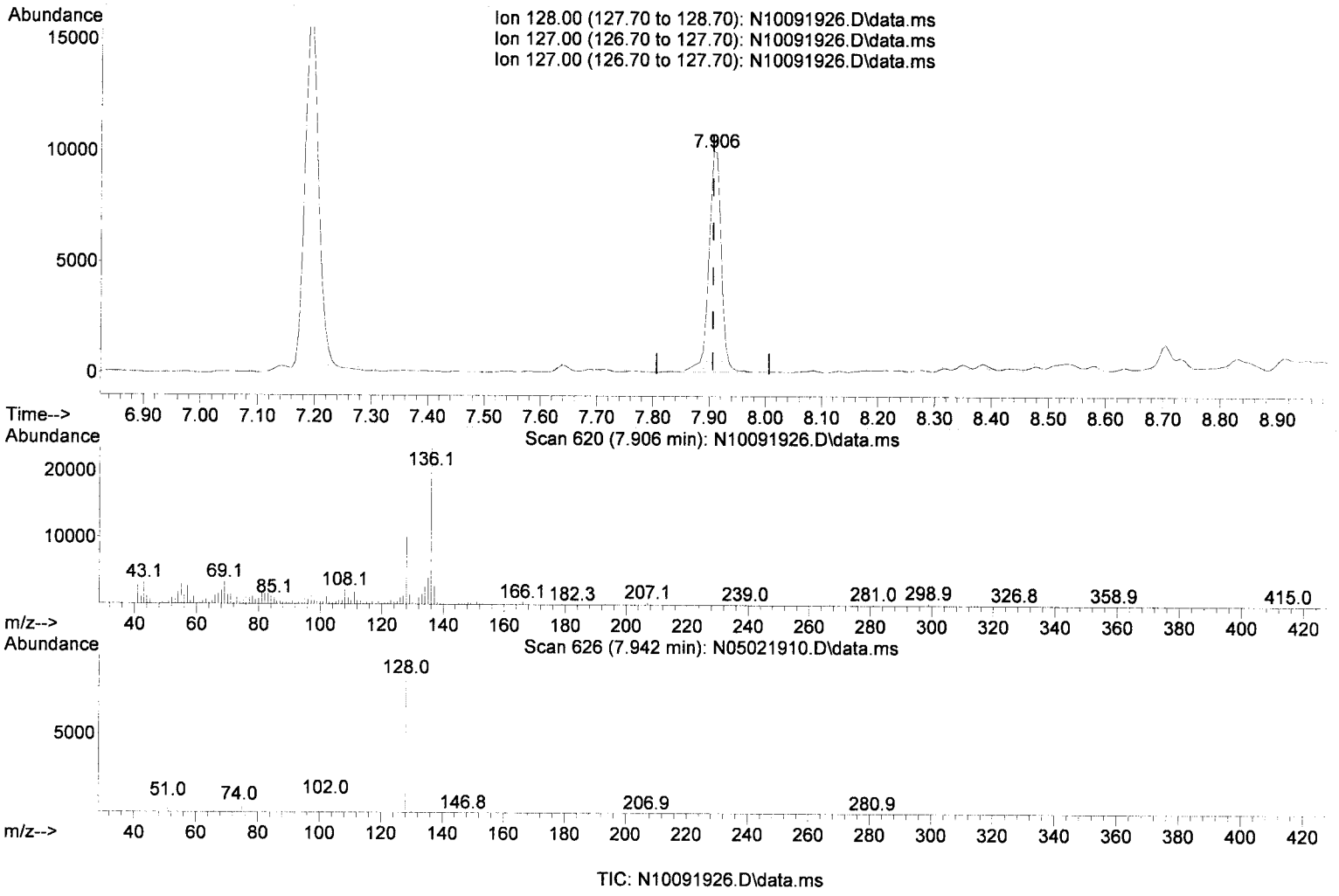
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Naphthalene-d8 (ISTD)	7.889	136	216879	100.00 ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	120270	100.00 ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.153	188	219400	100.00 ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.924	240	185664	100.00 ng/ml	0.02
29) Perylene-d12 (ISTD)	18.404	264	161160	100.00 ng/ml	0.03
37) Dibenz(a,h)Anthrcene-d...	20.794	292	134021	100.00 ng/ml	0.03
System Monitoring Compounds					
2) Nitrobenzene-d5 (Surr)	7.190	82	52611	73.00 ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	153552	85.58 ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	2516	-1.00 ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.937	244	171914	88.04 ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.217	264	63	0.05 ng/ml	0.04
Target Compounds					Qvalue
3) Decalin	7.359	138	285	1.77 ng/ml#	1
4) Naphthalene	7.906	128	15313	6.40 ng/ml	97
5) 2-Methylnaphthalene	8.594	142	3967	1.96 ng/ml	89
6) 1-Methylnaphthalene	8.693	142	4030	1.99 ng/ml#	81
7) 1,1'-Biphenyl	9.055	154	6294	2.31 ng/ml	95
8) 2,6-Dimethylnaphthalene	9.218	156	6322	3.18 ng/ml	93
12) Acenaphthylene	9.504	152	2053	0.79 ng/ml#	20
13) Acenaphthene	9.678	153	8091	4.73 ng/ml	95
14) Dibenzofuran	9.853	168	1247	0.58 ng/ml#	1
15) 1,6,7-Trimethylnaphtha...	10.063	170	6147	4.29 ng/ml	77
16) Fluorene	10.197	166	3581	2.05 ng/ml	71
18) Dibenzothiopene	11.048	184	1418	0.62 ng/ml#	1
19) Phenanthrene	11.176	178	11301	4.40 ng/ml	84
20) Anthracene	11.229	178	2110	0.88 ng/ml#	57
21) Carbazole	11.392	167	896	0.46 ng/ml#	1
22) 1-Methylphenanthrene	11.777	192	2273	1.27 ng/ml#	49
23) Fluoranthene	12.441	202	6184	2.39 ng/ml	88
25) Pyrene	12.733	202	9481	3.27 ng/ml	97
27) Benz(a)anthracene	14.901	228	2088	0.97 ng/ml	69
28) Chrysene	14.982	228	2157	1.06 ng/ml	72
30) Benzo(b)fluoranthene	17.495	252	2267	1.22 ng/ml	77
31) Benzo(k)fluoranthene	17.553	252	740	0.40 ng/ml	62
32) Benzo(b+k)fluoranthene	17.495	252	3735	1.96 ng/ml	80
34) Benzo(e)pyrene	18.142	252	4619	2.46 ng/ml	91
35) Benzo(a)pyrene	18.264	252	1518	0.95 ng/ml#	59
36) Perylene	18.462	252	214489	109.41 ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.794	276	1580	0.96 ng/ml#	20
39) Dibenz(a,h)anthracene	20.858	278	435	N.D.	
40) Benzo(g,h,i)perylene	21.330	276	1652	0.94 ng/ml#	52

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

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091926.D
Acq On : 09 Oct 2019 09:45 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-19RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 10 08:39:02 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10091926.D\data.ms

(4) Naphthalene (T)

7.906min (-0.000) 6.40 ng/ml

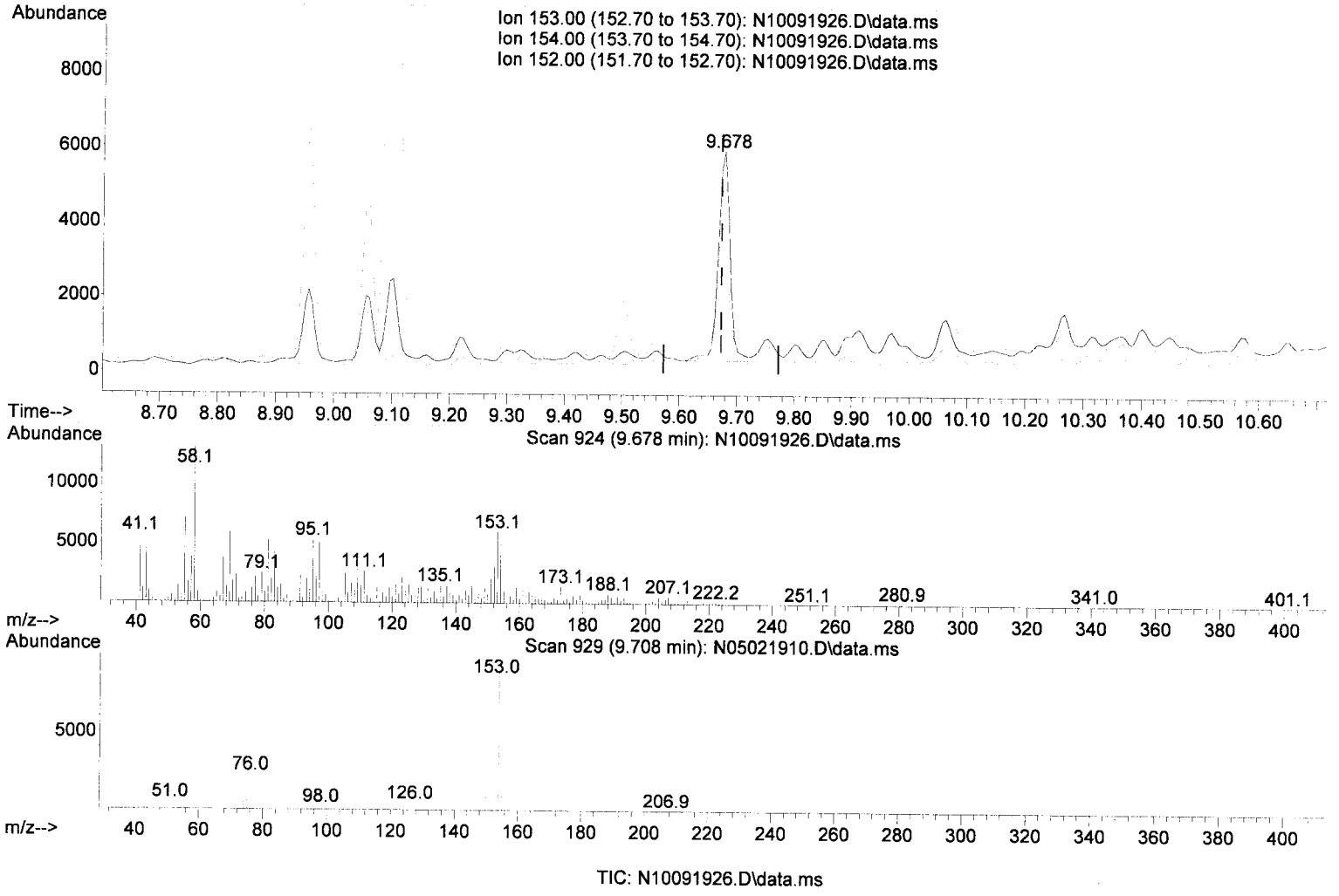
response 15313

Ion	Exp%	Act%
128.00	100.00	100.00
127.00	12.60	13.69
127.00	12.60	13.69
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091926.D
Acq On : 09 Oct 2019 09:45 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-19RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 10 08:39:02 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10091926.D\data.ms

(13) Acenaphthene (T)

9.678min (+ 0.006) 4.73 ng/ml

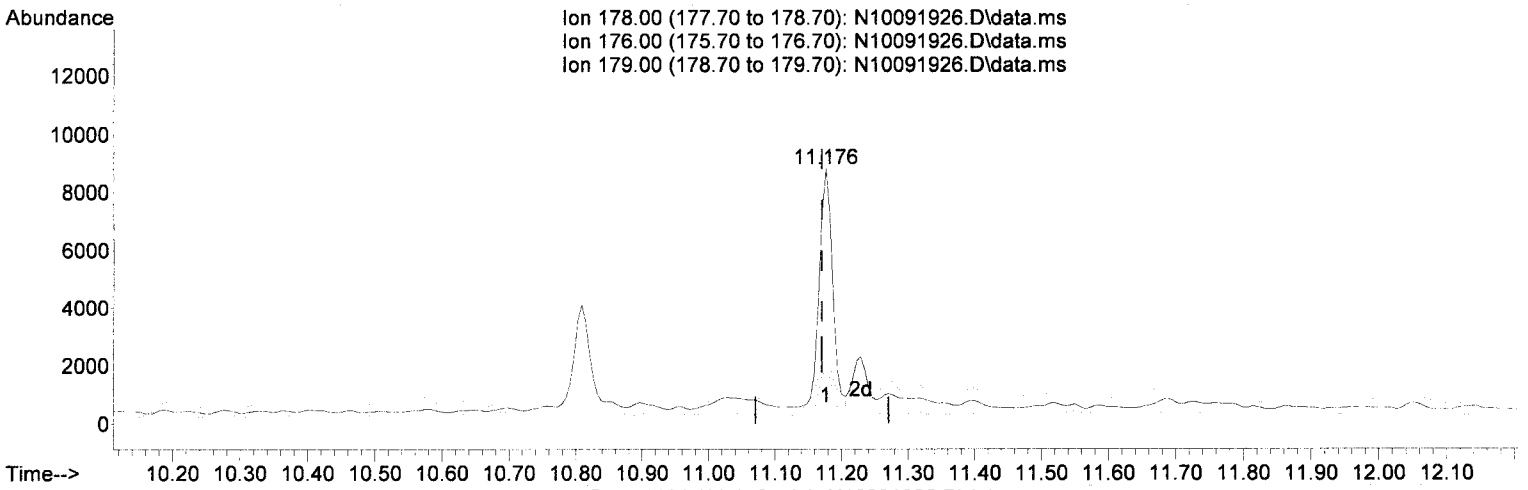
response 8091

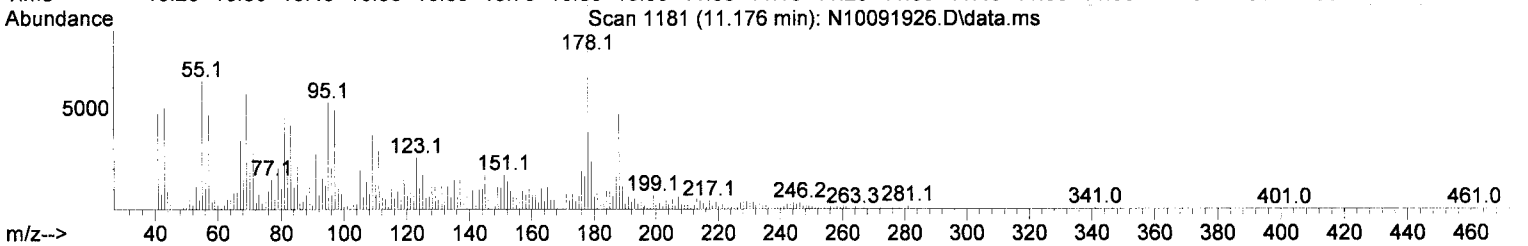
Ion	Exp%	Act%
153.00	100.00	100.00
154.00	90.70	87.24
152.00	46.80	51.96
0.00	0.00	0.00

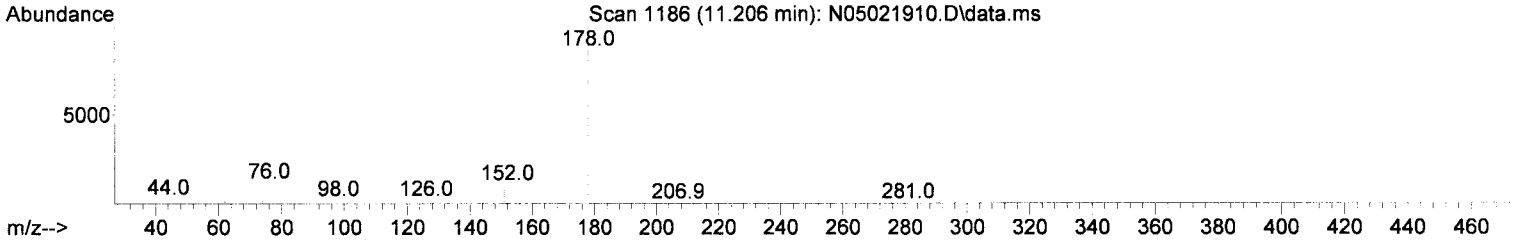
Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091926.D
Acq On : 09 Oct 2019 09:45 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-19RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 10 08:39:02 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14







TIC: N10091926.D\data.ms

(19) Phenanthrene (T)

11.176min (+ 0.006) 4.40 ng/ml

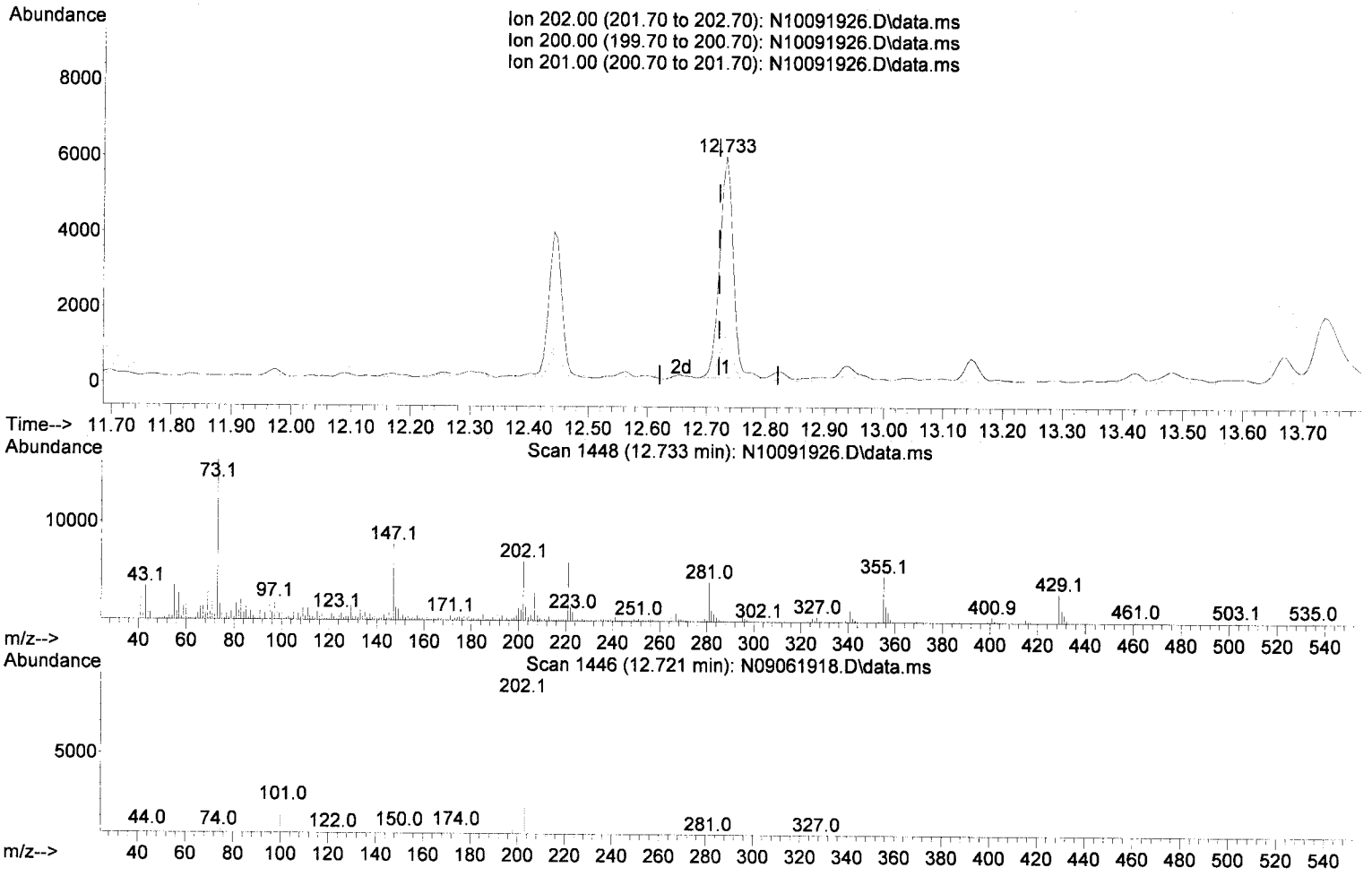
response 11301

Ion	Exp%	Act%
178.00	100.00	100.00
176.00	19.00	21.45
179.00	15.10	27.07
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : U:\data\2019-10\9J09031\
Data File : N10091926.D
Acq On : 09 Oct 2019 09:45 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-19RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 10 08:39:02 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N10091926.D\data.ms

(25) Pyrene (T)

12.733min (+ 0.012) 3.27 ng/ml

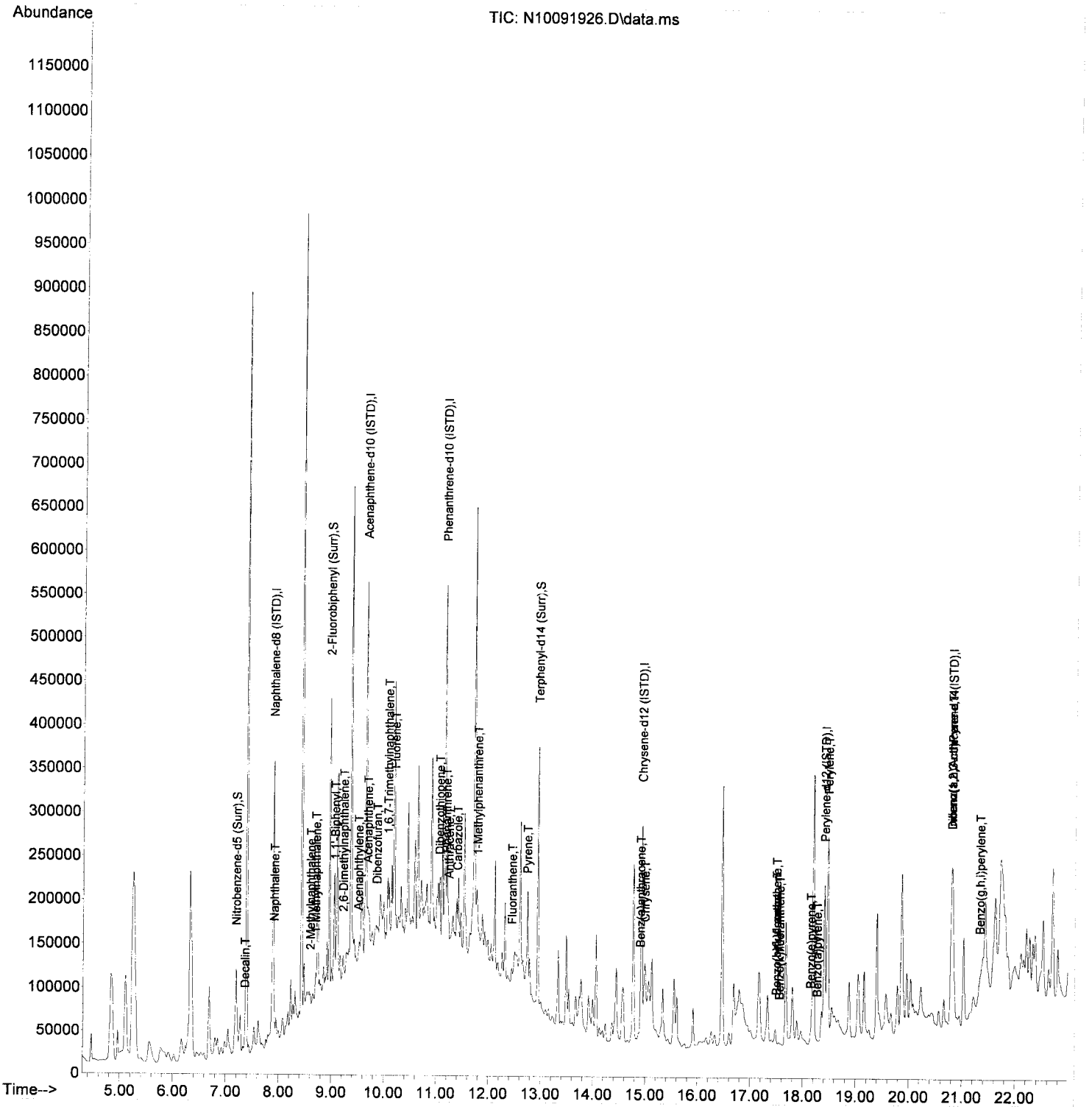
response 9481

Ion	Exp%	Act%
202.00	100.00	100.00
200.00	20.70	21.38
201.00	16.80	18.92
0.00	0.00	0.00

J

Data Path : U:\data\2019-10\9J09031\
Data File : N10091926.D
Acq On : 09 Oct 2019 09:45 pm
Operator : JK/ AMS/ DTH
Sample : A9I0922-19RE1
Misc : 1x, 8270D LL PAH ONLY
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Oct 10 08:39:02 2019
Quant Method : U:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



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

Semivolatile Organic Compounds (PAHs) by EPA 8270D
Calibration Data

Sequence 9I06028 (Cal ID A9I1001) SV-GCMS14

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9I06028	Instrument:	SV-GCMS14
Date:	09/06/19 15:37	Calibration:	A9I1001

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9I06028-TUN1	Sediment	QC	QC			A19I102	A19H414
2	9I06028-ICB1	Sediment	QC	QC			A19I102	
3	9I06028-CAL1	Sediment	QC	QC			A19I102	A19I015
4	9I06028-CAL2	Sediment	QC	QC			A19I102	A19I016
5	9I06028-CAL3	Sediment	QC	QC			A19I102	A19I017
6	9I06028-CAL4	Sediment	QC	QC			A19I102	A19I018
7	9I06028-CAL5	Sediment	QC	QC			A19I102	A19I019
8	9I06028-CAL6	Sediment	QC	QC			A19I102	A19I020
9	9I06028-CAL7	Sediment	QC	QC			A19I102	A19I021
10	9I06028-CAL8	Sediment	QC	QC			A19I102	A19I022
11	9I06028-CAL9	Sediment	QC	QC			A19I102	A19I023
12	9I06028-CALA	Sediment	QC	QC			A19I102	A19I024
13	9I06028-IBL1	Sediment	QC	QC			A19I102	
14	9I06028-ICV1	Sediment	QC	QC			A19I102	A19I025
15	9I06028-IBL2	Sediment	QC	QC			A19I102	

Data Entered By: 9/10/19

Data Reviewed By: 9/11/19

Comments:

Calibration Status Report SV-GCMS14

Method Path : N:\methods\
Method File : SV14_090619_PAH.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Sep 09 14:58:53 2019
Response Via : Initial Calibration

A9I1001
9/9/19

#	ID	Conc	ISTD Conc	Path\File
1	1.0	1	100	N:\data\2019-09\9I06028\N09061913.D
2	2.5	3	100	N:\data\2019-09\9I06028\N09061914.D
3	5.0	5	100	N:\data\2019-09\9I06028\N09061915.D
4	10.0	10	100	N:\data\2019-09\9I06028\N09061916.D
5	25.0	25	100	N:\data\2019-09\9I06028\N09061917.D
6	50.0	50	100	N:\data\2019-09\9I06028\N09061918.D
7	100	100	100	N:\data\2019-09\9I06028\N09061919.D
8	200	200	100	N:\data\2019-09\9I06028\N09061920.D
9	300	300	100	N:\data\2019-09\9I06028\N09061921.D
10	400	400	100	N:\data\2019-09\9I06028\N09061922.D

#	ID	Update Time	Quant Time	Acquisition Time
1	1.0	Sep 09 14:58 2019	Sep 09 14:46 2019	06 Sep 2019 04:51 pm
2	2.5	Sep 09 14:58 2019	Sep 09 14:46 2019	06 Sep 2019 05:23 pm
3	5.0	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 05:55 pm
4	10.0	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 06:27 pm
5	25.0	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 07:00 pm
6	50.0	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 07:32 pm
7	100	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 08:04 pm
8	200	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 08:37 pm
9	300	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 09:09 pm
10	400	Sep 09 14:58 2019	Sep 09 14:47 2019	06 Sep 2019 09:41 pm

SV14_090619_PAH.M Mon Sep 09 15:05:37 2019

Compound List Report SV-GCMS14

Method Path : N:\methods\
Method File : SV14_090619_PAH.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Sep 09 14:58:53 2019
Response Via : Initial Calibration

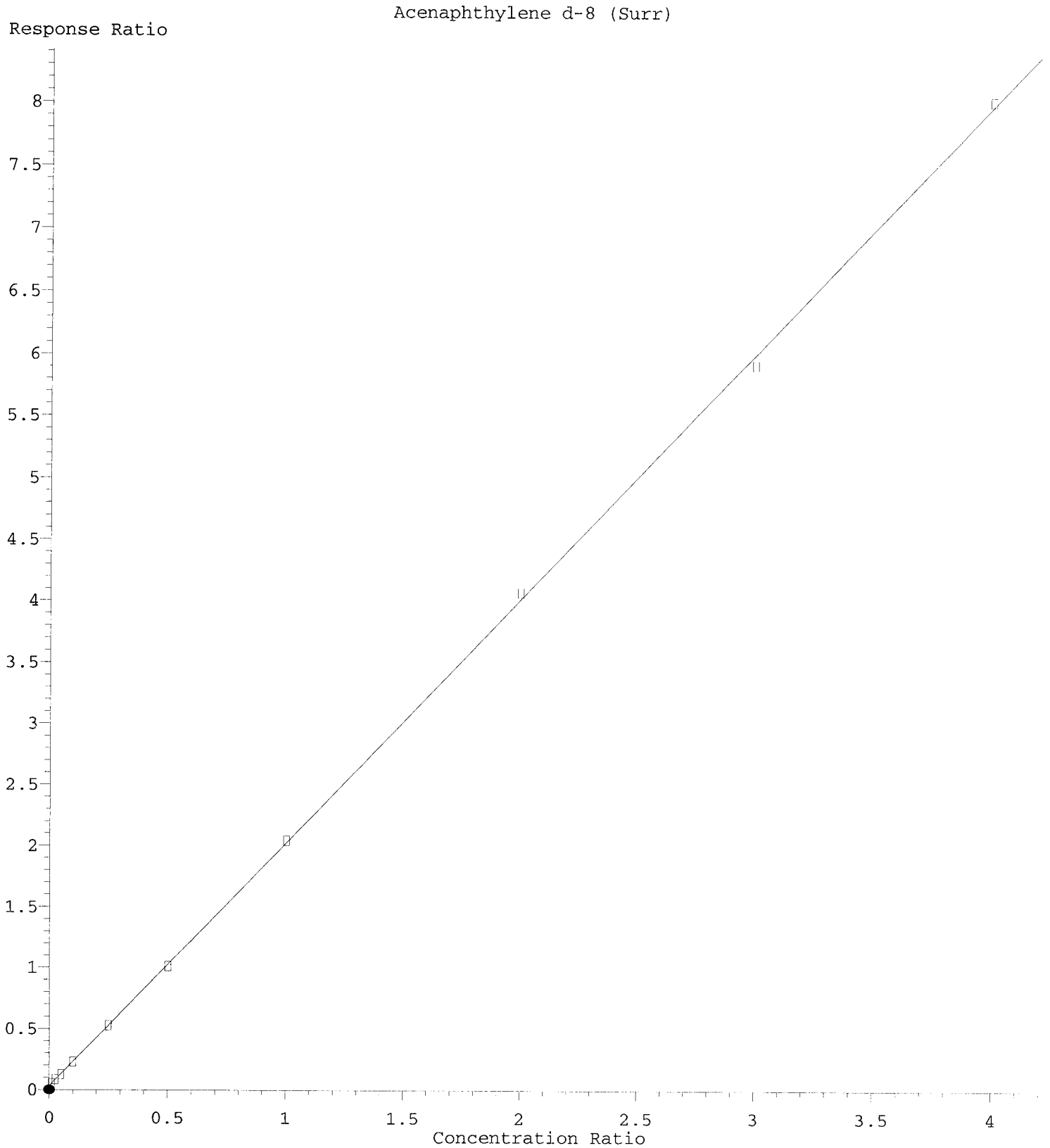
9/9/19

Total Cpnds : 40

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Naphthalene-d8 (ISTD)	136	7.883	1.000	A	2	A	B
2	S	Nitrobenzene-d5 (Surr)	82	7.184	0.911	A	1	A	R
3	T	Decalin	138	7.364	0.934	A	2	A	B
4	T	Naphthalene	128	7.907	1.003	A	2	A	R
5	T	2-Methylnaphthalene	142	8.589	1.089	A	2	A	R
6	T	1-Methylnaphthalene	142	8.688	1.102	A	2	A	R
7	T	1,1'-Biphenyl	154	9.055	1.149	A	2	A	B
8	T	2,6-Dimethylnaphthalene	156	9.212	1.169	A	2	A	R
9	I	Acenaphthene-d10 (ISTD)	162	9.638	1.000	A	2	A	R
10	S	2-Fluorobiphenyl (Surr)	172	8.950	0.929	A	2	A	R
11	S	Acenaphthylene d-8 (Surr)	160	9.480	0.984	Q	2	A	R
12	T	Acenaphthylene	152	9.498	0.985	A	2	A	R
13	T	Acenaphthene	153	9.673	1.004	A	2	A	R
14	T	Dibenzofuran	168	9.848	1.022	A	2	A	R
15	T	1,6,7-Trimethylnaphthalene	170	10.057	1.044	A	2	A	R
16	T	Fluorene	166	10.191	1.057	A	2	A	R
17	I	Phenanthrene-d10 (ISTD)	188	11.147	1.000	A	2	A	R
18	T	Dibenzothiopene	184	11.042	0.991	A	3	A	R
19	T	Phenanthrene	178	11.171	1.002	A	2	A	R
20	T	Anthracene	178	11.223	1.007	A	2	A	R
21	T	Carbazole	167	11.390	1.022	A	2	A	R
22	T	1-Methylphenanthrene	192	11.794	1.058	A	2	A	R
23	T	Fluoranthene	202	12.435	1.116	A	2	A	R
24	I	Chrysene-d12 (ISTD)	240	14.906	1.000	A	2	A	R
25	T	Pyrene	202	12.721	0.853	A	2	A	R
26	S	Terphenyl-d14 (Surr)	244	12.930	0.867	A	2	A	R
27	T	Benz(a)anthracene	228	14.883	0.998	A	2	A	R
28	T	Chrysene	228	14.965	1.004	A	2	A	R
29	I	Perylene-d12 (ISTD)	264	18.374	1.000	A	2	A	R
30	T	Benzo(b)fluoranthene	252	17.465	0.951	A	2	A	R
31	T	Benzo(k)fluoranthene	252	17.529	0.954	A	2	A	R
32	T	Benzo(b+k)fluoranthene	252	17.529	0.954	A	2	A	R
33	S	Benzo(a)pyrene d-12 (Surr)	264	18.176	0.989	A	2	A	B
34	T	Benzo(e)pyrene	252	18.118	0.986	A	2	A	R
35	T	Benzo(a)pyrene	252	18.234	0.992	A	2	A	R
36	T	Perylene	252	18.433	1.003	A	2	A	R
37	I	Dibenz(a,h)Anthrcene-d14(ISTD)	292	20.764	1.000	A	2	A	R
38	T	Indeno(1,2,3-cd)Pyrene	276	20.758	1.000	A	2	A	R
39	T	Dibenz(a,h)anthracene	278	20.828	1.003	A	2	A	R
40	T	Benzo(g,h,i)perylene	276	21.294	1.026	A	2	A	R

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

SV14_090619_PAH.M Mon Sep 09 15:05:30 2019

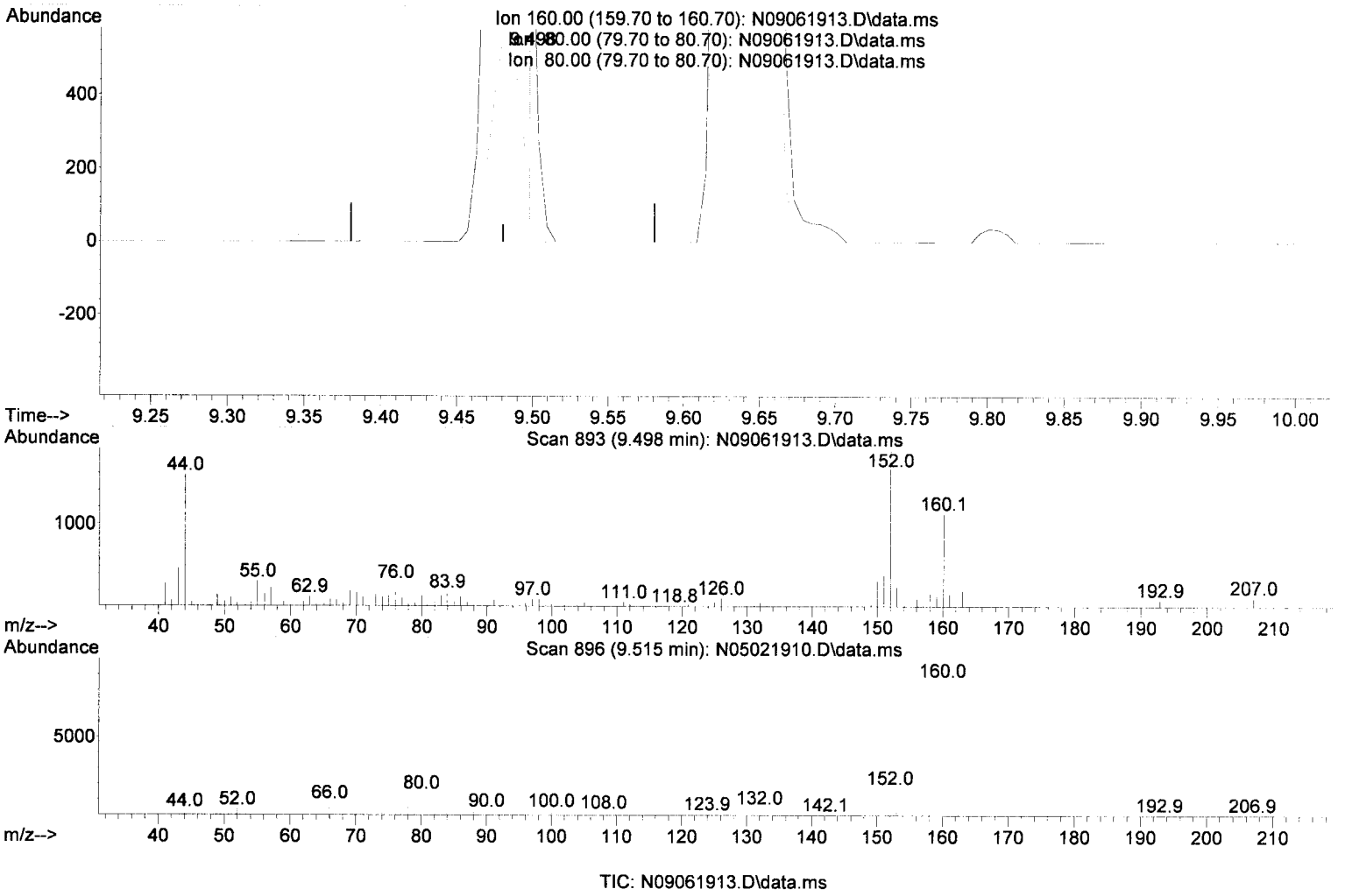


R = -2.27e-003 A*A + 2.00e+000 A + 2.92e-002
Coef of Det (r^2) = 0.999 Curve Fit: Quadratic w(1/a^2)
Method Name: N:\methods\SV14_090619_PAH.M_
Calibration Table Last Updated: Mon Sep 09 15:00:15 2019

Quantitation Report (Qedit)

Data Path : N:\data\2019-09\9I06028\REQUANT\
Data File : N09061913.D
Acq On : 06 Sep 2019 04:51 pm
Operator :
Sample : 9I06028-CAL1
Misc : 1x, A19I015@1
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 15:06:04 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N09061913.D\data.ms

(11) Acenaphthylene d-8 (Surr) (S)

9.498min (+ 0.017) -1.00 ng/ml m

response 111

Ion	Exp%	Act%
160.00	100.00	100.00
80.00	14.40	12.44
80.00	14.40	12.44
0.00	0.00	0.00

Response Factor Report SV-GCMS14

Method Path : N:\methods\
Method File : SV14_090619_PAH.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Mon Sep 09 14:58:53 2019
Response Via : Initial Calibration

9/9/19

Calibration Files
1.0 =N09061913.D 2.5 =N09061914.D 5.0 =N09061915.D 10.0=N09061916.D 25.0=N09061917.D 50.0=N09061918.D 100 =N09061919.D
200 =N09061920.D 300 =N09061921.D 400 =N09061922.D

		Compound	1.0	2.5	5.0	10.0	25.0	50.0	100	200	300	400	Avg	%RSD	
															6.52
1)	I	Naphthalene-d8 (ISTD)	----------ISTD----------												
2)	S	Nitrobenzene-d...	0.391	0.340	0.316	0.315	0.306	0.324	0.323	0.334	0.338	0.337	0.332	7.09	Not used
3)	T	Decalin		0.076	0.070	0.069	0.070	0.075	0.077	0.077	0.075	0.081	0.074	5.47	Not used
4)	T	Naphthalene	1.158	1.135	1.098	1.123	1.090	1.083	1.082	1.092	1.078	1.090	1.103	2.42	✓
5)	T	2-Methylnaphth...	0.893	0.907	0.881	0.886	0.895	0.941	0.965	1.001	1.001	0.975	0.935	5.16	✓
6)	T	1-Methylnaphth...	0.821	0.875	0.837	0.916	0.923	0.964	0.986	1.025	1.016	0.981	0.934	7.70	✓
7)	T	1,1'-Biphenyl	1.222	1.201	1.123	1.186	1.195	1.259	1.326	1.389	1.390	1.279	1.257	7.10	Not used
8)	T	2,6-Dimethylna...	0.823	0.850	0.815	0.851	0.892	0.943	0.994	1.034	1.033	0.946	0.918	9.12	Not used
															2.97
9)	I	Acenaphthene-d10 (...	----------ISTD----------												
10)	S	2-Fluorobiphen...	1.424	1.562	1.481	1.499	1.500	1.482	1.499	1.496	1.477	1.498	1.492	2.26	✓
11)	S	Acenaphthylene...	4.877	3.301	2.497	2.282	2.108	2.021	2.043	2.031	1.970	2.004	2.513	36.74	Not used (Surrogate)
12)	T	Acenaphthylene	2.050	2.174	2.139	2.171	2.195	2.172	2.248	2.243	2.161	2.158	2.171	2.55	✓
13)	T	Acenaphthene	1.439	1.487	1.404	1.417	1.419	1.394	1.443	1.431	1.388	1.396	1.422	2.10	✓
14)	T	Dibenzofuran	1.760	1.773	1.736	1.780	1.790	1.777	1.831	1.827	1.771	1.765	1.781	1.63	✓
15)	T	1,6,7-Trimethy...	1.249	1.207	1.173	1.178	1.169	1.168	1.213	1.212	1.178	1.178	1.193	2.23	Not used
16)	T	Fluorene	1.369	1.405	1.409	1.422	1.461	1.447	1.526	1.545	1.493	1.476	1.455	3.85	✓
															5.33
17)	I	Phenanthrene-d10 (...	----------ISTD----------												
18)	T	Dibenzothiopene	1.030	1.080	1.056	1.038	1.030	1.033	1.050	1.056	1.042	1.043	1.046	1.46	Not used
19)	T	Phenanthrene	1.287	1.194	1.137	1.165	1.154	1.152	1.158	1.178	1.134	1.143	1.170	3.85	✓
20)	T	Anthracene	1.097	1.089	1.049	1.062	1.069	1.076	1.110	1.115	1.102	1.115	1.088	2.16	✓
21)	T	Carbazole	0.872	0.830	0.810	0.818	0.866	0.871	0.905	0.945	0.940	0.950	0.881	5.99	✓
22)	T	1-Methylphenan...	0.803	0.804	0.781	0.794	0.802	0.805	0.824	0.842	0.826	0.847	0.813	2.60	Not used
23)	T	Fluoranthene	1.194	1.127	1.104	1.124	1.162	1.171	1.202	1.227	1.218	1.261	1.179	4.30	✓
															15.52
24)	I	Chrysene-d12 (ISTD)	----------ISTD----------												
25)	T	Pyrene	1.634	1.742	1.585	1.636	1.580	1.571	1.560	1.478	1.416	1.421	1.562	6.48	✓
26)	S	Terphenyl-d14 ...	1.150	1.092	1.037	1.058	1.060	1.046	1.049	1.021	0.993	1.012	1.052	4.22	✓
27)	T	Benz(a)anthracene	1.394	1.221	1.088	1.093	1.114	1.098	1.142	1.149	1.139	1.173	1.161	7.87	✓
28)	T	Chrysene	1.134	1.107	1.087	1.087	1.098	1.082	1.095	1.103	1.080	1.114	1.099	1.52	✓
															18.95
29)	I	Perylene-d12 (ISTD)	----------ISTD----------												
30)	T	Benzo(b)fluora...	1.117	1.085	1.065	1.092	1.128	1.164	1.194	1.231	1.217	1.246	1.154	5.68	✓
31)	T	Benzo(k)fluora...	1.067	1.082	1.086	1.036	1.128	1.118	1.196	1.221	1.198	1.228	1.136	6.13	✓
32)	T	Benzo(b+k)fluo...	2.224	2.236	2.233	2.230	2.344	2.357	2.457	2.518	2.473	2.532	2.361	5.36	✓
33)	S	Benzo(a)pyrene...	0.639	0.751	0.745	0.759	0.782	0.808	0.845	0.885	0.880	0.902	0.800	10.15	Not used (Surrogate)
34)	T	Benzo(e)pyrene	1.244	1.173	1.075	1.091	1.139	1.151	1.184	1.213	1.188	1.210	1.167	4.61	Not used
35)	T	Benzo(a)pyrene	0.983	0.860	0.859	0.902	0.977	1.004	1.043	1.085	1.068	1.095	0.988	9.00	✓
36)	T	Perylene	1.038	1.226	1.199	1.189	1.232	1.218	1.248	1.282	1.254	1.278	1.216	5.74	Not used

Method Path : N:\methods\
Method File : SV14_090619_PAH.M
Title : EPA 8270D: Semivolatile Organics

~~2.69~~ 2.60 9/2 9/10/19

37)	I	Dibenz(a,h)Anthrce...	----------ISTD----------										
38)	T	Indeno(1,2,3-c...	1.208	1.280	1.185	1.191	1.192	1.223	1.260	1.262	1.249	1.283	1.233	3.08
39)	T	Dibenz(a,h)ant...	1.173	1.144	1.121	1.116	1.120	1.144	1.178	1.194	1.182	1.217	1.159	3.01
40)	T	Benzo(g,h,i)pe...	1.245	1.185	1.241	1.251	1.289	1.328	1.388	1.395	1.368	1.394	1.308	5.85

(#) = Out of Range

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I06028

Analysis Included
8270D LL PAH Only (Scan)

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed
9I06028-TUN1	MS Tune	Sediment	A19H414	A19I102	9/6/2019 3:51:00PM
9I06028-ICB1	Initial Cal Blank	Sediment		A19I102	9/6/2019 4:18:00PM
9I06028-CAL1	Cal Standard	Sediment	A19I015	"	9/6/2019 4:51:00PM
9I06028-CAL2	Cal Standard	Sediment	A19I016	"	9/6/2019 5:23:00PM
9I06028-CAL3	Cal Standard	Sediment	A19I017	"	9/6/2019 5:55:00PM
9I06028-CAL4	Cal Standard	Sediment	A19I018	"	9/6/2019 6:27:00PM
9I06028-CAL5	Cal Standard	Sediment	A19I019	"	9/6/2019 7:00:00PM
9I06028-CAL6	Cal Standard	Sediment	A19I020	"	9/6/2019 7:32:00PM
9I06028-CAL7	Cal Standard	Sediment	A19I021	"	9/6/2019 8:04:00PM
9I06028-CAL8	Cal Standard	Sediment	A19I022	"	9/6/2019 8:37:00PM
9I06028-CAL9	Cal Standard	Sediment	A19I023	"	9/6/2019 9:09:00PM
9I06028-CALA	Cal Standard	Sediment	A19I024	"	9/6/2019 9:41:00PM
9I06028-ICV1	Initial Cal Check	Sediment	A19I025	"	9/6/2019 10:45:00PM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9I1001** Instrument: **SV-GCMS14**

8270D LL PAH Only (Scan) Sequence: **9I06028** Matrix: **Sediment**

9I06028-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9I06028-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

Compounds listed above have recalculated recoveries outside 70-130% of the true values, and the calibration levels are above the reporting level. If no compounds are listed, all are OK. Please see the next section for quadatic fit compounds.

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9I06028

Analytes With Quadratic Curve Fits

Qualifier	iMDL	iMRL	Spike Amt	%Difference	OK?	Raise MRL to ?
				———	☐	☐ ———

Analytes listed above have quadratic curve fits. If they are using a weighting otpion, they must be checked against the requanted curve points to determine if the recalculated results are within limits (70-130 or as specified).

ICV RECOVERIES

Calibration: **A9I1001** Instrument: **SV-GCMS14**

8270D LL PAH Only (Scan) Sequence: **9I06028** Matrix: **Sediment**

9I06028-ICV1	Inst. MRL	ICV Level	Result	%Rec.	Qual

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

Evaluate Continuing Calibration Report

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 10 10:28:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/10/19

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Naphthalene-d8 (ISTD)	100.000	100.000	0.0	123	0.00
2	S	Nitrobenzene-d5 (Surr)	50.000	46.212	7.6	116	0.00
3	T	Decalin	50.000	48.753	2.5	118	0.00
4	T	Naphthalene	50.000	49.942	0.1	125	0.00
5	T	2-Methylnaphthalene	50.000	46.827	6.3	114	0.00
6	T	1-Methylnaphthalene	50.000	47.766	4.5	113	0.00
7	T	1,1'-Biphenyl	50.000	46.341	7.3	113	0.00
8	T	2,6-Dimethylnaphthalene	50.000	45.797	8.4	109	0.00
9	I	Acenaphthene-d10 (ISTD)	100.000	100.000	0.0	106	0.00
10	S	2-Fluorobiphenyl (Surr)	50.000	49.669	0.7	106	0.00
11	S	Acenaphthylene d-8 (Surr)	50.000	49.308	1.4	106	0.00
12	T	Acenaphthylene	50.000	51.950	-3.9	110	0.00
13	T	Acenaphthene	50.000	50.335	-0.7	109	0.00
14	T	Dibenzofuran	50.000	50.914	-1.8	108	0.00
15	T	1,6,7-Trimethylnaphthalene	50.000	50.151	-0.3	109	0.00
16	T	Fluorene	50.000	50.867	-1.7	109	0.00
17	I	Phenanthrene-d10 (ISTD)	100.000	100.000	0.0	107	0.00
18	T	Dibenzothiopene	50.000	49.794	0.4	108	0.00
19	T	Phenanthrene	50.000	50.398	-0.8	110	0.00
20	T	Anthracene	50.000	51.792	-3.6	112	0.00
21	T	Carbazole	50.000	50.683	-1.4	110	-0.02
22	T	1-Methylphenanthrene	50.000	51.441	-2.9	111	0.00
23	T	Fluoranthene	50.000	50.556	-1.1	109	0.00
24	I	Chrysene-d12 (ISTD)	100.000	100.000	0.0	111	0.00
25	T	Pyrene	50.000	49.139	1.7	109	0.00
26	S	Terphenyl-d14 (Surr)	50.000	48.699	2.6	109	0.00
27	T	Benz(a)anthracene	50.000	48.477	3.0	114	0.00
28	T	Chrysene	50.000	52.375	-4.8	118	0.00
29	I	Perylene-d12 (ISTD)	100.000	100.000	0.0	114	0.00
30	T	Benzo(b)fluoranthene	50.000	50.587	-1.2	115	0.00
31	T	Benzo(k)fluoranthene	50.000	49.972	0.1	116	0.00
32	T	Benzo(b+k)fluoranthene	100.000	100.734	-0.7	115	0.00
33	S	Benzo(a)pyrene d-12 (Surr)	50.000	53.210	-6.4	120	0.00
34	T	Benzo(e)pyrene	50.000	50.277	-0.6	117	0.00
35	T	Benzo(a)pyrene	50.000	51.177	-2.4	115	0.00
36	T	Perylene	50.000	50.891	-1.8	116	0.00
37	I	Dibenz(a,h)Anthrcene-d14(IS	100.000	100.000	0.0	117	0.00
38	T	Indeno(1,2,3-cd)Pyrene	50.000	49.977	0.0	118	0.00
39	T	Dibenz(a,h)anthracene	50.000	49.339	1.3	117	0.00
40	T	Benzo(g,h,i)perylene	50.000	53.580	-7.2	123	0.00

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Sep 06 17:15:52 2019
Quant Method : N:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.613	150	163761	2.00	ug/mL	# 0.00
2) Naphthalene-d8	7.825	136	486548	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.585	162	255378	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.101	188	470705	2.00	ug/mL	0.00
11) Chrysene-d12	14.779	240	413133	2.00	ug/mL	# 0.00
12) Perylene-d12	16.830	264	372325	2.00	ug/mL	# 0.00
13) Dibenz(a,h)anthracene-...	18.060	292	295670	2.00	ug/mL	0.00
Target Compounds						Qvalue
4) Pentachlorophenol	10.920	266	1134816	47.06	ug/mL	93
6) DFTPP	11.404	442	1326743	34.91	ug/mL	90
7) Benzidine	12.558	184	4304187	25.70	ug/mL	97
8) 4,4-DDE	12.808	TIC	375170	No Calib		
9) 4,4-DDD	13.310	TIC	188617	No Calib		
10) 4,4-DDT	13.869	TIC	15944082	33.03	ug/mL	98

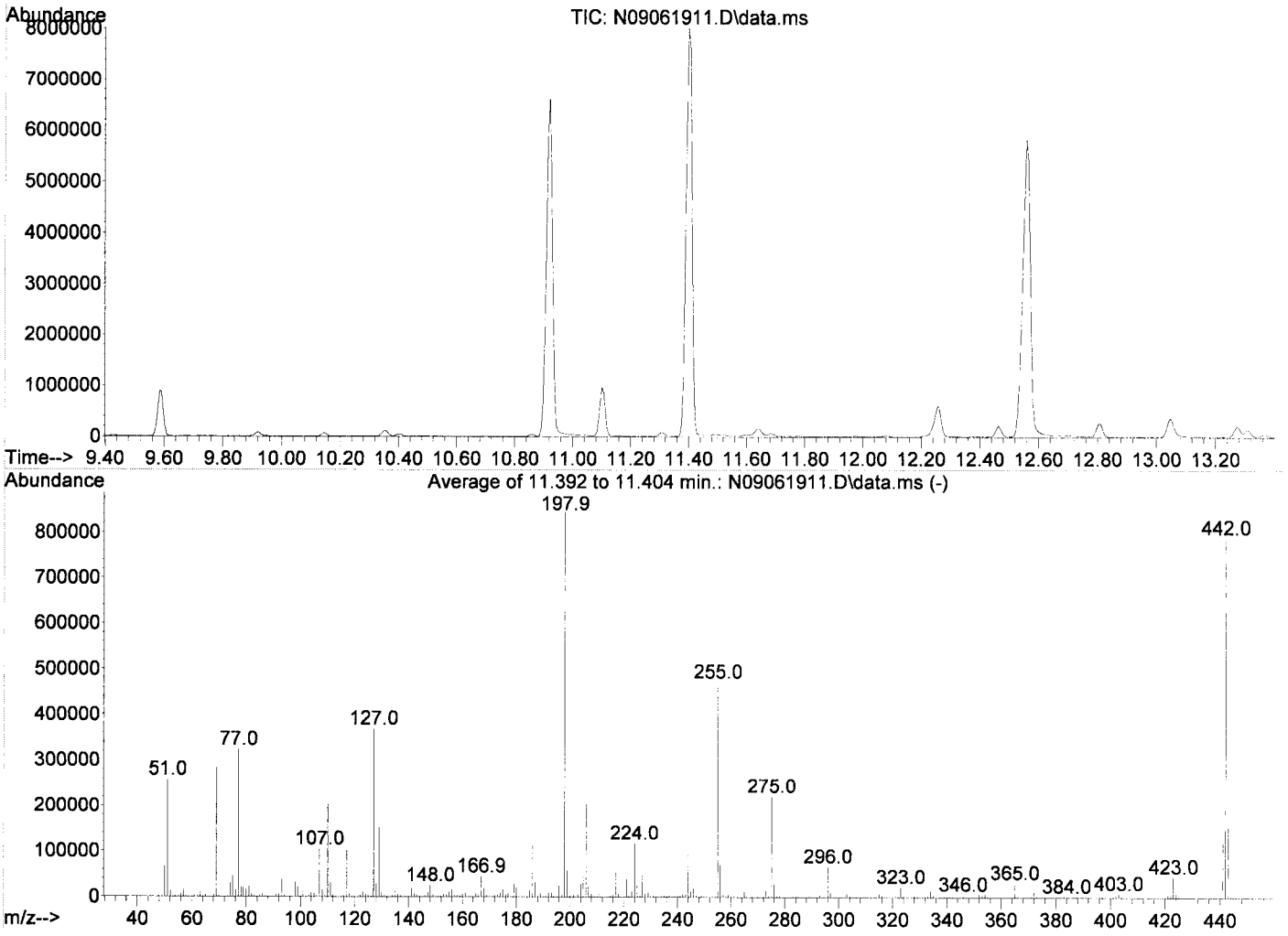
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : N:\methods\DFTPP.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Sep 05 08:50:46 2019

9/9/19



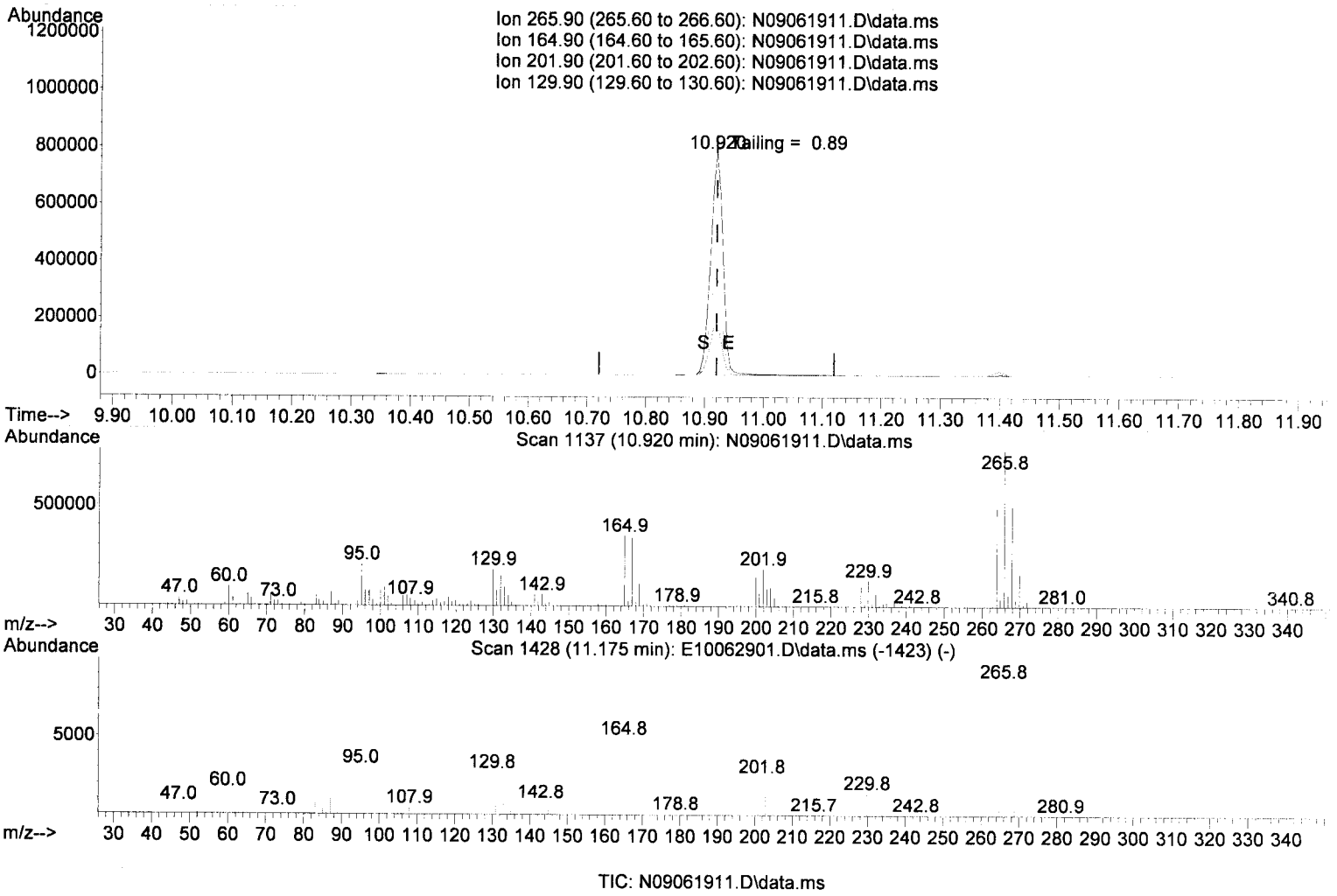
AutoFind: Scans 1218, 1219, 1220; Background Corrected with Scan 1212

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
68	69	0.00	2	1.5	4348	PASS
69	69	100	100	100.0	283608	PASS
70	69	0.00	2	0.5	1319	PASS
197	198	0.00	2	0.5	4054	PASS
198	198	100	100	100.0	845182	PASS
199	198	5	9	6.9	57976	PASS
365	198	1	100	3.6	30576	PASS
441	443	0.01	150	78.0	120320	PASS
442	198	0.10	200	93.1	787179	PASS
443	442	15	24	19.6	154213	PASS

Quantitation Report (Qedit)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Sep 06 17:15:52 2019
Quant Method : N:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N09061911.D\data.ms

(4) Pentachlorophenol

10.920min (+ 0.000) 47.06 ug/mL

response 1134816

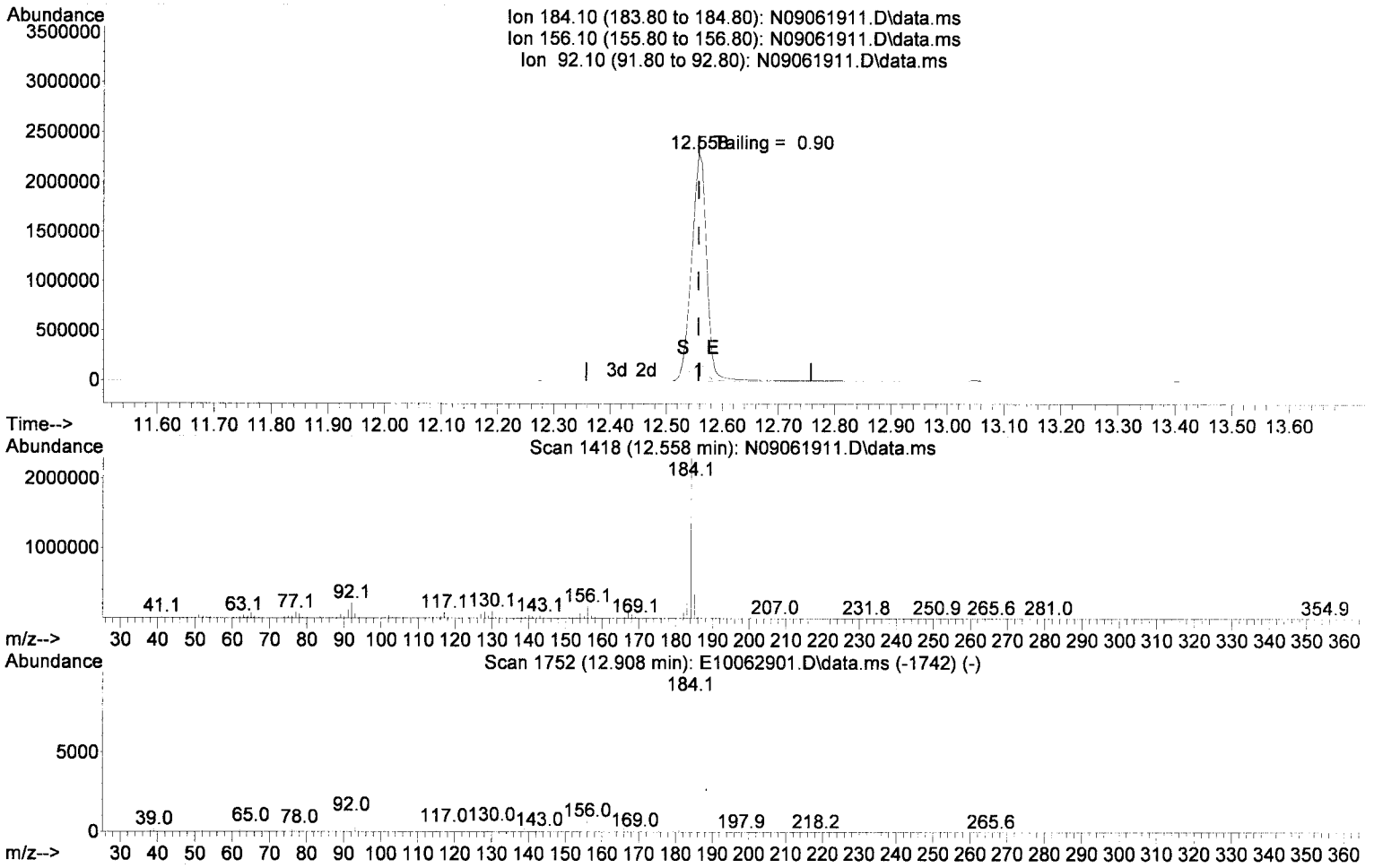
Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.60	44.95
201.90	25.80	23.85
129.90	27.30	23.19

9/9/19

Quantitation Report (Qedit)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Sep 06 17:15:52 2019
Quant Method : N:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



TIC: N09061911.D\data.ms

(7) Benzidine

12.558min (+ 0.000) 25.70 ug/mL

response 4304187

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.39
92.10	8.20	9.56
0.00	0.00	0.00

9/9/19

DDT Breakdown Check (Validated 5/1/2013)

From:
9I06028-TUN1
SV-GCMS14

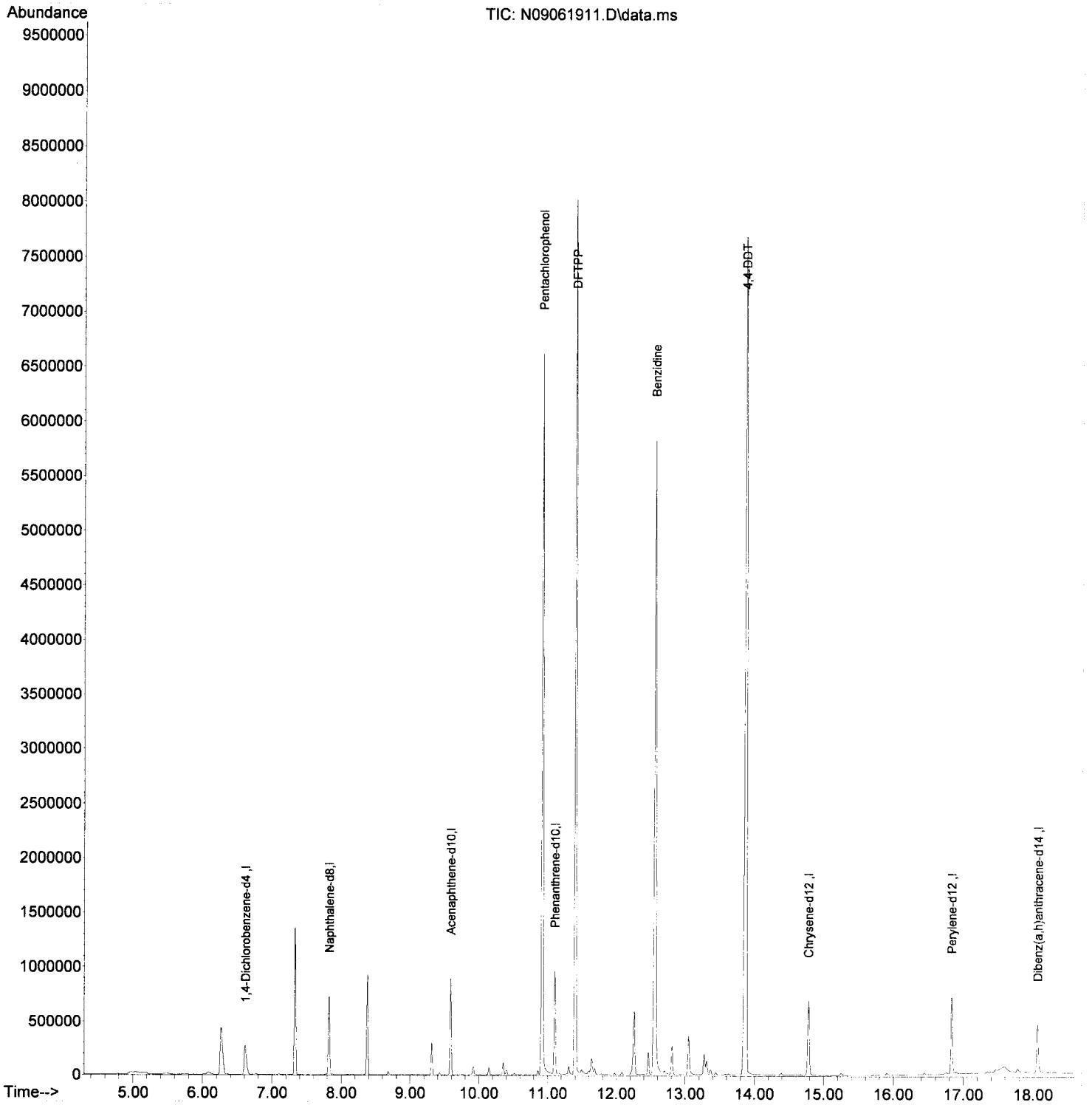
First Column	Area Counts	Percent Breakdown	
DDE	375170		
DDD	188617		
DDT	15944082	**3.42**	**PASS**

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061911.D
Acq On : 06 Sep 2019 03:51 pm
Operator :
Sample : 9I06028-TUN1
Misc : 1x, A19H414 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP.M

Quant Time: Sep 06 17:15:52 2019
Quant Method : N:\methods\DFTPP.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Sep 05 08:50:46 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061912.D
Acq On : 06 Sep 2019 04:18 pm
Operator :
Sample : 9I06028-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:43 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

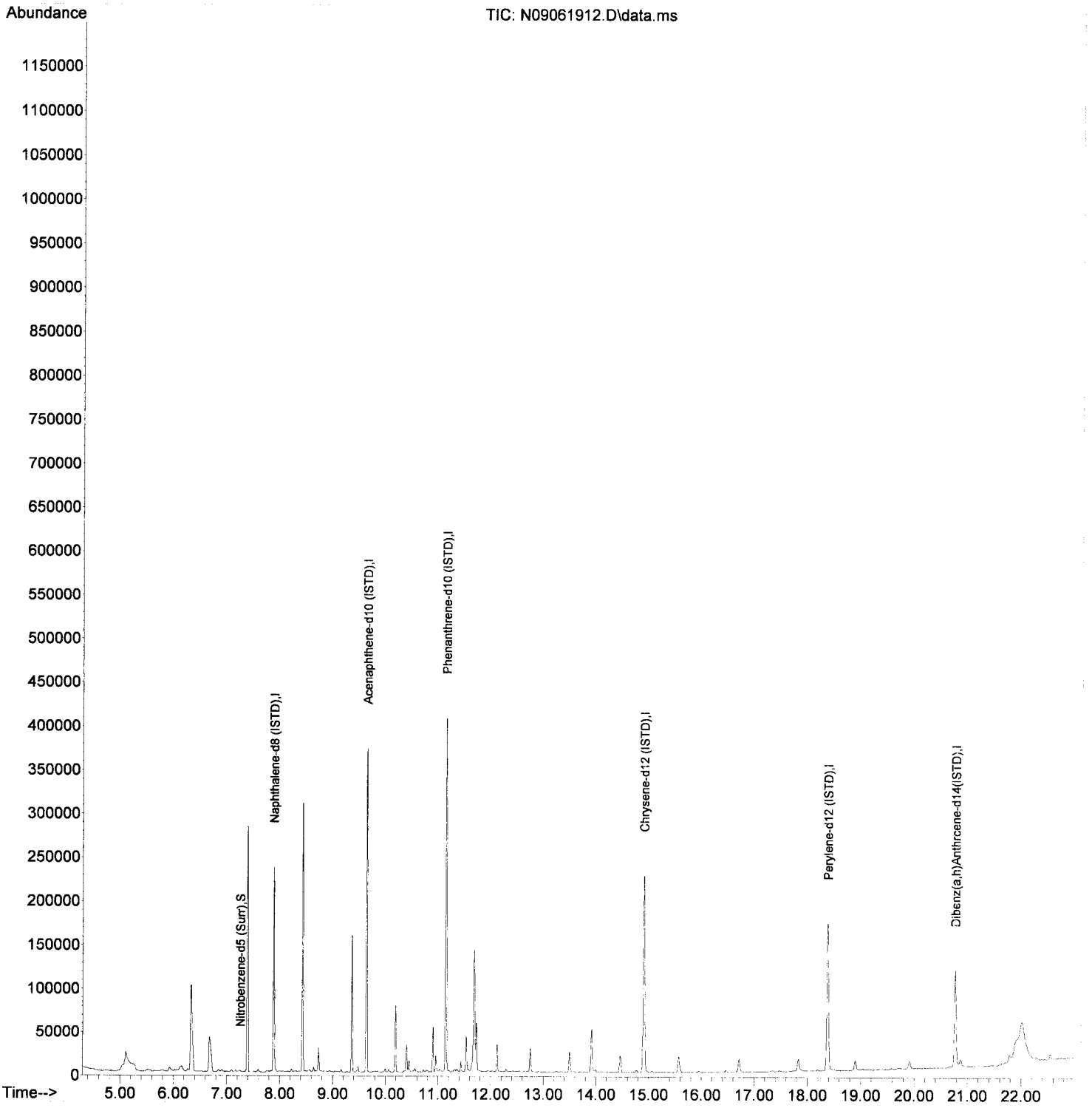
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	153621	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	109411	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	203705	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	156122	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	131660	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	95634	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.254	82	241	0.47	ng/ml	0.07
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00	ng/ml	
11) Acenaphthylene d-8 (Surr)	9.486	160	3573	0.17	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	228	0.14	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.907	128	157	N.D.		
5) 2-Methylnaphthalene	0.000		0	N.D.		
6) 1-Methylnaphthalene	0.000		0	N.D.		
7) 1,1'-Biphenyl	0.000		0	N.D.		
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.		
12) Acenaphthylene	9.498	152	86	N.D.		
13) Acenaphthene	0.000		0	N.D.		
14) Dibenzofuran	0.000		0	N.D.		
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
16) Fluorene	0.000		0	N.D.		
18) Dibenzothiopene	11.042	184	87	N.D.		
19) Phenanthrene	11.171	178	288	N.D.		
20) Anthracene	11.223	178	75	N.D.		
21) Carbazole	11.380	167	333	No Calib		
22) 1-Methylphenanthrene	11.800	192	131	N.D.		
23) Fluoranthene	12.435	202	251	N.D.		
25) Pyrene	12.727	202	195	N.D.		
27) Benz(a)anthracene	14.901	228	646	N.D.		
28) Chrysene	14.965	228	290	N.D.		
30) Benzo(b)fluoranthene	17.466	252	208	N.D.		
31) Benzo(k)fluoranthene	17.524	252	168	N.D.		
32) Benzo(b+k)fluoranthene	17.524	252	168	N.D.		
34) Benzo(e)pyrene	18.113	252	178	N.D.		
35) Benzo(a)pyrene	0.000		0	N.D.		
36) Perylene	18.439	252	178	N.D.		
38) Indeno(1,2,3-cd)Pyrene	20.770	276	158	N.D.		
39) Dibenz(a,h)anthracene	20.834	278	121	N.D.		
40) Benzo(g,h,i)perylene	21.301	276	89	N.D.		

