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

Level IV Data Package for

Hahn and Associates

Mult 802 Pump Test

Apex Laboratories Work Order number:

A9F0860

The information contained in this Data Package is intended solely for the purpose of validating client sample results submitted under the associated Chain of Custody(ies). An effort has been made to remove all traceable non-client data. Any incidental inclusion of non-client data is considered privileged and confidential information. The use of this information for any purpose other than data validation is strictly prohibited, and constitutes a breach of contract.

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

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Analytical Case Narrative

Analytical Case Narrative

Client: Hahn and Associates Date: 10/17/2019
Project: Mult 802 Pump Test
Apex Work Order Number: A9F0860

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

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

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

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

Estella Rieben,
Quality Systems Manager
Apex Laboratories, LLC

Analytical Report

Apex Laboratories, LLC

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

Thursday, July 11, 2019

Rob Ede
Hahn and Associates
434 NW 6th Ave. Suite 203
Portland, OR 97209

RE: A9F0860 - Mult 802 Pump Test - 2708-60F

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 A9F0860, which was received by the laboratory on 6/27/2019 at 12:00:00PM.

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

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

Cooler Receipt Information

(See Cooler Receipt Form for details)

Cooler#1	1.1 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.

Philip Nerenberg, Lab Director

Apex Laboratories, LLC

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Client Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
2708-190626-MULT802-TB	A9F0860-01	Water	06/26/19 06:00	06/27/19 12:00
2708-190626-MULT802-109	A9F0860-02	Water	06/26/19 15:50	06/27/19 12:00

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02)				**Matrix: Water**		**Batch: 9070617**		
Diesel	**7.60**	0.0962	0.192	mg/L	1	07/04/19 05:49	NWTPH-Dx	**F-17**
Oil	**1.54**	0.192	0.385	mg/L	1	07/04/19 05:49	NWTPH-Dx	**F-17**
Surrogate: o-Terphenyl (Surr)		*Recovery: 109 %*		*Limits: 50-150 %*	*1*	*07/04/19 05:49*	*NWTPH-Dx*	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02RE1)				**Matrix: Water**		**Batch: 9061478**		
Gasoline Range Organics	**6.45**	0.500	1.00	mg/L	10	06/28/19 13:21	NWTPH-Gx (MS)	
Surrogate: 4-Bromofluorobenzene (Sur)		*Recovery:*	*99 %*	*Limits: 50-150 %*	*1*	*06/28/19 13:21*	*NWTPH-Gx (MS)*	
1,4-Difluorobenzene (Sur)			*99 %*	*50-150 %*	*1*	*06/28/19 13:21*	*NWTPH-Gx (MS)*	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-TB (A9F0860-01)				**Matrix: Water**		**Batch: 9061358**		
Acetone	ND	---	20.0	ug/L	1	06/27/19 17:08	EPA 8260C	
Acrylonitrile	ND	---	2.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Benzene	ND	---	0.200	ug/L	1	06/27/19 17:08	EPA 8260C	
Bromobenzene	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
Bromochloromethane	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Bromodichloromethane	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Bromoform	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Bromomethane	ND	---	5.00	ug/L	1	06/27/19 17:08	EPA 8260C	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	06/27/19 17:08	EPA 8260C	
n-Butylbenzene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
sec-Butylbenzene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
tert-Butylbenzene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Carbon disulfide	ND	---	10.0	ug/L	1	06/27/19 17:08	EPA 8260C	
Carbon tetrachloride	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Chlorobenzene	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
Chloroethane	ND	---	5.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Chloroform	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Chloromethane	ND	---	5.00	ug/L	1	06/27/19 17:08	EPA 8260C	
2-Chlorotoluene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
4-Chlorotoluene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Dibromochloromethane	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
Dibromomethane	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	

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Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-TB (A9F0860-01)				**Matrix: Water**		**Batch: 9061358**		
1,2-Dichloropropane	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Ethylbenzene	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	06/27/19 17:08	EPA 8260C	
2-Hexanone	ND	---	10.0	ug/L	1	06/27/19 17:08	EPA 8260C	
Isopropylbenzene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Methylene chloride	ND	---	3.00	ug/L	1	06/27/19 17:08	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	06/27/19 17:08	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Naphthalene	ND	---	2.00	ug/L	1	06/27/19 17:08	EPA 8260C	
n-Propylbenzene	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
Styrene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
Toluene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
Vinyl chloride	ND	---	0.400	ug/L	1	06/27/19 17:08	EPA 8260C	
m,p-Xylene	ND	---	1.00	ug/L	1	06/27/19 17:08	EPA 8260C	
o-Xylene	ND	---	0.500	ug/L	1	06/27/19 17:08	EPA 8260C	

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-TB (A9F0860-01)				**Matrix: Water**		**Batch: 9061358**		
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*105 %*	*Limits: 80-120 %*	*1*	*06/27/19 17:08*	*EPA 8260C*	
Toluene-d8 (Surr)			*102 %*	*80-120 %*	*1*	*06/27/19 17:08*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*101 %*	*80-120 %*	*1*	*06/27/19 17:08*	*EPA 8260C*	
2708-190626-MULT802-109 (A9F0860-02RE1)				**Matrix: Water**		**Batch: 9061478**		
Acetone	ND	---	200	ug/L	10	06/28/19 13:21	EPA 8260C	
Acrylonitrile	ND	---	20.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Benzene	**365**	---	2.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Bromobenzene	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Bromochloromethane	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Bromodichloromethane	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Bromoform	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Bromomethane	ND	---	50.0	ug/L	10	06/28/19 13:21	EPA 8260C	
2-Butanone (MEK)	ND	---	100	ug/L	10	06/28/19 13:21	EPA 8260C	
n-Butylbenzene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
sec-Butylbenzene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
tert-Butylbenzene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Carbon disulfide	ND	---	100	ug/L	10	06/28/19 13:21	EPA 8260C	
Carbon tetrachloride	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Chlorobenzene	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Chloroethane	ND	---	50.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Chloroform	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Chloromethane	ND	---	50.0	ug/L	10	06/28/19 13:21	EPA 8260C	
2-Chlorotoluene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
4-Chlorotoluene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Dibromochloromethane	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,2-Dibromo-3-chloropropane	ND	---	50.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,2-Dibromoethane (EDB)	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Dibromomethane	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,2-Dichlorobenzene	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
1,3-Dichlorobenzene	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
1,4-Dichlorobenzene	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Dichlorodifluoromethane	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,1-Dichloroethane	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02RE1)				**Matrix: Water**		**Batch: 9061478**		
1,2-Dichloroethane (EDC)	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
1,1-Dichloroethene	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
cis-1,2-Dichloroethene	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
trans-1,2-Dichloroethene	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
1,2-Dichloropropane	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
1,3-Dichloropropane	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
2,2-Dichloropropane	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,1-Dichloropropene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
cis-1,3-Dichloropropene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
trans-1,3-Dichloropropene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Ethylbenzene	**19.6**	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Hexachlorobutadiene	ND	---	50.0	ug/L	10	06/28/19 13:21	EPA 8260C	
2-Hexanone	ND	---	100	ug/L	10	06/28/19 13:21	EPA 8260C	
Isopropylbenzene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
4-Isopropyltoluene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Methylene chloride	ND	---	30.0	ug/L	10	06/28/19 13:21	EPA 8260C	
4-Methyl-2-pentanone (MiBK)	ND	---	100	ug/L	10	06/28/19 13:21	EPA 8260C	
Methyl tert-butyl ether (MTBE)	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Naphthalene	**1520**	---	20.0	ug/L	10	06/28/19 13:21	EPA 8260C	
n-Propylbenzene	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Styrene	**23.7**	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,1,1,2-Tetrachloroethane	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
1,1,2,2-Tetrachloroethane	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Tetrachloroethene (PCE)	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Toluene	**156**	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,2,3-Trichlorobenzene	ND	---	20.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,2,4-Trichlorobenzene	ND	---	20.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,1,1-Trichloroethane	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
1,1,2-Trichloroethane	ND	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Trichloroethene (TCE)	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Trichlorofluoromethane	ND	---	20.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,2,3-Trichloropropane	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
1,2,4-Trimethylbenzene	**24.8**	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02RE1)				**Matrix: Water**		**Batch: 9061478**		
1,3,5-Trimethylbenzene	ND	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
Vinyl chloride	ND	---	4.00	ug/L	10	06/28/19 13:21	EPA 8260C	
m,p-Xylene	**67.0**	---	10.0	ug/L	10	06/28/19 13:21	EPA 8260C	
o-Xylene	**26.5**	---	5.00	ug/L	10	06/28/19 13:21	EPA 8260C	
Surrogate: 1,4-Difluorobenzene (Surr)		*Recovery:*	*100 %*	*Limits: 80-120 %*	*1*	*06/28/19 13:21*	*EPA 8260C*	
Toluene-d8 (Surr)			*100 %*	*80-120 %*	*1*	*06/28/19 13:21*	*EPA 8260C*	
4-Bromofluorobenzene (Surr)			*98 %*	*80-120 %*	*1*	*06/28/19 13:21*	*EPA 8260C*	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02RE2)				**Matrix: Water**		**Batch: 9070583**		
Acenaphthene	**84.0**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Acenaphthylene	**29.6**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Aniline	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Anthracene	**39.7**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Azobenzene (1,2-DPH)	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Benz(a)anthracene	**25.1**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Benzo(a)pyrene	**29.1**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Benzo(b)fluoranthene	**26.4**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Benzo(k)fluoranthene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Benzo(g,h,i)perylene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Benzoic acid	ND	---	120	ug/L	10	07/03/19 18:58	EPA 8270D	
Benzyl alcohol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Bis(2-Chloroethoxy) methane	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Bis(2-Chloroethyl) ether	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2,2'-Oxybis(1-Chloropropane)	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Bis(2-Ethylhexyl) adipate	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Bis(2-ethylhexyl)phthalate	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
4-Bromophenyl phenyl ether	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Butyl benzyl phthalate	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
Carbazole	**43.7**	---	36.1	ug/L	10	07/03/19 18:58	EPA 8270D	
4-Chloroaniline	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
4-Chloro-3-methylphenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2-Chloronaphthalene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2-Chlorophenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
4-Chlorophenyl phenyl ether	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Chrysene	**28.6**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Dibenz(a,h)anthracene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Dibenzofuran	**45.8**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
1,2-Dichlorobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
1,3-Dichlorobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
1,4-Dichlorobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2,4-Dichlorophenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Di-n-butylphthalate	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02RE2)				**Matrix: Water**		**Batch: 9070583**		
Diethylphthalate	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
Dimethylphthalate	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
2,4-Dimethylphenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
1,2-Dinitrobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
1,3-Dinitrobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
1,4-Dinitrobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
4,6-Dinitro-2-methylphenol	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
2,4-Dinitrophenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2,4-Dinitrotoluene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2,6-Dinitrotoluene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Di-n-octyl phthalate	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
Fluoranthene	**84.8**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Fluorene	**63.7**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Hexachlorobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Hexachlorobutadiene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Hexachlorocyclopentadiene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Hexachloroethane	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Indeno(1,2,3-cd)pyrene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Isophorone	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
1-Methylnaphthalene	**143**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2-Methylnaphthalene	**81.9**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2-Methylphenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
3+4-Methylphenol(s)	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Naphthalene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2-Nitroaniline	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
3-Nitroaniline	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
4-Nitroaniline	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Nitrobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2-Nitrophenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
4-Nitrophenol	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
N-Nitrosodimethylamine	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
N-Nitroso-di-n-propylamine	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
N-Nitrosodiphenylamine	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02RE2)				**Matrix: Water**		**Batch: 9070583**		
Pentachlorophenol (PCP)	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
Phenanthrene	**230**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Phenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Pyrene	**100**	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Pyridine	ND	---	48.1	ug/L	10	07/03/19 18:58	EPA 8270D	
2,3,4,6-Tetrachlorophenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2,3,5,6-Tetrachlorophenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
1,2,4-Trichlorobenzene	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2,4,5-Trichlorophenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
2,4,6-Trichlorophenol	ND	---	24.0	ug/L	10	07/03/19 18:58	EPA 8270D	
Surrogate: Nitrobenzene-d5 (Surr)		*Recovery:*	*73 %*	*Limits: 44-120 %*	*10*	*07/03/19 18:58*	*EPA 8270D*	
2-Fluorobiphenyl (Surr)			*85 %*	*44-120 %*	*10*	*07/03/19 18:58*	*EPA 8270D*	
Phenol-d6 (Surr)			*23 %*	*10-120 %*	*10*	*07/03/19 18:58*	*EPA 8270D*	
p-Terphenyl-d14 (Surr)			*82 %*	*50-133 %*	*10*	*07/03/19 18:58*	*EPA 8270D*	
2-Fluorophenol (Surr)			*42 %*	*19-120 %*	*10*	*07/03/19 18:58*	*EPA 8270D*	
2,4,6-Tribromophenol (Surr)			*118 %*	*43-140 %*	*10*	*07/03/19 18:58*	*EPA 8270D*	*Q-41*

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020A (ICPMS)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02)				**Matrix: Water**				
Batch: 9070523								
Aluminum	**317**	25.0	50.0	ug/L	1	07/03/19 01:56	EPA 6020A	
Antimony	ND	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Arsenic	ND	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Barium	**33.9**	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Beryllium	ND	0.100	0.200	ug/L	1	07/03/19 01:56	EPA 6020A	
Cadmium	ND	0.0400	0.200	ug/L	1	07/03/19 01:56	EPA 6020A	
Chromium	ND	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Copper	ND	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Iron	**1390**	25.0	50.0	ug/L	1	07/03/19 01:56	EPA 6020A	
Lead	**0.317**	0.100	0.200	ug/L	1	07/03/19 01:56	EPA 6020A	
Manganese	**800**	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Mercury	ND	0.0400	0.0800	ug/L	1	07/03/19 01:56	EPA 6020A	
Nickel	**1.18**	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Selenium	ND	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Silver	ND	0.100	0.200	ug/L	1	07/03/19 01:56	EPA 6020A	
Thallium	ND	0.100	0.200	ug/L	1	07/03/19 01:56	EPA 6020A	
Vanadium	**22.5**	0.500	1.00	ug/L	1	07/03/19 01:56	EPA 6020A	
Zinc	**17.8**	2.00	4.00	ug/L	1	07/03/19 01:56	EPA 6020A	

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ANALYTICAL SAMPLE RESULTS

Total Cyanide by Flow Analysis (Aqueous)

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02RE1)				**Matrix: Water**		**Batch: 9070559**		
Cyanide, Total	ND	0.00500	0.00500	mg/L	1	07/02/19 15:19	EPA 335.4	

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ANALYTICAL SAMPLE RESULTS

Available Cyanide by FIA, Ligand Exchange and Amperometric Detection

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02)				**Matrix: Water**		**Batch: 9070536**		
Cyanide, Available	ND	0.00100	0.00200	mg/L	1	07/02/19 09:28	D6888-09	

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ANALYTICAL SAMPLE RESULTS

Free Cyanide by Microdiffusion/Colorimetric Spectrophotometry

Analyte	Sample Result	Detection Limit	Reporting Limit	Units	Dilution	Date Analyzed	Method Ref.	Notes
2708-190626-MULT802-109 (A9F0860-02)				**Matrix: Water**		**Batch: 9061475**		
Cyanide, Free	ND	0.00250	0.00500	mg/L	1	06/28/19 11:34	D4282-02	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070617 - EPA 3510C (Fuels/Acid Ext.)							**Water**					
Blank (9070617-BLK1)			Prepared: 07/03/19 12:55		Analyzed: 07/04/19 04:42							
NWTPH-Dx												
Diesel	ND	0.0909	0.182	mg/L	1	---	---	---	---	---	---	
Oil	ND	0.182	0.364	mg/L	1	---	---	---	---	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 106 %*		*Limits: 50-150 %*		*Dilution: 1x*					
LCS (9070617-BS1)			Prepared: 07/03/19 12:55		Analyzed: 07/04/19 05:04							
NWTPH-Dx												
Diesel	1.11	0.100	0.200	mg/L	1	1.25	---	89	58-115%	---	---	
Surr: o-Terphenyl (Surr)			*Recovery: 106 %*		*Limits: 50-150 %*		*Dilution: 1x*					
LCS Dup (9070617-BSD1)			Prepared: 07/03/19 12:55		Analyzed: 07/04/19 05:27							**Q-19**
NWTPH-Dx												
Diesel	1.14	0.100	0.200	mg/L	1	1.25	---	92	58-115%	3	20%	
Surr: o-Terphenyl (Surr)			*Recovery: 111 %*		*Limits: 50-150 %*		*Dilution: 1x*					

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Philip Nerenberg, Lab Director

Apex Laboratories, LLC

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B									Water			
Blank (9061358-BLK1)			Prepared: 06/27/19 11:30 Analyzed: 06/27/19 13:59									
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 95 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*102 %*	*50-150 %*			*"*					
LCS (9061358-BS2)			Prepared: 06/27/19 11:30 Analyzed: 06/27/19 13:32									
NWTPH-Gx (MS)												
Gasoline Range Organics	0.485	0.0500	0.100	mg/L	1	0.500	---	97	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 99 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*100 %*	*50-150 %*			*"*					
Duplicate (9061358-DUP1)			Prepared: 06/27/19 13:37 Analyzed: 06/27/19 14:53									
QC Source Sample: Non-SDG (A9F0844-06)												
Gasoline Range Organics	**24.8**	0.500	1.00	mg/L	10	---	24.3	---	---	2	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 103 %*	*Limits: 50-150 %*			*Dilution: 1x*					
1,4-Difluorobenzene (Sur)			*105 %*	*50-150 %*			*"*					