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061912.D
Acq On : 06 Sep 2019 04:18 pm
Operator :
Sample : 9I06028-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:43 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061912.D
Acq On : 06 Sep 2019 04:18 pm
Operator :
Sample : 9I06028-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Final Reqmnt

Quant Time: Sep 10 10:28:34 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/10/19

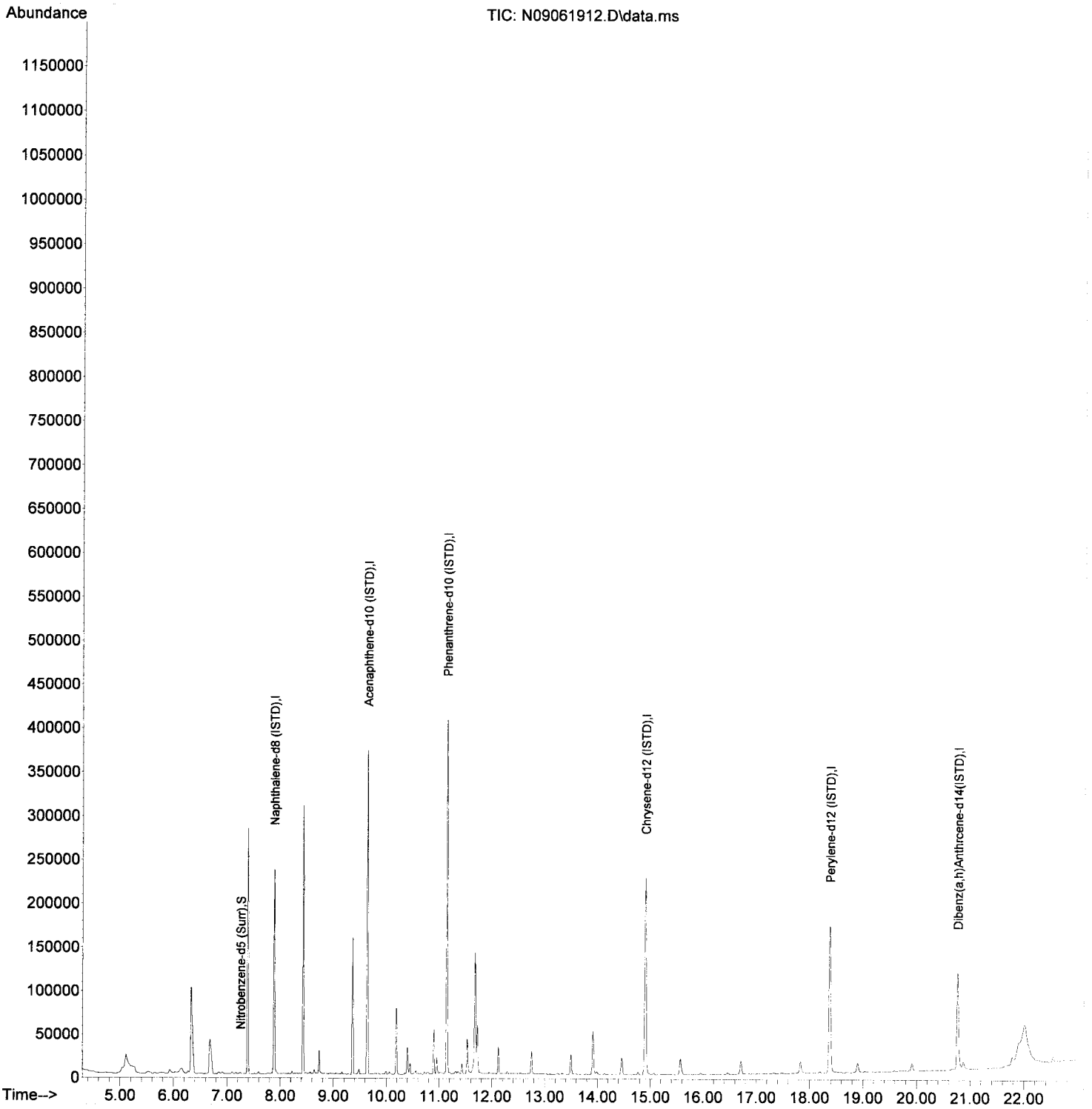
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	153621	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	109411	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	203705	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	156122	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	131660	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	95634	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.254	82	241	0.47	ng/ml	0.07
10) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00	ng/ml	
11) Acenaphthylene d-8 (Surr)	9.486	160	3573	0.17	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	228	0.14	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	0.000	264	0	0.00	ng/ml	
Target Compounds						Qvalue
3) Decalin	0.000		0	N.D.		
4) Naphthalene	7.907	128	157	N.D.		
5) 2-Methylnaphthalene	0.000		0	N.D.		
6) 1-Methylnaphthalene	0.000		0	N.D.		
7) 1,1'-Biphenyl	0.000		0	N.D.		
8) 2,6-Dimethylnaphthalene	0.000		0	N.D.		
12) Acenaphthylene	9.498	152	86	N.D.		
13) Acenaphthene	0.000		0	N.D.		
14) Dibenzofuran	0.000		0	N.D.		
15) 1,6,7-Trimethylnaphtha...	0.000		0	N.D.		
16) Fluorene	0.000		0	N.D.		
18) Dibenzothiopene	11.042	184	87	N.D.		
19) Phenanthrene	11.171	178	288	N.D.		
20) Anthracene	11.223	178	75	N.D.		
21) Carbazole	11.380	167	333	N.D.		
22) 1-Methylphenanthrene	11.800	192	131	N.D.		
23) Fluoranthene	12.435	202	251	N.D.		
25) Pyrene	12.727	202	195	N.D.		
27) Benz(a)anthracene	14.901	228	646	N.D.		
28) Chrysene	14.965	228	290	N.D.		
30) Benzo(b)fluoranthene	17.466	252	208	N.D.		
31) Benzo(k)fluoranthene	17.524	252	168	N.D.		
32) Benzo(b+k)fluoranthene	17.524	252	168	N.D.		
34) Benzo(e)pyrene	18.113	252	178	N.D.		
35) Benzo(a)pyrene	0.000		0	N.D.		
36) Perylene	18.439	252	178	N.D.		
38) Indeno(1,2,3-cd)Pyrene	20.770	276	158	N.D.		
39) Dibenz(a,h)anthracene	20.834	278	121	N.D.		
40) Benzo(g,h,i)perylene	21.301	276	89	N.D.		

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061912.D
Acq On : 06 Sep 2019 04:18 pm
Operator :
Sample : 9I06028-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 10 10:28:34 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061913.D
Acq On : 06 Sep 2019 04:51 pm
Operator :
Sample : 9I06028-CAL1
Misc : 1x, A19I015@1
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:51 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

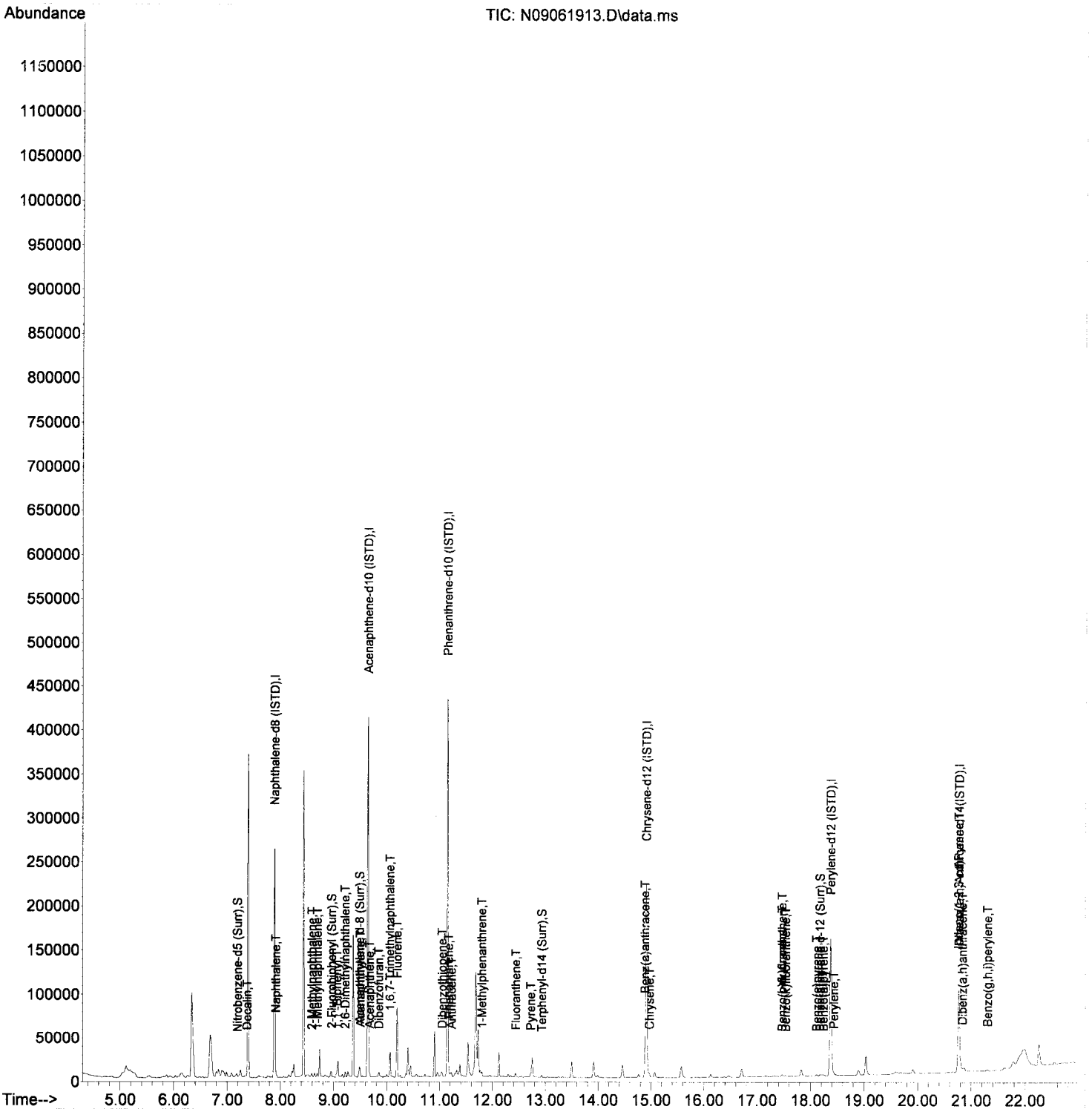
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	173610	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	119749	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	214815	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	149008	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	120943	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	80323	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.189	82	679	1.18	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	1705	0.95	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	5840	0.98	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	1714	1.09	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.176	264	773	0.80	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	87	0.67	ng/ml#	38
4) Naphthalene	7.906	128	2011	1.05	ng/ml	99
5) 2-Methylnaphthalene	8.588	142	1551	0.96	ng/ml	94
6) 1-Methylnaphthalene	8.687	142	1426	0.88	ng/ml	100
7) 1,1'-Biphenyl	9.055	154	2122	0.97	ng/ml	93
8) 2,6-Dimethylnaphthalene	9.212	156	1429	0.90	ng/ml	93
12) Acenaphthylene	9.498	152	2455	0.94	ng/ml	98
13) Acenaphthene	9.672	153	1723	1.01	ng/ml	97
14) Dibenzofuran	9.847	168	2108	0.99	ng/ml	91
15) 1,6,7-Trimethylnaphtha...	10.057	170	1496	1.05	ng/ml	75
16) Fluorene	10.197	166	1639	0.94	ng/ml	98
18) Dibenzothiopene	11.042	184	2213	0.99	ng/ml	95
19) Phenanthrene	11.170	178	2765	1.10	ng/ml	99
20) Anthracene	11.223	178	2357	1.01	ng/ml	97
21) Carbazole	11.380	167	1874	No Calib		
22) 1-Methylphenanthrene	11.794	192	1725	0.99	ng/ml	92
23) Fluoranthene	12.435	202	2565	1.01	ng/ml	98
25) Pyrene	12.721	202	2435	1.05	ng/ml	96
27) Benz(a)anthracene	14.883	228	2077	1.20	ng/ml	98
28) Chrysene	14.965	228	1690	1.03	ng/ml	96
30) Benzo(b)fluoranthene	17.465	252	1351	0.97	ng/ml	95
31) Benzo(k)fluoranthene	17.529	252	1291	0.94	ng/ml	96
32) Benzo(b+k)fluoranthene	17.465	252	2690	0.94	ng/ml	97
34) Benzo(e)pyrene	18.112	252	1505	1.07	ng/ml	94
35) Benzo(a)pyrene	18.235	252	1189	1.00	ng/ml	99
36) Perylene	18.433	252	1255	0.85	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	970	0.98	ng/ml	74
39) Dibenz(a,h)anthracene	20.828	278	942	1.01	ng/ml	86
40) Benzo(g,h,i)perylene	21.295	276	1000	0.95	ng/ml	93

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061913.D
Acq On : 06 Sep 2019 04:51 pm
Operator :
Sample : 9I06028-CAL1
Misc : 1x, A19I015@1
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:51 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061914.D
Acq On : 06 Sep 2019 05:23 pm
Operator :
Sample : 9I06028-CAL2
Misc : 1x, A19I016@2.5
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:55 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

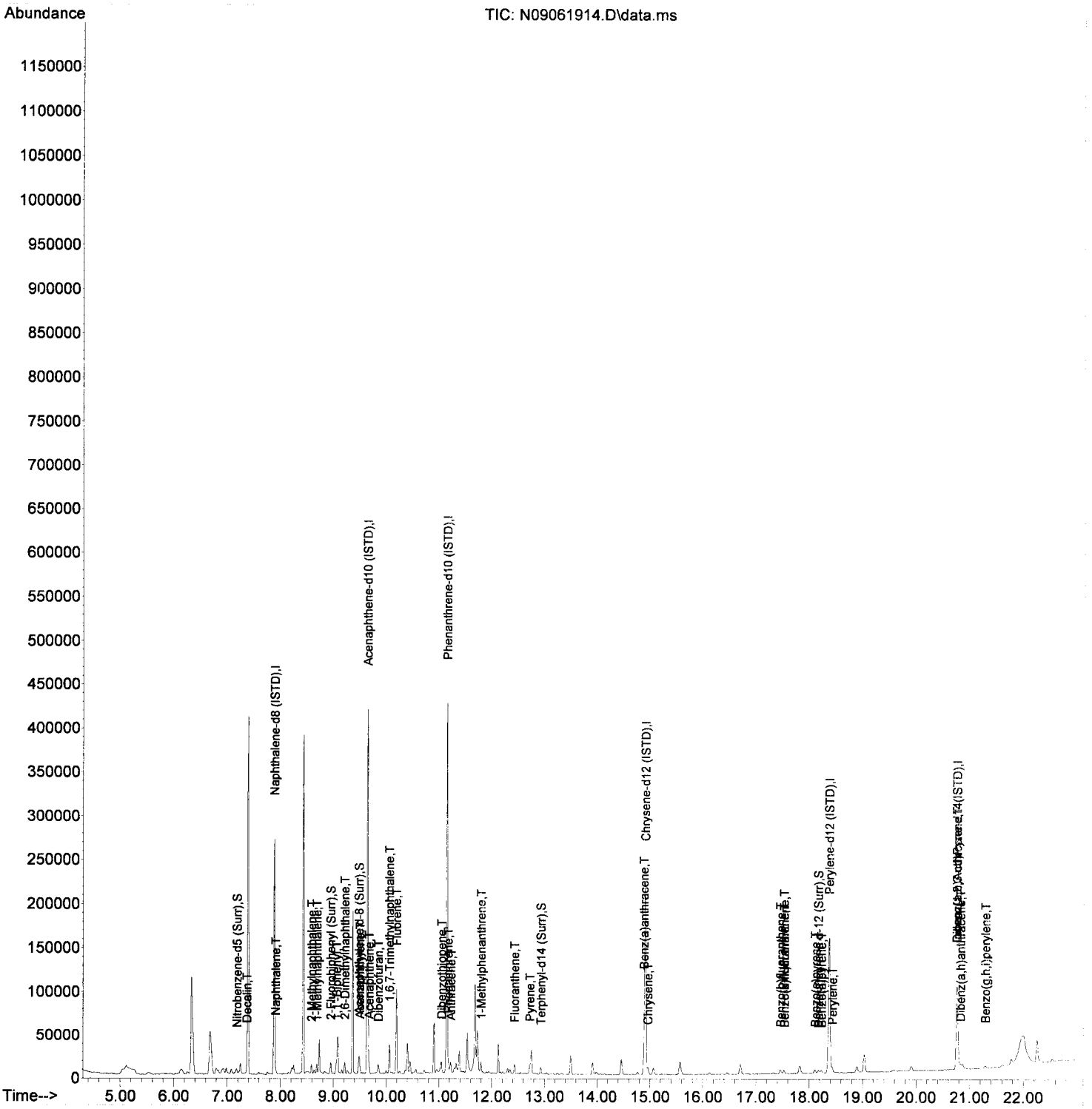
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	170471	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	119278	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	215482	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	151986	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	123595	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	82584	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	1447	2.55	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	4658	2.62	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	9843	2.67	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	4151	2.60	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.171	264	2322	2.35	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	323	2.54	ng/ml	87
4) Naphthalene	7.906	128	4837	2.57	ng/ml	98
5) 2-Methylnaphthalene	8.588	142	3865	2.43	ng/ml	96
6) 1-Methylnaphthalene	8.688	142	3730	2.34	ng/ml	97
7) 1,1'-Biphenyl	9.055	154	5118	2.39	ng/ml	97
8) 2,6-Dimethylnaphthalene	9.212	156	3622	2.31	ng/ml	97
12) Acenaphthylene	9.498	152	6483	2.50	ng/ml	98
13) Acenaphthene	9.673	153	4435	2.61	ng/ml	96
14) Dibenzofuran	9.847	168	5286	2.49	ng/ml	95
15) 1,6,7-Trimethylnaphtha...	10.057	170	3598	2.53	ng/ml	87
16) Fluorene	10.191	166	4189	2.41	ng/ml	94
18) Dibenzothiopene	11.042	184	5817	2.58	ng/ml	97
19) Phenanthrene	11.171	178	6430	2.55	ng/ml	99
20) Anthracene	11.223	178	5868	2.50	ng/ml	98
21) Carbazole	11.380	167	4473	No Calib		
22) 1-Methylphenanthrene	11.794	192	4331	2.47	ng/ml	98
23) Fluoranthene	12.429	202	6070	2.39	ng/ml	95
25) Pyrene	12.721	202	6620	2.79	ng/ml	98
27) Benz(a)anthracene	14.883	228	4639	2.63	ng/ml	97
28) Chrysene	14.959	228	4207	2.52	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	3353	2.35	ng/ml	96
31) Benzo(k)fluoranthene	17.530	252	3343	2.38	ng/ml	93
32) Benzo(b+k)fluoranthene	17.530	252	6909	2.37	ng/ml	93
34) Benzo(e)pyrene	18.112	252	3623	2.51	ng/ml	97
35) Benzo(a)pyrene	18.229	252	2658	2.18	ng/ml	100
36) Perylene	18.433	252	3787	2.52	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.759	276	2642	2.59	ng/ml	100
39) Dibenz(a,h)anthracene	20.823	278	2361	2.47	ng/ml	87
40) Benzo(g,h,i)perylene	21.289	276	2446	2.26	ng/ml	97

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061914.D
Acq On : 06 Sep 2019 05:23 pm
Operator :
Sample : 9I06028-CAL2
Misc : 1x, A19I016@2.5
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:46:55 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061915.D
Acq On : 06 Sep 2019 05:55 pm
Operator :
Sample : 9I06028-CAL3
Misc : 1x, A19I017@5
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:00 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

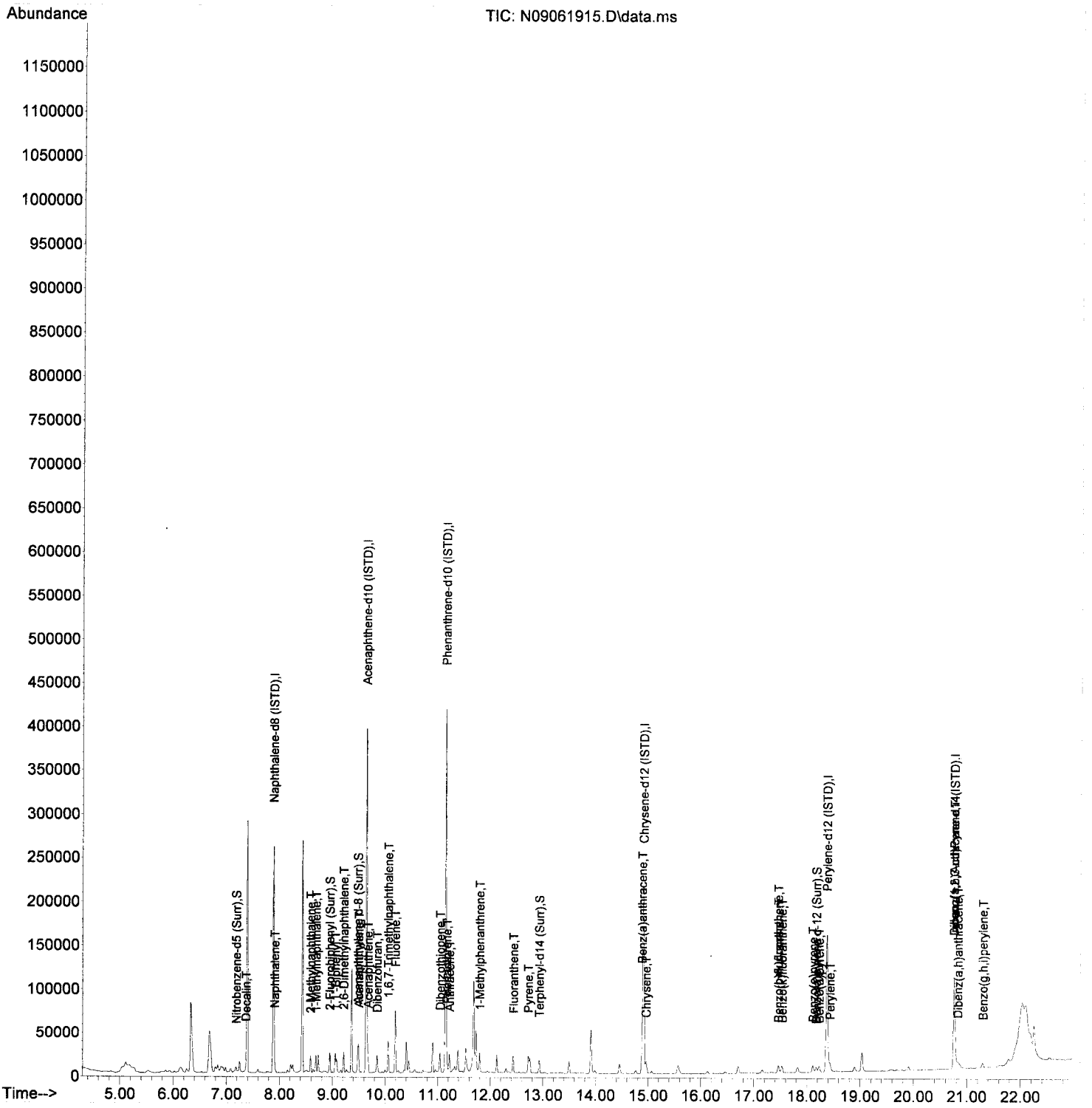
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	165670	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	115422	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	210311	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	150233	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	124460	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	83358	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	2621	4.76	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	8548	4.96	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	14409	4.79	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	7787	4.93	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	4638	4.66	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	582	4.72	ng/ml	91
4) Naphthalene	7.906	128	9092	4.98	ng/ml	99
5) 2-Methylnaphthalene	8.588	142	7294	4.71	ng/ml	97
6) 1-Methylnaphthalene	8.688	142	6937	4.48	ng/ml	96
7) 1,1'-Biphenyl	9.055	154	9300	4.47	ng/ml	96
8) 2,6-Dimethylnaphthalene	9.212	156	6755	4.44	ng/ml	99
12) Acenaphthylene	9.498	152	12342	4.93	ng/ml	99
13) Acenaphthene	9.673	153	8103	4.94	ng/ml	98
14) Dibenzofuran	9.847	168	10021	4.87	ng/ml	99
15) 1,6,7-Trimethylnaphtha...	10.057	170	6769	4.92	ng/ml	98
16) Fluorene	10.191	166	8130	4.84	ng/ml	99
18) Dibenzothiopene	11.042	184	11105	5.05	ng/ml	97
19) Phenanthrene	11.171	178	11957	4.86	ng/ml	98
20) Anthracene	11.223	178	11026	4.82	ng/ml	99
21) Carbazole	11.380	167	8513	No Calib		
22) 1-Methylphenanthrene	11.794	192	8212	4.80	ng/ml	99
23) Fluoranthene	12.435	202	11610	4.68	ng/ml	98
25) Pyrene	12.721	202	11908	5.07	ng/ml	100
27) Benz(a)anthracene	14.883	228	8173	4.69	ng/ml	96
28) Chrysene	14.959	228	8164	4.95	ng/ml	96
30) Benzo(b)fluoranthene	17.460	252	6625	4.61	ng/ml	95
31) Benzo(k)fluoranthene	17.530	252	6760	4.78	ng/ml	96
32) Benzo(b+k)fluoranthene	17.460	252	13896	4.73	ng/ml	93
34) Benzo(e)pyrene	18.112	252	6692	4.61	ng/ml	98
35) Benzo(a)pyrene	18.229	252	5344	4.35	ng/ml	99
36) Perylene	18.433	252	7462	4.93	ng/ml	97
38) Indeno(1,2,3-cd)Pyrene	20.759	276	4940	4.80	ng/ml	95
39) Dibenz(a,h)anthracene	20.829	278	4673	4.84	ng/ml	98
40) Benzo(g,h,i)perylene	21.295	276	5171	4.74	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061915.D
Acq On : 06 Sep 2019 05:55 pm
Operator :
Sample : 9I06028-CAL3
Misc : 1x, A19I017@5
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:00 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061916.D
Acq On : 06 Sep 2019 06:27 pm
Operator :
Sample : 9I06028-CAL4
Misc : 1x, A19I018@10
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:05 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

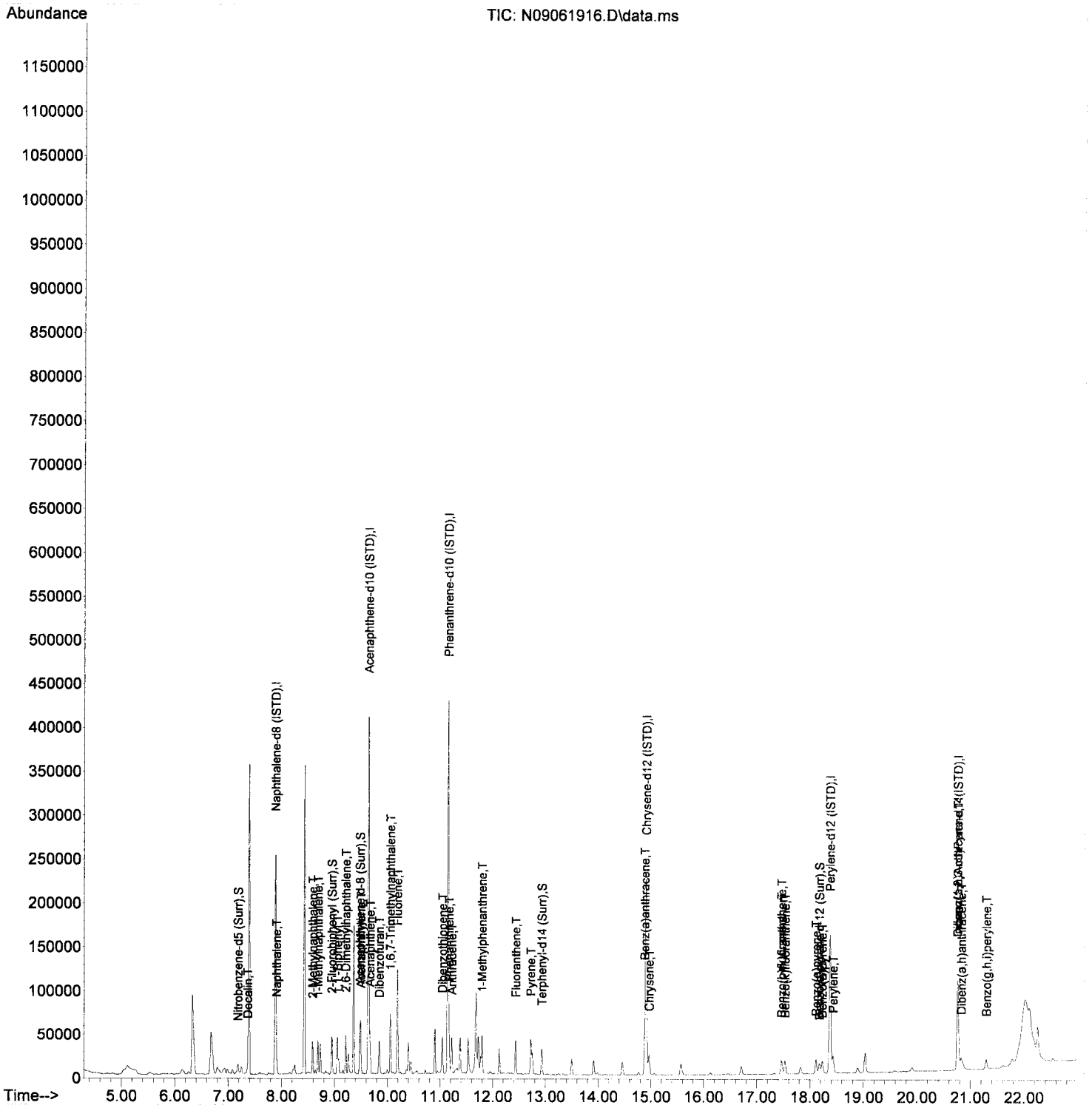
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	160906	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	118305	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	216396	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	153303	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	125859	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	82058	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	5073	9.49	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	17737	10.05	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	27001	9.97	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	16215	10.06	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	9551	9.49	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.365	138	1106	9.23	ng/ml	96
4) Naphthalene	7.907	128	18065	10.18	ng/ml	98
5) 2-Methylnaphthalene	8.589	142	14250	9.48	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	14747	9.81	ng/ml	97
7) 1,1'-Biphenyl	9.055	154	19088	9.44	ng/ml	99
8) 2,6-Dimethylnaphthalene	9.212	156	13690	9.27	ng/ml	97
12) Acenaphthylene	9.498	152	25683	10.00	ng/ml	98
13) Acenaphthene	9.673	153	16768	9.97	ng/ml	99
14) Dibenzofuran	9.848	168	21062	10.00	ng/ml	97
15) 1,6,7-Trimethylnaphtha...	10.057	170	13937	9.88	ng/ml	99
16) Fluorene	10.191	166	16819	9.77	ng/ml	100
18) Dibenzothiopene	11.042	184	22465	9.93	ng/ml	98
19) Phenanthrene	11.171	178	25204	9.95	ng/ml	100
20) Anthracene	11.223	178	22988	9.76	ng/ml	100
21) Carbazole	11.380	167	17697	No Calib		
22) 1-Methylphenanthrene	11.794	192	17190	9.77	ng/ml	100
23) Fluoranthene	12.435	202	24321	9.53	ng/ml	98
25) Pyrene	12.721	202	25073	10.47	ng/ml	99
27) Benz(a)anthracene	14.883	228	16760	9.42	ng/ml	97
28) Chrysene	14.965	228	16658	9.89	ng/ml	99
30) Benzo(b)fluoranthene	17.466	252	13743	9.46	ng/ml	97
31) Benzo(k)fluoranthene	17.530	252	13038	9.12	ng/ml	95
32) Benzo(b+k)fluoranthene	17.466	252	28065	9.45	ng/ml	95
34) Benzo(e)pyrene	18.113	252	13726	9.35	ng/ml	98
35) Benzo(a)pyrene	18.229	252	11353	9.13	ng/ml	99
36) Perylene	18.433	252	14964	9.77	ng/ml	97
38) Indeno(1,2,3-cd)Pyrene	20.759	276	9774	9.66	ng/ml	91
39) Dibenz(a,h)anthracene	20.829	278	9159	9.63	ng/ml	90
40) Benzo(g,h,i)perylene	21.295	276	10267	9.56	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061916.D
Acq On : 06 Sep 2019 06:27 pm
Operator :
Sample : 9I06028-CAL4
Misc : 1x, A19I018@10
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:05 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061917.D
Acq On : 06 Sep 2019 07:00 pm
Operator :
Sample : 9I06028-CAL5
Misc : 1x, A19I019@25
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:10 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

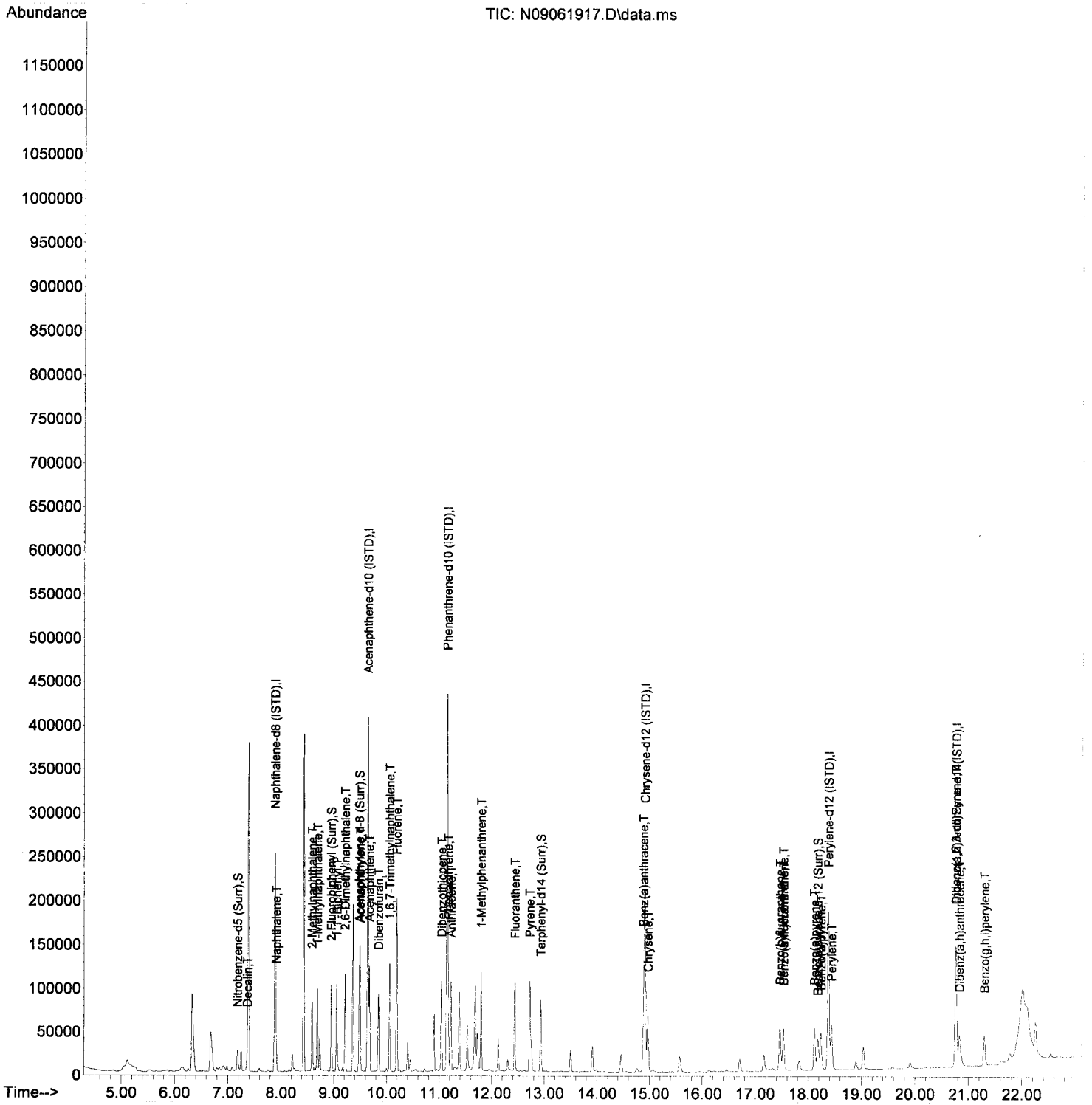
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	158689	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	118239	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	219818	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	167298	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	142122	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	96960	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	12124	22.99	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	44333	25.13	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	62320	24.95	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	44339	25.20	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	27791	24.45	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.365	138	2777	23.50	ng/ml	94
4) Naphthalene	7.907	128	43246	24.71	ng/ml	99
5) 2-Methylnaphthalene	8.589	142	35507	23.94	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	36615	24.69	ng/ml	98
7) 1,1'-Biphenyl	9.055	154	47414	23.77	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	35377	24.28	ng/ml	98
12) Acenaphthylene	9.498	152	64887	25.28	ng/ml	98
13) Acenaphthene	9.673	153	41951	24.95	ng/ml	100
14) Dibenzofuran	9.848	168	52926	25.13	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.057	170	34543	24.50	ng/ml	99
16) Fluorene	10.191	166	43186	25.10	ng/ml	99
18) Dibenzothiopene	11.042	184	56622	24.63	ng/ml	98
19) Phenanthrene	11.171	178	63419	24.66	ng/ml	100
20) Anthracene	11.223	178	58731	24.55	ng/ml	99
21) Carbazole	11.380	167	47604	No Calib		
22) 1-Methylphenanthrene	11.794	192	44094	24.68	ng/ml	99
23) Fluoranthene	12.435	202	63845	24.64	ng/ml	99
25) Pyrene	12.721	202	66093	25.29	ng/ml	99
27) Benz(a)anthracene	14.883	228	46578	23.98	ng/ml	99
28) Chrysene	14.965	228	45910	24.98	ng/ml	99
30) Benzo(b)fluoranthene	17.466	252	40093	24.45	ng/ml	97
31) Benzo(k)fluoranthene	17.530	252	40088	24.83	ng/ml	98
32) Benzo(b+k)fluoranthene	17.530	252	83294	24.83	ng/ml	98
34) Benzo(e)pyrene	18.113	252	40463	24.40	ng/ml	98
35) Benzo(a)pyrene	18.235	252	34709	24.73	ng/ml	99
36) Perylene	18.433	252	43783	25.33	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	28895	24.16	ng/ml	94
39) Dibenz(a,h)anthracene	20.829	278	27156	24.16	ng/ml	92
40) Benzo(g,h,i)perylene	21.295	276	31234	24.62	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061917.D
Acq On : 06 Sep 2019 07:00 pm
Operator :
Sample : 9I06028-CAL5
Misc : 1x, A19I019@25
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:10 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061918.D
Acq On : 06 Sep 2019 07:32 pm
Operator :
Sample : 9I06028-CAL6
Misc : 1x, A19I020@50
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:15 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

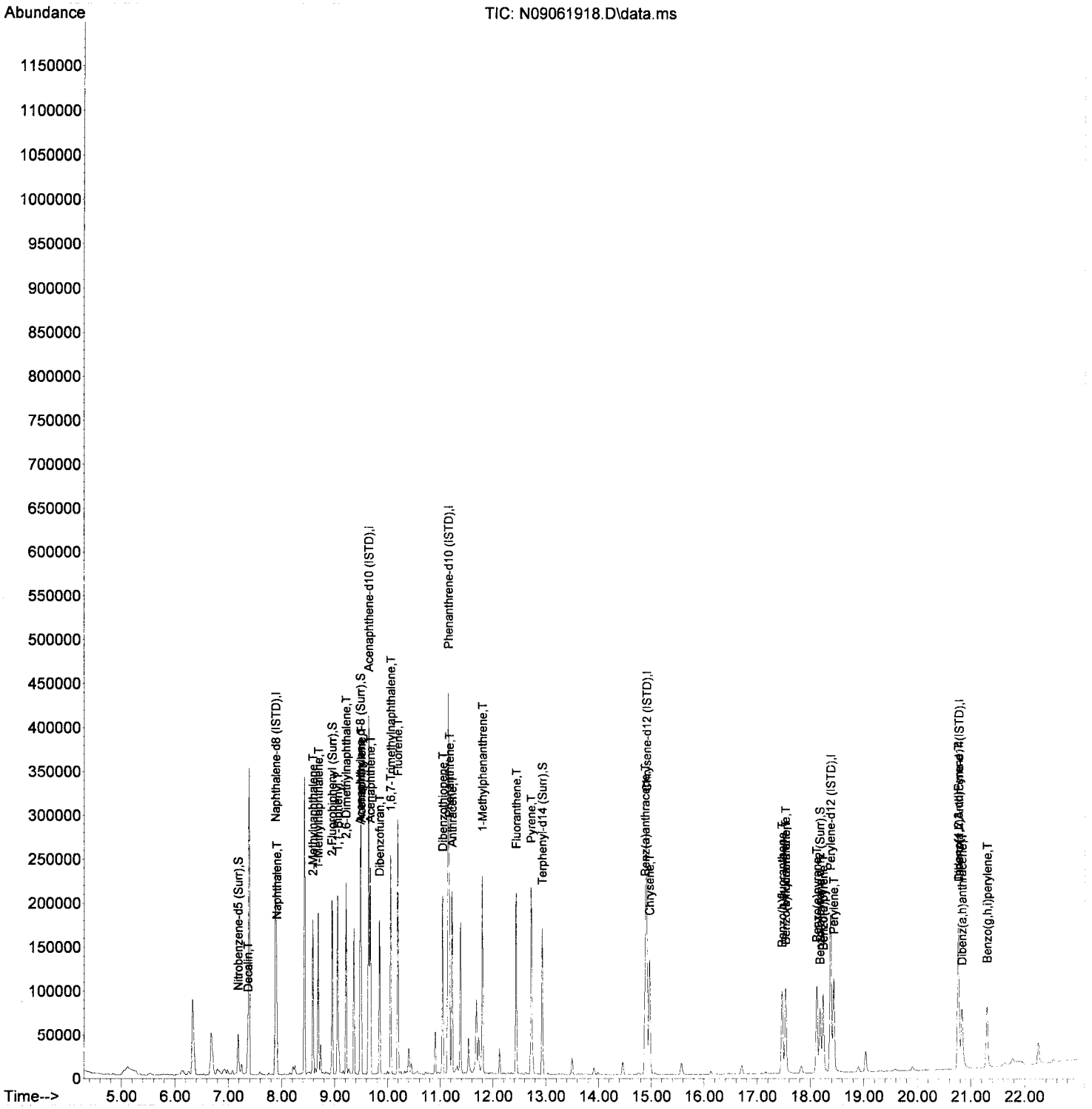
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	148351	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	117951	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	219661	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	169841	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.375	264	142416	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.765	292	93265	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	23996	48.68	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	87417	49.68	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	119179	49.18	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	88785	49.70	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.177	264	57544	50.53	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	5568	50.41	ng/ml	97
4) Naphthalene	7.907	128	80326	49.09	ng/ml	99
5) 2-Methylnaphthalene	8.589	142	69811	50.35	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	71477	51.56	ng/ml	97
7) 1,1'-Biphenyl	9.055	154	93359	50.06	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	69912	51.34	ng/ml	97
12) Acenaphthylene	9.498	152	128075	50.02	ng/ml	99
13) Acenaphthene	9.673	153	82212	49.02	ng/ml	100
14) Dibenzofuran	9.848	168	104783	49.88	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.057	170	68907	48.99	ng/ml	99
16) Fluorene	10.191	166	85319	49.71	ng/ml	100
18) Dibenzothiopene	11.042	184	113451	49.38	ng/ml	98
19) Phenanthrene	11.171	178	126501	49.21	ng/ml	100
20) Anthracene	11.223	178	118187	49.43	ng/ml	99
21) Carbazole	11.380	167	95634	No Calib		
22) 1-Methylphenanthrene	11.794	192	88417	49.52	ng/ml	99
23) Fluoranthene	12.435	202	128587	49.65	ng/ml	99
25) Pyrene	12.721	202	133393	50.27	ng/ml	100
27) Benz(a)anthracene	14.883	228	93207	47.27	ng/ml	100
28) Chrysene	14.965	228	91866	49.23	ng/ml	99
30) Benzo(b)fluoranthene	17.466	252	82867	50.43	ng/ml	98
31) Benzo(k)fluoranthene	17.530	252	79638	49.22	ng/ml	97
32) Benzo(b+k)fluoranthene	17.530	252	167848	49.93	ng/ml	97
34) Benzo(e)pyrene	18.118	252	81957	49.32	ng/ml	99
35) Benzo(a)pyrene	18.235	252	71520	50.85	ng/ml	98
36) Perylene	18.433	252	86757	50.08	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	57046	49.59	ng/ml	90
39) Dibenz(a,h)anthracene	20.829	278	53335	49.34	ng/ml	90
40) Benzo(g,h,i)perylene	21.295	276	61905	50.73	ng/ml	90

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061918.D
Acq On : 06 Sep 2019 07:32 pm
Operator :
Sample : 9I06028-CAL6
Misc : 1x, A19I020@50
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:15 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061919.D
Acq On : 06 Sep 2019 08:04 pm
Operator :
Sample : 9I06028-CAL7
Misc : 1x, A19I021@100
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:19 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

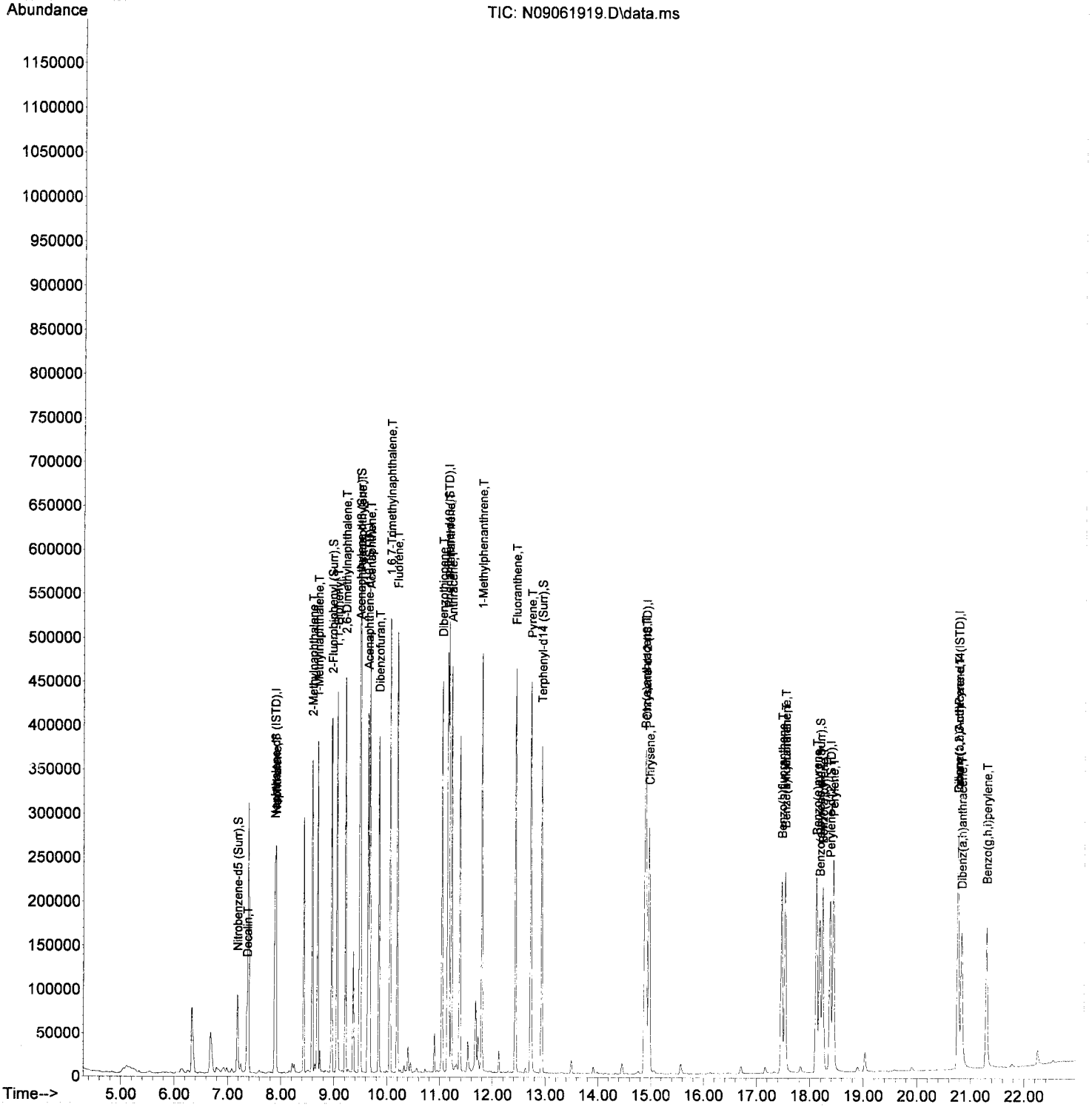
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	148917	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	121411	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	233582	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.907	240	187274	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	159070	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.764	292	103600	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	48056	97.11	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	182001	100.48	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	248072	101.01	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	196418	99.72	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.182	264	134446	105.69	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.364	138	11430	103.09	ng/ml	94
4) Naphthalene	7.906	128	161201	98.15	ng/ml	100
5) 2-Methylnaphthalene	8.588	142	143766	103.29	ng/ml	99
6) 1-Methylnaphthalene	8.687	142	146804	105.50	ng/ml	98
7) 1,1'-Biphenyl	9.055	154	197491	105.50	ng/ml	99
8) 2,6-Dimethylnaphthalene	9.212	156	148070	108.31	ng/ml	97
12) Acenaphthylene	9.498	152	272913	103.54	ng/ml	99
13) Acenaphthene	9.672	153	175245	101.51	ng/ml	100
14) Dibenzofuran	9.847	168	222327	102.81	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.057	170	147218	101.68	ng/ml	100
16) Fluorene	10.191	166	185216	104.84	ng/ml	99
18) Dibenzothiopene	11.042	184	245278	100.40	ng/ml	98
19) Phenanthrene	11.170	178	270427	98.94	ng/ml	100
20) Anthracene	11.223	178	259236	101.96	ng/ml	99
21) Carbazole	11.380	167	211369	No Calib		
22) 1-Methylphenanthrene	11.794	192	192550	101.41	ng/ml	98
23) Fluoranthene	12.435	202	280652	101.91	ng/ml	99
25) Pyrene	12.727	202	292089	99.83	ng/ml	99
27) Benz(a)anthracene	14.889	228	213884	98.37	ng/ml	99
28) Chrysene	14.971	228	205074	99.67	ng/ml	99
30) Benzo(b)fluoranthene	17.471	252	189979	103.50	ng/ml	97
31) Benzo(k)fluoranthene	17.535	252	190175	105.23	ng/ml	97
32) Benzo(b+k)fluoranthene	17.535	252	390913	104.11	ng/ml	97
34) Benzo(e)pyrene	18.124	252	188367	101.49	ng/ml	98
35) Benzo(a)pyrene	18.241	252	165951	105.63	ng/ml	99
36) Perylene	18.439	252	198533	102.60	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.764	276	130568	102.18	ng/ml	90
39) Dibenz(a,h)anthracene	20.834	278	122057	101.65	ng/ml	90
40) Benzo(g,h,i)perylene	21.301	276	143780	106.06	ng/ml	91

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061919.D
Acq On : 06 Sep 2019 08:04 pm
Operator :
Sample : 9I06028-CAL7
Misc : 1x, A19I021@100
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:19 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061920.D
Acq On : 06 Sep 2019 08:37 pm
Operator :
Sample : 9I06028-CAL8
Misc : 1x, A19I022@200
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:30 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

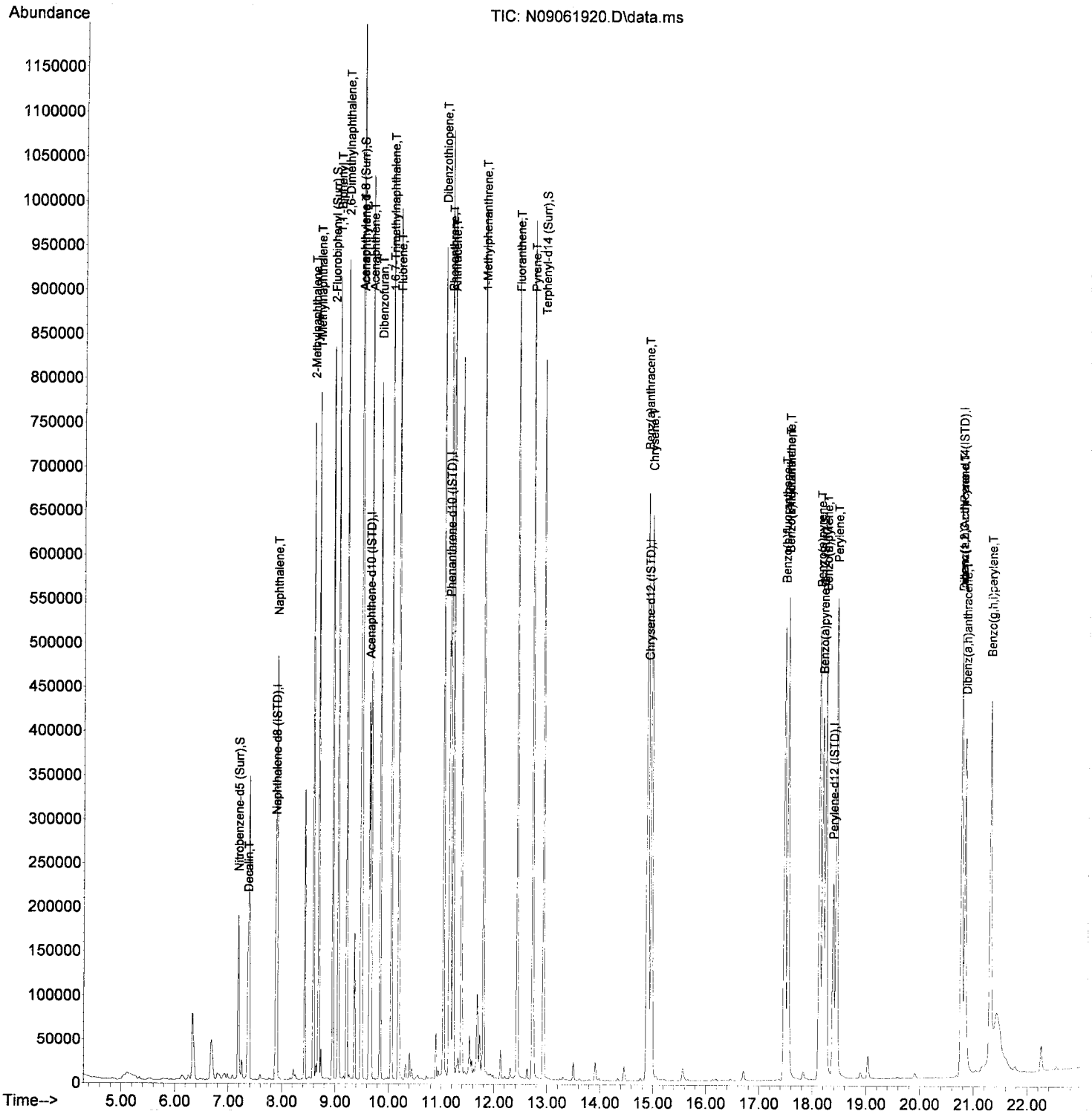
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	148783	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	126650	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	244292	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.913	240	211033	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.381	264	182214	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.770	292	126578	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	99288	200.83	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.956	172	378966	200.57	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	514554	202.53	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	430770	194.09	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.188	264	322602	221.39	ng/ml	0.01
Target Compounds						Qvalue
3) Decalin	7.364	138	22829	206.09	ng/ml	95
4) Naphthalene	7.907	128	324908	198.00	ng/ml	100
5) 2-Methylnaphthalene	8.588	142	297992	214.30	ng/ml	98
6) 1-Methylnaphthalene	8.688	142	304942	219.34	ng/ml	98
7) 1,1'-Biphenyl	9.055	154	413306	220.99	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	307564	225.18	ng/ml	99
12) Acenaphthylene	9.498	152	568160	206.64	ng/ml	99
13) Acenaphthene	9.673	153	362489	201.28	ng/ml	100
14) Dibenzofuran	9.848	168	462691	205.12	ng/ml	99
15) 1,6,7-Trimethylnaphtha...	10.057	170	307091	203.33	ng/ml	98
16) Fluorene	10.197	166	391380	212.38	ng/ml	99
18) Dibenzothiopene	11.042	184	515882	201.91	ng/ml	98
19) Phenanthrene	11.171	178	575793	201.42	ng/ml	100
20) Anthracene	11.223	178	544931	204.94	ng/ml	99
21) Carbazole	11.380	167	461912	No Calib		
22) 1-Methylphenanthrene	11.800	192	411489	207.21	ng/ml	99
23) Fluoranthene	12.435	202	599723	208.23	ng/ml	99
25) Pyrene	12.727	202	623857	189.22	ng/ml	100
27) Benz(a)anthracene	14.889	228	484834	197.88	ng/ml	99
28) Chrysene	14.971	228	465584	200.80	ng/ml	99
30) Benzo(b)fluoranthene	17.477	252	448476	213.30	ng/ml	96
31) Benzo(k)fluoranthene	17.541	252	445148	215.03	ng/ml	97
32) Benzo(b+k)fluoranthene	17.541	252	917698	213.36	ng/ml	97
34) Benzo(e)pyrene	18.130	252	441980	207.89	ng/ml	99
35) Benzo(a)pyrene	18.247	252	395245	219.63	ng/ml	98
36) Perylene	18.451	252	467343	210.85	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.770	276	319524	204.65	ng/ml	89
39) Dibenz(a,h)anthracene	20.840	278	302142	205.95	ng/ml	89
40) Benzo(g,h,i)perylene	21.307	276	353209	213.26	ng/ml	90

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061920.D
Acq On : 06 Sep 2019 08:37 pm
Operator :
Sample : 9I06028-CAL8
Misc : 1x, A19I022@200
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:30 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061921.D
Acq On : 06 Sep 2019 09:09 pm
Operator :
Sample : 9I06028-CAL9
Misc : 1x, A19I023@300
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:34 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

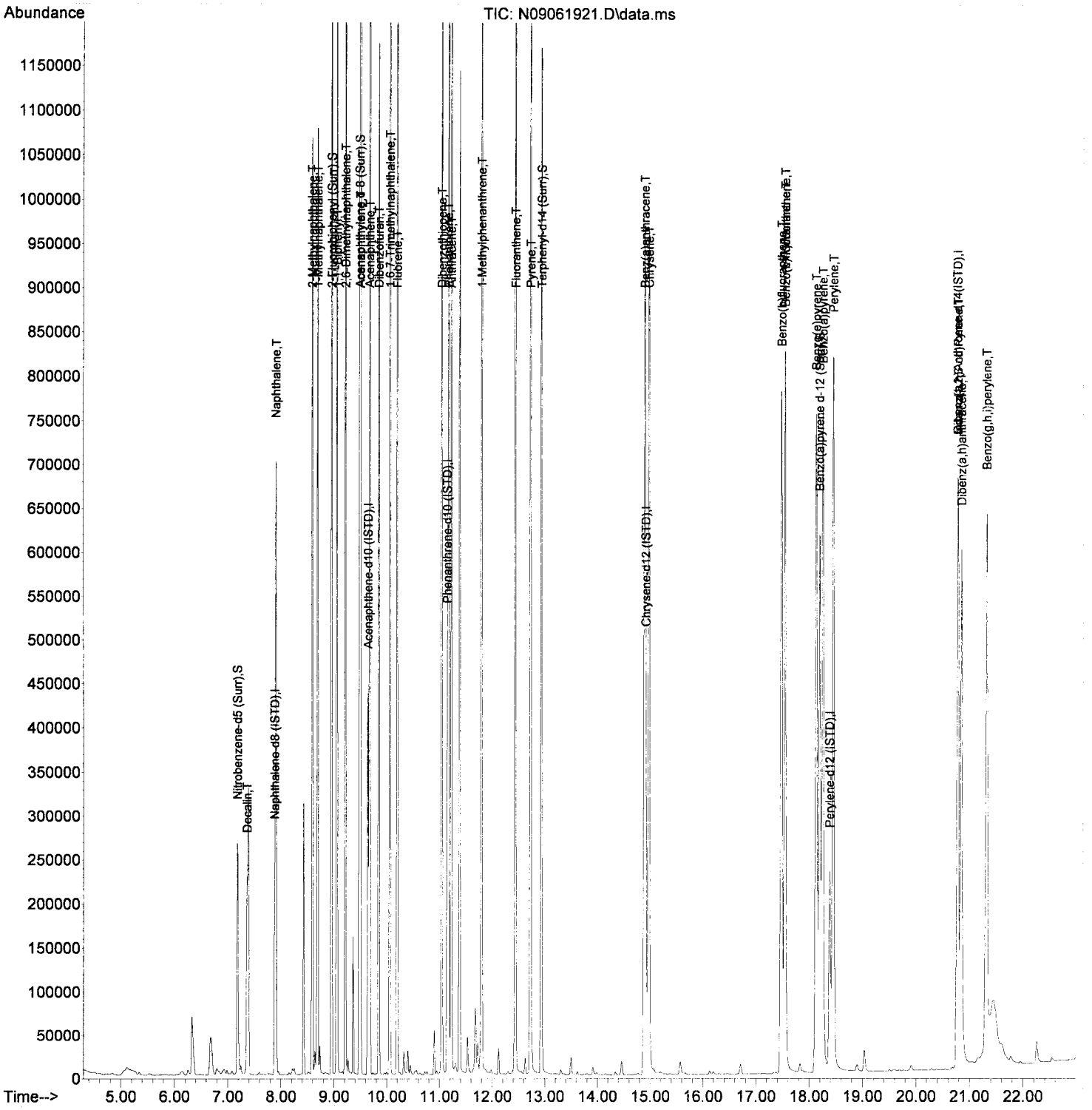
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.883	136	144322	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.643	162	126204	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	242216	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.918	240	215566	100.00	ng/ml	0.01
29) Perylene-d12 (ISTD)	18.386	264	189767	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.776	292	133133	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.184	82	146381	305.23	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.955	172	559316	297.07	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.486	160	745779	295.55	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.936	244	642064	283.20	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.194	264	500951	330.10	ng/ml	0.02
Target Compounds						Qvalue
3) Decalin	7.364	138	32583	303.24	ng/ml	97
4) Naphthalene	7.906	128	466678	293.18	ng/ml	100
5) 2-Methylnaphthalene	8.588	142	433604	321.46	ng/ml	99
6) 1-Methylnaphthalene	8.693	142	439781	326.10	ng/ml	99
7) 1,1'-Biphenyl	9.055	154	601929	331.80	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.218	156	447080	337.45	ng/ml	99
12) Acenaphthylene	9.498	152	818063	298.58	ng/ml	99
13) Acenaphthene	9.672	153	525474	292.81	ng/ml	99
14) Dibenzofuran	9.847	168	670519	298.30	ng/ml	100
15) 1,6,7-Trimethylnaphtha...	10.057	170	446194	296.47	ng/ml	97
16) Fluorene	10.197	166	565155	307.76	ng/ml	99
18) Dibenzothiopene	11.042	184	757296	298.94	ng/ml	98
19) Phenanthrene	11.170	178	823752	290.63	ng/ml	99
20) Anthracene	11.223	178	800967	303.81	ng/ml	100
21) Carbazole	11.380	167	683176	No Calib		
22) 1-Methylphenanthrene	11.800	192	600130	304.80	ng/ml	99
23) Fluoranthene	12.441	202	885026	309.92	ng/ml	98
25) Pyrene	12.727	202	915663	271.88	ng/ml	100
27) Benz(a)anthracene	14.895	228	736689	294.35	ng/ml	100
28) Chrysene	14.976	228	698605	294.96	ng/ml	99
30) Benzo(b)fluoranthene	17.483	252	692733	316.36	ng/ml	96
31) Benzo(k)fluoranthene	17.547	252	681890	316.29	ng/ml	97
32) Benzo(b+k)fluoranthene	17.547	252	1407871	314.29	ng/ml	97
34) Benzo(e)pyrene	18.136	252	676479	305.53	ng/ml	99
35) Benzo(a)pyrene	18.258	252	607972	324.39	ng/ml	98
36) Perylene	18.456	252	713926	309.27	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.782	276	498760	303.72	ng/ml	88
39) Dibenz(a,h)anthracene	20.846	278	471957	305.86	ng/ml	90
40) Benzo(g,h,i)perylene	21.318	276	546350	313.63	ng/ml	89

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061921.D
Acq On : 06 Sep 2019 09:09 pm
Operator :
Sample : 9I06028-CAL9
Misc : 1x, A19I023@300
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:34 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



SV14_090619_PAH.M Mon Sep 09 14:47:35 2019 Page: 2

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061922.D
Acq On : 06 Sep 2019 09:41 pm
Operator :
Sample : 9I06028-CALA
Misc : 1x, A19I024@400
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

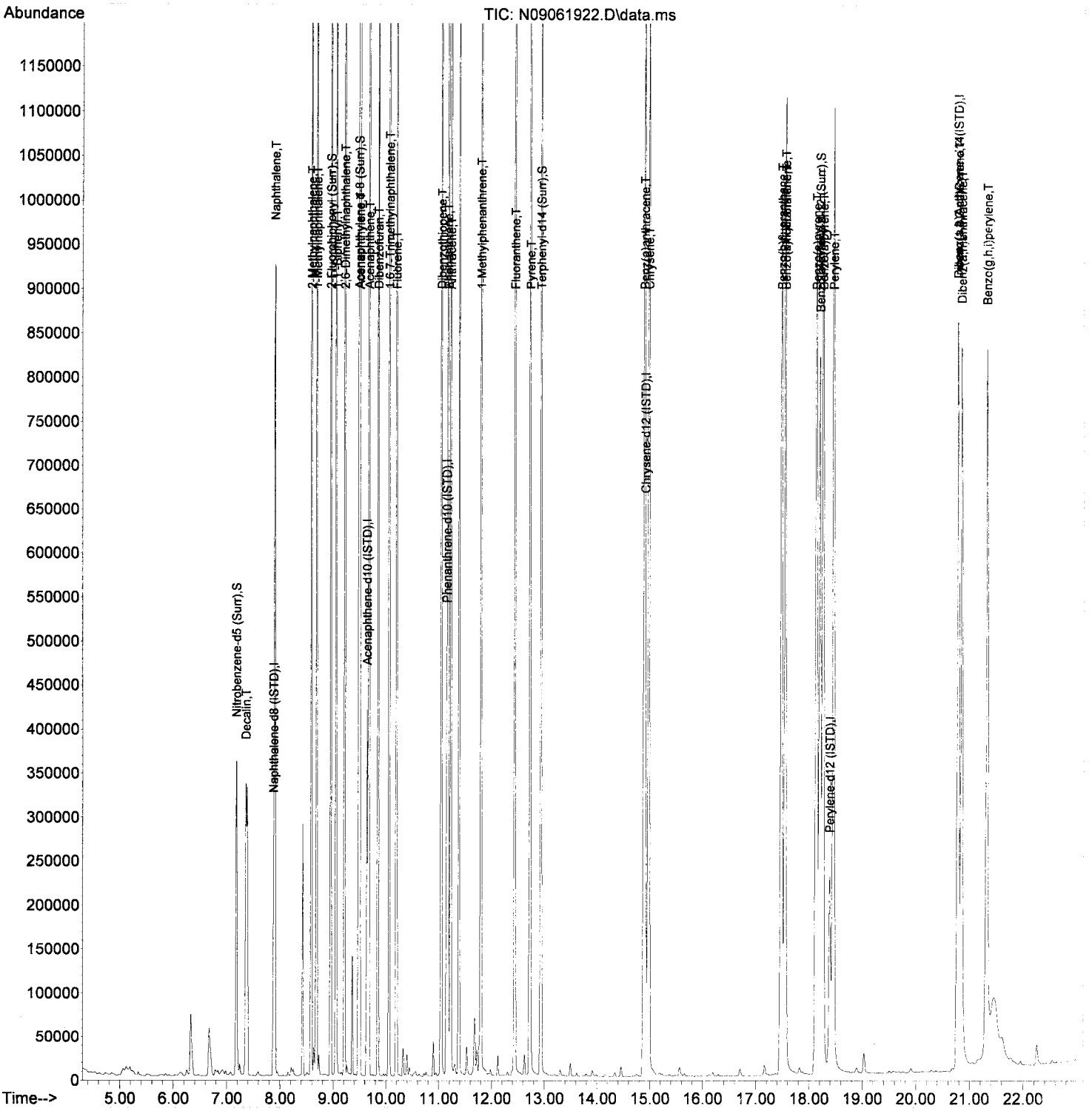
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	151798	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	120378	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.147	188	227701	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.913	240	211373	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.387	264	191099	100.00	ng/ml	0.01
37) Dibenz(a,h)Anthrcene-d...	20.776	292	134738	100.00	ng/ml	0.01
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	204654	405.72	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	721151	401.56	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.480	160	964800	401.86	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.931	244	855839	384.98	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.200	264	689197	450.98	ng/ml	0.02
Target Compounds						Qvalue
3) Decalin	7.359	138	49479	437.80	ng/ml	96
4) Naphthalene	7.901	128	662079	395.46	ng/ml	100
5) 2-Methylnaphthalene	8.589	142	592165	417.39	ng/ml	99
6) 1-Methylnaphthalene	8.688	142	595669	419.94	ng/ml	98
7) 1,1'-Biphenyl	9.055	154	776505	406.95	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.212	156	574431	412.22	ng/ml	99
12) Acenaphthylene	9.498	152	1039006	397.57	ng/ml	99
13) Acenaphthene	9.673	153	672408	392.83	ng/ml	99
14) Dibenzofuran	9.848	168	849810	396.36	ng/ml	99
15) 1,6,7-Trimethylnaphtha...	10.057	170	567245	395.14	ng/ml	98
16) Fluorene	10.191	166	710688	405.74	ng/ml	99
18) Dibenzothiopene	11.042	184	950081	398.95	ng/ml	98
19) Phenanthrene	11.171	178	1041489	390.88	ng/ml	99
20) Anthracene	11.223	178	1015402	409.70	ng/ml	100
21) Carbazole	11.380	167	865078	No Calib		
22) 1-Methylphenanthrene	11.794	192	771189	416.65	ng/ml	99
23) Fluoranthene	12.435	202	1148955	427.99	ng/ml	98
25) Pyrene	12.727	202	1201811	363.93	ng/ml	100
27) Benz(a)anthracene	14.889	228	991720	404.11	ng/ml	99
28) Chrysene	14.977	228	942172	405.69	ng/ml	99
30) Benzo(b)fluoranthene	17.483	252	952609	432.01	ng/ml	96
31) Benzo(k)fluoranthene	17.553	252	938589	432.32	ng/ml	96
32) Benzo(b+k)fluoranthene	17.553	252	1935514	429.07	ng/ml	96
34) Benzo(e)pyrene	18.136	252	924774	414.75	ng/ml	99
35) Benzo(a)pyrene	18.258	252	837229	443.59	ng/ml	98
36) Perylene	18.456	252	976822	420.21	ng/ml	99
38) Indeno(1,2,3-cd)Pyrene	20.782	276	691371	416.00	ng/ml	88
39) Dibenz(a,h)anthracene	20.846	278	656172	420.18	ng/ml	89
40) Benzo(g,h,i)perylene	21.318	276	751545	426.28	ng/ml	89

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061922.D
Acq On : 06 Sep 2019 09:41 pm
Operator :
Sample : 9I06028-CALA
Misc : 1x, A19I024@400
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:49 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14

9/9/19

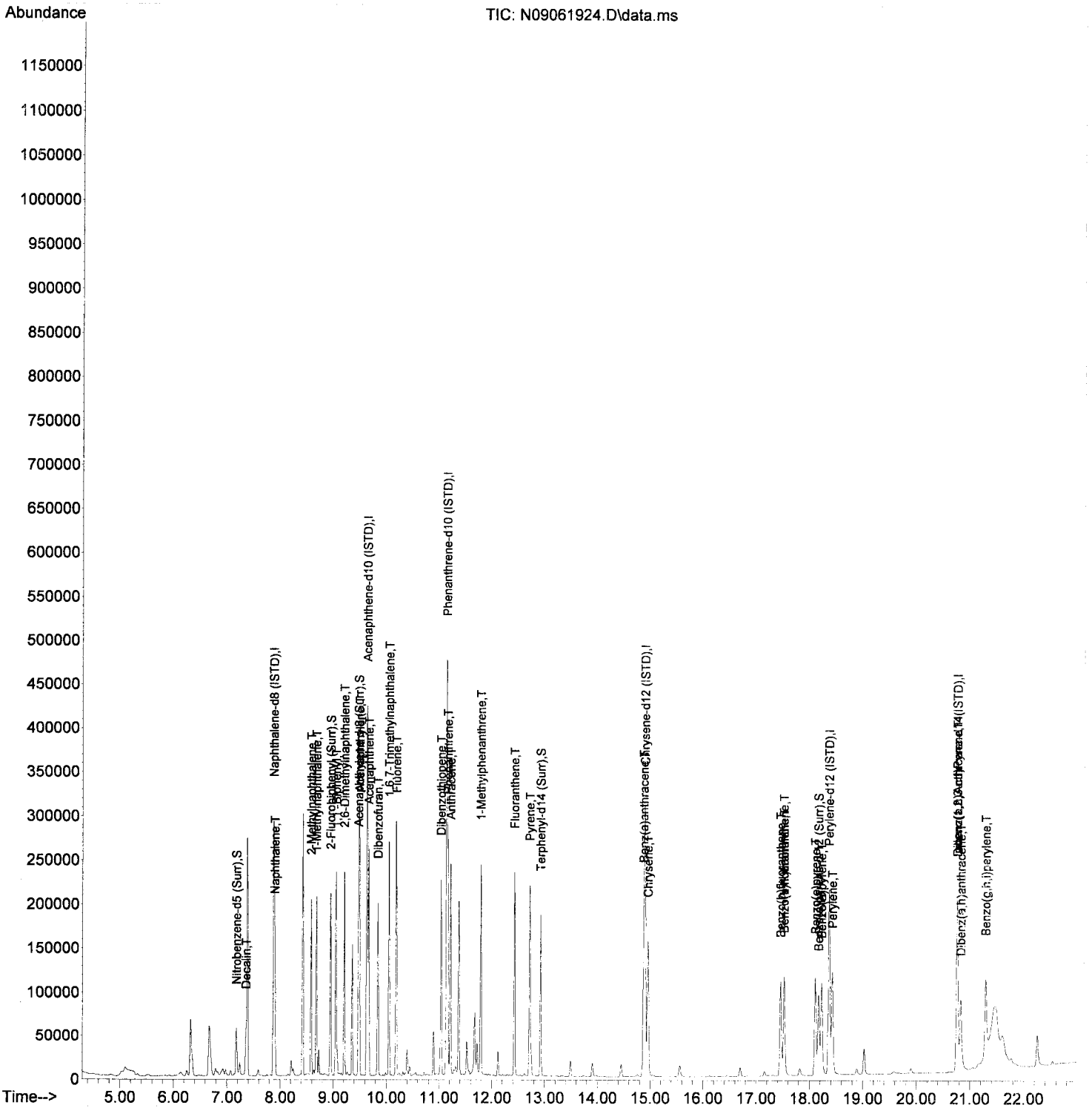
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	181748	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	125177	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	235054	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	188693	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	162940	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	108931	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	27909	46.21	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	92755	49.67	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	126796	49.31	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	96645	48.70	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.171	264	69335	53.21	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.359	138	6597	48.75	ng/ml	96
4) Naphthalene	7.901	128	100112	49.94	ng/ml	99
5) 2-Methylnaphthalene	8.583	142	79542	46.83	ng/ml	99
6) 1-Methylnaphthalene	8.682	142	81122	47.77	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	105870	46.34	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.206	156	76410	45.80	ng/ml	98
12) Acenaphthylene	9.492	152	141177	51.95	ng/ml	99
13) Acenaphthene	9.667	153	89594	50.33	ng/ml	100
14) Dibenzofuran	9.842	168	113513	50.91	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.052	170	74864	50.15	ng/ml	99
16) Fluorene	10.191	166	92650	50.87	ng/ml	98
18) Dibenzothiopene	11.037	184	122412	49.79	ng/ml	98
19) Phenanthrene	11.165	178	138621	50.40	ng/ml	100
20) Anthracene	11.217	178	132505	51.79	ng/ml	99
21) Carbazole	11.375	167	104923	No Calib		
22) 1-Methylphenanthrene	11.788	192	98289	51.44	ng/ml	100
23) Fluoranthene	12.430	202	140103	50.56	ng/ml	99
25) Pyrene	12.721	202	144864	49.14	ng/ml	99
27) Benz(a)anthracene	14.878	228	106201	48.48	ng/ml	99
28) Chrysene	14.959	228	108583	52.38	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	95110	50.59	ng/ml	97
31) Benzo(k)fluoranthene	17.524	252	92505	49.97	ng/ml	97
32) Benzo(b+k)fluoranthene	17.524	252	193724	50.37	ng/ml	97
34) Benzo(e)pyrene	18.113	252	95583	50.28	ng/ml	98
35) Benzo(a)pyrene	18.229	252	82357	51.18	ng/ml	99
36) Perylene	18.427	252	100869	50.89	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	67142	49.97	ng/ml	89
39) Dibenz(a,h)anthracene	20.823	278	62283	49.33	ng/ml	90
40) Benzo(g,h,i)perylene	21.289	276	76359	53.57	ng/ml	91

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 09 14:47:49 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 10:14:28 2019
Response via : Initial Calibration
InstName : SV-GCMS14



Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Final Reqmart

Quant Time: Sep 10 10:28:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14

JK 9/10/19

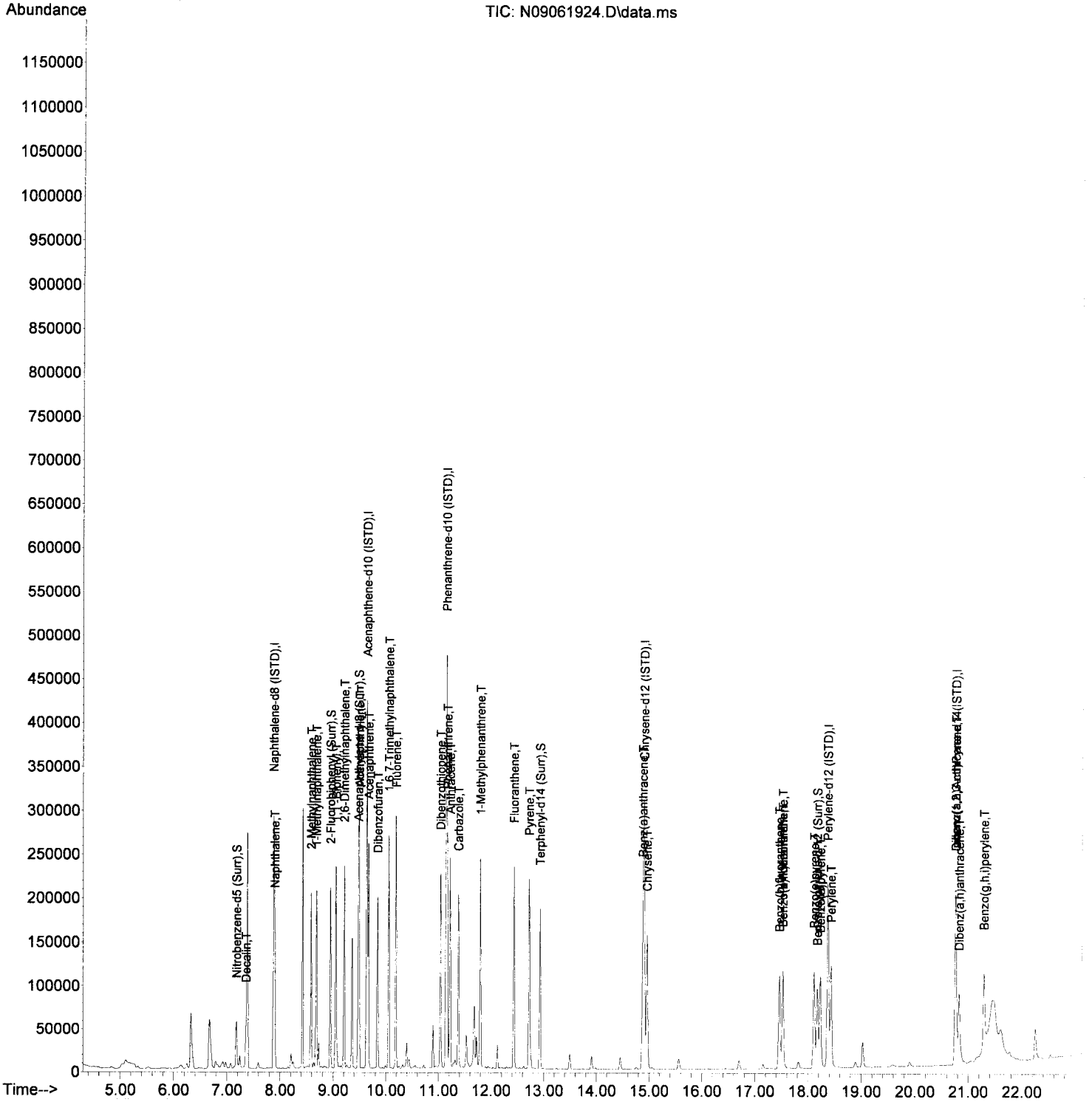
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Naphthalene-d8 (ISTD)	7.877	136	181748	100.00	ng/ml	0.00
9) Acenaphthene-d10 (ISTD)	9.638	162	125177	100.00	ng/ml	0.00
17) Phenanthrene-d10 (ISTD)	11.141	188	235054	100.00	ng/ml	0.00
24) Chrysene-d12 (ISTD)	14.901	240	188693	100.00	ng/ml	0.00
29) Perylene-d12 (ISTD)	18.369	264	162940	100.00	ng/ml	0.00
37) Dibenz(a,h)Anthrcene-d...	20.759	292	108931	100.00	ng/ml	0.00
System Monitoring Compounds						
2) Nitrobenzene-d5 (Surr)	7.178	82	27909	46.21	ng/ml	0.00
10) 2-Fluorobiphenyl (Surr)	8.950	172	92755	49.67	ng/ml	0.00
11) Acenaphthylene d-8 (Surr)	9.474	160	126796	49.31	ng/ml	0.00
26) Terphenyl-d14 (Surr)	12.925	244	96645	48.70	ng/ml	0.00
33) Benzo(a)pyrene d-12 (S...	18.171	264	69335	53.21	ng/ml	0.00
Target Compounds						Qvalue
3) Decalin	7.359	138	6597	48.75	ng/ml	96
4) Naphthalene	7.901	128	100112	49.94	ng/ml	99
5) 2-Methylnaphthalene	8.583	142	79542	46.83	ng/ml	99
6) 1-Methylnaphthalene	8.682	142	81122	47.77	ng/ml	98
7) 1,1'-Biphenyl	9.049	154	105870	46.34	ng/ml	98
8) 2,6-Dimethylnaphthalene	9.206	156	76410	45.80	ng/ml	98
12) Acenaphthylene	9.492	152	141177	51.95	ng/ml	99
13) Acenaphthene	9.667	153	89594	50.33	ng/ml	100
14) Dibenzofuran	9.842	168	113513	50.91	ng/ml	98
15) 1,6,7-Trimethylnaphtha...	10.052	170	74864	50.15	ng/ml	99
16) Fluorene	10.191	166	92650	50.87	ng/ml	98
18) Dibenzothiopene	11.037	184	122412	49.79	ng/ml	98
19) Phenanthrene	11.165	178	138621	50.40	ng/ml	100
20) Anthracene	11.217	178	132505	51.79	ng/ml	99
21) Carbazole	11.375	167	104923	50.68	ng/ml	99
22) 1-Methylphenanthrene	11.788	192	98289	51.44	ng/ml	100
23) Fluoranthene	12.430	202	140103	50.56	ng/ml	99
25) Pyrene	12.721	202	144864	49.14	ng/ml	99
27) Benz(a)anthracene	14.878	228	106201	48.48	ng/ml	99
28) Chrysene	14.959	228	108583	52.38	ng/ml	99
30) Benzo(b)fluoranthene	17.460	252	95110	50.59	ng/ml	97
31) Benzo(k)fluoranthene	17.524	252	92505	49.97	ng/ml	97
32) Benzo(b+k)fluoranthene	17.524	252	193724	100.73	ng/ml	97
34) Benzo(e)pyrene	18.113	252	95583	50.28	ng/ml	98
35) Benzo(a)pyrene	18.229	252	82357	51.18	ng/ml	99
36) Perylene	18.427	252	100869	50.89	ng/ml	100
38) Indeno(1,2,3-cd)Pyrene	20.759	276	67142	49.98	ng/ml	89
39) Dibenz(a,h)anthracene	20.823	278	62283	49.34	ng/ml	90
40) Benzo(g,h,i)perylene	21.289	276	76359	53.58	ng/ml	91

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

Quantitation Report (Not Reviewed)

Data Path : N:\data\2019-09\9I06028\
Data File : N09061924.D
Acq On : 06 Sep 2019 10:45 pm
Operator :
Sample : 9I06028-ICV1
Misc : 1x, A19I025@50
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:LVI14_BNA_ACQ.M

Quant Time: Sep 10 10:28:40 2019
Quant Method : N:\methods\SV14_090619_PAH.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Mon Sep 09 14:58:53 2019
Response via : Initial Calibration
InstName : SV-GCMS14



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

Total Metals by EPA 6020A (ICPMS)
Benchsheet Data and Analysis (Including Calibration)

Batch 9100531
Batch 9100666
Sequence 9J07068

APEX LABORATORIES

As (Arsenic) - 6020 - Total

PREPARATION BENCH SHEET 9100531

Apex Laboratories
BATCH #: 9100531 (Sediment)
Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments
9100531-BLK1	---	10/02/19 08:34	0.520	50	*QC Sample*		
9100531-BS1	---	10/02/19 08:34	0.5	50	*QC Sample*		
	Spike 1: 2500 uL of A19I253		Spike 2: 250 uL of A19I359				
A9I0885-01	*10/10/19*	10/02/19 08:34	0.5 .480	50	Anchor QEA, LLC	PDI-013SC-B-7.6-9.6-19092	D.P
☐ As (Arsenic) - 6020 - Total							
A9I0885-02	*10/10/19*	10/02/19 08:34	0.518	50	Anchor QEA, LLC	PDI-013SC-B-9.6-12-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0885-04	*10/10/19*	10/02/19 08:34	0.518 .482	50	Anchor QEA, LLC	PDI-018SC-B-11.8-13.2-190	
☐ As (Arsenic) - 6020 - Total							
A9I0885-05	*10/10/19*	10/02/19 08:34	0.515	50	Anchor QEA, LLC	PDI-018SC-B-5.8-7.8-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0885-06	*10/10/19*	10/02/19 08:34	0.502	50	Anchor QEA, LLC	PDI-018SC-B-7.8-9.8-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0885-07	*10/10/19*	10/02/19 08:34	0.510	50	Anchor QEA, LLC	PDI-018SC-B-9.8-11.8-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-01	*10/11/19*	10/02/19 08:34	0.5 .486	50	Anchor QEA, LLC	PDI-021SC-B-11.7-13.7-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-02	*10/11/19*	10/02/19 08:34	0.520	50	Anchor QEA, LLC	PDI-021SC-B-13.7-15.4-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-03	*10/11/19*	10/02/19 08:34	0.5 .488	50	Anchor QEA, LLC	PDI-021SC-B-5.7-7.7-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0922-04	*10/11/19*	10/02/19 08:34	0.5 .485	50	Anchor QEA, LLC	PDI-021SC-B-7.7-9.7-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0922-05	*10/11/19*	10/02/19 08:34	0.5 .499	50	Anchor QEA, LLC	PDI-021SC-B-9.7-11.7-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-07	*10/11/19*	10/02/19 08:34	0.503	50	Anchor QEA, LLC	PDI-024SC-B-10-12.1-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-08	*10/11/19*	10/02/19 08:34	0.507	50	Anchor QEA, LLC	PDI-1024SC-B-10-12.1-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-09	*10/11/19*	10/02/19 08:34	0.510	50	Anchor QEA, LLC	PDI-030SC-B-5.9-7.9-19092	MS/MSD
☐ As (Arsenic) - 6020 - Total							

Prepared By: 10/2/19 Date

ESS 10/8/19
Reviewed By: Date

APEX LABORATORIES

Apex Laboratories
BATCH #: 9100531 (Sediment)
Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments
9100531-MS1	---	10/02/19 08:34	0.5	50	*QC Sample*		
Source: A9I0922-09	Spike 1: 2500 uL of A19I253	Spike 2: 250 uL of A19I359					
9100531-MSD1	---	10/02/19 08:34	0.5	50	*QC Sample*		
Source: A9I0922-09	Spike 1: 2500 uL of A19I253	Spike 2: 250 uL of A19I359					
A9I0922-10	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-030SC-B-7.9-9.9-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0922-11	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-030SC-B-9.9-11.8-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-12	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-036SC-B-10.2-12.2-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-13	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-036SC-B-12.2-13.4-190	
☐ As (Arsenic) - 6020 - Total							
A9I0922-14	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-036SC-B-4.2-6.2-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0922-15	*10/11/19*	10/02/19 08:34	0.5	50	Anchor QEA, LLC	PDI-036SC-B-6.2-8.2-19092	
☐ As (Arsenic) - 6020 - Total							

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L213	11/30/23	Metals Prep Balance 2
A15E001	05/01/20	Mars-1 Microwave
A19F065	10/31/19	30% hydrogen peroxide
A19F120	06/12/20	Conc. HCl - Omnitrace
A19I106	03/08/20	Conc. HNO3 - Omnitrace

Analyte Spike(s)

Std ID	Exp. Date	Description
A19I253	12/11/19	**Combo Spike** A+B+C
A19I359	03/08/20	Hg Spiking Standard KT 10/2/19

KT 10/2/19
A.) A19I210, 1250µL
B.) A19I123, 625µL
C.) A19I124, 625µL

Digestion time and temperature achieved? yes
Initials: KT 10/2/19

Prepared By: 10/2/19 Date

Reviewed By: Date

Batch #: 9100531

If observed weight loss < 0.2g Digestion is within control limits

If observed weight loss > 0.2g Enter data in to electronic VWW. Acceptance limit 1.0% sample loss.

Date: 10/02/19 Prepared by: KT

#	Mars Tube ID	Sample ID	Pre-digestion Vessel + Sample Wt. (g)	Post-digestion Vessel + Sample Wt. (g)	Sample Wt. Loss (%)* *Formula only used if sample loss >0.2g*
1	S69	9100531-BLK1	185.44	185.44	n/a
2	S83	9100531-BS1	184.44	184.44	n/a
3	S18	A9I0885-01	186.51	186.50	n/a
4	S64	A9I0885-02	189.82	184.82	n/a
5	S68	A9I0885-04	186.34	186.33	n/a
6	S16	A9I0885-05	187.15	187.13	n/a
7	S71	A9I0885-06	185.76	185.76	n/a
8	S90	A9I0885-07	185.45	185.45	n/a
9	S62	A9I0922-01	185.76	185.76	n/a
10	S40	A9I0922-02	185.74	185.73	n/a
11	S44	A9I0922-03	183.97	183.96	n/a
12	S88	A9I0922-04	189.53	189.52	n/a
13	S79	A9I0922-05	186.30	186.29	n/a
14	S24	A9I0922-07	186.63	186.61	n/a
15	S85	A9I0922-08	186.78	186.76	n/a
16	S19	A9I0922-09	186.37	186.32	n/a
17	S35	9100531-MS1	184.87	184.87	n/a
18	S78	9100531-MSD1	184.77	184.77	n/a
19	S32	A9I0922-10	185.85	185.83	n/a
20	S86	A9I0922-11	185.82	185.81	n/a
21	S28	A9I0922-12	184.98	184.97	n/a
22	S4	A9I0922-13	186.25	186.24	n/a
23	S41	A9I0922-14	186.80	186.73	n/a
24	S107	A9I0922-15	184.85	184.85	n/a
25					n/a

*Example Calculation: (Pre(g) – Post(g))/(Post(g) – 159.32g) This represents the mean weight of the empty digestion vessels. By factoring in the mean digestion vessel weight, we observe weight loss from only the sample, rather than as a percentage of the sample+vessel weight.

APEX LABORATORIES

As (Arsenic) - 6020 - Total

PREPARATION BENCH SHEET

9100666

Apex Laboratories

BATCH #: 9100666 (Sediment)

Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments
9100666-BLK1	---	10/04/19 10:27	0.52	50	*QC Sample*		
9100666-BS1	---	10/04/19 10:27	0.5	50	*QC Sample*		
	Spike 1: 2500 uL of A19I253		Spike 2: 250 uL of A19I359				
A9I0922-16	*10/11/19*	10/04/19 10:27	~~0.5~~ .496	50	Anchor QEA, LLC	PDI-036SC-B-8.2-10.2-1909	
☐ As (Arsenic) - 6020 - Total		MJG 10/4/19					
A9I0922-17	*10/11/19*	10/04/19 10:27	~~0.5~~ .509	50	Anchor QEA, LLC	PDI-064SC-B-8-10-190929	
☐ As (Arsenic) - 6020 - Total							
A9I0922-18	*10/11/19*	10/04/19 10:27	~~0.5~~ .514	50	Anchor QEA, LLC	PDI-064SC-B-10-12-190929	
☐ As (Arsenic) - 6020 - Total							
A9I0922-19	*10/11/19*	10/04/19 10:27	~~0.5~~ .494	50	Anchor QEA, LLC	PDI-064SC-B-12-14-190929	
☐ As (Arsenic) - 6020 - Total							
A9I0922-20	*10/11/19*	10/04/19 10:27	~~0.5~~ .490	50	Anchor QEA, LLC	PDI-064SC-B-14-15.8-1909	
☐ As (Arsenic) - 6020 - Total							
A9I0922-21	*10/11/19*	10/04/19 10:27	~~0.5~~ .494	50	Anchor QEA, LLC	PDI-1064SC-B-08-10-19092	
☐ As (Arsenic) - 6020 - Total							
A9I0936-20	*10/11/19*	10/04/19 10:27	~~0.5~~ .506	50	Anchor QEA, LLC	PDI-064SC-B-00-02-190929	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9I0936-21	*10/11/19*	10/04/19 10:27	~~0.5~~ .513	50	Anchor QEA, LLC	PDI-064SC-B-02-04-190929	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9I0936-22	*10/11/19*	10/04/19 10:27	~~0.5~~ .487	50	Anchor QEA, LLC	PDI-064SC-B-04-06-190929	MS/MSD, CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
9100666-MS1	---	10/04/19 10:27	~~0.5~~ .502	50	*QC Sample*		
	Source: A9I0936-22		Spike 1: 2500 uL of A19I253		Spike 2: 250 uL of A19I359		
9100666-MSD1	---	10/04/19 10:27	~~0.5~~ .497	50	*QC Sample*		
	Source: A9I0936-22		Spike 1: 2500 uL of A19I253		Spike 2: 250 uL of A19I359		
A9I0936-23	*10/11/19*	10/04/19 10:27	~~0.5~~ .509	50	Anchor QEA, LLC	PDI-064SC-B-06-08-190929	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9J0058-04	*10/15/19*	10/04/19 10:27	~~0.5~~ .485	50	Anchor QEA, LLC	PDI-039SC-B-11.8-13.7-190	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9J0058-05	*10/15/19*	10/04/19 10:27	~~0.5~~ .504	50	Anchor QEA, LLC	PDI-039SC-B-3.8-5.8-19093	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							

MJG 10/4/19
Prepared By: Date

ESS 10/8/19
Reviewed By: Date

APEX LABORATORIES

Apex Laboratories
BATCH #: 9100666 (Sediment)
Prep Method: EPA 3051A

Lab Number	Due	Prepared	Initial (g)	Final (mL)	Client	ClientID / Sample	Extraction Comments
A9J0058-06	*10/15/19*	**10/04/19 10:27**	~~0.5~~ .514	**50**	**Anchor QEA, LLC**	**PDI-039SC-B-5.8-7.8-19093**	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9J0058-07	*10/15/19*	**10/04/19 10:27**	~~0.5~~ .497	**50**	**Anchor QEA, LLC**	**PDI-039SC-B-7.8-9.8-19093**	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9J0058-08	*10/15/19*	**10/04/19 10:27**	~~0.5~~ .486	**50**	**Anchor QEA, LLC**	**PDI-039SC-B-9.8-11.8-1909**	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9J0058-11	*10/15/19*	**10/04/19 10:27**	~~0.5~~ .495	**50**	**Anchor QEA, LLC**	**PDI-040SC-B-5.3-7.3-19093**	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9J0058-12	*10/15/19*	**10/04/19 10:27**	~~0.5~~ .509	**50**	**Anchor QEA, LLC**	**PDI-040SC-B-7.3-9.3-19093**	MS/MSD, CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
9100666-MS2	---	**10/04/19 10:27**	~~0.5~~ .499	**50**	*QC Sample*		
Source: **A9J0058-12**		Spike 1: **2500 uL of A19I253**			Spike 2: **250 uL of A19I359**		
9100666-MSD2	---	**10/04/19 10:27**	~~0.5~~ .509	**50**	*QC Sample*		
Source: **A9J0058-12**		Spike 1: **2500 uL of A19I253**			Spike 2: **250 uL of A19I359**		
A9J0058-13	*10/15/19*	**10/04/19 10:27**	~~0.5~~ .503	**50**	**Anchor QEA, LLC**	**PDI-040SC-B-9.3-11.3-1909**	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9J0058-14	*10/15/19*	**10/04/19 10:27**	~~0.5~~ .493	**50**	**Anchor QEA, LLC**	**PDI-1040SC-B-5.3-7.3-1909**	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							
A9J0058-17	*10/15/19*	**10/04/19 10:27**	~~0.5~~ .485	**50**	**Anchor QEA, LLC**	**PDI-042SC-B-11.9-13.8-190**	CAP TESTING/Waters
☐ As (Arsenic) - 6020 - Total							

MJG 10/4/19

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L213	11/30/23	Metals Prep Balance 2
A17F264	06/23/23	Mars-6 Microwave
A19F065	10/31/19	30% hydrogen peroxide
A19F120	06/12/20	Conc. HCl - Omnitrace
A19I106	03/08/20	Conc. HNO3 - Omnitrace

Analyte Spike(s) MJG 10/4/19

Std ID	Exp. Date	Description
A19I253	12/11/19	**Combo Spike** A+B+C
A19I359	03/08/20	Hg Spiking Standard

A) A19I210 } 1250 µL
B) A19I123 } 625 µL
C) A19I124 625 µL

Digestion time and temperature achieved?
Initials: MJG yes

MJG 10/4/19
Prepared By: Date

Reviewed By: Date

Batch #: 9100666

If observed weight loss < 0.2g Digestion is within control limits

If observed weight loss > 0.2g Enter data in to electronic VWW. Acceptance limit 1.0% sample loss.

Date: 10/04/19 Prepared by: MJG

#	Mars Tube ID	Sample ID	Pre-digestion Vessel + Sample Wt. (g)	Post-digestion Vessel + Sample Wt. (g)	Sample Wt. Loss (%)* *Formula only used if sample loss >0.2g*
1	S73	9100666-BLK1	185.20	185.19	n/a
2	S81	9100666-BS1	182.72	182.70	n/a
3	S2	A9I0922-16	183.39	183.36	n/a
4	S69	A9I0922-17	187.01	187.00	n/a
5	S101	A9I0922-18	189.60	189.58	MJG n/a
6	S18	A9I0922-19	186.00	~~186~~ 185.98	10/14/19 n/a
7	S27	A9I0922-20	185.68	185.65	n/a
8	S45	A9I0922-21	185.13	185.02	n/a
9	S105	A9I0936-20	186.58	186.57	n/a
10	S94	A9I0936-21	184.64	184.62	n/a
11	S72	A9I0936-22	186.54	186.48	n/a
12	~~S62~~ S13	9100666-MS1	184.14	184.03	n/a
13	S90	9100666-MSD1	184.36	184.22	n/a
14	~~S19~~ S62	A9I0936-23	186.15	186.13	n/a
15	S54	A9J0058-04	187.08	187.06	n/a
16	S17	A9J0058-05	187.09	187.08	n/a
17	S91	A9J0058-06	185.52	185.50	n/a
18	S83	A9J0058-07	186.96	186.95	n/a
19	S56	A9J0058-08	186.07	186.05	n/a
20	S38	A9J0058-11	186.19	186.17	n/a
21	S59	A9J0058-12	185.67	185.65	n/a
22	S12	9100666-MS2	185.03	184.97	n/a
23	S67	9100666-MSD2	184.20	184.18	n/a
24	S16	A9J0058-13	186.89	186.83	n/a
25	S10	A9J0058-14	186.65	186.62	n/a

MJG 10/4/19

*Example Calculation: (Pre(g) – Post(g))/(Post(g) – 159.32g) This represents the mean weight of the empty digestion vessels. By factoring in the mean digestion vessel weight, we observe weight loss from only the sample, rather than as a percentage of the sample+vessel weight.

Batch #: 9100666 part 2

If observed weight loss < 0.2g Digestion is within control limits

If observed weight loss > 0.2g Enter data in to electronic VWW. Acceptance limit 1.0% sample loss.

Date: 10/04/19 Prepared by: MJG

#	Mars Tube ID	Sample ID	Pre-digestion Vessel + Sample Wt. (g)	Post-digestion Vessel + Sample Wt. (g)	Sample Wt. Loss (%)* *Formula only used if sample loss >0.2g*
1	540	A9J0058-17	185.55	185.46	n/a
2					n/a
3					n/a
4					n/a
5					n/a
6					n/a
7					n/a
8					n/a
9					n/a
10					n/a
11					n/a
12					n/a
13					n/a
14					n/a
15					n/a
16					n/a
17					n/a
18					n/a
19					n/a
20					n/a
21					n/a
22					n/a
23					n/a
24					n/a
25					n/a

*Example Calculation: (Pre(g) – Post(g))/(Post(g) – 159.32g) This represents the mean weight of the empty digestion vessels. By factoring in the mean digestion vessel weight, we observe weight loss from only the sample, rather than as a percentage of the sample+vessel weight.

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9J07068** Instrument: **ICPMS5**

Date: **10/07/19 17:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J07068-CAL1	Water	QC	QC			A19G402	A19J030
2	9J07068-CAL2	Water	QC	QC			A19G402	A19J031
3	9J07068-CAL3	Water	QC	QC			A19G402	A19J032
4	9J07068-CAL4	Water	QC	QC			A19G402	A19J033
5	9J07068-CAL5	Water	QC	QC			A19G402	A19J035
6	9J07068-CAL6	Water	QC	QC			A19G402	A19J034
7	9J07068-CAL7	Water	QC	QC			A19G402	A19J036
8	9J07068-CAL8	Water	QC	QC			A19G402	A19I054
9	9J07068-CAL9	Water	QC	QC			A19G402	A19I053
10	9J07068-ICV1	Water	QC	QC			A19G402	A19J037
11	9J07068-ICB1	Water	QC	QC			A19G402	
12	9J07068-CRL1	Water	QC	QC			A19G402	A19J030
13	9J07068-CRL2	Water	QC	QC			A19G402	A19J031
14	9J07068-CRL3	Water	QC	QC			A19G402	A19J032
15	9J07068-CRL4	Water	QC	QC			A19G402	A19J033
16	9J07068-IFA1	Water	QC	QC			A19G402	A19I356
17	9J07068-IFB1	Water	QC	QC			A19G402	A19I357
18	9100588-MS5	Water	QC	QC		9100588	A19G402	
19	A9J0027-02RE1	Water	Cu (Copper) - 200.8 - Total		10/14/19	9100588	A19G402	
20	"	Water	Mg (Magnesium) - 200.8 - Total		10/14/19	9100588	A19G402	
21	A9J0027-07RE1	Water	Cu (Copper) - 200.8 - Total		10/14/19	9100588	A19G402	
22	"	Water	Mg (Magnesium) - 200.8 - Total		10/14/19	9100588	A19G402	
23	A9J0056-01RE1	Water	Cu (Copper) - 200.8 - Total		10/09/19	9100588	A19G402	
24	A9J0091-01RE1	Water	Cu (Copper) - 200.8 - Total		10/09/19	9100588	A19G402	
25	9100531-BLK1	Sediment	QC	QC		9100531	A19G402	
26	9100531-BS1	Sediment	QC	QC		9100531	A19G402	
27	A9I0885-01	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
28	A9I0885-02	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
29	A9I0885-04	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
30	9J07068-CCV1	Water	QC	QC			A19G402	A19J037
31	9J07068-CCV2	Water	QC	QC			A19G402	A19J037
32	9J07068-CCB1	Water	QC	QC			A19G402	
33	9J07068-CCB2	Water	QC	QC			A19G402	
34	A9I0885-05	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
35	A9I0885-06	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
36	A9I0885-07	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/10/19	9100531	A19G402	
37	A9I0922-01	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
38	A9I0922-02	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
39	A9I0922-03	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
40	A9I0922-04	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
41	A9I0922-05	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
42	A9I0922-07	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
43	A9I0922-08	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
44	9J07068-CCV3	Water	QC	QC			A19G402	A19J037
45	9J07068-CCB3	Water	QC	QC			A19G402	
46	A9I0922-09	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
47	9100531-MS1	Sediment	QC	QC		9100531	A19G402	
48	9100531-MSD1	Sediment	QC	QC		9100531	A19G402	
49	A9I0922-10	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
50	A9I0922-11	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
51	A9I0922-12	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	

Sequence: **9J07068** Instrument: **ICPMS5**

Date: **10/07/19 17:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
52	A9I0922-13	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
53	A9I0922-14	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
54	A9I0922-15	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100531	A19G402	
55	9100666-BLK1	Sediment	QC	QC		9100666	A19G402	
56	9J07068-CCV4	Water	QC	QC			A19G402	A19J037
57	9J07068-CCB4	Water	QC	QC			A19G402	
58	9100666-BS1	Sediment	QC	QC		9100666	A19G402	
59	A9I0922-16	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
60	A9I0922-17	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
61	A9I0922-18	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
62	A9I0922-19	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
63	A9I0922-20	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
64	A9I0922-21	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
65	A9I0936-20	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
66	A9I0936-21	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
67	A9I0936-22	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
68	9J07068-CCV5	Water	QC	QC			A19G402	A19J037
69	9J07068-CCB5	Water	QC	QC			A19G402	
70	9100666-MS1	Sediment	QC	QC		9100666	A19G402	
71	9100666-MSD1	Sediment	QC	QC		9100666	A19G402	
72	A9I0936-23	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/11/19	9100666	A19G402	
73	A9J0058-04	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
74	A9J0058-05	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
75	A9J0058-06	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
76	A9J0058-07	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
77	A9J0058-08	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
78	A9J0058-11	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
79	A9J0058-12	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
80	9J07068-CCV6	Water	QC	QC			A19G402	A19J037
81	9J07068-CCB6	Water	QC	QC			A19G402	
82	9100666-MS2	Sediment	QC	QC		9100666	A19G402	
83	9100666-MSD2	Sediment	QC	QC		9100666	A19G402	
84	A9J0058-13	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
85	A9J0058-14	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
86	A9J0058-17	Sediment	As (Arsenic) - 6020 - Total	Anchor QEA, LLC	10/15/19	9100666	A19G402	
87	9J07068-CCV7	Water	QC	QC			A19G402	A19J037
88	9J07068-CCB7	Water	QC	QC			A19G402	
89	9J07068-CRL5	Water	QC	QC			A19G402	A19J030
90	9J07068-CRL6	Water	QC	QC			A19G402	A19J031
91	9J07068-CRL7	Water	QC	QC			A19G402	A19J032
92	9J07068-CRL8	Water	QC	QC			A19G402	A19J033
93	9100715-BLK1	Solid	QC	QC		9100715	A19G402	
94	9100715-BS1	Solid	QC	QC		9100715	A19G402	
95	A9J0169-01	Solid	Ag (Silver) - 6020 - Total		10/08/19	9100715	A19G402	
96	"	Solid	As (Arsenic) - 6020 - Total		10/08/19	9100715	A19G402	
97	"	Solid	Ba (Barium) - 6020 - Total		10/08/19	9100715	A19G402	
98	"	Solid	Cd (Cadmium) - 6020 - Total		10/08/19	9100715	A19G402	
99	"	Solid	Cr (Chromium) - 6020 - Total		10/08/19	9100715	A19G402	
100	"	Solid	Hg (Mercury) - 6020 - Total		10/08/19	9100715	A19G402	
101	"	Solid	Pb (Lead) - 6020 - Total		10/08/19	9100715	A19G402	
102	"	Solid	Se (Selenium) - 6020 - Total		10/08/19	9100715	A19G402	
103	9100715-DUP1	Solid	QC	QC		9100715	A19G402	
104	9100715-MS1	Solid	QC	QC		9100715	A19G402	
105	A9J0169-01RE1	Solid	Ag (Silver) - 6020 - Total		10/08/19	9100715	A19G402	
106	"	Solid	As (Arsenic) - 6020 - Total		10/08/19	9100715	A19G402	

Sequence: **9J07068** Instrument: **ICPMS5**

Date: **10/07/19 17:58** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
107	"	Solid	Ba (Barium) - 6020 - Total		10/08/19	9100715	A19G402	
108	"	Solid	Cd (Cadmium) - 6020 - Total		10/08/19	9100715	A19G402	
109	"	Solid	Cr (Chromium) - 6020 - Total		10/08/19	9100715	A19G402	
110	"	Solid	Hg (Mercury) - 6020 - Total		10/08/19	9100715	A19G402	
111	"	Solid	Pb (Lead) - 6020 - Total		10/08/19	9100715	A19G402	
112	"	Solid	Se (Selenium) - 6020 - Total		10/08/19	9100715	A19G402	
113	9100715-DUP2	Solid	QC	QC		9100715	A19G402	
114	9100715-MS2	Solid	QC	QC		9100715	A19G402	
115	9J07068-CCV8	Water	QC	QC			A19G402	A19J037
116	9J07068-CCV9	Water	QC	QC			A19G402	A19J037
117	9J07068-CCB8	Water	QC	QC			A19G402	
118	9J07068-CRL9	Water	QC	QC			A19G402	A19J030
119	9J07068-CRLA	Water	QC	QC			A19G402	A19J031
120	9J07068-CRLB	Water	QC	QC			A19G402	A19J032
121	9J07068-CRLC	Water	QC	QC			A19G402	A19J033

Data Entered By: ESS 10/8/19 Comments:

Data Reviewed By: [signature] 10/08/19

Tune Report

copy for 9J07068 ESS 10/8/19

Batch Folder	C:\Agilent\ICPMH\1\DATA\9J07033.b
Acq. Date-Time	10/7/2019 10:35
Report Comment	9J07033 EPA Multi-mode Tune Report A19I052
Instrument Name	7700x JP09240003

[H2]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59		2547	25468.96	1000.00	
89		11430	114300.32	1000.00	
78		3			

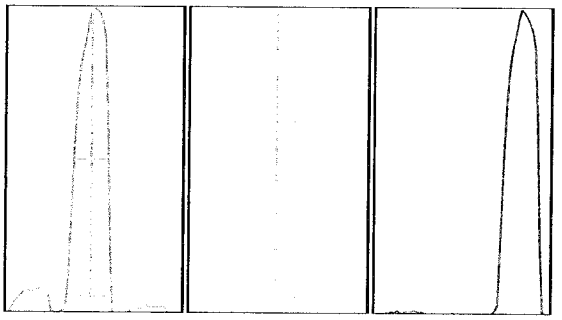
Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
78		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	2.80	5.00	
89	0.89	5.00	
78	36.78		

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
78			

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
59	2426	2545	2605	2589	2569
89	11287	11364	11532	11501	11466
78	4	2	2	5	3

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
59	468.82	59.00	58.9 - 59.1		0.57	0.766	0.900	

Tune Report

89	2114.73	89.00	88.9 - 89.1	0.56	0.761	0.900
78			-			

Integration Time [sec] 0.1 **Acquisition Time [sec]** 100.35 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	1.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	0.0 mL/min	OctP RF	200 V
H2 Flow	3.4 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59		3023	30226.24	1000.00	
89		3952	39521.26	1000.00	
205		6162	61621.86	1000.00	
75		18			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
205		-	
75		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	1.89	5.00	
89	2.74	5.00	
205	1.33	5.00	
75	23.65		

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			

Tune Report

205
75

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
59	2957	2998	2993	3069	3095
89	3800	3878	4007	4017	4058
205	6038	6131	6175	6232	6235
75	19	20	23	11	18

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
59	528.74	58.95	58.9 - 59.1		0.58	0.768	0.900	
89	757.13	89.05	88.9 - 89.1		0.55	0.734	0.900	
205	1171.41	205.00	204.9 - 205.1		0.54	0.743	0.900	
75	2.50	74.95	-		0.62	0.774		

Integration Time [sec] 0.1 **Acquisition Time [sec]** 134.8 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	1.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	3.3 mL/min	OctP RF	200 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[NoGas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
7		4827	48267.52	1000.00	
89		18143	181425.20	1000.00	
205		15184	151840.01	1000.00	
102		2			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
7		-	

Tune Report

89	-
205	-
102	-

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	1.48	5.00	
89	1.64	5.00	
205	2.77	5.00	
102	96.66		

Mass	Background (Actual)	Background (Required)	Background (Flag)
7			
89			
205			
102			

Mass	Rep. 1 Count	Rep. 2 Count	Rep. 3 Count	Rep. 4 Count	Rep. 5 Count
7	4734	4857	4789	4924	4831
89	17632	18134	18296	18367	18284
205	14689	15019	14976	15524	15711
102	2	0	3	0	4

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-5% (Actual)	W-5% (Required)	W-5% (Flag)
7	821.60	7.00	6.9 - 7.1		0.61	0.777	0.900	
89	3400.31	89.05	88.9 - 89.1		0.56	0.762	0.900	
205	2867.20	204.95	204.9 - 205.1		0.54	0.742	0.900	
102			-					

Integration Time [sec] 0.1 **Acquisition Time [sec]** 135.3 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	16.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V

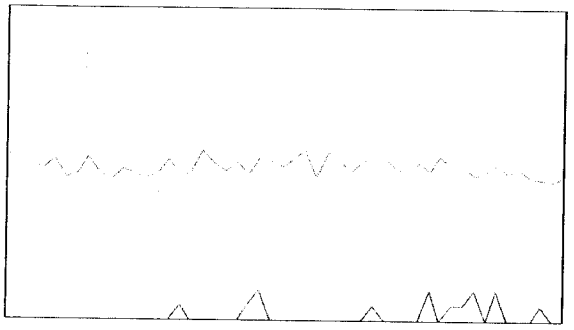
Tune Report

He Flow	0.0 mL/min	OctP RF	200 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

Tune Report

Batch Folder	C:\Agilent\ICPMH\1\DATA\9J07033.b
Acq. Date-Time	10/7/2019 10:25
Report Comment	9J07033 Std Multi-mode Tune Report A19I052
Instrument Name	7700x JP09240003

[H2]



Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59	1000	494	4940.09	1000.00	
89	5000	2143	21425.99	1000.00	
78	20	0			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
78		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	5.59	5.00	[F]
89	2.51	5.00	
78	216.94		

see EPA report for RSDs
ESS 10/8/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
78			

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.306

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min

Tune Report

Option Gas	0.0 %

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	1.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	0.0 mL/min	OctP RF	200 V
H2 Flow	3.4 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59	1000	558	5584.88	1000.00	
89	1000	782	7823.36	1000.00	
205	2000	1205	12048.98	1000.00	
75	20	3			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
205		-	
75		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	6.11	5.00	[F]
89	5.34	5.00	[F]
205	6.43	5.00	[F]
75	66.88		

see EPA report for RSDs ESS 10/8/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
205			
75			

Integration Time [sec]	0.1	**Sampling Period [sec]**	0.412

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C

Tune Report

Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	1.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	3.3 mL/min	OctP RF	200 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[NoGas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
7	1000	797	7972.51	1000.00	
89	5000	3212	32115.03	1000.00	
205	5000	2730	27296.80	1000.00	
102	20	0			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
7		-	
89		-	
205		-	
102		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	4.87	5.00	
89	2.49	5.00	
205	2.53	5.00	
102	522.73		

Mass	Background (Actual)	Background (Required)	Background (Flag)
7			
89			
205			
102			

Ratio (oxide)	156/140	1.195 %	✓
Ratio (2+)	69/138	1.487 %	✓

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.413

Tune Report

Tune Parameters
Plasma Paramters

RF Power	1550 W	Nebulizer Pump	0.10 rps
RF Matching	1.94 V	S/C Temp	2 °C
Smpl Depth	8.0 mm	Gas Switch	Makeup Gas
Carrier Gas	1.09 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-40 V
Extract 2	-160.0 V	Cell Exit	-60 V
Omega Bias	-90 V	Deflect	16.0 V
Omega Lens	10.0 V	Plate Bias	-60 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V
He Flow	0.0 mL/min	OctP RF	200 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

P/A Factor Tuning Report

========== Current Sample ==========
Sample Name: 9J07068-ICV1
Data File: 013_ICV.d
Acquired: 10/7/2019 19:01:46

========= Detector Parameters and P/A Factors =========
Discriminator: 4.5 mV
AnalogHV: 1868 V
PulseHV: 1676 V

Acquired: 10/7/2019 12:11:31

Mass[u]	Element	P/A Factor
6	Li	0.090004
7	Li	0.094505
11	B	0.102443
28	Si	0.098675
31	P	0.124270
45	Sc	0.126554
74	Ge	0.139907
88	Sr	0.140736
90	Zr	0.138257
103	Rh	0.144407
118	Sn	0.146234
159	Tb	0.148391
209	Bi	0.152692
197	Au	Signal too low
238	U	Signal too low

=== Independent Detector Parameters and P/A Factors ===
Tune Mode Name: H2
Discriminator: 4.5 mV
AnalogHV: 1868 V
PulseHV: 1676 V

Acquired: 10/7/2019 18:52:20

Mass[u]	Element	P/A Factor
23	Na	0.115907
44	Ca	0.130997
45	Sc	0.130390
56	Fe	0.137747
57	Fe	0.137751
74	Ge	Signal too low
78	Se	Signal too low

Tune Mode Name: He
Discriminator: 4.5 mV
AnalogHV: 1868 V
PulseHV: 1676 V

Acquired: 10/7/2019 18:58:01

Mass[u]	Element	P/A Factor
23	Na	0.116281
24	Mg	0.122646
27	Al	0.126707
39	K	0.131153
44	Ca	0.131207
51	V	0.132142
52	Cr	0.136143
55	Mn	0.138520
59	Co	0.142488
60	Ni	0.142014
65	Cu	0.145922
66	Zn	0.145358
138	Ba	0.151363

159	Tb	0.154307
205	Tl	0.156554
45	Sc	Signal too low
74	Ge	Signal too low
75	As	Signal too low
95	Mo	Signal too low
103	Rh	Signal too low
107	Ag	Signal too low
111	Cd	Signal too low
121	Sb	Signal too low
209	Bi	Signal too low

Tune Mode Name: NoGas
Discriminator: 4.5 mV
AnalogHV: 1868 V
PulseHV: 1676 V

Acquired: 10/7/2019 18:59:25

Mass[u]	Element	P/A Factor
45	Sc	0.129121
47	Ti	0.128850
65	Cu	0.145331
103	Rh	0.147411
111	Cd	0.150193
159	Tb	0.152519
182	W	0.153738
206	Pb	0.156768
207	Pb	0.157295
208	Pb	0.158755
209	Bi	0.158023
6	Li	Signal too low
7	Li	Signal too low
9	Be	Signal too low
74	Ge	Signal too low
106	[Cd]	Signal too low
108	[Cd]	Signal too low
201	Hg	Signal too low

Created: 10/8/2019 13:08:37

Quantitation Report - ICPMS5

Sample Name:	**Rinse**	Total Dilution:	**1.0000**
File Name:	001RINS.d	Vial:	3
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Rinse
Acq Time:	10/7/2019 18:03:33		
Comment:	**cal blank check**	Last Calib:	N/A

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas		ppb		778	0.18	
Na	23	45	He		ppb		8,272	90	
Mg	24	45	He		ppb		4,124	90	
Al	27	45	He		ppb		2,810	45	
K	39	45	He		ppb		25,127	90	
Ca	44	45	H2		ppb		1,318	90	
[Ca]	44	45	He		ppb		454		
Ti	47	45	NoGas		ppb		895	0.9	
V	51	74	He		ppb		1,105	0.9	
Cr	52	74	He		ppb		827	0.9	
Mn	55	74	He		ppb		531	0.9	
Fe	56	74	H2		ppb		49,885	45	
Co	59	74	He		ppb		797	0.18	
Ni	60	74	He		ppb		273	0.9	
Cu	65	74	He		ppb		484	0.9	
Zn	66	74	He		ppb		292	3.6	
As	75	74	He		ppb		67	0.9	
Se	78	74	H2		ppb		10	0.9	
Mo	95	103	He		ppb		162	0.9	
Ag	107	103	He		ppb		262	0.18	
Cd	111	103	He		ppb		143		
[Cd]	111	103	NoGas		ppb		2,071	0.18	
Sb	121	103	He		ppb		279	0.9	
Ba	138	159	He		ppb		1,799	0.9	
W	182	159	NoGas		ppb		32		
Hg	201	159	NoGas		ppt		34	72	
Tl	205	159	He		ppb		1,047	0.18	
Pb	208	159	NoGas		ppb		30,652	0.18	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	404,768	0.3	0	Pulse		
Sc	45	H2	1,073,924	0.2	0	Pulse		
Sc	45	He	182,456	0.5	0	Pulse		
Sc	45	NoGas	1,722,970	0.9	0	Analog		
Ge	74	H2	370,846	0.6	0	Pulse		
Ge	74	He	121,045	0.4	0	Pulse		
Ge	74	NoGas	529,308	0.9	0	Pulse		
Rh	103	He	290,696	0.8	0	Pulse		
Rh	103	NoGas	633,892	0.4	0	Pulse		
Tb	159	He	586,432	0.8	0	Pulse		
Tb	159	NoGas	1,516,817	2.2	0	Mix		
Bi	209	He	379,098	0.2	0	Pulse		
Bi	209	NoGas	943,543	1.0	0	Pulse		

Quantitation Report - ICPMS5

Sample Name:	**Rinse**	Total Dilution:	**1.0000**
File Name:	002RINS.d	Vial:	1
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Rinse
Acq Time:	10/7/2019 18:08:15		
Comment:	**cal blank check**	Last Calib:	N/A

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas		ppb		3	0.18	
Na	23	45	He		ppb		2,691	90	
Mg	24	45	He		ppb		356	90	
Al	27	45	He		ppb		83	45	
K	39	45	He		ppb		22,568	90	
Ca	44	45	H2		ppb		383	90	
[Ca]	44	45	He		ppb		208		
Ti	47	45	NoGas		ppb		25	0.9	
V	51	74	He		ppb		612	0.9	
Cr	52	74	He		ppb		1,375	0.9	
Mn	55	74	He		ppb		90	0.9	
Fe	56	74	H2		ppb		22,209	45	
Co	59	74	He		ppb		33	0.18	
Ni	60	74	He		ppb		50	0.9	
Cu	65	74	He		ppb		119	0.9	
Zn	66	74	He		ppb		81	3.6	
As	75	74	He		ppb		15	0.9	
Se	78	74	H2		ppb		1	0.9	
Mo	95	103	He		ppb		121	0.9	
Ag	107	103	He		ppb		7	0.18	
Cd	111	103	He		ppb		4		
[Cd]	111	103	NoGas		ppb		11	0.18	
Sb	121	103	He		ppb		24	0.9	
Ba	138	159	He		ppb		99	0.9	
W	182	159	NoGas		ppb		23		
Hg	201	159	NoGas		ppt		5	72	
Tl	205	159	He		ppb		68	0.18	
Pb	208	159	NoGas		ppb		813	0.18	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	402,268	0.4	0	Pulse		
Sc	45	H2	1,029,483	0.6	0	Pulse		
Sc	45	He	176,880	0.4	0	Pulse		
Sc	45	NoGas	1,720,432	0.2	0	Analog		
Ge	74	H2	355,032	0.6	0	Pulse		
Ge	74	He	117,635	0.2	0	Pulse		
Ge	74	NoGas	525,624	0.9	0	Pulse		
Rh	103	He	285,488	0.1	0	Pulse		
Rh	103	NoGas	632,651	0.3	0	Pulse		
Tb	159	He	573,200	0.5	0	Pulse		
Tb	159	NoGas	1,506,173	1.5	0	Mix		
Bi	209	He	371,006	0.2	0	Pulse		
Bi	209	NoGas	941,193	1.0	0	Pulse		

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL0**	Total Dilution:	**1.0000**
File Name:	003CALB.d	Vial:	1
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalBlk
Acq Time:	10/7/2019 18:12:56		
Comment:	**3.5%HNO3+0.4%HCl**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0	ppb	N/A	10	57.7	
Na	23	45	He	0	ppb	N/A	2,656	5.9	
Mg	24	45	He	0	ppb	N/A	327	4.7	
Al	27	45	He	0	ppb	N/A	109	8.8	
K	39	45	He	0	ppb	N/A	21,730	3.8	
Ca	44	45	H2	0	ppb	N/A	421	7.1	
[Ca]	44	45	He	0	ppb	N/A	209	11.3	
Ti	47	45	NoGas	0	ppb	N/A	33	85.3	
V	51	74	He	0	ppb	N/A	579	6.9	
Cr	52	74	He	0	ppb	N/A	1,302	10.2	
Mn	55	74	He	0	ppb	N/A	93	17.9	
Fe	56	74	H2	0	ppb	N/A	21,548	2.6	
Co	59	74	He	0	ppb	N/A	30	101.9	
Ni	60	74	He	0	ppb	N/A	34	31.1	
Cu	65	74	He	0	ppb	N/A	123	7.1	
Zn	66	74	He	0	ppb	N/A	91	24.9	
As	75	74	He	0	ppb	N/A	14	8.1	
Se	78	74	H2	0	ppb	N/A	1	43.3	
Mo	95	103	He	0	ppb	N/A	141	7.6	
Ag	107	103	He	0	ppb	N/A	9	43.3	
Cd	111	103	He	0	ppb	N/A	4	66.1	
[Cd]	111	103	NoGas	0	ppb	N/A	24	16.3	
Sb	121	103	He	0	ppb	N/A	23	14.3	
Ba	138	159	He	0	ppb	N/A	100	17.6	
W	182	159	NoGas	0	ppb	N/A	31	65.5	
Hg	201	159	NoGas	-11.307	ppt	N/A	6	35.7	
Tl	205	159	He	0	ppb	N/A	41	20.4	
Pb	208	159	NoGas	0	ppb	N/A	720	13.8	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	390,560	0.4	390560.36	Pulse	100.0	
Sc	45	H2	995,917	0.1	995916.946666667	Pulse	100.0	
Sc	45	He	171,648	0.8	171648.27	Pulse	100.0	
Sc	45	NoGas	1,663,179	0.9	1663179.33	Analog	100.0	
Ge	74	H2	344,346	0.4	344345.643333333	Pulse	100.0	
Ge	74	He	114,795	0.3	114794.926666667	Pulse	100.0	
Ge	74	NoGas	511,960	1.2	511960.473333333	Pulse	100.0	
Rh	103	He	279,071	0.5	279070.866666667	Pulse	100.0	
Rh	103	NoGas	619,166	0.9	619166.366666667	Pulse	100.0	
Tb	159	He	563,986	0.9	563985.973333333	Pulse	100.0	
Tb	159	NoGas	1,490,879	1.6	1490879.07333333	Mix	100.0	
Bi	209	He	365,535	0.6	365534.536666667	Pulse	100.0	
Bi	209	NoGas	928,203	0.7	928203.173333333	Pulse	100.0	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL1**	Total Dilution:	**1.0000**
File Name:	004CALS.d	Vial:	1102
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:17:35		
Comment:	**A19J030 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0.163	ppb	18.0	200	17.4	
Na	23	45	He	9.252	ppb	3.7	7,492	3.0	
Mg	24	45	He	9.405	ppb	5.5	3,079	4.3	
Al	27	45	He	9.174	ppb	6.7	1,628	6.2	
K	39	45	He	8.366	ppb	15.6	24,044	1.0	
Ca	44	45	H2	8.425	ppb	10.5	1,356	7.1	
[Ca]	44	45	He	8.015	ppb	59.3	321	21.4	
Ti	47	45	NoGas	0.221	ppb	31.4	168	24.9	
V	51	74	He	0.224	ppb	0.5	958	0.5	
Cr	52	74	He	1.063	ppb	1.6	3,443	1.6	
Mn	55	74	He	0.175	ppb	3.9	373	2.4	
Fe	56	74	H2	12.151	ppb	1.6	85,730	1.1	
Co	59	74	He	0.184	ppb	5.9	544	4.9	
Ni	60	74	He	0.18	ppb	24.3	157	18.4	
Cu	65	74	He	0.152	ppb	8.4	251	4.3	
Zn	66	74	He	0.119	ppb	23.7	130	6.8	
As	75	74	He	0.178	ppb	56.2	56	42.2	
Se	78	74	H2	0.193	ppb	19.9	32	19.3	
Mo	95	103	He	0.295	ppb	28.2	452	19.4	
Ag	107	103	He	0.182	ppb	8.4	593	7.9	
Cd	111	103	He	0.199	ppb	4.8	123	4.3	
[Cd]	111	103	NoGas	0.196	ppb	15.2	353	14.0	
Sb	121	103	He	0.175	ppb	16.1	312	15.0	
Ba	138	159	He	0.175	ppb	3.4	888	3.1	
W	182	159	NoGas	0.002	ppb	99.9	49	37.5	
Hg	201	159	NoGas	-3.146	ppt	N/A	13	17.7	
Tl	205	159	He	0.183	ppb	0.9	1,426	0.7	
Pb	208	159	NoGas	0.186	ppb	2.0	5,288	1.4	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	389,665	0.6	390560.36	Pulse	99.8	
Sc	45	H2	986,077	0.2	995916.946666667	Pulse	99.0	
Sc	45	He	169,397	0.7	171648.27	Pulse	98.7	
Sc	45	NoGas	1,671,867	0.5	1663179.33	Analog	100.5	
Ge	74	H2	341,093	0.3	344345.643333333	Pulse	99.1	
Ge	74	He	113,182	0.6	114794.926666667	Pulse	98.6	
Ge	74	NoGas	510,022	0.4	511960.473333333	Pulse	99.6	
Rh	103	He	276,200	0.4	279070.866666667	Pulse	99.0	
Rh	103	NoGas	614,573	0.3	619166.366666667	Pulse	99.3	
Tb	159	He	562,150	0.2	563985.973333333	Pulse	99.7	
Tb	159	NoGas	1,476,765	0.4	1490879.07333333	Pulse	99.1	
Bi	209	He	363,611	0.2	365534.536666667	Pulse	99.5	
Bi	209	NoGas	929,330	0.2	928203.173333333	Pulse	100.1	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL2**	Total Dilution:	**1.0000**
File Name:	005CALS.d	Vial:	1103
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:22:34		
Comment:	**A19J031 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0.951	ppb	10.2	1,129	9.9	
Na	23	45	He	45.508	ppb	0.9	26,905	0.7	
Mg	24	45	He	45.405	ppb	2.5	13,802	2.5	
Al	27	45	He	45.137	ppb	3.2	7,681	2.7	
K	39	45	He	45.068	ppb	2.6	35,906	0.5	
Ca	44	45	H2	44.079	ppb	2.5	5,391	2.4	
[Ca]	44	45	He	45.33	ppb	3.4	867	3.1	
Ti	47	45	NoGas	0.828	ppb	16.1	545	15.3	
V	51	74	He	1.001	ppb	1.5	2,312	1.0	
Cr	52	74	He	1.75	ppb	4.8	4,864	3.5	
Mn	55	74	He	0.89	ppb	11.2	1,529	10.6	
Fe	56	74	H2	47.908	ppb	1.0	277,935	0.7	
Co	59	74	He	0.902	ppb	1.9	2,567	1.8	
Ni	60	74	He	0.989	ppb	4.2	714	3.9	
Cu	65	74	He	1.047	ppb	6.9	1,018	6.0	
Zn	66	74	He	0.983	ppb	16.1	424	12.7	
As	75	74	He	0.979	ppb	6.8	248	6.4	
Se	78	74	H2	0.913	ppb	5.1	146	5.6	
Mo	95	103	He	1.008	ppb	7.0	1,215	6.1	
Ag	107	103	He	0.927	ppb	0.5	2,994	0.8	
Cd	111	103	He	0.916	ppb	8.9	556	8.8	
[Cd]	111	103	NoGas	0.904	ppb	8.1	1,563	8.0	
Sb	121	103	He	0.884	ppb	6.9	1,491	7.0	
Ba	138	159	He	0.91	ppb	2.5	4,218	2.6	
W	182	159	NoGas	0.002	ppb	149.5	46	47.0	
Hg	201	159	NoGas	26.863	ppt	19.5	42	13.4	
Tl	205	159	He	0.917	ppb	2.7	7,016	2.9	
Pb	208	159	NoGas	0.923	ppb	1.8	23,674	1.4	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	394,146	0.7	390560.36	Pulse	100.9	
Sc	45	H2	997,567	0.2	995916.946666667	Pulse	100.2	
Sc	45	He	171,482	0.5	171648.27	Pulse	99.9	
Sc	45	NoGas	1,695,936	0.3	1663179.33	Analog	102.0	
Ge	74	H2	344,491	0.6	344345.643333333	Pulse	100.0	
Ge	74	He	113,802	0.1	114794.926666667	Pulse	99.1	
Ge	74	NoGas	516,907	0.6	511960.473333333	Pulse	101.0	
Rh	103	He	277,534	0.4	279070.866666667	Pulse	99.4	
Rh	103	NoGas	621,712	0.3	619166.366666667	Pulse	100.4	
Tb	159	He	566,271	0.3	563985.973333333	Pulse	100.4	
Tb	159	NoGas	1,493,619	1.6	1490879.07333333	Mix	100.2	
Bi	209	He	366,575	0.5	365534.536666667	Pulse	100.3	
Bi	209	NoGas	938,939	1.0	928203.173333333	Pulse	101.2	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL3**	Total Dilution:	**1.0000**
File Name:	006CALS.d	Vial:	1104
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:27:32		
Comment:	**A19J032 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	1.809	ppb	0.7	2,120	0.8	
Na	23	45	He	90.143	ppb	0.2	50,049	0.6	
Mg	24	45	He	89.249	ppb	1.7	26,474	1.6	
Al	27	45	He	90.539	ppb	2.7	15,103	2.2	
K	39	45	He	88.006	ppb	2.7	48,809	1.0	
Ca	44	45	H2	87.816	ppb	1.5	10,179	1.1	
[Ca]	44	45	He	95.177	ppb	3.6	1,570	3.3	
Ti	47	45	NoGas	1.772	ppb	6.5	1,098	5.7	
V	51	74	He	1.804	ppb	3.7	3,695	3.2	
Cr	52	74	He	2.635	ppb	7.6	6,648	6.4	
Mn	55	74	He	1.829	ppb	2.9	3,035	3.2	
Fe	56	74	H2	91.718	ppb	0.5	507,663	0.3	
Co	59	74	He	1.829	ppb	1.6	5,156	1.9	
Ni	60	74	He	1.855	ppb	5.1	1,306	4.5	
Cu	65	74	He	1.855	ppb	12.0	1,703	10.9	
Zn	66	74	He	1.666	ppb	9.7	654	8.4	
As	75	74	He	1.826	ppb	6.2	448	6.3	
Se	78	74	H2	1.855	ppb	2.7	292	2.4	
Mo	95	103	He	1.803	ppb	10.4	2,050	9.4	
Ag	107	103	He	1.844	ppb	1.4	5,917	1.7	
Cd	111	103	He	1.83	ppb	4.9	1,100	5.2	
[Cd]	111	103	NoGas	1.83	ppb	1.2	3,118	1.3	
Sb	121	103	He	1.724	ppb	1.2	2,870	1.4	
Ba	138	159	He	1.795	ppb	3.9	8,168	4.4	
W	182	159	NoGas	0.002	ppb	152.4	49	56.8	
Hg	201	159	NoGas	61.714	ppt	12.8	74	10.2	
Tl	205	159	He	1.824	ppb	1.4	13,801	1.3	
Pb	208	159	NoGas	1.874	ppb	0.7	46,932	0.6	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	390,613	0.3	390560.36	Pulse	100.0	
Sc	45	H2	983,817	0.5	995916.946666667	Pulse	98.8	
Sc	45	He	169,307	0.5	171648.27	Pulse	98.6	
Sc	45	NoGas	1,652,441	0.6	1663179.33	Analog	99.4	
Ge	74	H2	341,310	0.4	344345.643333333	Pulse	99.1	
Ge	74	He	113,414	0.4	114794.926666667	Pulse	98.8	
Ge	74	NoGas	509,242	0.0	511960.473333333	Pulse	99.5	
Rh	103	He	275,955	0.3	279070.866666667	Pulse	98.9	
Rh	103	NoGas	617,521	0.1	619166.366666667	Pulse	99.7	
Tb	159	He	562,030	0.5	563985.973333333	Pulse	99.7	
Tb	159	NoGas	1,480,746	0.2	1490879.07333333	Pulse	99.3	
Bi	209	He	365,914	0.3	365534.536666667	Pulse	100.1	
Bi	209	NoGas	936,693	0.6	928203.173333333	Pulse	100.9	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL4**	Total Dilution:	**1.0000**
File Name:	007CALS.d	Vial:	1105
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:32:29		
Comment:	**A19J033 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	3.613	ppb	3.2	4,245	2.9	
Na	23	45	He	178.234	ppb	1.4	97,299	0.6	
Mg	24	45	He	175.801	ppb	1.8	52,319	0.9	
Al	27	45	He	177.227	ppb	1.1	29,740	1.0	
K	39	45	He	175.218	ppb	0.6	76,659	0.5	
Ca	44	45	H2	176.627	ppb	2.0	19,985	2.1	
[Ca]	44	45	He	171.582	ppb	0.7	2,690	1.5	
Ti	47	45	NoGas	3.435	ppb	4.6	2,117	6.3	
V	51	74	He	3.588	ppb	0.9	6,772	0.9	
Cr	52	74	He	4.287	ppb	3.9	9,995	3.4	
Mn	55	74	He	3.685	ppb	2.8	6,013	2.8	
Fe	56	74	H2	180.99	ppb	0.1	977,427	0.0	
Co	59	74	He	3.634	ppb	0.9	10,202	1.0	
Ni	60	74	He	3.7	ppb	3.4	2,567	3.4	
Cu	65	74	He	3.966	ppb	6.0	3,499	5.7	
Zn	66	74	He	3.612	ppb	6.0	1,312	5.5	
As	75	74	He	3.654	ppb	4.9	881	4.9	
Se	78	74	H2	3.588	ppb	3.1	562	3.1	
Mo	95	103	He	3.667	ppb	0.9	4,052	0.2	
Ag	107	103	He	3.648	ppb	0.6	11,770	0.8	
Cd	111	103	He	3.716	ppb	2.9	2,245	2.9	
[Cd]	111	103	NoGas	3.586	ppb	4.2	6,097	4.4	
Sb	121	103	He	3.463	ppb	4.2	5,781	3.5	
Ba	138	159	He	3.575	ppb	2.0	16,183	1.6	
W	182	159	NoGas	0.001	ppb	168.8	40	38.2	
Hg	201	159	NoGas	133.846	ppt	13.6	143	11.6	
Tl	205	159	He	3.615	ppb	0.9	27,353	0.7	
Pb	208	159	NoGas	3.683	ppb	1.6	92,852	0.4	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	392,505	0.4	390560.36	Pulse	100.5	
Sc	45	H2	980,484	0.2	995916.946666667	Pulse	98.5	
Sc	45	He	170,902	0.9	171648.27	Pulse	99.6	
Sc	45	NoGas	1,667,166	1.9	1663179.33	Analog	100.2	
Ge	74	H2	340,065	0.1	344345.643333333	Pulse	98.8	
Ge	74	He	113,264	0.1	114794.926666667	Pulse	98.7	
Ge	74	NoGas	510,778	1.1	511960.473333333	Pulse	99.8	
Rh	103	He	277,787	0.8	279070.866666667	Pulse	99.5	
Rh	103	NoGas	618,329	0.6	619166.366666667	Pulse	99.9	
Tb	159	He	562,814	0.4	563985.973333333	Pulse	99.8	
Tb	159	NoGas	1,501,923	1.2	1490879.07333333	Mix	100.7	
Bi	209	He	367,291	0.4	365534.536666667	Pulse	100.5	
Bi	209	NoGas	943,290	0.3	928203.173333333	Pulse	101.6	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL5**	Total Dilution:	**1.0000**
File Name:	008CALS.d	Vial:	1106
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:37:27		
Comment:	**A19J035 - ESS 10/07**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	10.093	ppb	2.1	11,969	2.2	
Na	23	45	He	403.342	ppb	0.5	215,982	0.4	
Mg	24	45	He	406.742	ppb	0.4	120,142	0.6	
Al	27	45	He	400.405	ppb	0.9	66,783	0.7	
K	39	45	He	393.326	ppb	0.6	144,569	0.7	
Ca	44	45	H2	395.258	ppb	1.8	44,332	1.5	
[Ca]	44	45	He	404.152	ppb	2.7	6,030	2.6	
Ti	47	45	NoGas	20.05	ppb	3.3	12,190	3.3	
V	51	74	He	20.269	ppb	0.6	35,800	0.6	
Cr	52	74	He	20.057	ppb	0.7	42,263	0.6	
Mn	55	74	He	19.819	ppb	1.2	32,110	1.2	
Fe	56	74	H2	406.306	ppb	1.2	2,171,421	1.1	
Co	59	74	He	20.289	ppb	1.2	57,125	1.1	
Ni	60	74	He	20.84	ppb	1.4	14,379	1.4	
Cu	65	74	He	21.038	ppb	1.9	18,135	1.7	
Zn	66	74	He	21.322	ppb	3.7	7,345	3.7	
As	75	74	He	20.211	ppb	1.9	4,835	1.9	
Se	78	74	H2	10.262	ppb	5.9	1,609	5.6	
Mo	95	103	He	9.845	ppb	2.0	10,562	2.3	
Ag	107	103	He	10.216	ppb	0.4	32,699	0.2	
Cd	111	103	He	20.453	ppb	1.1	12,245	0.8	
[Cd]	111	103	NoGas	20.354	ppb	2.3	34,583	1.8	
Sb	121	103	He	9.972	ppb	2.3	16,479	2.1	
Ba	138	159	He	20.243	ppb	0.4	91,844	0.4	
W	182	159	NoGas	0.003	ppb	26.1	51	10.0	
Hg	201	159	NoGas	423.156	ppt	5.6	414	4.9	
Tl	205	159	He	10.192	ppb	1.5	77,615	1.1	
Pb	208	159	NoGas	20.976	ppb	0.4	523,287	0.7	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	396,769	0.2	390560.36	Pulse	101.6	
Sc	45	H2	983,266	0.7	995916.946666667	Pulse	98.7	
Sc	45	He	170,205	0.2	171648.27	Pulse	99.2	
Sc	45	NoGas	1,666,909	0.6	1663179.33	Analog	100.2	
Ge	74	H2	340,645	0.6	344345.643333333	Pulse	98.9	
Ge	74	He	113,875	0.1	114794.926666667	Pulse	99.2	
Ge	74	NoGas	515,113	0.5	511960.473333333	Pulse	100.6	
Rh	103	He	275,694	0.4	279070.866666667	Pulse	98.8	
Rh	103	NoGas	619,992	0.6	619166.366666667	Pulse	100.1	
Tb	159	He	566,926	0.6	563985.973333333	Pulse	100.5	
Tb	159	NoGas	1,495,540	0.7	1490879.07333333	Pulse	100.3	
Bi	209	He	368,968	0.4	365534.536666667	Pulse	100.9	
Bi	209	NoGas	945,838	0.6	928203.173333333	Pulse	101.9	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL6**	Total Dilution:	**1.0000**
File Name:	009CALS.d	Vial:	1107
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:42:23		
Comment:	**A19J034**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	50.509	ppb	0.9	61,448	1.0	
Na	23	45	He	2545.727	ppb	1.5	1,377,960	0.9	
Mg	24	45	He	2468.878	ppb	0.8	743,131	0.4	
Al	27	45	He	2450.213	ppb	0.9	416,828	0.3	
K	39	45	He	2454.587	ppb	0.9	806,131	0.3	
Ca	44	45	H2	2397.958	ppb	0.5	272,218	0.5	
[Ca]	44	45	He	2487.597	ppb	1.1	36,817	0.7	
Ti	47	45	NoGas	49.119	ppb	0.4	31,144	0.4	
V	51	74	He	49.911	ppb	0.5	89,010	0.4	
Cr	52	74	He	48.913	ppb	0.9	103,170	0.7	
Mn	55	74	He	48.974	ppb	1.1	80,746	0.8	
Fe	56	74	H2	2466.543	ppb	0.6	13,213,841	0.2	
Co	59	74	He	49.772	ppb	0.7	142,808	0.4	
Ni	60	74	He	51.509	ppb	1.4	36,179	1.2	
Cu	65	74	He	51.557	ppb	1.4	45,125	1.5	
Zn	66	74	He	52.649	ppb	1.5	18,352	1.3	
As	75	74	He	49.305	ppb	1.0	12,004	0.6	
Se	78	74	H2	50.67	ppb	0.9	8,023	1.1	
Mo	95	103	He	50.025	ppb	0.5	53,409	0.7	
Ag	107	103	He	50.475	ppb	0.7	162,472	0.6	
Cd	111	103	He	50.277	ppb	0.4	30,271	0.3	
[Cd]	111	103	NoGas	49.753	ppb	0.2	85,711	0.2	
Sb	121	103	He	50.009	ppb	0.5	83,036	0.4	
Ba	138	159	He	50.005	ppb	0.7	229,100	0.4	
W	182	159	NoGas	0.012	ppb	18.8	131	14.0	
Hg	201	159	NoGas	2038.821	ppt	1.0	1,992	2.0	
Tl	205	159	He	50.415	ppb	0.2	387,778	0.2	
Pb	208	159	NoGas	50.161	ppb	1.4	1,289,789	0.2	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	407,334	0.1	390560.36	Pulse	104.3	
Sc	45	H2	1,003,010	0.1	995916.946666667	Pulse	100.7	
Sc	45	He	173,843	0.6	171648.27	Pulse	101.3	
Sc	45	NoGas	1,741,200	0.1	1663179.33	Analog	104.7	
Ge	74	H2	344,294	0.4	344345.643333333	Pulse	100.0	
Ge	74	He	116,086	0.4	114794.926666667	Pulse	101.1	
Ge	74	NoGas	531,929	1.4	511960.473333333	Pulse	103.9	
Rh	103	He	277,308	0.2	279070.866666667	Pulse	99.4	
Rh	103	NoGas	628,841	0.4	619166.366666667	Pulse	101.6	
Tb	159	He	572,858	0.4	563985.973333333	Pulse	101.6	
Tb	159	NoGas	1,542,835	1.3	1490879.07333333	Mix	103.5	
Bi	209	He	368,824	0.4	365534.536666667	Pulse	100.9	
Bi	209	NoGas	953,610	0.7	928203.173333333	Pulse	102.7	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL7**	Total Dilution:	**1.0000**
File Name:	010CALS.d	Vial:	1108
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:47:27		
Comment:	**A19J036**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	99.735	ppb	0.4	121,200	0.7	
Na	23	45	He	4116.073	ppb	1.2	2,229,551	0.4	
Mg	24	45	He	4017.896	ppb	1.4	1,210,915	0.9	
Al	27	45	He	3938.995	ppb	0.8	671,006	0.1	
K	39	45	He	4042.198	ppb	1.1	1,315,339	1.9	
Ca	44	45	H2	3876.846	ppb	0.0	442,611	0.6	
[Ca]	44	45	He	4005.826	ppb	0.7	59,246	0.9	
Ti	47	45	NoGas	194.395	ppb	1.5	123,184	0.2	
V	51	74	He	199.595	ppb	0.4	355,160	0.4	
Cr	52	74	He	194.546	ppb	0.1	407,541	0.2	
Mn	55	74	He	194.964	ppb	0.2	322,047	0.3	
Fe	56	74	H2	3980.685	ppb	0.7	21,407,114	0.3	
Co	59	74	He	198.062	ppb	0.2	569,751	0.3	
Ni	60	74	He	203.203	ppb	1.0	143,013	1.0	
Cu	65	74	He	203.182	ppb	0.2	177,949	0.1	
Zn	66	74	He	209.161	ppb	0.5	72,833	0.4	
As	75	74	He	197.195	ppb	0.3	48,096	0.3	
Se	78	74	H2	99.638	ppb	1.5	15,845	0.7	
Mo	95	103	He	99.999	ppb	0.8	106,445	0.3	
Ag	107	103	He	99.738	ppb	1.0	320,496	0.4	
Cd	111	103	He	199.38	ppb	0.5	119,834	0.2	
[Cd]	111	103	NoGas	199.968	ppb	0.3	341,168	0.4	
Sb	121	103	He	100.005	ppb	0.5	165,756	0.8	
Ba	138	159	He	199.456	ppb	0.6	914,669	0.2	
W	182	159	NoGas	0.018	ppb	38.0	179	28.5	
Hg	201	159	NoGas	3978.907	ppt	4.9	3,881	2.2	
Tl	205	159	He	99.772	ppb	0.5	768,349	0.4	
Pb	208	159	NoGas	198.851	ppb	3.0	5,127,022	0.2	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	406,914	0.4	390560.36	Pulse	104.2	
Sc	45	H2	1,009,325	0.6	995916.946666667	Pulse	101.3	
Sc	45	He	174,097	0.8	171648.27	Pulse	101.4	
Sc	45	NoGas	1,741,885	1.6	1663179.33	Analog	104.7	
Ge	74	H2	345,837	0.9	344345.643333333	Pulse	100.4	
Ge	74	He	116,401	0.1	114794.926666667	Pulse	101.4	
Ge	74	NoGas	526,553	0.9	511960.473333333	Pulse	102.9	
Rh	103	He	276,854	0.6	279070.866666667	Pulse	99.2	
Rh	103	NoGas	622,906	0.3	619166.366666667	Pulse	100.6	
Tb	159	He	573,586	0.5	563985.973333333	Pulse	101.7	
Tb	159	NoGas	1,548,393	2.8	1490879.07333333	Mix	103.9	
Bi	209	He	363,455	0.2	365534.536666667	Pulse	99.4	
Bi	209	NoGas	933,625	0.1	928203.173333333	Pulse	100.6	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL8**	Total Dilution:	**1.0000**
File Name:	011CALS.d	Vial:	1109
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:52:18		
Comment:	**A19I054**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0.011	ppb	97.7	24	55.1	
Na	23	45	He	10186.264	ppb	0.6	5,532,035	0.5	
Mg	24	45	He	10311.123	ppb	0.9	3,117,362	0.5	
Al	27	45	He	10211.725	ppb	0.4	1,745,159	0.2	
K	39	45	He	10222.529	ppb	1.0	3,303,453	1.3	
Ca	44	45	H2	9734.913	ppb	0.2	1,123,128	0.4	
[Ca]	44	45	He	10052.655	ppb	0.5	148,849	0.6	
Ti	47	45	NoGas	494.516	ppb	2.7	307,106	0.6	
V	51	74	He	500.16	ppb	0.5	886,505	0.4	
Cr	52	74	He	487.636	ppb	0.2	1,016,549	0.4	
Mn	55	74	He	485.825	ppb	0.3	800,015	0.4	
Fe	56	74	H2	9962.513	ppb	0.4	53,574,283	0.1	
Co	59	74	He	500.786	ppb	1.9	1,436,245	1.5	
Ni	60	74	He	498.533	ppb	0.7	349,781	0.2	
Cu	65	74	He	498.527	ppb	0.2	435,165	0.8	
Zn	66	74	He	524.863	ppb	0.6	182,091	0.2	
As	75	74	He	501.183	ppb	0.3	121,863	0.9	
Se	78	74	H2	0.14	ppb	3.0	24	2.4	
Mo	95	103	He	-0.029	ppb	N/A	108	25.9	
Ag	107	103	He	0.021	ppb	26.7	76	24.3	
Cd	111	103	He	504.893	ppb	0.5	298,181	0.7	
[Cd]	111	103	NoGas	511.348	ppb	0.3	851,113	0.4	
Sb	121	103	He	0.11	ppb	14.5	202	12.5	
Ba	138	159	He	511.69	ppb	1.1	2,320,326	0.3	
W	182	159	NoGas	100	ppb	3.2	782,348	0.4	
Hg	201	159	NoGas	78.544	ppt	13.8	91	9.8	
Tl	205	159	He	0.047	ppb	12.8	396	11.4	
Pb	208	159	NoGas	500.404	ppb	2.6	12,611,983	0.3	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	415,850	0.2	390560.36	Pulse	106.5	
Sc	45	H2	1,020,565	0.7	995916.946666667	Pulse	102.5	
Sc	45	He	174,669	0.5	171648.27	Pulse	101.8	
Sc	45	NoGas	1,707,950	2.7	1663179.33	Analog	102.7	
Ge	74	H2	346,025	0.4	344345.643333333	Pulse	100.5	
Ge	74	He	116,063	0.6	114794.926666667	Pulse	101.1	
Ge	74	NoGas	516,128	0.7	511960.473333333	Pulse	100.8	
Rh	103	He	272,042	0.8	279070.866666667	Pulse	97.5	
Rh	103	NoGas	607,719	0.2	619166.366666667	Pulse	98.2	
Tb	159	He	567,244	0.8	563985.973333333	Pulse	100.6	
Tb	159	NoGas	1,513,619	2.8	1490879.07333333	Analog	101.5	
Bi	209	He	355,429	1.0	365534.536666667	Pulse	97.2	
Bi	209	NoGas	899,132	0.4	928203.173333333	Pulse	96.9	