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B									Water			
Blank (9061478-BLK1)			Prepared: 06/28/19 09:17		Analyzed: 06/28/19 10:39							
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	0.0500	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 93 %*		*Limits: 50-150 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Sur)			*101 %*		*50-150 %*				*"*			
LCS (9061478-BS2)			Prepared: 06/28/19 09:17		Analyzed: 06/28/19 10:12							
NWTPH-Gx (MS)												
Gasoline Range Organics	0.466	0.0500	0.100	mg/L	1	0.500	---	93	80-120%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 100 %*		*Limits: 50-150 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Sur)			*100 %*		*50-150 %*				*"*			
Duplicate (9061478-DUP1)			Prepared: 06/28/19 10:51		Analyzed: 06/28/19 13:48							
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02RE1)												
NWTPH-Gx (MS)												
Gasoline Range Organics	**6.50**	0.500	1.00	mg/L	10	---	6.45	---	---	0.9	30%	
Surr: 4-Bromofluorobenzene (Sur)			*Recovery: 98 %*		*Limits: 50-150 %*				*Dilution: 1x*			
1,4-Difluorobenzene (Sur)			*99 %*		*50-150 %*				*"*			

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B							**Water**					
Blank (9061358-BLK1)			Prepared: 06/27/19 11:30 Analyzed: 06/27/19 13:59									
EPA 8260C												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Acrylonitrile	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromodichloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromoform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Carbon disulfide	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
Chloroform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	

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Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B							**Water**					
Blank (9061358-BLK1)			Prepared: 06/27/19 11:30 Analyzed: 06/27/19 13:59									
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	---	3.00	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) *Recovery: 103 %* *Limits: 80-120 %* *Dilution: 1x*

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B									**Water**			
Blank (9061358-BLK1)				Prepared: 06/27/19 11:30 Analyzed: 06/27/19 13:59								
Surr: Toluene-d8 (Surr)			*Recovery: 102 %*	*Limits: 80-120 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*99 %*	*80-120 %*			*"*					
LCS (9061358-BS1)				Prepared: 06/27/19 11:30 Analyzed: 06/27/19 13:05								
EPA 8260C												
Acetone	46.9	---	20.0	ug/L	1	40.0	---	117	80-120%	---	---	
Acrylonitrile	23.9	---	2.00	ug/L	1	20.0	---	120	80-120%	---	---	
Benzene	20.3	---	0.200	ug/L	1	20.0	---	101	80-120%	---	---	
Bromobenzene	18.8	---	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
Bromochloromethane	22.0	---	1.00	ug/L	1	20.0	---	110	80-120%	---	---	
Bromodichloromethane	23.4	---	1.00	ug/L	1	20.0	---	117	80-120%	---	---	
Bromoform	23.4	---	1.00	ug/L	1	20.0	---	117	80-120%	---	---	
Bromomethane	19.3	---	5.00	ug/L	1	20.0	---	97	80-120%	---	---	
2-Butanone (MEK)	49.1	---	10.0	ug/L	1	40.0	---	**123**	**80-120%**	---	---	Q-56
n-Butylbenzene	19.9	---	1.00	ug/L	1	20.0	---	100	80-120%	---	---	
sec-Butylbenzene	18.6	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
tert-Butylbenzene	19.2	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
Carbon disulfide	18.9	---	10.0	ug/L	1	20.0	---	94	80-120%	---	---	
Carbon tetrachloride	22.6	---	1.00	ug/L	1	20.0	---	113	80-120%	---	---	
Chlorobenzene	19.5	---	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Chloroethane	22.6	---	5.00	ug/L	1	20.0	---	113	80-120%	---	---	
Chloroform	22.2	---	1.00	ug/L	1	20.0	---	111	80-120%	---	---	
Chloromethane	18.6	---	5.00	ug/L	1	20.0	---	93	80-120%	---	---	
2-Chlorotoluene	18.2	---	1.00	ug/L	1	20.0	---	91	80-120%	---	---	
4-Chlorotoluene	19.1	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
Dibromochloromethane	23.1	---	1.00	ug/L	1	20.0	---	116	80-120%	---	---	
1,2-Dibromo-3-chloropropane	20.7	---	5.00	ug/L	1	20.0	---	103	80-120%	---	---	
1,2-Dibromoethane (EDB)	21.1	---	0.500	ug/L	1	20.0	---	105	80-120%	---	---	
Dibromomethane	23.3	---	1.00	ug/L	1	20.0	---	117	80-120%	---	---	
1,2-Dichlorobenzene	19.3	---	0.500	ug/L	1	20.0	---	97	80-120%	---	---	
1,3-Dichlorobenzene	19.2	---	0.500	ug/L	1	20.0	---	96	80-120%	---	---	
1,4-Dichlorobenzene	18.8	---	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
Dichlorodifluoromethane	20.8	---	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
1,1-Dichloroethane	22.1	---	0.400	ug/L	1	20.0	---	110	80-120%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B							**Water**					
LCS (9061358-BS1)			Prepared: 06/27/19 11:30		Analyzed: 06/27/19 13:05							
1,2-Dichloroethane (EDC)	24.0	---	0.400	ug/L	1	20.0	---	120	80-120%	---	---	
1,1-Dichloroethene	22.2	---	0.400	ug/L	1	20.0	---	111	80-120%	---	---	
cis-1,2-Dichloroethene	21.9	---	0.400	ug/L	1	20.0	---	109	80-120%	---	---	
trans-1,2-Dichloroethene	21.5	---	0.400	ug/L	1	20.0	---	108	80-120%	---	---	
1,2-Dichloropropane	21.8	---	0.500	ug/L	1	20.0	---	109	80-120%	---	---	
1,3-Dichloropropane	21.3	---	1.00	ug/L	1	20.0	---	106	80-120%	---	---	
2,2-Dichloropropane	20.8	---	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
1,1-Dichloropropene	20.6	---	1.00	ug/L	1	20.0	---	103	80-120%	---	---	
cis-1,3-Dichloropropene	20.6	---	1.00	ug/L	1	20.0	---	103	80-120%	---	---	
trans-1,3-Dichloropropene	20.8	---	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
Ethylbenzene	19.7	---	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Hexachlorobutadiene	18.9	---	5.00	ug/L	1	20.0	---	94	80-120%	---	---	
2-Hexanone	46.1	---	10.0	ug/L	1	40.0	---	115	80-120%	---	---	
Isopropylbenzene	19.2	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
4-Isopropyltoluene	19.2	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
Methylene chloride	19.5	---	3.00	ug/L	1	20.0	---	98	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	47.0	---	10.0	ug/L	1	40.0	---	117	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	20.9	---	1.00	ug/L	1	20.0	---	105	80-120%	---	---	
Naphthalene	18.8	---	2.00	ug/L	1	20.0	---	94	80-120%	---	---	
n-Propylbenzene	19.2	---	0.500	ug/L	1	20.0	---	96	80-120%	---	---	
Styrene	19.6	---	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
1,1,1,2-Tetrachloroethane	22.0	---	0.400	ug/L	1	20.0	---	110	80-120%	---	---	
1,1,2,2-Tetrachloroethane	21.5	---	0.500	ug/L	1	20.0	---	108	80-120%	---	---	
Tetrachloroethene (PCE)	18.5	---	0.400	ug/L	1	20.0	---	92	80-120%	---	---	
Toluene	18.4	---	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
1,2,3-Trichlorobenzene	19.2	---	2.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,2,4-Trichlorobenzene	18.7	---	2.00	ug/L	1	20.0	---	94	80-120%	---	---	
1,1,1-Trichloroethane	22.0	---	0.400	ug/L	1	20.0	---	110	80-120%	---	---	
1,1,2-Trichloroethane	21.3	---	0.500	ug/L	1	20.0	---	107	80-120%	---	---	
Trichloroethene (TCE)	19.7	---	0.400	ug/L	1	20.0	---	99	80-120%	---	---	
Trichlorofluoromethane	24.4	---	2.00	ug/L	1	20.0	---	**122**	**80-120%**	---	---	Q-56
1,2,3-Trichloropropane	22.1	---	1.00	ug/L	1	20.0	---	110	80-120%	---	---	
1,2,4-Trimethylbenzene	19.6	---	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
1,3,5-Trimethylbenzene	18.9	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	

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Philip Nerenberg, Lab Director

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B							**Water**					
LCS (9061358-BS1)			Prepared: 06/27/19 11:30 Analyzed: 06/27/19 13:05									
Vinyl chloride	20.1	---	0.400	ug/L	1	20.0	---	101	80-120%	---	---	
m,p-Xylene	39.1	---	1.00	ug/L	1	40.0	---	98	80-120%	---	---	
o-Xylene	19.2	---	0.500	ug/L	1	20.0	---	96	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery: 104 %*		*Limits: 80-120 %*			*Dilution: 1x*					
Toluene-d8 (Surr)		*101 %*		*80-120 %*			*"*					
4-Bromofluorobenzene (Surr)		*94 %*		*80-120 %*			*"*					
Duplicate (9061358-DUP1)			Prepared: 06/27/19 13:37 Analyzed: 06/27/19 14:53									
QC Source Sample: Non-SDG (A9F0844-06)												
Acetone	ND	---	200	ug/L	10	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	60.0	ug/L	10	---	ND	---	---	---	30%	R-02
Benzene	**17.6**	---	2.00	ug/L	10	---	16.8	---	---	5	30%	
Bromobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromoform	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromomethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
n-Butylbenzene	**25.2**	---	10.0	ug/L	10	---	24.4	---	---	3	30%	M-02
sec-Butylbenzene	**11.0**	---	10.0	ug/L	10	---	10.6	---	---	4	30%	
tert-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Chloroethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
Chloroform	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Chloromethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Dibromomethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director

Apex Laboratories, LLC

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503-718-2323
EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B							**Water**					
Duplicate (9061358-DUP1)			Prepared: 06/27/19 13:37 Analyzed: 06/27/19 14:53									
QC Source Sample: Non-SDG (A9F0844-06)												
1,3-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Ethylbenzene	**1160**	---	5.00	ug/L	10	---	1180	---	---	2	30%	
Hexachlorobutadiene	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Hexanone	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Isopropylbenzene	**81.5**	---	10.0	ug/L	10	---	83.1	---	---	2	30%	
4-Isopropyltoluene	ND	---	10.0	ug/L	10	---	5.59	---	---	***	**30%**	Q-17
Methylene chloride	ND	---	30.0	ug/L	10	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Naphthalene	**1240**	---	20.0	ug/L	10	---	1260	---	---	2	30%	
n-Propylbenzene	**301**	---	5.00	ug/L	10	---	296	---	---	2	30%	
Styrene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
Toluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B							**Water**					
Duplicate (9061358-DUP1)			Prepared: 06/27/19 13:37 Analyzed: 06/27/19 14:53									
QC Source Sample: Non-SDG (A9F0844-06)												
Trichloroethene (TCE)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	**939**	---	10.0	ug/L	10	---	955	---	---	2	30%	
1,3,5-Trimethylbenzene	**219**	---	10.0	ug/L	10	---	222	---	---	1	30%	
Vinyl chloride	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
m,p-Xylene	**363**	---	10.0	ug/L	10	---	372	---	---	3	30%	
o-Xylene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*106 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*96 %*		*80-120 %*			*"*				
Matrix Spike (9061358-MS1)			Prepared: 06/27/19 13:37 Analyzed: 06/27/19 16:14									
QC Source Sample: Non-SDG (A9F0844-08)												
EPA 8260C												
Acetone	53.2	---	20.0	ug/L	1	40.0	ND	133	39-160%	---	---	
Acrylonitrile	25.4	---	2.00	ug/L	1	20.0	ND	127	63-135%	---	---	
Benzene	23.0	---	0.200	ug/L	1	20.0	ND	115	79-120%	---	---	
Bromobenzene	20.7	---	0.500	ug/L	1	20.0	ND	104	80-120%	---	---	
Bromochloromethane	23.8	---	1.00	ug/L	1	20.0	ND	119	78-123%	---	---	
Bromodichloromethane	25.1	---	1.00	ug/L	1	20.0	ND	**126**	**79-125%**	---	---	Q-01
Bromoform	23.8	---	1.00	ug/L	1	20.0	ND	119	66-130%	---	---	
Bromomethane	22.3	---	5.00	ug/L	1	20.0	ND	112	53-141%	---	---	
2-Butanone (MEK)	52.3	---	10.0	ug/L	1	40.0	ND	131	56-143%	---	---	Q-54a
n-Butylbenzene	22.2	---	1.00	ug/L	1	20.0	ND	111	75-128%	---	---	
sec-Butylbenzene	21.2	---	1.00	ug/L	1	20.0	ND	106	77-126%	---	---	
tert-Butylbenzene	22.1	---	1.00	ug/L	1	20.0	ND	111	78-124%	---	---	
Carbon disulfide	23.4	---	10.0	ug/L	1	20.0	ND	117	64-133%	---	---	
Carbon tetrachloride	25.7	---	1.00	ug/L	1	20.0	ND	128	72-136%	---	---	
Chlorobenzene	21.8	---	0.500	ug/L	1	20.0	ND	109	80-120%	---	---	
Chloroethane	30.4	---	5.00	ug/L	1	20.0	ND	**152**	**60-138%**	---	---	Q-01
Chloroform	24.5	---	1.00	ug/L	1	20.0	ND	123	79-124%	---	---	
Chloromethane	23.9	---	5.00	ug/L	1	20.0	ND	120	50-139%	---	---	

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Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	A9F0860 - 07 11 19 1559

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B							**Water**					
Matrix Spike (9061358-MS1)			Prepared: 06/27/19 13:37		Analyzed: 06/27/19 16:14							
QC Source Sample: Non-SDG (A9F0844-08)												
2-Chlorotoluene	20.9	---	1.00	ug/L	1	20.0	ND	104	79-122%	---	---	
4-Chlorotoluene	21.9	---	1.00	ug/L	1	20.0	ND	109	78-122%	---	---	
Dibromochloromethane	23.6	---	1.00	ug/L	1	20.0	ND	118	74-126%	---	---	
1,2-Dibromo-3-chloropropane	21.4	---	5.00	ug/L	1	20.0	ND	107	62-128%	---	---	
1,2-Dibromoethane (EDB)	22.9	---	0.500	ug/L	1	20.0	ND	114	77-121%	---	---	
Dibromomethane	24.5	---	1.00	ug/L	1	20.0	ND	123	79-123%	---	---	
1,2-Dichlorobenzene	21.0	---	0.500	ug/L	1	20.0	ND	105	80-120%	---	---	
1,3-Dichlorobenzene	21.1	---	0.500	ug/L	1	20.0	ND	106	80-120%	---	---	
1,4-Dichlorobenzene	20.4	---	0.500	ug/L	1	20.0	ND	102	79-120%	---	---	
Dichlorodifluoromethane	24.5	---	1.00	ug/L	1	20.0	ND	123	32-152%	---	---	
1,1-Dichloroethane	25.0	---	0.400	ug/L	1	20.0	ND	125	77-125%	---	---	
1,2-Dichloroethane (EDC)	25.9	---	0.400	ug/L	1	20.0	ND	**129**	**73-128%**	---	---	Q-01
1,1-Dichloroethene	26.4	---	0.400	ug/L	1	20.0	ND	**132**	**71-131%**	---	---	Q-01
cis-1,2-Dichloroethene	24.9	---	0.400	ug/L	1	20.0	ND	**125**	**78-123%**	---	---	Q-01
trans-1,2-Dichloroethene	25.1	---	0.400	ug/L	1	20.0	ND	**125**	**75-124%**	---	---	Q-01
1,2-Dichloropropane	24.3	---	0.500	ug/L	1	20.0	ND	122	78-122%	---	---	
1,3-Dichloropropane	22.8	---	1.00	ug/L	1	20.0	ND	114	80-120%	---	---	
2,2-Dichloropropane	23.3	---	1.00	ug/L	1	20.0	ND	117	60-139%	---	---	
1,1-Dichloropropene	24.6	---	1.00	ug/L	1	20.0	ND	123	79-125%	---	---	
cis-1,3-Dichloropropene	21.5	---	1.00	ug/L	1	20.0	ND	108	75-124%	---	---	
trans-1,3-Dichloropropene	22.1	---	1.00	ug/L	1	20.0	ND	110	73-127%	---	---	
Ethylbenzene	22.4	---	0.500	ug/L	1	20.0	ND	112	79-121%	---	---	
Hexachlorobutadiene	19.7	---	5.00	ug/L	1	20.0	ND	99	66-134%	---	---	
2-Hexanone	49.0	---	10.0	ug/L	1	40.0	ND	122	57-139%	---	---	
Isopropylbenzene	22.0	---	1.00	ug/L	1	20.0	ND	110	72-131%	---	---	
4-Isopropyltoluene	21.8	---	1.00	ug/L	1	20.0	ND	109	77-127%	---	---	
Methylene chloride	22.0	---	3.00	ug/L	1	20.0	ND	110	74-124%	---	---	
4-Methyl-2-pentanone (MiBK)	49.8	---	10.0	ug/L	1	40.0	ND	124	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	22.4	---	1.00	ug/L	1	20.0	ND	112	71-124%	---	---	
Naphthalene	20.3	---	2.00	ug/L	1	20.0	ND	101	61-128%	---	---	
n-Propylbenzene	21.8	---	0.500	ug/L	1	20.0	ND	109	76-126%	---	---	
Styrene	21.6	---	1.00	ug/L	1	20.0	ND	108	78-123%	---	---	
1,1,1,2-Tetrachloroethane	24.0	---	0.400	ug/L	1	20.0	ND	120	78-124%	---	---	

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Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061358 - EPA 5030B							**Water**					
Matrix Spike (9061358-MS1)			Prepared: 06/27/19 13:37		Analyzed: 06/27/19 16:14							
QC Source Sample: Non-SDG (A9F0844-08)												
1,1,2,2-Tetrachloroethane	24.0	---	0.500	ug/L	1	20.0	ND	120	71-121%	---	---	
Tetrachloroethene (PCE)	20.8	---	0.400	ug/L	1	20.0	ND	104	74-129%	---	---	
Toluene	21.1	---	1.00	ug/L	1	20.0	ND	105	80-121%	---	---	
1,2,3-Trichlorobenzene	19.7	---	2.00	ug/L	1	20.0	ND	99	69-129%	---	---	
1,2,4-Trichlorobenzene	20.0	---	2.00	ug/L	1	20.0	ND	100	69-130%	---	---	
1,1,1-Trichloroethane	24.9	---	0.400	ug/L	1	20.0	ND	125	74-131%	---	---	
1,1,2-Trichloroethane	22.6	---	0.500	ug/L	1	20.0	ND	113	80-120%	---	---	
Trichloroethene (TCE)	22.2	---	0.400	ug/L	1	20.0	ND	111	79-123%	---	---	
Trichlorofluoromethane	28.0	---	2.00	ug/L	1	20.0	ND	140	65-141%	---	---	Q-54
1,2,3-Trichloropropane	23.2	---	1.00	ug/L	1	20.0	ND	116	73-122%	---	---	
1,2,4-Trimethylbenzene	22.1	---	1.00	ug/L	1	20.0	ND	111	76-124%	---	---	
1,3,5-Trimethylbenzene	21.5	---	1.00	ug/L	1	20.0	ND	107	75-124%	---	---	
Vinyl chloride	24.7	---	0.400	ug/L	1	20.0	ND	123	58-137%	---	---	
m,p-Xylene	44.8	---	1.00	ug/L	1	40.0	ND	112	80-121%	---	---	
o-Xylene	22.0	---	0.500	ug/L	1	20.0	ND	110	78-122%	---	---	
Surr: 1,4-Difluorobenzene (Surr)		*Recovery:*	*104 %*	*Limits:*	*80-120 %*		*Dilution:*	*1x*				
Toluene-d8 (Surr)			*100 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*94 %*		*80-120 %*			*"*				

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Portland, OR 97209	Project Manager: **Rob Ede**	A9F0860 - 07 11 19 1559

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
Blank (9061478-BLK1)			Prepared: 06/28/19 09:17		Analyzed: 06/28/19 10:39							
EPA 8260C												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	
Acrylonitrile	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
Benzene	ND	---	0.200	ug/L	1	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromodichloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromoform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Carbon disulfide	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
Chloroform	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
cis-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.400	ug/L	1	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
Blank (9061478-BLK1)			Prepared: 06/28/19 09:17		Analyzed: 06/28/19 10:39							
1,2-Dichloropropane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	ug/L	1	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Methylene chloride	ND	---	3.00	ug/L	1	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	ug/L	1	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Styrene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Toluene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	ug/L	1	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,2,4-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.400	ug/L	1	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	ug/L	1	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	ug/L	1	---	---	---	---	---	---	

Surr: 1,4-Difluorobenzene (Surr) *Recovery: 101 %* *Limits: 80-120 %* *Dilution: 1x*

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Philip Nerenberg, Lab Director

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
Blank (9061478-BLK1)			Prepared: 06/28/19 09:17 Analyzed: 06/28/19 10:39									
Surr: Toluene-d8 (Surr)			*Recovery: 103 %*	*Limits: 80-120 %*			*Dilution: 1x*					
4-Bromofluorobenzene (Surr)			*103 %*	*80-120 %*			*"*					
LCS (9061478-BS1)			Prepared: 06/28/19 09:17 Analyzed: 06/28/19 09:44									
EPA 8260C												
Acetone	36.4	---	20.0	ug/L	1	40.0	---	91	80-120%	---	---	
Acrylonitrile	20.8	---	2.00	ug/L	1	20.0	---	104	80-120%	---	---	
Benzene	18.9	---	0.200	ug/L	1	20.0	---	94	80-120%	---	---	
Bromobenzene	18.9	---	0.500	ug/L	1	20.0	---	95	80-120%	---	---	
Bromochloromethane	21.6	---	1.00	ug/L	1	20.0	---	108	80-120%	---	---	
Bromodichloromethane	20.7	---	1.00	ug/L	1	20.0	---	103	80-120%	---	---	
Bromoform	23.6	---	1.00	ug/L	1	20.0	---	118	80-120%	---	---	
Bromomethane	17.4	---	5.00	ug/L	1	20.0	---	87	80-120%	---	---	
2-Butanone (MEK)	39.2	---	10.0	ug/L	1	40.0	---	98	80-120%	---	---	
n-Butylbenzene	18.8	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
sec-Butylbenzene	18.1	---	1.00	ug/L	1	20.0	---	91	80-120%	---	---	
tert-Butylbenzene	17.9	---	1.00	ug/L	1	20.0	---	90	80-120%	---	---	
Carbon disulfide	17.8	---	10.0	ug/L	1	20.0	---	89	80-120%	---	---	
Carbon tetrachloride	20.0	---	1.00	ug/L	1	20.0	---	100	80-120%	---	---	
Chlorobenzene	19.5	---	0.500	ug/L	1	20.0	---	98	80-120%	---	---	
Chloroethane	20.1	---	5.00	ug/L	1	20.0	---	100	80-120%	---	---	
Chloroform	19.1	---	1.00	ug/L	1	20.0	---	96	80-120%	---	---	
Chloromethane	15.1	---	5.00	ug/L	1	20.0	---	**75**	**80-120%**	---	---	Q-55
2-Chlorotoluene	18.6	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	
4-Chlorotoluene	18.4	---	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
Dibromochloromethane	22.4	---	1.00	ug/L	1	20.0	---	112	80-120%	---	---	
1,2-Dibromo-3-chloropropane	21.2	---	5.00	ug/L	1	20.0	---	106	80-120%	---	---	
1,2-Dibromoethane (EDB)	20.8	---	0.500	ug/L	1	20.0	---	104	80-120%	---	---	
Dibromomethane	20.4	---	1.00	ug/L	1	20.0	---	102	80-120%	---	---	
1,2-Dichlorobenzene	18.9	---	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
1,3-Dichlorobenzene	18.8	---	0.500	ug/L	1	20.0	---	94	80-120%	---	---	
1,4-Dichlorobenzene	18.6	---	0.500	ug/L	1	20.0	---	93	80-120%	---	---	
Dichlorodifluoromethane	17.1	---	1.00	ug/L	1	20.0	---	86	80-120%	---	---	
1,1-Dichloroethane	19.3	---	0.400	ug/L	1	20.0	---	96	80-120%	---	---	

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Apex Laboratories, LLC

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
LCS (9061478-BS1)			Prepared: 06/28/19 09:17		Analyzed: 06/28/19 09:44							
1,2-Dichloroethane (EDC)	19.0	---	0.400	ug/L	1	20.0	---	95	80-120%	---	---	
1,1-Dichloroethene	19.3	---	0.400	ug/L	1	20.0	---	96	80-120%	---	---	
cis-1,2-Dichloroethene	19.2	---	0.400	ug/L	1	20.0	---	96	80-120%	---	---	
trans-1,2-Dichloroethene	18.9	---	0.400	ug/L	1	20.0	---	95	80-120%	---	---	
1,2-Dichloropropane	19.7	---	0.500	ug/L	1	20.0	---	99	80-120%	---	---	
1,3-Dichloropropane	20.1	---	1.00	ug/L	1	20.0	---	100	80-120%	---	---	
2,2-Dichloropropane	17.1	---	1.00	ug/L	1	20.0	---	86	80-120%	---	---	
1,1-Dichloropropene	18.9	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
cis-1,3-Dichloropropene	19.6	---	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
trans-1,3-Dichloropropene	19.3	---	1.00	ug/L	1	20.0	---	97	80-120%	---	---	
Ethylbenzene	18.9	---	0.500	ug/L	1	20.0	---	95	80-120%	---	---	
Hexachlorobutadiene	18.1	---	5.00	ug/L	1	20.0	---	90	80-120%	---	---	
2-Hexanone	39.0	---	10.0	ug/L	1	40.0	---	97	80-120%	---	---	
Isopropylbenzene	19.1	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
4-Isopropyltoluene	18.9	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Methylene chloride	18.5	---	3.00	ug/L	1	20.0	---	92	80-120%	---	---	
4-Methyl-2-pentanone (MiBK)	39.5	---	10.0	ug/L	1	40.0	---	99	80-120%	---	---	
Methyl tert-butyl ether (MTBE)	18.9	---	1.00	ug/L	1	20.0	---	95	80-120%	---	---	
Naphthalene	18.9	---	2.00	ug/L	1	20.0	---	94	80-120%	---	---	
n-Propylbenzene	18.3	---	0.500	ug/L	1	20.0	---	92	80-120%	---	---	
Styrene	19.6	---	1.00	ug/L	1	20.0	---	98	80-120%	---	---	
1,1,1,2-Tetrachloroethane	22.0	---	0.400	ug/L	1	20.0	---	110	80-120%	---	---	
1,1,2,2-Tetrachloroethane	20.6	---	0.500	ug/L	1	20.0	---	103	80-120%	---	---	
Tetrachloroethene (PCE)	18.9	---	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
Toluene	18.5	---	1.00	ug/L	1	20.0	---	92	80-120%	---	---	
1,2,3-Trichlorobenzene	19.1	---	2.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,2,4-Trichlorobenzene	19.3	---	2.00	ug/L	1	20.0	---	96	80-120%	---	---	
1,1,1-Trichloroethane	18.8	---	0.400	ug/L	1	20.0	---	94	80-120%	---	---	
1,1,2-Trichloroethane	20.4	---	0.500	ug/L	1	20.0	---	102	80-120%	---	---	
Trichloroethene (TCE)	19.2	---	0.400	ug/L	1	20.0	---	96	80-120%	---	---	
Trichlorofluoromethane	19.0	---	2.00	ug/L	1	20.0	---	95	80-120%	---	---	
1,2,3-Trichloropropane	20.8	---	1.00	ug/L	1	20.0	---	104	80-120%	---	---	
1,2,4-Trimethylbenzene	18.8	---	1.00	ug/L	1	20.0	---	94	80-120%	---	---	
1,3,5-Trimethylbenzene	18.5	---	1.00	ug/L	1	20.0	---	93	80-120%	---	---	

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Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
LCS (9061478-BS1)			Prepared: 06/28/19 09:17 Analyzed: 06/28/19 09:44									
Vinyl chloride	18.2	---	0.400	ug/L	1	20.0	---	91	80-120%	---	---	
m,p-Xylene	37.4	---	1.00	ug/L	1	40.0	---	94	80-120%	---	---	
o-Xylene	19.1	---	0.500	ug/L	1	20.0	---	95	80-120%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 101 %*		*Limits: 80-120 %*		*Dilution: 1x*					
Toluene-d8 (Surr)			*102 %*		*80-120 %*		*"*					
4-Bromofluorobenzene (Surr)			*97 %*		*80-120 %*		*"*					
Duplicate (9061478-DUP1)			Prepared: 06/28/19 10:51 Analyzed: 06/28/19 13:48									
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02RE1)												
EPA 8260C												
Acetone	ND	---	200	ug/L	10	---	ND	---	---	---	30%	
Acrylonitrile	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
Benzene	**362**	---	2.00	ug/L	10	---	365	---	---	0.8	30%	
Bromobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Bromochloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromodichloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromoform	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Bromomethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Butanone (MEK)	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
n-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
sec-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
tert-Butylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Carbon disulfide	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Chloroethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
Chloroform	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Chloromethane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Dibromomethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
Duplicate (9061478-DUP1)			Prepared: 06/28/19 10:51 Analyzed: 06/28/19 13:48									
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02RE1)												
1,2-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Ethylbenzene	**19.4**	---	5.00	ug/L	10	---	19.6	---	---	1	30%	
Hexachlorobutadiene	ND	---	50.0	ug/L	10	---	ND	---	---	---	30%	
2-Hexanone	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
4-Isopropyltoluene	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Methylene chloride	ND	---	30.0	ug/L	10	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	100	ug/L	10	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
Naphthalene	**1600**	---	20.0	ug/L	10	---	1520	---	---	5	30%	
n-Propylbenzene	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Styrene	**24.4**	---	10.0	ug/L	10	---	23.7	---	---	3	30%	
1,1,1,2-Tetrachloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
Toluene	**156**	---	10.0	ug/L	10	---	156	---	---	0.2	30%	
1,2,3-Trichlorobenzene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	

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Philip Nerenberg, Lab Director

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
Duplicate (9061478-DUP1)			Prepared: 06/28/19 10:51 Analyzed: 06/28/19 13:48									
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02RE1)												
1,1,2-Trichloroethane	ND	---	5.00	ug/L	10	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	20.0	ug/L	10	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	10.0	ug/L	10	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	**24.8**	---	10.0	ug/L	10	---	24.8	---	---	0.3	30%	
1,3,5-Trimethylbenzene	ND	---	10.0	ug/L	10	---	9.17	---	---	***	30%	
Vinyl chloride	ND	---	4.00	ug/L	10	---	ND	---	---	---	30%	
m,p-Xylene	**66.5**	---	10.0	ug/L	10	---	67.0	---	---	0.7	30%	
o-Xylene	**26.6**	---	5.00	ug/L	10	---	26.5	---	---	0.6	30%	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*		*Limits: 80-120 %*				*Dilution: 1x*			
Toluene-d8 (Surr)			*100 %*		*80-120 %*				*"*			
4-Bromofluorobenzene (Surr)			*98 %*		*80-120 %*				*"*			
Matrix Spike (9061478-MS1)			Prepared: 06/28/19 10:51 Analyzed: 06/28/19 14:15									
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02RE1)												
EPA 8260C												
Acetone	387	---	200	ug/L	10	400	ND	97	39-160%	---	---	
Acrylonitrile	211	---	20.0	ug/L	10	200	ND	106	63-135%	---	---	
Benzene	560	---	2.00	ug/L	10	200	365	98	79-120%	---	---	
Bromobenzene	212	---	5.00	ug/L	10	200	ND	106	80-120%	---	---	
Bromochloromethane	228	---	10.0	ug/L	10	200	ND	114	78-123%	---	---	
Bromodichloromethane	222	---	10.0	ug/L	10	200	ND	111	79-125%	---	---	
Bromoform	245	---	10.0	ug/L	10	200	ND	123	66-130%	---	---	
Bromomethane	201	---	50.0	ug/L	10	200	ND	100	53-141%	---	---	
2-Butanone (MEK)	397	---	100	ug/L	10	400	ND	99	56-143%	---	---	
n-Butylbenzene	223	---	10.0	ug/L	10	200	ND	112	75-128%	---	---	
sec-Butylbenzene	219	---	10.0	ug/L	10	200	ND	109	77-126%	---	---	
tert-Butylbenzene	210	---	10.0	ug/L	10	200	ND	105	78-124%	---	---	
Carbon disulfide	206	---	100	ug/L	10	200	ND	103	64-133%	---	---	
Carbon tetrachloride	228	---	10.0	ug/L	10	200	ND	114	72-136%	---	---	
Chlorobenzene	218	---	5.00	ug/L	10	200	ND	109	80-120%	---	---	
Chloroethane	209	---	50.0	ug/L	10	200	ND	104	60-138%	---	---	
Chloroform	215	---	10.0	ug/L	10	200	ND	108	79-124%	---	---	

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503-718-2323
EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	A9F0860 - 07 11 19 1559