Calibration Standard Report - ICPMS5

Sample Name:	**9J07068-CAL9**	Total Dilution:	**1.0000**
File Name:	012CALS.d	Vial:	1110
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	CalStd
Acq Time:	10/7/2019 18:57:02		
Comment:	**A19I053**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	CPS RSD	QC Flag
Be	9	6	NoGas	0.004	ppb	222.0	18	75.8	
Na	23	45	He	49951.154	ppb	1.1	28,579,126	0.2	
Mg	24	45	He	49937.862	ppb	0.6	15,911,091	0.6	
Al	27	45	He	49965.03	ppb	0.2	8,999,455	1.1	
K	39	45	He	49954.463	ppb	0.5	16,922,976	0.8	
Ca	44	45	H2	50068.027	ppb	0.6	5,802,362	0.5	
[Ca]	44	45	He	49989.611	ppb	0.8	779,217	0.5	
Ti	47	45	NoGas	2501.563	ppb	0.7	1,762,603	1.1	
V	51	74	He	0.027	ppb	19.5	641	1.7	
Cr	52	74	He	1007.321	ppb	0.3	2,124,843	0.8	
Mn	55	74	He	2503.26	ppb	0.5	4,173,432	0.6	
Fe	56	74	H2	50010.656	ppb	0.5	260,690,147	0.7	
Co	59	74	He	0.232	ppb	3.1	703	3.3	
Ni	60	74	He	956.855	ppb	0.3	679,742	0.4	
Cu	65	74	He	951.062	ppb	0.7	840,445	0.3	
Zn	66	74	He	2494.231	ppb	0.5	875,827	0.3	
As	75	74	He	0.142	ppb	13.4	50	9.9	
Se	78	74	H2	0.251	ppb	22.7	40	22.2	
Mo	95	103	He	-0.009	ppb	N/A	124	40.1	
Ag	107	103	He	0.031	ppb	17.7	102	16.1	
Cd	111	103	He	997.654	ppb	0.8	571,332	0.2	
[Cd]	111	103	NoGas	994.337	ppb	1.3	1,696,450	0.6	
Sb	121	103	He	0.046	ppb	61.4	96	47.5	
Ba	138	159	He	2497.704	ppb	0.5	11,200,947	0.3	
W	182	159	NoGas	0.288	ppb	1.7	2,398	1.9	
Hg	201	159	NoGas	35.835	ppt	20.2	53	13.7	
Tl	205	159	He	0.009	ppb	26.8	112	16.9	
Pb	208	159	NoGas	0.119	ppb	5.4	3,899	3.7	

ISTD Table:

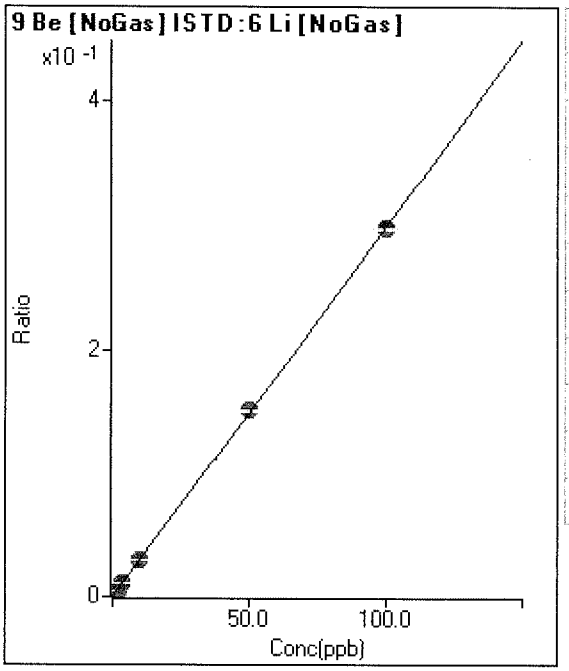
Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	457,351	0.7	390560.36	Pulse	117.1	
Sc	45	H2	1,025,465	0.2	995916.946666667	Pulse	103.0	
Sc	45	He	184,099	1.2	171648.27	Pulse	107.3	
Sc	45	NoGas	1,937,013	0.4	1663179.33	Analog	116.5	
Ge	74	H2	335,520	0.5	344345.643333333	Pulse	97.4	
Ge	74	He	117,517	0.6	114794.926666667	Pulse	102.4	
Ge	74	NoGas	553,926	1.2	511960.473333333	Pulse	108.2	
Rh	103	He	263,801	0.6	279070.866666667	Pulse	94.5	
Rh	103	NoGas	622,983	0.8	619166.366666667	Pulse	100.6	
Tb	159	He	560,962	0.2	563985.973333333	Pulse	99.5	
Tb	159	NoGas	1,587,122	0.6	1490879.07333333	Analog	106.5	
Bi	209	He	330,247	0.6	365534.536666667	Pulse	90.3	
Bi	209	NoGas	867,925	0.9	928203.173333333	Pulse	93.5	

Calibration for 013_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\9J07068.b\
Analysis File: 9J07068.batch.bin
DA Date-Time: 10/8/2019 13:06:41
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	003CALB.d	9J07068-CAL0	10/7/2019 18:12:56
2	004CALS.d	9J07068-CAL1	10/7/2019 18:17:35
3	005CALS.d	9J07068-CAL2	10/7/2019 18:22:34
4	006CALS.d	9J07068-CAL3	10/7/2019 18:27:32
5	007CALS.d	9J07068-CAL4	10/7/2019 18:32:29
6	008CALS.d	9J07068-CAL5	10/7/2019 18:37:27
7	009CALS.d	9J07068-CAL6	10/7/2019 18:42:23
8	010CALS.d	9J07068-CAL7	10/7/2019 18:47:27
9	011CALS.d	9J07068-CAL8	10/7/2019 18:52:18
10	012CALS.d	9J07068-CAL9	10/7/2019 18:57:02

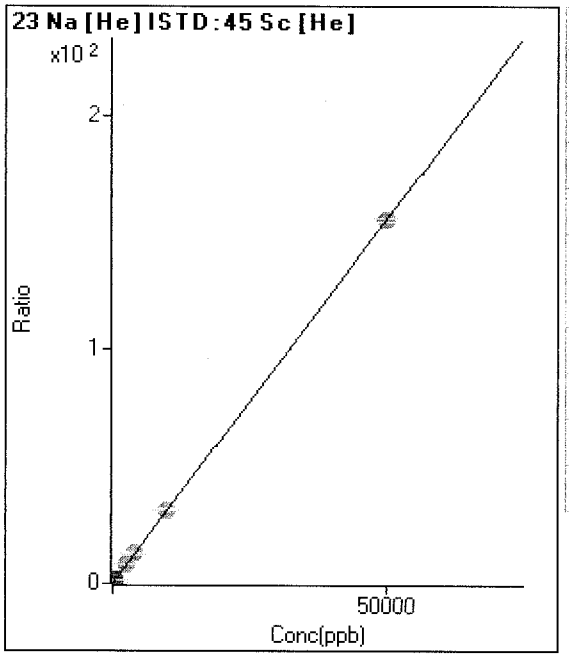
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	10	0.000	P	57.7
2		0.180	0.163	200	0.001	P	17.1
3		0.900	0.951	1,129	0.003	P	10.1
4		1.800	1.809	2,120	0.005	P	0.7
5		3.600	3.613	4,245	0.011	P	3.2
6		10.000	10.093	11,969	0.030	P	2.1
7		50.000	50.509	61,448	0.151	P	0.9
8		100.000	99.735	121,200	0.298	P	0.4
9				24	0.000	P	55.2
10				18	0.000	P	75.4

y = 0.0030 * x + 2.5611E-005
R = 1.0000
DL = 0.01484
BEC = 0.008577

Weight: <None>
Min Conc: <None>

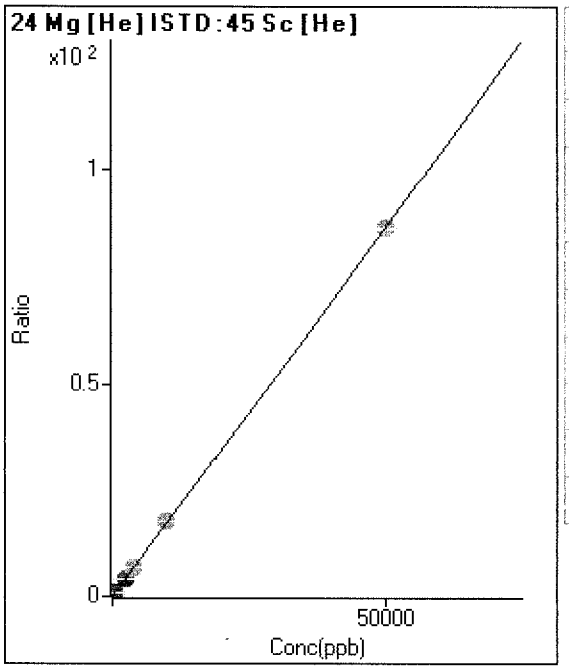


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	2,656	0.015	P	5.5
2				7,492	0.044	P	2.4
3		45.000	45.508	26,905	0.157	P	0.8
4		90.000	90.143	50,049	0.296	P	0.2
5		180.000	178.234	97,299	0.569	P	1.4
6		400.000	403.342	215,982	1.269	P	0.5
7		2500.000	2545.727	1,377,960	7.927	A	1.5
8		4000.000	4116.073	2,229,551	12.807	A	1.2
9		10000.000	10186.264	5,532,035	31.672	A	0.6
10		50000.000	49951.154	28,579,126	155.251	A	1.1

y = 0.0031 * x + 0.0155
R = 1.0000
DL = 0.8281
BEC = 4.978

Weight: <None>
Min Conc: <None>

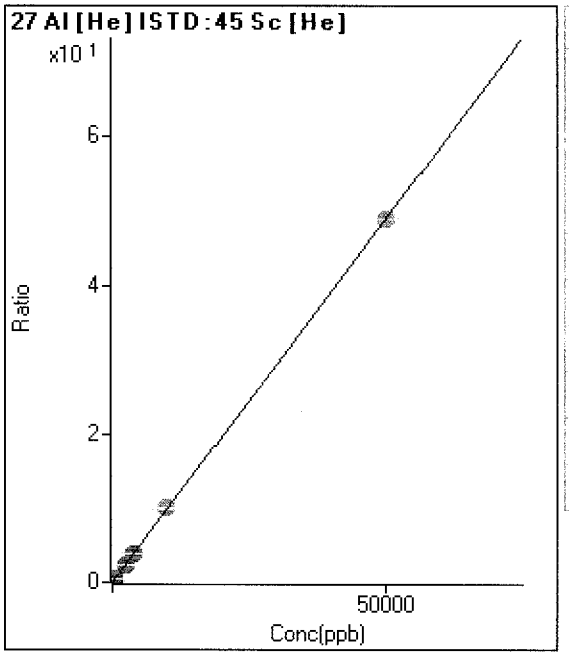
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	327	0.002	P	5.5
2	☐			3,079	0.018	P	4.9
3	☐	45.000	45.405	13,802	0.080	P	2.4
4	☐	90.000	89.249	26,474	0.156	P	1.7
5	☐	180.000	175.801	52,319	0.306	P	1.8
6	☐	400.000	406.742	120,142	0.706	P	0.4
7	☐	2500.000	2468.878	743,131	4.275	P	0.8
8	☐	4000.000	4017.896	1,210,915	6.956	A	1.4
9	☐	10000.000	10311.123	3,117,362	17.848	A	0.9
10	☐	50000.000	49937.862	15,911,091	86.431	A	0.6

y = 0.0017 * x + 0.0019
R = 1.0000
DL = 0.1813
BEC = 1.1

Weight: <None>
Min Conc: <None>

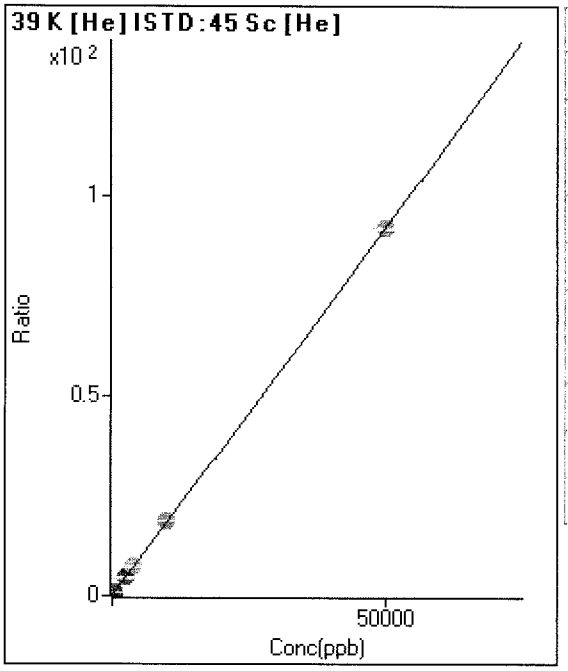


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	109	0.001	P	9.1
2	☐			1,628	0.010	P	6.3
3	☐	45.000	45.137	7,681	0.045	P	3.2
4	☐	90.000	90.539	15,103	0.089	P	2.7
5	☐	180.000	177.227	29,740	0.174	P	1.1
6	☐	400.000	400.405	66,783	0.392	P	0.9
7	☐	2500.000	2450.213	416,828	2.398	P	0.9
8	☐	4000.000	3938.995	671,006	3.854	P	0.8
9	☐	10000.000	10211.725	1,745,159	9.991	A	0.4
10	☐	50000.000	49965.030	8,999,455	48.884	A	0.2

y = 9.7836E-004 * x + 6.3452E-004
R = 1.0000
DL = 0.1773
BEC = 0.6486

Weight: <None>
Min Conc: <None>

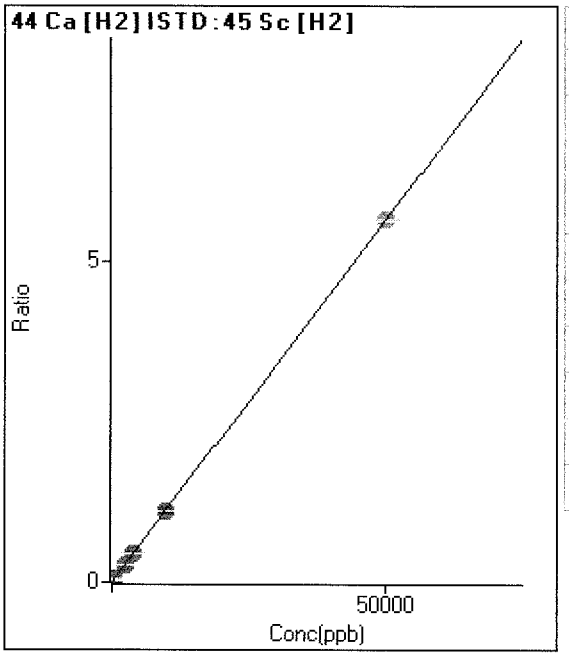
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	21,730	0.127	P	3.0
2				24,044	0.142	P	1.7
3		45.000	45.068	35,906	0.209	P	1.0
4		90.000	88.006	48,809	0.288	P	1.5
5		180.000	175.218	76,659	0.449	P	0.4
6		400.000	393.326	144,569	0.849	P	0.5
7		2500.000	2454.587	806,131	4.637	P	0.9
8		4000.000	4042.198	1,315,339	7.555	A	1.1
9		10000.000	10222.529	3,303,453	18.912	A	1.0
10		50000.000	49954.463	16,922,976	91.926	A	0.5

y = 0.0018 * x + 0.1266
R = 1.0000
DL = 6.226
BEC = 68.88

Weight: <None>
Min Conc: <None>

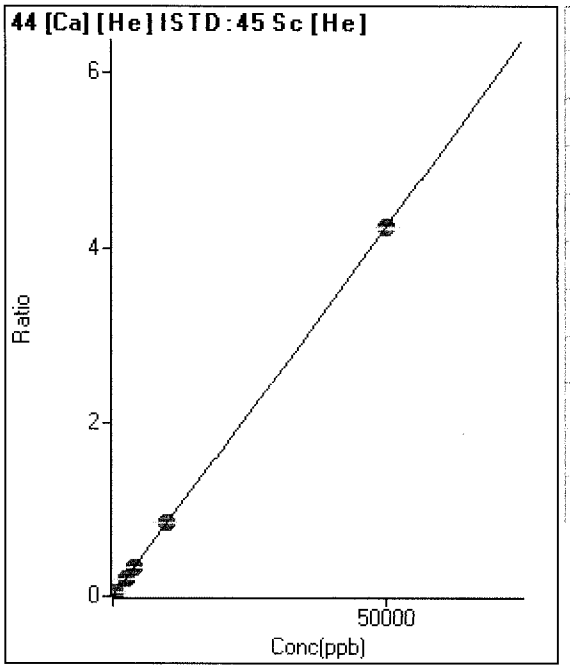


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	421	0.000	P	7.2
2				1,356	0.001	P	7.3
3		45.000	44.079	5,391	0.005	P	2.3
4		90.000	87.816	10,179	0.010	P	1.4
5		180.000	176.627	19,985	0.020	P	2.0
6		400.000	395.258	44,332	0.045	P	1.8
7		2500.000	2397.958	272,218	0.271	P	0.5
8		4000.000	3876.846	442,611	0.439	P	0.0
9		10000.000	9734.913	1,123,128	1.101	P	0.2
10		50000.000	50068.027	5,802,362	5.658	A	0.6

y = 1.1300E-004 * x + 4.2287E-004
R = 1.0000
DL = 0.8092
BEC = 3.742

Weight: <None>
Min Conc: <None>

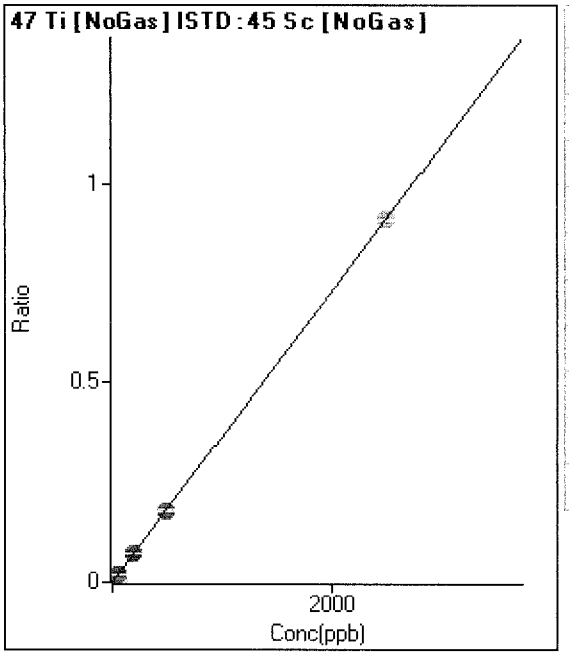
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	209	0.001	P	10.8
2				321	0.002	P	21.2
3		45.000	45.330	867	0.005	P	2.6
4		90.000	95.177	1,570	0.009	P	3.1
5		180.000	171.582	2,690	0.016	P	0.7
6		400.000	404.152	6,030	0.035	P	2.6
7		2500.000	2487.597	36,817	0.212	P	1.1
8		4000.000	4005.826	59,246	0.340	P	0.7
9		10000.000	10052.655	148,849	0.852	P	0.5
10		50000.000	49989.611	779,217	4.233	P	0.8

y = 8.4650E-005 * x + 0.0012
R = 1.0000
DL = 4.667
BEC = 14.37

Weight: <None>
Min Conc: <None>

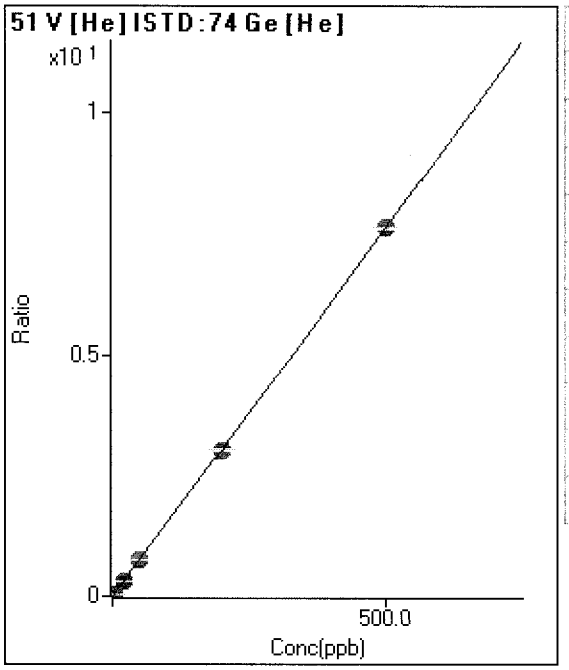


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	33	0.000	P	86.1
2		0.180	0.221	168	0.000	P	25.1
3		0.900	0.828	545	0.000	P	15.1
4		1.800	1.772	1,098	0.001	P	6.3
5		3.600	3.435	2,117	0.001	P	4.5
6		20.000	20.050	12,190	0.007	P	3.3
7		50.000	49.119	31,144	0.018	P	0.4
8		200.000	194.395	123,184	0.071	P	1.5
9		500.000	494.516	307,106	0.180	P	2.7
10		2500.000	2501.563	1,762,603	0.910	A	0.7

y = 3.6374E-004 * x + 2.0126E-005
R = 1.0000
DL = 0.1429
BEC = 0.05533

Weight: <None>
Min Conc: <None>

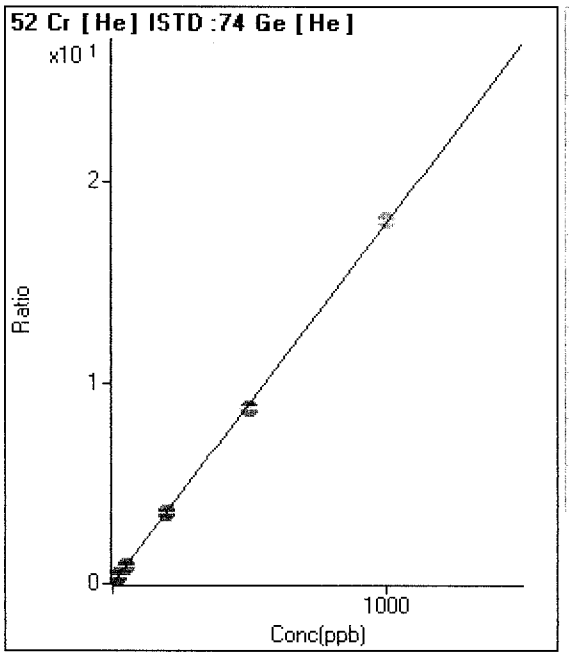
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	579	0.005	P	6.8
2	☐	0.180	0.224	958	0.008	P	0.2
3	☐	0.900	1.001	2,312	0.020	P	1.1
4	☐	1.800	1.804	3,695	0.033	P	3.1
5	☐	3.600	3.588	6,772	0.060	P	0.8
6	☐	20.000	20.269	35,800	0.314	P	0.6
7	☐	50.000	49.911	89,010	0.767	P	0.5
8	☐	200.000	199.595	355,160	3.051	P	0.4
9	☐	500.000	500.160	886,505	7.638	P	0.5
10	☐			641	0.005	P	1.5

y = 0.0153 * x + 0.0050
R = 1.0000
DL = 0.06697
BEC = 0.3303

Weight: <None>
Min Conc: <None>

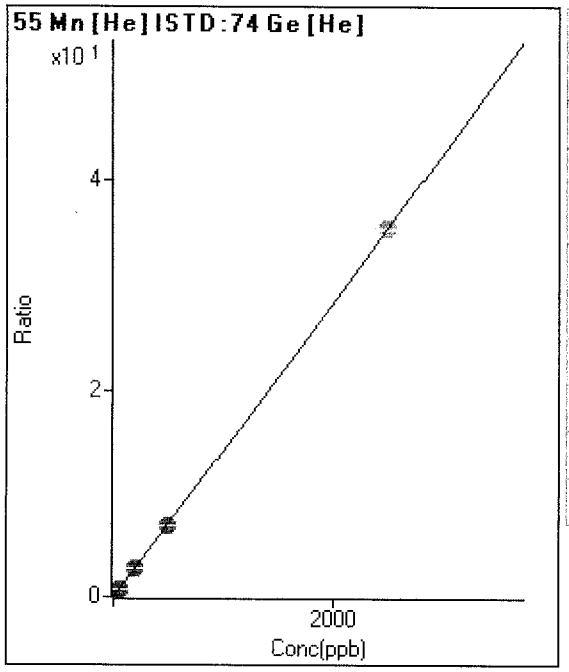


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1,302	0.011	P	10.2
2	☑	0.180		3,443	0.030	P	1.0
3	☑	0.900		4,864	0.043	P	3.5
4	☑	1.800		6,648	0.059	P	6.1
5	☐	3.600	4.287	9,995	0.088	P	3.4
6	☐	20.000	20.057	42,263	0.371	P	0.7
7	☐	50.000	48.913	103,170	0.889	P	0.9
8	☐	200.000	194.546	407,541	3.501	P	0.1
9	☐	500.000	487.637	1,016,549	8.759	P	0.2
10	☐	1000.000	1007.323	2,124,843	18.081	A	0.3

y = 0.0179 * x + 0.0113
R = 0.9999
DL = 0.1932
BEC = 0.6324

Weight: <None>
Min Conc: <None>

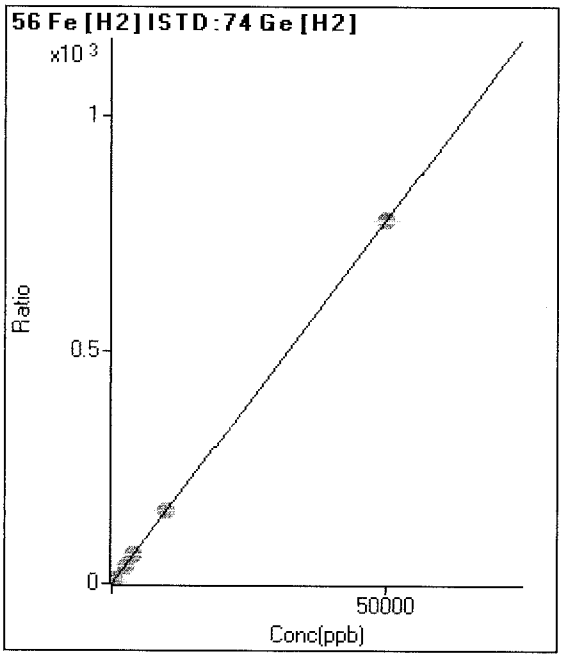
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	93	0.001	P	17.5
2		0.180	0.175	373	0.003	P	3.0
3		0.900	0.890	1,529	0.013	P	10.5
4		1.800	1.829	3,035	0.027	P	2.8
5		3.600	3.685	6,013	0.053	P	2.7
6		20.000	19.819	32,110	0.282	P	1.2
7		50.000	48.974	80,746	0.696	P	1.1
8		200.000	194.964	322,047	2.767	P	0.2
9		500.000	485.825	800,015	6.893	P	0.3
10		2500.000	2503.260	4,173,432	35.514	A	0.5

y = 0.0142 * x + 8.1277E-004
R = 1.0000
DL = 0.03016
BEC = 0.05729

Weight: <None>
Min Conc: <None>

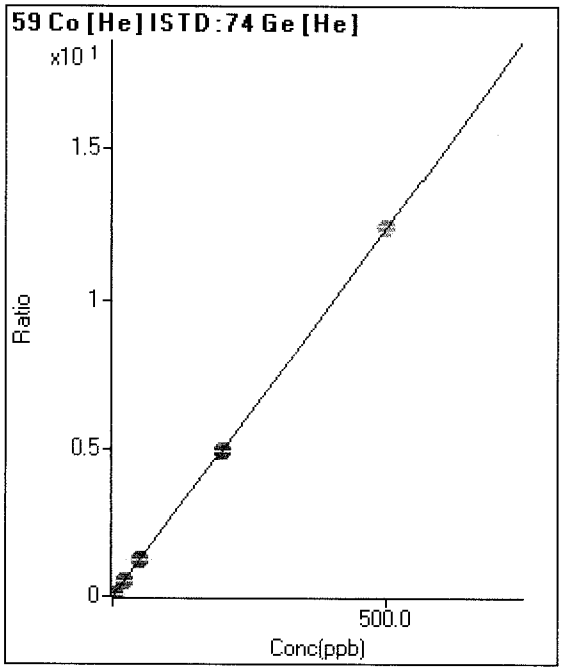


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	21,548	0.063	P	2.2
2				85,730	0.251	P	1.2
3		45.000	47.908	277,935	0.807	P	0.9
4		90.000	91.718	507,663	1.487	P	0.5
5		180.000	180.990	977,427	2.874	P	0.1
6		400.000	406.306	2,171,421	6.375	A	1.2
7		2500.000	2466.543	13,213,841	38.380	A	0.6
8		4000.000	3980.685	21,407,114	61.902	A	0.7
9		10000.000	9962.513	53,574,283	154.829	A	0.4
10		50000.000	50010.656	260,690,147	776.974	A	0.5

y = 0.0155 * x + 0.0626
R = 1.0000
DL = 0.2652
BEC = 4.028

Weight: <None>
Min Conc: <None>

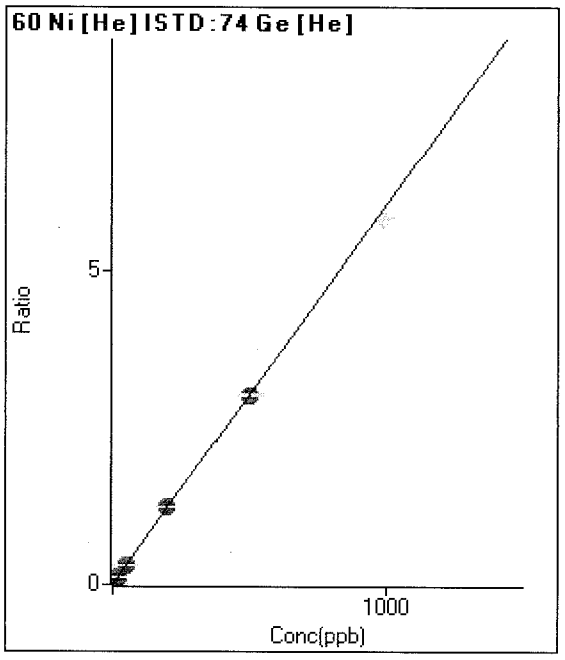
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30	0.000	P	101.7
2	☐	0.180	0.184	544	0.005	P	5.6
3	☐	0.900	0.902	2,567	0.023	P	1.9
4	☐	1.800	1.829	5,156	0.045	P	1.6
5	☐	3.600	3.634	10,202	0.090	P	0.9
6	☐	20.000	20.289	57,125	0.502	P	1.2
7	☐	50.000	49.772	142,808	1.230	P	0.7
8	☐	200.000	198.062	569,751	4.895	P	0.2
9	☐	500.000	500.786	1,436,245	12.376	A	1.9
10	☐			703	0.006	P	3.0

y = 0.0247 * x + 2.6145E-004
R = 1.0000
DL = 0.03229
BEC = 0.01058

Weight: <None>
Min Conc: <None>



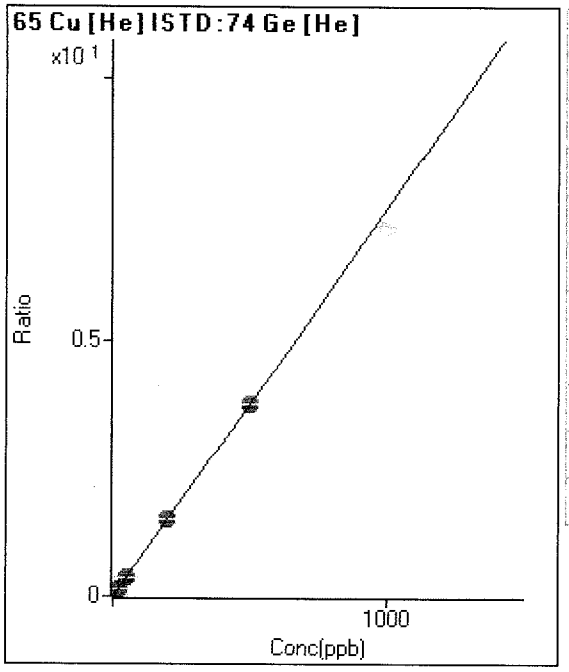
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34	0.000	P	30.8
2	☐	0.180	0.180	157	0.001	P	19.0
3	☐	0.900	0.989	714	0.006	P	4.0
4	☐	1.800	1.855	1,306	0.012	P	4.9
5	☐	3.600	3.700	2,567	0.023	P	3.4
6	☐	20.000	20.840	14,379	0.126	P	1.4
7	☐	50.000	51.509	36,179	0.312	P	1.4
8	☐	200.000	203.203	143,013	1.229	P	1.0
9	☐	500.000	498.533	349,781	3.014	P	0.7
10	☑	1000.000		679,742	5.784	P	0.3

y = 0.0060 * x + 2.9990E-004
R = 1.0000
DL = 0.04586
BEC = 0.04961

Weight: <None>
Min Conc: <None>

Ni LDR=500 ppb
ESS 10/6/19

Calibration for 013_ICV.d

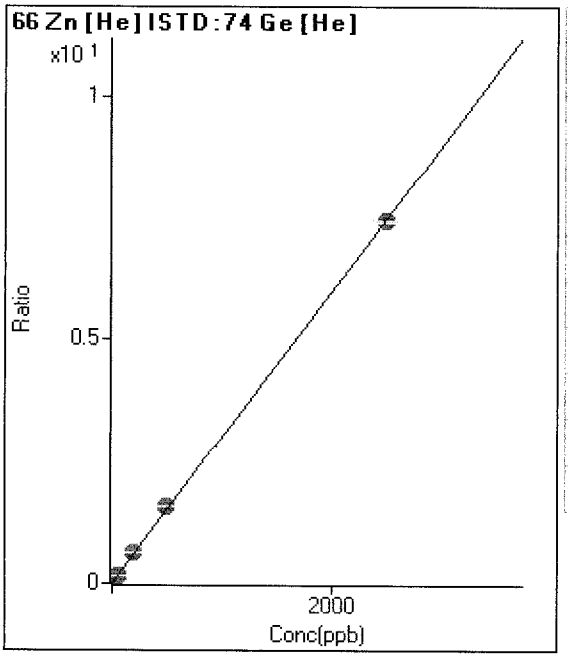


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123	0.001	P	7.4
2	☐	0.180	0.152	251	0.002	P	4.3
3	☐	0.900	1.047	1,018	0.009	P	6.1
4	☐	1.800	1.855	1,703	0.015	P	11.2
5	☐	3.600	3.966	3,499	0.031	P	5.7
6	☐	20.000	21.038	18,135	0.159	P	1.9
7	☐	50.000	51.557	45,125	0.389	P	1.4
8	☐	200.000	203.182	177,949	1.529	P	0.2
9	☐	500.000	498.527	435,165	3.749	P	0.2
10	☑	1000.000		840,445	7.152	P	0.7

y = 0.0075 * x + 0.0011
R = 1.0000
DL = 0.03153
BEC = 0.1429

Cu LDR = 500 ppb
ESS 10/8/19

Weight: <None>
Min Conc: <None>

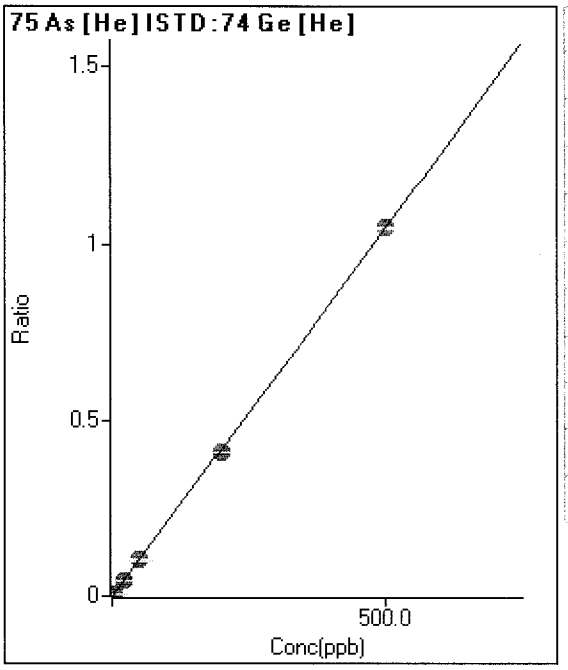


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	91	0.001	P	25.2
2	☐	0.180	0.119	130	0.001	P	7.3
3	☐	0.900	0.983	424	0.004	P	12.7
4	☐	1.800	1.666	654	0.006	P	8.4
5	☐	3.600	3.612	1,312	0.012	P	5.6
6	☐	20.000	21.322	7,345	0.064	P	3.7
7	☐	50.000	52.649	18,352	0.158	P	1.5
8	☐	200.000	209.161	72,833	0.626	P	0.5
9	☐	500.000	524.863	182,091	1.569	P	0.6
10	☐	2500.000	2494.231	875,827	7.453	P	0.5

y = 0.0030 * x + 7.9413E-004
R = 0.9999
DL = 0.2013
BEC = 0.2658

Weight: <None>
Min Conc: <None>

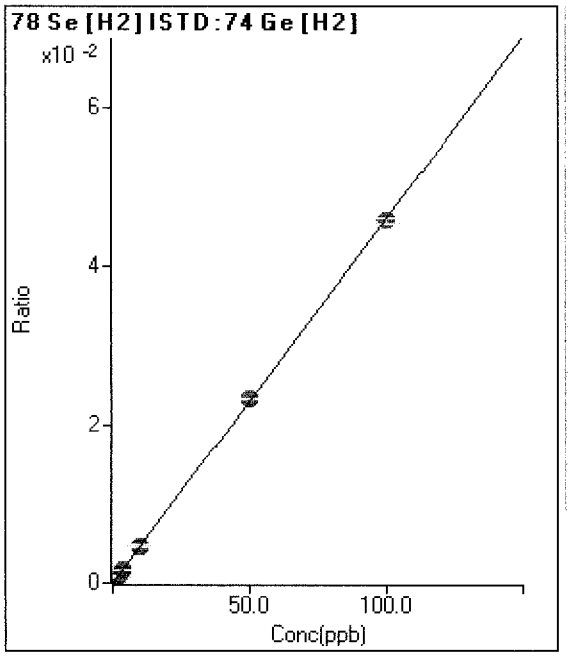
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	14	0.000	P	8.1
2		0.180	0.178	56	0.000	P	42.1
3		0.900	0.979	248	0.002	P	6.4
4		1.800	1.826	448	0.004	P	6.0
5		3.600	3.654	881	0.008	P	4.8
6		20.000	20.211	4,835	0.042	P	1.9
7		50.000	49.305	12,004	0.103	P	1.0
8		200.000	197.195	48,096	0.413	P	0.3
9		500.000	501.183	121,863	1.050	P	0.3
10				50	0.000	P	9.5

y = 0.0021 * x + 1.2486E-004
R = 1.0000
DL = 0.01449
BEC = 0.05961

Weight: <None>
Min Conc: <None>

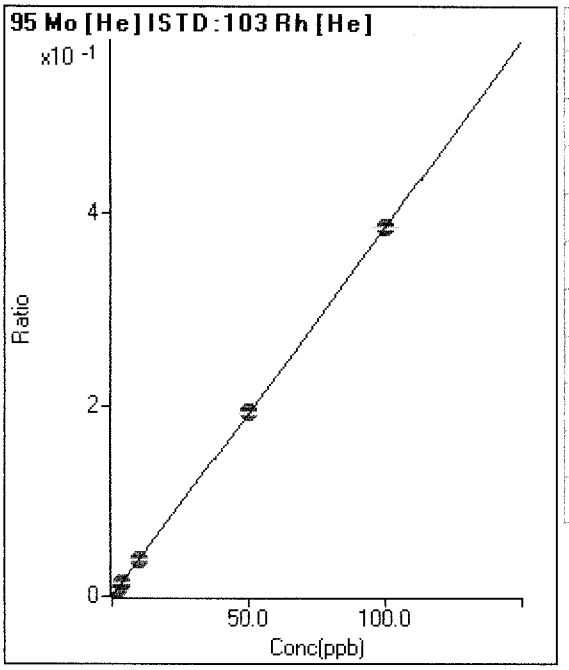


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	1	0.000	P	43.0
2		0.180	0.193	32	0.000	P	19.1
3		0.900	0.913	146	0.000	P	5.1
4		1.800	1.855	292	0.001	P	2.7
5		3.600	3.588	562	0.002	P	3.1
6		10.000	10.262	1,609	0.005	P	5.9
7		50.000	50.670	8,023	0.023	P	0.9
8		100.000	99.638	15,845	0.046	P	1.5
9				24	0.000	P	2.8
10				40	0.000	P	22.0

y = 4.5983E-004 * x + 3.8687E-006
R = 1.0000
DL = 0.01084
BEC = 0.008413

Weight: <None>
Min Conc: <None>

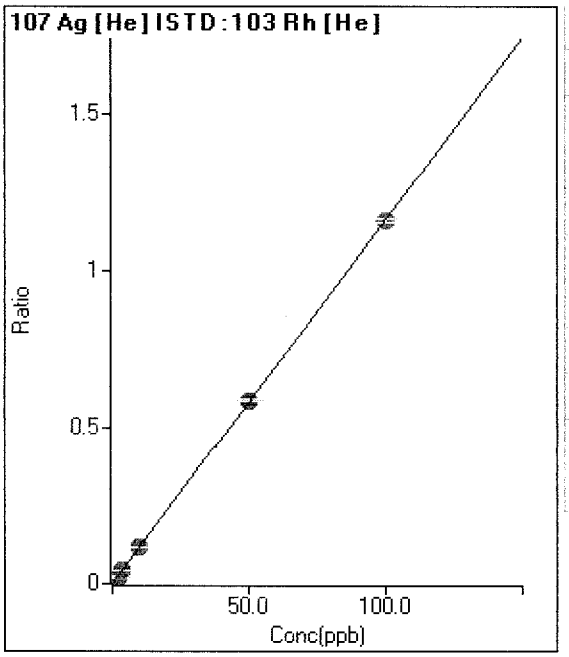
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	141	0.001	P	8.1
2		0.180	0.295	452	0.002	P	19.5
3		0.900	1.008	1,215	0.004	P	6.2
4		1.800	1.803	2,050	0.007	P	9.7
5		3.600	3.667	4,052	0.015	P	0.9
6		10.000	9.845	10,562	0.038	P	2.0
7		50.000	50.025	53,409	0.193	P	0.5
8		100.000	99.999	106,445	0.384	P	0.8
9				108	0.000	P	25.4
10				124	0.000	P	39.8

y = 0.0038 * x + 5.0580E-004
R = 1.0000
DL = 0.03206
BEC = 0.1317

Weight: <None>
Min Conc: <None>

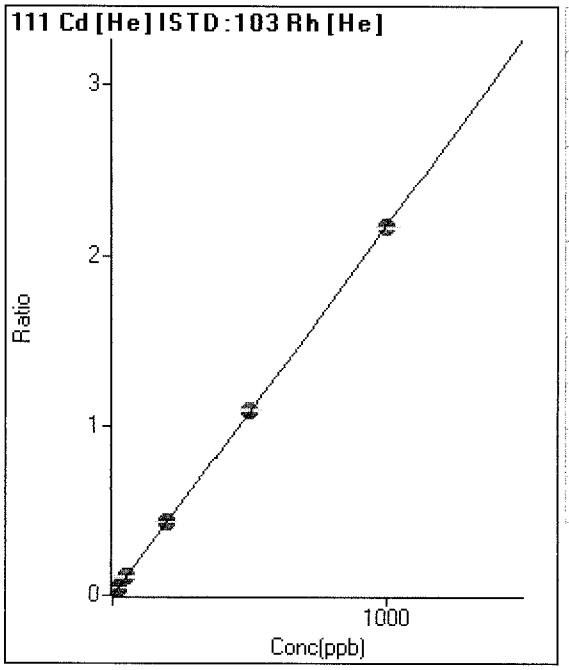


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	9	0.000	P	43.1
2		0.180	0.182	593	0.002	P	8.3
3		0.900	0.927	2,994	0.011	P	0.5
4		1.800	1.844	5,917	0.021	P	1.4
5		3.600	3.648	11,770	0.042	P	0.6
6		10.000	10.216	32,699	0.119	P	0.4
7		50.000	50.475	162,472	0.586	P	0.7
8		100.000	99.738	320,496	1.158	P	1.0
9				76	0.000	P	23.7
10				102	0.000	P	16.2

y = 0.0116 * x + 3.1846E-005
R = 1.0000
DL = 0.00355
BEC = 0.002744

Weight: <None>
Min Conc: <None>

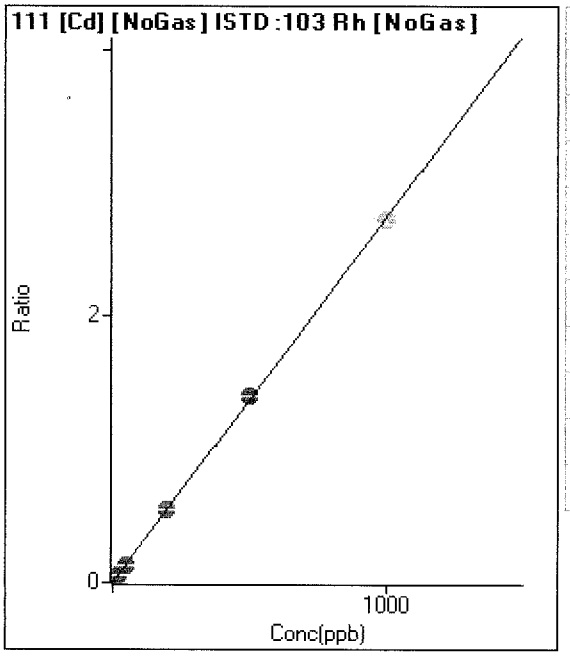
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	4	0.000	P	66.7
2		0.180	0.199	123	0.000	P	4.7
3		0.900	0.916	556	0.002	P	8.8
4		1.800	1.830	1,100	0.004	P	4.9
5		3.600	3.716	2,245	0.008	P	2.9
6		20.000	20.453	12,245	0.044	P	1.1
7		50.000	50.277	30,271	0.109	P	0.4
8		200.000	199.380	119,834	0.433	P	0.5
9		500.000	504.893	298,181	1.096	P	0.5
10		1000.000	997.654	571,332	2.166	P	0.8

y = 0.0022 * x + 1.4362E-005
R = 1.0000
DL = 0.01323
BEC = 0.006616

Weight: <None>
Min Conc: <None>

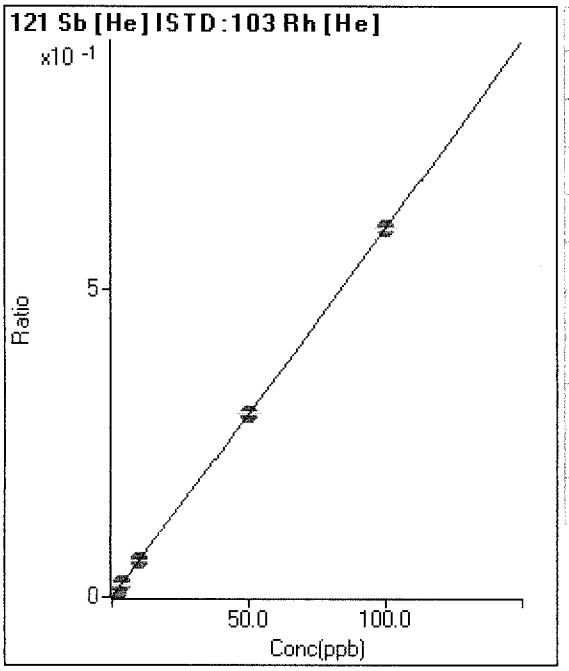


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	24	0.000	P	15.4
2		0.180	0.196	353	0.001	P	14.1
3		0.900	0.904	1,563	0.003	P	8.0
4		1.800	1.830	3,118	0.005	P	1.2
5		3.600	3.586	6,097	0.010	P	4.1
6		20.000	20.354	34,583	0.056	P	2.3
7		50.000	49.753	85,711	0.136	P	0.2
8		200.000	199.968	341,168	0.548	P	0.3
9		500.000	511.348	851,113	1.401	P	0.3
10		1000.000	994.337	1,696,450	2.723	A	1.3

y = 0.0027 * x + 3.8663E-005
R = 0.9999
DL = 0.006505
BEC = 0.01412

Weight: <None>
Min Conc: <None>

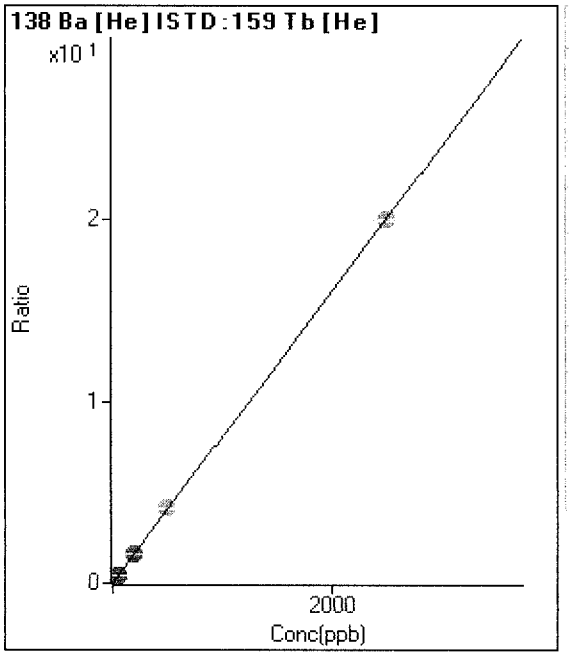
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	23	0.000	P	13.8
2		0.180	0.175	312	0.001	P	14.9
3		0.900	0.884	1,491	0.005	P	6.8
4		1.800	1.724	2,870	0.010	P	1.1
5		3.600	3.463	5,781	0.021	P	4.2
6		10.000	9.972	16,479	0.060	P	2.3
7		50.000	50.009	83,036	0.299	P	0.5
8		100.000	100.005	165,756	0.599	P	0.5
9				202	0.001	P	12.9
10				96	0.000	P	47.2

y = 0.0060 * x + 8.3573E-005
R = 1.0000
DL = 0.005785
BEC = 0.01396

Weight: <None>
Min Conc: <None>

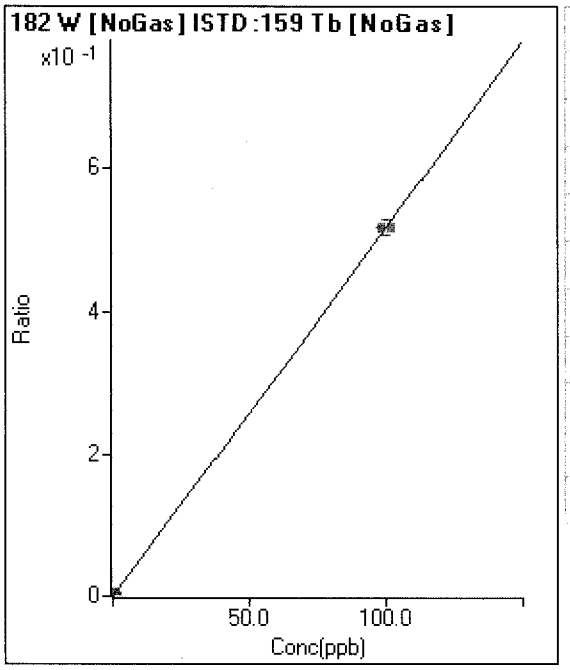


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	100	0.000	P	17.9
2		0.180	0.175	888	0.002	P	3.1
3		0.900	0.910	4,218	0.007	P	2.4
4		1.800	1.795	8,168	0.015	P	3.9
5		3.600	3.575	16,183	0.029	P	2.0
6		20.000	20.243	91,844	0.162	P	0.4
7		50.000	50.005	229,100	0.400	P	0.7
8		200.000	199.456	914,669	1.595	P	0.6
9		500.000	511.690	2,320,326	4.091	A	1.1
10		2500.000	2497.704	11,200,947	19.967	A	0.5

y = 0.0080 * x + 1.7737E-004
R = 1.0000
DL = 0.01192
BEC = 0.02219

Weight: <None>
Min Conc: <None>

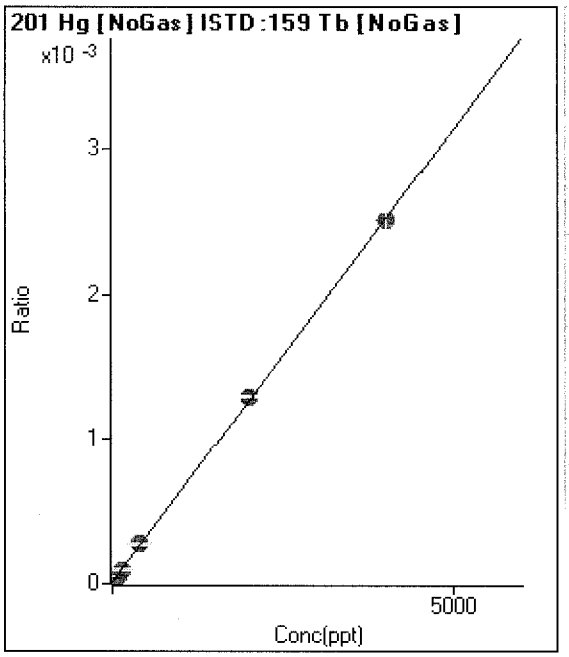
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	31	0.000	P	63.9
2				49	0.000	P	37.3
3				46	0.000	P	48.3
4				49	0.000	P	56.7
5				40	0.000	P	37.1
6				51	0.000	P	10.3
7				131	0.000	P	14.2
8				179	0.000	P	31.3
9		100.000	100.000	782,348	0.517	P	3.2
10				2,398	0.002	P	1.7

y = 0.0052 * x + 2.0733E-005
R = 1.0000
DL = 0.00769
BEC = 0.004009

Weight: <None>
Min Conc: <None>

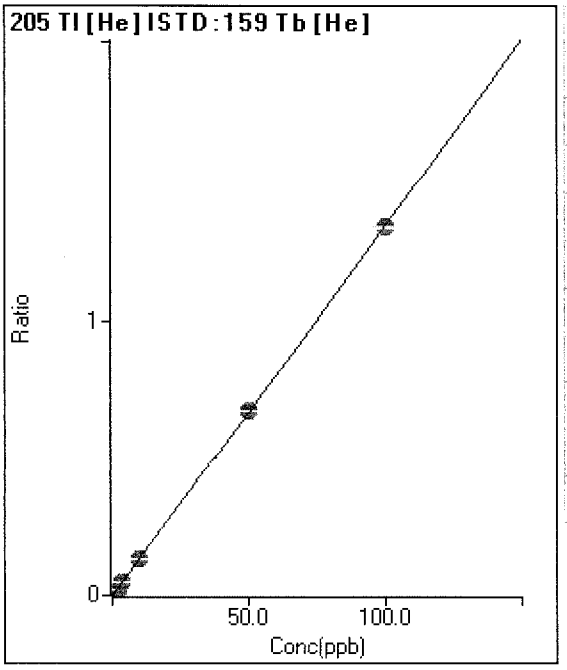


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	-11.307	6	0.000	P	34.7
2				13	0.000	P	17.4
3		36.000	26.863	42	0.000	P	11.8
4		72.000	61.714	74	0.000	P	10.0
5		144.000	133.846	143	0.000	P	12.1
6		400.000	423.156	414	0.000	P	5.3
7		2000.000	2038.821	1,992	0.001	P	1.0
8		4000.000	3978.907	3,881	0.003	P	4.9
9				91	0.000	P	11.3
10				53	0.000	P	13.6

y = 6.277518E-007 * x + 1.100078E-005
R = 0.9999
DL = 6.473
BEC = 17.52

Weight: <None>
Min Conc: <None>

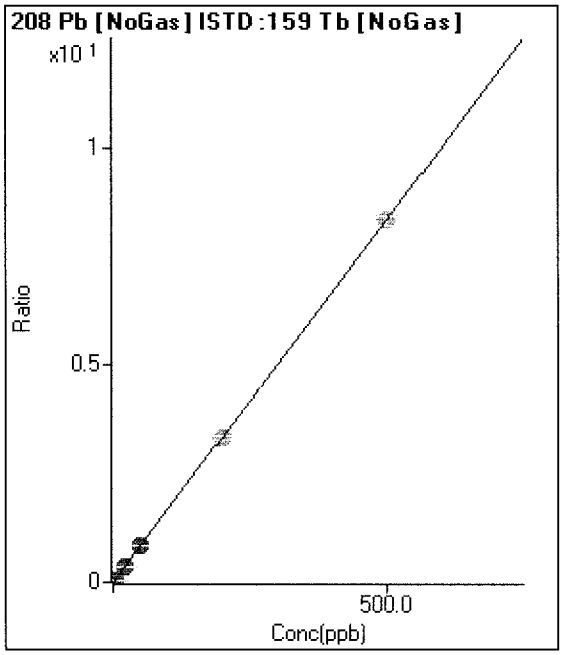
Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	41	0.000	P	21.3
2		0.180	0.183	1,426	0.003	P	0.9
3		0.900	0.917	7,016	0.012	P	2.6
4		1.800	1.824	13,801	0.025	P	1.4
5		3.600	3.615	27,353	0.049	P	0.9
6		10.000	10.192	77,615	0.137	P	1.5
7		50.000	50.415	387,778	0.677	P	0.2
8		100.000	99.772	768,349	1.340	P	0.5
9				396	0.001	P	11.5
10				112	0.000	P	17.0

y = 0.0134 * x + 7.2989E-005
R = 1.0000
DL = 0.003481
BEC = 0.005437

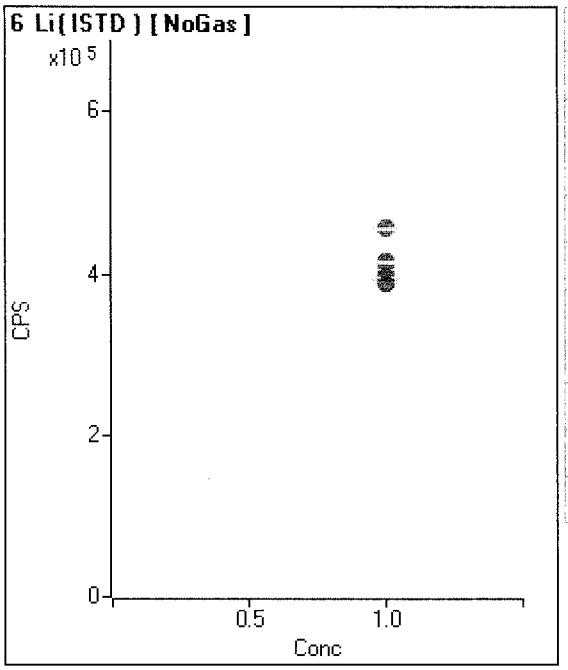
Weight: <None>
Min Conc: <None>



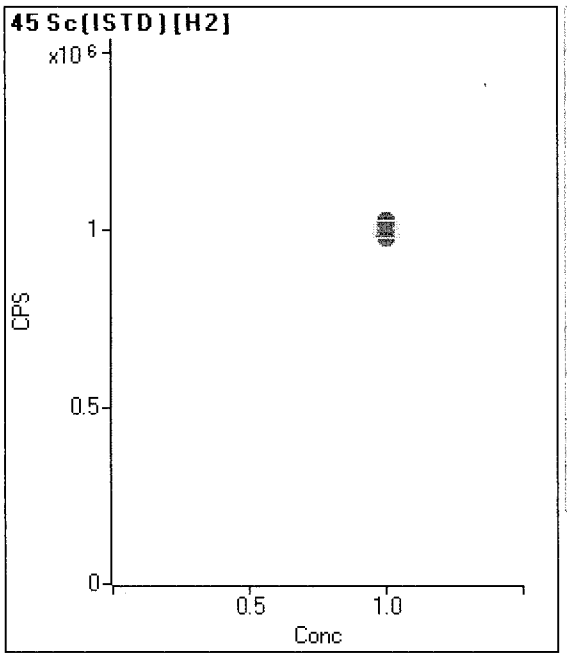
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	720	0.000	P	12.9
2		0.180	0.186	5,288	0.004	P	1.7
3		0.900	0.923	23,674	0.016	P	1.8
4		1.800	1.874	46,932	0.032	P	0.7
5		3.600	3.683	92,852	0.062	P	1.6
6		20.000	20.976	523,287	0.350	P	0.4
7		50.000	50.161	1,289,789	0.836	P	1.4
8		200.000	198.851	5,127,022	3.313	A	3.0
9		500.000	500.404	12,611,983	8.336	A	2.6
10				3,899	0.002	P	4.3

y = 0.0167 * x + 4.8257E-004
R = 1.0000
DL = 0.0112
BEC = 0.02897

Weight: <None>
Min Conc: <None>

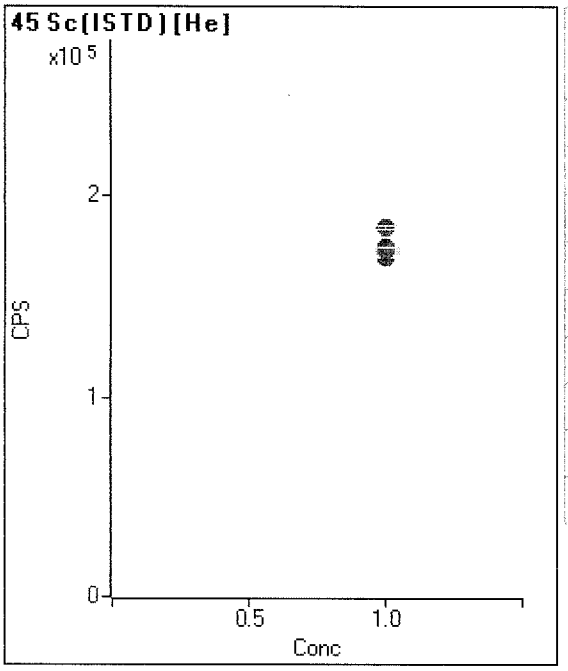


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		390,560		P	0.4
2		1.000		389,665		P	0.6
3		1.000		394,146		P	0.7
4		1.000		390,613		P	0.3
5		1.000		392,505		P	0.4
6		1.000		396,769		P	0.2
7		1.000		407,334		P	0.1
8		1.000		406,914		P	0.4
9		1.000		415,850		P	0.2
10		1.000		457,351		P	0.7

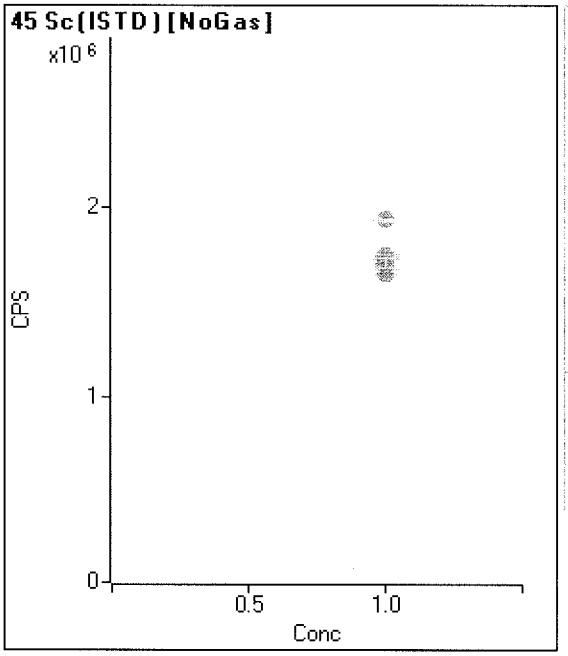


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		995,917		P	0.1
2		1.000		986,077		P	0.2
3		1.000		997,567		P	0.2
4		1.000		983,817		P	0.5
5		1.000		980,484		P	0.2
6		1.000		983,266		P	0.7
7		1.000		1,003,010		P	0.1
8		1.000		1,009,325		P	0.6
9		1.000		1,020,565		P	0.7
10		1.000		1,025,465		P	0.2

Calibration for 013_ICV.d

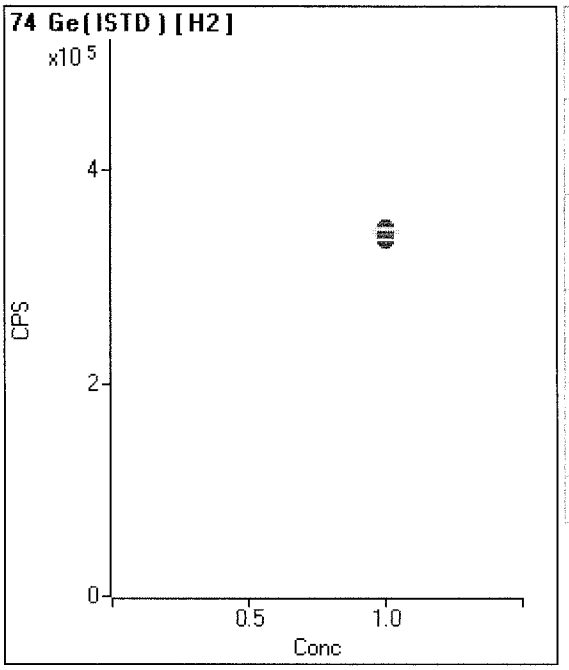


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		171,648		P	0.8
2		1.000		169,397		P	0.7
3		1.000		171,482		P	0.5
4		1.000		169,307		P	0.5
5		1.000		170,902		P	0.9
6		1.000		170,205		P	0.2
7		1.000		173,843		P	0.6
8		1.000		174,097		P	0.8
9		1.000		174,669		P	0.5
10		1.000		184,099		P	1.2

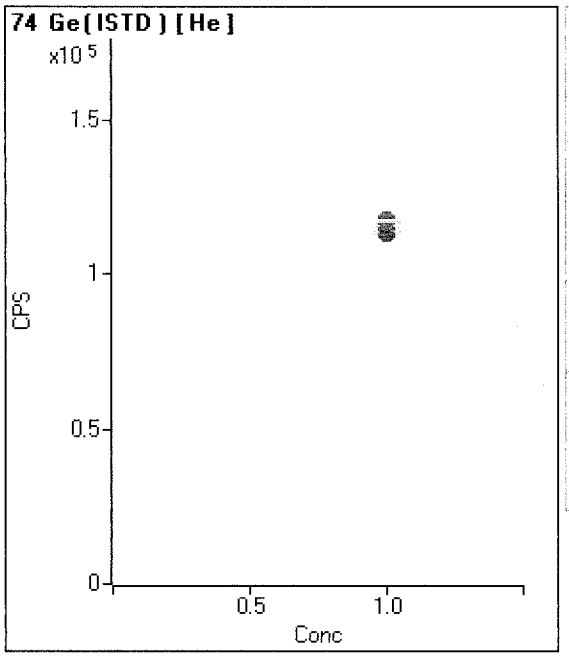


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		1,663,179		A	0.9
2		1.000		1,671,867		A	0.5
3		1.000		1,695,936		A	0.3
4		1.000		1,652,441		A	0.6
5		1.000		1,667,166		A	1.9
6		1.000		1,666,909		A	0.6
7		1.000		1,741,200		A	0.1
8		1.000		1,741,885		A	1.6
9		1.000		1,707,950		A	2.7
10		1.000		1,937,013		A	0.4