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
Matrix Spike (9061478-MS1)				Prepared: 06/28/19 10:51		Analyzed: 06/28/19 14:15						
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02RE1)												
Chloromethane	181	---	50.0	ug/L	10	200	ND	90	50-139%	---	---	Q-54b
2-Chlorotoluene	214	---	10.0	ug/L	10	200	ND	107	79-122%	---	---	
4-Chlorotoluene	208	---	10.0	ug/L	10	200	ND	104	78-122%	---	---	
Dibromochloromethane	238	---	10.0	ug/L	10	200	ND	119	74-126%	---	---	
1,2-Dibromo-3-chloropropane	214	---	50.0	ug/L	10	200	ND	107	62-128%	---	---	
1,2-Dibromoethane (EDB)	222	---	5.00	ug/L	10	200	ND	111	77-121%	---	---	
Dibromomethane	216	---	10.0	ug/L	10	200	ND	108	79-123%	---	---	
1,2-Dichlorobenzene	212	---	5.00	ug/L	10	200	ND	106	80-120%	---	---	
1,3-Dichlorobenzene	214	---	5.00	ug/L	10	200	ND	107	80-120%	---	---	
1,4-Dichlorobenzene	210	---	5.00	ug/L	10	200	ND	105	79-120%	---	---	
Dichlorodifluoromethane	202	---	10.0	ug/L	10	200	ND	101	32-152%	---	---	
1,1-Dichloroethane	215	---	4.00	ug/L	10	200	ND	108	77-125%	---	---	
1,2-Dichloroethane (EDC)	207	---	4.00	ug/L	10	200	ND	103	73-128%	---	---	
1,1-Dichloroethene	223	---	4.00	ug/L	10	200	ND	112	71-131%	---	---	
cis-1,2-Dichloroethene	210	---	4.00	ug/L	10	200	ND	105	78-123%	---	---	
trans-1,2-Dichloroethene	214	---	4.00	ug/L	10	200	ND	107	75-124%	---	---	
1,2-Dichloropropane	218	---	5.00	ug/L	10	200	ND	109	78-122%	---	---	
1,3-Dichloropropane	213	---	10.0	ug/L	10	200	ND	106	80-120%	---	---	
2,2-Dichloropropane	200	---	10.0	ug/L	10	200	ND	100	60-139%	---	---	
1,1-Dichloropropene	217	---	10.0	ug/L	10	200	ND	108	79-125%	---	---	
cis-1,3-Dichloropropene	209	---	10.0	ug/L	10	200	ND	104	75-124%	---	---	
trans-1,3-Dichloropropene	209	---	10.0	ug/L	10	200	ND	104	73-127%	---	---	
Ethylbenzene	236	---	5.00	ug/L	10	200	19.6	108	79-121%	---	---	
Hexachlorobutadiene	218	---	50.0	ug/L	10	200	ND	109	66-134%	---	---	
2-Hexanone	403	---	100	ug/L	10	400	ND	101	57-139%	---	---	
Isopropylbenzene	222	---	10.0	ug/L	10	200	ND	111	72-131%	---	---	
4-Isopropyltoluene	224	---	10.0	ug/L	10	200	ND	112	77-127%	---	---	
Methylene chloride	204	---	30.0	ug/L	10	200	ND	102	74-124%	---	---	
4-Methyl-2-pentanone (MiBK)	410	---	100	ug/L	10	400	ND	102	67-130%	---	---	
Methyl tert-butyl ether (MTBE)	198	---	10.0	ug/L	10	200	ND	99	71-124%	---	---	
Naphthalene	1870	---	20.0	ug/L	10	200	1520	**176**	**61-128%**	---	---	Q-03
n-Propylbenzene	217	---	5.00	ug/L	10	200	ND	109	76-126%	---	---	
Styrene	249	---	10.0	ug/L	10	200	23.7	113	78-123%	---	---	

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260C

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061478 - EPA 5030B							**Water**					
Matrix Spike (9061478-MS1)				Prepared: 06/28/19 10:51		Analyzed: 06/28/19 14:15						
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02RE1)												
1,1,1,2-Tetrachloroethane	234	---	4.00	ug/L	10	200	ND	117	78-124%	---	---	
1,1,2,2-Tetrachloroethane	216	---	5.00	ug/L	10	200	ND	108	71-121%	---	---	
Tetrachloroethene (PCE)	221	---	4.00	ug/L	10	200	ND	111	74-129%	---	---	
Toluene	362	---	10.0	ug/L	10	200	156	103	80-121%	---	---	
1,2,3-Trichlorobenzene	218	---	20.0	ug/L	10	200	ND	109	69-129%	---	---	
1,2,4-Trichlorobenzene	220	---	20.0	ug/L	10	200	ND	110	69-130%	---	---	
1,1,1-Trichloroethane	218	---	4.00	ug/L	10	200	ND	109	74-131%	---	---	
1,1,2-Trichloroethane	217	---	5.00	ug/L	10	200	ND	108	80-120%	---	---	
Trichloroethene (TCE)	219	---	4.00	ug/L	10	200	ND	110	79-123%	---	---	
Trichlorofluoromethane	215	---	20.0	ug/L	10	200	ND	108	65-141%	---	---	
1,2,3-Trichloropropane	218	---	10.0	ug/L	10	200	ND	109	73-122%	---	---	
1,2,4-Trimethylbenzene	244	---	10.0	ug/L	10	200	24.8	109	76-124%	---	---	
1,3,5-Trimethylbenzene	224	---	10.0	ug/L	10	200	9.17	107	75-124%	---	---	
Vinyl chloride	213	---	4.00	ug/L	10	200	ND	107	58-137%	---	---	
m,p-Xylene	496	---	10.0	ug/L	10	400	67.0	107	80-121%	---	---	
o-Xylene	244	---	5.00	ug/L	10	200	26.5	109	78-122%	---	---	
Surr: 1,4-Difluorobenzene (Surr)			*Recovery: 100 %*		*Limits: 80-120 %*			*Dilution: 1x*				
Toluene-d8 (Surr)			*99 %*		*80-120 %*			*"*				
4-Bromofluorobenzene (Surr)			*98 %*		*80-120 %*			*"*				

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070583 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (9070583-BLK1)			Prepared: 07/03/19 07:08 Analyzed: 07/03/19 15:18									
EPA 8270D												
Acenaphthene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Acenaphthylene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Aniline	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Anthracene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Azobenzene (1,2-DPH)	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Benz(a)anthracene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Benzo(a)pyrene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Benzo(b)fluoranthene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Benzo(k)fluoranthene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Benzo(g,h,i)perylene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Benzoic acid	ND	---	2.27	ug/L	1	---	---	---	---	---	---	
Benzyl alcohol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethoxy) methane	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Bis(2-Chloroethyl) ether	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2,2'-Oxybis(1-Chloropropane)	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Bis(2-Ethylhexyl) adipate	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Bis(2-ethylhexyl)phthalate	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
4-Bromophenyl phenyl ether	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Butyl benzyl phthalate	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
Carbazole	ND	---	0.682	ug/L	1	---	---	---	---	---	---	
4-Chloroaniline	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
4-Chloro-3-methylphenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2-Chloronaphthalene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2-Chlorophenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
4-Chlorophenyl phenyl ether	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Chrysene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Dibenz(a,h)anthracene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Dibenzofuran	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2,4-Dichlorophenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Di-n-butylphthalate	ND	---	0.909	ug/L	1	---	---	---	---	---	---	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070583 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (9070583-BLK1)			Prepared: 07/03/19 07:08 Analyzed: 07/03/19 15:18									
Diethylphthalate	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
Dimethylphthalate	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
2,4-Dimethylphenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
1,2-Dinitrobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
1,3-Dinitrobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
1,4-Dinitrobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
4,6-Dinitro-2-methylphenol	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrophenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2,4-Dinitrotoluene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2,6-Dinitrotoluene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Di-n-octyl phthalate	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
Fluoranthene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Fluorene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Hexachlorobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Hexachlorocyclopentadiene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Hexachloroethane	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Indeno(1,2,3-cd)pyrene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Isophorone	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
1-Methylnaphthalene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2-Methylnaphthalene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2-Methylphenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
3+4-Methylphenol(s)	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Naphthalene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2-Nitroaniline	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
3-Nitroaniline	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
4-Nitroaniline	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Nitrobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2-Nitrophenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
4-Nitrophenol	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
N-Nitrosodimethylamine	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
N-Nitroso-di-n-propylamine	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
N-Nitrosodiphenylamine	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Pentachlorophenol (PCP)	ND	---	0.909	ug/L	1	---	---	---	---	---	---	

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Philip Nerenberg, Lab Director

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070583 - EPA 3510C (Acid/Base Neutral)							**Water**					
Blank (9070583-BLK1)			Prepared: 07/03/19 07:08 Analyzed: 07/03/19 15:18									
Phenanthrene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Phenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Pyrene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Pyridine	ND	---	0.909	ug/L	1	---	---	---	---	---	---	
2,3,4,6-Tetrachlorophenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2,3,5,6-Tetrachlorophenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2,4,5-Trichlorophenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
2,4,6-Trichlorophenol	ND	---	0.455	ug/L	1	---	---	---	---	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 66 %*		*Limits: 44-120 %*			*Dilution: 1x*				
2-Fluorobiphenyl (Surr)			*65 %*		*44-120 %*			*"*				
Phenol-d6 (Surr)			*2 %*		*10-120 %*			*"*				S-06
p-Terphenyl-d14 (Surr)			*87 %*		*50-133 %*			*"*				
2-Fluorophenol (Surr)			*28 %*		*19-120 %*			*"*				
2,4,6-Tribromophenol (Surr)			*86 %*		*43-140 %*			*"*				
LCS (9070583-BS1)			Prepared: 07/03/19 07:08 Analyzed: 07/03/19 15:55									
EPA 8270D												
Acenaphthene	3.26	---	1.00	ug/L	2	4.00	---	82	47-122%	---	---	
Acenaphthylene	3.35	---	1.00	ug/L	2	4.00	---	84	41-130%	---	---	
Aniline	2.70	---	1.00	ug/L	2	4.00	---	68	6-120%	---	---	
Anthracene	3.58	---	1.00	ug/L	2	4.00	---	89	57-123%	---	---	
Azobenzene (1,2-DPH)	3.12	---	1.00	ug/L	2	4.00	---	78	61-120%	---	---	
Benz(a)anthracene	3.80	---	1.00	ug/L	2	4.00	---	95	58-125%	---	---	
Benzo(a)pyrene	4.46	---	1.00	ug/L	2	4.00	---	112	54-128%	---	---	
Benzo(b)fluoranthene	4.38	---	1.00	ug/L	2	4.00	---	110	53-131%	---	---	
Benzo(k)fluoranthene	4.52	---	1.00	ug/L	2	4.00	---	113	57-129%	---	---	
Benzo(g,h,i)perylene	3.63	---	1.00	ug/L	2	4.00	---	91	50-134%	---	---	
Benzoic acid	4.21	---	2.50	ug/L	2	8.00	---	53	5-120%	---	---	Q-41
Benzyl alcohol	2.81	---	1.00	ug/L	2	4.00	---	70	31-120%	---	---	
Bis(2-Chloroethoxy) methane	3.07	---	1.00	ug/L	2	4.00	---	77	48-120%	---	---	
Bis(2-Chloroethyl) ether	2.85	---	1.00	ug/L	2	4.00	---	71	43-120%	---	---	
2,2'-Oxybis(1-Chloropropane)	2.53	---	1.00	ug/L	2	4.00	---	63	37-130%	---	---	
Bis(2-Ethylhexyl) adipate	3.74	---	1.00	ug/L	2	4.00	---	94	40-125%	---	---	

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EPA ID: OR01039

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070583 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (9070583-BS1)			Prepared: 07/03/19 07:08		Analyzed: 07/03/19 15:55							
Bis(2-ethylhexyl)phthalate	4.00	---	2.00	ug/L	2	4.00	---	100	55-135%	---	---	
4-Bromophenyl phenyl ether	3.67	---	1.00	ug/L	2	4.00	---	92	54-124%	---	---	
Butyl benzyl phthalate	3.97	---	2.00	ug/L	2	4.00	---	99	53-134%	---	---	
Carbazole	3.63	---	1.50	ug/L	2	4.00	---	91	60-122%	---	---	
4-Chloroaniline	3.48	---	1.00	ug/L	2	4.00	---	87	33-120%	---	---	
4-Chloro-3-methylphenol	3.64	---	1.00	ug/L	2	4.00	---	91	52-120%	---	---	
2-Chloronaphthalene	2.94	---	1.00	ug/L	2	4.00	---	74	40-120%	---	---	
2-Chlorophenol	2.01	---	1.00	ug/L	2	4.00	---	50	38-120%	---	---	
4-Chlorophenyl phenyl ether	3.64	---	1.00	ug/L	2	4.00	---	91	53-121%	---	---	
Chrysene	3.88	---	1.00	ug/L	2	4.00	---	97	59-123%	---	---	
Dibenz(a,h)anthracene	4.23	---	1.00	ug/L	2	4.00	---	106	51-134%	---	---	
Dibenzofuran	3.43	---	1.00	ug/L	2	4.00	---	86	53-120%	---	---	
1,2-Dichlorobenzene	2.26	---	1.00	ug/L	2	4.00	---	56	32-120%	---	---	
1,3-Dichlorobenzene	2.17	---	1.00	ug/L	2	4.00	---	54	28-120%	---	---	
1,4-Dichlorobenzene	2.24	---	1.00	ug/L	2	4.00	---	56	29-120%	---	---	
2,4-Dichlorophenol	3.64	---	1.00	ug/L	2	4.00	---	91	47-121%	---	---	
Di-n-butylphthalate	3.73	---	2.00	ug/L	2	4.00	---	93	59-127%	---	---	
Diethylphthalate	4.13	---	2.00	ug/L	2	4.00	---	103	55-125%	---	---	
Dimethylphthalate	4.00	---	2.00	ug/L	2	4.00	---	100	45-127%	---	---	
2,4-Dimethylphenol	2.51	---	1.00	ug/L	2	4.00	---	63	31-124%	---	---	
1,2-Dinitrobenzene	4.13	---	1.00	ug/L	2	4.00	---	103	59-120%	---	---	
1,3-Dinitrobenzene	4.34	---	1.00	ug/L	2	4.00	---	108	49-128%	---	---	Q-41
1,4-Dinitrobenzene	4.67	---	1.00	ug/L	2	4.00	---	117	40-120%	---	---	Q-41
4,6-Dinitro-2-methylphenol	5.59	---	2.00	ug/L	2	4.00	---	**140**	**44-137%**	---	---	Q-41, Q-29
2,4-Dinitrophenol	5.62	---	1.00	ug/L	2	4.00	---	141	23-143%	---	---	Q-41
2,4-Dinitrotoluene	4.28	---	1.00	ug/L	2	4.00	---	107	57-128%	---	---	
2,6-Dinitrotoluene	4.10	---	1.00	ug/L	2	4.00	---	103	57-124%	---	---	
Di-n-octyl phthalate	4.54	---	2.00	ug/L	2	4.00	---	113	51-140%	---	---	
Fluoranthene	3.84	---	1.00	ug/L	2	4.00	---	96	57-128%	---	---	
Fluorene	3.60	---	1.00	ug/L	2	4.00	---	90	52-124%	---	---	
Hexachlorobenzene	3.76	---	1.00	ug/L	2	4.00	---	94	52-125%	---	---	
Hexachlorobutadiene	2.44	---	1.00	ug/L	2	4.00	---	61	22-124%	---	---	
Hexachlorocyclopentadiene	2.15	---	1.00	ug/L	2	4.00	---	54	5-127%	---	---	Q-41
Hexachloroethane	2.04	---	1.00	ug/L	2	4.00	---	51	21-120%	---	---	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070583 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS (9070583-BS1)			Prepared: 07/03/19 07:08 Analyzed: 07/03/19 15:55									
Indeno(1,2,3-cd)pyrene	3.82	---	1.00	ug/L	2	4.00	---	96	52-133%	---	---	
Isophorone	3.35	---	1.00	ug/L	2	4.00	---	84	42-124%	---	---	
1-Methylnaphthalene	2.95	---	1.00	ug/L	2	4.00	---	74	41-120%	---	---	
2-Methylnaphthalene	2.98	---	1.00	ug/L	2	4.00	---	74	40-121%	---	---	
2-Methylphenol	2.49	---	1.00	ug/L	2	4.00	---	62	30-120%	---	---	
3+4-Methylphenol(s)	2.42	---	1.00	ug/L	2	4.00	---	61	29-120%	---	---	
Naphthalene	2.67	---	1.00	ug/L	2	4.00	---	67	40-121%	---	---	
2-Nitroaniline	3.99	---	2.00	ug/L	2	4.00	---	100	54-127%	---	---	
3-Nitroaniline	3.68	---	2.00	ug/L	2	4.00	---	92	41-128%	---	---	
4-Nitroaniline	4.02	---	1.00	ug/L	2	4.00	---	101	35-120%	---	---	
Nitrobenzene	3.00	---	1.00	ug/L	2	4.00	---	75	45-121%	---	---	
2-Nitrophenol	3.77	---	1.00	ug/L	2	4.00	---	94	47-123%	---	---	
4-Nitrophenol	1.38	---	1.00	ug/L	2	4.00	---	35	5-120%	---	---	
N-Nitrosodimethylamine	1.78	---	1.00	ug/L	2	4.00	---	45	6-120%	---	---	
N-Nitroso-di-n-propylamine	3.05	---	1.00	ug/L	2	4.00	---	76	49-120%	---	---	
N-Nitrosodiphenylamine	3.59	---	1.00	ug/L	2	4.00	---	90	51-123%	---	---	
Pentachlorophenol (PCP)	3.81	---	2.00	ug/L	2	4.00	---	95	35-138%	---	---	
Phenanthrene	3.61	---	1.00	ug/L	2	4.00	---	90	59-120%	---	---	
Phenol	0.563	---	0.500	ug/L	2	4.00	---	14	5-120%	---	---	
Pyrene	3.85	---	1.00	ug/L	2	4.00	---	96	57-126%	---	---	
Pyridine	1.61	---	1.00	ug/L	2	4.00	---	40	5-120%	---	---	
2,3,4,6-Tetrachlorophenol	3.92	---	1.00	ug/L	2	4.00	---	98	50-128%	---	---	
2,3,5,6-Tetrachlorophenol	4.19	---	1.00	ug/L	2	4.00	---	105	50-121%	---	---	
1,2,4-Trichlorobenzene	2.61	---	1.00	ug/L	2	4.00	---	65	29-120%	---	---	
2,4,5-Trichlorophenol	4.08	---	1.00	ug/L	2	4.00	---	102	53-123%	---	---	
2,4,6-Trichlorophenol	3.87	---	1.00	ug/L	2	4.00	---	97	50-125%	---	---	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 72 %*	*Limits: 44-120 %*		*Dilution: 2x*						
2-Fluorobiphenyl (Surr)			*77 %*	*44-120 %*		*"*						
Phenol-d6 (Surr)			*8 %*	*10-120 %*		*"*						S-06
p-Terphenyl-d14 (Surr)			*93 %*	*50-133 %*		*"*						
2-Fluorophenol (Surr)			*41 %*	*19-120 %*		*"*						
2,4,6-Tribromophenol (Surr)			*106 %*	*43-140 %*		*"*						Q-41
LCS Dup (9070583-BSD1)			Prepared: 07/03/19 07:08 Analyzed: 07/03/19 16:31									**Q-19**

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
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QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070583 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (9070583-BSD1)			Prepared: 07/03/19 07:08		Analyzed: 07/03/19 16:31							**Q-19**
EPA 8270D												
Acenaphthene	3.19	---	1.00	ug/L	2	4.00	---	80	47-122%	2	30%	
Acenaphthylene	3.28	---	1.00	ug/L	2	4.00	---	82	41-130%	2	30%	
Aniline	2.61	---	1.00	ug/L	2	4.00	---	65	6-120%	3	30%	
Anthracene	3.51	---	1.00	ug/L	2	4.00	---	88	57-123%	2	30%	
Azobenzene (1,2-DPH)	3.09	---	1.00	ug/L	2	4.00	---	77	61-120%	1	30%	
Benz(a)anthracene	3.75	---	1.00	ug/L	2	4.00	---	94	58-125%	1	30%	
Benzo(a)pyrene	4.40	---	1.00	ug/L	2	4.00	---	110	54-128%	1	30%	
Benzo(b)fluoranthene	4.36	---	1.00	ug/L	2	4.00	---	109	53-131%	0.6	30%	
Benzo(k)fluoranthene	4.52	---	1.00	ug/L	2	4.00	---	113	57-129%	0.1	30%	
Benzo(g,h,i)perylene	3.58	---	1.00	ug/L	2	4.00	---	90	50-134%	1	30%	
Benzoic acid	4.28	---	2.50	ug/L	2	8.00	---	53	5-120%	2	30%	Q-41
Benzyl alcohol	2.74	---	1.00	ug/L	2	4.00	---	69	31-120%	3	30%	
Bis(2-Chloroethoxy) methane	3.00	---	1.00	ug/L	2	4.00	---	75	48-120%	2	30%	
Bis(2-Chloroethyl) ether	2.72	---	1.00	ug/L	2	4.00	---	68	43-120%	5	30%	
2,2'-Oxybis(1-Chloropropane)	2.48	---	1.00	ug/L	2	4.00	---	62	37-130%	2	30%	
Bis(2-Ethylhexyl) adipate	3.70	---	1.00	ug/L	2	4.00	---	92	40-125%	1	30%	
Bis(2-ethylhexyl)phthalate	3.94	---	2.00	ug/L	2	4.00	---	99	55-135%	1	30%	
4-Bromophenyl phenyl ether	3.64	---	1.00	ug/L	2	4.00	---	91	54-124%	0.9	30%	
Butyl benzyl phthalate	3.94	---	2.00	ug/L	2	4.00	---	98	53-134%	0.8	30%	
Carbazole	3.60	---	1.50	ug/L	2	4.00	---	90	60-122%	0.9	30%	
4-Chloroaniline	3.38	---	1.00	ug/L	2	4.00	---	85	33-120%	3	30%	
4-Chloro-3-methylphenol	3.58	---	1.00	ug/L	2	4.00	---	89	52-120%	2	30%	
2-Chloronaphthalene	2.87	---	1.00	ug/L	2	4.00	---	72	40-120%	3	30%	
2-Chlorophenol	2.08	---	1.00	ug/L	2	4.00	---	52	38-120%	3	30%	
4-Chlorophenyl phenyl ether	3.56	---	1.00	ug/L	2	4.00	---	89	53-121%	2	30%	
Chrysene	3.83	---	1.00	ug/L	2	4.00	---	96	59-123%	1	30%	
Dibenz(a,h)anthracene	4.12	---	1.00	ug/L	2	4.00	---	103	51-134%	3	30%	
Dibenzofuran	3.32	---	1.00	ug/L	2	4.00	---	83	53-120%	3	30%	
1,2-Dichlorobenzene	2.28	---	1.00	ug/L	2	4.00	---	57	32-120%	1	30%	
1,3-Dichlorobenzene	2.14	---	1.00	ug/L	2	4.00	---	53	28-120%	1	30%	
1,4-Dichlorobenzene	2.20	---	1.00	ug/L	2	4.00	---	55	29-120%	2	30%	
2,4-Dichlorophenol	3.57	---	1.00	ug/L	2	4.00	---	89	47-121%	2	30%	
Di-n-butylphthalate	3.63	---	2.00	ug/L	2	4.00	---	91	59-127%	3	30%	

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Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070583 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (9070583-BSD1)			Prepared: 07/03/19 07:08		Analyzed: 07/03/19 16:31							**Q-19**
Diethylphthalate	4.03	---	2.00	ug/L	2	4.00	---	101	55-125%	2	30%	
Dimethylphthalate	3.91	---	2.00	ug/L	2	4.00	---	98	45-127%	2	30%	
2,4-Dimethylphenol	2.41	---	1.00	ug/L	2	4.00	---	60	31-124%	4	30%	
1,2-Dinitrobenzene	4.03	---	1.00	ug/L	2	4.00	---	101	59-120%	2	30%	
1,3-Dinitrobenzene	4.21	---	1.00	ug/L	2	4.00	---	105	49-128%	3	30%	Q-41
1,4-Dinitrobenzene	4.60	---	1.00	ug/L	2	4.00	---	115	40-120%	2	30%	Q-41
4,6-Dinitro-2-methylphenol	5.45	---	2.00	ug/L	2	4.00	---	136	44-137%	2	30%	Q-41
2,4-Dinitrophenol	5.44	---	1.00	ug/L	2	4.00	---	136	23-143%	3	30%	Q-41
2,4-Dinitrotoluene	4.15	---	1.00	ug/L	2	4.00	---	104	57-128%	3	30%	
2,6-Dinitrotoluene	3.99	---	1.00	ug/L	2	4.00	---	100	57-124%	3	30%	
Di-n-octyl phthalate	4.54	---	2.00	ug/L	2	4.00	---	114	51-140%	0.1	30%	
Fluoranthene	3.78	---	1.00	ug/L	2	4.00	---	95	57-128%	2	30%	
Fluorene	3.53	---	1.00	ug/L	2	4.00	---	88	52-124%	2	30%	
Hexachlorobenzene	3.73	---	1.00	ug/L	2	4.00	---	93	52-125%	0.9	30%	
Hexachlorobutadiene	2.41	---	1.00	ug/L	2	4.00	---	60	22-124%	2	30%	
Hexachlorocyclopentadiene	2.01	---	1.00	ug/L	2	4.00	---	50	5-127%	7	30%	Q-41
Hexachloroethane	2.02	---	1.00	ug/L	2	4.00	---	50	21-120%	1	30%	
Indeno(1,2,3-cd)pyrene	3.74	---	1.00	ug/L	2	4.00	---	94	52-133%	2	30%	
Isophorone	3.28	---	1.00	ug/L	2	4.00	---	82	42-124%	2	30%	
1-Methylnaphthalene	2.88	---	1.00	ug/L	2	4.00	---	72	41-120%	2	30%	
2-Methylnaphthalene	2.90	---	1.00	ug/L	2	4.00	---	73	40-121%	3	30%	
2-Methylphenol	2.41	---	1.00	ug/L	2	4.00	---	60	30-120%	3	30%	
3+4-Methylphenol(s)	2.35	---	1.00	ug/L	2	4.00	---	59	29-120%	3	30%	
Naphthalene	2.62	---	1.00	ug/L	2	4.00	---	65	40-121%	2	30%	
2-Nitroaniline	3.95	---	2.00	ug/L	2	4.00	---	99	54-127%	1	30%	
3-Nitroaniline	3.61	---	2.00	ug/L	2	4.00	---	90	41-128%	2	30%	
4-Nitroaniline	3.96	---	1.00	ug/L	2	4.00	---	99	35-120%	2	30%	
Nitrobenzene	2.91	---	1.00	ug/L	2	4.00	---	73	45-121%	3	30%	
2-Nitrophenol	3.63	---	1.00	ug/L	2	4.00	---	91	47-123%	4	30%	
4-Nitrophenol	1.41	---	1.00	ug/L	2	4.00	---	35	5-120%	2	30%	
N-Nitrosodimethylamine	1.71	---	1.00	ug/L	2	4.00	---	43	6-120%	4	30%	
N-Nitroso-di-n-propylamine	2.97	---	1.00	ug/L	2	4.00	---	74	49-120%	3	30%	
N-Nitrosodiphenylamine	3.62	---	1.00	ug/L	2	4.00	---	90	51-123%	0.7	30%	
Pentachlorophenol (PCP)	3.88	---	2.00	ug/L	2	4.00	---	97	35-138%	2	30%	

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503-718-2323
EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Semivolatile Organic Compounds by EPA 8270D

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070583 - EPA 3510C (Acid/Base Neutral)							**Water**					
LCS Dup (9070583-BSD1)			Prepared: 07/03/19 07:08		Analyzed: 07/03/19 16:31							**Q-19**
Phenanthrene	3.58	---	1.00	ug/L	2	4.00	---	89	59-120%	0.8	30%	
Phenol	0.553	---	0.500	ug/L	2	4.00	---	14	5-120%	2	30%	
Pyrene	3.79	---	1.00	ug/L	2	4.00	---	95	57-126%	2	30%	
Pyridine	1.57	---	1.00	ug/L	2	4.00	---	39	5-120%	3	30%	
2,3,4,6-Tetrachlorophenol	3.87	---	1.00	ug/L	2	4.00	---	97	50-128%	1	30%	
2,3,5,6-Tetrachlorophenol	4.09	---	1.00	ug/L	2	4.00	---	102	50-121%	2	30%	
1,2,4-Trichlorobenzene	2.56	---	1.00	ug/L	2	4.00	---	64	29-120%	2	30%	
2,4,5-Trichlorophenol	3.92	---	1.00	ug/L	2	4.00	---	98	53-123%	4	30%	
2,4,6-Trichlorophenol	3.84	---	1.00	ug/L	2	4.00	---	96	50-125%	0.6	30%	
Surr: Nitrobenzene-d5 (Surr)			*Recovery: 70 %*		*Limits: 44-120 %*		*Dilution: 2x*					
2-Fluorobiphenyl (Surr)			*75 %*		*44-120 %*		*"*					
Phenol-d6 (Surr)			*7 %*		*10-120 %*		*"*					S-06
p-Terphenyl-d14 (Surr)			*92 %*		*50-133 %*		*"*					
2-Fluorophenol (Surr)			*40 %*		*19-120 %*		*"*					
2,4,6-Tribromophenol (Surr)			*105 %*		*43-140 %*		*"*					Q-41

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

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 9070523 - EPA 3015A							**Water**					
Blank (9070523-BLK1)			Prepared: 07/01/19 14:41		Analyzed: 07/03/19 01:47							
EPA 6020A												
Aluminum	ND	25.0	50.0	ug/L	1	---	---	---	---	---	---	
Antimony	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Arsenic	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Beryllium	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Cadmium	ND	0.0400	0.200	ug/L	1	---	---	---	---	---	---	
Chromium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Copper	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Iron	ND	25.0	50.0	ug/L	1	---	---	---	---	---	---	
Lead	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Manganese	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Mercury	ND	0.0400	0.0800	ug/L	1	---	---	---	---	---	---	
Nickel	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Selenium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Silver	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Thallium	ND	0.100	0.200	ug/L	1	---	---	---	---	---	---	
Vanadium	ND	0.500	1.00	ug/L	1	---	---	---	---	---	---	
Zinc	ND	2.00	4.00	ug/L	1	---	---	---	---	---	---	
LCS (9070523-BS1)			Prepared: 07/01/19 14:41		Analyzed: 07/03/19 01:52							
EPA 6020A												
Aluminum	2740	25.0	50.0	ug/L	1	2780	---	99	80-120%	---	---	
Antimony	28.4	0.500	1.00	ug/L	1	27.8	---	102	80-120%	---	---	
Arsenic	54.0	0.500	1.00	ug/L	1	55.6	---	97	80-120%	---	---	
Barium	56.7	0.500	1.00	ug/L	1	55.6	---	102	80-120%	---	---	
Beryllium	27.0	0.100	0.200	ug/L	1	27.8	---	97	80-120%	---	---	
Cadmium	53.9	0.0400	0.200	ug/L	1	55.6	---	97	80-120%	---	---	
Chromium	57.1	0.500	1.00	ug/L	1	55.6	---	103	80-120%	---	---	
Copper	58.9	0.500	1.00	ug/L	1	55.6	---	106	80-120%	---	---	
Iron	2620	25.0	50.0	ug/L	1	2780	---	94	80-120%	---	---	
Lead	56.2	0.100	0.200	ug/L	1	55.6	---	101	80-120%	---	---	
Manganese	53.1	0.500	1.00	ug/L	1	55.6	---	96	80-120%	---	---	
Mercury	1.04	0.0400	0.0800	ug/L	1	1.11	---	94	80-120%	---	---	

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

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 9070523 - EPA 3015A							**Water**					
LCS (9070523-BS1)			Prepared: 07/01/19 14:41		Analyzed: 07/03/19 01:52							
Nickel	56.9	0.500	1.00	ug/L	1	55.6	---	102	80-120%	---	---	
Selenium	25.5	0.500	1.00	ug/L	1	27.8	---	92	80-120%	---	---	
Silver	28.6	0.100	0.200	ug/L	1	27.8	---	103	80-120%	---	---	
Thallium	26.9	0.100	0.200	ug/L	1	27.8	---	97	80-120%	---	---	
Vanadium	55.7	0.500	1.00	ug/L	1	55.6	---	100	80-120%	---	---	
Zinc	58.1	2.00	4.00	ug/L	1	55.6	---	105	80-120%	---	---	
Duplicate (9070523-DUP1)			Prepared: 07/01/19 14:41		Analyzed: 07/03/19 02:13							
QC Source Sample: Non-SDG (A9F0904-01)												
Aluminum	**962**	25.0	50.0	ug/L	1	---	945	---	---	2	20%	
Antimony	**1.00**	0.500	1.00	ug/L	1	---	1.03	---	---	3	20%	
Arsenic	**1.68**	0.500	1.00	ug/L	1	---	1.60	---	---	5	20%	
Barium	**25.5**	0.500	1.00	ug/L	1	---	25.4	---	---	0.5	20%	
Beryllium	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	20%	
Cadmium	**0.316**	0.0400	0.200	ug/L	1	---	0.297	---	---	6	20%	
Chromium	**4.48**	0.500	1.00	ug/L	1	---	4.55	---	---	2	20%	
Copper	**36.2**	0.500	1.00	ug/L	1	---	36.4	---	---	0.4	20%	
Iron	**1570**	25.0	50.0	ug/L	1	---	1540	---	---	2	20%	
Lead	**7.51**	0.100	0.200	ug/L	1	---	7.44	---	---	1	20%	
Manganese	**69.9**	0.500	1.00	ug/L	1	---	69.9	---	---	0.03	20%	
Mercury	ND	0.0400	0.0800	ug/L	1	---	0.0458	---	---	***	**20%**	Q-05
Nickel	**3.97**	0.500	1.00	ug/L	1	---	3.92	---	---	1	20%	
Selenium	ND	0.500	1.00	ug/L	1	---	ND	---	---	---	20%	
Silver	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	20%	
Thallium	ND	0.100	0.200	ug/L	1	---	ND	---	---	---	20%	
Vanadium	**6.93**	0.500	1.00	ug/L	1	---	6.75	---	---	3	20%	
Zinc	**205**	2.00	4.00	ug/L	1	---	208	---	---	1	20%	
Matrix Spike (9070523-MS1)			Prepared: 07/01/19 14:41		Analyzed: 07/03/19 02:17							
QC Source Sample: Non-SDG (A9F0904-01)												
EPA 6020A												
Aluminum	3520	25.0	50.0	ug/L	1	2780	945	93	75-125%	---	---	
Antimony	28.2	0.500	1.00	ug/L	1	27.8	1.03	98	75-125%	---	---	
Arsenic	55.0	0.500	1.00	ug/L	1	55.6	1.60	96	75-125%	---	---	