Calibration for 013_ICV.d

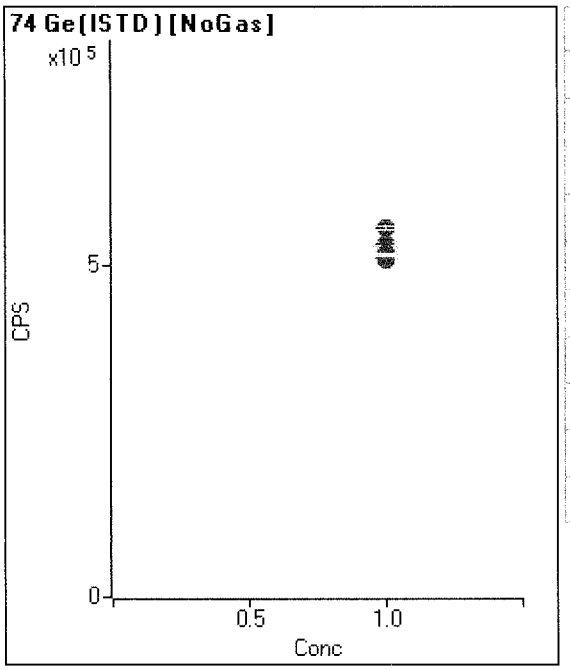


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		344,346		P	0.4
2		1.000		341,093		P	0.3
3		1.000		344,491		P	0.6
4		1.000		341,310		P	0.4
5		1.000		340,065		P	0.1
6		1.000		340,645		P	0.6
7		1.000		344,294		P	0.4
8		1.000		345,837		P	0.9
9		1.000		346,025		P	0.4
10		1.000		335,520		P	0.5

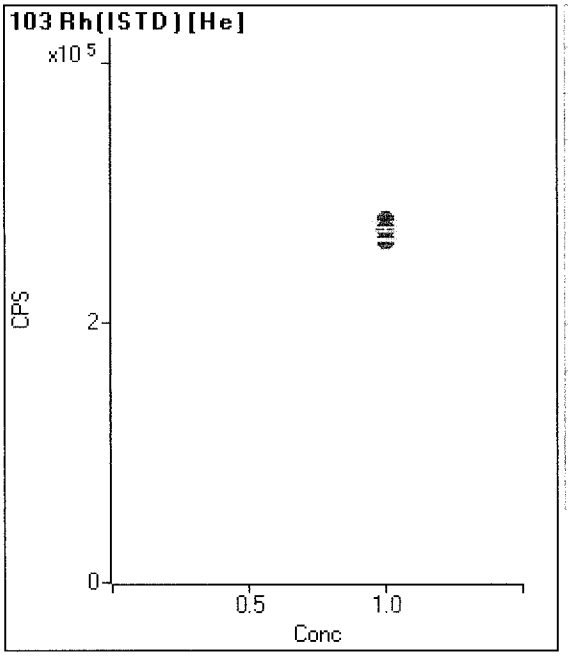


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		114,795		P	0.3
2		1.000		113,182		P	0.6
3		1.000		113,802		P	0.1
4		1.000		113,414		P	0.4
5		1.000		113,264		P	0.1
6		1.000		113,875		P	0.1
7		1.000		116,086		P	0.4
8		1.000		116,401		P	0.1
9		1.000		116,063		P	0.6
10		1.000		117,517		P	0.6

Calibration for 013_ICV.d

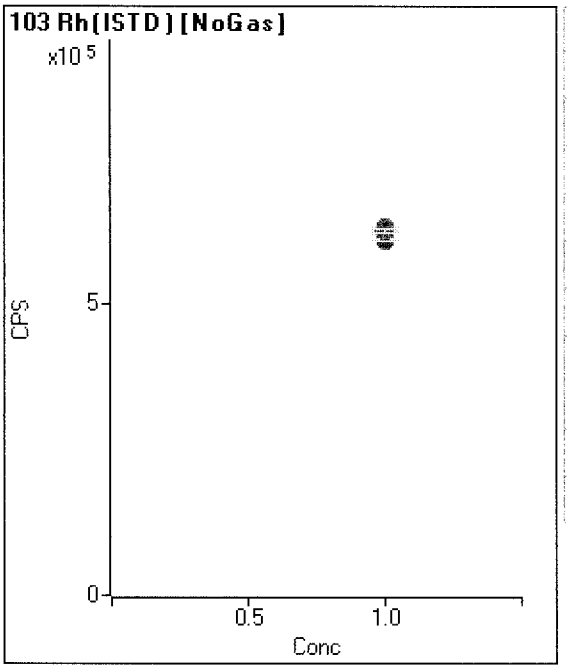


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		511,960		P	1.2
2		1.000		510,022		P	0.4
3		1.000		516,907		P	0.6
4		1.000		509,242		P	0.0
5		1.000		510,778		P	1.1
6		1.000		515,113		P	0.5
7		1.000		531,929		P	1.4
8		1.000		526,553		P	0.9
9		1.000		516,128		P	0.7
10		1.000		553,926		P	1.2

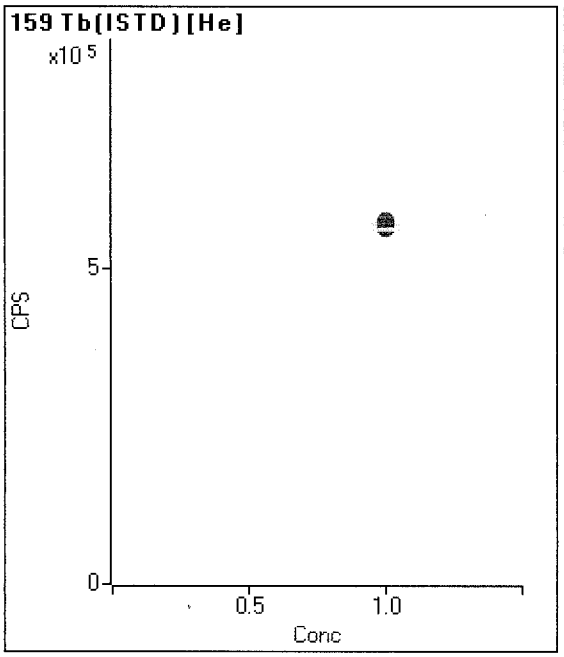


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		279,071		P	0.5
2		1.000		276,200		P	0.4
3		1.000		277,534		P	0.4
4		1.000		275,955		P	0.3
5		1.000		277,787		P	0.8
6		1.000		275,694		P	0.4
7		1.000		277,308		P	0.2
8		1.000		276,854		P	0.6
9		1.000		272,042		P	0.8
10		1.000		263,801		P	0.6

Calibration for 013_ICV.d

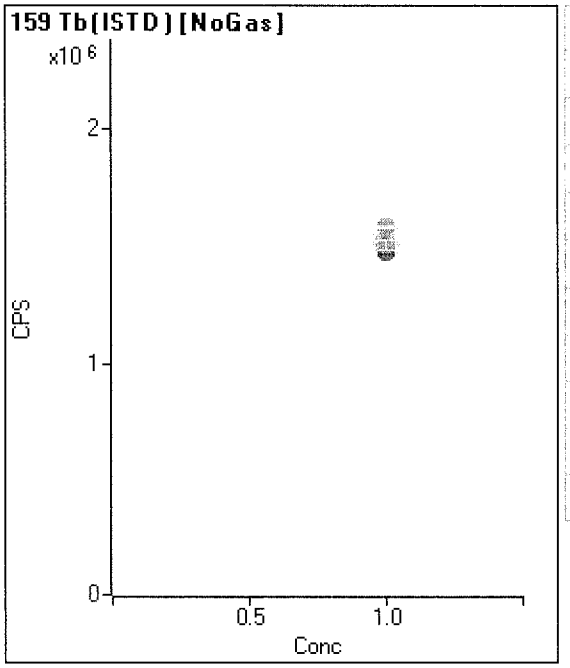


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		619,166		P	0.9
2		1.000		614,573		P	0.3
3		1.000		621,712		P	0.3
4		1.000		617,521		P	0.1
5		1.000		618,329		P	0.6
6		1.000		619,992		P	0.6
7		1.000		628,841		P	0.4
8		1.000		622,906		P	0.3
9		1.000		607,719		P	0.2
10		1.000		622,983		P	0.8

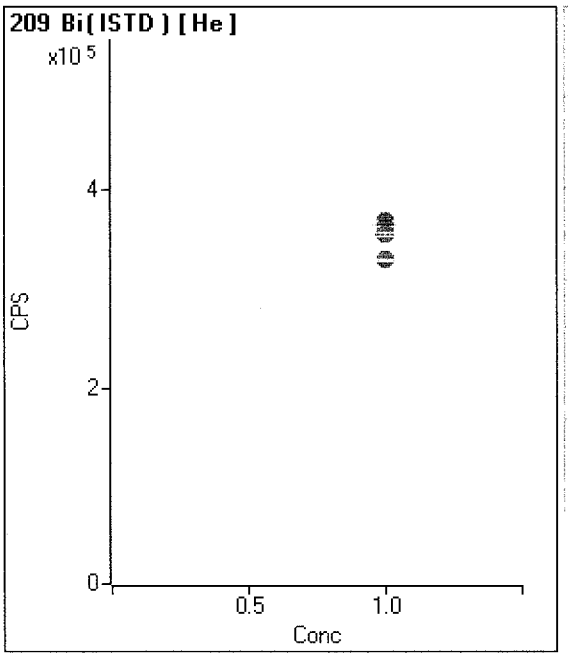


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		563,986		P	0.9
2		1.000		562,150		P	0.2
3		1.000		566,271		P	0.3
4		1.000		562,030		P	0.5
5		1.000		562,814		P	0.4
6		1.000		566,926		P	0.6
7		1.000		572,858		P	0.4
8		1.000		573,586		P	0.5
9		1.000		567,244		P	0.8
10		1.000		560,962		P	0.2

Calibration for 013_ICV.d

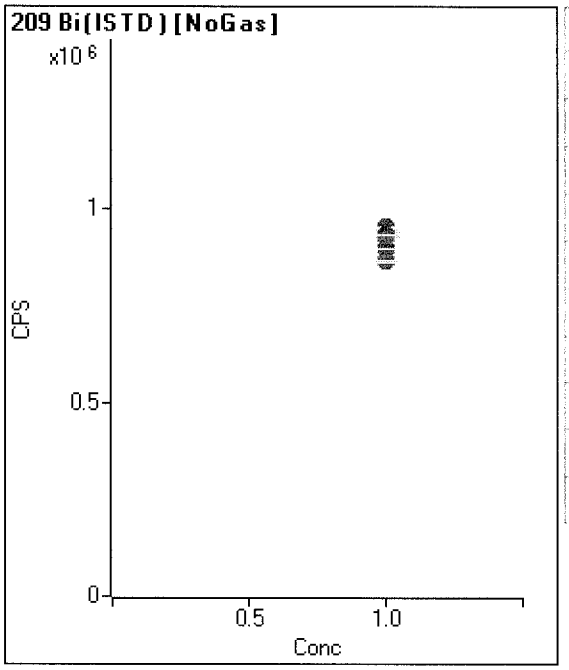


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		1,490,879		M	1.6
2		1.000		1,476,765		P	0.4
3		1.000		1,493,619		M	1.6
4		1.000		1,480,746		P	0.2
5		1.000		1,501,923		M	1.2
6		1.000		1,495,540		P	0.7
7		1.000		1,542,835		M	1.3
8		1.000		1,548,393		M	2.8
9		1.000		1,513,619		A	2.8
10		1.000		1,587,122		A	0.6



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		365,535		P	0.6
2		1.000		363,611		P	0.2
3		1.000		366,575		P	0.5
4		1.000		365,914		P	0.3
5		1.000		367,291		P	0.4
6		1.000		368,968		P	0.4
7		1.000		368,824		P	0.4
8		1.000		363,455		P	0.2
9		1.000		355,429		P	1.0
10		1.000		330,247		P	0.6

Calibration for 013_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		928,203		P	0.7
2	☐	1.000		929,330		P	0.2
3	☐	1.000		938,939		P	1.0
4	☐	1.000		936,693		P	0.6
5	☐	1.000		943,290		P	0.3
6	☐	1.000		945,838		P	0.6
7	☐	1.000		953,610		P	0.7
8	☐	1.000		933,625		P	0.1
9	☐	1.000		899,132		P	0.4
10	☐	1.000		867,925		P	0.9

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-ICV1**	Total Dilution:	1.0000
File Name:	013_ICV.d	Sample Type:	ICV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:01:46
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	39.994	ppb	2.0	51,868	40	99.98	
Na	23	45	He	4085.441	ppb	1.0	2,345,131	4000	102.14	
Mg	24	45	He	4309.018	ppb	1.3	1,376,171	4000	107.73	
Al	27	45	He	3966.535	ppb	0.4	716,042	4000	99.16	
K	39	45	He	4112.518	ppb	0.4	1,417,584	4000	102.81	
Ca	44	45	H2	4001.963	ppb	0.5	490,708	4000	100.05	
[Ca]	44	45	He	4120.642	ppb	0.5	64,573	4000	103.02	
Ti	47	45	NoGas	97.300	ppb	1.7	66,069	100	97.3	
V	51	74	He	100.937	ppb	0.8	187,764	100	100.94	
Cr	52	74	He	100.107	ppb	0.6	219,536	100	100.11	
Mn	55	74	He	101.827	ppb	0.4	175,594	100	101.83	
Fe	56	74	H2	4165.368	ppb	0.0	23,798,591	4000	104.13	
Co	59	74	He	103.517	ppb	0.2	310,810	100	103.52	
Ni	60	74	He	105.290	ppb	0.2	77,358	100	105.29	
Cu	65	74	He	104.273	ppb	0.4	95,375	100	104.27	
Zn	66	74	He	103.763	ppb	2.8	37,758	100	103.76	
As	75	74	He	97.990	ppb	0.2	24,952	100	97.99	
Se	78	74	H2	40.347	ppb	1.9	6,818	40	100.87	
Mo	95	103	He	40.160	ppb	3.0	44,574	40	100.4	
Ag	107	103	He	36.026	ppb	1.2	120,495	40	90.07	
Cd	111	103	He	97.647	ppb	1.0	61,083	100	97.65	
[Cd]	111	103	NoGas	97.706	ppb	0.5	174,522	100	97.71	
Sb	121	103	He	38.664	ppb	1.0	66,709	40	96.66	
Ba	138	159	He	101.659	ppb	0.6	470,767	100	101.66	
Hg	201	159	NoGas	809.938	ppt	0.2	817	800	101.24	
Tl	205	159	He	39.854	ppb	1.0	309,918	40	99.64	
Pb	208	159	NoGas	98.903	ppb	1.5	2,590,478	100	98.9	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	434,192	390560.36	111.2	
Sc	45	H2	Pulse	0.1	1,084,055	995916.946666667	108.8	
Sc	45	He	Pulse	0.6	184,483	171648.27	107.5	
Sc	45	NoGas	Analog	0.9	1,865,915	1663179.33	112.2	
Ge	74	H2	Pulse	0.3	367,425	344345.643333333	106.7	
Ge	74	He	Pulse	0.5	121,487	114794.926666667	105.8	
Ge	74	NoGas	Pulse	0.7	557,587	511960.473333333	108.9	
Rh	103	He	Pulse	0.7	288,140	279070.866666667	103.2	
Rh	103	NoGas	Pulse	0.4	652,089	619166.366666667	105.3	
Tb	159	He	Pulse	0.5	579,152	563985.973333333	102.7	
Tb	159	NoGas	Analog	1.7	1,572,128	1490879.07333333	105.4	
Bi	209	He	Pulse	0.6	365,788	365534.536666667	100.1	
Bi	209	NoGas	Pulse	0.7	943,936	928203.173333333	101.7	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-ICB1**	Total Dilution:	1.0000
File Name:	014_ICB.d	Sample Type:	ICB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:06:23
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.005	ppb	76.6	18	
Na	23	45	He	2.650	ppb	22.7	4,169	
Mg	24	45	He	1.326	ppb	44.7	732	
Al	27	45	He	1.234	ppb	28.6	322	
K	39	45	He	7.064	ppb	97.4	24,527	
Ca	44	45	H2	2.234	ppb	20.5	727	
[Ca]	44	45	He	1.041	ppb	123.1	231	
Ti	47	45	NoGas	0.120	ppb	51.7	117	
V	51	74	He	-0.014	ppb	N/A	560	
Cr	52	74	He	0.123	ppb	106.1	1,566	
Mn	55	74	He	0.079	ppb	69.0	220	
Fe	56	74	H2	2.178	ppb	6.0	35,399	
Co	59	74	He	0.021	ppb	5.2	90	
Ni	60	74	He	0.039	ppb	24.0	62	
Cu	65	74	He	0.046	ppb	52.4	167	
Zn	66	74	He	0.080	ppb	91.6	120	
As	75	74	He	0.048	ppb	157.1	25	
Se	78	74	H2	0.029	ppb	11.9	6	
Mo	95	103	He	-0.019	ppb	N/A	120	
Ag	107	103	He	0.009	ppb	45.1	37	
Cd	111	103	He	0.077	ppb	21.3	51	
[Cd]	111	103	NoGas	0.051	ppb	28.2	118	
Sb	121	103	He	0.240	ppb	11.3	426	
Ba	138	159	He	0.045	ppb	24.6	296	
Hg	201	159	NoGas	-3.708	ppt	N/A	14	
Tl	205	159	He	0.014	ppb	30.0	142	
Pb	208	159	NoGas	0.021	ppb	4.2	1,326	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.3	432,812	390560.36	110.8	
Sc	45	H2	Pulse	0.4	1,075,996	995916.946666667	108.0	
Sc	45	He	Pulse	7.3	176,519	171648.27	102.8	
Sc	45	NoGas	Analog	1.5	1,828,168	1663179.33	109.9	
Ge	74	H2	Pulse	0.5	367,183	344345.643333333	106.6	
Ge	74	He	Pulse	7.5	116,470	114794.926666667	101.5	
Ge	74	NoGas	Pulse	1.0	553,471	511960.473333333	108.1	
Rh	103	He	Pulse	7.9	281,361	279070.866666667	100.8	
Rh	103	NoGas	Pulse	0.3	664,085	619166.366666667	107.3	
Tb	159	He	Pulse	7.6	556,669	563985.973333333	98.7	
Tb	159	NoGas	Analog	0.9	1,594,680	1490879.07333333	107.0	
Bi	209	He	Pulse	7.8	359,033	365534.536666667	98.2	
Bi	209	NoGas	Pulse	1.1	962,811	928203.173333333	103.7	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL1**	Total Dilution:	1.0000
File Name:	015CRL.d	Sample Type:	CRL1
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:11:02
Comment:	A19J030 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag	
Be	9	6	NoGas	0.160	ppb	12.2	220	88.89		
Na	23	45	He	10.562	ppb	2.0	9,048	117.36		
Mg	24	45	He	9.336	ppb	11.7	3,384	103.73		
Al	27	45	He	8.838	ppb	4.5	1,739	98.2		
K	39	45	He	11.862	ppb	13.1	27,798	131.8	R-11	< MRL
Ca	44	45	H2	8.874	ppb	10.2	1,563	98.6		
[Ca]	44	45	He	9.652	ppb	18.9	381	107.24		
Ti	47	45	NoGas	0.235	ppb	23.4	198	130.56	R-11	< MRL
V	51	74	He	0.168	ppb	21.2	938	93.33		
Cr	52	74	He	1.021	ppb	7.4	3,659	567.22	R-11	< MRL
Mn	55	74	He	0.205	ppb	13.0	459	113.89		
Fe	56	74	H2	12.809	ppb	0.5	98,071	142.32	R-11	< MRL
Co	59	74	He	0.177	ppb	8.3	573	98.33		
Ni	60	74	He	0.143	ppb	38.5	143	79.44		
Cu	65	74	He	0.240	ppb	25.9	356	133.33	R-11	< MRL
Zn	66	74	He	0.268	ppb	38.5	197	148.89	R-11	
As	75	74	He	0.161	ppb	19.7	57	89.44		
Se	78	74	H2	0.204	ppb	22.6	37	113.33		
Mo	95	103	He	0.262	ppb	8.7	449	145.56	R-11	< MRL
Ag	107	103	He	0.194	ppb	6.3	677	107.78		
Cd	111	103	He	0.203	ppb	13.7	135	112.78		
[Cd]	111	103	NoGas	0.207	ppb	27.8	406	115		
Sb	121	103	He	0.223	ppb	16.7	422	123.89		
Ba	138	159	He	0.201	ppb	2.4	1,051	111.67		
Hg	201	159	NoGas	4.360	ppt	31.2	22	60.56	R-11	< MRL
Tl	205	159	He	0.182	ppb	7.5	1,478	101.11		
Pb	208	159	NoGas	0.192	ppb	4.0	5,903	106.67		

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.1	436,526	390560.36	111.8	
Sc	45	H2	Pulse	0.6	1,096,418	995916.946666667	110.1	
Sc	45	He	Pulse	0.6	187,360	171648.27	109.2	
Sc	45	NoGas	Analog	1.9	1,873,054	1663179.33	112.6	
Ge	74	H2	Pulse	0.5	374,955	344345.643333333	108.9	
Ge	74	He	Pulse	0.2	123,379	114794.926666667	107.5	
Ge	74	NoGas	Pulse	0.7	565,119	511960.473333333	110.4	
Rh	103	He	Pulse	0.6	296,952	279070.866666667	106.4	
Rh	103	NoGas	Pulse	0.5	671,087	619166.366666667	108.4	
Tb	159	He	Pulse	0.3	588,768	563985.973333333	104.4	
Tb	159	NoGas	Analog	1.3	1,601,042	1490879.07333333	107.4	
Bi	209	He	Pulse	0.3	377,016	365534.536666667	103.1	
Bi	209	NoGas	Pulse	0.4	974,104	928203.173333333	104.9	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL2**	Total Dilution:	1.0000
File Name:	016_CRL.d	Sample Type:	CRL2
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:15:41
Comment:	A19J031 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	0.908	ppb	6.2	1,190	100.89	
Na	23	45	He	46.665	ppb	1.9	29,764	103.7	
Mg	24	45	He	46.776	ppb	0.9	15,367	103.95	
Al	27	45	He	45.534	ppb	2.3	8,380	101.19	
K	39	45	He	45.394	ppb	0.8	38,945	100.88	
Ca	44	45	H2	45.165	ppb	3.6	5,964	100.37	
[Ca]	44	45	He	43.462	ppb	8.7	908	96.58	
Ti	47	45	NoGas	0.971	ppb	4.8	691	107.89	
V	51	74	He	0.882	ppb	1.6	2,258	98	
Cr	52	74	He	1.802	ppb	1.6	5,328	200.22	R-11
Mn	55	74	He	0.940	ppb	6.1	1,727	104.44	
Fe	56	74	H2	48.848	ppb	0.3	303,310	108.55	
Co	59	74	He	0.886	ppb	2.3	2,704	98.44	
Ni	60	74	He	0.904	ppb	19.0	703	100.44	
Cu	65	74	He	0.997	ppb	11.1	1,046	110.78	
Zn	66	74	He	1.140	ppb	22.1	512	126.67	
As	75	74	He	0.912	ppb	7.7	248	101.33	
Se	78	74	H2	0.838	ppb	11.6	144	93.11	
Mo	95	103	He	1.093	ppb	10.5	1,387	121.44	
Ag	107	103	He	0.901	ppb	2.0	3,093	100.11	
Cd	111	103	He	0.947	ppb	0.8	610	105.22	
[Cd]	111	103	NoGas	0.938	ppb	5.9	1,741	104.22	
Sb	121	103	He	0.931	ppb	4.0	1,667	103.44	
Ba	138	159	He	0.892	ppb	2.6	4,293	99.11	
Hg	201	159	NoGas	37.008	ppt	11.7	55	102.8	
Tl	205	159	He	0.928	ppb	5.1	7,357	103.11	
Pb	208	159	NoGas	0.925	ppb	1.7	25,520	102.78	

Cr MRL ↑ 4 ppb
ESS 10/6/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.5	434,703	390560.36	111.3	
Sc	45	H2	Pulse	0.6	1,079,362	995916.946666667	108.4	
Sc	45	He	Pulse	0.3	185,456	171648.27	108.0	
Sc	45	NoGas	Analog	1.3	1,853,315	1663179.33	111.4	
Ge	74	H2	Pulse	0.3	369,245	344345.643333333	107.2	
Ge	74	He	Pulse	0.0	122,003	114794.926666667	106.3	
Ge	74	NoGas	Pulse	0.5	560,919	511960.473333333	109.6	
Rh	103	He	Pulse	0.3	294,822	279070.866666667	105.6	
Rh	103	NoGas	Pulse	0.6	667,968	619166.366666667	107.9	
Tb	159	He	Pulse	0.7	587,159	563985.973333333	104.1	
Tb	159	NoGas	Analog	1.0	1,606,360	1490879.07333333	107.7	
Bi	209	He	Pulse	0.5	375,660	365534.536666667	102.8	
Bi	209	NoGas	Pulse	1.0	979,967	928203.173333333	105.6	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL3**	Total Dilution:	1.0000
File Name:	017CRL_.d	Sample Type:	CRL3
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:20:20
Comment:	A19J032 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	1.840	ppb	2.6	2,417	102.22	
Na	23	45	He	92.480	ppb	1.0	56,646	102.76	
Mg	24	45	He	91.414	ppb	1.3	29,946	101.57	
Al	27	45	He	89.099	ppb	2.1	16,422	99	
K	39	45	He	89.453	ppb	0.5	54,418	99.39	
Ca	44	45	H2	89.444	ppb	2.2	11,512	99.38	
[Ca]	44	45	He	91.118	ppb	0.9	1,670	101.24	
Ti	47	45	NoGas	1.891	ppb	2.0	1,324	105.06	
V	51	74	He	1.821	ppb	2.2	4,015	101.17	
Cr	52	74	He	2.606	ppb	3.5	7,102	144.78	R-11
Mn	55	74	He	1.814	ppb	2.5	3,246	100.78	
Fe	56	74	H2	93.713	ppb	0.4	565,503	104.13	
Co	59	74	He	1.848	ppb	3.5	5,613	102.67	
Ni	60	74	He	1.818	ppb	4.1	1,380	101	
Cu	65	74	He	1.998	ppb	7.2	1,968	111	
Zn	66	74	He	1.930	ppb	9.7	802	107.22	
As	75	74	He	1.713	ppb	2.9	454	95.17	
Se	78	74	H2	1.839	ppb	4.4	316	102.17	
Mo	95	103	He	1.798	ppb	7.6	2,205	99.89	
Ag	107	103	He	1.863	ppb	1.3	6,444	103.5	
Cd	111	103	He	1.829	ppb	4.4	1,186	101.61	
[Cd]	111	103	NoGas	1.827	ppb	5.7	3,390	101.5	
Sb	121	103	He	1.756	ppb	3.2	3,151	97.56	
Ba	138	159	He	1.816	ppb	2.0	8,681	100.89	
Hg	201	159	NoGas	67.891	ppt	4.7	87	94.29	
Tl	205	159	He	1.832	ppb	0.8	14,573	101.78	
Pb	208	159	NoGas	1.817	ppb	1.8	49,717	100.94	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	437,832	390560.36	112.1	
Sc	45	H2	Pulse	0.8	1,093,220	995916.946666667	109.8	
Sc	45	He	Pulse	0.1	187,029	171648.27	109.0	
Sc	45	NoGas	Analog	0.9	1,870,715	1663179.33	112.5	
Ge	74	H2	Pulse	0.9	372,434	344345.643333333	108.2	
Ge	74	He	Pulse	0.2	122,254	114794.926666667	106.5	
Ge	74	NoGas	Pulse	0.9	562,401	511960.473333333	109.9	
Rh	103	He	Pulse	0.3	297,521	279070.866666667	106.6	
Rh	103	NoGas	Pulse	0.4	672,167	619166.366666667	108.6	
Tb	159	He	Pulse	0.3	590,867	563985.973333333	104.8	
Tb	159	NoGas	Analog	1.7	1,617,035	1490879.07333333	108.5	
Bi	209	He	Pulse	0.1	379,557	365534.536666667	103.8	
Bi	209	NoGas	Pulse	0.5	989,145	928203.173333333	106.6	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL4**	Total Dilution:	1.0000
File Name:	018CRL4.d	Sample Type:	CRL4
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 19:24:59
Comment:	A19J033 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	3.587	ppb	5.0	4,735	99.64	
Na	23	45	He	181.835	ppb	0.3	109,436	101.02	
Mg	24	45	He	182.166	ppb	0.6	59,788	101.2	
Al	27	45	He	176.660	ppb	1.0	32,699	98.14	
K	39	45	He	177.172	ppb	0.4	85,232	98.43	
Ca	44	45	H2	176.767	ppb	0.2	22,412	98.2	
[Ca]	44	45	He	191.811	ppb	2.6	3,290	106.56	
Ti	47	45	NoGas	3.657	ppb	4.4	2,547	101.58	
V	51	74	He	3.607	ppb	3.2	7,451	100.19	
Cr	52	74	He	4.345	ppb	3.0	11,073	120.69	
Mn	55	74	He	3.576	ppb	3.7	6,391	99.33	
Fe	56	74	H2	182.932	ppb	0.7	1,093,091	101.63	
Co	59	74	He	3.643	ppb	2.2	11,195	101.19	
Ni	60	74	He	3.775	ppb	2.5	2,867	104.86	
Cu	65	74	He	3.839	ppb	1.6	3,713	106.64	
Zn	66	74	He	3.902	ppb	8.8	1,545	108.39	
As	75	74	He	3.701	ppb	3.4	977	102.81	
Se	78	74	H2	3.656	ppb	8.0	634	101.56	
Mo	95	103	He	3.629	ppb	2.6	4,330	100.81	
Ag	107	103	He	3.612	ppb	2.4	12,580	100.33	
Cd	111	103	He	3.640	ppb	0.1	2,373	101.11	
[Cd]	111	103	NoGas	3.516	ppb	1.6	6,552	97.67	
Sb	121	103	He	3.538	ppb	1.3	6,375	98.28	
Ba	138	159	He	3.689	ppb	0.1	17,643	102.47	
Hg	201	159	NoGas	133.439	ppt	10.8	156	92.67	
Tl	205	159	He	3.640	ppb	1.2	29,103	101.11	
Pb	208	159	NoGas	3.576	ppb	2.2	98,618	99.33	

Cr passes @ 4 ppb
ESS 10/8/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	440,978	390560.36	112.9	
Sc	45	H2	Pulse	0.8	1,098,743	995916.946666667	110.3	
Sc	45	He	Pulse	0.7	188,501	171648.27	109.8	
Sc	45	NoGas	Analog	1.8	1,887,579	1663179.33	113.5	
Ge	74	H2	Pulse	0.7	376,367	344345.643333333	109.3	
Ge	74	He	Pulse	0.5	124,013	114794.926666667	108.0	
Ge	74	NoGas	Pulse	1.4	570,620	511960.473333333	111.5	
Rh	103	He	Pulse	0.1	299,841	279070.866666667	107.4	
Rh	103	NoGas	Pulse	0.4	677,630	619166.366666667	109.4	
Tb	159	He	Pulse	0.2	594,659	563985.973333333	105.4	
Tb	159	NoGas	Analog	2.1	1,642,830	1490879.07333333	110.2	
Bi	209	He	Pulse	0.6	381,933	365534.536666667	104.5	
Bi	209	NoGas	Pulse	1.3	989,111	928203.173333333	106.6	

Quantitation Report ICPMS5

File Name	019ICSA.d		
File Path	C:\Agilent\ICPMH\1\DATA\9J07068.b		
Acq Time	10/7/2019 19:29:38	Sample Type	
Sample Name	**9J07068-IFA1**	ICSA	
Comment	**A19I356**	Last Calib	10/08/2019 09:49:07
Prep Dilution	1.0000	Vial:	1111
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas	0.002	0.002	ppb	157.3		
Na	23	45	He	246467.796	246467.796	ppb	0.5		
Mg	24	45	He	98378.917	98378.917	ppb	0.5	100000	
Al	27	45	He	99026.388	99026.388	ppb	0.3	100000	
K	39	45	He	97629.436	97629.436	ppb	0.5	100000	
Ca	44	45	H2	294599.315	294599.315	ppb	0.2		
[Ca]	44	45	He	303647.48	303647.480	ppb	0.9		
Ti	47	45	NoGas	2103.71	2103.710	ppb	1.7		
V	51	74	He	0.291	0.291	ppb	1.8	2	
Cr	52	74	He	1.249	1.249	ppb	5.3	2	
Mn	55	74	He	2.07	2.070	ppb	0.3	2	> CRI
Fe	56	74	H2	249367.029	249367.029	ppb	0.4		
Co	59	74	He	0.795	0.795	ppb	6.9		
Ni	60	74	He	0.832	0.832	ppb	2.1	2	
Cu	65	74	He	0.606	0.606	ppb	2.0	2	
Zn	66	74	He	2.518	2.518	ppb	6.6	2	> CRI
As	75	74	He	0.25	0.250	ppb	6.4	0.9	
Se	78	74	H2	0.216	0.216	ppb	18.3	0.9	
Mo	95	103	He	2339.864	2339.864	ppb	0.5	2000	
Ag	107	103	He	0.314	0.314	ppb	6.8		
Cd	111	103	He	5.971	5.971	ppb	3.7		
[Cd]	111	103	NoGas	0.4	0.400	ppb	20.3		
Sb	121	103	He	0.144	0.144	ppb	15.3	0.9	
Ba	138	159	He	1.557	1.557	ppb	3.0	2	> CRI
W	182	159	NoGas	66.721	66.721	ppb	0.4		
Hg	201	159	NoGas	56.666	56.666	ppt	5.8		
Tl	205	159	He	0.008	0.008	ppb	67.9	0.9	
Pb	208	159	NoGas	0.743	0.743	ppb	2.5		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	481,115	0.6	390560.36	Pulse	123.2	IS Q-06
Sc	45	H2	1,058,774	0.8	995916.946666667	Pulse	106.3	
Sc	45	He	188,006	0.9	171648.27	Pulse	109.5	
Sc	45	NoGas	1,950,809	2.0	1663179.33	Analog	117.3	
Ge	74	H2	329,547	1.0	344345.643333333	Pulse	95.7	
Ge	74	He	115,062	0.6	114794.926666667	Pulse	100.2	
Ge	74	NoGas	545,932	0.9	511960.473333333	Pulse	106.6	
Rh	103	He	242,979	1.0	279070.866666667	Pulse	87.1	
Rh	103	NoGas	585,633	0.6	619166.366666667	Pulse	94.6	
Tb	159	He	537,605	0.9	563985.973333333	Pulse	95.3	
Tb	159	NoGas	1,488,548	0.4	1490879.07333333	Mix	99.8	
Bi	209	He	294,914	0.4	365534.536666667	Pulse	80.7	
Bi	209	NoGas	797,461	1.1	928203.173333333	Pulse	85.9	

Quantitation Report ICPMS5

File Name	020ICSB.d		
File Path	C:\Agilent\ICPMH\1\DATA\9J07068.b		
Acq Time	10/7/2019 19:34:09	Sample Type	
Sample Name	**9J07068-IFB1**	ICSB	
Comment	**A19I357**	Last Calib	10/08/2019 09:49:07
Prep Dilution	1.0000	Vial:	1112
Total Dilution	**1.0000**	Operator Name	ICPMS Analyst

FullQuant Table

Element	Mass	ISTD	Tune Mode	Raw Conc	Corrected Conc.	Units	RSD(%)	ExpectedValue	QC Flag
Be	9	6	NoGas	-0.001	-0.001	ppb	N/A		
Na	23	45	He	249417.577	249417.577	ppb	1.0		
Mg	24	45	He	99467.754	99467.754	ppb	0.8	100000	
Al	27	45	He	100380.621	100380.621	ppb	0.9	100000	
K	39	45	He	97108.791	97108.791	ppb	1.0	100000	
Ca	44	45	H2	293986.709	293986.709	ppb	0.3		
[Ca]	44	45	He	305051.37	305051.370	ppb	1.0		
Ti	47	45	NoGas	2092.104	2092.104	ppb	0.4		
V	51	74	He	212.32	212.320	ppb	0.9	200	
Cr	52	74	He	198.06	198.060	ppb	0.5	200	
Mn	55	74	He	202.828	202.828	ppb	0.9	200	
Fe	56	74	H2	252518.876	252518.876	ppb	0.2		
Co	59	74	He	191.723	191.723	ppb	0.8		
Ni	60	74	He	183.786	183.786	ppb	0.5	200	
Cu	65	74	He	180.79	180.790	ppb	1.1	200	
Zn	66	74	He	94.656	94.656	ppb	1.4	100	
As	75	74	He	97.942	97.942	ppb	0.9	100	
Se	78	74	H2	99.108	99.108	ppb	0.1	100	
Mo	95	103	He	2341.056	2341.056	ppb	1.0	2000	
Ag	107	103	He	50.138	50.138	ppb	1.1	50	
Cd	111	103	He	102.854	102.854	ppb	0.8		
[Cd]	111	103	NoGas	96.694	96.694	ppb	0.2		
Sb	121	103	He	0.132	0.132	ppb	30.7	0.9	
Ba	138	159	He	2.485	2.485	ppb	0.8	2	> +/- 10%
W	182	159	NoGas	66.796	66.796	ppb	0.5		
Hg	201	159	NoGas	2071.205	2071.205	ppt	2.8		
Tl	205	159	He	0.005	0.005	ppb	45.8	0.9	
Pb	208	159	NoGas	0.744	0.744	ppb	1.4		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	476,563	0.5	390560.36	Pulse	122.0	IS Q-06
Sc	45	H2	1,055,081	0.5	995916.946666667	Pulse	105.9	
Sc	45	He	186,352	0.6	171648.27	Pulse	108.6	
Sc	45	NoGas	1,935,439	1.5	1663179.33	Analog	116.4	
Ge	74	H2	327,605	0.6	344345.643333333	Pulse	95.1	
Ge	74	He	113,409	1.0	114794.926666667	Pulse	98.8	
Ge	74	NoGas	540,323	0.8	511960.473333333	Pulse	105.5	
Rh	103	He	239,206	0.8	279070.866666667	Pulse	85.7	
Rh	103	NoGas	578,120	0.9	619166.366666667	Pulse	93.4	
Tb	159	He	528,464	0.2	563985.973333333	Pulse	93.7	
Tb	159	NoGas	1,463,620	0.7	1490879.07333333	Pulse	98.2	
Bi	209	He	287,657	0.5	365534.536666667	Pulse	78.7	
Bi	209	NoGas	775,426	0.4	928203.173333333	Pulse	83.5	

Quantitation Report - ICPMS5

Sample Name:	**9100531-BLK1**	Total Dilution:	**5.0000**
File Name:	026SMPL.d	Vial:	3401
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:01:49		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.003	ppb	190.0	17	100	
Na	23	45	He	8.233	ppb	4.6	7,987	50000	
Mg	24	45	He	2.645	ppb	12.7	1,261	50000	
Al	27	45	He	14.129	ppb	9.1	2,813	50000	
K	39	45	He	2.567	ppb	23.0	25,542	50000	
Ca	44	45	H2	32.354	ppb	4.6	4,595	50000	
[Ca]	44	45	He	27.598	ppb	7.5	691	50000	
Ti	47	45	NoGas	0.175	ppb	42.8	163	2500	
V	51	74	He	0.223	ppb	2.8	1,049	500	
Cr	52	74	He	0.548	ppb	10.5	2,629	1000	
Mn	55	74	He	0.027	ppb	26.3	149	2500	
Fe	56	74	H2	5.074	ppb	2.0	53,103	50000	
Co	59	74	He	0.017	ppb	25.3	86	500	
Ni	60	74	He	-0.016	ppb	N/A	26	1000	
Cu	65	74	He	0.069	ppb	60.0	198	1000	
Zn	66	74	He	0.111	ppb	36.9	140	2500	
As	75	74	He	0.02	ppb	106.6	21	500	
Se	78	74	H2	0.015	ppb	104.3	4	100	
Mo	95	103	He	0.08	ppb	19.0	248	100	
Ag	107	103	He	0.001	ppb	203.8	12	100	
Cd	111	103	He	0.009	ppb	32.9	11	1000	
[Cd]	111	103	NoGas	0.005	ppb	47.1	35	1000	
Sb	121	103	He	-0.006	ppb	N/A	14	100	
Ba	138	159	He	0.017	ppb	51.0	188	2500	
W	182	159	NoGas	0.077	ppb	10.9	684	40	
Hg	201	159	NoGas	-5.258	ppt	N/A	13	4000	
Tl	205	159	He	-0.002	ppb	N/A	31	100	
Pb	208	159	NoGas	0.003	ppb	104.6	872	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	469,462	0.1	390560.36	Pulse	120.2	IS Q-06
Sc	45	H2	1,126,721	0.8	995916.946666667	Pulse	113.1	
Sc	45	He	194,544	0.3	171648.27	Pulse	113.3	
Sc	45	NoGas	1,959,701	1.9	1663179.33	Analog	117.8	
Ge	74	H2	375,579	0.8	344345.643333333	Pulse	109.1	
Ge	74	He	124,210	0.1	114794.926666667	Pulse	108.2	
Ge	74	NoGas	569,141	0.8	511960.473333333	Pulse	111.2	
Rh	103	He	304,855	1.0	279070.866666667	Pulse	109.2	
Rh	103	NoGas	683,201	0.6	619166.366666667	Pulse	110.3	
Tb	159	He	598,198	0.3	563985.973333333	Pulse	106.1	
Tb	159	NoGas	1,623,859	0.3	1490879.07333333	Analog	108.9	
Bi	209	He	373,721	0.5	365534.536666667	Pulse	102.2	
Bi	209	NoGas	972,524	1.1	928203.173333333	Pulse	104.8	

Quantitation Report - ICPMS5

Sample Name:	**9100531-BS1**	Total Dilution:	**5.0000**
File Name:	027SMPL.d	Vial:	3402
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:06:28		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	23.871	ppb	1.2	31,219	100	
Na	23	45	He	2625.547	ppb	0.1	1,490,752	50000	
Mg	24	45	He	2473.511	ppb	1.1	780,963	50000	
Al	27	45	He	2442.159	ppb	0.2	435,812	50000	
K	39	45	He	2398.96	ppb	1.3	826,939	50000	
Ca	44	45	H2	2338.854	ppb	0.8	284,592	50000	
[Ca]	44	45	He	2434.263	ppb	1.1	37,796	50000	
Ti	47	45	NoGas	48.349	ppb	2.8	32,391	2500	
V	51	74	He	51.33	ppb	0.2	91,788	500	
Cr	52	74	He	51.692	ppb	0.7	109,276	1000	
Mn	55	74	He	50.197	ppb	0.5	83,000	2500	
Fe	56	74	H2	2534.56	ppb	0.2	14,033,482	50000	
Co	59	74	He	51.74	ppb	0.7	148,882	500	
Ni	60	74	He	52.123	ppb	0.6	36,716	1000	
Cu	65	74	He	51.978	ppb	1.7	45,622	1000	
Zn	66	74	He	49.893	ppb	2.0	17,447	2500	
As	75	74	He	46.742	ppb	2.1	11,413	500	
Se	78	74	H2	22.305	ppb	2.4	3,651	100	
Mo	95	103	He	24.545	ppb	1.7	26,784	100	
Ag	107	103	He	25.761	ppb	1.0	84,524	100	
Cd	111	103	He	47.967	ppb	0.5	29,437	1000	
[Cd]	111	103	NoGas	48.145	ppb	0.5	83,199	1000	
Sb	121	103	He	22.962	ppb	0.7	38,874	100	
Ba	138	159	He	48.335	ppb	0.1	222,189	2500	
W	182	159	NoGas	0.061	ppb	11.1	527	40	
Hg	201	159	NoGas	951.343	ppt	3.4	949	4000	
Tl	205	159	He	24.462	ppb	0.5	188,798	100	
Pb	208	159	NoGas	48.914	ppb	0.8	1,272,179	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	437,813	0.5	390560.36	Pulse	112.1	
Sc	45	H2	1,075,077	0.4	995916.946666667	Pulse	107.9	
Sc	45	He	182,354	0.8	171648.27	Pulse	106.2	
Sc	45	NoGas	1,839,878	1.8	1663179.33	Analog	110.6	
Ge	74	H2	355,849	0.3	344345.643333333	Pulse	103.3	
Ge	74	He	116,421	0.4	114794.926666667	Pulse	101.4	
Ge	74	NoGas	530,970	1.6	511960.473333333	Pulse	103.7	
Rh	103	He	282,656	0.1	279070.866666667	Pulse	101.3	
Rh	103	NoGas	630,805	0.7	619166.366666667	Pulse	101.9	
Tb	159	He	574,759	0.3	563985.973333333	Pulse	101.9	
Tb	159	NoGas	1,560,459	1.1	1490879.07333333	Analog	104.7	
Bi	209	He	361,310	0.3	365534.536666667	Pulse	98.8	
Bi	209	NoGas	927,110	0.9	928203.173333333	Pulse	99.9	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV2**	Total Dilution:	1.0000
File Name:	032_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 20:29:24
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	41.832	ppb	1.3	57,048	40	104.58	
Na	23	45	He	4224.866	ppb	1.0	2,670,184	4000	105.62	
Mg	24	45	He	4409.606	ppb	1.5	1,550,678	4000	110.24	> +/- 10%
Al	27	45	He	3961.935	ppb	0.3	787,518	4000	99.05	
K	39	45	He	4165.338	ppb	0.2	1,580,620	4000	104.13	
Ca	44	45	H2	3971.834	ppb	0.4	556,062	4000	99.3	
[Ca]	44	45	He	4118.422	ppb	0.8	71,067	4000	102.96	
Ti	47	45	NoGas	98.397	ppb	1.6	73,346	100	98.4	
V	51	74	He	103.106	ppb	0.2	207,475	100	103.11	
Cr	52	74	He	102.787	ppb	0.2	243,826	100	102.79	
Mn	55	74	He	102.056	ppb	0.3	190,394	100	102.06	
Fe	56	74	H2	4243.699	ppb	0.4	27,185,818	4000	106.09	
Co	59	74	He	106.212	ppb	0.3	344,992	100	106.21	
Ni	60	74	He	109.053	ppb	0.9	86,676	100	109.05	
Cu	65	74	He	107.180	ppb	0.1	106,056	100	107.18	
Zn	66	74	He	104.992	ppb	0.9	41,331	100	104.99	
As	75	74	He	98.807	ppb	0.3	27,219	100	98.81	
Se	78	74	H2	40.345	ppb	1.4	7,644	40	100.86	
Mo	95	103	He	39.931	ppb	2.1	47,978	40	99.83	
Ag	107	103	He	35.986	ppb	0.9	130,278	40	89.96	> +/- 10%
Cd	111	103	He	95.908	ppb	0.2	64,939	100	95.91	
[Cd]	111	103	NoGas	98.939	ppb	0.4	187,367	100	98.94	
Sb	121	103	He	38.139	ppb	0.9	71,228	40	95.35	
Ba	138	159	He	101.564	ppb	0.6	488,702	100	101.56	
Hg	201	159	NoGas	803.251	ppt	3.5	854	800	100.41	
Tl	205	159	He	39.721	ppb	0.2	320,959	40	99.3	
Pb	208	159	NoGas	97.545	ppb	0.5	2,694,794	100	97.54	

Mg passes here

Ag rounds to 90%.

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.2	456,585	390560.36	116.9	
Sc	45	H2	Pulse	0.4	1,237,743	995916.946666667	124.3	IS Q-06
Sc	45	He	Pulse	0.7	203,138	171648.27	118.3	
Sc	45	NoGas	Analog	1.2	2,048,321	1663179.33	123.2	IS Q-06
Ge	74	H2	Pulse	0.2	411,981	344345.643333333	119.6	
Ge	74	He	Pulse	0.5	131,430	114794.926666667	114.5	
Ge	74	NoGas	Pulse	0.9	595,808	511960.473333333	116.4	
Rh	103	He	Pulse	0.4	311,875	279070.866666667	111.8	
Rh	103	NoGas	Pulse	0.4	691,362	619166.366666667	111.7	
Tb	159	He	Pulse	0.5	601,782	563985.973333333	106.7	
Tb	159	NoGas	Analog	1.3	1,657,962	1490879.07333333	111.2	
Bi	209	He	Pulse	0.5	373,538	365534.536666667	102.2	
Bi	209	NoGas	Pulse	0.9	968,925	928203.173333333	104.4	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB1**	Total Dilution:	1.0000
File Name:	033_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 20:34:00
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.009	ppb	54.5	24	
Na	23	45	He	4.158	ppb	4.4	5,782	
Mg	24	45	He	1.694	ppb	8.5	984	
Al	27	45	He	1.789	ppb	19.9	486	
K	39	45	He	2.642	ppb	48.0	26,765	
Ca	44	45	H2	4.358	ppb	14.6	1,109	
[Ca]	44	45	He	3.167	ppb	78.9	302	
Ti	47	45	NoGas	0.129	ppb	23.9	138	
V	51	74	He	-0.032	ppb	N/A	598	
Cr	52	74	He	0.047	ppb	86.9	1,603	
Mn	55	74	He	0.030	ppb	21.4	163	
Fe	56	74	H2	3.541	ppb	3.0	47,685	
Co	59	74	He	0.029	ppb	36.5	128	
Ni	60	74	He	0.009	ppb	201.1	47	
Cu	65	74	He	0.019	ppb	108.8	160	
Zn	66	74	He	0.009	ppb	1712.2	108	
As	75	74	He	0.008	ppb	257.1	19	
Se	78	74	H2	0.043	ppb	14.2	10	
Mo	95	103	He	0.009	ppb	194.1	172	
Ag	107	103	He	0.005	ppb	59.6	28	
Cd	111	103	He	0.029	ppb	11.3	24	
[Cd]	111	103	NoGas	0.008	ppb	131.1	42	
Sb	121	103	He	0.227	ppb	6.5	459	
Ba	138	159	He	0.025	ppb	59.3	230	
Hg	201	159	NoGas	-4.730	ppt	N/A	13	
Tl	205	159	He	0.009	ppb	11.1	119	
Pb	208	159	NoGas	0.015	ppb	28.2	1,228	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	462,347	390560.36	118.4	
Sc	45	H2	Pulse	0.6	1,211,895	995916.946666667	121.7	IS Q-06
Sc	45	He	Pulse	0.6	203,651	171648.27	118.6	
Sc	45	NoGas	Analog	1.0	2,058,539	1663179.33	123.8	IS Q-06
Ge	74	H2	Pulse	0.1	405,530	344345.643333333	117.8	
Ge	74	He	Pulse	0.1	131,503	114794.926666667	114.6	
Ge	74	NoGas	Pulse	1.0	606,904	511960.473333333	118.5	
Rh	103	He	Pulse	0.7	318,196	279070.866666667	114.0	
Rh	103	NoGas	Pulse	0.8	717,477	619166.366666667	115.9	
Tb	159	He	Pulse	0.2	604,319	563985.973333333	107.2	
Tb	159	NoGas	Analog	0.8	1,661,670	1490879.07333333	111.5	
Bi	209	He	Pulse	0.1	380,212	365534.536666667	104.0	
Bi	209	NoGas	Pulse	0.9	990,971	928203.173333333	106.8	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB2**	Total Dilution:	1.0000
File Name:	034_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 20:38:43
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.003	ppb	198.3	16	
Na	23	45	He	3.194	ppb	7.0	5,251	
Mg	24	45	He	0.937	ppb	19.0	720	
Al	27	45	He	1.543	ppb	18.9	443	
K	39	45	He	2.519	ppb	77.9	27,126	
Ca	44	45	H2	4.137	ppb	32.9	1,023	
[Ca]	44	45	He	-0.019	ppb	N/A	251	
Ti	47	45	NoGas	0.041	ppb	63.9	73	
V	51	74	He	-0.016	ppb	N/A	646	
Cr	52	74	He	0.034	ppb	59.5	1,608	
Mn	55	74	He	0.013	ppb	92.6	133	
Fe	56	74	H2	2.741	ppb	30.0	41,050	
Co	59	74	He	0.012	ppb	83.5	74	
Ni	60	74	He	0.001	ppb	3092.8	41	
Cu	65	74	He	0.018	ppb	191.1	162	
Zn	66	74	He	0.052	ppb	50.4	128	
As	75	74	He	0.016	ppb	26.7	21	
Se	78	74	H2	0.010	ppb	130.7	3	
Mo	95	103	He	-0.007	ppb	N/A	154	
Ag	107	103	He	0.002	ppb	59.5	19	
Cd	111	103	He	0.015	ppb	27.3	15	
[Cd]	111	103	NoGas	0.006	ppb	46.8	40	
Sb	121	103	He	0.057	ppb	31.8	137	
Ba	138	159	He	0.009	ppb	53.3	154	
Hg	201	159	NoGas	-9.923	ppt	N/A	8	
Tl	205	159	He	0.001	ppb	224.6	50	
Pb	208	159	NoGas	0.006	ppb	67.8	992	

Be, Na, Mg, Al, K, Ca, Ti
Q-06 for 6020, ok for 200.8
ESS 10/8/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.5	469,727	390560.36	120.3	IS Q-06
Sc	45	H2	Mix	11.7	1,165,016	995916.946666667	117.0	
Sc	45	He	Pulse	0.4	206,761	171648.27	120.5	IS Q-06
Sc	45	NoGas	Analog	2.3	2,096,473	1663179.33	126.1	IS Q-06
Ge	74	H2	Pulse	8.7	393,121	344345.643333333	114.2	
Ge	74	He	Pulse	0.3	134,535	114794.926666667	117.2	
Ge	74	NoGas	Pulse	0.6	617,874	511960.473333333	120.7	IS Q-06
Rh	103	He	Pulse	0.3	322,233	279070.866666667	115.5	
Rh	103	NoGas	Pulse	0.7	730,443	619166.366666667	118.0	
Tb	159	He	Pulse	0.4	612,546	563985.973333333	108.6	
Tb	159	NoGas	Analog	1.1	1,711,608	1490879.07333333	114.8	
Bi	209	He	Pulse	0.2	381,936	365534.536666667	104.5	
Bi	209	NoGas	Pulse	1.5	1,002,986	928203.173333333	108.1	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-01**	Total Dilution:	**5.0000**
File Name:	038SMPL.d	Vial:	3409
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 20:57:01		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.639	ppb	4.6	928	100	
Na	23	45	He	753.378	ppb	0.1	521,437	50000	
Mg	24	45	He	6760.707	ppb	1.6	2,589,166	50000	
Al	27	45	He	17232.944	ppb	0.8	3,730,420	50000	
K	39	45	He	1338.91	ppb	0.2	572,386	50000	
Ca	44	45	H2	7830.951	ppb	1.1	1,221,652	50000	
[Ca]	44	45	He	8663.545	ppb	0.6	162,529	50000	
Ti	47	45	NoGas	1737.699	ppb	1.1	1,438,307	2500	
V	51	74	He	109.807	ppb	1.0	226,107	500	
Cr	52	74	He	26.584	ppb	1.1	65,673	1000	
Mn	55	74	He	371.696	ppb	0.9	709,439	2500	
Fe	56	74	H2	43021.361	ppb	0.4	276,667,283	50000	
Co	59	74	He	27.911	ppb	0.4	92,820	500	
Ni	60	74	He	35.646	ppb	0.8	29,028	1000	
Cu	65	74	He	28.062	ppb	1.8	28,527	1000	
Zn	66	74	He	77.878	ppb	0.8	31,407	2500	
As	75	74	He	4.11	ppb	1.7	1,175	500	
Se	78	74	H2	0.167	ppb	11.0	33	100	
Mo	95	103	He	0.404	ppb	15.8	661	100	
Ag	107	103	He	0.046	ppb	17.1	182	100	
Cd	111	103	He	0.066	ppb	18.4	51	1000	
[Cd]	111	103	NoGas	0.454	ppb	8.9	936	1000	
Sb	121	103	He	0.1	ppb	11.0	219	100	
Ba	138	159	He	172.504	ppb	0.1	865,394	2500	
W	182	159	NoGas	0.059	ppb	10.2	576	40	
Hg	201	159	NoGas	31.642	ppt	12.5	55	4000	
Tl	205	159	He	0.082	ppb	13.0	734	100	
Pb	208	159	NoGas	4.042	ppb	0.9	120,160	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	480,107	0.7	390560.36	Pulse	122.9	IS Q-06
Sc	45	H2	1,379,951	1.1	995916.946666667	Analog	138.6	IS Q-06
Sc	45	He	221,251	0.3	171648.27	Pulse	128.9	IS Q-06
Sc	45	NoGas	2,275,472	1.0	1663179.33	Analog	136.8	IS Q-06
Ge	74	H2	413,927	0.8	344345.643333333	Pulse	120.2	IS Q-06
Ge	74	He	134,524	0.7	114794.926666667	Pulse	117.2	
Ge	74	NoGas	619,001	0.5	511960.473333333	Pulse	120.9	IS Q-06
Rh	103	He	321,050	0.3	279070.866666667	Pulse	115.0	
Rh	103	NoGas	729,585	1.0	619166.366666667	Pulse	117.8	
Tb	159	He	627,452	0.2	563985.973333333	Pulse	111.3	
Tb	159	NoGas	1,771,958	0.9	1490879.07333333	Analog	118.9	
Bi	209	He	370,355	0.4	365534.536666667	Pulse	101.3	
Bi	209	NoGas	974,164	0.9	928203.173333333	Pulse	105.0	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-02**	Total Dilution:	**5.0000**
File Name:	039SMPL.d	Vial:	3410
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:01:34		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.357	ppb	8.4	520	100	
Na	23	45	He	532.945	ppb	1.1	368,583	50000	
Mg	24	45	He	2887.65	ppb	0.7	1,102,344	50000	
Al	27	45	He	9330.416	ppb	2.5	2,012,660	50000	
K	39	45	He	728.536	ppb	1.2	323,088	50000	
Ca	44	45	H2	4112.782	ppb	1.5	621,256	50000	
[Ca]	44	45	He	4428.736	ppb	0.5	82,928	50000	
Ti	47	45	NoGas	1013.283	ppb	1.0	835,774	2500	
V	51	74	He	60.865	ppb	0.3	126,385	500	
Cr	52	74	He	13.148	ppb	0.8	33,453	1000	
Mn	55	74	He	174.883	ppb	0.3	335,849	2500	
Fe	56	74	H2	23267.634	ppb	0.9	150,836,248	50000	
Co	59	74	He	13.707	ppb	0.3	45,874	500	
Ni	60	74	He	16.62	ppb	0.3	13,635	1000	
Cu	65	74	He	14.351	ppb	1.7	14,746	1000	
Zn	66	74	He	39.453	ppb	1.3	16,059	2500	
As	75	74	He	2.025	ppb	6.6	591	500	
Se	78	74	H2	0.127	ppb	20.6	26	100	
Mo	95	103	He	0.267	ppb	4.8	498	100	
Ag	107	103	He	0.023	ppb	11.6	98	100	
Cd	111	103	He	0.041	ppb	23.5	34	1000	
[Cd]	111	103	NoGas	0.282	ppb	7.3	602	1000	
Sb	121	103	He	0.065	ppb	36.8	153	100	
Ba	138	159	He	79.269	ppb	0.9	396,767	2500	
W	182	159	NoGas	0.043	ppb	10.9	421	40	
Hg	201	159	NoGas	-0.683	ppt	N/A	18	4000	
Tl	205	159	He	0.044	ppb	10.5	414	100	
Pb	208	159	NoGas	2.737	ppb	0.2	80,075	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	476,827	0.5	390560.36	Pulse	122.1	IS Q-06
Sc	45	H2	1,335,657	1.2	995916.946666667	Analog	134.1	IS Q-06
Sc	45	He	220,491	0.7	171648.27	Pulse	128.5	IS Q-06
Sc	45	NoGas	2,267,617	1.1	1663179.33	Analog	136.3	IS Q-06
Ge	74	H2	417,256	1.3	344345.643333333	Pulse	121.2	IS Q-06
Ge	74	He	135,324	0.3	114794.926666667	Pulse	117.9	
Ge	74	NoGas	628,077	1.2	511960.473333333	Pulse	122.7	IS Q-06
Rh	103	He	324,918	0.1	279070.866666667	Pulse	116.4	
Rh	103	NoGas	742,153	0.6	619166.366666667	Pulse	119.9	
Tb	159	He	625,925	0.4	563985.973333333	Pulse	111.0	
Tb	159	NoGas	1,738,055	1.5	1490879.07333333	Analog	116.6	
Bi	209	He	376,762	0.3	365534.536666667	Pulse	103.1	
Bi	209	NoGas	992,566	0.8	928203.173333333	Pulse	106.9	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-03**	Total Dilution:	**5.0000**
File Name:	040SMPL.d	Vial:	3411
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:06:09		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.576	ppb	1.6	824	100	
Na	23	45	He	520.58	ppb	0.5	361,993	50000	
Mg	24	45	He	5576.359	ppb	1.1	2,139,396	50000	
Al	27	45	He	15699.318	ppb	1.1	3,404,241	50000	
K	39	45	He	1006.227	ppb	1.0	437,873	50000	
Ca	44	45	H2	6952.578	ppb	1.7	1,088,775	50000	
[Ca]	44	45	He	7726.168	ppb	0.5	145,222	50000	
Ti	47	45	NoGas	905.194	ppb	0.7	749,565	2500	
V	51	74	He	91.563	ppb	0.2	190,279	500	
Cr	52	74	He	21.919	ppb	0.3	54,886	1000	
Mn	55	74	He	337.306	ppb	0.2	649,357	2500	
Fe	56	74	H2	37458.883	ppb	0.3	243,826,570	50000	
Co	59	74	He	24.317	ppb	1.5	81,566	500	
Ni	60	74	He	31.001	ppb	1.9	25,467	1000	
Cu	65	74	He	24.516	ppb	1.4	25,154	1000	
Zn	66	74	He	72.536	ppb	0.6	29,512	2500	
As	75	74	He	3.708	ppb	6.2	1,071	500	
Se	78	74	H2	0.225	ppb	16.3	45	100	
Mo	95	103	He	0.377	ppb	9.1	630	100	
Ag	107	103	He	0.06	ppb	18.0	237	100	
Cd	111	103	He	0.085	ppb	10.5	64	1000	
[Cd]	111	103	NoGas	0.362	ppb	9.5	754	1000	
Sb	121	103	He	0.144	ppb	14.2	306	100	
Ba	138	159	He	148.226	ppb	0.8	745,773	2500	
W	182	159	NoGas	0.067	ppb	6.6	652	40	
Hg	201	159	NoGas	28.008	ppt	17.7	51	4000	
Tl	205	159	He	0.07	ppb	14.6	638	100	
Pb	208	159	NoGas	14.234	ppb	1.8	421,393	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	472,403	0.7	390560.36	Pulse	121.0	IS Q-06
Sc	45	H2	1,385,220	1.1	995916.946666667	Analog	139.1	IS Q-06
Sc	45	He	221,636	0.5	171648.27	Pulse	129.1	IS Q-06
Sc	45	NoGas	2,276,493	0.9	1663179.33	Analog	136.9	IS Q-06
Ge	74	H2	418,955	0.3	344345.643333333	Pulse	121.7	IS Q-06
Ge	74	He	135,677	0.4	114794.926666667	Pulse	118.2	
Ge	74	NoGas	622,074	0.9	511960.473333333	Pulse	121.5	IS Q-06
Rh	103	He	322,734	0.2	279070.866666667	Pulse	115.6	
Rh	103	NoGas	730,945	0.6	619166.366666667	Pulse	118.1	
Tb	159	He	629,297	0.8	563985.973333333	Pulse	111.6	
Tb	159	NoGas	1,774,037	2.2	1490879.07333333	Analog	119.0	
Bi	209	He	371,936	0.2	365534.536666667	Pulse	101.8	
Bi	209	NoGas	976,137	1.2	928203.173333333	Pulse	105.2	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-04**	Total Dilution:	**5.0000**
File Name:	041SMPL.d	Vial:	3412
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:10:43		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.429	ppb	5.8	628	100	
Na	23	45	He	449.989	ppb	0.4	313,959	50000	
Mg	24	45	He	4811.951	ppb	1.5	1,849,567	50000	
Al	27	45	He	10995.063	ppb	0.6	2,388,715	50000	
K	39	45	He	872.867	ppb	1.1	384,267	50000	
Ca	44	45	H2	5816.284	ppb	0.4	893,203	50000	
[Ca]	44	45	He	6292.336	ppb	0.7	118,542	50000	
Ti	47	45	NoGas	291.754	ppb	1.0	241,769	2500	
V	51	74	He	44.583	ppb	0.2	94,279	500	
Cr	52	74	He	14.087	ppb	0.3	36,318	1000	
Mn	55	74	He	226.888	ppb	0.1	442,833	2500	
Fe	56	74	H2	23095.789	ppb	0.7	150,539,236	50000	
Co	59	74	He	20.034	ppb	1.2	68,130	500	
Ni	60	74	He	23.739	ppb	3.3	19,778	1000	
Cu	65	74	He	18.992	ppb	1.3	19,788	1000	
Zn	66	74	He	47.452	ppb	1.2	19,609	2500	
As	75	74	He	1.902	ppb	0.8	565	500	
Se	78	74	H2	0.116	ppb	31.1	24	100	
Mo	95	103	He	0.159	ppb	28.9	366	100	
Ag	107	103	He	0.023	ppb	29.0	99	100	
Cd	111	103	He	0.039	ppb	14.6	33	1000	
[Cd]	111	103	NoGas	0.188	ppb	21.6	412	1000	
Sb	121	103	He	0.025	ppb	35.9	77	100	
Ba	138	159	He	131.923	ppb	0.1	667,175	2500	
W	182	159	NoGas	0.028	ppb	21.2	296	40	
Hg	201	159	NoGas	6.46	ppt	28.3	27	4000	
Tl	205	159	He	0.058	ppb	5.9	538	100	
Pb	208	159	NoGas	3.985	ppb	0.4	118,437	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	480,649	0.6	390560.36	Pulse	123.1	IS Q-06
Sc	45	H2	1,358,105	0.7	995916.946666667	Analog	136.4	IS Q-06
Sc	45	He	222,053	0.8	171648.27	Pulse	129.4	IS Q-06
Sc	45	NoGas	2,277,841	0.6	1663179.33	Analog	137.0	IS Q-06
Ge	74	H2	419,508	0.6	344345.643333333	Pulse	121.8	IS Q-06
Ge	74	He	137,543	0.0	114794.926666667	Pulse	119.8	
Ge	74	NoGas	635,152	1.3	511960.473333333	Pulse	124.1	IS Q-06
Rh	103	He	327,419	0.6	279070.866666667	Pulse	117.3	
Rh	103	NoGas	747,089	0.3	619166.366666667	Pulse	120.7	IS Q-06
Tb	159	He	632,509	0.5	563985.973333333	Pulse	112.1	
Tb	159	NoGas	1,771,185	0.1	1490879.07333333	Analog	118.8	
Bi	209	He	379,015	0.4	365534.536666667	Pulse	103.7	
Bi	209	NoGas	994,020	1.0	928203.173333333	Pulse	107.1	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-05**	Total Dilution:	**5.0000**
File Name:	042SMPL.d	Vial:	3413
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:15:17		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.51	ppb	3.4	734	100	
Na	23	45	He	551.27	ppb	0.4	385,897	50000	
Mg	24	45	He	5648.43	ppb	0.5	2,182,720	50000	
Al	27	45	He	13988.076	ppb	0.8	3,055,133	50000	
K	39	45	He	1021.405	ppb	0.6	447,264	50000	
Ca	44	45	H2	6556.727	ppb	1.0	1,027,638	50000	
[Ca]	44	45	He	7106.501	ppb	0.9	134,562	50000	
Ti	47	45	NoGas	873.497	ppb	0.1	718,733	2500	
V	51	74	He	82.225	ppb	0.4	171,273	500	
Cr	52	74	He	19.712	ppb	1.4	49,610	1000	
Mn	55	74	He	320.72	ppb	0.3	618,624	2500	
Fe	56	74	H2	33954.252	ppb	0.5	221,787,063	50000	
Co	59	74	He	24.104	ppb	1.5	81,008	500	
Ni	60	74	He	29.976	ppb	1.2	24,673	1000	
Cu	65	74	He	24.294	ppb	1.5	24,976	1000	
Zn	66	74	He	69.111	ppb	0.4	28,177	2500	
As	75	74	He	2.918	ppb	1.7	848	500	
Se	78	74	H2	0.183	ppb	27.9	37	100	
Mo	95	103	He	0.331	ppb	10.4	577	100	
Ag	107	103	He	0.025	ppb	33.3	104	100	
Cd	111	103	He	0.073	ppb	2.7	56	1000	
[Cd]	111	103	NoGas	0.297	ppb	16.1	625	1000	
Sb	121	103	He	0.044	ppb	25.0	112	100	
Ba	138	159	He	139.66	ppb	0.3	699,920	2500	
W	182	159	NoGas	0.04	ppb	12.2	406	40	
Hg	201	159	NoGas	13.98	ppt	25.8	35	4000	
Tl	205	159	He	0.067	ppb	18.8	609	100	
Pb	208	159	NoGas	4.924	ppb	1.8	145,437	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	473,907	0.7	390560.36	Pulse	121.3	IS Q-06
Sc	45	H2	1,386,201	0.5	995916.946666667	Analog	139.2	IS Q-06
Sc	45	He	223,235	0.5	171648.27	Pulse	130.1	IS Q-06
Sc	45	NoGas	2,261,967	0.2	1663179.33	Analog	136.0	IS Q-06
Ge	74	H2	420,430	0.8	344345.643333333	Pulse	122.1	IS Q-06
Ge	74	He	135,939	0.3	114794.926666667	Pulse	118.4	
Ge	74	NoGas	624,795	0.3	511960.473333333	Pulse	122.0	IS Q-06
Rh	103	He	324,318	0.7	279070.866666667	Pulse	116.2	
Rh	103	NoGas	734,366	0.1	619166.366666667	Pulse	118.6	
Tb	159	He	626,806	0.3	563985.973333333	Pulse	111.1	
Tb	159	NoGas	1,763,088	1.6	1490879.07333333	Analog	118.3	
Bi	209	He	372,343	0.1	365534.536666667	Pulse	101.9	
Bi	209	NoGas	987,482	0.5	928203.173333333	Pulse	106.4	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-07**	Total Dilution:	**5.0000**
File Name:	043SMPL.d	Vial:	3414
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:19:50		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.564	ppb	0.9	777	100	
Na	23	45	He	502.583	ppb	0.7	340,184	50000	
Mg	24	45	He	7857.925	ppb	1.1	2,933,439	50000	
Al	27	45	He	18181.267	ppb	0.4	3,836,400	50000	
K	39	45	He	818.265	ppb	1.2	351,587	50000	
Ca	44	45	H2	5996.087	ppb	0.5	917,977	50000	
[Ca]	44	45	He	6683.559	ppb	0.5	122,279	50000	
Ti	47	45	NoGas	1216.623	ppb	0.5	954,142	2500	
V	51	74	He	107.888	ppb	0.2	215,656	500	
Cr	52	74	He	29.747	ppb	1.0	71,158	1000	
Mn	55	74	He	434.655	ppb	0.4	805,269	2500	
Fe	56	74	H2	39849.814	ppb	0.6	252,222,985	50000	
Co	59	74	He	23.015	ppb	0.8	74,297	500	
Ni	60	74	He	38.99	ppb	1.2	30,813	1000	
Cu	65	74	He	31.075	ppb	1.3	30,648	1000	
Zn	66	74	He	72.698	ppb	2.0	28,463	2500	
As	75	74	He	3.25	ppb	3.2	905	500	
Se	78	74	H2	0.15	ppb	36.9	30	100	
Mo	95	103	He	0.222	ppb	12.4	424	100	
Ag	107	103	He	0.038	ppb	18.6	149	100	
Cd	111	103	He	0.084	ppb	27.7	62	1000	
[Cd]	111	103	NoGas	0.374	ppb	17.9	749	1000	
Sb	121	103	He	0.091	ppb	11.1	196	100	
Ba	138	159	He	165.752	ppb	0.2	815,353	2500	
W	182	159	NoGas	0.04	ppb	9.7	394	40	
Hg	201	159	NoGas	11.226	ppt	34.9	31	4000	
Tl	205	159	He	0.072	ppb	19.8	636	100	
Pb	208	159	NoGas	4.644	ppb	1.2	135,098	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	454,647	0.2	390560.36	Pulse	116.4	
Sc	45	H2	1,353,930	0.3	995916.946666667	Analog	135.9	IS Q-06
Sc	45	He	215,672	0.7	171648.27	Pulse	125.6	IS Q-06
Sc	45	NoGas	2,155,979	0.2	1663179.33	Analog	129.6	IS Q-06
Ge	74	H2	407,392	0.8	344345.643333333	Pulse	118.3	
Ge	74	He	130,577	0.5	114794.926666667	Pulse	113.7	
Ge	74	NoGas	593,459	0.6	511960.473333333	Pulse	115.9	
Rh	103	He	312,041	0.9	279070.866666667	Pulse	111.8	
Rh	103	NoGas	704,602	0.2	619166.366666667	Pulse	113.8	
Tb	159	He	615,248	0.2	563985.973333333	Pulse	109.1	
Tb	159	NoGas	1,735,581	0.5	1490879.07333333	Analog	116.4	
Bi	209	He	363,664	0.3	365534.536666667	Pulse	99.5	
Bi	209	NoGas	954,601	1.0	928203.173333333	Pulse	102.8	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-08**	Total Dilution:	**5.0000**
File Name:	044SMPL.d	Vial:	3415
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:24:24		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.613	ppb	9.3	819	100	
Na	23	45	He	619.418	ppb	1.3	400,297	50000	
Mg	24	45	He	7958.677	ppb	1.2	2,841,912	50000	
Al	27	45	He	18560.362	ppb	0.9	3,746,191	50000	
K	39	45	He	815.101	ppb	1.3	335,112	50000	
Ca	44	45	H2	6547.511	ppb	2.3	936,508	50000	
[Ca]	44	45	He	7109.284	ppb	1.2	124,400	50000	
Ti	47	45	NoGas	1439.214	ppb	1.2	1,101,135	2500	
V	51	74	He	102.907	ppb	0.3	199,699	500	
Cr	52	74	He	26.917	ppb	0.4	62,637	1000	
Mn	55	74	He	415.198	ppb	0.4	746,669	2500	
Fe	56	74	H2	37851.85	ppb	0.5	230,554,821	50000	
Co	59	74	He	22.592	ppb	0.6	70,793	500	
Ni	60	74	He	38.478	ppb	0.3	29,518	1000	
Cu	65	74	He	29.325	ppb	1.7	28,083	1000	
Zn	66	74	He	69.162	ppb	0.6	26,291	2500	
As	75	74	He	3.151	ppb	2.1	852	500	
Se	78	74	H2	0.175	ppb	19.1	33	100	
Mo	95	103	He	0.281	ppb	17.8	481	100	
Ag	107	103	He	0.053	ppb	29.0	196	100	
Cd	111	103	He	0.085	ppb	13.9	60	1000	
[Cd]	111	103	NoGas	0.342	ppb	17.1	667	1000	
Sb	121	103	He	0.053	ppb	34.8	121	100	
Ba	138	159	He	156.771	ppb	0.4	752,105	2500	
W	182	159	NoGas	0.035	ppb	17.1	341	40	
Hg	201	159	NoGas	5.694	ppt	110.3	24	4000	
Tl	205	159	He	0.072	ppb	12.0	626	100	
Pb	208	159	NoGas	4.438	ppb	1.8	124,401	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	441,129	0.2	390560.36	Pulse	112.9	
Sc	45	H2	1,265,405	2.1	995916.946666667	Mix	127.1	IS Q-06
Sc	45	He	206,305	0.9	171648.27	Pulse	120.2	IS Q-06
Sc	45	NoGas	2,103,467	0.9	1663179.33	Analog	126.5	IS Q-06
Ge	74	H2	392,043	0.2	344345.643333333	Pulse	113.9	
Ge	74	He	126,747	0.6	114794.926666667	Pulse	110.4	
Ge	74	NoGas	580,267	1.3	511960.473333333	Pulse	113.3	
Rh	103	He	303,631	0.6	279070.866666667	Pulse	108.8	
Rh	103	NoGas	684,281	0.4	619166.366666667	Pulse	110.5	
Tb	159	He	600,032	0.1	563985.973333333	Pulse	106.4	
Tb	159	NoGas	1,672,173	1.7	1490879.07333333	Analog	112.2	
Bi	209	He	358,644	0.3	365534.536666667	Pulse	98.1	
Bi	209	NoGas	931,737	0.9	928203.173333333	Pulse	100.4	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV3**	Total Dilution:	1.0000
File Name:	045_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 21:29:10
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	41.665	ppb	0.9	57,307	40	104.16	
Na	23	45	He	4192.664	ppb	1.6	2,690,500	4000	104.82	
Mg	24	45	He	4375.425	ppb	1.1	1,562,242	4000	109.39	
Al	27	45	He	3924.855	ppb	0.4	792,131	4000	98.12	
K	39	45	He	4136.275	ppb	1.3	1,593,967	4000	103.41	
Ca	44	45	H2	3837.134	ppb	1.1	560,470	4000	95.93	
[Ca]	44	45	He	4110.802	ppb	0.6	72,023	4000	102.77	
Ti	47	45	NoGas	97.787	ppb	1.8	73,964	100	97.79	
V	51	74	He	103.511	ppb	1.2	211,741	100	103.51	
Cr	52	74	He	101.959	ppb	1.2	245,882	100	101.96	
Mn	55	74	He	101.851	ppb	0.7	193,167	100	101.85	
Fe	56	74	H2	4286.336	ppb	0.2	27,793,813	4000	107.16	
Co	59	74	He	106.379	ppb	1.3	351,266	100	106.38	
Ni	60	74	He	108.018	ppb	1.9	87,277	100	108.02	
Cu	65	74	He	107.068	ppb	1.0	107,702	100	107.07	
Zn	66	74	He	104.604	ppb	0.9	41,865	100	104.6	
As	75	74	He	98.707	ppb	0.8	27,643	100	98.71	
Se	78	74	H2	40.836	ppb	1.9	7,832	40	102.09	
Mo	95	103	He	40.448	ppb	1.5	49,215	40	101.12	
Ag	107	103	He	36.062	ppb	0.9	132,215	40	90.16	
Cd	111	103	He	96.032	ppb	0.8	65,852	100	96.03	
[Cd]	111	103	NoGas	96.392	ppb	1.1	185,478	100	96.39	
Sb	121	103	He	38.110	ppb	0.5	72,084	40	95.28	
Ba	138	159	He	102.399	ppb	0.3	497,808	100	102.4	
Hg	201	159	NoGas	767.718	ppt	4.1	830	800	95.96	
Tl	205	159	He	39.384	ppb	0.7	321,515	40	98.46	
Pb	208	159	NoGas	94.568	ppb	0.8	2,652,926	100	94.57	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.2	460,518	390560.36	117.9	
Sc	45	H2	Analog	0.7	1,291,359	995916.946666667	129.7	IS Q-06
Sc	45	He	Pulse	0.6	206,258	171648.27	120.2	IS Q-06
Sc	45	NoGas	Analog	1.3	2,078,587	1663179.33	125.0	IS Q-06
Ge	74	H2	Pulse	0.3	417,010	344345.643333333	121.1	IS Q-06
Ge	74	He	Pulse	0.7	133,616	114794.926666667	116.4	
Ge	74	NoGas	Pulse	1.0	606,937	511960.473333333	118.6	
Rh	103	He	Pulse	0.8	315,863	279070.866666667	113.2	
Rh	103	NoGas	Pulse	0.2	702,488	619166.366666667	113.5	
Tb	159	He	Pulse	0.2	607,990	563985.973333333	107.8	
Tb	159	NoGas	Analog	1.2	1,683,610	1490879.07333333	112.9	
Bi	209	He	Pulse	0.1	374,872	365534.536666667	102.6	
Bi	209	NoGas	Pulse	0.4	966,543	928203.173333333	104.1	