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

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 9070523 - EPA 3015A							**Water**					
Matrix Spike (9070523-MS1)			Prepared: 07/01/19 14:41		Analyzed: 07/03/19 02:17							
QC Source Sample: Non-SDG (A9F0904-01)												
Barium	80.3	0.500	1.00	ug/L	1	55.6	25.4	99	75-125%	---	---	
Beryllium	26.5	0.100	0.200	ug/L	1	27.8	ND	95	75-125%	---	---	
Cadmium	54.3	0.0400	0.200	ug/L	1	55.6	0.297	97	75-125%	---	---	
Chromium	60.6	0.500	1.00	ug/L	1	55.6	4.55	101	75-125%	---	---	
Copper	91.9	0.500	1.00	ug/L	1	55.6	36.4	100	75-125%	---	---	
Iron	3980	25.0	50.0	ug/L	1	2780	1540	88	75-125%	---	---	
Lead	63.4	0.100	0.200	ug/L	1	55.6	7.44	101	75-125%	---	---	
Manganese	119	0.500	1.00	ug/L	1	55.6	69.9	89	75-125%	---	---	
Mercury	1.03	0.0400	0.0800	ug/L	1	1.11	0.0458	89	75-125%	---	---	
Nickel	59.0	0.500	1.00	ug/L	1	55.6	3.92	99	75-125%	---	---	
Selenium	25.6	0.500	1.00	ug/L	1	27.8	ND	92	75-125%	---	---	
Silver	28.0	0.100	0.200	ug/L	1	27.8	ND	101	75-125%	---	---	
Thallium	26.7	0.100	0.200	ug/L	1	27.8	ND	96	75-125%	---	---	
Vanadium	60.4	0.500	1.00	ug/L	1	55.6	6.75	97	75-125%	---	---	
Zinc	265	2.00	4.00	ug/L	1	55.6	208	102	75-125%	---	---	
Matrix Spike (9070523-MS2)			Prepared: 07/01/19 14:41		Analyzed: 07/03/19 03:05							
QC Source Sample: Non-SDG (A9G0016-01)												
EPA 6020A												
Aluminum	21600	125	250	ug/L	5	2780	17900	**135**	**75-125%**	---	---	Q-03
Antimony	29.9	2.50	5.00	ug/L	5	27.8	ND	108	75-125%	---	---	
Arsenic	59.5	2.50	5.00	ug/L	5	55.6	ND	107	75-125%	---	---	
Barium	58.4	2.50	5.00	ug/L	5	55.6	ND	105	75-125%	---	---	
Cadmium	57.2	0.200	1.00	ug/L	5	55.6	ND	103	75-125%	---	---	
Chromium	66.7	2.50	5.00	ug/L	5	55.6	ND	120	75-125%	---	---	
Copper	64.1	2.50	5.00	ug/L	5	55.6	6.14	104	75-125%	---	---	
Iron	2840	125	250	ug/L	5	2780	ND	102	75-125%	---	---	
Lead	53.8	0.500	1.00	ug/L	5	55.6	ND	97	75-125%	---	---	
Manganese	59.8	2.50	5.00	ug/L	5	55.6	ND	108	75-125%	---	---	
Mercury	1.13	0.200	0.400	ug/L	5	1.11	ND	101	75-125%	---	---	
Nickel	60.4	2.50	5.00	ug/L	5	55.6	ND	109	75-125%	---	---	
Selenium	28.9	2.50	5.00	ug/L	5	27.8	ND	104	75-125%	---	---	
Silver	27.4	0.500	1.00	ug/L	5	27.8	ND	99	75-125%	---	---	

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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 9070523 - EPA 3015A							**Water**					
Matrix Spike (9070523-MS2)			Prepared: 07/01/19 14:41		Analyzed: 07/03/19 03:05							
QC Source Sample: Non-SDG (A9G0016-01)												
Thallium	25.4	0.500	1.00	ug/L	5	27.8	ND	91	75-125%	---	---	
Vanadium	75.2	2.50	5.00	ug/L	5	55.6	10.2	117	75-125%	---	---	
Zinc	59.4	10.0	20.0	ug/L	5	55.6	ND	107	75-125%	---	---	
Matrix Spike (9070523-MS3)			Prepared: 07/01/19 14:41		Analyzed: 07/05/19 20:46							
QC Source Sample: Non-SDG (A9G0016-01RE1)												
EPA 6020A												
Beryllium	24.4	5.00	10.0	ug/L	50	27.8	ND	88	75-125%	---	---	Q-16

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QUALITY CONTROL (QC) SAMPLE RESULTS

Total Cyanide by Flow Analysis (Aqueous)

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070559 - Lachat Micro Dist - aqueous							**Water**					
Blank (9070559-BLK1)			Prepared: 07/02/19 11:41			Analyzed: 07/02/19 14:12						
EPA 335.4												
Cyanide, Total	ND	0.00500	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (9070559-BS1)			Prepared: 07/02/19 11:41			Analyzed: 07/02/19 14:20						
EPA 335.4												
Cyanide, Total	0.264	0.00500	0.00500	mg/L	1	0.250	---	106	90-110%	---	---	
Duplicate (9070559-DUP1)			Prepared: 07/02/19 11:41			Analyzed: 07/02/19 14:24						
QC Source Sample: Non-SDG (A9F0812-01)												
Cyanide, Total	ND	0.00500	0.00500	mg/L	1	---	ND	---	---	---	10%	
Matrix Spike (9070559-MS1)			Prepared: 07/02/19 11:41			Analyzed: 07/02/19 14:26						
QC Source Sample: Non-SDG (A9F0812-01)												
EPA 335.4												
Cyanide, Total	0.262	0.00500	0.00500	mg/L	1	0.250	ND	105	90-110%	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Available Cyanide by FIA, Ligand Exchange and Amperometric Detection

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9070536 - Method Prep: Aq							**Water**					
Blank (9070536-BLK1)			Prepared: 07/02/19 07:09		Analyzed: 07/02/19 09:24							
D6888-09												
Cyanide, Available	ND	0.00100	0.00200	mg/L	1	---	---	---	---	---	---	
LCS (9070536-BS1)			Prepared: 07/02/19 07:09		Analyzed: 07/02/19 09:25							
D6888-09												
Cyanide, Available	0.0262	0.00100	0.00200	mg/L	1	0.0250	---	105	90-117%	---	---	
Matrix Spike (9070536-MS1)			Prepared: 07/02/19 07:09		Analyzed: 07/02/19 09:30							
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02)												
D6888-09												
Cyanide, Available	0.0266	0.00101	0.00201	mg/L	1	0.0251	ND	106	82-130%	---	---	
Matrix Spike Dup (9070536-MSD1)			Prepared: 07/02/19 07:09		Analyzed: 07/02/19 09:31							
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02)												
D6888-09												
Cyanide, Available	0.0269	0.00101	0.00201	mg/L	1	0.0251	ND	107	82-130%	0.9	11%	

Apex Laboratories

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Philip Nerenberg, Lab Director

Apex Laboratories, LLC

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALITY CONTROL (QC) SAMPLE RESULTS

Free Cyanide by Microdiffusion/Colorimetric Spectrophotometry

Analyte	Result	Detection Limit	Reporting Limit	Units	Dilution	Spike Amount	Source Result	% REC	% REC Limits	RPD	RPD Limit	Notes
Batch 9061475 - Method Prep: Aq							**Water**					
Blank (9061475-BLK1)			Prepared: 06/28/19 07:20		Analyzed: 06/28/19 11:28							
D4282-02												
Cyanide, Free	ND	0.00250	0.00500	mg/L	1	---	---	---	---	---	---	
LCS (9061475-BS1)			Prepared: 06/28/19 07:20		Analyzed: 06/28/19 11:28							
D4282-02												
Cyanide, Free	0.0637	0.00250	0.00500	mg/L	1	0.0667	---	96	85-115%	---	---	
LCS Dup (9061475-BSD1)			Prepared: 06/28/19 07:20		Analyzed: 06/28/19 11:33							
D4282-02												
Cyanide, Free	0.0692	0.00250	0.00500	mg/L	1	0.0667	---	104	85-115%	8	10%	
Duplicate (9061475-DUP1)			Prepared: 06/28/19 07:20		Analyzed: 06/28/19 11:34							
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02)												
D4282-02												
Cyanide, Free	ND	0.00250	0.00500	mg/L	1	---	ND	---	---	---	20%	
Matrix Spike (9061475-MS1)			Prepared: 06/28/19 07:20		Analyzed: 06/28/19 11:34							
QC Source Sample: 2708-190626-MULT802-109 (A9F0860-02)												
D4282-02												
Cyanide, Free	0.0677	0.00250	0.00500	mg/L	1	0.0667	ND	102	80-120%	---	---	

Apex Laboratories

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Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

SAMPLE PREPARATION INFORMATION

Diesel and/or Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Fuels/Acid Ext.)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9070617							
A9F0860-02	Water	NWTPH-Dx	06/26/19 15:50	07/03/19 12:55	1040mL/5mL	1000mL/5mL	0.96

Gasoline Range Hydrocarbons (Benzene through Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9061478							
A9F0860-02RE1	Water	NWTPH-Gx (MS)	06/26/19 15:50	06/28/19 10:51	5mL/5mL	5mL/5mL	1.00

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: 9061358							
A9F0860-01	Water	EPA 8260C	06/26/19 06:00	06/27/19 13:37	5mL/5mL	5mL/5mL	1.00
Batch: 9061478							
A9F0860-02RE1	Water	EPA 8260C	06/26/19 15:50	06/28/19 10:51	5mL/5mL	5mL/5mL	1.00

Semivolatile Organic Compounds by EPA 8270D

Prep: EPA 3510C (Acid/Base Neutral)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9070583							
A9F0860-02RE2	Water	EPA 8270D	06/26/19 15:50	07/03/19 07:08	1040mL/5mL	1000mL/2mL	2.40

Total Metals by EPA 6020A (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9070523							
A9F0860-02	Water	EPA 6020A	06/26/19 15:50	07/01/19 14:41	45mL/50mL	45mL/50mL	1.00

Total Cyanide by Flow Analysis (Aqueous)

Apex Laboratories

Philip Nerenberg, Lab Director

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EPA ID: OR01039

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

SAMPLE PREPARATION INFORMATION

Total Cyanide by Flow Analysis (Aqueous)

Prep: Lachat Micro Dist - aqueous

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9070559							
A9F0860-02RE1	Water	EPA 335.4	06/26/19 15:50	07/02/19 11:41	6mL/6mL	6mL/6mL	1.00

Available Cyanide by FIA, Ligand Exchange and Amperometric Detection

Prep: Method Prep: Aq

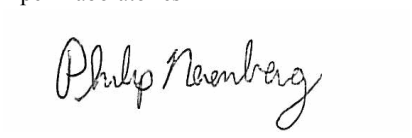
Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9070536							
A9F0860-02	Water	D6888-09	06/26/19 15:50	07/02/19 07:09	5mL/5mL	5mL/5mL	1.00

Free Cyanide by Microdiffusion/Colorimetric Spectrophotometry

Prep: Method Prep: Aq

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 9061475							
A9F0860-02	Water	D4282-02	06/26/19 15:50	06/28/19 07:20	3mL/3mL	3mL/3mL	1.00

Apex Laboratories



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Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

QUALIFIER DEFINITIONS

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

Apex Laboratories

F-17	No fuel pattern detected. The Diesel result represents carbon range C12 to C24, and the Oil result represents >C24 to C40.
M-02	Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
Q-01	Spike recovery and/or RPD is outside acceptance limits.
Q-03	Spike recovery and/or RPD is outside control limits due to the high concentration of analyte present in the sample.
Q-05	Analyses are not controlled on RPD values from sample and duplicate concentrations that are below 5 times the reporting level.
Q-16	Reanalysis of an original Batch QC sample.
Q-17	RPD between original and duplicate sample is outside of established control limits.
Q-19	Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
Q-29	Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
Q-41	Estimated Results. Recovery of Continuing Calibration Verification sample above upper control limit for this analyte. Results are likely biased high.
Q-54	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +2%. The results are reported as Estimated Values.
Q-54a	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by +3%. The results are reported as Estimated Values.
Q-54b	Daily Continuing Calibration Verification recovery for this analyte failed the +/-20% criteria listed in EPA method 8260C/8270D by -5%. The results are reported as Estimated Values.
Q-55	Daily CCV/LCS recovery for this analyte was below the +/-20% criteria listed in EPA 8260C, however there is adequate sensitivity to ensure detection at the reporting level.
Q-56	Daily CCV/LCS recovery for this analyte was above the +/-20% criteria listed in EPA 8260C
R-02	The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
S-06	Surrogate recovery is outside of established control limits.

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Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

REPORTING NOTES AND CONVENTIONS:

Abbreviations:

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

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

NR Result Not Reported

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

Detection Limits: Limit of Detection (LOD)

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

Reporting Limits: Limit of Quantitation (LOQ)

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

Reporting Conventions:

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

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

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

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

QC Source:

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

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

Miscellaneous Notes:

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

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

Blanks:

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

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434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

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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Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

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

Philip Nerenberg, Lab Director

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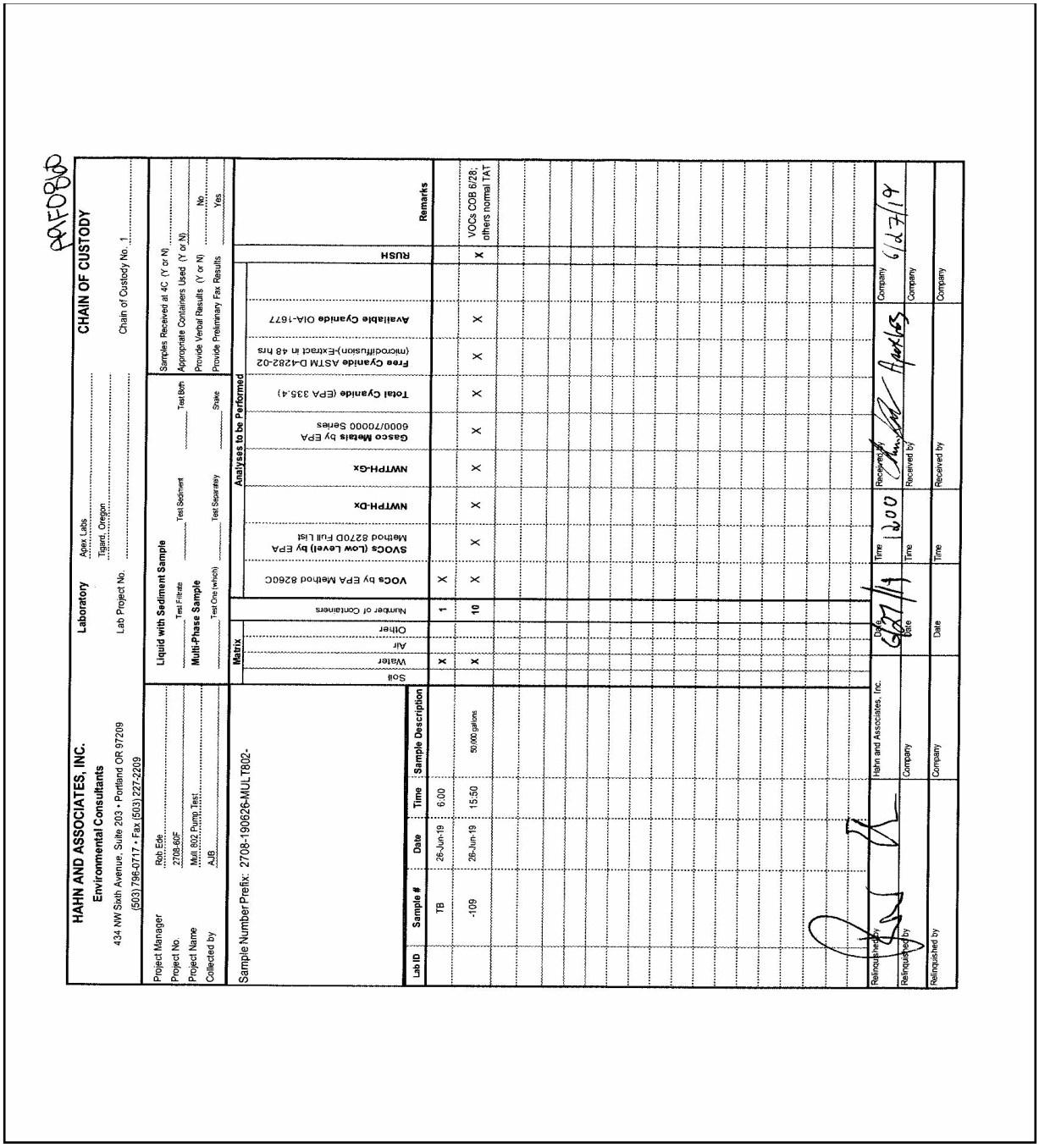
Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**