only reporting As from this bracket
ESS 10/8/19

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB3**	Total Dilution:	1.0000
File Name:	046_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 21:33:47
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	-0.001	ppb	N/A	11	
Na	23	45	He	0.748	ppb	33.5	3,683	
Mg	24	45	He	0.854	ppb	19.0	700	
Al	27	45	He	1.652	ppb	8.6	466	
K	39	45	He	2.997	ppb	56.9	27,329	
Ca	44	45	H2	2.443	ppb	31.0	859	
[Ca]	44	45	He	0.656	ppb	319.7	263	
Ti	47	45	NoGas	0.151	ppb	42.2	160	
V	51	74	He	-0.013	ppb	N/A	650	
Cr	52	74	He	0.014	ppb	229.5	1,558	
Mn	55	74	He	0.023	ppb	60.4	153	
Fe	56	74	H2	3.800	ppb	4.8	56,496	
Co	59	74	He	0.016	ppb	34.7	87	
Ni	60	74	He	0.015	ppb	90.7	52	
Cu	65	74	He	0.028	ppb	68.2	172	
Zn	66	74	He	0.102	ppb	64.3	148	
As	75	74	He	0.009	ppb	83.3	19	
Se	78	74	H2	0.035	ppb	22.8	8	
Mo	95	103	He	-0.023	ppb	N/A	136	
Ag	107	103	He	0.003	ppb	18.1	21	
Cd	111	103	He	0.015	ppb	5.6	15	
[Cd]	111	103	NoGas	0.000	ppb	5154.1	29	
Sb	121	103	He	0.136	ppb	15.9	291	
Ba	138	159	He	0.023	ppb	24.2	221	
Hg	201	159	NoGas	-9.623	ppt	N/A	9	
Tl	205	159	He	0.005	ppb	53.9	82	
Pb	208	159	NoGas	0.010	ppb	18.8	1,107	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	477,573	390560.36	122.3	IS Q-06
Sc	45	H2	Pulse	0.3	1,228,634	995916.946666667	123.4	IS Q-06
Sc	45	He	Pulse	0.5	206,920	171648.27	120.5	IS Q-06
Sc	45	NoGas	Analog	1.1	2,131,142	1663179.33	128.1	IS Q-06
Ge	74	H2	Pulse	0.4	415,278	344345.643333333	120.6	IS Q-06
Ge	74	He	Pulse	0.4	134,262	114794.926666667	117.0	
Ge	74	NoGas	Pulse	1.0	624,025	511960.473333333	121.9	IS Q-06
Rh	103	He	Pulse	0.2	324,159	279070.866666667	116.2	
Rh	103	NoGas	Pulse	0.8	741,935	619166.366666667	119.8	
Tb	159	He	Pulse	0.3	610,546	563985.973333333	108.3	
Tb	159	NoGas	Analog	1.2	1,712,792	1490879.07333333	114.9	
Bi	209	He	Pulse	0.3	379,494	365534.536666667	103.8	
Bi	209	NoGas	Pulse	0.8	996,997	928203.173333333	107.4	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-09**	Total Dilution:	**5.0000**
File Name:	047SMPL.d	Vial:	3501
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:38:26		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.553	ppb	0.9	761	100	
Na	23	45	He	485.268	ppb	0.1	313,701	50000	
Mg	24	45	He	6055.656	ppb	0.5	2,158,354	50000	
Al	27	45	He	12987.956	ppb	0.2	2,616,477	50000	
K	39	45	He	838.747	ppb	0.3	343,427	50000	
Ca	44	45	H2	5277.732	ppb	2.0	737,654	50000	
[Ca]	44	45	He	5687.227	ppb	1.5	99,375	50000	
Ti	47	45	NoGas	1056.693	ppb	0.4	819,816	2500	
V	51	74	He	89.003	ppb	0.4	173,044	500	
Cr	52	74	He	20.227	ppb	1.0	47,491	1000	
Mn	55	74	He	286.443	ppb	0.4	515,873	2500	
Fe	56	74	H2	33589.078	ppb	0.9	202,604,306	50000	
Co	59	74	He	22.15	ppb	1.0	69,503	500	
Ni	60	74	He	29.583	ppb	2.7	22,734	1000	
Cu	65	74	He	24.761	ppb	1.9	23,766	1000	
Zn	66	74	He	66.547	ppb	1.3	25,335	2500	
As	75	74	He	1.836	ppb	9.6	504	500	
Se	78	74	H2	0.139	ppb	44.3	26	100	
Mo	95	103	He	0.341	ppb	15.6	550	100	
Ag	107	103	He	0.039	ppb	20.5	147	100	
Cd	111	103	He	0.06	ppb	24.9	44	1000	
[Cd]	111	103	NoGas	0.337	ppb	10.2	668	1000	
Sb	121	103	He	0.105	ppb	16.1	217	100	
Ba	138	159	He	115.717	ppb	0.2	555,068	2500	
W	182	159	NoGas	0.042	ppb	4.9	397	40	
Hg	201	159	NoGas	2.712	ppt	131.5	21	4000	
Tl	205	159	He	0.062	ppb	7.8	542	100	
Pb	208	159	NoGas	3.698	ppb	1.2	104,246	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	453,880	0.2	390560.36	Pulse	116.2	
Sc	45	H2	1,236,310	2.1	995916.946666667	Mix	124.1	IS Q-06
Sc	45	He	205,901	0.4	171648.27	Pulse	120.0	
Sc	45	NoGas	2,132,830	0.8	1663179.33	Analog	128.2	IS Q-06
Ge	74	H2	388,242	0.6	344345.643333333	Pulse	112.7	
Ge	74	He	126,923	0.4	114794.926666667	Pulse	110.6	
Ge	74	NoGas	586,816	0.5	511960.473333333	Pulse	114.6	
Rh	103	He	303,431	0.6	279070.866666667	Pulse	108.7	
Rh	103	NoGas	693,882	0.7	619166.366666667	Pulse	112.1	
Tb	159	He	599,918	0.6	563985.973333333	Pulse	106.4	
Tb	159	NoGas	1,679,352	1.7	1490879.07333333	Analog	112.6	
Bi	209	He	356,940	0.2	365534.536666667	Pulse	97.6	
Bi	209	NoGas	944,723	0.9	928203.173333333	Pulse	101.8	

Quantitation Report - ICPMS5

Sample Name:	**9100531-MS1**	Total Dilution:	**5.0000**
File Name:	048SMPL.d	Vial:	3502
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:43:00		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	27.165	ppb	1.2	35,855	100	
Na	23	45	He	3356.188	ppb	1.3	2,112,575	50000	
Mg	24	45	He	8616.7	ppb	0.8	3,016,601	50000	
Al	27	45	He	16024.725	ppb	1.8	3,170,945	50000	
K	39	45	He	3533.702	ppb	2.3	1,338,892	50000	
Ca	44	45	H2	7295.846	ppb	1.1	1,075,198	50000	
[Ca]	44	45	He	8067.431	ppb	0.5	138,363	50000	
Ti	47	45	NoGas	1068.805	ppb	0.8	796,334	2500	
V	51	74	He	149.132	ppb	0.4	284,456	500	
Cr	52	74	He	75.648	ppb	0.2	170,640	1000	
Mn	55	74	He	346.063	ppb	0.7	612,330	2500	
Fe	56	74	H2	38670.461	ppb	0.5	236,558,516	50000	
Co	59	74	He	79.787	ppb	1.1	245,907	500	
Ni	60	74	He	85.259	ppb	0.5	64,307	1000	
Cu	65	74	He	81.557	ppb	0.9	76,603	1000	
Zn	66	74	He	119.526	ppb	1.1	44,633	2500	
As	75	74	He	51.639	ppb	0.6	13,505	500	
Se	78	74	H2	23.714	ppb	1.4	4,295	100	
Mo	95	103	He	27.184	ppb	2.7	31,178	100	
Ag	107	103	He	27.37	ppb	1.3	94,444	100	
Cd	111	103	He	51.216	ppb	0.2	33,057	1000	
[Cd]	111	103	NoGas	52.624	ppb	0.7	95,395	1000	
Sb	121	103	He	23.438	ppb	1.1	41,731	100	
Ba	138	159	He	176.589	ppb	0.2	836,313	2500	
W	182	159	NoGas	0.054	ppb	17.2	491	40	
Hg	201	159	NoGas	1023.713	ppt	3.3	1,079	4000	
Tl	205	159	He	25.327	ppb	0.2	201,457	100	
Pb	208	159	NoGas	54.179	ppb	0.3	1,491,231	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	441,888	0.6	390560.36	Pulse	113.1	
Sc	45	H2	1,303,516	0.7	995916.946666667	Analog	130.9	IS Q-06
Sc	45	He	202,251	0.4	171648.27	Pulse	117.8	
Sc	45	NoGas	2,048,334	0.8	1663179.33	Analog	123.2	IS Q-06
Ge	74	H2	393,739	0.6	344345.643333333	Pulse	114.3	
Ge	74	He	124,706	0.4	114794.926666667	Pulse	108.6	
Ge	74	NoGas	563,339	0.8	511960.473333333	Pulse	110.0	
Rh	103	He	297,279	0.8	279070.866666667	Pulse	106.5	
Rh	103	NoGas	661,733	0.5	619166.366666667	Pulse	106.9	
Tb	159	He	592,342	0.4	563985.973333333	Pulse	105.0	
Tb	159	NoGas	1,651,411	0.6	1490879.07333333	Analog	110.8	
Bi	209	He	352,570	0.5	365534.536666667	Pulse	96.5	
Bi	209	NoGas	912,551	0.9	928203.173333333	Pulse	98.3	

Quantitation Report - ICPMS5

Sample Name:	**9100531-MSD1**	Total Dilution:	**5.0000**
File Name:	049SMPL.d	Vial:	3503
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:47:34		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	25.433	ppb	2.2	33,186	100	
Na	23	45	He	3080.185	ppb	0.7	1,904,699	50000	
Mg	24	45	He	8973.976	ppb	0.5	3,085,804	50000	
Al	27	45	He	17918.303	ppb	0.2	3,482,655	50000	
K	39	45	He	3283.328	ppb	0.0	1,223,768	50000	
Ca	44	45	H2	8123.117	ppb	0.8	1,095,353	50000	
[Ca]	44	45	He	8637.831	ppb	1.1	145,496	50000	
Ti	47	45	NoGas	1454.48	ppb	0.4	1,064,773	2500	
V	51	74	He	151.156	ppb	0.1	282,844	500	
Cr	52	74	He	75.155	ppb	1.1	166,321	1000	
Mn	55	74	He	366.861	ppb	0.5	636,825	2500	
Fe	56	74	H2	41081.227	ppb	0.1	239,143,376	50000	
Co	59	74	He	76.023	ppb	0.4	229,871	500	
Ni	60	74	He	83.74	ppb	0.7	61,964	1000	
Cu	65	74	He	78.844	ppb	0.9	72,657	1000	
Zn	66	74	He	122.021	ppb	1.0	44,700	2500	
As	75	74	He	48.314	ppb	0.9	12,397	500	
Se	78	74	H2	22.813	ppb	1.0	3,932	100	
Mo	95	103	He	24.87	ppb	0.5	27,922	100	
Ag	107	103	He	25.963	ppb	0.1	87,653	100	
Cd	111	103	He	47.956	ppb	0.6	30,283	1000	
[Cd]	111	103	NoGas	48.428	ppb	0.5	86,595	1000	
Sb	121	103	He	21.106	ppb	1.1	36,769	100	
Ba	138	159	He	183.851	ppb	0.5	859,353	2500	
W	182	159	NoGas	0.056	ppb	3.4	499	40	
Hg	201	159	NoGas	944.477	ppt	1.4	979	4000	
Tl	205	159	He	24.139	ppb	0.5	189,506	100	
Pb	208	159	NoGas	50.471	ppb	1.6	1,362,961	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	436,851	0.7	390560.36	Pulse	111.9	
Sc	45	H2	1,192,733	0.2	995916.946666667	Pulse	119.8	
Sc	45	He	198,656	0.1	171648.27	Pulse	115.7	
Sc	45	NoGas	2,012,523	0.4	1663179.33	Analog	121.0	IS Q-06
Ge	74	H2	374,682	0.1	344345.643333333	Pulse	108.8	
Ge	74	He	122,342	0.3	114794.926666667	Pulse	106.6	
Ge	74	NoGas	555,469	0.6	511960.473333333	Pulse	108.5	
Rh	103	He	290,839	0.2	279070.866666667	Pulse	104.2	
Rh	103	NoGas	652,715	0.6	619166.366666667	Pulse	105.4	
Tb	159	He	584,628	0.4	563985.973333333	Pulse	103.7	
Tb	159	NoGas	1,620,510	2.1	1490879.07333333	Analog	108.7	
Bi	209	He	346,998	0.4	365534.536666667	Pulse	94.9	
Bi	209	NoGas	903,881	0.6	928203.173333333	Pulse	97.4	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-10**	Total Dilution:	**5.0000**
File Name:	050SMPL.d	Vial:	3504
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:52:08		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.585	ppb	7.7	779	100	
Na	23	45	He	679.64	ppb	0.3	426,284	50000	
Mg	24	45	He	7262.001	ppb	0.2	2,518,588	50000	
Al	27	45	He	18251.066	ppb	0.4	3,577,722	50000	
K	39	45	He	1046.311	ppb	0.8	410,603	50000	
Ca	44	45	H2	6673.603	ppb	0.8	896,918	50000	
[Ca]	44	45	He	7082.397	ppb	0.3	120,364	50000	
Ti	47	45	NoGas	1871.329	ppb	0.7	1,388,107	2500	
V	51	74	He	118.586	ppb	1.1	221,677	500	
Cr	52	74	He	28.226	ppb	0.9	63,233	1000	
Mn	55	74	He	354.768	ppb	1.1	614,857	2500	
Fe	56	74	H2	42038.589	ppb	0.7	244,084,710	50000	
Co	59	74	He	25.635	ppb	1.5	77,409	500	
Ni	60	74	He	37.161	ppb	0.4	27,475	1000	
Cu	65	74	He	29.162	ppb	0.7	26,913	1000	
Zn	66	74	He	80.417	ppb	2.1	29,444	2500	
As	75	74	He	2.669	ppb	2.6	698	500	
Se	78	74	H2	0.172	ppb	23.4	31	100	
Mo	95	103	He	0.372	ppb	9.6	567	100	
Ag	107	103	He	0.044	ppb	2.7	159	100	
Cd	111	103	He	0.083	ppb	20.7	57	1000	
[Cd]	111	103	NoGas	0.467	ppb	21.8	877	1000	
Sb	121	103	He	0.142	ppb	9.5	273	100	
Ba	138	159	He	159.231	ppb	0.4	745,455	2500	
W	182	159	NoGas	0.057	ppb	15.1	521	40	
Hg	201	159	NoGas	12.412	ppt	14.2	31	4000	
Tl	205	159	He	0.082	ppb	11.4	684	100	
Pb	208	159	NoGas	4.656	ppb	0.7	128,729	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	439,255	0.4	390560.36	Pulse	112.5	
Sc	45	H2	1,188,672	0.3	995916.946666667	Pulse	119.4	
Sc	45	He	200,358	0.1	171648.27	Pulse	116.7	
Sc	45	NoGas	2,039,248	1.1	1663179.33	Analog	122.6	IS Q-06
Ge	74	H2	373,724	0.5	344345.643333333	Pulse	108.5	
Ge	74	He	122,151	0.6	114794.926666667	Pulse	106.4	
Ge	74	NoGas	561,392	1.1	511960.473333333	Pulse	109.7	
Rh	103	He	293,222	0.1	279070.866666667	Pulse	105.1	
Rh	103	NoGas	665,394	0.8	619166.366666667	Pulse	107.5	
Tb	159	He	585,543	0.4	563985.973333333	Pulse	103.8	
Tb	159	NoGas	1,649,716	1.5	1490879.07333333	Analog	110.7	
Bi	209	He	348,702	0.3	365534.536666667	Pulse	95.4	
Bi	209	NoGas	908,948	0.9	928203.173333333	Pulse	97.9	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-11**	Total Dilution:	**5.0000**
File Name:	051SMPL.d	Vial:	3505
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 21:56:43		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.521	ppb	3.8	691	100	
Na	23	45	He	545.311	ppb	1.0	342,143	50000	
Mg	24	45	He	6472.725	ppb	0.3	2,241,696	50000	
Al	27	45	He	14819.913	ppb	0.4	2,900,976	50000	
K	39	45	He	821.851	ppb	0.2	327,491	50000	
Ca	44	45	H2	5565.768	ppb	0.0	744,977	50000	
[Ca]	44	45	He	5807.154	ppb	0.9	98,592	50000	
Ti	47	45	NoGas	1386.895	ppb	0.4	1,028,753	2500	
V	51	74	He	96.681	ppb	0.7	182,134	500	
Cr	52	74	He	22.547	ppb	1.0	51,151	1000	
Mn	55	74	He	288.815	ppb	0.6	504,146	2500	
Fe	56	74	H2	33778.261	ppb	0.4	197,504,330	50000	
Co	59	74	He	20.119	ppb	1.1	61,194	500	
Ni	60	74	He	32.735	ppb	0.5	24,379	1000	
Cu	65	74	He	23.398	ppb	1.9	21,775	1000	
Zn	66	74	He	63.001	ppb	2.8	23,252	2500	
As	75	74	He	1.967	ppb	12.1	522	500	
Se	78	74	H2	0.111	ppb	8.1	21	100	
Mo	95	103	He	0.306	ppb	16.5	494	100	
Ag	107	103	He	0.044	ppb	16.9	160	100	
Cd	111	103	He	0.066	ppb	31.1	46	1000	
[Cd]	111	103	NoGas	0.395	ppb	11.4	748	1000	
Sb	121	103	He	0.094	ppb	13.9	190	100	
Ba	138	159	He	118.672	ppb	0.5	551,699	2500	
W	182	159	NoGas	0.04	ppb	0.5	376	40	
Hg	201	159	NoGas	2.047	ppt	58.5	20	4000	
Tl	205	159	He	0.061	ppb	16.7	519	100	
Pb	208	159	NoGas	3.536	ppb	0.8	97,493	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	437,126	0.4	390560.36	Pulse	111.9	
Sc	45	H2	1,183,674	0.2	995916.946666667	Pulse	118.9	
Sc	45	He	200,074	0.6	171648.27	Pulse	116.6	
Sc	45	NoGas	2,039,217	0.6	1663179.33	Analog	122.6	IS Q-06
Ge	74	H2	376,339	0.2	344345.643333333	Pulse	109.3	
Ge	74	He	123,019	0.3	114794.926666667	Pulse	107.2	
Ge	74	NoGas	565,153	0.9	511960.473333333	Pulse	110.4	
Rh	103	He	293,892	0.4	279070.866666667	Pulse	105.3	
Rh	103	NoGas	667,836	0.2	619166.366666667	Pulse	107.9	
Tb	159	He	581,432	0.3	563985.973333333	Pulse	103.1	
Tb	159	NoGas	1,641,497	1.0	1490879.07333333	Analog	110.1	
Bi	209	He	349,506	0.1	365534.536666667	Pulse	95.6	
Bi	209	NoGas	911,499	0.6	928203.173333333	Pulse	98.2	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-12**	Total Dilution:	**5.0000**
File Name:	052SMPL.d	Vial:	3506
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:01:18		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.555	ppb	1.6	740	100	
Na	23	45	He	586.209	ppb	0.4	366,775	50000	
Mg	24	45	He	7599.349	ppb	1.3	2,625,949	50000	
Al	27	45	He	16909.326	ppb	1.4	3,302,464	50000	
K	39	45	He	981.301	ppb	1.1	385,248	50000	
Ca	44	45	H2	6220.007	ppb	0.3	840,088	50000	
[Ca]	44	45	He	6591.518	ppb	1.0	111,628	50000	
Ti	47	45	NoGas	1321.66	ppb	1.6	983,189	2500	
V	51	74	He	106.751	ppb	0.6	201,128	500	
Cr	52	74	He	25.921	ppb	1.4	58,622	1000	
Mn	55	74	He	386.777	ppb	0.4	675,403	2500	
Fe	56	74	H2	39578.152	ppb	0.9	232,133,794	50000	
Co	59	74	He	23.727	ppb	0.2	72,194	500	
Ni	60	74	He	37.053	ppb	1.0	27,602	1000	
Cu	65	74	He	27.252	ppb	1.0	25,350	1000	
Zn	66	74	He	75.033	ppb	1.2	27,688	2500	
As	75	74	He	2.37	ppb	2.9	626	500	
Se	78	74	H2	0.153	ppb	22.7	28	100	
Mo	95	103	He	0.314	ppb	13.7	503	100	
Ag	107	103	He	0.039	ppb	8.7	142	100	
Cd	111	103	He	0.077	ppb	4.5	54	1000	
[Cd]	111	103	NoGas	0.386	ppb	8.2	731	1000	
Sb	121	103	He	0.117	ppb	9.7	231	100	
Ba	138	159	He	165.664	ppb	0.2	771,136	2500	
W	182	159	NoGas	0.046	ppb	14.5	423	40	
Hg	201	159	NoGas	7.447	ppt	22.8	26	4000	
Tl	205	159	He	0.079	ppb	5.8	659	100	
Pb	208	159	NoGas	4.201	ppb	0.1	116,096	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	439,604	0.7	390560.36	Pulse	112.6	
Sc	45	H2	1,194,490	0.4	995916.946666667	Pulse	119.9	
Sc	45	He	199,637	1.0	171648.27	Pulse	116.3	
Sc	45	NoGas	2,045,398	1.5	1663179.33	Analog	123.0	IS Q-06
Ge	74	H2	377,508	0.2	344345.643333333	Pulse	109.6	
Ge	74	He	123,072	0.1	114794.926666667	Pulse	107.2	
Ge	74	NoGas	563,478	0.6	511960.473333333	Pulse	110.1	
Rh	103	He	294,138	0.4	279070.866666667	Pulse	105.4	
Rh	103	NoGas	667,682	0.3	619166.366666667	Pulse	107.8	
Tb	159	He	582,190	0.1	563985.973333333	Pulse	103.2	
Tb	159	NoGas	1,647,650	0.8	1490879.07333333	Analog	110.5	
Bi	209	He	345,837	0.6	365534.536666667	Pulse	94.6	
Bi	209	NoGas	910,547	0.9	928203.173333333	Pulse	98.1	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-13**	Total Dilution:	**5.0000**
File Name:	053SMPL.d	Vial:	3507
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:05:53		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.608	ppb	6.4	792	100	
Na	23	45	He	629.557	ppb	0.3	386,465	50000	
Mg	24	45	He	7679.724	ppb	1.7	2,605,132	50000	
Al	27	45	He	19503.611	ppb	1.1	3,739,726	50000	
K	39	45	He	1014.752	ppb	0.6	390,262	50000	
Ca	44	45	H2	6653.018	ppb	0.6	883,906	50000	
[Ca]	44	45	He	7113.587	ppb	0.6	118,252	50000	
Ti	47	45	NoGas	1135.642	ppb	0.5	835,546	2500	
V	51	74	He	92.339	ppb	0.6	170,401	500	
Cr	52	74	He	25.38	ppb	0.9	56,220	1000	
Mn	55	74	He	366.341	ppb	0.3	626,278	2500	
Fe	56	74	H2	36913.712	ppb	0.9	212,325,995	50000	
Co	59	74	He	21.172	ppb	0.9	63,071	500	
Ni	60	74	He	35.987	ppb	1.8	26,244	1000	
Cu	65	74	He	28.43	ppb	0.8	25,884	1000	
Zn	66	74	He	67.518	ppb	0.5	24,401	2500	
As	75	74	He	2.494	ppb	5.6	644	500	
Se	78	74	H2	0.17	ppb	4.4	30	100	
Mo	95	103	He	0.259	ppb	4.9	433	100	
Ag	107	103	He	0.052	ppb	37.7	183	100	
Cd	111	103	He	0.06	ppb	20.9	42	1000	
[Cd]	111	103	NoGas	0.385	ppb	10.4	718	1000	
Sb	121	103	He	0.046	ppb	8.9	104	100	
Ba	138	159	He	183.684	ppb	0.4	843,012	2500	
W	182	159	NoGas	0.046	ppb	5.2	417	40	
Hg	201	159	NoGas	6.074	ppt	48.1	24	4000	
Tl	205	159	He	0.074	ppb	11.7	610	100	
Pb	208	159	NoGas	4.131	ppb	1.3	111,448	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	430,422	0.6	390560.36	Pulse	110.2	
Sc	45	H2	1,175,049	0.6	995916.946666667	Pulse	118.0	
Sc	45	He	195,980	0.4	171648.27	Pulse	114.2	
Sc	45	NoGas	2,022,669	0.8	1663179.33	Analog	121.6	IS Q-06
Ge	74	H2	370,221	0.5	344345.643333333	Pulse	107.5	
Ge	74	He	120,485	0.3	114794.926666667	Pulse	105.0	
Ge	74	NoGas	553,707	0.7	511960.473333333	Pulse	108.2	
Rh	103	He	288,910	0.2	279070.866666667	Pulse	103.5	
Rh	103	NoGas	657,838	0.5	619166.366666667	Pulse	106.2	
Tb	159	He	574,028	0.1	563985.973333333	Pulse	101.8	
Tb	159	NoGas	1,608,254	0.7	1490879.07333333	Analog	107.9	
Bi	209	He	342,012	0.4	365534.536666667	Pulse	93.6	
Bi	209	NoGas	893,696	1.0	928203.173333333	Pulse	96.3	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-14**	Total Dilution:	**5.0000**
File Name:	054SMPL.d	Vial:	3508
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:10:29		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.472	ppb	8.1	627	100	
Na	23	45	He	606.532	ppb	0.4	372,964	50000	
Mg	24	45	He	6148.901	ppb	0.6	2,088,915	50000	
Al	27	45	He	15143.032	ppb	0.4	2,907,677	50000	
K	39	45	He	870.669	ppb	0.3	338,848	50000	
Ca	44	45	H2	6130.261	ppb	0.3	804,649	50000	
[Ca]	44	45	He	6481.689	ppb	0.8	107,918	50000	
Ti	47	45	NoGas	1403.961	ppb	1.4	1,040,615	2500	
V	51	74	He	96.167	ppb	0.9	179,132	500	
Cr	52	74	He	21.064	ppb	1.1	47,339	1000	
Mn	55	74	He	354.39	ppb	0.3	611,630	2500	
Fe	56	74	H2	36237.748	ppb	0.6	208,197,386	50000	
Co	59	74	He	24.064	ppb	0.7	72,365	500	
Ni	60	74	He	30.147	ppb	0.7	22,202	1000	
Cu	65	74	He	24.414	ppb	3.4	22,458	1000	
Zn	66	74	He	69.064	ppb	2.2	25,195	2500	
As	75	74	He	2.177	ppb	5.8	570	500	
Se	78	74	H2	0.144	ppb	53.1	26	100	
Mo	95	103	He	0.288	ppb	12.1	468	100	
Ag	107	103	He	0.044	ppb	17.4	159	100	
Cd	111	103	He	0.053	ppb	12.6	37	1000	
[Cd]	111	103	NoGas	0.364	ppb	11.9	690	1000	
Sb	121	103	He	0.062	ppb	35.6	132	100	
Ba	138	159	He	155.371	ppb	0.2	716,917	2500	
W	182	159	NoGas	0.035	ppb	18.2	332	40	
Hg	201	159	NoGas	0.32	ppt	591.1	19	4000	
Tl	205	159	He	0.079	ppb	4.0	657	100	
Pb	208	159	NoGas	3.432	ppb	1.5	95,201	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	436,765	0.3	390560.36	Pulse	111.8	
Sc	45	H2	1,160,847	1.0	995916.946666667	Pulse	116.6	
Sc	45	He	196,254	0.1	171648.27	Pulse	114.3	
Sc	45	NoGas	2,037,991	2.0	1663179.33	Analog	122.5	IS Q-06
Ge	74	H2	369,805	1.2	344345.643333333	Pulse	107.4	
Ge	74	He	121,635	0.2	114794.926666667	Pulse	106.0	
Ge	74	NoGas	559,916	0.9	511960.473333333	Pulse	109.4	
Rh	103	He	290,079	0.5	279070.866666667	Pulse	103.9	
Rh	103	NoGas	665,893	0.6	619166.366666667	Pulse	107.5	
Tb	159	He	577,111	0.3	563985.973333333	Pulse	102.3	
Tb	159	NoGas	1,651,281	0.8	1490879.07333333	Analog	110.8	
Bi	209	He	343,292	0.2	365534.536666667	Pulse	93.9	
Bi	209	NoGas	901,362	0.8	928203.173333333	Pulse	97.1	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-15**	Total Dilution:	**5.0000**
File Name:	055SMPL.d	Vial:	3509
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:15:04		
Comment:	**9100531 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.621	ppb	5.0	800	100	
Na	23	45	He	653.301	ppb	0.5	399,772	50000	
Mg	24	45	He	7489.216	ppb	0.8	2,533,275	50000	
Al	27	45	He	19064.501	ppb	1.2	3,644,969	50000	
K	39	45	He	1052.847	ppb	0.5	402,824	50000	
Ca	44	45	H2	6544.936	ppb	0.2	858,346	50000	
[Ca]	44	45	He	6915.588	ppb	1.1	114,635	50000	
Ti	47	45	NoGas	1026.806	ppb	0.7	746,816	2500	
V	51	74	He	87.459	ppb	0.6	160,594	500	
Cr	52	74	He	23.4	ppb	2.0	51,672	1000	
Mn	55	74	He	348.47	ppb	0.7	592,659	2500	
Fe	56	74	H2	34600.494	ppb	0.4	197,118,424	50000	
Co	59	74	He	23.711	ppb	0.4	70,266	500	
Ni	60	74	He	34.677	ppb	1.5	25,162	1000	
Cu	65	74	He	30.931	ppb	1.0	28,005	1000	
Zn	66	74	He	67.428	ppb	1.2	24,243	2500	
As	75	74	He	2.172	ppb	7.5	560	500	
Se	78	74	H2	0.177	ppb	15.7	31	100	
Mo	95	103	He	0.241	ppb	6.3	408	100	
Ag	107	103	He	0.056	ppb	17.0	194	100	
Cd	111	103	He	0.087	ppb	6.6	58	1000	
[Cd]	111	103	NoGas	0.392	ppb	8.7	720	1000	
Sb	121	103	He	0.05	ppb	3.7	110	100	
Ba	138	159	He	169.845	ppb	0.8	774,791	2500	
W	182	159	NoGas	0.034	ppb	10.2	314	40	
Hg	201	159	NoGas	10.221	ppt	39.1	28	4000	
Tl	205	159	He	0.077	ppb	10.7	630	100	
Pb	208	159	NoGas	4.535	ppb	1.2	122,956	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	425,453	0.4	390560.36	Pulse	108.9	
Sc	45	H2	1,159,894	0.4	995916.946666667	Pulse	116.5	
Sc	45	He	195,415	0.2	171648.27	Pulse	113.8	
Sc	45	NoGas	1,999,531	1.1	1663179.33	Analog	120.2	IS Q-06
Ge	74	H2	366,682	0.4	344345.643333333	Pulse	106.5	
Ge	74	He	119,865	0.2	114794.926666667	Pulse	104.4	
Ge	74	NoGas	546,035	0.6	511960.473333333	Pulse	106.7	
Rh	103	He	285,186	0.3	279070.866666667	Pulse	102.2	
Rh	103	NoGas	647,030	0.7	619166.366666667	Pulse	104.5	
Tb	159	He	570,566	0.4	563985.973333333	Pulse	101.2	
Tb	159	NoGas	1,617,253	0.1	1490879.07333333	Analog	108.5	
Bi	209	He	341,953	0.2	365534.536666667	Pulse	93.5	
Bi	209	NoGas	882,012	0.9	928203.173333333	Pulse	95.0	

Quantitation Report - ICPMS5

Sample Name:	**9100666-BLK1**	Total Dilution:	**5.0000**
File Name:	056SMPL.d	Vial:	3510
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:19:38		
Comment:	**9100666 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	-0.003	ppb	N/A	8	100	
Na	23	45	He	0.162	ppb	104.3	3,074	50000	
Mg	24	45	He	0.978	ppb	16.4	692	50000	
Al	27	45	He	13.246	ppb	7.4	2,617	50000	
K	39	45	He	1.054	ppb	99.3	24,737	50000	
Ca	44	45	H2	19.047	ppb	5.3	2,881	50000	
[Ca]	44	45	He	16.041	ppb	13.0	496	50000	
Ti	47	45	NoGas	0.285	ppb	6.7	243	2500	
V	51	74	He	0.204	ppb	9.3	1,009	500	
Cr	52	74	He	0.572	ppb	10.9	2,671	1000	
Mn	55	74	He	0.013	ppb	59.9	123	2500	
Fe	56	74	H2	12.007	ppb	14.5	93,700	50000	
Co	59	74	He	0.008	ppb	75.0	56	500	
Ni	60	74	He	-0.027	ppb	N/A	17	1000	
Cu	65	74	He	0.059	ppb	63.1	188	1000	
Zn	66	74	He	0.023	ppb	144.9	107	2500	
As	75	74	He	0.027	ppb	93.4	22	500	
Se	78	74	H2	-0.003	ppb	N/A	1	100	
Mo	95	103	He	0.057	ppb	23.6	220	100	
Ag	107	103	He	0	ppb	2138.2	10	100	
Cd	111	103	He	-0.003	ppb	N/A	3	1000	
[Cd]	111	103	NoGas	-0.008	ppb	N/A	12	1000	
Sb	121	103	He	0.006	ppb	50.0	36	100	
Ba	138	159	He	0.03	ppb	25.4	241	2500	
W	182	159	NoGas	0.006	ppb	30.0	82	40	
Hg	201	159	NoGas	-9.308	ppt	N/A	9	4000	
Tl	205	159	He	-0.003	ppb	N/A	20	100	
Pb	208	159	NoGas	0.001	ppb	24.6	818	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	438,686	0.6	390560.36	Pulse	112.3	
Sc	45	H2	1,118,760	0.4	995916.946666667	Pulse	112.3	
Sc	45	He	192,483	0.4	171648.27	Pulse	112.1	
Sc	45	NoGas	1,961,182	1.1	1663179.33	Analog	117.9	
Ge	74	H2	376,224	0.3	344345.643333333	Pulse	109.3	
Ge	74	He	123,727	0.8	114794.926666667	Pulse	107.8	
Ge	74	NoGas	573,264	0.9	511960.473333333	Pulse	112.0	
Rh	103	He	303,603	0.5	279070.866666667	Pulse	108.8	
Rh	103	NoGas	688,855	0.7	619166.366666667	Pulse	111.3	
Tb	159	He	574,712	0.3	563985.973333333	Pulse	101.9	
Tb	159	NoGas	1,646,408	1.4	1490879.07333333	Analog	110.4	
Bi	209	He	353,639	0.7	365534.536666667	Pulse	96.7	
Bi	209	NoGas	924,578	0.8	928203.173333333	Pulse	99.6	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV4**	Total Dilution:	1.0000
File Name:	057_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 22:24:22
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	40.543	ppb	1.4	54,250	40	101.36	
Na	23	45	He	4200.247	ppb	0.9	2,563,586	4000	105.01	
Mg	24	45	He	4393.963	ppb	0.3	1,492,144	4000	109.85	
Al	27	45	He	3931.445	ppb	0.9	754,628	4000	98.29	
K	39	45	He	4221.369	ppb	0.7	1,546,567	4000	105.53	
Ca	44	45	H2	3966.826	ppb	0.6	533,308	4000	99.17	
[Ca]	44	45	He	4093.957	ppb	1.0	68,219	4000	102.35	
Ti	47	45	NoGas	97.470	ppb	0.8	70,755	100	97.47	
V	51	74	He	103.582	ppb	0.1	201,905	100	103.58	
Cr	52	74	He	102.375	ppb	0.1	235,250	100	102.38	
Mn	55	74	He	101.767	ppb	0.7	183,910	100	101.77	
Fe	56	74	H2	4289.128	ppb	0.1	26,581,613	4000	107.23	
Co	59	74	He	105.809	ppb	0.4	332,931	100	105.81	
Ni	60	74	He	107.827	ppb	0.2	83,021	100	107.83	
Cu	65	74	He	106.477	ppb	0.8	102,064	100	106.48	
Zn	66	74	He	104.663	ppb	0.5	39,914	100	104.66	
As	75	74	He	99.043	ppb	0.4	26,430	100	99.04	
Se	78	74	H2	40.359	ppb	1.9	7,399	40	100.9	
Mo	95	103	He	40.639	ppb	1.2	46,872	40	101.6	
Ag	107	103	He	36.199	ppb	0.9	125,809	40	90.5	
Cd	111	103	He	96.111	ppb	0.8	62,474	100	96.11	
[Cd]	111	103	NoGas	96.608	ppb	0.6	177,629	100	96.61	
Sb	121	103	He	38.252	ppb	1.4	68,582	40	95.63	
Ba	138	159	He	103.641	ppb	0.5	479,941	100	103.64	
Hg	201	159	NoGas	777.539	ppt	1.7	812	800	97.19	
Tl	205	159	He	39.494	ppb	1.0	307,115	40	98.74	
Pb	208	159	NoGas	92.814	ppb	1.4	2,515,322	100	92.81	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.6	448,023	390560.36	114.7	
Sc	45	H2	Pulse	0.6	1,188,620	995916.946666667	119.3	
Sc	45	He	Pulse	0.3	196,164	171648.27	114.3	
Sc	45	NoGas	Analog	1.4	1,994,618	1663179.33	119.9	
Ge	74	H2	Pulse	0.5	398,562	344345.643333333	115.7	
Ge	74	He	Pulse	0.3	127,315	114794.926666667	110.9	
Ge	74	NoGas	Pulse	0.6	577,457	511960.473333333	112.8	
Rh	103	He	Pulse	0.6	299,408	279070.866666667	107.3	
Rh	103	NoGas	Pulse	0.3	671,241	619166.366666667	108.4	
Tb	159	He	Pulse	0.2	579,144	563985.973333333	102.7	
Tb	159	NoGas	Analog	1.3	1,626,525	1490879.07333333	109.1	
Bi	209	He	Pulse	0.3	358,305	365534.536666667	98.0	
Bi	209	NoGas	Pulse	0.7	918,034	928203.173333333	98.9	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB4**	Total Dilution:	1.0000
File Name:	058_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 22:28:58
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.002	ppb	183.9	14	
Na	23	45	He	-0.578	ppb	N/A	2,666	
Mg	24	45	He	0.086	ppb	165.0	400	
Al	27	45	He	0.698	ppb	30.3	257	
K	39	45	He	2.306	ppb	63.5	25,508	
Ca	44	45	H2	0.242	ppb	459.1	516	
[Ca]	44	45	He	1.231	ppb	231.0	258	
Ti	47	45	NoGas	0.036	ppb	106.9	67	
V	51	74	He	-0.004	ppb	N/A	632	
Cr	52	74	He	-0.004	ppb	N/A	1,431	
Mn	55	74	He	-0.016	ppb	N/A	74	
Fe	56	74	H2	1.347	ppb	2.4	32,396	
Co	59	74	He	0.005	ppb	141.4	49	
Ni	60	74	He	-0.002	ppb	N/A	37	
Cu	65	74	He	0.052	ppb	115.3	187	
Zn	66	74	He	-0.023	ppb	N/A	92	
As	75	74	He	0.017	ppb	69.0	20	
Se	78	74	H2	0.023	ppb	36.8	6	
Mo	95	103	He	0.000	ppb	N/A	153	
Ag	107	103	He	0.003	ppb	65.0	20	
Cd	111	103	He	0.008	ppb	80.8	9	
[Cd]	111	103	NoGas	0.001	ppb	976.8	29	
Sb	121	103	He	0.162	ppb	18.3	319	
Ba	138	159	He	0.013	ppb	10.0	161	
Hg	201	159	NoGas	-6.530	ppt	N/A	11	
Tl	205	159	He	0.004	ppb	53.7	71	
Pb	208	159	NoGas	0.008	ppb	40.5	1,012	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	456,464	390560.36	116.9	
Sc	45	H2	Pulse	0.6	1,143,885	995916.946666667	114.9	
Sc	45	He	Pulse	0.7	195,009	171648.27	113.6	
Sc	45	NoGas	Analog	1.7	1,998,506	1663179.33	120.2	IS Q-06
Ge	74	H2	Pulse	0.6	387,993	344345.643333333	112.7	
Ge	74	He	Pulse	0.5	127,075	114794.926666667	110.7	
Ge	74	NoGas	Pulse	0.9	588,636	511960.473333333	115.0	
Rh	103	He	Pulse	0.4	303,472	279070.866666667	108.7	
Rh	103	NoGas	Pulse	0.9	702,372	619166.366666667	113.4	
Tb	159	He	Pulse	0.7	577,222	563985.973333333	102.3	
Tb	159	NoGas	Analog	0.4	1,642,947	1490879.07333333	110.2	
Bi	209	He	Pulse	0.4	359,457	365534.536666667	98.3	
Bi	209	NoGas	Pulse	1.0	937,359	928203.173333333	101.0	

Quantitation Report - ICPMS5

Sample Name:	**9100666-BS1**	Total Dilution:	**5.0000**
File Name:	059SMPL.d	Vial:	3511
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:33:38		
Comment:	**9100666 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	23.785	ppb	1.1	31,329	100	
Na	23	45	He	2517.275	ppb	1.0	1,482,872	50000	
Mg	24	45	He	2380.413	ppb	0.7	779,729	50000	
Al	27	45	He	2387.525	ppb	0.8	442,002	50000	
K	39	45	He	2372.581	ppb	0.4	848,753	50000	
Ca	44	45	H2	2296.254	ppb	0.6	291,963	50000	
[Ca]	44	45	He	2398.393	ppb	0.9	38,638	50000	
Ti	47	45	NoGas	46.585	ppb	1.9	33,140	2500	
V	51	74	He	51.028	ppb	1.0	95,421	500	
Cr	52	74	He	51.101	ppb	0.1	112,980	1000	
Mn	55	74	He	49.049	ppb	0.9	84,815	2500	
Fe	56	74	H2	2510.406	ppb	0.7	14,557,565	50000	
Co	59	74	He	50.938	ppb	1.5	153,272	500	
Ni	60	74	He	51.893	ppb	0.8	38,225	1000	
Cu	65	74	He	51.871	ppb	0.4	47,611	1000	
Zn	66	74	He	47.925	ppb	2.6	17,529	2500	
As	75	74	He	46.534	ppb	1.4	11,882	500	
Se	78	74	H2	22.362	ppb	0.8	3,834	100	
Mo	95	103	He	24.288	ppb	1.4	27,309	100	
Ag	107	103	He	25.838	ppb	1.9	87,349	100	
Cd	111	103	He	46.836	ppb	1.0	29,616	1000	
[Cd]	111	103	NoGas	46.773	ppb	0.7	85,293	1000	
Sb	121	103	He	22.657	ppb	1.6	39,522	100	
Ba	138	159	He	49.225	ppb	0.6	223,793	2500	
W	182	159	NoGas	0.018	ppb	24.7	184	40	
Hg	201	159	NoGas	928.282	ppt	3.1	959	4000	
Tl	205	159	He	24.035	ppb	0.3	183,472	100	
Pb	208	159	NoGas	45.774	ppb	2.0	1,233,239	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	440,933	0.2	390560.36	Pulse	112.9	
Sc	45	H2	1,123,336	0.4	995916.946666667	Pulse	112.8	
Sc	45	He	189,176	0.3	171648.27	Pulse	110.2	
Sc	45	NoGas	1,953,677	1.3	1663179.33	Analog	117.5	
Ge	74	H2	372,691	0.5	344345.643333333	Pulse	108.2	
Ge	74	He	121,743	0.5	114794.926666667	Pulse	106.1	
Ge	74	NoGas	560,668	0.5	511960.473333333	Pulse	109.5	
Rh	103	He	291,243	0.4	279070.866666667	Pulse	104.4	
Rh	103	NoGas	665,640	0.4	619166.366666667	Pulse	107.5	
Tb	159	He	568,450	0.4	563985.973333333	Pulse	100.8	
Tb	159	NoGas	1,616,833	2.5	1490879.07333333	Analog	108.4	
Bi	209	He	349,177	0.6	365534.536666667	Pulse	95.5	
Bi	209	NoGas	909,525	1.0	928203.173333333	Pulse	98.0	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-16**	Total Dilution:	**5.0000**
File Name:	060SMPL.d	Vial:	3512
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:38:14		
Comment:	**9100666 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.611	ppb	11.0	783	100	
Na	23	45	He	794.066	ppb	0.3	482,066	50000	
Mg	24	45	He	7423.223	ppb	1.1	2,494,358	50000	
Al	27	45	He	24692.721	ppb	0.3	4,689,941	50000	
K	39	45	He	1189.836	ppb	0.8	449,030	50000	
Ca	44	45	H2	7016.449	ppb	0.2	906,859	50000	
[Ca]	44	45	He	7386.101	ppb	0.9	121,610	50000	
Ti	47	45	NoGas	2190.489	ppb	1.5	1,586,485	2500	
V	51	74	He	130.359	ppb	1.0	234,303	500	
Cr	52	74	He	31.989	ppb	0.9	68,744	1000	
Mn	55	74	He	412.649	ppb	0.4	687,813	2500	
Fe	56	74	H2	47600.636	ppb	0.5	264,030,081	50000	>LDR RR-2
Co	59	74	He	25.05	ppb	1.2	72,751	500	
Ni	60	74	He	37.994	ppb	0.9	27,015	1000	
Cu	65	74	He	30.047	ppb	1.2	26,665	1000	
Zn	66	74	He	80.757	ppb	2.3	28,437	2500	
As	75	74	He	2.776	ppb	3.3	698	500	
Se	78	74	H2	0.178	ppb	34.8	31	100	
Mo	95	103	He	0.427	ppb	2.4	598	100	
Ag	107	103	He	0.06	ppb	25.9	202	100	
Cd	111	103	He	0.099	ppb	7.7	64	1000	
[Cd]	111	103	NoGas	0.485	ppb	4.5	865	1000	
Sb	121	103	He	0.15	ppb	21.0	273	100	
Ba	138	159	He	166.009	ppb	0.3	739,366	2500	
W	182	159	NoGas	0.054	ppb	9.6	473	40	
Hg	201	159	NoGas	13.414	ppt	39.2	31	4000	
Tl	205	159	He	0.092	ppb	9.5	732	100	
Pb	208	159	NoGas	4.459	ppb	1.7	117,601	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	423,191	0.3	390560.36	Pulse	108.4	
Sc	45	H2	1,143,132	0.4	995916.946666667	Pulse	114.8	
Sc	45	He	194,130	0.6	171648.27	Pulse	113.1	
Sc	45	NoGas	1,991,139	0.8	1663179.33	Analog	119.7	
Ge	74	H2	357,021	0.3	344345.643333333	Pulse	103.7	
Ge	74	He	117,478	0.6	114794.926666667	Pulse	102.3	
Ge	74	NoGas	537,453	0.2	511960.473333333	Pulse	105.0	
Rh	103	He	278,747	0.1	279070.866666667	Pulse	99.9	
Rh	103	NoGas	633,197	0.1	619166.366666667	Pulse	102.3	
Tb	159	He	557,047	0.2	563985.973333333	Pulse	98.8	
Tb	159	NoGas	1,573,185	1.6	1490879.07333333	Analog	105.5	
Bi	209	He	334,731	0.3	365534.536666667	Pulse	91.6	
Bi	209	NoGas	864,479	0.8	928203.173333333	Pulse	93.1	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-17**	Total Dilution:	**5.0000**
File Name:	061SMPL.d	Vial:	3513
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:42:49		
Comment:	**9100666 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.696	ppb	8.2	847	100	
Na	23	45	He	812.673	ppb	0.8	472,328	50000	
Mg	24	45	He	7873.038	ppb	1.4	2,533,054	50000	
Al	27	45	He	33100.93	ppb	1.3	6,019,504	50000	
K	39	45	He	1235.872	ppb	1.0	445,676	50000	
Ca	44	45	H2	7440.378	ppb	0.2	937,890	50000	
[Ca]	44	45	He	7964.581	ppb	1.3	125,542	50000	
Ti	47	45	NoGas	2446.321	ppb	0.6	1,684,420	2500	>LDR RR-2
V	51	74	He	139.857	ppb	0.6	240,005	500	
Cr	52	74	He	44.289	ppb	0.2	90,397	1000	
Mn	55	74	He	750.501	ppb	0.3	1,194,486	2500	
Fe	56	74	H2	50211.868	ppb	0.1	266,962,516	50000	>LDR RR-2
Co	59	74	He	22.774	ppb	1.3	63,161	500	
Ni	60	74	He	37.977	ppb	2.5	25,787	1000	
Cu	65	74	He	44.241	ppb	1.6	37,436	1000	
Zn	66	74	He	101.014	ppb	1.0	33,947	2500	
As	75	74	He	5.533	ppb	4.8	1,314	500	
Se	78	74	H2	0.282	ppb	28.0	46	100	
Mo	95	103	He	0.498	ppb	3.2	644	100	
Ag	107	103	He	0.229	ppb	6.1	718	100	
Cd	111	103	He	0.16	ppb	7.8	96	1000	
[Cd]	111	103	NoGas	0.631	ppb	3.6	1,064	1000	
Sb	121	103	He	0.228	ppb	12.3	387	100	
Ba	138	159	He	182.898	ppb	0.3	795,591	2500	
W	182	159	NoGas	0.067	ppb	11.5	540	40	
Hg	201	159	NoGas	160.88	ppt	4.6	164	4000	
Tl	205	159	He	0.116	ppb	8.7	888	100	
Pb	208	159	NoGas	14.641	ppb	2.3	358,469	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	402,684	0.5	390560.36	Pulse	103.1	
Sc	45	H2	1,114,924	0.2	995916.946666667	Pulse	111.9	
Sc	45	He	185,887	0.9	171648.27	Pulse	108.3	
Sc	45	NoGas	1,892,917	0.8	1663179.33	Analog	113.8	
Ge	74	H2	342,215	0.3	344345.643333333	Pulse	99.4	
Ge	74	He	112,182	0.7	114794.926666667	Pulse	97.7	
Ge	74	NoGas	508,894	0.5	511960.473333333	Pulse	99.4	
Rh	103	He	266,447	0.1	279070.866666667	Pulse	95.5	
Rh	103	NoGas	602,824	0.5	619166.366666667	Pulse	97.4	
Tb	159	He	544,067	0.3	563985.973333333	Pulse	96.5	
Tb	159	NoGas	1,467,545	3.0	1490879.07333333	Mix	98.4	
Bi	209	He	324,357	0.5	365534.536666667	Pulse	88.7	
Bi	209	NoGas	837,179	0.8	928203.173333333	Pulse	90.2	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-18**	Total Dilution:	**5.0000**
File Name:	062SMPL.d	Vial:	3514
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:47:25		
Comment:	**9100666 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.62	ppb	10.6	758	100	
Na	23	45	He	664.922	ppb	0.5	382,776	50000	
Mg	24	45	He	8087.115	ppb	0.9	2,573,762	50000	
Al	27	45	He	25477.704	ppb	0.5	4,583,108	50000	
K	39	45	He	979.969	ppb	0.3	354,381	50000	
Ca	44	45	H2	7389.678	ppb	0.6	899,940	50000	
[Ca]	44	45	He	7869.366	ppb	0.9	122,701	50000	
Ti	47	45	NoGas	1514.134	ppb	0.8	1,035,442	2500	
V	51	74	He	120.438	ppb	0.7	206,886	500	
Cr	52	74	He	34.636	ppb	0.4	71,017	1000	
Mn	55	74	He	680.643	ppb	0.7	1,083,963	2500	
Fe	56	74	H2	47011.854	ppb	0.4	247,067,981	50000	>LDR RR-2
Co	59	74	He	24.023	ppb	1.3	66,665	500	
Ni	60	74	He	40.394	ppb	1.8	27,441	1000	
Cu	65	74	He	34.299	ppb	1.6	29,067	1000	
Zn	66	74	He	81.887	ppb	1.4	27,552	2500	
As	75	74	He	4.138	ppb	4.0	987	500	
Se	78	74	H2	0.208	ppb	19.6	34	100	
Mo	95	103	He	0.365	ppb	10.4	512	100	
Ag	107	103	He	0.051	ppb	16.9	169	100	
Cd	111	103	He	0.08	ppb	16.2	50	1000	
[Cd]	111	103	NoGas	0.503	ppb	4.8	867	1000	
Sb	121	103	He	0.105	ppb	27.0	191	100	
Ba	138	159	He	178.919	ppb	0.2	781,263	2500	
W	182	159	NoGas	0.04	ppb	10.0	342	40	
Hg	201	159	NoGas	18.309	ppt	24.7	34	4000	
Tl	205	159	He	0.085	ppb	7.1	663	100	
Pb	208	159	NoGas	5.064	ppb	3.8	127,340	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	403,920	0.6	390560.36	Pulse	103.4	
Sc	45	H2	1,077,153	0.2	995916.946666667	Pulse	108.2	
Sc	45	He	183,862	0.3	171648.27	Pulse	107.1	
Sc	45	NoGas	1,880,087	1.1	1663179.33	Analog	113.0	
Ge	74	H2	338,269	0.1	344345.643333333	Pulse	98.2	
Ge	74	He	112,251	0.6	114794.926666667	Pulse	97.8	
Ge	74	NoGas	514,508	0.2	511960.473333333	Pulse	100.5	
Rh	103	He	268,592	0.3	279070.866666667	Pulse	96.2	
Rh	103	NoGas	611,721	0.2	619166.366666667	Pulse	98.8	
Tb	159	He	546,148	0.3	563985.973333333	Pulse	96.8	
Tb	159	NoGas	1,502,183	3.1	1490879.07333333	Mix	100.8	
Bi	209	He	326,486	0.4	365534.536666667	Pulse	89.3	
Bi	209	NoGas	844,028	0.6	928203.173333333	Pulse	90.9	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-19**	Total Dilution:	**5.0000**
File Name:	063SMPL.d	Vial:	3515
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:51:59		
Comment:	**9100666 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.734	ppb	5.5	871	100	
Na	23	45	He	845.281	ppb	0.4	480,406	50000	
Mg	24	45	He	9108.501	ppb	1.1	2,866,417	50000	
Al	27	45	He	32615.1	ppb	0.4	5,801,453	50000	
K	39	45	He	1163.691	ppb	0.7	411,806	50000	
Ca	44	45	H2	8056.012	ppb	0.3	973,286	50000	
[Ca]	44	45	He	8550.343	ppb	0.1	131,812	50000	
Ti	47	45	NoGas	2170.001	ppb	2.6	1,456,237	2500	
V	51	74	He	154.364	ppb	0.2	256,390	500	
Cr	52	74	He	50.641	ppb	1.0	99,884	1000	
Mn	55	74	He	597.501	ppb	0.3	920,627	2500	
Fe	56	74	H2	53577.188	ppb	0.5	275,248,158	50000	>LDR RR-2
Co	59	74	He	25.91	ppb	1.3	69,564	500	
Ni	60	74	He	46.8	ppb	1.9	30,754	1000	
Cu	65	74	He	43.791	ppb	1.7	35,874	1000	
Zn	66	74	He	93.614	ppb	0.9	30,460	2500	
As	75	74	He	5.298	ppb	2.3	1,219	500	
Se	78	74	H2	0.259	ppb	14.0	41	100	
Mo	95	103	He	0.524	ppb	16.6	656	100	
Ag	107	103	He	0.086	ppb	2.6	267	100	
Cd	111	103	He	0.111	ppb	11.1	66	1000	
[Cd]	111	103	NoGas	0.617	ppb	11.9	1,018	1000	
Sb	121	103	He	0.15	ppb	21.7	256	100	
Ba	138	159	He	185.18	ppb	0.4	790,933	2500	
W	182	159	NoGas	0.06	ppb	8.8	470	40	
Hg	201	159	NoGas	27.848	ppt	28.4	41	4000	
Tl	205	159	He	0.113	ppb	4.4	849	100	
Pb	208	159	NoGas	6.177	ppb	0.4	147,035	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	393,054	0.4	390560.36	Pulse	100.6	
Sc	45	H2	1,068,638	0.6	995916.946666667	Pulse	107.3	
Sc	45	He	181,809	0.2	171648.27	Pulse	105.9	
Sc	45	NoGas	1,845,440	1.8	1663179.33	Analog	111.0	
Ge	74	H2	330,679	0.5	344345.643333333	Pulse	96.0	
Ge	74	He	108,599	0.2	114794.926666667	Pulse	94.6	
Ge	74	NoGas	497,278	0.8	511960.473333333	Pulse	97.1	
Rh	103	He	260,313	0.1	279070.866666667	Pulse	93.3	
Rh	103	NoGas	589,001	0.4	619166.366666667	Pulse	95.1	
Tb	159	He	534,218	0.3	563985.973333333	Pulse	94.7	
Tb	159	NoGas	1,422,183	0.2	1490879.07333333	Pulse	95.4	
Bi	209	He	318,235	0.8	365534.536666667	Pulse	87.1	
Bi	209	NoGas	817,636	0.7	928203.173333333	Pulse	88.1	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-20**	Total Dilution:	**5.0000**
File Name:	064SMPL.d	Vial:	3601
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 22:56:34		
Comment:	**9100666 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.599	ppb	1.4	700	100	
Na	23	45	He	756.73	ppb	0.8	415,013	50000	
Mg	24	45	He	7702.23	ppb	1.0	2,337,396	50000	
Al	27	45	He	25626.651	ppb	0.6	4,395,734	50000	
K	39	45	He	1049.197	ppb	0.8	360,222	50000	
Ca	44	45	H2	7113.811	ppb	0.3	822,149	50000	
[Ca]	44	45	He	7612.33	ppb	1.5	113,184	50000	
Ti	47	45	NoGas	2611.935	ppb	0.7	1,695,352	2500	>LDR RR-2
V	51	74	He	148.894	ppb	0.6	243,740	500	
Cr	52	74	He	41.075	ppb	0.4	80,071	1000	
Mn	55	74	He	648.978	ppb	0.6	985,434	2500	
Fe	56	74	H2	49013.98	ppb	0.6	244,823,879	50000	>LDR RR-2
Co	59	74	He	25.192	ppb	0.4	66,654	500	
Ni	60	74	He	42.187	ppb	1.3	27,325	1000	
Cu	65	74	He	36.817	ppb	0.6	29,741	1000	
Zn	66	74	He	85.031	ppb	1.7	27,274	2500	
As	75	74	He	4.848	ppb	3.8	1,100	500	
Se	78	74	H2	0.231	ppb	22.2	35	100	
Mo	95	103	He	0.562	ppb	9.3	683	100	
Ag	107	103	He	0.081	ppb	16.8	250	100	
Cd	111	103	He	0.088	ppb	4.5	53	1000	
[Cd]	111	103	NoGas	0.565	ppb	5.4	920	1000	
Sb	121	103	He	0.189	ppb	0.6	312	100	
Ba	138	159	He	168.189	ppb	0.7	711,343	2500	
W	182	159	NoGas	0.064	ppb	7.6	491	40	
Hg	201	159	NoGas	8.205	ppt	10.6	23	4000	
Tl	205	159	He	0.09	ppb	11.2	678	100	
Pb	208	159	NoGas	5.402	ppb	0.5	126,962	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	385,576	0.4	390560.36	Pulse	98.7	
Sc	45	H2	1,022,184	0.4	995916.946666667	Pulse	102.6	
Sc	45	He	175,324	0.6	171648.27	Pulse	102.1	
Sc	45	NoGas	1,784,346	1.1	1663179.33	Analog	107.3	
Ge	74	H2	321,509	0.3	344345.643333333	Pulse	93.4	
Ge	74	He	107,024	0.2	114794.926666667	Pulse	93.2	
Ge	74	NoGas	488,184	0.4	511960.473333333	Pulse	95.4	
Rh	103	He	256,452	0.4	279070.866666667	Pulse	91.9	
Rh	103	NoGas	580,682	0.4	619166.366666667	Pulse	93.8	
Tb	159	He	528,998	0.5	563985.973333333	Pulse	93.8	
Tb	159	NoGas	1,403,409	0.8	1490879.07333333	Pulse	94.1	
Bi	209	He	318,860	0.1	365534.536666667	Pulse	87.2	
Bi	209	NoGas	816,600	0.4	928203.173333333	Pulse	88.0	

Quantitation Report - ICPMS5

Sample Name:	**A9I0922-21**	Total Dilution:	**5.0000**
File Name:	065SMPL.d	Vial:	3602
File Path:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Sample Type:	Sample
Acq Time:	10/7/2019 23:01:11		
Comment:	**9100666 Sediment As**	Last Calib:	10/08/2019 09:49:07

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.663	ppb	4.1	762	100	
Na	23	45	He	783.326	ppb	0.4	424,624	50000	
Mg	24	45	He	7558.068	ppb	1.6	2,267,610	50000	
Al	27	45	He	30187.019	ppb	1.0	5,119,102	50000	
K	39	45	He	1099.857	ppb	0.2	372,263	50000	
Ca	44	45	H2	7286.522	ppb	0.3	828,848	50000	
[Ca]	44	45	He	7729.427	ppb	0.7	113,618	50000	
Ti	47	45	NoGas	2132.826	ppb	0.7	1,367,565	2500	
V	51	74	He	133.293	ppb	0.4	214,643	500	
Cr	52	74	He	39.744	ppb	1.0	76,235	1000	
Mn	55	74	He	758.565	ppb	0.0	1,132,773	2500	
Fe	56	74	H2	48163.615	ppb	0.9	235,359,739	50000	>LDR RR-2
Co	59	74	He	22.158	ppb	0.7	57,660	500	
Ni	60	74	He	36.486	ppb	1.8	23,246	1000	
Cu	65	74	He	40.898	ppb	0.8	32,479	1000	
Zn	66	74	He	94.824	ppb	1.1	29,903	2500	
As	75	74	He	5.171	ppb	6.8	1,153	500	
Se	78	74	H2	0.282	ppb	1.8	42	100	
Mo	95	103	He	0.432	ppb	22.1	542	100	
Ag	107	103	He	0.223	ppb	4.3	658	100	
Cd	111	103	He	0.167	ppb	17.9	95	1000	
[Cd]	111	103	NoGas	0.565	ppb	6.4	902	1000	
Sb	121	103	He	0.226	ppb	10.4	360	100	
Ba	138	159	He	183.349	ppb	0.2	765,095	2500	
W	182	159	NoGas	0.065	ppb	11.2	498	40	
Hg	201	159	NoGas	169.673	ppt	6.0	163	4000	
Tl	205	159	He	0.109	ppb	11.9	802	100	
Pb	208	159	NoGas	13.261	ppb	1.1	306,654	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	379,863	0.2	390560.36	Pulse	97.3	
Sc	45	H2	1,006,101	0.8	995916.946666667	Pulse	101.0	
Sc	45	He	173,327	0.2	171648.27	Pulse	101.0	
Sc	45	NoGas	1,762,764	0.3	1663179.33	Analog	106.0	
Ge	74	H2	314,550	1.0	344345.643333333	Pulse	91.3	
Ge	74	He	105,254	0.2	114794.926666667	Pulse	91.7	
Ge	74	NoGas	475,119	1.1	511960.473333333	Pulse	92.8	
Rh	103	He	250,814	0.7	279070.866666667	Pulse	89.9	
Rh	103	NoGas	568,720	0.7	619166.366666667	Pulse	91.9	
Tb	159	He	521,925	0.6	563985.973333333	Pulse	92.5	
Tb	159	NoGas	1,385,175	0.9	1490879.07333333	Pulse	92.9	
Bi	209	He	314,959	0.4	365534.536666667	Pulse	86.2	
Bi	209	NoGas	806,971	0.7	928203.173333333	Pulse	86.9	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV5**	Total Dilution:	1.0000
File Name:	069_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 23:19:34
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	38.920	ppb	0.9	44,306	40	97.3	
Na	23	45	He	4102.081	ppb	0.7	2,100,038	4000	102.55	
Mg	24	45	He	4209.964	ppb	2.9	1,199,316	4000	105.25	
Al	27	45	He	3940.044	ppb	1.2	634,305	4000	98.5	
K	39	45	He	3962.095	ppb	0.9	1,218,757	4000	99.05	
Ca	44	45	H2	3993.419	ppb	0.4	434,252	4000	99.84	
[Ca]	44	45	He	4150.150	ppb	1.1	58,000	4000	103.75	
Ti	47	45	NoGas	98.875	ppb	1.3	58,513	100	98.88	
V	51	74	He	101.329	ppb	0.4	169,880	100	101.33	
Cr	52	74	He	99.624	ppb	0.5	196,914	100	99.62	
Mn	55	74	He	100.635	ppb	0.7	156,410	100	100.64	
Fe	56	74	H2	4229.037	ppb	0.1	21,836,400	4000	105.73	
Co	59	74	He	103.887	ppb	0.6	281,118	100	103.89	
Ni	60	74	He	104.857	ppb	1.1	69,430	100	104.86	
Cu	65	74	He	104.021	ppb	0.7	85,752	100	104.02	
Zn	66	74	He	102.781	ppb	1.1	33,712	100	102.78	
As	75	74	He	99.707	ppb	0.8	22,883	100	99.71	
Se	78	74	H2	39.769	ppb	2.3	6,074	40	99.42	
Mo	95	103	He	40.768	ppb	1.1	40,836	40	101.92	
Ag	107	103	He	36.004	ppb	1.2	108,667	40	90.01	
Cd	111	103	He	98.203	ppb	0.7	55,436	100	98.2	
[Cd]	111	103	NoGas	96.644	ppb	1.4	154,645	100	96.64	
Sb	121	103	He	39.521	ppb	1.9	61,532	40	98.8	
Ba	138	159	He	103.472	ppb	0.4	435,248	100	103.47	
Hg	201	159	NoGas	813.687	ppt	1.6	714	800	101.71	
Tl	205	159	He	39.875	ppb	0.6	281,670	40	99.69	
Pb	208	159	NoGas	99.619	ppb	0.2	2,272,453	100	99.62	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.8	381,153	390560.36	97.6	
Sc	45	H2	Pulse	0.2	961,389	995916.946666667	96.5	
Sc	45	He	Pulse	0.9	164,536	171648.27	95.9	
Sc	45	NoGas	Analog	0.9	1,626,155	1663179.33	97.8	
Ge	74	H2	Pulse	0.1	332,061	344345.643333333	96.4	
Ge	74	He	Pulse	0.7	109,493	114794.926666667	95.4	
Ge	74	NoGas	Pulse	0.4	491,139	511960.473333333	95.9	
Rh	103	He	Pulse	0.3	260,013	279070.866666667	93.2	
Rh	103	NoGas	Pulse	0.3	584,192	619166.366666667	94.4	
Tb	159	He	Pulse	0.8	526,081	563985.973333333	93.3	
Tb	159	NoGas	Pulse	0.1	1,368,971	1490879.07333333	91.8	
Bi	209	He	Pulse	0.7	330,699	365534.536666667	90.5	
Bi	209	NoGas	Pulse	0.1	825,011	928203.173333333	88.9	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB5**	Total Dilution:	1.0000
File Name:	070_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/7/2019 23:24:13
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	-0.004	ppb	N/A	6	
Na	23	45	He	-1.085	ppb	N/A	1,885	
Mg	24	45	He	0.203	ppb	45.5	351	
Al	27	45	He	1.525	ppb	5.7	331	
K	39	45	He	3.637	ppb	27.2	20,752	
Ca	44	45	H2	0.861	ppb	16.4	466	
[Ca]	44	45	He	-1.812	ppb	N/A	166	
Ti	47	45	NoGas	0.133	ppb	7.8	110	
V	51	74	He	-0.026	ppb	N/A	491	
Cr	52	74	He	0.031	ppb	164.2	1,257	
Mn	55	74	He	0.015	ppb	24.6	108	
Fe	56	74	H2	2.500	ppb	3.1	31,655	
Co	59	74	He	0.017	ppb	49.7	71	
Ni	60	74	He	0.004	ppb	484.6	34	
Cu	65	74	He	0.014	ppb	65.5	124	
Zn	66	74	He	-0.069	ppb	N/A	62	
As	75	74	He	0.004	ppb	533.1	14	
Se	78	74	H2	0.047	ppb	25.9	8	
Mo	95	103	He	0.015	ppb	68.8	144	
Ag	107	103	He	0.003	ppb	39.1	17	
Cd	111	103	He	0.010	ppb	83.9	9	
[Cd]	111	103	NoGas	-0.003	ppb	N/A	18	
Sb	121	103	He	0.229	ppb	5.2	373	
Ba	138	159	He	0.014	ppb	30.6	148	
Hg	201	159	NoGas	-4.526	ppt	N/A	11	
Tl	205	159	He	0.005	ppb	21.5	74	
Pb	208	159	NoGas	0.010	ppb	38.2	876	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	368,875	390560.36	94.4	
Sc	45	H2	Pulse	0.3	894,985	995916.946666667	89.9	
Sc	45	He	Pulse	0.4	155,735	171648.27	90.7	
Sc	45	NoGas	Analog	1.0	1,608,278	1663179.33	96.7	
Ge	74	H2	Pulse	0.4	312,183	344345.643333333	90.7	
Ge	74	He	Pulse	0.4	105,567	114794.926666667	92.0	
Ge	74	NoGas	Pulse	0.6	483,763	511960.473333333	94.5	
Rh	103	He	Pulse	0.2	256,921	279070.866666667	92.1	
Rh	103	NoGas	Pulse	0.4	583,622	619166.366666667	94.3	
Tb	159	He	Pulse	0.6	509,578	563985.973333333	90.4	
Tb	159	NoGas	Pulse	0.6	1,348,284	1490879.07333333	90.4	
Bi	209	He	Pulse	0.3	324,426	365534.536666667	88.8	
Bi	209	NoGas	Pulse	0.4	823,853	928203.173333333	88.8	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV6**	Total Dilution:	1.0000
File Name:	081_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:14:53
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	39.311	ppb	1.6	42,390	40	98.28	
Na	23	45	He	4069.088	ppb	2.2	1,953,356	4000	101.73	
Mg	24	45	He	4087.640	ppb	0.7	1,091,832	4000	102.19	
Al	27	45	He	3978.119	ppb	0.5	600,598	4000	99.45	
K	39	45	He	3991.022	ppb	0.6	1,151,118	4000	99.78	
Ca	44	45	H2	4005.772	ppb	0.5	408,946	4000	100.14	
[Ca]	44	45	He	4152.089	ppb	0.7	54,419	4000	103.8	
Ti	47	45	NoGas	97.339	ppb	0.9	54,633	100	97.34	
V	51	74	He	100.633	ppb	0.3	159,713	100	100.63	
Cr	52	74	He	98.862	ppb	0.7	184,988	100	98.86	
Mn	55	74	He	99.581	ppb	0.3	146,512	100	99.58	
Fe	56	74	H2	4242.521	ppb	0.3	20,613,462	4000	106.06	
Co	59	74	He	102.849	ppb	0.2	263,466	100	102.85	
Ni	60	74	He	104.581	ppb	1.1	65,553	100	104.58	
Cu	65	74	He	104.143	ppb	0.2	81,272	100	104.14	
Zn	66	74	He	103.325	ppb	0.9	32,081	100	103.32	
As	75	74	He	99.513	ppb	1.0	21,619	100	99.51	
Se	78	74	H2	39.387	ppb	0.9	5,661	40	98.47	
Mo	95	103	He	40.990	ppb	1.8	38,779	40	102.48	
Ag	107	103	He	36.486	ppb	0.8	104,015	40	91.21	
Cd	111	103	He	99.188	ppb	0.3	52,888	100	99.19	
[Cd]	111	103	NoGas	96.883	ppb	1.0	147,271	100	96.88	
Sb	121	103	He	40.264	ppb	0.7	59,217	40	100.66	
Ba	138	159	He	103.570	ppb	0.4	418,978	100	103.57	
Hg	201	159	NoGas	812.211	ppt	3.6	687	800	101.53	
Tl	205	159	He	40.187	ppb	0.2	273,001	40	100.47	
Pb	208	159	NoGas	100.537	ppb	0.3	2,209,409	100	100.54	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	361,047	390560.36	92.4	
Sc	45	H2	Pulse	0.2	902,563	995916.946666667	90.6	
Sc	45	He	Pulse	0.6	154,293	171648.27	89.9	
Sc	45	NoGas	Analog	0.7	1,542,098	1663179.33	92.7	
Ge	74	H2	Pulse	0.3	312,467	344345.643333333	90.7	
Ge	74	He	Pulse	0.7	103,651	114794.926666667	90.3	
Ge	74	NoGas	Pulse	0.3	464,169	511960.473333333	90.7	
Rh	103	He	Pulse	0.5	245,601	279070.866666667	88.0	
Rh	103	NoGas	Pulse	0.2	554,955	619166.366666667	89.6	
Tb	159	He	Pulse	0.1	505,923	563985.973333333	89.7	
Tb	159	NoGas	Pulse	0.2	1,318,849	1490879.07333333	88.5	
Bi	209	He	Pulse	0.5	321,550	365534.536666667	88.0	
Bi	209	NoGas	Pulse	0.4	799,656	928203.173333333	86.2	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB6**	Total Dilution:	1.0000
File Name:	082_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:19:32
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.005	ppb	35.7	14	
Na	23	45	He	-1.212	ppb	N/A	1,775	
Mg	24	45	He	0.419	ppb	62.7	399	
Al	27	45	He	1.494	ppb	12.1	318	
K	39	45	He	3.473	ppb	29.6	20,157	
Ca	44	45	H2	1.232	ppb	50.1	482	
[Ca]	44	45	He	-0.613	ppb	N/A	177	
Ti	47	45	NoGas	0.203	ppb	24.5	143	
V	51	74	He	-0.001	ppb	N/A	515	
Cr	52	74	He	-0.033	ppb	N/A	1,102	
Mn	55	74	He	0.018	ppb	102.6	110	
Fe	56	74	H2	3.006	ppb	9.6	32,761	
Co	59	74	He	0.012	ppb	49.8	58	
Ni	60	74	He	0.010	ppb	97.0	37	
Cu	65	74	He	0.021	ppb	92.6	127	
Zn	66	74	He	0.021	ppb	212.6	88	
As	75	74	He	0.007	ppb	393.9	14	
Se	78	74	H2	0.045	ppb	97.3	7	
Mo	95	103	He	-0.019	ppb	N/A	108	
Ag	107	103	He	0.001	ppb	271.9	12	
Cd	111	103	He	0.008	ppb	39.8	8	
[Cd]	111	103	NoGas	-0.001	ppb	N/A	21	
Sb	121	103	He	0.224	ppb	17.2	354	
Ba	138	159	He	0.017	ppb	62.1	157	
Hg	201	159	NoGas	-5.334	ppt	N/A	10	
Tl	205	159	He	0.007	ppb	72.6	83	
Pb	208	159	NoGas	0.011	ppb	13.1	896	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.5	360,385	390560.36	92.3	
Sc	45	H2	Pulse	0.4	857,637	995916.946666667	86.1	
Sc	45	He	Pulse	0.8	151,617	171648.27	88.3	
Sc	45	NoGas	Analog	2.2	1,526,269	1663179.33	91.8	
Ge	74	H2	Pulse	0.6	299,840	344345.643333333	87.1	
Ge	74	He	Pulse	0.1	102,545	114794.926666667	89.3	
Ge	74	NoGas	Pulse	0.9	471,850	511960.473333333	92.2	
Rh	103	He	Pulse	0.4	249,151	279070.866666667	89.3	
Rh	103	NoGas	Pulse	0.8	573,706	619166.366666667	92.7	
Tb	159	He	Pulse	0.3	500,857	563985.973333333	88.8	
Tb	159	NoGas	Pulse	0.4	1,329,687	1490879.07333333	89.2	
Bi	209	He	Pulse	0.2	321,200	365534.536666667	87.9	
Bi	209	NoGas	Pulse	0.6	812,691	928203.173333333	87.6	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV7**	Total Dilution:	1.0000
File Name:	088_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:47:09
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	40.074	ppb	0.5	41,902	40	100.18	
Na	23	45	He	4107.737	ppb	0.8	1,918,332	4000	102.69	
Mg	24	45	He	4101.965	ppb	0.9	1,065,824	4000	102.55	
Al	27	45	He	3993.371	ppb	0.8	586,485	4000	99.83	
K	39	45	He	4009.989	ppb	0.7	1,125,021	4000	100.25	
Ca	44	45	H2	4033.146	ppb	0.3	398,271	4000	100.83	
[Ca]	44	45	He	4172.859	ppb	1.8	53,195	4000	104.32	
Ti	47	45	NoGas	96.610	ppb	0.2	54,253	100	96.61	
V	51	74	He	100.465	ppb	0.7	156,212	100	100.46	
Cr	52	74	He	98.995	ppb	0.1	181,481	100	99	
Mn	55	74	He	101.027	ppb	0.5	145,625	100	101.03	
Fe	56	74	H2	4236.601	ppb	0.3	19,999,190	4000	105.92	
Co	59	74	He	103.025	ppb	0.3	258,561	100	103.02	
Ni	60	74	He	104.299	ppb	0.3	64,053	100	104.3	
Cu	65	74	He	103.120	ppb	0.8	78,842	100	103.12	
Zn	66	74	He	104.471	ppb	0.3	31,777	100	104.47	
As	75	74	He	99.759	ppb	0.6	21,233	100	99.76	
Se	78	74	H2	38.634	ppb	2.1	5,394	40	96.58	
Mo	95	103	He	40.881	ppb	0.8	37,985	40	102.2	
Ag	107	103	He	36.569	ppb	1.8	102,381	40	91.42	
Cd	111	103	He	99.088	ppb	0.5	51,886	100	99.09	
[Cd]	111	103	NoGas	98.971	ppb	0.4	147,679	100	98.97	
Sb	121	103	He	40.720	ppb	0.8	58,812	40	101.8	
Ba	138	159	He	103.619	ppb	0.8	414,750	100	103.62	
Hg	201	159	NoGas	831.505	ppt	2.2	692	800	103.94	
Tl	205	159	He	40.235	ppb	0.4	270,449	40	100.59	
Pb	208	159	NoGas	101.513	ppb	0.3	2,196,987	100	101.51	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	350,085	390560.36	89.6	
Sc	45	H2	Pulse	0.4	873,053	995916.946666667	87.7	
Sc	45	He	Pulse	1.2	150,099	171648.27	87.4	
Sc	45	NoGas	Analog	0.5	1,542,977	1663179.33	92.8	
Ge	74	H2	Pulse	0.1	303,581	344345.643333333	88.2	
Ge	74	He	Pulse	0.2	101,548	114794.926666667	88.5	
Ge	74	NoGas	Pulse	0.7	456,263	511960.473333333	89.1	
Rh	103	He	Pulse	0.4	241,192	279070.866666667	86.4	
Rh	103	NoGas	Pulse	0.4	544,752	619166.366666667	88.0	
Tb	159	He	Pulse	0.6	500,596	563985.973333333	88.8	
Tb	159	NoGas	Pulse	0.6	1,298,837	1490879.07333333	87.1	
Bi	209	He	Pulse	0.6	316,235	365534.536666667	86.5	
Bi	209	NoGas	Pulse	0.5	785,814	928203.173333333	84.7	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB7**	Total Dilution:	1.0000
File Name:	089_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:51:48
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	-0.005	ppb	N/A	3	
Na	23	45	He	-1.347	ppb	N/A	1,673	
Mg	24	45	He	0.113	ppb	128.1	311	
Al	27	45	He	1.596	ppb	13.7	326	
K	39	45	He	2.117	ppb	62.6	19,347	
Ca	44	45	H2	0.439	ppb	62.9	393	
[Ca]	44	45	He	0.232	ppb	403.3	183	
Ti	47	45	NoGas	0.187	ppb	22.2	135	
V	51	74	He	-0.026	ppb	N/A	466	
Cr	52	74	He	-0.017	ppb	N/A	1,108	
Mn	55	74	He	0.018	ppb	27.7	108	
Fe	56	74	H2	3.353	ppb	4.5	33,466	
Co	59	74	He	0.009	ppb	94.0	49	
Ni	60	74	He	-0.013	ppb	N/A	22	
Cu	65	74	He	0.056	ppb	34.7	150	
Zn	66	74	He	0.031	ppb	89.1	89	
As	75	74	He	-0.010	ppb	N/A	10	
Se	78	74	H2	0.044	ppb	29.6	7	
Mo	95	103	He	-0.026	ppb	N/A	99	
Ag	107	103	He	0.003	ppb	64.7	16	
Cd	111	103	He	0.011	ppb	54.8	9	
[Cd]	111	103	NoGas	-0.005	ppb	N/A	14	
Sb	121	103	He	0.236	ppb	10.8	363	
Ba	138	159	He	0.012	ppb	19.2	133	
Hg	201	159	NoGas	-4.297	ppt	N/A	11	
Tl	205	159	He	0.005	ppb	40.8	69	
Pb	208	159	NoGas	0.016	ppb	24.2	976	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	350,627	390560.36	89.8	
Sc	45	H2	Pulse	0.1	832,436	995916.946666667	83.6	
Sc	45	He	Pulse	0.5	148,296	171648.27	86.4	
Sc	45	NoGas	Analog	0.7	1,528,880	1663179.33	91.9	
Ge	74	H2	Pulse	0.1	291,866	344345.643333333	84.8	
Ge	74	He	Pulse	0.4	100,352	114794.926666667	87.4	
Ge	74	NoGas	Pulse	1.3	461,363	511960.473333333	90.1	
Rh	103	He	Pulse	0.5	243,120	279070.866666667	87.1	
Rh	103	NoGas	Pulse	0.8	562,001	619166.366666667	90.8	
Tb	159	He	Pulse	0.0	491,855	563985.973333333	87.2	
Tb	159	NoGas	Pulse	0.8	1,304,122	1490879.07333333	87.5	
Bi	209	He	Pulse	0.3	312,872	365534.536666667	85.6	
Bi	209	NoGas	Pulse	0.7	796,188	928203.173333333	85.8	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL5**	Total Dilution:	1.0000
File Name:	090CRL.d	Sample Type:	CRL1
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 00:56:29
Comment:	A19J030 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag	
Be	9	6	NoGas	0.195	ppb	36.6	198	108.33		
Na	23	45	He	7.440	ppb	4.4	5,798	82.67		
Mg	24	45	He	8.764	ppb	4.3	2,565	97.38		
Al	27	45	He	10.209	ppb	5.4	1,596	113.43		
K	39	45	He	11.513	ppb	22.7	22,196	127.92		
Ca	44	45	H2	8.517	ppb	9.6	1,176	94.63		
[Ca]	44	45	He	5.714	ppb	48.8	256	63.49	R-11	< MRL
Ti	47	45	NoGas	0.378	ppb	34.4	227	210	R-11	
V	51	74	He	0.155	ppb	18.5	754	86.11		
Cr	52	74	He	0.835	ppb	10.6	2,681	463.89	R-11	< MRL
Mn	55	74	He	0.180	ppb	1.8	342	100		
Fe	56	74	H2	13.466	ppb	1.5	80,759	149.62	R-11	< MRL
Co	59	74	He	0.182	ppb	2.2	486	101.11		
Ni	60	74	He	0.189	ppb	28.6	147	105		
Cu	65	74	He	0.211	ppb	27.0	271	117.22		
Zn	66	74	He	0.194	ppb	34.7	140	107.78		
As	75	74	He	0.192	ppb	8.2	54	106.67		
Se	78	74	H2	0.177	ppb	41.6	25	98.33		
Mo	95	103	He	0.325	ppb	14.4	431	180.56	R-11	< MRL
Ag	107	103	He	0.204	ppb	5.8	589	113.33		
Cd	111	103	He	0.200	ppb	15.1	110	111.11		
[Cd]	111	103	NoGas	0.189	ppb	8.3	297	105		
Sb	121	103	He	0.212	ppb	20.6	332	117.78		
Ba	138	159	He	0.194	ppb	3.9	857	107.78		
Hg	201	159	NoGas	-0.083	ppt	N/A	13	-1.15	R-11	< MRL
Tl	205	159	He	0.173	ppb	2.5	1,190	96.11		
Pb	208	159	NoGas	0.201	ppb	12.1	4,688	111.67		

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	10.0	332,283	390560.36	85.1	
Sc	45	H2	Pulse	0.2	848,561	995916.946666667	85.2	
Sc	45	He	Pulse	0.5	150,240	171648.27	87.5	
Sc	45	NoGas	Analog	8.9	1,458,945	1663179.33	87.7	
Ge	74	H2	Pulse	0.3	297,175	344345.643333333	86.3	
Ge	74	He	Pulse	0.6	101,867	114794.926666667	88.7	
Ge	74	NoGas	Pulse	9.6	438,626	511960.473333333	85.7	
Rh	103	He	Pulse	0.6	246,031	279070.866666667	88.2	
Rh	103	NoGas	Pulse	10.0	536,709	619166.366666667	86.7	
Tb	159	He	Pulse	0.2	496,608	563985.973333333	88.1	
Tb	159	NoGas	Pulse	10.2	1,232,902	1490879.07333333	82.7	
Bi	209	He	Pulse	0.6	315,628	365534.536666667	86.3	
Bi	209	NoGas	Pulse	10.0	755,378	928203.173333333	81.4	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL6**	Total Dilution:	1.0000
File Name:	091_CRL.d	Sample Type:	CRL2
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:01:09
Comment:	A19J031 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	0.857	ppb	1.4	930	95.22	
Na	23	45	He	42.803	ppb	2.4	22,669	95.12	
Mg	24	45	He	43.746	ppb	1.8	11,849	97.21	
Al	27	45	He	46.022	ppb	1.9	6,970	102.27	
K	39	45	He	50.050	ppb	1.3	33,366	111.22	
Ca	44	45	H2	43.487	ppb	4.2	4,600	96.64	
[Ca]	44	45	He	46.578	ppb	10.2	788	103.51	
Ti	47	45	NoGas	1.000	ppb	30.3	605	111.11	
V	51	74	He	0.940	ppb	3.7	1,988	104.44	
Cr	52	74	He	1.655	ppb	3.1	4,207	183.89	R-11
Mn	55	74	He	0.926	ppb	9.1	1,430	102.89	
Fe	56	74	H2	48.749	ppb	0.4	248,041	108.33	
Co	59	74	He	0.971	ppb	5.5	2,487	107.89	
Ni	60	74	He	0.933	ppb	5.6	609	103.67	
Cu	65	74	He	1.010	ppb	7.6	889	112.22	
Zn	66	74	He	0.797	ppb	11.9	326	88.56	
As	75	74	He	0.904	ppb	9.5	207	100.44	
Se	78	74	H2	0.895	ppb	11.9	126	99.44	
Mo	95	103	He	1.016	ppb	5.8	1,105	112.89	
Ag	107	103	He	0.946	ppb	3.2	2,760	105.11	
Cd	111	103	He	0.923	ppb	5.4	506	102.56	
[Cd]	111	103	NoGas	0.908	ppb	3.4	1,453	100.89	
Sb	121	103	He	0.929	ppb	8.5	1,415	103.22	
Ba	138	159	He	0.952	ppb	4.9	3,907	105.78	
Hg	201	159	NoGas	28.364	ppt	18.8	38	78.79	
Tl	205	159	He	0.907	ppb	4.5	6,146	100.78	
Pb	208	159	NoGas	0.908	ppb	0.3	20,764	100.89	

Cr MRL ↑ 4 ppb
ESS 10/8/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	359,738	390560.36	92.1	
Sc	45	H2	Pulse	0.3	861,763	995916.946666667	86.5	
Sc	45	He	Pulse	0.5	152,667	171648.27	88.9	
Sc	45	NoGas	Analog	0.8	1,576,170	1663179.33	94.8	
Ge	74	H2	Pulse	0.3	302,534	344345.643333333	87.9	
Ge	74	He	Pulse	0.5	102,544	114794.926666667	89.3	
Ge	74	NoGas	Pulse	1.0	474,742	511960.473333333	92.7	
Rh	103	He	Pulse	0.4	250,665	279070.866666667	89.8	
Rh	103	NoGas	Pulse	0.2	575,163	619166.366666667	92.9	
Tb	159	He	Pulse	0.2	501,762	563985.973333333	89.0	
Tb	159	NoGas	Pulse	0.7	1,330,560	1490879.07333333	89.2	
Bi	209	He	Pulse	0.1	320,196	365534.536666667	87.6	
Bi	209	NoGas	Pulse	0.9	809,691	928203.173333333	87.2	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL7**	Total Dilution:	1.0000
File Name:	092CRL_.d	Sample Type:	CRL3
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:05:50
Comment:	A19J032 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	1.755	ppb	1.7	1,925	97.5	
Na	23	45	He	87.506	ppb	0.9	44,233	97.23	
Mg	24	45	He	87.630	ppb	1.1	23,636	97.37	
Al	27	45	He	87.971	ppb	2.3	13,344	97.75	
K	39	45	He	94.138	ppb	2.8	46,104	104.6	
Ca	44	45	H2	89.114	ppb	2.5	9,244	99.02	
[Ca]	44	45	He	84.941	ppb	9.2	1,293	94.38	
Ti	47	45	NoGas	1.909	ppb	15.2	1,141	106.06	
V	51	74	He	1.873	ppb	1.6	3,507	104.06	
Cr	52	74	He	2.435	ppb	1.2	5,740	135.28	R-11
Mn	55	74	He	1.716	ppb	4.5	2,624	95.33	
Fe	56	74	H2	92.312	ppb	0.3	459,559	102.57	
Co	59	74	He	1.849	ppb	2.3	4,792	102.72	
Ni	60	74	He	1.836	ppb	7.9	1,189	102	
Cu	65	74	He	1.885	ppb	4.0	1,590	104.72	
Zn	66	74	He	1.809	ppb	9.1	647	100.5	
As	75	74	He	1.785	ppb	3.1	403	99.17	
Se	78	74	H2	1.770	ppb	4.0	251	98.33	
Mo	95	103	He	1.805	ppb	3.6	1,883	100.28	
Ag	107	103	He	1.791	ppb	3.0	5,273	99.5	
Cd	111	103	He	1.833	ppb	5.7	1,011	101.83	
[Cd]	111	103	NoGas	1.784	ppb	4.7	2,869	99.11	
Sb	121	103	He	1.797	ppb	4.4	2,745	99.83	
Ba	138	159	He	1.876	ppb	3.6	7,652	104.22	
Hg	201	159	NoGas	67.779	ppt	10.2	72	94.14	
Tl	205	159	He	1.814	ppb	0.2	12,318	100.78	
Pb	208	159	NoGas	1.811	ppb	1.1	41,007	100.61	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.2	365,391	390560.36	93.6	
Sc	45	H2	Pulse	0.2	880,906	995916.946666667	88.5	
Sc	45	He	Pulse	0.7	153,905	171648.27	89.7	
Sc	45	NoGas	Analog	1.1	1,595,708	1663179.33	95.9	
Ge	74	H2	Pulse	0.5	307,064	344345.643333333	89.2	
Ge	74	He	Pulse	0.3	104,303	114794.926666667	90.9	
Ge	74	NoGas	Pulse	1.2	481,756	511960.473333333	94.1	
Rh	103	He	Pulse	0.5	253,285	279070.866666667	90.8	
Rh	103	NoGas	Pulse	0.8	582,463	619166.366666667	94.1	
Tb	159	He	Pulse	0.3	504,365	563985.973333333	89.4	
Tb	159	NoGas	Pulse	0.8	1,337,795	1490879.07333333	89.7	
Bi	209	He	Pulse	0.2	322,299	365534.536666667	88.2	
Bi	209	NoGas	Pulse	0.6	817,693	928203.173333333	88.1	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL8**	Total Dilution:	1.0000
File Name:	093CRL4.d	Sample Type:	CRL4
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:10:30
Comment:	A19J033 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	3.568	ppb	5.1	3,947	99.11	
Na	23	45	He	173.930	ppb	0.7	87,190	96.63	
Mg	24	45	He	177.960	ppb	0.8	48,597	98.87	
Al	27	45	He	180.055	ppb	1.9	27,724	100.03	
K	39	45	He	181.739	ppb	1.1	72,222	100.97	
Ca	44	45	H2	172.048	ppb	2.0	17,761	95.58	
[Ca]	44	45	He	175.580	ppb	7.0	2,521	97.54	
Ti	47	45	NoGas	3.808	ppb	1.3	2,271	105.78	
V	51	74	He	3.683	ppb	1.1	6,471	102.31	
Cr	52	74	He	4.263	ppb	1.5	9,276	118.42	
Mn	55	74	He	3.595	ppb	0.8	5,473	99.86	
Fe	56	74	H2	181.542	ppb	0.3	899,028	100.86	
Co	59	74	He	3.626	ppb	2.2	9,494	100.72	
Ni	60	74	He	3.648	ppb	7.3	2,361	101.33	
Cu	65	74	He	3.927	ppb	2.6	3,233	109.08	
Zn	66	74	He	3.624	ppb	11.5	1,228	100.67	
As	75	74	He	3.612	ppb	2.7	812	100.33	
Se	78	74	H2	3.486	ppb	6.0	501	96.83	
Mo	95	103	He	3.637	ppb	2.6	3,703	101.03	
Ag	107	103	He	3.617	ppb	3.0	10,751	100.47	
Cd	111	103	He	3.524	ppb	3.3	1,961	97.89	
[Cd]	111	103	NoGas	3.570	ppb	1.8	5,756	99.17	
Sb	121	103	He	3.664	ppb	1.6	5,633	101.78	
Ba	138	159	He	3.762	ppb	1.9	15,392	104.5	
Hg	201	159	NoGas	121.650	ppt	5.4	118	84.48	
Tl	205	159	He	3.603	ppb	0.7	24,652	100.08	
Pb	208	159	NoGas	3.610	ppb	0.4	81,763	100.28	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.3	369,603	390560.36	94.6	
Sc	45	H2	Pulse	0.7	894,139	995916.946666667	89.8	
Sc	45	He	Pulse	0.2	156,816	171648.27	91.4	
Sc	45	NoGas	Analog	1.2	1,616,225	1663179.33	97.2	
Ge	74	H2	Pulse	0.2	311,857	344345.643333333	90.6	
Ge	74	He	Pulse	0.2	105,638	114794.926666667	92.0	
Ge	74	NoGas	Pulse	0.9	486,924	511960.473333333	95.1	
Rh	103	He	Pulse	0.2	255,884	279070.866666667	91.7	
Rh	103	NoGas	Pulse	0.6	586,293	619166.366666667	94.7	
Tb	159	He	Pulse	0.3	508,827	563985.973333333	90.2	
Tb	159	NoGas	Pulse	0.6	1,348,902	1490879.07333333	90.5	
Bi	209	He	Pulse	0.3	324,110	365534.536666667	88.7	
Bi	209	NoGas	Pulse	0.7	825,958	928203.173333333	89.0	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV8**	Total Dilution:	1.0000
File Name:	102_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:52:24
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	40.412	ppb	1.2	35,937	40	101.03	
Na	23	45	He	4397.263	ppb	0.2	1,723,980	4000	109.93	
Mg	24	45	He	4339.914	ppb	1.1	946,695	4000	108.5	
Al	27	45	He	4063.691	ppb	0.8	501,057	4000	101.59	
K	39	45	He	4019.305	ppb	0.9	946,657	4000	100.48	
Ca	44	45	H2	4015.289	ppb	0.2	339,570	4000	100.38	
[Ca]	44	45	He	4156.407	ppb	2.3	44,485	4000	103.91	
Ti	47	45	NoGas	99.048	ppb	2.6	44,192	100	99.05	
V	51	74	He	101.541	ppb	0.3	128,756	100	101.54	
Cr	52	74	He	102.539	ppb	0.5	153,270	100	102.54	
Mn	55	74	He	101.721	ppb	0.5	119,578	100	101.72	
Fe	56	74	H2	4295.432	ppb	0.2	16,949,298	4000	107.39	
Co	59	74	He	105.290	ppb	0.4	215,500	100	105.29	
Ni	60	74	He	108.004	ppb	1.9	54,094	100	108	
Cu	65	74	He	105.872	ppb	0.3	66,013	100	105.87	
Zn	66	74	He	106.626	ppb	0.6	26,449	100	106.63	
As	75	74	He	97.692	ppb	1.5	16,958	100	97.69	
Se	78	74	H2	41.495	ppb	2.0	4,843	40	103.74	
Mo	95	103	He	40.620	ppb	1.5	31,273	40	101.55	
Ag	107	103	He	36.883	ppb	0.5	85,567	40	92.21	
Cd	111	103	He	100.819	ppb	0.6	43,746	100	100.82	
[Cd]	111	103	NoGas	102.708	ppb	1.1	121,703	100	102.71	
Sb	121	103	He	40.737	ppb	1.4	48,751	40	101.84	
Ba	138	159	He	97.385	ppb	0.7	340,559	100	97.38	
Hg	201	159	NoGas	848.359	ppt	2.9	621	800	106.04	
Tl	205	159	He	42.403	ppb	1.0	249,004	40	106.01	
Pb	208	159	NoGas	105.996	ppb	0.6	2,019,305	100	106	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.5	297,722	390560.36	76.2	
Sc	45	H2	Pulse	0.8	747,685	995916.946666667	75.1	
Sc	45	He	Pulse	0.8	126,013	171648.27	73.4	
Sc	45	NoGas	Mix	2.7	1,226,385	1663179.33	73.7	
Ge	74	H2	Pulse	0.5	253,764	344345.643333333	73.7	
Ge	74	He	Pulse	0.4	82,817	114794.926666667	72.1	
Ge	74	NoGas	Pulse	1.1	368,497	511960.473333333	72.0	
Rh	103	He	Pulse	0.6	199,864	279070.866666667	71.6	
Rh	103	NoGas	Pulse	0.6	432,612	619166.366666667	69.9	IS Q-06
Tb	159	He	Pulse	0.8	437,362	563985.973333333	77.5	
Tb	159	NoGas	Pulse	0.7	1,143,330	1490879.07333333	76.7	
Bi	209	He	Pulse	0.6	287,838	365534.536666667	78.7	
Bi	209	NoGas	Pulse	0.6	728,345	928203.173333333	78.5	

Continuing Calibration Verification (CCV) Report - ICPMS5

Sample Name:	**9J07068-CCV9**	Total Dilution:	1.0000
File Name:	103_CCV.d	Sample Type:	CCV
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 01:57:03
Comment:	A19J037 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	% Rec	Flag
Be	9	6	NoGas	40.747	ppb	0.5	39,403	40	101.87	
Na	23	45	He	4393.214	ppb	1.7	1,889,249	4000	109.83	
Mg	24	45	He	4321.571	ppb	0.6	1,034,100	4000	108.04	
Al	27	45	He	4060.762	ppb	0.1	549,237	4000	101.52	
K	39	45	He	4063.941	ppb	0.3	1,049,779	4000	101.6	
Ca	44	45	H2	4021.350	ppb	0.2	371,247	4000	100.53	
[Ca]	44	45	He	4174.765	ppb	0.2	49,016	4000	104.37	
Ti	47	45	NoGas	94.992	ppb	2.0	48,830	100	94.99	
V	51	74	He	101.916	ppb	0.1	142,733	100	101.92	
Cr	52	74	He	102.065	ppb	0.7	168,505	100	102.07	
Mn	55	74	He	102.078	ppb	0.2	132,534	100	102.08	
Fe	56	74	H2	4294.311	ppb	0.3	18,438,209	4000	107.36	
Co	59	74	He	105.278	ppb	0.4	237,989	100	105.28	
Ni	60	74	He	107.089	ppb	0.6	59,237	100	107.09	
Cu	65	74	He	106.862	ppb	0.3	73,591	100	106.86	
Zn	66	74	He	106.610	ppb	1.0	29,208	100	106.61	
As	75	74	He	97.963	ppb	0.6	18,781	100	97.96	
Se	78	74	H2	40.792	ppb	1.1	5,181	40	101.98	
Mo	95	103	He	40.597	ppb	1.6	34,337	40	101.49	
Ag	107	103	He	36.657	ppb	1.0	93,423	40	91.64	
Cd	111	103	He	100.176	ppb	0.4	47,751	100	100.18	
[Cd]	111	103	NoGas	101.152	ppb	0.5	133,739	100	101.15	
Sb	121	103	He	40.178	ppb	0.8	52,823	40	100.44	
Ba	138	159	He	98.987	ppb	0.5	369,971	100	98.99	
Hg	201	159	NoGas	824.841	ppt	4.8	648	800	103.11	
Tl	205	159	He	41.325	ppb	0.4	259,370	40	103.31	
Pb	208	159	NoGas	103.761	ppb	0.6	2,118,711	100	103.76	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	1.1	323,777	390560.36	82.9	
Sc	45	H2	Pulse	0.5	816,199	995916.946666667	82.0	
Sc	45	He	Pulse	0.4	138,225	171648.27	80.5	
Sc	45	NoGas	Analog	1.7	1,412,694	1663179.33	84.9	
Ge	74	H2	Pulse	0.3	276,127	344345.643333333	80.2	
Ge	74	He	Pulse	0.3	91,469	114794.926666667	79.7	
Ge	74	NoGas	Pulse	0.7	408,855	511960.473333333	79.9	
Rh	103	He	Pulse	0.2	219,559	279070.866666667	78.7	
Rh	103	NoGas	Pulse	0.7	482,696	619166.366666667	78.0	
Tb	159	He	Pulse	0.5	467,434	563985.973333333	82.9	
Tb	159	NoGas	Pulse	0.7	1,225,435	1490879.07333333	82.2	
Bi	209	He	Pulse	0.3	302,814	365534.536666667	82.8	
Bi	209	NoGas	Pulse	0.9	767,807	928203.173333333	82.7	

Continuing Calibration Blank (CCB) Report ICPMS5

Sample Name:	**9J07068-CCB8**	Total Dilution:	1.0000
File Name:	104_CCB.d	Sample Type:	CCB
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:01:42
Comment:	**CCB**		

Analyte Table:

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	QC Flag
Be	9	6	NoGas	0.003	ppb	125.1	11	
Na	23	45	He	-0.747	ppb	N/A	1,829	
Mg	24	45	He	0.054	ppb	252.6	278	
Al	27	45	He	0.838	ppb	38.2	202	
K	39	45	He	2.642	ppb	49.8	18,277	
Ca	44	45	H2	0.560	ppb	84.3	401	
[Ca]	44	45	He	-2.184	ppb	N/A	143	
Ti	47	45	NoGas	0.247	ppb	123.0	150	
V	51	74	He	-0.092	ppb	N/A	336	
Cr	52	74	He	0.163	ppb	36.6	1,315	
Mn	55	74	He	0.023	ppb	24.2	106	
Fe	56	74	H2	2.873	ppb	8.3	30,274	
Co	59	74	He	0.012	ppb	84.3	52	
Ni	60	74	He	-0.008	ppb	N/A	23	
Cu	65	74	He	0.014	ppb	293.1	109	
Zn	66	74	He	-0.035	ppb	N/A	63	
As	75	74	He	0.008	ppb	109.4	13	
Se	78	74	H2	0.079	ppb	5.9	11	
Mo	95	103	He	0.004	ppb	917.4	118	
Ag	107	103	He	0.004	ppb	44.4	19	
Cd	111	103	He	0.006	ppb	71.3	6	
[Cd]	111	103	NoGas	0.003	ppb	449.9	22	
Sb	121	103	He	0.273	ppb	8.9	389	
Ba	138	159	He	0.009	ppb	42.1	116	
Hg	201	159	NoGas	-5.352	ppt	N/A	9	
Tl	205	159	He	0.009	ppb	18.9	88	
Pb	208	159	NoGas	0.015	ppb	22.5	870	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Li	6	NoGas	Pulse	0.4	313,430	390560.36	80.3	
Sc	45	H2	Pulse	0.3	825,035	995916.946666667	82.8	
Sc	45	He	Pulse	0.9	139,065	171648.27	81.0	
Sc	45	NoGas	Analog	1.0	1,356,261	1663179.33	81.5	
Ge	74	H2	Pulse	0.3	282,399	344345.643333333	82.0	
Ge	74	He	Pulse	0.8	92,138	114794.926666667	80.3	
Ge	74	NoGas	Pulse	0.3	401,875	511960.473333333	78.5	
Rh	103	He	Pulse	0.9	226,064	279070.866666667	81.0	
Rh	103	NoGas	Pulse	0.3	482,572	619166.366666667	77.9	
Tb	159	He	Pulse	0.3	467,039	563985.973333333	82.8	
Tb	159	NoGas	Pulse	0.5	1,199,835	1490879.07333333	80.5	
Bi	209	He	Pulse	0.7	303,598	365534.536666667	83.1	
Bi	209	NoGas	Pulse	0.7	759,083	928203.173333333	81.8	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRL9**	Total Dilution:	1.0000
File Name:	105CRL.d	Sample Type:	CRL1
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:06:23
Comment:	A19J030 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag	
Be	9	6	NoGas	0.191	ppb	14.7	180	106.11		
Na	23	45	He	8.803	ppb	7.1	5,683	97.81		
Mg	24	45	He	9.137	ppb	8.0	2,351	101.52		
Al	27	45	He	9.995	ppb	2.1	1,382	111.06		
K	39	45	He	12.074	ppb	11.5	19,743	134.16	R-11	< MRL
Ca	44	45	H2	8.040	ppb	9.2	1,059	89.33		
[Ca]	44	45	He	6.876	ppb	97.6	239	76.4		
Ti	47	45	NoGas	0.269	ppb	18.0	153	149.44	R-11	< MRL
V	51	74	He	0.107	ppb	8.9	591	59.44	R-11	
Cr	52	74	He	1.085	ppb	8.1	2,728	602.78	R-11	
Mn	55	74	He	0.205	ppb	11.3	330	113.89		
Fe	56	74	H2	13.019	ppb	1.2	72,543	144.66	R-11	< MRL
Co	59	74	He	0.189	ppb	10.1	438	105		
Ni	60	74	He	0.228	ppb	13.4	149	126.67		
Cu	65	74	He	0.233	ppb	11.5	250	129.44		
Zn	66	74	He	0.180	ppb	52.0	118	100		
As	75	74	He	0.177	ppb	20.4	44	98.33		
Se	78	74	H2	0.161	ppb	39.3	21	89.44		
Mo	95	103	He	0.308	ppb	9.5	367	171.11	R-11	< MRL
Ag	107	103	He	0.187	ppb	9.5	477	103.89		
Cd	111	103	He	0.170	ppb	9.3	83	94.44		
[Cd]	111	103	NoGas	0.155	ppb	15.4	214	86.11		
Sb	121	103	He	0.240	ppb	5.4	330	133.33	R-11	< MRL
Ba	138	159	He	0.183	ppb	17.6	748	101.67		
Hg	201	159	NoGas	-0.869	ppt	N/A	12	-12.07	R-11	< MRL
Tl	205	159	He	0.191	ppb	7.4	1,206	106.11		
Pb	208	159	NoGas	0.193	ppb	1.6	4,316	107.22		

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.2	301,551	390560.36	77.2	
Sc	45	H2	Pulse	0.5	795,494	995916.946666667	79.9	
Sc	45	He	Pulse	0.9	132,730	171648.27	77.3	
Sc	45	NoGas	Analog	1.7	1,298,499	1663179.33	78.1	
Ge	74	H2	Pulse	0.5	273,930	344345.643333333	79.6	
Ge	74	He	Pulse	0.7	88,537	114794.926666667	77.1	
Ge	74	NoGas	Pulse	0.4	382,428	511960.473333333	74.7	
Rh	103	He	Pulse	1.1	216,990	279070.866666667	77.8	
Rh	103	NoGas	Pulse	0.4	462,130	619166.366666667	74.6	
Tb	159	He	Pulse	0.2	456,025	563985.973333333	80.9	
Tb	159	NoGas	Pulse	0.4	1,164,618	1490879.07333333	78.1	
Bi	209	He	Pulse	1.1	298,462	365534.536666667	81.7	
Bi	209	NoGas	Pulse	0.6	741,743	928203.173333333	79.9	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRLA**	Total Dilution:	1.0000
File Name:	106_CRL.d	Sample Type:	CRL2
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:11:03
Comment:	A19J031 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	0.845	ppb	5.3	758	93.89	
Na	23	45	He	47.310	ppb	2.9	21,287	105.13	
Mg	24	45	He	47.833	ppb	1.0	11,096	106.3	
Al	27	45	He	46.057	ppb	0.7	5,987	102.35	
K	39	45	He	46.779	ppb	1.7	27,848	103.95	
Ca	44	45	H2	43.286	ppb	7.1	4,134	96.19	
[Ca]	44	45	He	40.836	ppb	4.4	612	90.75	
Ti	47	45	NoGas	1.052	ppb	15.6	491	116.89	
V	51	74	He	0.826	ppb	4.2	1,524	91.78	
Cr	52	74	He	1.742	ppb	10.3	3,678	193.56	R-11
Mn	55	74	He	0.866	ppb	3.2	1,131	96.22	
Fe	56	74	H2	49.448	ppb	0.7	221,633	109.88	
Co	59	74	He	0.895	ppb	3.3	1,932	99.44	
Ni	60	74	He	0.955	ppb	2.1	524	106.11	
Cu	65	74	He	1.016	ppb	10.2	752	112.89	
Zn	66	74	He	0.905	ppb	17.1	302	100.56	
As	75	74	He	0.881	ppb	10.9	170	97.89	
Se	78	74	H2	0.943	ppb	15.5	117	104.78	
Mo	95	103	He	0.924	ppb	8.9	866	102.67	
Ag	107	103	He	0.964	ppb	3.0	2,396	107.11	
Cd	111	103	He	0.932	ppb	9.1	435	103.56	
[Cd]	111	103	NoGas	0.942	ppb	2.2	1,183	104.67	
Sb	121	103	He	0.941	ppb	5.8	1,221	104.56	
Ba	138	159	He	0.884	ppb	1.5	3,248	98.22	
Hg	201	159	NoGas	27.479	ppt	9.8	33	76.33	
Tl	205	159	He	0.952	ppb	7.5	5,762	105.78	
Pb	208	159	NoGas	0.953	ppb	2.3	18,826	105.89	

Cr MRL ↑ 4 ppb
~~MRL~~ ESS 10/6/19

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.3	297,426	390560.36	76.2	
Sc	45	H2	Pulse	0.4	777,749	995916.946666667	78.1	
Sc	45	He	Pulse	0.9	131,017	171648.27	76.3	
Sc	45	NoGas	Mix	1.3	1,219,506	1663179.33	73.3	
Ge	74	H2	Pulse	0.2	266,788	344345.643333333	77.5	
Ge	74	He	Pulse	0.7	86,353	114794.926666667	75.2	
Ge	74	NoGas	Pulse	1.2	373,836	511960.473333333	73.0	
Rh	103	He	Pulse	0.8	213,504	279070.866666667	76.5	
Rh	103	NoGas	Pulse	0.2	451,505	619166.366666667	72.9	
Tb	159	He	Pulse	0.4	448,365	563985.973333333	79.5	
Tb	159	NoGas	Pulse	0.6	1,150,684	1490879.07333333	77.2	
Bi	209	He	Pulse	0.2	296,118	365534.536666667	81.0	
Bi	209	NoGas	Pulse	0.7	738,917	928203.173333333	79.6	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRLB**	Total Dilution:	1.0000
File Name:	107CRL_.d	Sample Type:	CRL3
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:15:44
Comment:	A19J032 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	2.012	ppb	11.4	1,685	111.78	
Na	23	45	He	92.652	ppb	1.2	39,565	102.95	
Mg	24	45	He	93.496	ppb	1.8	21,351	103.88	
Al	27	45	He	90.984	ppb	2.6	11,690	101.09	
K	39	45	He	91.625	ppb	1.4	38,463	101.81	
Ca	44	45	H2	85.502	ppb	2.6	7,814	95	
[Ca]	44	45	He	89.823	ppb	4.7	1,150	99.8	
Ti	47	45	NoGas	2.084	ppb	7.9	896	115.78	
V	51	74	He	1.781	ppb	3.2	2,764	98.94	
Cr	52	74	He	2.680	ppb	3.5	5,095	148.89	R-11
Mn	55	74	He	1.821	ppb	7.2	2,285	101.17	
Fe	56	74	H2	93.170	ppb	0.6	401,968	103.52	
Co	59	74	He	1.934	ppb	4.2	4,122	107.44	
Ni	60	74	He	1.852	ppb	2.1	986	102.89	
Cu	65	74	He	1.946	ppb	1.8	1,347	108.11	
Zn	66	74	He	1.890	ppb	4.5	552	105	
As	75	74	He	1.813	ppb	7.4	336	100.72	
Se	78	74	H2	1.688	ppb	6.6	208	93.78	
Mo	95	103	He	1.812	ppb	5.7	1,579	100.67	
Ag	107	103	He	1.830	ppb	3.2	4,500	101.67	
Cd	111	103	He	1.798	ppb	1.4	829	99.89	
[Cd]	111	103	NoGas	1.877	ppb	13.1	2,192	104.28	
Sb	121	103	He	1.812	ppb	3.6	2,312	100.67	
Ba	138	159	He	1.758	ppb	2.7	6,380	97.67	
Hg	201	159	NoGas	67.795	ppt	4.1	58	94.16	
Tl	205	159	He	1.880	ppb	2.5	11,349	104.44	
Pb	208	159	NoGas	2.062	ppb	7.9	37,562	114.56	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	7.7	280,835	390560.36	71.9	
Sc	45	H2	Pulse	0.7	774,741	995916.946666667	77.8	
Sc	45	He	Pulse	0.8	130,408	171648.27	76.0	
Sc	45	NoGas	Mix	6.8	1,148,763	1663179.33	69.1	IS Q-06
Ge	74	H2	Pulse	0.4	266,210	344345.643333333	77.3	
Ge	74	He	Pulse	0.6	85,745	114794.926666667	74.7	
Ge	74	NoGas	Pulse	7.1	352,841	511960.473333333	68.9	IS Q-06
Rh	103	He	Pulse	0.2	211,533	279070.866666667	75.8	
Rh	103	NoGas	Pulse	6.8	425,630	619166.366666667	68.7	IS Q-06
Tb	159	He	Pulse	0.5	448,263	563985.973333333	79.5	
Tb	159	NoGas	Pulse	6.6	1,081,891	1490879.07333333	72.6	
Bi	209	He	Pulse	0.5	297,897	365534.536666667	81.5	
Bi	209	NoGas	Pulse	7.2	697,103	928203.173333333	75.1	

CRL Verification Report - ICPMS5

Sample Name:	**9J07068-CRLC**	Total Dilution:	1.0000
File Name:	108CRL4.d	Sample Type:	CRL4
Data Path Name:	C:\Agilent\ICPMH\1\DATA\9J07068.b	Acq Time:	10/8/2019 02:20:24
Comment:	A19J033 - ESS 10/07		

Analyte Table:

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	Flag
Be	9	6	NoGas	3.702	ppb	2.1	3,304	102.83	
Na	23	45	He	188.273	ppb	0.4	78,029	104.6	
Mg	24	45	He	188.990	ppb	0.9	42,744	104.99	
Al	27	45	He	179.189	ppb	2.7	22,860	99.55	
K	39	45	He	183.990	ppb	0.6	60,374	102.22	
Ca	44	45	H2	176.598	ppb	0.7	15,709	98.11	
[Ca]	44	45	He	172.855	ppb	2.3	2,059	96.03	
Ti	47	45	NoGas	3.761	ppb	4.5	1,683	104.47	
V	51	74	He	3.492	ppb	1.7	5,036	97	
Cr	52	74	He	4.446	ppb	1.6	7,865	123.5	
Mn	55	74	He	3.667	ppb	4.5	4,561	101.86	
Fe	56	74	H2	181.994	ppb	0.6	765,449	101.11	
Co	59	74	He	3.680	ppb	0.6	7,873	102.22	
Ni	60	74	He	3.692	ppb	1.2	1,952	102.56	
Cu	65	74	He	3.846	ppb	1.8	2,589	106.83	
Zn	66	74	He	3.805	ppb	1.5	1,050	105.69	
As	75	74	He	3.531	ppb	3.1	649	98.08	
Se	78	74	H2	3.640	ppb	4.9	444	101.11	
Mo	95	103	He	3.548	ppb	2.4	3,004	98.56	
Ag	107	103	He	3.715	ppb	3.6	9,175	103.19	
Cd	111	103	He	3.687	ppb	2.7	1,705	102.42	
[Cd]	111	103	NoGas	3.710	ppb	4.1	4,548	103.06	
Sb	121	103	He	3.583	ppb	6.6	4,577	99.53	
Ba	138	159	He	3.547	ppb	3.1	12,720	98.53	
Hg	201	159	NoGas	150.332	ppt	7.6	120	104.4	
Tl	205	159	He	3.803	ppb	1.5	22,796	105.64	
Pb	208	159	NoGas	3.864	ppb	1.3	74,151	107.33	

ISTD Table:

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	NoGas	Pulse	0.4	298,133	390560.36	76.3	
Sc	45	H2	Pulse	0.3	770,846	995916.946666667	77.4	
Sc	45	He	Pulse	0.4	129,924	171648.27	75.7	
Sc	45	NoGas	Mix	1.1	1,212,071	1663179.33	72.9	
Ge	74	H2	Pulse	0.3	264,879	344345.643333333	76.9	
Ge	74	He	Pulse	0.3	86,331	114794.926666667	75.2	
Ge	74	NoGas	Pulse	0.9	373,739	511960.473333333	73.0	
Rh	103	He	Pulse	0.2	212,598	279070.866666667	76.2	
Rh	103	NoGas	Pulse	0.6	445,804	619166.366666667	72.0	
Tb	159	He	Pulse	0.6	445,806	563985.973333333	79.0	
Tb	159	NoGas	Pulse	0.4	1,143,444	1490879.07333333	76.7	
Bi	209	He	Pulse	0.6	297,484	365534.536666667	81.4	
Bi	209	NoGas	Pulse	0.8	740,953	928203.173333333	79.8	

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

Metals IFA/IFB Metals Internal Standards Recovery Summary

A19I356 IFA
A19I357 IFB
A9I0922 (I.S Tables)

Analytical Standard Record

Apex Laboratories

A19I356

Description:	ICSA working std	Expires:	12/03/19
Standard Type:	Calibration Standa	Prepared:	09/26/19
Solvent:	3.5% HNO3 + 0.4% HCl	Prepared By:	Emily S. Stefansson
Final Volume (mls):	50	Department:	Metals
Vials:	1	Last Edit:	10/08/19 13:18 by jsj

Analyte	CAS Number	Concentration	Units
Aluminum	7429-90-5	100	ug/mL
Calcium	7440-70-2	300	ug/mL
Carbon	7440-44-0	200	ug/mL
Chlorine	7782-50-5	2000	ug/mL
Iron	7439-89-6	250	ug/mL
Magnesium	7439-95-4	100	ug/mL
Molybdenum	7439-98-7	2	ug/mL
Phosphorus	7723-14-0	100	ug/mL
Potassium	7440-09-7	100	ug/mL
Sodium	7440-23-5	250	ug/mL
Sulfur	7704-34-9	100	ug/mL
Titanium	7440-32-6	2	ug/mL
Tungsten	7440-33-7	0.1	ug/mL

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
A18L138	6020A ICS Interferents A	12/11/18	John P. Beck	12/03/19	07/23/19 16:48 by arf	5
A19H277	1 W 10 ppm	08/16/19	Marshall Pattee	02/16/20	08/28/19 17:45 by jsj	0.5
A19H398	Conc. HCl - Omnitrace	08/23/19	Kevin Taucher	08/23/21	08/29/19 11:38 by jsj	0.2
A19H400	Conc. HNO3 - Omnitrace	08/23/19	Kevin Taucher	08/23/21	08/29/19 11:39 by jsj	1.75

Reviewed By Date

Analytical Standard Record

Apex Laboratories

A19I357

Description:	ICSA+B working std	Expires:	10/12/19
Standard Type:	Calibration Standa	Prepared:	09/26/19
Solvent:	3.5% HNO3 + 0.4% HCl	Prepared By:	Emily S. Stefansson
Final Volume (mls):	50	Department:	Metals
Vials:	1	Last Edit:	10/08/19 13:18 by jsj

Analyte	CAS Number	Concentration	Units
Aluminum	7429-90-5	100	ug/mL
Arsenic	7440-38-2	0.1	ug/mL
Cadmium	7440-43-9	0.1	ug/mL
Calcium	7440-70-2	300	ug/mL
Carbon	7440-44-0	200	ug/mL
Chlorine	7782-50-5	2000	ug/mL
Chromium	7440-47-3	0.2	ug/mL
Cobalt	7440-48-4	0.2	ug/mL
Copper	7440-50-8	0.2	ug/mL
Iron	7439-89-6	250	ug/mL
Magnesium	7439-95-4	100	ug/mL
Manganese	7439-96-5	0.2	ug/mL
Mercury	7439-97-6	0.002	ug/mL
Molybdenum	7439-98-7	2	ug/mL
Nickel	7440-02-0	0.2	ug/mL
Phosphorus	7723-14-0	100	ug/mL
Potassium	7440-09-7	100	ug/mL
Selenium	7782-49-2	0.1	ug/mL
Silver	7440-22-4	0.05	ug/mL
Sodium	7440-23-5	250	ug/mL
Sulfur	7704-34-9	100	ug/mL
Titanium	7440-32-6	2	ug/mL
Tungsten	7440-33-7	0.1	ug/mL
Vanadium	7440-62-2	0.2	ug/mL
Zinc	7440-66-6	0.1	ug/mL

Reviewed By Date

Analytical Standard Record

Apex Laboratories

A19I357

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	Last Edit	(mls)
A18L138	6020A ICS Interferents A	12/11/18	John P. Beck	12/03/19	07/23/19 16:48 by arf	5
A18L139	6020A & CLP-M ICS Analytes B	12/11/18	John P. Beck	12/03/19	12/18/18 13:34 by jsj	0.5
A19D217	Hg Stock 1.00ppm Std Primary	04/15/19	Emily S. Stefansson	10/12/19	08/14/19 13:25 by jsj	0.1
A19H277	1 W 10 ppm	08/16/19	Marshall Pattee	02/16/20	08/28/19 17:45 by jsj	0.5
A19H398	Conc. HCl - Omnitrace	08/23/19	Kevin Taucher	08/23/21	08/29/19 11:38 by jsj	0.2
A19H400	Conc. HNO3 - Omnitrace	08/23/19	Kevin Taucher	08/23/21	08/29/19 11:39 by jsj	1.75

Reviewed By Date

		6 Li (ISTD) [NoGas]	45 Sc (ISTD) [H2]	45 Sc (ISTD) [He]	45 Sc (ISTD) [NoGas]	74 Ge (ISTD) [H2]	74 Ge (ISTD) [He]	74 Ge (ISTD) [NoGas]	103 Rh (ISTD) [He]	103 Rh (ISTD) [NoGas]	159 Tb (ISTD) [He]	159 Tb (ISTD) [NoGas]	209 Bi (ISTD) [He]	209 Bi (ISTD) [NoGas]
Acq. Date-Time	Sample Name	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value	QC Measured Value
10/7/2019 6:03 PM	Rinse													
10/7/2019 6:08 PM	Rinse													
10/7/2019 6:12 PM	9J07068-CAL0	100	100	100	100	100	100	100	100	100	100	100	100	100
10/7/2019 6:17 PM	9J07068-CAL1	99.77063042	99.01193869	98.68844197	100.5223275	99.05533484	98.59493791	99.62141478	98.97144405	99.25812562	99.67449309	99.05331446	99.47382446	100.1214486
10/7/2019 6:22 PM	9J07068-CAL2	100.9179588	100.1656912	99.9030634	101.9694946	100.0422376	99.13486014	100.966169	99.44927847	100.4110979	100.4052441	100.1837878	100.2846507	101.1566663
10/7/2019 6:27 PM	9J07068-CAL3	100.0134021	98.78502017	98.63613539	99.35434062	99.11837227	98.79671512	99.46894012	98.88343295	99.73429651	99.65320355	99.32030481	100.1037175	100.9146374
10/7/2019 6:32 PM	9J07068-CAL4	100.4978027	98.45036308	99.56521554	100.2397078	98.75698248	98.66639867	99.76904597	99.54004037	99.86468203	99.79216977	100.7407601	100.4805775	101.6253345
10/7/2019 6:37 PM	9J07068-CAL5	101.5897329	98.72972205	99.15943613	100.2242643	98.92543435	99.19880315	100.6158171	98.78982591	100.1333094	100.5213357	100.3126372	100.9391789	101.8998635
10/7/2019 6:42 PM	9J07068-CAL6	104.2948095	100.7121839	101.2783486	104.6910486	99.9849047	101.1246403	103.9003161	99.36820946	101.5624481	101.5730131	103.4848952	100.8998958	102.737257
10/7/2019 6:47 PM	9J07068-CAL7	104.187351	101.3463097	101.42645	104.7322562	100.4330165	101.399333	102.8504121	99.20557216	100.6039438	101.7021322	103.8577003	99.4309913	100.5841437
10/7/2019 6:52 PM	9J07068-CAL8	106.4753004	102.4749507	101.7600449	102.6918645	100.4876408	101.1043084	100.8139535	97.48141392	98.15116465	100.5777159	101.5252538	97.23540943	96.86796517
10/7/2019 6:57 PM	9J07068-CAL9	117.1012491	102.9669268	107.2537909	116.4644422	97.43699192	102.3711791	108.1969863	94.52815211	100.6163368	99.46383714	106.4554766	90.34618261	93.50596956
10/7/2019 7:01 PM	9J07068-ICV1	111.1716637	108.8499585	107.4773372	112.1896366	106.7024719	105.8298482	108.9121359	103.2497014	105.3172656	102.6890509	105.4497503	100.0694627	101.6949741
10/7/2019 7:06 PM	9J07068-ICB1	110.8182177	108.040716	102.8373798	109.9200624	106.6319962	101.4595593	108.1080914	100.8205108	107.2546372	98.70256939	106.9624042	98.22148953	103.7285256
10/7/2019 7:11 PM	9J07068-CRL1	111.7691181	110.0912638	109.1534897	112.6189028	108.889204	107.4776359	110.383284	106.4073689	108.3855588	104.3940407	107.389105	103.1409563	104.9451091
10/7/2019 7:15 PM	9J07068-CRL2	111.3023452	108.3787385	108.0439669	111.4320763	107.2309428	106.279026	109.5630384	105.6442426	107.8819091	104.1088274	107.7458194	102.7701486	105.5767719
10/7/2019 7:20 PM	9J07068-CRL3	112.1035256	109.7701628	108.9607836	112.4782471	108.1570201	106.4973893	109.8523537	106.611396	108.5599977	104.7662338	108.4618153	103.8361045	106.5655568
10/7/2019 7:24 PM	9J07068-CRL4	112.9091544	110.3247622	109.8180308	113.492232	109.2992097	108.0295999	111.4578559	107.44272	109.4423421	105.4386234	110.1920106	104.486126	106.5618985
10/7/2019 7:29 PM	9J07068-IFA1	123.1857102	106.3115183	109.529664	117.2939717	95.70237533	100.2327077	106.6356392	87.06726464	94.58404637	95.32241322	99.84361397	80.68012379	85.91448506
10/7/2019 7:34 PM	9J07068-IFB1	122.0203948	105.940643	108.5664073	116.3698194	95.13845454	98.79282122	105.5400214	85.71500954	93.37065358	93.7015709	98.17162211	78.69487681	83.54058561
10/7/2019 7:38 PM	9100588-MS5	107.2736568	105.1860777	105.0075735	112.2470548	100.0938224	102.2879757	106.4377509	100.0395945	103.5487936	100.5700053	103.070156	96.68048786	98.38233297
10/7/2019 7:43 PM	A9J0027-02RE1	104.5597647	104.5223406	103.6574366	106.3808012	102.3097587	101.2509728	102.7343537	101.4566169	102.6337348	100.9952263	102.1570024	99.11046071	100.0327486
10/7/2019 7:47 PM	A9J0027-07RE1	103.9673082	102.4682597	102.7546311	105.6254721	100.7608044	100.8874841	101.7450507	99.8124431	100.1686515	100.3651533	99.13638044	97.81614525	98.12975501
10/7/2019 7:52 PM	A9J0056-01RE1	141.5723082	129.818852	134.8295927	142.1412346	115.174836	123.3437	130.0035194	112.5859071	120.3803237	112.793119	120.440705	97.43167451	101.9436696
10/7/2019 7:57 PM	A9J0091-01RE1	123.871774	121.2976809	118.0998018	120.5019369	117.3796333	112.4164111	115.0713022	112.3492862	112.9883072	108.3423345	111.2860242	105.3727408	106.1774622
10/7/2019 8:01 PM	9100531-BLK1	120.2020784	113.1339955	113.3384605	117.8285974	109.0703369	108.2014426	111.1689729	109.2391526	110.3421208	106.066061	108.9195942	102.2397036	104.774882
10/7/2019 8:06 PM	9100531-BS1	112.098613	107.9484704	106.2372878	110.6241606	103.3406153	101.4160788	103.7129976	101.2847681	101.8797043	101.9100877	104.6670277	98.84418035	99.88225171
10/7/2019 8:11 PM	A9I0885-01	119.4582719	119.8988196	121.4682036	129.7607018	108.389944	110.3111816	115.8474624	109.0794154	112.7155722	108.6803359	114.8482378	100.5411791	104.2431432
10/7/2019 8:15 PM	A9I0885-02	123.0168639	131.6962408	128.182793	136.6809603	116.2365754	115.9949374	121.739606	113.8845008	118.344207	113.0933646	119.8842648	102.1587217	107.3256343
10/7/2019 8:20 PM	A9I0885-04	123.2502705	137.504856	130.1263722	136.9243436	119.1057448	117.744887	122.9531711	115.9491221	119.1239587	112.723888	118.7932745	102.685107	107.0434105
10/7/2019 8:24 PM	9J07068-CCV1	119.2280463	132.8883131	121.351193	125.4161771	123.925469	116.771862	119.2127912	114.5386918	113.9017047	109.4195924	113.1845055	104.1622816	105.6520108
10/7/2019 8:29 PM	9J07068-CCV2	116.9051744	124.2817815	118.3456301	123.1569428	119.641806	114.4910759	116.3777598	111.7546176	111.6600988	106.7015461	111.2069785	102.1895469	104.3872123
10/7/2019 8:34 PM	9J07068-CCB1	118.3804581	121.68631	118.6442388	123.7713123	117.7682844	114.5548476	118.5450144	114.0199514	115.8779248	107.1514604	111.455733	104.0152266	106.7622846
10/7/2019 8:38 PM	9J07068-CCB2	120.2701174	116.9792679	120.4561553	126.0521141	114.1647105	117.1956176	120.6878321	115.4664072	117.9719743	108.6102212	114.8053159	104.4869577	108.056703
10/7/2019 8:43 PM	A9I0885-05	123.0344233	137.7423674	131.6504695	139.1891288	117.4777179	117.1348804	121.5468444	114.4432669	117.5776015	111.0937529	117.9562301	103.1791861	107.0628168
10/7/2019 8:47 PM	A9I0885-06	125.093575	140.9905432	131.4063773	138.3017555	122.5189462	119.8985275	124.5817467	117.7540293	120.936478	112.924426	119.2816609	103.3713504	107.7005946
10/7/2019 8:52 PM	A9I0885-07	123.217736	141.519986	130.1145651	137.3061895	122.3044069	117.8493022	121.9313031	115.6105713	118.4199653	111.4604907	120.0328617	101.4871381	105.3577128
10/7/2019 8:57 PM	A9I0922-01	122.9277911	138.5608376	128.8976677	136.8146078	120.2067549	117.1866132	120.9080568	115.0423393	117.8333782	111.2531498	118.8532458	101.318853	104.9515589
10/7/2019 9:01 PM	A9I0922-02	122.0878458	134.1133215	128.4553349	136.3422785	121.1736719	117.8833658	122.6807718	116.4285774	119.8632882	110.9823511	116.5792168	103.0716104	106.934081
10/7/2019 9:06 PM	A9I0922-03	120.9551937	139.0898921	129.1219461	136.8760088	121.6671218	118.1910972	121.5082666	115.6458467	118.0531355	111.5802738	118.9926604	101.7513776	105.1641262
10/7/2019 9:10 PM	A9I0922-04	123.0664483	136.3673384	129.36491	136.9570191	121.8277288	119.8163229	124.0627333	117.3246891	120.660403	112.1498589	118.8013547	103.6878321	107.0907719
10/7/2019 9:15 PM	A9I0922-05	121.340313	139.1884489	130.0540169	136.0025749	122.095244	118.419429	122.0396657	116.2133716	118.605567	111.1384921	118.2583145	101.8625928	106.3864128
10/7/2019 9:19 PM	A9I0922-07	116.4090018	135.9480565	125.6476689	129.6299808	118.3091005	113.7477069	115.9189601	111.8143301	113.798517	109.0892485	116.413248	99.48823349	102.8439223
10/7/2019 9:24 PM	A9I0922-08	112.9475889	127.0592574	120.1905327	126.4726576	113.8516713	110.4119729	113.3421244	108.8006045	110.5165122	106.3912482	112.1602029	98.11488127	100.3807162
10/7/2019 9:29 PM	9J07068-CCV3	117.9120678	129.6653348	120.1634579	124.976738	121.1021381	116.3952948	118.5515539	113.1838723	113.4570407	107.8023034	112.9273527	102.5544627	104.130559
10/7/2019 9:33 PM	9J07068-CCB3	122.279042	123.367142	120.5489361	128.1366309	120.5991948	116.9580404	121.8893207	116.1564339	119.8279725	108.2554583	114.884714	103.8188266	107.411534
10/7/2019 9:38 PM	A9I0922-09	116.2124338	124.1378608	119.9554511	128.2381131	112.7478986	110.5650256	114.6212974	108.728894	112.0671499	106.3710597	112.6417154	97.64865994	101.7797368
10/7/2019 9:43 PM	9100531-MS1	113.1420036	130.8860347	117.8287067	123.1577064	114.3442074	108.6335203	110.0356647	106.5244443	106.8748572	105.0277976	110.7675836	96.45319424	98.31369032
10/7/2019 9:47 PM	9100531-MSD1	111.8523865	119.7622935	115.7342163	121.0045848	108.8099938	106.5740913	108.4984569	104.2168477	105.4182815	103.6600219	108.6949156	94.92884945	97.37963045
10/7/2019 9:52 PM	A9I0922-10	112.4677843	119.3545473	116.7258546	122.6114304	108.5316766	106.408181	109.6553912	105.0707491	107.4661856	103.8222221	110.6538793	95.39500239	97.92558348
10/7/2019 9:56 PM	A9I0922-11	111.9228357	118.8527013	116.5603883	122.6095611	109.291147	107.1644252	110.3898744	105.3108267	107.8605406	103.0933701	110.1026443	95.61495425	98.20036491
10/7/2019 10:01 PM	A9I0922-12	112.5573642	119.9387299	116.3057416	122.9811907	109.6304563	107.2101328	110.0628276	105.3989058	107.8355629	103.2278315	110.5153532	94.61122146	98.09779505
10/7/2019 10:05 PM	A9I0922-13	110.2061996	117.986625	114.1752647	121.6146153	107.5142444	104.9569874	108.1542936	103.5258416	106.2458108	101.7806294	107.8728659	93.5649537	96.28233979
10/7/2019 10:10 PM	A9I0922-14	111.8304445	116.5606035	114.3352508	122.5358372	107.3936505	105.9587418	109.3670604	103.9446289	107.5467536	102.3272606	110.758852	93.91494526	97.10823189
10/7/2019 10:15 PM	A9I0922-15	108.9341052	116.4648954	113.8461304	120.2234235	106.4866936	104.4169228	106.6556981	102.1912941	104.5002111	101.1666915	108.4764577	93.54886858	95.02355289
10/7/2019 10:19 PM	9100666-BLK1	112.3221875	112.3346694	112.1380445	117.9176383	109.2575945	107.7807271	111.9742128	108.7908018	111.2552259	101.9017376	110.4320012	96.74568553	99.60948097
10/7/2019 10:24 PM	9J07068-CCV4	114.7128867	119.3493534	114.2826024	119.9280106	115.744834	110.906626	112.7933483	107.287407	108.4104159	102.687623	109.0984176	98.02211667	98.90444496
10/7/2019 10:28 PM	9J07068-CCB4	116.8742359	114.8574414	113.6095342	120.161795	112.6754133	110.6972556	114.976804	108.7437599	113.4383758	102.3468556	110.1998767	98.33728525	100.986445
10/7/2019 10:33 PM	9100666-BS1	112.8975463	112.7941469	110.2115079	117.4663905	108.231726	106.0529127	109.5138432	104.3618108	107.5057738	100.7914913	108.4482689	95.52497826	97.98766256
10/7/2019 10:38 PM	A9I0922-16	108.3547598	114.7818752	113.0976386	119.718861	103.6810146	102.3374	104.9794788	99.88399004	102.2660269	98.76970463	105.520621	91.57301425	93.13462413
10/7/2019 10:42 PM	A9I0922-17	103.1041783	111.9495051	108.2953647	113.8131527	99.38136771	97.72372345	99.40112434	95.4765086	97.36055484	96.46816453	98.43489766	88.73508906	90.19352882
10/7/2019 10:47 PM	A9I0922-18	103.4206083	108.1569292	107.1157859	113.0417249	98.23533124	97.78394678	100.4975339	96.24514729	98.79745352	96.8370951	100.7582276	89.31743349	90.93134107
10/7/2019 10:51 PM	A9I0922-19	100.6384169	107.301966	105.9194577	110.9585868	96.03103541	94.60244149	97.13215751	93.2785615	95.12803156	94.72194025	95.39225205	87.06017391	88.08800848
10/7/2019 10:56 PM	A9I0922-20	98.72366634	102.6374736	102.1415557	107.2852378	93.36805026	93.23100167	95.35584134	91.89480784	93.78455419	93.79636286	94.13297665	87.23116095	87.97637774
10/7/2019 11:01 PM	A9I0922-21	97.26107637	101.0226291	100.9781689	105.9875864	91.34705378	91.68863096	92.80375109	89.87470566	91.85246658	92.54222765	92.90994497	86.16385277	86.93899854
10/7/2019 11:05 PM	A9I0936-20	95.8583124	98.8347355	100.3118761	104.3435589	89.34164435	90.37030905	91.75037484	88.73802425	90.81850914	92.34455252	92.29233553	86.18575859	86.80853537
10/7/2019 11:10 PM	A9I0936-21	94.93244527	98.57002366	100.4876969	104.9029026	87.80881338	89.74896626	91.63307217	88.37927666	90.41936548	92.13568917	91.95865141	86.37925877	86.54861526
10/7/2019 11:14 PM	A9I0936-22	92.80523929	95.53741402	98.31121902	102.9855331	86.11140456	88.61768223	89.93797581	86.77938555	88.92360002	90.59979695	91.04340302	85.17587317	85.54142916
10/7/2019 11:19 PM	9J07068-CCV5	97.59136249	96.53303587	95.85673851	97.77391213	96.43233664	95.38150321	95.93298095	93.1711097	94.35133993	93.27906926	91.82306764	90.46989276	88.88257482
10/7/2019 11:24 PM	9J07068-CCB5	94.44773914	89.86545879	90.72905696	96.69898755	90.65977632	91.96178182	94.49232285	92.06296346	94.25929789	90.3530284	90.43550083	88.75382054	88.75784386
10/7/2019 11:28 PM	9100666-MS1	92.29247262	91.77600365	94.99742506	99.82194203	83.09375445	86.40919904	88.45181616	84.57017489	86.89913174	89.08451458	89.29083812	83.63603508	83.64830484
10/7/2019 11:33 PM	9100666-MSD1	91.37873934	92.16704396	94.08220271	99.02933057	83.6432924	85.84049795	87.65422659	84.23125022	86.55321771	89.15870674	88.92372138	83.73151717	83.209425
10/7/2019 11:38 PM	A9I0936-23	87.60051754	88.80392215	90.62874136	95.58570332	80.4725742	83.08136904	85.17011424	82.00151073	84.21733233	86.64511645	87.37252649	81.91914488	82.13505174
10/7/2019 11:42 PM	A9J0058-04	88.2832366	87.26848454	90.31389985	95.39006817	81.25132661	84.21398007	85.88918473	83.36372745	85.14005686	87.45922298	87.76333507	82.02201067	82.29077986
10/7/2019 11:47 PM	A9J0058-05	90.1299695	88.22025032	90.91676252	96.77841876	83.38195712	86.20512207	88.73116845	84.91199368	88.37565897	88.56812408	89.626638	83.65354369	84.22516885
10/7/2019 11:51 PM	A9J0058-06	92.21007563	93.34382348	94.6136519	98.64236709	87.05697288	88.49712813	90.1984536	86.59621224	89.41865921	89.97674658	90.54629474	84.30628365	85.00634696
10/7/2019 11:56 PM	A9J0058-07	89.52615502	91.51119743	92.08220974	97.11845725	84.17834975	85.25589894	86.93541784	84.2308477	86.1039825	88.0720225	88.37454807	82.73664994	82.7942544
10/8/2019 12:01 AM	A9J0058-08	89.05547745	90.45799984	91.98031533	98.044163	82.24101533	84.35882097	86.0484913	83.31412714	85.22708356	87.53988456	87.99138442	81.90087665	82.12104008
10/8/2019 12:05 AM	A9J0058-11	90.59894524	89.38007963	91.83807096	96.03376484	83.51485459	85.87061542	88.12338911	85.198621	87.69329202	88.65537625	89.46418954	83.50451445	83.67418567
10/8/2019 12:10 AM	A9J0058-12	88.81039113	90.64425767	91.48290862	94.86123865	83.39299835	84.54984277	86.34572909	83.964582	85.82800713	88.12267565	88.4745061	82.0806955	82.27280355
10/8/2019 12:14 AM	9J07068-CCV6	92.44344289	90.62634052	89.88902714	92.71990612	90.74229224	90.29228295	90.6650391	88.00669268	89.62932849	89.70495555	88.46113725	87.9671753	86.15097567
10/8/2019 12:19 AM	9J07068-CCB6	92.27377129	86.11533149	88.32979985	91.76813563	87.07524328	89.32860506	92.16538996	89.27885103	92.65785485	88.80666607	89.18812311	87.87124274	87.5552494
10/8/2019 12:24 AM	9100666-MS2	89.3220534	86.74382433	90.17282066	96.62980921	80.17047948	83.46362171	85.90911465	82.14731957	84.73508116	86.81903271	87.53713318	81.34592499	81.26843831
10/8/2019 12:28 AM	9100666-MSD2	89.67821005	89.37179916	90.67319855	96.71651523	82.53050256	84.11443154	86.43937303	82.91030259	85.45342983	87.68972103	88.25365139	81.67772127	81.44880471
10/8/2019 12:33 AM	A9J0058-13	88.49455178	88.63434074	90.1864493	94.65536989	82.00180026	83.57805185	85.7065619	82.52169879	85.16248487	87.37780843	87.71687501	81.48188478	81.7117019
10/8/2019 12:37 AM	A9J0058-14	86.52622521	87.99887343	85.81614601	93.61261382	81.38469261	79.22653841	84.19561192	77.81896379	83.41575024	82.88958274	86.27251016	77.80142362	80.76339659
10/8/2019 12:42 AM	A9J0058-17	85.03901505	85.13666421	86.71507147	91.26772016	79.12934439	80.81552559	82.53155247	80.13051524	81.93576837	85.13132998	85.0735001	80.68429211	80.06594763
10/8/2019 12:47 AM	9J07068-CCV7	89.6365878	87.66323466	87.44562548	92.7727537	88.16156263	88.46025367	89.12073954	86.4269028	87.98151181	88.76035936	87.11886004	86.51315036	84.65964413
10/8/2019 12:51 AM	9J07068-CCB7	89.77548908	83.58486346	86.39554402	91.92515077	84.75963681	87.41836384	90.11692061	87.11757324	90.76738772	87.21048925	87.47332832	85.59305126	85.77735775
10/8/2019 12:56 AM	9J07068-CRL5	85.07857957	85.20400851	87.52765952	87.72024161	86.30151199	88.73798372	85.67565783	88.16076586	86.6825669	88.0533075	82.69631803	86.34692348	81.38065405
10/8/2019 1:01 AM	9J07068-CRL6	92.10819893	86.52962407	88.94169066	94.7685028	87.8577458	89.32785299	92.73013798	89.82143126	92.89314541	88.96704417	89.24667604	87.5965701	87.23209026
10/8/2019 1:05 AM	9J07068-CRL7	93.55560986	88.45170838	89.66309613	95.94322299	89.17317699	90.86050493	94.10022683	90.76004112	94.0721764	89.42863721	89.73194365	88.17186549	88.09421653
10/8/2019 1:10 AM	9J07068-CRL8	94.63394851	89.78046509	91.35899049	97.17684803	90.56521532	92.02317536	95.10967129	91.6914485	94.69063431	90.21986847	90.4769531	88.66751496	88.98460241
10/8/2019 1:15 AM	9100715-BLK1	93.66652144	88.14676929	90.00589986	96.122065	88.25886021	89.74928276	92.97099512	89.91398481	93.19216951	88.9250053	89.7807312	86.22290693	87.22956244
10/8/2019 1:19 AM	9100715-BS1	95.0117066	91.45110474	91.65909644	96.58051486	90.95970364	91.43156675	92.82004401	89.56974967	91.930451	90.14594346	89.48336905	87.29508742	86.72422265
10/8/2019 1:24 AM	A9J0169-01	78.09070963	83.77330655	76.44286967	72.25895699	84.00488935	76.74680919	73.87305004	77.61811277	73.78060856	80.63566025	77.14573953	82.57462421	79.52207353
10/8/2019 1:29 AM	9100715-DUP1	74.80853834	73.79309782	72.5704275	69.67757329	73.96645539	72.82034067	71.19892042	73.48137498	71.21386815	77.99069495	74.96603425	80.42052223	78.2176831
10/8/2019 1:33 AM	9100715-MS1	74.70859903	72.72388082	71.47474309	69.51014877	73.12123391	72.35991962	70.84397505	73.03674837	70.90497002	77.52335531	75.01080537	80.37986579	78.38684003
10/8/2019 1:38 AM	A9J0169-01RE1	68.3545688	69.39392644	64.81737334	64.84252583	69.1161951	64.15172587	65.24746617	64.51712265	64.4476393	69.77424651	70.88686817	71.53968333	73.84317533
10/8/2019 1:43 AM	9100715-DUP2	67.72347301	68.40685986	67.12281652	64.19007524	67.86401431	66.53832669	64.41678095	66.86674329	63.46436561	72.44081815	70.53636065	74.25409169	73.59964711
10/8/2019 1:47 AM	9100715-MS2	68.52980762	69.78686784	68.45649925	65.19868065	69.13011619	67.88474798	65.2304896	68.50015994	64.12969245	74.13353755	71.33661849	75.81610642	74.67465456
10/8/2019 1:52 AM	9J07068-CCV8	76.2294634	75.07508223	73.41339162	73.73739106	73.69461419	72.14313013	71.97754629	71.61748641	69.87006992	77.54842745	76.68833557	78.74440428	78.46832291
10/8/2019 1:57 AM	9J07068-CCV9	82.9006755	81.95452704	80.5282803	84.93938053	80.18877021	79.68032734	79.8606119	78.67483839	77.95907519	82.88049563	82.19543614	82.84141979	82.71968416
10/8/2019 2:01 AM	9J07068-CCB8	80.25131805	82.84175196	81.01746476	81.54626497	82.01040402	80.26295471	78.49736733	81.00578157	77.93905257	82.81040169	80.47835299	83.05595948	81.77988596
10/8/2019 2:06 AM	9J07068-CRL9	77.20988121	79.87553072	77.32653719	78.07329472	79.55075236	77.12660821	74.69867433	77.75441746	74.63737829	80.85752215	78.11621239	81.65096775	79.91168866
10/8/2019 2:11 AM	9J07068-CRLA	76.15364242	78.09377304	76.3289565	73.32378343	77.47694557	75.22365245	73.02048227	76.50528432	72.9215029	79.49932998	77.18154995	81.00953908	79.60727399
10/8/2019 2:15 AM	9J07068-CRLB	71.9056392	77.79169899	75.97414371	69.07030565	77.30888285	74.6943114	68.91961034	75.79902882	68.74242523	79.48127102	72.56730695	81.49638592	75.10236552
10/8/2019 2:20 AM	9J07068-CRLC	76.3346217	77.40065467	75.69223001	72.87673743	76.92229551	75.20413068	73.00152768	76.18051974	72.00066315	79.04560239	76.69599101	81.38315904	79.82657116
10/8/2019 2:25 AM	Final rinse	70.79022647	71.96781074	71.34450583	67.74133871	70.75949937	71.0207141	69.08187873	73.03801926	68.5008838	76.79244883	74.21022781	77.79109263	76.61439691
10/8/2019 2:29 AM	Final rinse	76.26200382	79.70618025	76.63724196	72.71926173	78.45161644	75.45239369	72.49127215	77.10710039	72.21473593	80.57599801	77.37193494	82.20508503	80.2118144