A9F0860

HAHN AND ASSOCIATES, INC. — Laboratory: Apex Labs; Tigard, Oregon — **CHAIN OF CUSTODY**
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209 — Lab Project No. — Chain of Custody No. 1
(503) 796-0717 • Fax (503) 227-2209

Project Manager: Rob Ede
Project No.: 2708-60F
Project Name: Mult. 802 Pump Test
Collected by: AJB

Liquid with Sediment Sample — Test Filtrate ____ Test Sediment ____ Test Both
Multi-Phase Sample — Test One (which) ____ Test Separately ____ Shake

Samples Received at 4C (Y or N) ____
Appropriate Containers Used (Y or N) ____
Provide Verbal Results (Y or N) ____ No
Provide Preliminary Fax Results ____ Yes

Sample Number Prefix: 2708-190626-MULT802-

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	VOCs by EPA Method 8260C	SVOCs (Low Level) by EPA Method 8270D Full List	NWTPH-Dx	NWTPH-Gx	Gasco Metals by EPA 6000/7000D Series	Total Cyanide (EPA 335.4)	Free Cyanide ASTM D4282-02 (microdiffusion)-Extract in 48 hrs	Available Cyanide OIA-1677	RUSH	Remarks
	TB	26-Jun-19	6:00		X				1	X									
	-109	26-Jun-19	15:50	50,000 gallons		X			10	X	X	X	X	X	X	X	X	X	VOCs COB 6/28; others normal TAT

Relinquished by: Hahn and Associates, Inc. — Company — Date 6/27/19 — Time 1300 — Received by: Company — Date — Time
Relinquished by: Company — Date — Time — Received by: Company — Date — Time
Relinquished by: Company — Date — Time — Received by: Company — Date — Time

Apex Laboratories

Philip Nerenberg

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Philip Nerenberg, Lab Director

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

Hahn and Associates	Project: **Mult 802 Pump Test**	
434 NW 6th Ave. Suite 203	Project Number: **2708-60F**	**Report ID:**
Portland, OR 97209	Project Manager: **Rob Ede**	**A9F0860 - 07 11 19 1559**

APEX LABS COOLER RECEIPT FORM

Client: Hahn Element WO#: A9F0860

Project/Project #: Mult 802 Pump Test 2708-60F

Delivery Info:

Date/time received: 6/27/19 @ 1200 By: CFH

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

Cooler Inspection Date/time inspected: 6/27/19 @ 1244 By: CFH

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

Signed/dated by client? Yes X No

Signed/dated by Apex? Yes X No

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

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

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

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

Samples Inspection: Date/time inspected: 6/27/19 @ 12:55 By: TAM

All samples intact? Yes No Comments: 1/2 unpreserved amber lid cracked

Bottle labels/COCs agree? Yes No Comments:

COC/container discrepancies form initiated? Yes No NA

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

Do VOA vials have visible headspace? Yes No NA

Comments

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

Comments:

Additional information: TB # 2070

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

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

A9F0860

Apex Laboratories

Client:	**Hahn and Associates**	**Project Manager:**	**Philip Nerenberg**
Project:	**Mult 802 Pump Test**	**Project Number:**	**2708-60F**

Report To:

Hahn and Associates
Rob Ede
434 NW 6th Ave. Suite 203
Portland, OR 97209
Phone: (503) 796-0717
Fax: (503) 227-2209

Invoice To:

Hahn and Associates
Rob Ede
434 NW 6th Ave. Suite 203
Portland, OR 97209
Phone :(503) 796-0717
Fax: (503) 227-2209

Date Due:	07/12/19 17:00 (10 day TAT)		
Received By:	Charles F. Hoffman	Date Received:	06/27/19 12:00
Logged In By:	Tanna A. Godfrey	Date Logged In:	06/27/19 12:56

Cooler#1 received at 1.1°C

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

Analysis	Due	TAT	Expires	Comments
A9F0860-01 2708-190626-MULT802-TB [Water] Sampled 06/26/19 06:00				**Tb#2070**
(GMT-08:00) Pacific Time (US & Canada) 1 Containers				
Project Mgmt				
Data Package	08/23/19 17:00	10	10/03/19 06:00	
Volatiles				
8260C Full List	07/11/19 17:00	10	07/10/19 06:00	
A9F0860-02 2708-190626-MULT802-109 [Water] Sampled 06/26/19 15:50				
(GMT-08:00) Pacific Time (US & Canada) 10 Containers				
Fuels				
NWTPH-Dx (Diesel/Oil)	07/05/19 17:00	5	07/10/19 15:50	
Metals				
Metals, Select 1	07/11/19 17:00	10	12/23/19 15:50	Total
Semivols (Scan)				
8270D Full List SVOC	07/11/19 17:00	10	07/03/19 15:50	
Volatiles				
8260C Full List	06/28/19 17:00	1	07/10/19 15:50	
NWTPH-Gx	07/05/19 17:00	5	07/10/19 15:50	
Wet Chem				
Cyanide, Available (OIA/D6888-09)	07/11/19 17:00	10	07/10/19 15:50	
Cyanide, Free (ASTM D 4282) - 48 hour	07/11/19 17:00	10	06/28/19 15:50	48hr extraction goal
Cyanide, Interference Testing	07/11/19 17:00	10	06/27/19 15:50	
Cyanide, Total (335.4/9012)	07/11/19 17:00	10	07/10/19 15:50	

Reviewed By

Date

A9F0860

Apex Laboratories

Client:	**Hahn and Associates**	**Project Manager:**	**Philip Nerenberg**
Project:	**Mult 802 Pump Test**	**Project Number:**	**2708-60F**

Analysis groups included in this work order

Metals, Select 1

Ag (Silver) - 6020 - Total	Al (Aluminum) - 6020 - Total	As (Arsenic) - 6020 - Total	Ba (Barium) - 6020 - Total
Be (Beryllium) - 6020 - Total	Cd (Cadmium) - 6020 - Total	Cr (Chromium) - 6020 - Total	Cu (Copper) - 6020 - Total
Fe (Iron) - 6020 - Total	Hg (Mercury) - 6020 - Total	Mn (Manganese) - 6020 - Total	Ni (Nickel) - 6020 - Total
Pb (Lead) - 6020 - Total	Sb (Antimony) - 6020 - Total	Se (Selenium) - 6020 - Total	Tl (Thallium) - 6020 - Total
V (Vanadium) - 6020 - Total	Zn (Zinc) - 6020 - Total		

3/29/13 cmw: also need an Apex Excel EDD under custom EDD Library

Reviewed By

Date

AAFO860

HAHN AND ASSOCIATES, INC.
Environmental Consultants
434 NW Sixth Avenue, Suite 203 • Portland OR 97209
(503) 796-0717 • Fax (503) 227-2209

Laboratory Apex Labs
Tigard, Oregon
Lab Project No.

CHAIN OF CUSTODY

Chain of Custody No. 1

Project Manager: Rob Ede
Project No.: 2708-60F
Project Name: Mult 802 Pump Test
Collected by: AJB

Liquid with Sediment Sample
____ Test Filtrate ____ Test Sediment ____ Test Both
Multi-Phase Sample
____ Test One (which) ____ Test Separately ____ Shake

Samples Received at 4C (Y or N)
Appropriate Containers Used (Y or N)
Provide Verbal Results (Y or N): No
Provide Preliminary Fax Results: Yes

Sample Number Prefix: 2708-190626-MULT802-

Lab ID	Sample #	Date	Time	Sample Description	Matrix: Soil	Water	Air	Other	Number of Containers	VOCs by EPA Method 8260C	SVOCs (Low Level) by EPA Method 8270D Full List	NWTPH-Dx	NWTPH-Gx	Gasco Metals by EPA 6000/70000 Series	Total Cyanide (EPA 335.4)	Free Cyanide ASTM D-4282-02 (microdiffusion)-Extract in 48 hrs	Available Cyanide OIA-1677		RUSH	Remarks
	TB	26-Jun-19	6:00			X			1	X										
	-109	26-Jun-19	15:50	50,000 gallons		X			10	X	X	X	X	X	X	X	X		X	VOCs COB 6/28; others normal TAT

Relinquished by	Hahn and Associates, Inc.	Date 6/27/19	Time 1200	Received by	Company Apex Labs
Relinquished by	Company	Date	Time	Received by	Company 6/27/19
Relinquished by	Company	Date	Time	Received by	Company

APEX LABS COOLER RECEIPT FORM

Client: Hahn Element WO#: A9F0860

Project/Project #: Mult 802 Pump Test 2708-601-F

Delivery Info:

Date/time received: 6/27/19 @ 1200 By: CFH

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

Cooler Inspection Date/time inspected: 6/27/19 @ 1244 By: CFH

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

Signed/dated by client? Yes X No ___

Signed/dated by Apex? Yes X No ___

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

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

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

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

Samples Inspection: Date/time inspected: 6/27/19 @ 12:55 By: THM

All samples intact? Yes X No X Comments: 1/2 unpreserved ambers lid cracked

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

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

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

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

Comments ___

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

Comments: ___

Additional information: TB# 2070

Labeled by: THM Witness: [signature] Cooler Inspected by: THM See Project Contact Form: Y

CLP-Like Forms

Apex Laboratories

SDG: A9F0860

CLASS: GC

METHOD: NWTPH-Dx

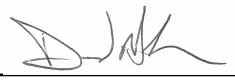
ANALYSES DATA PACKAGE COVER PAGE

NWTPH-Dx

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test

Client Sample Id:	Lab Sample Id:	Matrix
2708-190626-MULT802-109	A9F0860-02	Water

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: 10/1/2019 2:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Dx

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
Diesel	0.100	0.200	mg/L
Oil	0.200	0.400	mg/L

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

ORGANIC ANALYSIS DATA SHEET

NWTPH-Dx

2708-190626-MULT802-109

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	A9F0860-02	File ID:	1F070323.D
Sampled:	06/26/19 15:50	Prepared:	07/03/19 12:55	Analyzed:	07/04/19 05:49
		Preparation:	EPA 3510C (Fuels/Acid Ext.	Initial/Final:	1040 mL / 5 mL

Batch:	9070617	Sequence:	9G03030	Calibration:	A9D2602	Instrument:	DUALFID1F

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q
68334-30-5	Diesel	1	7.60	
Oil	Oil	1	1.54	

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl (Surr)	0.240	0.261	109	50 - 150	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

NWTPH-Dx

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Batch: 9070617 Batch Matrix: Water Preparation: EPA 3510C (Fuels/Acid Ext.)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9070617-BLK1	1F070320.D	07/03/19 12:55	
LCS	9070617-BS1	1F070321.D	07/03/19 12:55	
LCS Dup	9070617-BSD1	1F070322.D	07/03/19 12:55	
2708-190626-MULT802-109	A9F0860-02	1F070323.D	07/03/19 12:55	

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
NWTPH-Dx

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9070617-BLK1	File ID:	1F070320.D
Prepared:	07/03/19 12:55	Preparation:	EPA 3510C (Fuels/Acid Ext.	Initial/Final:	1100 mL / 5 mL
Analyzed:	07/04/19 04:42	Instrument:	DUALFID1F		
Batch:	9070617	Sequence:	9G03030	Calibration:	A9D2602

CAS NO.	COMPOUND	CONC. (mg/L)	Q
68334-30-5	Diesel	0.0909	U
Oil	Oil	0.182	U

SYSTEM MONITORING COMPOUND	ADDED (mg/L)	CONC (mg/L)	% REC	QC LIMITS	Q
o-Terphenyl (Surr)	0.227	0.242	106	50 - 150	

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070617	Laboratory ID:	9070617-BS1
Preparation:	EPA 3510C (Fuels/Acid Ext.)	Initial/Final:	1000 mL / 5 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Diesel	1.25	1.11	89	58 - 115

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070617	Laboratory ID:	9070617-BSD1
Preparation:	EPA 3510C (Fuels/Acid Ext.)	Initial/Final:	1000 mL / 5 mL

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	
Diesel	1.25	1.14	92	3	20	58 - 115

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9D25027	Instrument:	DUALFID1F
Matrix:	Water	Calibration:	A9D2602

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Blank	9D25027-ICB1	1F042503.D	04/25/19 17:18
Cal Standard	9D25027-CAL1	1F042504.D	04/25/19 17:41
Cal Standard	9D25027-CAL2	1F042505.D	04/25/19 18:03
Cal Standard	9D25027-CAL3	1F042506.D	04/25/19 18:26
Cal Standard	9D25027-CAL4	1F042507.D	04/25/19 18:49
Cal Standard	9D25027-CAL5	1F042508.D	04/25/19 19:12
Cal Standard	9D25027-CAL6	1F042509.D	04/25/19 19:35
Cal Standard	9D25027-CAL7	1F042510.D	04/25/19 19:58
Cal Standard	9D25027-CAL8	1F042511.D	04/25/19 20:20
Cal Standard	9D25027-CAL9	1F042512.D	04/25/19 20:43
Cal Standard	9D25027-CALA	1F042513.D	04/25/19 21:06
Cal Standard	9D25027-CALB	1F042514.D	04/25/19 21:29
Cal Standard	9D25027-CALC	1F042515.D	04/25/19 21:51
Cal Standard	9D25027-CALD	1F042516.D	04/25/19 22:14
Cal Standard	9D25027-CALE	1F042517.D	04/25/19 22:37
Cal Standard	9D25027-CALF	1F042518.D	04/25/19 22:59
Cal Standard	9D25027-CALG	1F042519.D	04/25/19 23:22
Cal Standard	9D25027-CALH	1F042520.D	04/25/19 23:45
Cal Standard	9D25027-CALI	1F042521.D	04/26/19 00:07
Cal Standard	9D25027-CALJ	1F042522.D	04/26/19 00:30
Cal Standard	9D25027-CALK	1F042524.D	04/26/19 01:15
Initial Cal Check	9D25027-ICV1	1F042526.D	04/26/19 02:00
Initial Cal Check	9D25027-ICV2	1F042527.D	04/26/19 02:23

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

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G03030	Instrument:	DUALFID1F
Matrix:	Water	Calibration:	A9D2602

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	9G03030-CCV3	1F070317.D	07/04/19 03:34
Calibration Check	9G03030-CCV4	1F070318.D	07/04/19 03:57
Calibration Blank	9G03030-CCB2	1F070319.D	07/04/19 04:19
Blank	9070617-BLK1	1F070320.D	07/04/19 04:42
LCS	9070617-BS1	1F070321.D	07/04/19 05:04
LCS Dup	9070617-BSD1	1F070322.D	07/04/19 05:27
2708-190626-MULT802-109	A9F0860-02	1F070323.D	07/04/19 05:49
Calibration Check	9G03030-CCV5	1F070329.D	07/04/19 08:04
Calibration Check	9G03030-CCV6	1F070330.D	07/04/19 08:27

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.