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

Conventional Chemistry Parameters
Total Organic Carbon (EPA 9060A mod)
Benchsheet & Analysis Sequence Data

Batch 9100600
Sequence 9J10017 (A9I0922-01,02,03,04,05,07,08,09,09RE1,10,11,12)

Apex Laboratories

PREPARATION BENCH SHEET

OCT 11 2019

BATCH #: 9100600 (Sediment)

Prep Method: PSEP-5310B TOC

#	Lab Number		Analysis	Prepared	Initial (N/A)	Final (N/A)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100600-BLK1		QC	09/30/19 17:00	5	5									
	9100600-BS1		QC	09/30/19 17:00	5	5	A19I352		1						
	A9I0922-01	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-021SC-B-11.7-13.7-190927				
	9100600-DUP1		QC	09/30/19 17:00	5	5		A9I0922-01							
	A9I0922-02	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-021SC-B-13.7-15.4-190927				
	A9I0922-03	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-021SC-B-5.7-7.7-190927				
	A9I0922-04	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-021SC-B-7.7-9.7-190927				
	A9I0922-05	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-021SC-B-9.7-11.7-190927				
	A9I0922-07	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-024SC-B-10-12.1-190927				
	A9I0922-08	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-1024SC-B-10-12.1-190927				
	A9I0922-10	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-030SC-B-7.9-9.9-190929				
	A9I0922-11	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-030SC-B-9.9-11.8-190929				
	A9I0922-12	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-10.2-12.2-190929				

Standards/Reagents

Reagent(s)			Analyte Spike(s)			Surrogate(s)		
Std ID	Exp. Date	Description	Std ID	Exp. Date	Description	Std ID	Exp. Date	Description
A13L221	11/30/23	Wet Chem Balance 3	A19I352	03/24/20	TOC 10k ppm secondary			

JKP 10-9-19
Prepared By: Date

10/10/19
Reviewed By: Date

Printed: 10/9/2019 10:58:03AM

APEX LABORATORIES

ELEMENT SEQUENCE LOG

Apex Laboratories

OCT 1 1 2019

Sequence: 9J10017 07:58 am 10/10/19 Instrument: TOC

Date: 10/10/19 09:10 07:58 am 10/10/19 Calibration: A8B0203

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J10017-CCV1	Sediment	QC	QC				A19G013
2	9J10017-CCB1	Sediment	QC	QC				
3	9100600-BLK1	Sediment	QC	QC		9100600		
4	9100600-BS1	Sediment	QC	QC		9100600		
5	A9I0922-01	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
6	9100600-DUP1	Sediment	QC	QC		9100600		
7	A9I0922-02	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
8	A9I0922-03	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
9	A9I0922-04	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
10	A9I0922-05	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
11	A9I0922-07	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
12	A9I0922-08	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
13	9J10017-CCV2	Sediment	QC	QC				A19G013
14	9J10017-CCB2	Sediment	QC	QC				
15	A9I0922-10	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
16	A9I0922-11	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
17	A9I0922-12	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100600		
18	9J10017-CCV3	Sediment	QC	QC				A19G013
19	9J10017-CCB3	Sediment	QC	QC				

Data Entered By: WD 10/10/19

Data Reviewed By: 10/10/19

Comments:

TOC Data

Sample ID (Reporting Levels based on lowest amount used.)	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
9J10017-CCV1	1	20	287.40	213.83	10,691.51	10,728	10/10/19 07:59 AM
	2	20	288.70	215.29	10,764.46		
9J10017-CCB1	1	100	0	5.15	51.53	52	10/10/19 08:20 AM
	2	100	0	5.15	51.53		
9100600-BLK1	1	97.1	2.669	7.66	78.86	83	10/10/19 08:29 AM
	2	96.3	1.813	6.86	71.22		
	3	99.6	4.939	9.75	97.94		
9100600-BS1	1	20.0	263.3	188.82	9,440.86	9,760	10/10/19 08:59 AM
	2	20.0	274.5	199.98	9,998.84		
	3	20.0	271.4	196.81	9,840.51		
A9I0992-01	1	99.1	19.08	22.2	224.00	234	10/10/19 09:22 AM
	2	99.2	20.98	23.79	239.84		
	3	98.6	20.71	23.57	239.02		
9100600-DUP1	1	97.2	19.63	22.66	233.15	215	10/10/19 10:10 AM
	2	94.9	16.34	19.87	209.36		
	3	99.4	16.59	20.08	202.04		
A9I0992-02	1	99.7	18.84	22	220.62	226	10/10/19 10:57 AM
	2	99.7	20.23	23.17	232.35		
	3	99.2	19.32	22.4	225.81		
A9I0992-03	1	39.3	390.9	375.1	9,544.59	10,044	10/10/19 11:13 AM
	2	39.8	425	452.99	11,381.54		
	3	39.2	383.9	360.84	9,205.05		
A9I0992-04	1	97.5	64.16	55.89	573.22	519	10/10/19 12:00 PM
	2	97.9	56.34	50.59	516.72		
	3	94.4	47.02	44	466.13		

TOC Data

Sample ID (Reporting Levels based on lowest amount used.)	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
A9I0992-05	1	99.2	199.6	137.59	1,386.99	1,269	10/10/19 12:24 PM
	2	70.5	115.4	87.17	1,236.42		
	3	50.2	69.4	59.34	1,182.09		
A9I0992-07	1	59.4	22.72	25.24	424.86	459	10/10/19 01:01 PM
	2	62.8	23.25	25.67	408.82		
	3	52.1	26.44	28.28	542.74		
A9I0992-08	1	55.1	27.14	28.84	523.44	437	10/10/19 01:40 PM
	2	69.2	24.92	27.04	390.79		
	3	64.4	23.12	25.57	397.00		
9J10017-CCV2	1	20.0	260.3	185.96	9,297.82	9,454	10/10/19 02:22 PM
	2	20.0	266.8	192.22	9,611.10		
9J10017-CCB2	1	100.0	0.01	5.17	51.65	52	10/10/19 02:40 PM
	2	100.0	0	5.15	51.53		
A9I0992-10	1	96.1	15.370	19.03	198.07	203	10/10/19 03:07 PM
	2	95.1	14.960	18.68	196.43		
	3	98.1	17.560	20.91	213.16		
A9I0992-11	1	89.7	18.67	21.85	243.61	238	10/10/19 03:30 PM
	2	98.6	19.29	22.38	226.93		
	3	99.3	21.31	24.07	242.37		
A9I0992-12	1	98.7	18.13	21.39	216.77	250	10/10/19 04:23 PM
	2	98.2	22.21	24.81	252.70		
	3	97.4	25.22	27.29	280.15		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		

TOC Data

Sample ID (Reporting Levels based on lowest amount used.)	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
Sample ID	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	3			5.15	#DIV/0!		
9J10017-CCV3	1	20.0	259.4	185.11	9,255.42	9,310	10/10/19 04:38 PM
	2	20.0	261.7	187.28	9,364.24		
9J10017-CCB3	1	100.0	0	5.15	51.53	52	10/10/19 05:05 PM
	2	100.0	0	5.15	51.53		
				5.15	#DIV/0!		
				5.15	#DIV/0!		
				5.15	#DIV/0!		
				5.15	#DIV/0!		
				5.15	#DIV/0!		
				5.15	#DIV/0!		

Sequence 9J10017
Batch 9100600

TOC Soil data log

Date/Time 10/10/19
Analyst WVO

Sample ID	Wt1(mg or ul)** / Wt2(mg or ul)** / Wt3(mg or ul)**	raw TOC (ug)	Comments	Date and Time
9J10017	20	287.4		0759
	20	288.7		
-CCV1				
9J10017	100	0		0820
	100	0		
@CB1				
9100600	97.1	2.669	Time out	0829
	96.3	1.813		
- ~~B~~BLK1	99.6	4.939	Time out	
9100600	20	263.3		0859
	20	274.5	Time out	
- BS1	20	271.4		
A9I0922	~~71.2~~ ~~12.7~~ ~~87.1~~	~~14.21~~ 99.1	19.08	0922
	99.2	20.98		
-01	98.6	20.71		
9100600	~~98.2~~ ~~15.5~~	97.2	19.63	1010
	94.9	16.34		
-01 DUP1	99.4	16.59		
A9I0922	99.7	18.84		1057
	99.7	20.23		
-02	99.2	19.32		
A9I0922	~~40.2~~	~~313.9~~	39.3 390.9	1113
	~~45.3~~	~~266.8~~	399 425	
-03	~~39.8~~	~~425~~	39.2 383.9	

Sample ID	Wt1(mg or ul)** / Wt2(mg or ul)** / Wt3(mg or ul)**	raw TOC (ug)	Comments	Date and Time
A9I0922	97.5	6416		1200
	97.9	56.34		
-04	94.4	47.02		
A9I0922	99.2	199.6		1224
	70.5	115.4		
-05	50.2	69.4		
A9I0922	~~34.1~~ ~~14.05~~	59.4	22.72	1301
	~~52.4~~ 62.8	~~23.25~~	52.1 26.44	
-~~08~~07	~~52.4~~	~~50.75~~		
A9I0922	~~68.8~~ 55.1	~~40.77~~	27.14	~~1440~~ 1340
	69.2	24.92		
-08	44.4	23.12		
A9J10017	20	260.3		1422
	20	266.8		
-~~08~~CCV2				
A9J10017	100	0.013		1440
	100	0		
-CCB2				
~~A9I A9I0922 09~~ CW 10/10/19				
~~0908~~				
A9I0922	~~74.3~~ ~~11.54~~ 96.1	15.37 ✓		1507
-10	95.1	14.96 ✓		
~~-09~~	98.1	17.56		

**Sample mass input into instrument as 1000 mg to output actual ug C

Sequence______________
Batch______________

TOC Soil data log

Date/Time______________
Analyst______________

Sample ID	Wt1(mg or ul)** / Wt2(mg or ul)** / Wt3(mg or ul)**	raw TOC (ug) / raw TOC (ug) / raw TOC (ug)	Comments	Date and Time
-16 am 10/10/19				
A9J0922 -11	99.7 98.6 99.3	18.67 19.29 21.31		1530
A9J0922 -12	98.7 98.2 97.4	18.13 22.1 25.22		1623
9J10017 -CCV3	20 20	259.4 261.7	→ Time out	1638
9J10017 -CCB3	100 100	0 0		1705

Sample ID	Wt1(mg or ul)** / Wt2(mg or ul)** / Wt3(mg or ul)**	raw TOC (ug) / raw TOC (ug) / raw TOC (ug)	Comments	Date and Time

**Sample mass input into instrument as 1000 mg to output actual ug C

Batch 9100600 TOC PSEP preweigh Analyst JKP

Date/Time:	10-3-19@1007	10-3-19@1414	10.3.19@1700		Effervesces?	Comments
T(°C) IN / OUT:	68.4/68.2	70.0/71.4	71.7/69.7	/		
Sample ID	Wt 1(g)	Wt 2(g)	Wt 3(g)	Wt 4(g)	(yes/no)	
ASI0922-01	5.1771	5.1762			no	
ASI0922-01D	5.5187	5.5178			no	
ASI0922-02	5.6926	5.6897			no	
ASI0922-03	4.7746	4.7693			no	
ASI0922-04	7.4723	7.4628	7.4600		no	
ASI0922-05	5.7848	5.7825			no	
ASI0922-07	5.6200	5.6196			no	
ASI0922-08	4.6735	4.6645	4.6610		no	
ASI0922-10	5.1802	5.1779			no	
ASI922-11	5.7402	5.7359			no	
ASI0922-12	5.0308	5.0265			no	

In oven on 9/30/19 @ 1700 JKP 10-9-19

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

Conventional Chemistry Parameters
Total Organic Carbon (EPA 9060A mod)
Benchsheet & Analysis Sequence Data

Batch 9100601
Sequence 9J15035 (A9I0922-09RE1,13RE1,14RE1,
15RE1,16RE1,17RE1,18RE1,19RE1,20RE1,21RE1)

APEX LABORATORIES

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100601 (Sediment) OCT 2 3 2019

Prep Method: PSEP-5310B TOC

#	Lab Number		Analysis	Prepared	Initial (N/A)	Final (N/A)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100601-BLK1		QC	09/30/19 17:00	5	5									
	9100601-BS1		QC	09/30/19 17:00	5	5	A19G013		1						
	A9I0922-09	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-030SC-B-5.9-7.9-190929	MS/MSD			
	9100601-DUP1		QC	09/30/19 17:00	5	5		A9I0922-09							
	9100601-DUP2		QC	09/30/19 17:00	5	5		A9I0922-09							
	A9I0922-13	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-12.2-13.4-190929				
	A9I0922-14	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-4.2-6.2-190929				
	A9I0922-15	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-6.2-8.2-190929				
	A9I0922-16	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-8.2-10.2-190929				
	A9I0922-17	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-8-10-190929				
	A9I0922-18	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-10-12-190929				
	A9I0922-19	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-12-14-190929				
	A9I0922-20	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-14-15.8-190929				
	A9I0922-21	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-1064SC-B-08-10-190929				

Standards/Reagents

Reagent(s)		
Std ID	Exp. Date	Description
A13L221	11/30/23	Wet Chem Balance 3

Analyte Spike(s)		
Std ID	Exp. Date	Description
A19G013	12/29/19	TOC 10k ppm primary

Surrogate(s)		
Std ID	Exp. Date	Description

JKP 10-12-19
Prepared By: Date

Reviewed By: 10/22/19 Date

Printed: 10/11/2019 6:43:06PM

Apex Laboratories

PREPARATION BENCH SHEET

NOV 0 1 2019

BATCH #: 9100601 (Sediment)

Prep Method: PSEP-5310B TOC

#	Lab Number		Analysis	Prepared	Initial (N/A)	Final (N/A)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9100601-BLK1		QC	09/30/19 17:00	5	5									
	9100601-BLK2		QC	09/30/19 17:00	5	5						Added 10/15/2019 by DAS			
	9100601-BS1		QC	09/30/19 17:00	5	5	A19G013		1						
	9100601-BS2		QC	09/30/19 17:00	5	5	A19G013		1			Added 10/15/2019 by DAS			
	A9I0922-09	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-030SC-B-5.9-7.9-190929	MS/MSD			
	9100601-DUP1		QC	09/30/19 17:00	5	5		A9I0922-09							
	9100601-DUP2		QC	09/30/19 17:00	5	5		A9I0922-09							
	A9I0922-09RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-030SC-B-5.9-7.9-190929	Added 10/15/2019 by DAS			
	9100601-DUP3		QC	09/30/19 17:00	5	5		A9I0922-09RE1							
	9100601-DUP4		QC	09/30/19 17:00	5	5		A9I0922-09RE1							
	A9I0922-13	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-12.2-13.4-190929				
	A9I0922-13RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-12.2-13.4-190929	Added 10/15/2019 by DAS			
	A9I0922-14	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-4.2-6.2-190929				
	A9I0922-14RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-4.2-6.2-190929	Added 10/15/2019 by DAS			
	A9I0922-15	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-6.2-8.2-190929				
	A9I0922-15RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-6.2-8.2-190929	Added 10/15/2019 by DAS			
	A9I0922-16	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-8.2-10.2-190929				
	A9I0922-16RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-036SC-B-8.2-10.2-190929	Added 10/15/2019 by DAS			
	A9I0922-17	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-8-10-190929				
	A9I0922-17RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-8-10-190929	Added 10/15/2019 by DAS			
	A9I0922-18	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-10-12-190929				
	A9I0922-18RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-10-12-190929	Added 10/15/2019 by DAS			

CMR 10/30/19
Prepared By: Date

JCS 10/31/19
Reviewed By: Date

Printed: 10/30/2019 5:56:59PM

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9100601 (Sediment)

Prep Method: PSEP-5310B TOC

#	Lab Number		Analysis	Prepared	Initial (N/A)	Final (N/A)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	A9I0922-19	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-12 -14-190929				
	A9I0922-19RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-12 -14-190929	Added 10/15/2019 by DAS			
	A9I0922-20	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-14 -15.8-190929				
	A9I0922-20RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-064SC-B-14 -15.8-190929	Added 10/15/2019 by DAS			
	A9I0922-21	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-1064SC-B-0 8-10-190929				
	A9I0922-21RE1	A	Total Organic Carbon - Soil (5310 B)	09/30/19 17:00	5	5					PDI-1064SC-B-0 8-10-190929	Added 10/15/2019 by DAS			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L221	11/30/23	Wet Chem Balance 3
A19F088	12/08/19	10% Phosphoric Acid
A19J023	11/30/23	Wet Chem Balance 4
A19J145	05/30/22	TOC Soil Blank Matrix

Analyte Spike(s)

Std ID	Exp. Date	Description
A19G013	12/29/19	TOC 10k ppm primary

Surrogate(s)

Std ID	Exp. Date	Description

Prepared By: Date

JCS 10/31/19

Reviewed By: Date

Printed: 10/30/2019 5:56:59PM

Batch 9100601 TOC PSEP preweigh Analyst JKP

Date/Time:	10-3-19@1007	10-3-19@1414	10-3-19@1792		Effervesces?	Comments
T(°C) IN / OUT:	68.4/68.2	70.0/71.4	~~71.7~~/69.7	/		
Sample ID	Wt 1(g)	Wt 2(g)	Wt 3(g)	Wt 4(g)	(yes/no)	
AGI0922-09	5.2308	5.2275			no	
AGI0922-09D	5.0828	5.0808			no	
AGI0922-13	5.0944	5.0862	5.0813		no	
AGI0922-14	5.3764	5.3753			no	
AGI0922-15	6.4960	6.4927			no	
AGI0922-16	4.5759	4.5725			no	
AGI0922-17	4.2442	4.2385	4.2343		no	
AGI0922-18	4.7690	4.7680			no	
AGI0922-19	4.6745	4.6748			no	
AGI0922-20	4.5766	4.5728			no	
AGI0922-21	4.5851	4.5805			no	

JM oven on 9/30/19 @ 1700 JKP 10-9-19

APEX LABORATORIES

ELEMENT SEQUENCE LOG

Apex Laboratories

NOV 0 1 2019

Sequence: **9J15035** Instrument: **TOC6**

Date: **10/15/19 10:10** Calibration: **A9J0704**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J15035-CCV1	Sediment	QC	QC				A19I352
2	9J15035-CCB1	Sediment	QC	QC				
3	9100601-BLK2	Sediment	QC	QC		9100601		
4	9100601-BS2	Sediment	QC	QC		9100601		
5	A9I0922-09RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
6	9100601-DUP3	Sediment	QC	QC		9100601		
7	9100601-DUP4	Sediment	QC	QC		9100601		
8	A9I0922-13RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
9	A9I0922-14RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
10	A9I0922-15RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
11	A9I0922-16RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
12	A9I0922-17RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
13	9J15035-CCV2	Sediment	QC	QC				A19I352
14	9J15035-CCB2	Sediment	QC	QC				
15	A9I0922-18RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
16	A9I0922-19RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
17	A9I0922-20RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
18	A9I0922-21RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/11/19	9100601		
19	9100674-BLK2	Sediment	QC	QC		9100674		
20	9100674-BS2	Sediment	QC	QC		9100674		
21	A9J0058-01RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
22	A9J0058-02RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
23	A9J0058-03RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
24	A9J0058-04RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
25	9J15035-CCV3	Sediment	QC	QC				A19I352
26	9J15035-CCB3	Sediment	QC	QC				
27	A9J0058-05RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
28	A9J0058-06RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
29	A9J0058-07RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
30	A9J0058-08RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
31	A9J0058-09RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
32	A9J0058-12RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100674		
33	9100674-DUP3	Sediment	QC	QC		9100674		
34	9100674-DUP4	Sediment	QC	QC		9100674		
35	A9J0058-21RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100677		
36	9100677-DUP3	Sediment	QC	QC		9100677		
37	9J15035-CCV4	Sediment	QC	QC				A19I352
38	9J15035-CCB4	Sediment	QC	QC				
39	9100677-DUP4	Sediment	QC	QC		9100677		
40	A9J0058-22RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100677		
41	A9J0058-23RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100677		
42	A9J0058-24RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100677		
43	A9J0058-25RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100677		
44	A9J0058-26RE1	Sediment	Total Organic Carbon - Soil (5310 B)	Anchor QEA, LLC	10/15/19	9100677		
45	9J15035-CCV5	Sediment	QC	QC				A19I352
46	9J15035-CCB5	Sediment	QC	QC				

Sequence:	9J15035	Instrument:	TOC6
Date:	10/15/19 10:10	Calibration:	A9J0704

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID

Data Entered By: dmz 10/30/19 Comments:

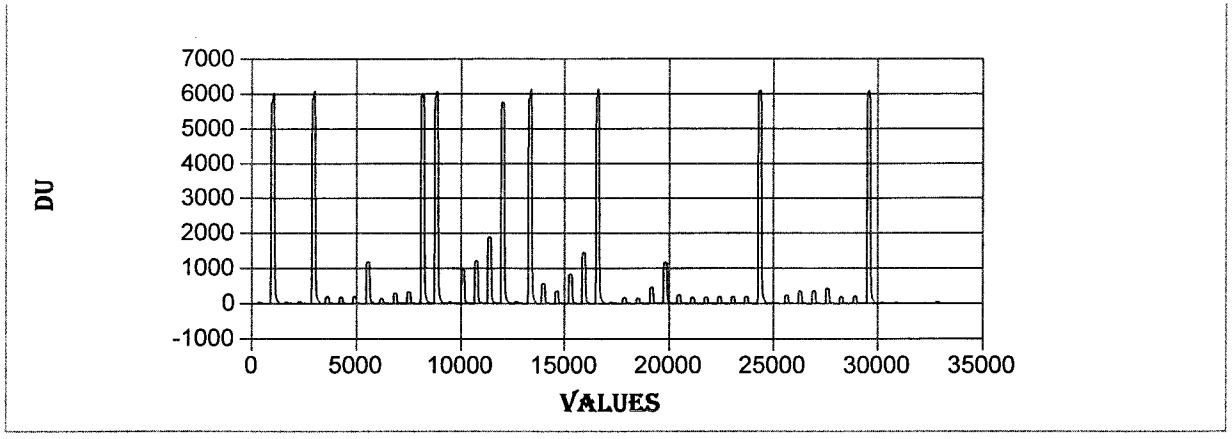
Data Reviewed By: JCS 10/31/19

Method:	TCDirect	Run Start Time:	10/15/2019 5:12:18 PM
Method Type:	TC_DIRECT	Run End Time:	10/16/2019 2:32:05 AM
Table:	9J15035	Device ID:	TOC6
Analyst:	Administrator	Run Name:	SN10020191015A1

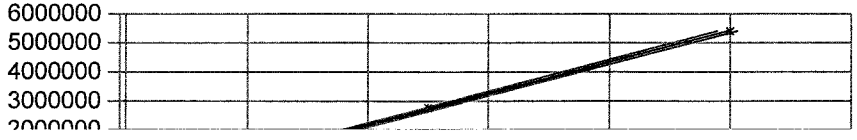
Cup Position	Sample ID	Weight (mg)	Result mg C abs	Final Result (mg/kg)	Peak Area	Analysed Date and time
A99	initial run	200	-0.003	-15.274	4911.18	10/15/2019 5:14:13 PM
A1	9J15035-CCV1	200	1.973	9863.422	1075809.825	10/15/2019 5:25:14 PM
A2	9J15035-CCB1	200	0.002	9.637	7611.61	10/15/2019 5:36:09 PM
A3	9100601-BLK2	220.1	0.005	21.025	9075.21	10/15/2019 5:46:57 PM
A4	9100601-BS2	200	1.988	9939.208	1084025.38	10/15/2019 5:57:43 PM
A5	A9I0922-09RE1	206.6	0.055	266.266	36383.94	10/15/2019 6:08:31 PM
A6	9100601-DUP3	202.9	0.049	240.487	33014.89	10/15/2019 6:19:18 PM
A7	9100601-DUP4	202.9	0.054	266.079	35829.38	10/15/2019 6:30:06 PM
A8	A9I0922-13RE1	204.7	0.383	1871.203	214181.32	10/15/2019 6:40:53 PM
A9	A9I0922-14RE1	197.7	0.034	174.214	25235.37	10/15/2019 6:51:40 PM
A10	A9I0922-15RE1	200.6	0.087	432.85	53630.76	10/15/2019 7:02:28 PM
A11	A9I0922-16RE1	203.1	0.097	477.46	59128.18	10/15/2019 7:13:15 PM
A12	A9I0922-17RE1	197.8	1.979	10006.835	1079423.84	10/15/2019 7:24:10 PM
A13	9J15035-CCV2	200	1.975	9875.745	1077145.73	10/15/2019 7:34:59 PM
A14	9J15035-CCB2	200	0	2.282	6814.26	10/15/2019 7:45:46 PM
A15	A9I0922-18RE1	201	0.308	1534.183	173711.37	10/15/2019 7:56:34 PM
A16	A9I0922-19RE1	203.2	0.392	1926.835	218787.295	10/15/2019 8:07:21 PM
A17	A9I0922-20RE1	196.6	0.617	3140.433	341217.68	10/15/2019 8:18:08 PM
A18	A9I0922-21RE1	203.8	1.896	9302.259	1034136.87	10/15/2019 8:28:55 PM
A19	9100674-BLK2	220.5	0.006	26.726	9761.06	10/15/2019 8:39:42 PM
A20	9100674-BS2	200	2	10001.982	1090830.405	10/15/2019 8:50:30 PM
A21	A9J0058-01RE1	206.1	0.177	857.385	102346.425	10/15/2019 9:01:17 PM
A22	A9J0058-02RE1	200.3	0.105	524.125	63469.83	10/15/2019 9:12:05 PM
A23	A9J0058-03RE1	200.9	0.264	1314.218	149675.665	10/15/2019 9:22:54 PM
A24	A9J0058-04RE1	204.6	0.468	2285.809	260058.975	10/15/2019 9:33:41 PM
A25	9J15035-CCV3	200	1.982	9911.887	1081063.64	10/15/2019 9:44:29 PM

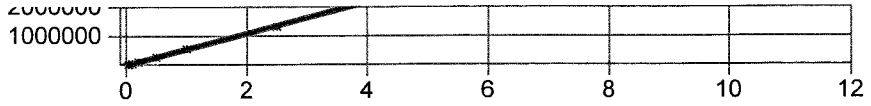
A26	9J15035-CCB3	200	-0.002	-7.728	5729.14	10/15/2019 9:55:16 PM
A27	A9J0058-05RE1	203.8	0.042	204.795	29189.49	10/15/2019 10:06:04 PM
A28	A9J0058-06RE1	198.8	0.036	180.99	26069.35	10/15/2019 10:16:52 PM
A29	A9J0058-07RE1	198	0.138	698.157	81493.69	10/15/2019 10:27:39 PM
A30	A9J0058-08RE1	200.5	0.376	1877.322	210586.555	10/15/2019 10:38:27 PM
A31	A9J0058-09RE1	207	0.066	318.318	42281.94	10/15/2019 10:49:15 PM
A32	A9J0058-12RE1	203.7	0.044	213.854	30178.575	10/15/2019 11:00:02 PM
A33	9100674-DUP3	201.3	0.047	233.387	32031.635	10/15/2019 11:10:49 PM
A34	9100674-DUP4	200.7	0.052	256.809	34503.72	10/15/2019 11:21:37 PM
A35	A9J0058-21RE1	200.7	0.052	258.409	34677.8	10/15/2019 11:32:24 PM
A36	9100674-DUP3	202.2	0.051	253.839	34387.01	10/15/2019 11:43:12 PM
A37	9J15035-CCV4	200	2.017	10083.723	1099691.59	10/15/2019 11:53:59 PM
A38	9J15035-CCB4	200	-0.003	-15.616	4874.06	10/16/2019 12:04:47 AM
A39	9100674-DUP4	204.9	0.063	308.104	40785.24	10/16/2019 12:15:34 AM
A40	A9J0058-22RE1	201.6	0.102	508.086	62086.52	10/16/2019 12:26:22 AM
A41	A9J0058-23RE1	199.1	0.106	531.679	63944.175	10/16/2019 12:37:09 AM
A42	A9J0058-24RE1	205.1	0.128	624.062	75943.33	10/16/2019 12:48:11 AM
A43	A9J0058-25RE1	204.2	0.048	234.811	32556.1	10/16/2019 12:59:05 AM
A44	A9J0058-26RE1	204.4	0.055	268.061	36265.375	10/16/2019 1:10:00 AM
A45	9J15035-CCV5	200	1.996	9981.046	1088560.84	10/16/2019 1:20:54 AM
A46	9J15035-CCB5	200	-0.004	-18.372	4575.335	10/16/2019 1:31:49 AM
A97	clean ceramic cup	200	-0.012	-60.578	0	10/16/2019 1:42:44 AM
A98	clean ceramic cup	200	-0.012	-60.578	0	10/16/2019 1:53:46 AM
A99	clean ceramic cup	200	-0.012	-60.578	0	10/16/2019 2:04:47 AM
A100	clean ceramic cup	200	0.001	7.047	7330.87	10/16/2019 2:15:49 AM

10/16/19



SNACCESS
RUN NAME : SN10020191007A0 METHOD NAME : TCDIRECT CALIBRATION TYPE : ISO FIRST ORDER GROUP : 1
A = 6566.91463860404000 B = 542024.32072860200000 R = 0.99990839338722 R-SQUARED = 0.99981679516622




2000000
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12

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

Conventional Chemistry Parameters
Total Organic Carbon (EPA 9060A mod)
Calibration Data

Sequence 8B02022 (Cal ID A8B0203) TOC

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	8B02022	Instrument:	TOC
Date:	02/02/18 10:15	Calibration:	A8B0203

Order	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	8B02022-CAL1	Soil	QC	QC				
2	8B02022-CAL2	Soil	QC	QC				A18B030
3	8B02022-CAL3	Soil	QC	QC				A18B029
4	8B02022-CAL4	Soil	QC	QC				A18B028
5	8B02022-CAL5	Soil	QC	QC				A18B027
6	8B02022-CAL6	Soil	QC	QC				A18B026
7	8B02022-CAL7	Soil	QC	QC				A18B025
8	8B02022-CAL8	Soil	QC	QC				A18B024
9	8B02022-CAL9	Soil	QC	QC				A18B023
10	8B02022-CALA	Soil	QC	QC				A18B022
11	8B02022-CALB	Soil	QC	QC				A18B021
12	8B02022-ICV1	Soil	QC	QC				A18B031
13	8B02022-ICB1	Soil	QC	QC				
14	8B02022-ICV2	Soil	QC	QC				A18B031
15	8B02022-ICB2	Soil	QC	QC				

Data Entered By: JKP 2-2-18

Comments:

Data Reviewed By: JCS 2/14/18

2/2/2018 5:40:11PM

TOC Data

Sample ID	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
8B02022-CAL1	1	20	1.847	6.89	344.50	323	
	2	20	1.106	6.2	309.77		
	3	20	1.192	6.28	313.81		
[redacted]	1	20.0	14.4	18.2	909.78	[redacted]	
	2	20.0	16.65	20.13	1,006.70		
	3	20.0	15.74	19.35	967.66		
[redacted]	1	20.0	44.37	42.07	2,103.69	[redacted]	
	2	20.0	48.3	44.93	2,246.27		
	3	20.0	47.81	44.57	2,228.65		
[redacted]	1	20.0	123.9	92.03	4,601.40	[redacted]	
	2	20.0	131.8	96.53	4,826.34		
	3	20.0	132.4	96.87	4,843.42		
[redacted]	1	20.0	278.8	204.47	10,223.57	[redacted]	
	2	20.0	287.6	214.05	10,702.70		
	3	20.0	284.1	210.18	10,508.98		
[redacted]	1	20.0	350.7	300.44	15,022.06	[redacted]	
	2	20.0	345	291.2	14,560.12		
	3	20.0	361	317.95	15,897.40		
[redacted]	1	20.0	399.1	392.54	19,626.76	[redacted]	
	2	20.0	402.2	399.33	19,966.67		
	3	20.0	410.3	417.65	20,882.38		

TOC Data

Sample ID	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
8B02022-CAL8	1	20.0	437.8	486.05	24,302.72	24,424	
	2	20.0	440.9	494.4	24,719.83		
	3	20.0	437.4	484.99	24,249.38		
8B02022-CAL9	1	20.0	473.2	589.45	29,472.51	29,844	
	2	20.0	473.6	590.72	29,536.19		
	3	20.0	479.7	610.45	30,522.56		
8B02022-CAL10	1	20.0	503.7	693.77	34,688.41	34,786	
	2	20.0	504.4	696.34	34,816.94		
	3	20.0	504.6	697.07	34,853.73		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
8B02022-CAL11	1	20	529.100	792.36	39,618.21	40,444	
	2	20	532.500	806.41	40,320.67		
	3	20	537.600	827.87	41,393.75		
8B02022-ICV1	1	20.0	298.2	226.32	11,315.89	11,747	
	2	20.0	312	243.55	12,177.38		
	3			5.15	#DIV/0!		
8B022-ICB1	1	20.0	0	5.15	257.64	258	
	2	20.0	0	5.15	257.64		
	3			5.15	#DIV/0!		
8B02022-ICV2	1	20.0	277.9	203.52	10,176.04	10,428	
	2	20.0	287.2	213.61	10,680.34		
	3			5.15	#DIV/0!		
8B02022-ICB2	1	20.0	0	5.15	257.64	258	
	2	20.0	0	5.15	257.64		
	3			5.15	#DIV/0!		

⇒ ICV1 failed high. Reprepped and reanalyzed below as ICV2. JKP 2-2-18

Sequence 8B02022
Batch

TOC Soil data log

Date/Time 2-2-18 @ 1735 ~~1520~~
Analyst JKP JKP 2-2-18

Sample ID	Wt1(mg or ul)**	raw TOC (ug)	Comments
	Wt2(mg or ul)**	raw TOC (ug)	
	Wt3(mg or ul)**	raw TOC (ug)	
8B02022-Cal1	20	1.847	
	20	1.106	
	20	1.192	
8B02022-Cal2	20	14.4	Time Out
	20	16.65	
	20	15.74	
8B02022-Cal3	20	44.37	
	20	48.3	
	20	47.81	
8B02022-Cal4	20	123.9	Time Out
	20	131.8	
	20	132.4	
8B02022-Cal5	20	278.8	
	20	287.6	
	20	284.1	
8B02022-Cal6	20	350.7	Time Out
	20	345	
	20	361	
8B02022-Cal7	20	399.1	Time Out
	20	402.2	
	20	410.3	
8B02022-Cal8	20	437.8	Time Out
	20	440.9	
	20	437.4	

Sample ID	Wt1(mg or ul)**	raw TOC (ug)	Comments
	Wt2(mg or ul)**	raw TOC (ug)	
	Wt3(mg or ul)**	raw TOC (ug)	
8B02022-Cal9	20	473.2	Time Out
	20	473.6	Time Out
	20	479.7	Time Out
8B02022-Cal10A JKP 2-2-18	20	503.7	
	20	504.4	Time Out
	20	504.6	Time Out
8B02022-Cal10B JKP 2-2-18	20	529.1	Time Out
	20	532.5	Time Out
	20	537.6	Time Out
8B02022-ICV1	20	298.2	Time Out
	20	312	Time Out
	JKP 3-2-18 ~~20~~		
8B02022-ICB1	20	0	
	20	0	
	JKP 3-2-18 ~~20~~		
8B02022-ICV2	20	277.9	Time Out
	20	287.2	Time Out
8B02022-ICB2	20	0	
	20	0	

ICV1 failed high. Reprepped and reanalyzed below as ICV2
JKP 2-2-18

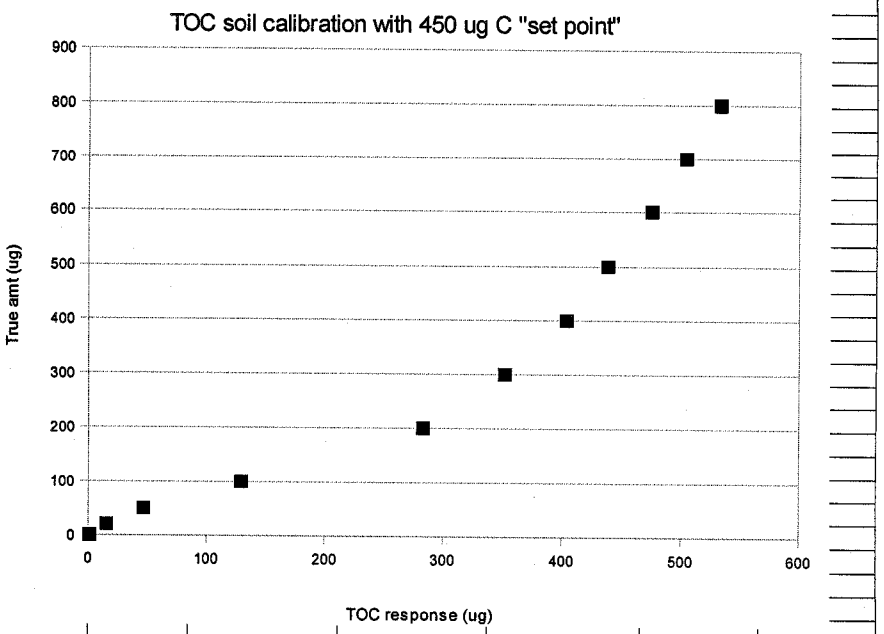
**Sample mass input into instrument as 1000 mg to output actual ug C

Cal Standard	Instrument Reponse	Average Instrument Response
1	1.85	1.38
	1.11	
	1.19	
2	14.4	15.6
	16.65	
	15.74	
3	44.37	46.83
	48.3	
	47.81	
4	123.9	129.37
	131.8	
	132.4	
5	278.8	283.5
	287.6	
	284.1	
6	350.7	352.23
	345	
	361	
7	399.1	403.87
	402.2	
	410.3	
8	437.8	438.7
	440.9	
	437.4	
9	473.2	475.5
	473.6	
	479.7	
10	503.7	504.23
	504.4	
	504.6	
11	529.1	533.07
	532.5	
	537.6	

450 ug curve

TOC resp ug C		True ug C
533.07		800
504.23		700
475.5		600
438.7		500
403.87		400
352.23		300
283.5		200
129.37		100
46.83		50
15.6		20
1.38		0

TOC resp ug C	Requant	% recovery
533.07	808.77	101.1
504.23	695.73	99.39
475.5	596.81	99.47
438.7	488.46	97.69
403.87	403.04	100.76
352.23	302.98	100.99
283.5	209.52	104.76
129.37	95.14	95.14
46.83	43.86	87.73
15.6	19.23	96.15
1.38	6.45	N/A



X (response)	X^2	X^3	y (ug C)
533.07	284160.07	151476261.9	800
504.23	254251.25	128201957.5	700
475.5	226100.25	107510668.9	600
438.7	192457.69	84431188.6	500
403.87	163108.28	65873999.14	400
352.23	124068.32	43700998.31	300
283.5	80372.25	22785532.88	200
129.37	16735.73	2165046.18	100
46.83	2192.74	102678.55	50
15.6	243.26	3793.98	20
1.38	1.91	2.64	0

curve calculations

0.00000740	-0.00289199	0.94586231	5.15285875
0	0	0.14	5.96
0.99945	8.03	#N/A	#N/A
4233.13	7	#N/A	#N/A
818003.66	450.89	#N/A	#N/A

TOC Data

Sample ID	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
8B02022-CAL1	1	20	1.847	6.89	344.50	323	
	2	20	1.106	6.2	309.77		
	3	20	1.192	6.28	313.81		
8B02022-CAL2	1	20.0	14.4	18.2	909.78	961	
	2	20.0	16.65	20.13	1,006.70		
	3	20.0	15.74	19.35	967.66		
8B02022-CAL3	1	20.0	44.37	42.07	2,103.69	2,193	
	2	20.0	48.3	44.93	2,246.27		
	3	20.0	47.81	44.57	2,228.65		
8B02022-CAL4	1	20.0	123.9	92.03	4,601.40	4,757	
	2	20.0	131.8	96.53	4,826.34		
	3	20.0	132.4	96.87	4,843.42		
8B02022-CAL5	1	20.0	278.8	204.47	10,223.57	10,478	
	2	20.0	287.6	214.05	10,702.70		
	3	20.0	284.1	210.18	10,508.98		
8B02022-CAL6	1	20.0	350.7	300.44	15,022.06	15,160	
	2	20.0	345	291.2	14,560.12		
	3	20.0	361	317.95	15,897.40		
8B02022-CAL7	1	20.0	399.1	392.54	19,626.76	20,159	
	2	20.0	402.2	399.33	19,966.67		
	3	20.0	410.3	417.65	20,882.38		

Sample ID	Rep #	Amount (mg or ul)	instrument response (ug C)	Calculated ug C	TOC (mg/kg or mg/l)	Average TOC (mg/kg or mg/l)	Date and Time
8B02022-CAL8	1	20.0	437.8	486.05	24,302.72	24,424	
	2	20.0	440.9	494.4	24,719.83		
	3	20.0	437.4	484.99	24,249.38		
8B02022-CAL9	1	20.0	473.2	589.45	29,472.51	29,844	
	2	20.0	473.6	590.72	29,536.19		
	3	20.0	479.7	610.45	30,522.56		
8B02022-CALA	1	20.0	503.7	693.77	34,688.41	34,786	
	2	20.0	504.4	696.34	34,816.94		
	3	20.0	504.6	697.07	34,853.73		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
	1			5.15	#DIV/0!	#DIV/0!	
	2			5.15	#DIV/0!		
8B02022-CALB	1	20	529.100	792.36	39,618.21	40,444	
	2	20	532.500	806.41	40,320.67		
	3	20	537.600	827.87	41,393.75		
8B02022-ICV1	1	20.0	298.2	226.32	11,315.89	11,747	
	2	20.0	312	243.55	12,177.38		
	3			5.15	#DIV/0!		
8B022-ICB1	1	20.0	0	5.15	257.64	258	
	2	20.0	0	5.15	257.64		
	3			5.15	#DIV/0!		
8B02022-ICV2	1	20.0	277.9	203.52	10,176.04	10,428	
	2	20.0	287.2	213.61	10,680.34		
	3			5.15	#DIV/0!		
8B02022-ICB2	1	20.0	0	5.15	257.64	258	
	2	20.0	0	5.15	257.64		
	3			5.15	#DIV/0!		

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

Conventional Chemistry Parameters
Total Organic Carbon (EPA 9060A mod)
Calibration Data

Sequence 9J07031 (Cal ID A9J0704) TOC6

APEX LABORATORIES

ELEMENT SEQUENCE LOG

Apex Laboratories

OCT 18 2019

Sequence: **9J07031** Instrument: **TOC6**

Date: **10/07/19 09:41** Calibration: **A9J0704**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9J07031-CAL1	Water	QC	QC				
2	9J07031-CAL2	Water	QC	QC				A19J102
3	9J07031-CAL3	Water	QC	QC				A19J103
4	9J07031-CAL4	Water	QC	QC				A19J104
5	9J07031-CAL5	Water	QC	QC				A19J105
6	9J07031-CAL6	Water	QC	QC				A19J106
7	9J07031-CAL7	Water	QC	QC			A195259 10/16/19	~~A19J107~~
8	9J07031-CAL8	Water	QC	QC				A19J108
9	9J07031-CAL9	Water	QC	QC				A19J109
10	9J07031-ICV1	Water	QC	QC				A19J074
11	9J07031-ICB1	Water	QC	QC				

Data Entered By: CMC 10/8/19

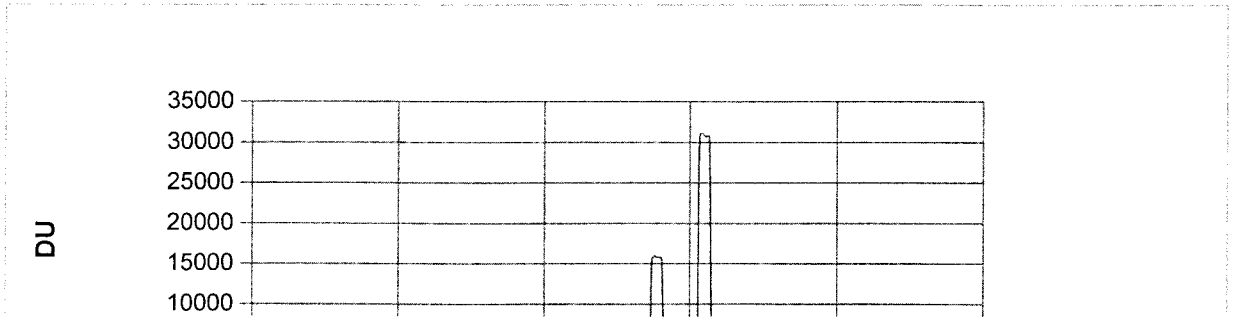
Data Reviewed By: AMF 10/16/19

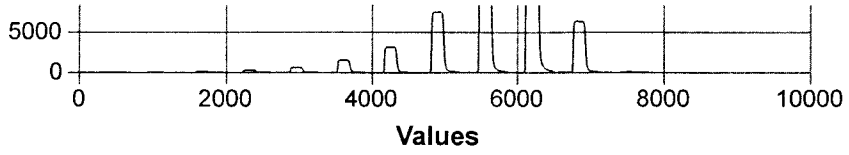
Comments: Data Entered manually. CMC 10/11/19

Method:	TCDirect	Run Start Time:	10/7/2019 9:58:11 AM
Method Type:	TC_DIRECT	Run End Time:	10/7/2019 12:13:21 PM
Table:	9J07031	Device ID:	0
Analyst:	Administrator	Run Name:	SN10020191007A0

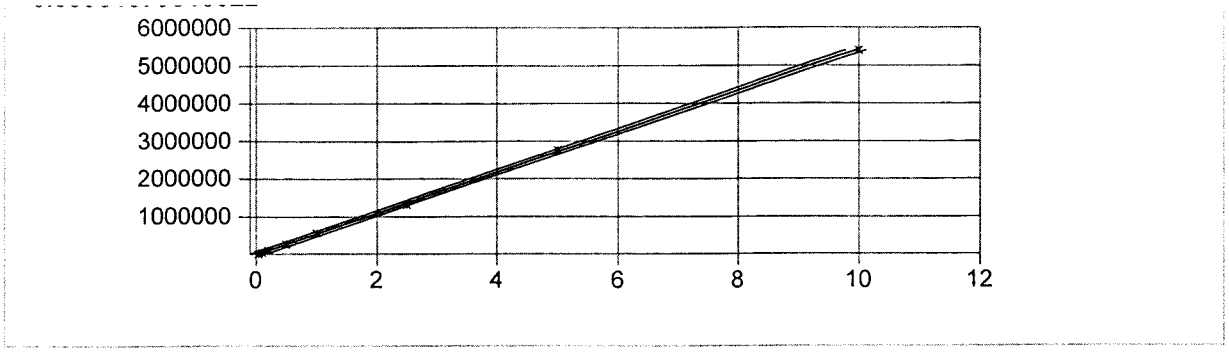
Cup Position	Sample ID	Weight (mg)	Result mg C abs	Final Result (%)	Peak Area	Analysed Date and time
A99	Unknown	1	0	-0.019	6463.49	10/7/2019 9:58:22 AM
A1	Unknown	200	-0.006	-0.003	3447.32	10/7/2019 10:09:23 AM
A2	A19J101	40	0.033	0.082	24264.29	10/7/2019 10:20:17 AM
A3	A19J101	100	0.094	0.094	57479.13	10/7/2019 10:31:04 AM
A4	A19J101	200	0.194	0.097	111785.88	10/7/2019 10:41:51 AM
A5	A19I352	50	0.498	0.996	276548.41	10/7/2019 10:52:38 AM
A6	A19I352	100	1.025	1.025	562090.89	10/7/2019 11:03:25 AM
A7	A19I352	250	2.433	0.973	1325528.47	10/7/2019 11:14:12 AM
A8	A19I352	500	5.097	1.019	2769190.59	10/7/2019 11:24:59 AM
A9	A19I352	1000	9.966	0.997	5408398.02	10/7/2019 11:35:47 AM
A10	9J07031-ICV1	200	2.044	1.022	1114655.58	10/7/2019 11:46:34 AM
A11	9J07031-ICB1	200	0.021	0.01	17895.03	10/7/2019 11:57:21 AM

Element
165
470
970
2490
5125
12165
25485
49830
102200
105

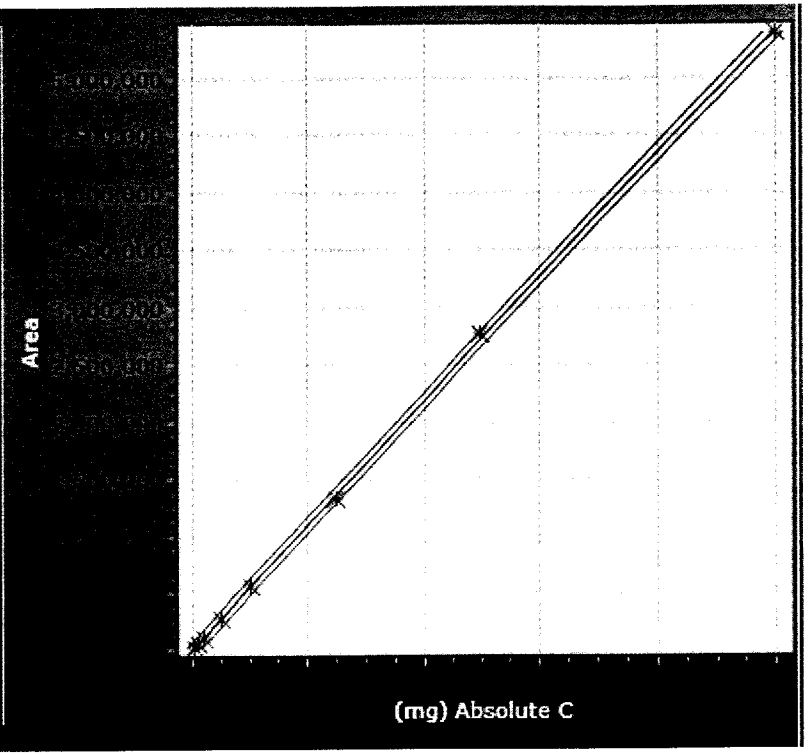




SNAccess
Method Name : TCDirect Calibration Type : ISO First order Group : 1
a = 6566.91463860404000 b = 542024.32072860200000 r = 0.99990839338722 R-Squared = 0.99981679516622


6000000
5000000
4000000
3000000
2000000
1000000
0
2
4
6
8
10
12

Description	Values
	TCDirect
	6566.91463860404000
	542024.32072860200000
	0.99990839338722 ✓
	0.99981679516622 ✓
	27745.19807823610000
	0.05118810543582
	2.11739836342598
	0.26366268700280
	0.39511550987555
	ISO First order
	1
	9J07031
	4
	8



Calibration is ID'd in sKalar software by Element Seq. ID. 9J07031.

CMF 10/11/19

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

Percent Dry Weight (EPA 8000C)
Benchsheet Data

Batch 9091471 (A9I0922-01,02,04,05,07,08,09,10,11,12,13, 14,15,16,17,18,19,20,21)

APEX LABORATORIES

Apex Laboratories

PREPARATION BENCH SHEET

Percent Solids + Dry Weight Worksheet

BATCH #: 9091471 (Matrix: Sediment)

Lab Number	Analysis	QC Source ID	Prepared (Time In)	Weighed (Time Out)	Tare Wt. (g)	Wet Weight (+Tare) (g)	Dry Weight (+Tare) (g)	% Solids (Calc)	LogComments
A9I0922-01	Dry Weight		09/30/19 16:56		1.263	26.677	23.542	87.7	Use Results from TS. Make NR once completed.
A9I0922-01	Solids, Total (SM 254		09/30/19 16:56		1.263	26.677	23.542	87.7	Use Result for Dry Weight.
9091471-DUP2	QC	A9I0922-01	09/30/19 16:56		1.256	27.562	24.319	87.7	
A9I0922-02	Dry Weight		09/30/19 16:56		1.263	28.513	24.223	84.3	Use Results from TS. Make NR once completed.
A9I0922-02	Solids, Total (SM 254		09/30/19 16:56		1.263	28.513	24.223	84.3	Use Result for Dry Weight.
A9I0922-03	Dry Weight		09/30/19 16:56		1.252	28.265	22.356	78.1	Use Results from TS. Make NR once completed.
A9I0922-03	Solids, Total (SM 254		09/30/19 16:56		1.252	28.265	22.356	78.1	Use Result for Dry Weight.
A9I0922-04	Dry Weight		09/30/19 16:56		1.26	26.152	23.442	89.1	Use Results from TS. Make NR once completed.
A9I0922-04	Solids, Total (SM 254		09/30/19 16:56		1.26	26.152	23.442	89.1	Use Result for Dry Weight.
A9I0922-05	Dry Weight		09/30/19 16:56		1.259	26.248	23.003	87.0	Use Results from TS. Make NR once completed.
A9I0922-05	Solids, Total (SM 254		09/30/19 16:56		1.259	26.248	23.003	87.0	Use Result for Dry Weight.
A9I0922-07	Dry Weight		09/30/19 16:56		1.251	28.096	20.93	73.3	Use Results from TS. Make NR once completed.
A9I0922-07	Solids, Total (SM 254		09/30/19 16:56		1.251	28.096	20.93	73.3	Use Result for Dry Weight.
A9I0922-08	Dry Weight		09/30/19 16:56		1.261	28.274	20.912	72.7	Use Results from TS. Make NR once completed.
A9I0922-08	Solids, Total (SM 254		09/30/19 16:56		1.261	28.274	20.912	72.7	Use Result for Dry Weight.
A9I0922-09	Dry Weight		09/30/19 16:56		1.262	28.9	24.682	84.7	Use Results from TS. Make NR once completed.
A9I0922-09	Solids, Total (SM 254		09/30/19 16:56		1.262	28.9	24.682	84.7	Use Result for Dry Weight.
9091471-DUP1	QC	A9I0922-09	09/30/19 16:56		1.263	27.75	23.724	84.8	
A9I0922-10	Dry Weight		09/30/19 16:56		1.274	28.536	25.162	87.6	Use Results from TS. Make NR once completed.
A9I0922-10	Solids, Total (SM 254		09/30/19 16:56		1.274	28.536	25.162	87.6	Use Result for Dry Weight.
A9I0922-11	Dry Weight		09/30/19 16:56		1.253	27.558	21.213	75.9	Use Results from TS. Make NR once completed.
A9I0922-11	Solids, Total (SM 254		09/30/19 16:56		1.253	27.558	21.213	75.9	Use Result for Dry Weight.

NRP 10/1/19
Prepared By: Date

James S. Simpson 10/07/19
Reviewed By: Date

APEX LABORATORIES

Apex Laboratories

PREPARATION BENCH SHEET

Percent Solids + Dry Weight Worksheet

BATCH #: 9091471 (Matrix: Sediment)

Lab Number	Analysis	QC Source ID	Prepared (Time In)	Weighed (Time Out)	Tare Wt. (g)	Wet Weight (+Tare) (g)	Dry Weight (+Tare) (g)	% Solids (Calc)	LogComments
A9I0922-12	Dry Weight		09/30/19 16:56		1.246	26.71	22.339	82.8	Use Results from TS. Make NR once completed.
A9I0922-12	Solids, Total (SM 254		09/30/19 16:56		1.246	26.71	22.339	82.8	Use Result for Dry Weight.
A9I0922-13	Dry Weight		09/30/19 16:56		1.253	28.384	20.508	71.0	Use Results from TS. Make NR once completed.
A9I0922-13	Solids, Total (SM 254		09/30/19 16:56		1.253	28.384	20.508	71.0	Use Result for Dry Weight.
A9I0922-14	Dry Weight		09/30/19 16:56		1.253	26.255	23.434	88.7	Use Results from TS. Make NR once completed.
A9I0922-14	Solids, Total (SM 254		09/30/19 16:56		1.253	26.255	23.434	88.7	Use Result for Dry Weight.
A9I0922-15	Dry Weight		09/30/19 16:56		1.255	26.916	22.982	84.7	Use Results from TS. Make NR once completed.
A9I0922-15	Solids, Total (SM 254		09/30/19 16:56		1.255	26.916	22.982	84.7	Use Result for Dry Weight.
A9I0922-16	Dry Weight		09/30/19 16:56		1.249	27.864	21.567	76.3	Use Results from TS. Make NR once completed.
A9I0922-16	Solids, Total (SM 254		09/30/19 16:56		1.249	27.864	21.567	76.3	Use Result for Dry Weight.
A9I0922-17	Dry Weight		09/30/19 16:56		1.251	26.149	17.703	66.1	Use Results from TS. Make NR once completed.
A9I0922-17	Solids, Total (SM 254		09/30/19 16:56		1.251	26.149	17.703	66.1	Use Result for Dry Weight.
A9I0922-18	Dry Weight		09/30/19 16:56		1.256	26.966	20.498	74.8	Use Results from TS. Make NR once completed.
A9I0922-18	Solids, Total (SM 254		09/30/19 16:56		1.256	26.966	20.498	74.8	Use Result for Dry Weight.
A9I0922-19	Dry Weight		09/30/19 16:56		1.257	26.682	20.581	76.0	Use Results from TS. Make NR once completed.
A9I0922-19	Solids, Total (SM 254		09/30/19 16:56		1.257	26.682	20.581	76.0	Use Result for Dry Weight.
A9I0922-20	Dry Weight		09/30/19 16:56		1.248	26.565	19.962	73.9	Use Results from TS. Make NR once completed.
A9I0922-20	Solids, Total (SM 254		09/30/19 16:56		1.248	26.565	19.962	73.9	Use Result for Dry Weight.
A9I0922-21	Dry Weight		09/30/19 16:56		1.253	28.092	19.067	66.4	Use Results from TS. Make NR once completed.
A9I0922-21	Solids, Total (SM 254		09/30/19 16:56		1.253	28.092	19.067	66.4	Use Result for Dry Weight.

NRP 10/1/19

Prepared By: Date

Reviewed By: Date

Batch #: 9091471

Analyst: nrp

Total Solids Worksheet

Method: SM 2540 G

Date: 9/30/2019

Sample ID	Tare Wt. (g)	Vessel ID	Initial (wet) Wt. (g)	Final Weight (g)			Comments
				1st weighing	2nd Weighing	3rd Weighing	
A9I0922-01	1.263	922-01	26.677	23.576	23.542		
9091471-DUP2	1.256	922-01 DUP	27.562	24.352	24.319		source: A9I0922-01
A9I0922-02	1.263	922-02	28.513	24.254	24.223		
A9I0922-03	1.252	922-03	28.265	22.395	22.356		
A9I0922-04	1.260	922-04	26.152	23.478	23.442		
A9I0922-05	1.259	922-05	26.248	23.035	23.003		
A9I0922-07	1.251	922-07	28.096	20.964	20.930		
A9I0922-08	1.261	922-08	28.274	20.946	20.912		
A9I0922-09	1.262	922-09	28.900	24.715	24.682		
9091471-DUP1	1.263	922-09 DUP	27.750	23.755	23.724		source: A9I0922-09
A9I0922-10	1.274	922-10	28.536	25.194	25.162		
A9I0922-11	1.253	922-11	27.558	21.250	21.213		
A9I0922-12	1.246	922-12	26.710	22.372	22.339		
A9I0922-13	1.253	922-13	28.384	20.537	20.508		
A9I0922-14	1.253	922-14	26.255	23.459	23.434		
A9I0922-15	1.255	922-15	26.916	23.019	22.982		
A9I0922-16	1.249	922-16	27.864	21.597	21.567		
A9I0922-17	1.251	922-17	26.149	17.726	17.703		
A9I0922-18	1.256	922-18	26.966	20.523	20.498		
A9I0922-19	1.257	922-19	26.682	20.619	20.581		
A9I0922-20	1.248	922-20	26.565	19.986	19.962		
A9I0922-21	1.253	922-21	28.092	19.087	19.067		
Date/time first in oven:		**Oven temp. (°C; in/out):**		**104/104.1**	**104.1/104.1**	**/**	
9/30/19@19:30		**Time of weighing:**		10/1@10:25	10/1@14:25		

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

Balance Checksheets

Extractions October 2019
Dry Weight September 2019
Wet Chem October 2019
Metals October 2019
Sample Rec. September 2019
Sample Rec. October 2019

Balance Challenge Log

Extractions
AND FX-2000
ID# 5210177

Weight ID	weight (g)	acceptance range (g)	
	=/<1g	± 0.02g	
	>1g	± 2%	
10077	0.5g	0.48	0.52
1000143395	300g	294.00	306.00

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Alternate Weight/ID used:

Date Range:

Month: October
Year: 2019

Day/Time	Initials	Weight One	Observed	Weight Two	Observed
1 10:55	[illegible]		0.50		299.98
2 7:25	JAG		.50		299.97
3 0700	AJJ		0.49		300.00
4 0712	AJJ		0.50		299.96
5 0925	AJJ		0.51		299.99
6 07:50	JAG		.50		299.97
7 07:05	JAG		.50		299.99
8 08:30	JAG		.50		299.98
9 10:45	JAG		.50		299.98
10 0701	AJJ		0.51		299.99
11 0635	AJJ		0.50		299.97
12 900	JC		0.50		299.97
13 9:25	[illegible]		0.49		299.97
14 0636	AJJ		0.50		299.97
15 07:30	JAG		.51		299.95
16 0644	AJJ	0.50g	0.50	300.00g	299.97
17 07:40	JAG		.49		299.96
18 07:38	JAG		.50		299.98
19 09:10	JAG		.48		299.98
20					
21 07:20	JAG		.49		299.97
22 10:05	JC		0.49		299.97
23 0639	AJJ		0.50		299.97
24 0704	AJJ		0.49		299.97
25 07:10	JAG		.52		299.98
26 09:24	Cas		0.51		299.98
27			~~0.51~~		~~299.99~~ AJJ 10/28
28 0718	AJJ		0.51		299.99
29 0736	AJJ		0.52		299.98
30 07:20	JAG		.49		299.98
31 0712	AJJ		0.49		299.97

Balance Challenge Log

Dry Wt Balance 3
Mettler PG403-S
ID# 1120240743

Weight ID	weight (g)	acceptance range (g)	
	=/<1g	± 0.02g	
	>1g	± 2%	
10077	0.5g	0.480	0.520
10077 and 02-J60965-11	100g (50+50)	98.000	102.000

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: September
Year: 2019

Alternate Weight/ID used:

Date Range:

Day/Time	Initials	Weight One	Observed	Weight Two	Observed
1					
2					
3 0800	MEB		0.499		100.002
4 0730	MEB		0.501		100.002
5 0725	~~AOO~~		0.502		100.000
6 0755	MEB		0.498		100.072
7					
8					
9 0710	MEB		0.503		100.220
10 0705	MEB		0.501		100.000
11 0750	MEB		0.499		100.006
12 0725	MEB		0.498		99.999
13 0800	MEB		0.500		99.798
14					
15					
16 0800	MEB	0.50g	0.496	100.00g	100.000
17 0720	MEB		0.502		100.046
18 0730	MEB		0.498		100.003
19 0730	MEB		0.501		99.998
20 0700	MEB		0.500		100.000
21 ~~0740~~	~~MEB~~		~~0.499~~		~~100.011~~ ← wrong day
22					
23 0740	MEB		0.499		100.011 → corrected 9/24/19 MEB
24 0755	MEB		0.504		100.005
25 0730	MEB		0.498		100.003
26 0745	MEB		0.499		100.006
27 0800	MEB		0.501		100.000
28					
29					
30 0715	MEB		0.498		99.999
31					

Balance Challenge Log

Wet Chem Balance 1
Ohaus Adventurer Pro
ID# 8C30461093

Weight ID	weight (g)	acceptance range (g)	
	<0.5000g	± 0.5mg	
	>/=0.5000g	± 0.1%	
1000015949	0.005g	0.0045	0.0055
66067	0.100g	0.0995	0.1005
66067	100g	99.9000	100.1000

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: Oct
Year: 2019

Alternate Weight/ID used:

Date Range:

Day/Time	Initials	Weight 1	Observed	Weight 2	Observed	Weight 3	Observed
1 09:02	MRF		100.0031		0.1000		0.0051
2 0830	MRF		100.0023		0.1000		0.0050
3 0802	MRF		100.0013		0.1000		0.0050
4 1625	MAS		100.0015		0.0999		0.0051
5							
6							
7 10:07	MRF		100.0017		0.1001		0.0051
8 8:00	MRF		100.0017		.1000		0.0050
9 9:29	MRF		100.0018		0.1001		0.0051
10 9:01	MRF		100.0011		0.1000		0.0049
11 12:50	MAS		100.0007		0.1000		0.0049
12							
13							
14 9:54	MRF		100.0006		0.1001		0.0051
15 9:17	MRF		100.0007		0.1000		0.0050
16 10:21	MRF	100.0000g	100.0006	0.1000g	0.1000	.0050g	0.0050
17 9:15	MRF		100.0008		0.1000		0.0051
18							
19							
20							
21 12:09	MRF		100.0016		0.1000		0.0050
22 08:44	MRF		100.0017		0.1000		0.0050
23 09:31	MRF		100.0018		0.1002		0.0051
24 08:24	MRF		100.0013		0.1000		0.0050
25							
26							
27							
28 10:06	MRF		100.0008		0.1000		0.0049
29 10:25	MRF		100.0001		0.1000		0.0050
30 10:00	MRF		99.9996		0.1001		0.0049
31 10:19	MRF		99.9998		0.1000		0.0050

Balance Challenge Log

Dredd
Intelli-lab PC-6001
ID# 190408014

Weight ID	weight (g) =/<1g >1g	acceptance range (g) ± 0.02g ± 2%	
03-J68814-10	10.0	9.8	10.2
15477	200.0	196.0	204.0
15477 + 1000139353	1 kg + 2kg	2940.0	3060.0

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: October
Year: 2019

Alternate Weight/ID used: | Date Range:

Day/Time	Initials	Weight 1	Observed	Weight 2	Observed	Weight 3	Observed
1							
2 820	ICT		10.0		200.1		3002.4
3			~~10.0~~		~~200.0~~	MJG 10/7/19	~~3002.6~~
4							
5							
6							
7 803	MJG		10.0		200.0		3002.6
8 0902	MJG		10.0		200.1		3002.4
9 800	ICT		9.9		200.1		3002.3
10 735	MJG		9.9		200.1		3002.2
11 800	ICT		9.9		200.1		3002.1
12							
13							
14 805	MJG		10.0		200.1		3002.1
15 800	ICT		9.9		200.1		3002.2
16 7415	ICT	10.0 g	10.0	200.0 g	200.1	3000.0 g	3002.4
17 804	ICT		9.9		200.1		3002.4
18 800	ICT		10.0		200.1		3002.4
19 ~~805~~	ICT		~~10.0~~		~~200.1~~		3002.4 ICT 10/11/19
20							
21 ~~805~~	ICT		10.0		200.1		3002.4
22 828	MJG		10.0		200.1		3002.5
23 800	ICT		9.9		200.1		3002.5
24 810	MJG		9.9		200.1		3002.3
25 819	MJG		10.0		200.0		3002.3
26							
27							
28 820	ICT		9.9		200.1		3002.3
29 800	ICT		10.0		200.8		3001.8
30 ~~750~~	ICT		10.0		200.0		3001.9
31 740	ICT		10.0		200.1		3001.9

Balance Challenge Log

BalanceName
Lady Justice
S/N 593312

Weight ID	weight (g) =/<1g >1g	acceptance range (g) ± 0.02g ± 2%	
10660	0.10g	0.08	0.12
10581	50.00g	49.00	51.00
15477	500.00g	490.00	510.00

If other than as listed above, the weight and tracking ID of the mass used to challenge the balance must be recorded.

Month: October
Year: 2019

Alternate Weight/ID used:

Date Range:

Day/Time	Initials	Weight 1	Observed	Weight 2	Observed	Weight 3	Observed
1 9:10	[illegible]		0.10		49.98	ONLY	499.80 TAEJ 10-1-19 14:26
2 7:40	[illegible]		0.09		49.98	NEEDED	
3 9:00	[illegible]		0.09		49.98	WHEN	
4 7:53	[illegible]		0.10		49.98	WEIGHING	
5 9:10	[illegible]		0.09		49.98	OVER	
6						50 g	
7 7:00	[illegible]		0.10		49.98	KEPT	499.76 TAEJ 10-7-19
8 8:07	[illegible]		0.09		49.97	IN METALS	
9 8:10	[illegible]		0.09		49.97	DEPT.	
10 8:20	[illegible]		0.09		49.98		
11 7:37	TAEJ		0.10		49.98	500.00g	
12 11:05	[illegible]		0.10		49.98		
13							
14 8:20	[illegible]		0.10		49.97		
15 9:00	[illegible]		0.10		49.98		
16 7:45	[illegible]	0.10g	0.10	50.00g	49.98		499.81 499.76 KJ 10/17 10:23
17 10:00	JS		0.10		49.98		
18 7:31	[illegible]		0.09		49.98		
19 9:30	[illegible]		0.10		49.98		
20			~~0.10~~ 20 opela				
21 10:00	[illegible]		0.10		49.98		
22 9:16	[illegible]		0.10		49.98		
23 8:26	[illegible]		0.10		49.97		
24 8:27	[illegible]		0.09		49.98		
25 7:38	[illegible]		0.09		49.98		
26 8:51	[illegible]		0.10		49.97		
27							
28 7:45	[illegible]		0.09		49.98		
29 8:07	[illegible]		0.09		49.97		
30 8:20	[illegible]		0.09		49.98		499.57 KMS 10/30/19 10:00
31 7:46	[illegible]		0.10		49.97		