INITIAL CALIBRATION DATA (Summary)

NWTPH-Dx

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9D2602 Date: 04/26/19 09:36 Instrument: DUALFID1F

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Diesel	1274651	Ave	2.95218	6	0			15	
Oil	1100493	Ave	5.184329	10	0			15	
o-Terphenyl (Surr)	1391526	Ave	0.8255536	6.794	0.0797912			15	

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

INITIAL CALIBRATION DATA

NWTPH-Dx

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9D2602
Instrument: DUALFID1F
Calibration Date: 04/26/19 09:36

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Diesel	25	1354440	40	1306638	100	1253969	250	1264505	500	1270516	1000	1249782
Diesel Range Organics (C12-C24)	25	1354440	40	1306638	100	1253969	250	1264505	500	1270516	1000	1249782

INITIAL CALIBRATION DATA (Continued)

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Calibration:	A9D2602	Instrument:	DUALFID1F
Matrix:		Calibration Date:	04/26/19 09:36

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Diesel	2500	1250602	5000	1246756								
Diesel Range Organics (C12-C24)	2500	1250602	5000	1246756								
o-Terphenyl (Surr)					10	1392742	25	1381612	50	1404157	100	1400981

INITIAL CALIBRATION DATA (Continued)

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Calibration:	A9D2602	Instrument:	DUALFID1F
Matrix:		Calibration Date:	04/26/19 09:36

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF	ug/mL	RF
Oil			40	1016461	80	1051013	250	1068527	500	1102754	1000	1146401
o-Terphenyl (Surr)	200	1378140										
Residual Range Organics (>C24-C			40	1016461	80	1051013	250	1068527	500	1102754	1000	1146401

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	DUALFID1F	Calibration:	A9D2602
Lab File ID:	1F042526.D		
Sequence:	9D25027	Inject Date:	04/26/19
Lab Sample ID:	9D25027-ICV1	Inject Time:	02:00

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Diesel	1000	962	-3.8	85 - 115

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	DUALFID1F	Calibration:	A9D2602
Lab File ID:	1F042527.D		
Sequence:	9D25027	Inject Date:	04/26/19
Lab Sample ID:	9D25027-ICV2	Inject Time:	02:23

ANALYTE	EXPECTED (ug/mL)	FOUND (ug/mL)	% DRIFT	QC LIMIT
Oil	1000	1030	3.2	85 - 115

CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	DUALFID1F	Calibration:	A9D2602
Lab File ID:	1F070317.D	Calibration Date:	04/26/19 09:36
Sequence:	9G03030	Injection Date:	07/04/19
Lab Sample ID:	9G03030-CCV3	Injection Time:	03:34

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Diesel	Ave	1000	1030		1274651	1311913	2.9	15

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

* = Values outside of QC limits

CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	DUALFID1F	Calibration:	A9D2602
Lab File ID:	1F070318.D	Calibration Date:	04/26/19 09:36
Sequence:	9G03030	Injection Date:	07/04/19
Lab Sample ID:	9G03030-CCV4	Injection Time:	03:57

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Oil	Ave	500	524		1100493	1154391	4.9	15

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

* = Values outside of QC limits

CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	DUALFID1F	Calibration:	A9D2602
Lab File ID:	1F070329.D	Calibration Date:	04/26/19 09:36
Sequence:	9G03030	Injection Date:	07/04/19
Lab Sample ID:	9G03030-CCV5	Injection Time:	08:04

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Diesel	Ave	1000	1030		1274651	1318198	3.4	15

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

* = Values outside of QC limits

CONTINUING CALIBRATION CHECK

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	DUALFID1F	Calibration:	A9D2602
Lab File ID:	1F070330.D	Calibration Date:	04/26/19 09:36
Sequence:	9G03030	Injection Date:	07/04/19
Lab Sample ID:	9G03030-CCV6	Injection Time:	08:27

COMPOUND	Curve Fit	Calculated Concentration (ug/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Oil	Ave	500	523		1100493	1151514	4.6	15

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

* = Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

NWTPH-Dx

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G03030	Instrument:	DUALFID1F
Matrix:	Water	Calibration:	A9D2602

Surrogate Compound	Spike Level ug/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9G03030-CCV3)			Lab File ID: 1F070317.D		Analyzed: 07/04/19 03:34			
o-Terphenyl (Surr)	50.0	110	80 - 120	6.79	6.794	-0.0040	+/-1.0	
Calibration Check (9G03030-CCV4)			Lab File ID: 1F070318.D		Analyzed: 07/04/19 03:57			
o-Terphenyl (Surr)	50.0	109	80 - 120	6.79	6.794	-0.0040	+/-1.0	
Calibration Blank (9G03030-CCB2)			Lab File ID: 1F070319.D		Analyzed: 07/04/19 04:19			
o-Terphenyl (Surr)			50 - 150	0	6.794	-6.7940	+/-1.0	
Blank (9070617-BLK1)			Lab File ID: 1F070320.D		Analyzed: 07/04/19 04:42			
o-Terphenyl (Surr)	0.227	106	50 - 150	6.79	6.794	-0.0040	+/-1.0	
LCS (9070617-BS1)			Lab File ID: 1F070321.D		Analyzed: 07/04/19 05:04			
o-Terphenyl (Surr)	0.250	106	50 - 150	6.79	6.794	-0.0040	+/-1.0	
LCS Dup (9070617-BSD1)			Lab File ID: 1F070322.D		Analyzed: 07/04/19 05:27			
o-Terphenyl (Surr)	0.250	111	50 - 150	6.79	6.794	-0.0040	+/-1.0	
2708-190626-MULT802-109 (A9F0860-02)			Lab File ID: 1F070323.D		Analyzed: 07/04/19 05:49			
o-Terphenyl (Surr)	0.240	109	50 - 150	6.79	6.794	-0.0040	+/-1.0	
Calibration Check (9G03030-CCV5)			Lab File ID: 1F070329.D		Analyzed: 07/04/19 08:04			
o-Terphenyl (Surr)	50.0	111	80 - 120	6.79	6.794	-0.0040	+/-1.0	
Calibration Check (9G03030-CCV6)			Lab File ID: 1F070330.D		Analyzed: 07/04/19 08:27			
o-Terphenyl (Surr)	50.0	109	80 - 120	6.79	6.794	-0.0040	+/-1.0	

HOLDING TIME SUMMARY

NWTPH-Dx

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

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
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	07/03/19 12:55	6.88	14.00	07/04/19 05:49	0.70	40.00	

Apex Laboratories

SDG: A9F0860

CLASS: GCMS

METHOD: NWTPH-Gx (MS)

ANALYSES DATA PACKAGE COVER PAGE

NWTPH-Gx (MS)

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test

Client Sample Id:	Lab Sample Id:	Matrix
2708-190626-MULT802-109	A9F0860-02	Water

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: 10/1/2019 2:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

NWTPH-Gx (MS)

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
Gasoline Range Organics	0.0500	0.100	mg/L

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

ORGANIC ANALYSIS DATA SHEET

NWTPH-Gx (MS)

2708-190626-MULT802-109

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	A9F0860-02RE1	File ID:	VI19062812.D
Sampled:	06/26/19 15:50	Prepared:	06/28/19 10:51	Analyzed:	06/28/19 13:21
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9061478 Sequence: 9F28013 Calibration: A9F2102 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (mg/L)	Q
8006-61-9	Gasoline Range Organics	10	6.45	D

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Sur)	50.0	49.4	99	50 - 150	
1,4-Difluorobenzene (Sur)	50.0	49.7	99	50 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (IS)	251043	6.223	242334	6.223	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

NWTPH-Gx (MS)

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Batch: 9061478 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9061478-BLK1	VI19062806.D	06/28/19 09:17	
LCS	9061478-BS2	VI19062805.D	06/28/19 09:17	
2708-190626-MULT802-109 (Dup)	9061478-DUP1	VI19062813.D	06/28/19 10:51	
2708-190626-MULT802-109	A9F0860-02RE1	VI19062812.D	06/28/19 10:51	

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
NWTPH-Gx (MS)

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9061478-BLK1	File ID:	VI19062806.D
Prepared:	06/28/19 09:17	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	06/28/19 10:39	Instrument:	VOA-GCMS9		
Batch:	9061478	Sequence:	9F28013	Calibration:	A9F2102

CAS NO.	COMPOUND	CONC. (mg/L)	Q
8006-61-9	Gasoline Range Organics	0.0500	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Sur)	50.0	46.4	93	50 - 150	
1,4-Difluorobenzene (Sur)	50.0	50.3	101	50 - 150	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (IS)	228577	6.225	242334	6.223	

LCS / LCS DUPLICATE RECOVERY

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061478	Laboratory ID:	9061478-BS2
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Gasoline Range Organics	0.500	0.466	93	80 - 120

* = Values outside of QC limits

DUPLICATES

2708-190626-MULT802-109

NWTPH-Gx (MS)

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Matrix: Water
Laboratory ID: 9061478-DUP1
Batch: 9061478
Lab Source ID: A9F0860-02RE1
Preparation: EPA 5030B
Initial/Final: 5 mL / 5 mL
Source Sample Name: 2708-190626-MULT802-109
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Gasoline Range Organics	30	6.45		6.50		0.9		NWTPH-Gx (MS)

* Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY
NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F20044	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9F20044-TUN2	VI19062038.D	06/21/19 02:22
Initial Cal Blank	9F20044-ICB2	VI19062041.D	06/21/19 03:43
Cal Standard	9F20044-CALC	VI19062042.D	06/21/19 04:10
Cal Standard	9F20044-CALD	VI19062043.D	06/21/19 04:37
Cal Standard	9F20044-CALE	VI19062044.D	06/21/19 05:04
Cal Standard	9F20044-CALF	VI19062045.D	06/21/19 05:31
Cal Standard	9F20044-CALG	VI19062046.D	06/21/19 05:58
Cal Standard	9F20044-CALH	VI19062047.D	06/21/19 06:25
Cal Standard	9F20044-CALI	VI19062048.D	06/21/19 06:52
Cal Standard	9F20044-CALJ	VI19062049.D	06/21/19 07:19
Initial Cal Check	9F20044-ICV3	VI19062052.D	06/21/19 08:40

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
NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F28013	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9F28013-TUN1	VI19062803.D	06/28/19 09:17
Calibration Check	9F28013-CCV2	VI19062805.D	06/28/19 10:12
Blank	9061478-BLK1	VI19062806.D	06/28/19 10:39
2708-190626-MULT802-109	A9F0860-02RE1	VI19062812.D	06/28/19 13:21
2708-190626-MULT802-109 (Dup)	9061478-DUP1	VI19062813.D	06/28/19 13:48

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

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Lab File ID:	VI19062038.D	Injection Date:	06/21/19
Instrument ID:	VOA-GCMS9	Injection Time:	02:22
Sequence:	9F20044	Lab Sample ID:	9F20044-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		129.08	
m/z 96	5 - 9% of m/z 95	6.69	PASS
m/z 173		0.19	
m/z 174	50 - 200% of m/z 95	77.47	PASS
m/z 175	5 - 9% of m/z 174	6.99	PASS
m/z 176	95 - 101% of m/z 174	96.67	PASS
m/z 177	5 - 9% of m/z 176	6.73	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Lab File ID:	VI19062803.D	Injection Date:	06/28/19
Instrument ID:	VOA-GCMS9	Injection Time:	09:17
Sequence:	9F28013	Lab Sample ID:	9F28013-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		125.06	
m/z 96	5 - 9% of m/z 95	6.80	PASS
m/z 173		0.36	
m/z 174	50 - 200% of m/z 95	79.96	PASS
m/z 175	5 - 9% of m/z 174	7.10	PASS
m/z 176	95 - 101% of m/z 174	96.77	PASS
m/z 177	5 - 9% of m/z 176	6.61	PASS

INITIAL CALIBRATION DATA (Summary)

NWTPH-Gx (MS)

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9F2102 Date: 06/21/19 11:39 Instrument: VOA-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Gasoline Range Organics	1.478361	XXX	19.29751	9.89	2.027853E-02				
4-Bromofluorobenzene (Sur)	0.5845509	Ave	2.641832	10.98	1.765949E-02			15	
1,4-Difluorobenzene (Sur)	1.681712	Ave	0.9285083	6.78825	3.613885E-02			15	

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

INITIAL CALIBRATION DATA (Continued)

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Calibration:	A9F2102	Instrument:	VOA-GCMS9
Matrix:		Calibration Date:	06/21/19 11:39

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Gasoline Range Organics											50	0.868243
4-Bromofluorobenzene (Sur)											50	0.5656625
1,4-Difluorobenzene (Sur)											50	1.674442

INITIAL CALIBRATION DATA (Continued)

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Calibration:	A9F2102	Instrument:	VOA-GCMS9
Matrix:		Calibration Date:	06/21/19 11:39

Compound	Level 13		Level 14		Level 15		Level 16		Level 17		Level 18	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Gasoline Range Organics	100	1.297764	250	1.44573	500	1.577225	1000	1.545335	2500	1.637517	5000	1.731357
4-Bromofluorobenzene (Sur)	50	0.5721147	50	0.5681679	50	0.5823976	50	0.58595	50	0.5926009	50	0.6038718
1,4-Difluorobenzene (Sur)	50	1.67923	50	1.674052	50	1.665974	50	1.685199	50	1.667556	50	1.694437

SECOND-SOURCE CALIBRATION VERIFICATION

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	VOA-GCMS9	Calibration:	A9F2102
Lab File ID:	VI19062052.D		
Sequence:	9F20044	Inject Date:	06/21/19
Lab Sample ID:	9F20044-ICV3	Inject Time:	08:40

ANALYTE	EXPECTED (ug/L)	FOUND (ug/L)	% DRIFT	QC LIMIT
Gasoline Range Organics	500	492	-1.7	70 - 130
4-Bromofluorobenzene (Sur)	50.0	49.7	-0.6	0 - 200
1,4-Difluorobenzene (Sur)	50.0	49.9	-0.1	0 - 200
Pentafluorobenzene (IS)	50.0	50.0	0.0	50 - 200

SURROGATE STANDARD RECOVERY AND RT SUMMARY

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F20044	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9F20044-ICV3)			Lab File ID: VI19062052.D		Analyzed: 06/21/19 08:40			
4-Bromofluorobenzene (Sur)	50.0	99	0 - 200	10.974	10.98	-0.0060	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	100	0 - 200	6.789	6.78825	0.0008	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F28013	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9061478-BS2)			Lab File ID: VI19062805.D		Analyzed: 06/28/19 10:12			
4-Bromofluorobenzene (Sur)	50.0	100	50 - 150	10.98	10.98	0.0000	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	100	50 - 150	6.789	6.78825	0.0008	+/-1.0	
Blank (9061478-BLK1)			Lab File ID: VI19062806.D		Analyzed: 06/28/19 10:39			
4-Bromofluorobenzene (Sur)	50.0	93	50 - 150	10.977	10.98	-0.0030	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	101	50 - 150	6.785	6.78825	-0.0032	+/-1.0	
2708-190626-MULT802-109 (A9F0860-02RE1)			Lab File ID: VI19062812.D		Analyzed: 06/28/19 13:21			
4-Bromofluorobenzene (Sur)	50.0	99	50 - 150	10.98	10.98	0.0000	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	99	50 - 150	6.789	6.78825	0.0008	+/-1.0	
Duplicate (9061478-DUP1)			Lab File ID: VI19062813.D		Analyzed: 06/28/19 13:48			
4-Bromofluorobenzene (Sur)	50.0	98	50 - 150	10.98	10.98	0.0000	+/-1.0	
1,4-Difluorobenzene (Sur)	50.0	99	50 - 150	6.789	6.78825	0.0008	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
NWTPH-Gx (MS)

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F28013	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9061478-BS2)			Lab File ID: VI19062805.D			Analyzed: 06/28/19 10:12			
Pentafluorobenzene (IS)	242334	6.223	242334	6.223	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9F28013-CCV2)			Lab File ID: VI19062805.D			Analyzed: 06/28/19 10:12			
Pentafluorobenzene (IS)	242334	6.223				50 - 200	6.2230	+/-0.50	*
Blank (9061478-BLK1)			Lab File ID: VI19062806.D			Analyzed: 06/28/19 10:39			
Pentafluorobenzene (IS)	228577	6.225	242334	6.223	94	50 - 200	0.0020	+/-0.50	
2708-190626-MULT802-109 (A9F0860-02RE1)			Lab File ID: VI19062812.D			Analyzed: 06/28/19 13:21			
Pentafluorobenzene (IS)	251043	6.223	242334	6.223	104	50 - 200	0.0000	+/-0.50	
Duplicate (9061478-DUP1)			Lab File ID: VI19062813.D			Analyzed: 06/28/19 13:48			
Pentafluorobenzene (IS)	245881	6.223	242334	6.223	101	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

NWTPH-Gx (MS)

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

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
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	06/28/19 10:51	1.79	14.00	06/28/19 13:21	1.90	14.00	

Apex Laboratories

SDG: A9F0860

CLASS: GCMS

METHOD: EPA 8260C

ANALYSES DATA PACKAGE COVER PAGE

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test

Client Sample Id:	Lab Sample Id:	Matrix
2708-190626-MULT802-TB	A9F0860-01	Water
2708-190626-MULT802-109	A9F0860-02	Water

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: 10/1/2019 2:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

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

METHOD DETECTION AND REPORTING LIMITS

EPA 8260C

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

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

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

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

2708-190626-MULT802-TB

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	A9F0860-01	File ID:	VI19062713.D
Sampled:	06/26/19 06:00	Prepared:	06/27/19 13:37	Analyzed:	06/27/19 17:08
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9061358 Sequence: 9F27033 Calibration: A9F2102 Instrument: VOA-GCMS9

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

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

2708-190626-MULT802-TB

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	A9F0860-01	File ID:	VI19062713.D
Sampled:	06/26/19 06:00	Prepared:	06/27/19 13:37	Analyzed:	06/27/19 17:08
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9061358 Sequence: 9F27033 Calibration: A9F2102 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
87-68-3	Hexachlorobutadiene	1	2.50	U
591-78-6	2-Hexanone	1	5.00	U
98-82-8	Isopropylbenzene	1	0.500	U
99-87-6	4-Isopropyltoluene	1	0.500	U
75-09-2	Methylene chloride	1	1.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	1	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	1	0.500	U
91-20-3	Naphthalene	1	1.00	U
103-65-1	n-Propylbenzene	1	0.250	U
100-42-5	Styrene	1	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	1	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	1	0.250	U
127-18-4	Tetrachloroethene (PCE)	1	0.200	U
87-61-6	1,2,3-Trichlorobenzene	1	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1	1.00	U
71-55-6	1,1,1-Trichloroethane	1	0.200	U
79-00-5	1,1,2-Trichloroethane	1	0.250	U
79-01-6	Trichloroethene (TCE)	1	0.200	U
75-69-4	Trichlorofluoromethane	1	1.00	U
96-18-4	1,2,3-Trichloropropane	1	0.500	U
95-63-6	1,2,4-Trimethylbenzene	1	0.500	U
108-67-8	1,3,5-Trimethylbenzene	1	0.500	U
108-88-3	Toluene	1	0.500	U
75-01-4	Vinyl chloride	1	0.200	U
179601-23-1	m,p-Xylene	1	0.500	U
95-47-6	o-Xylene	1	0.250	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	52.6	105	80 - 120	
Toluene-d8 (Surr)	50.0	51.1	102	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	50.4	101	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	173138	6.223	178232	6.217	
Chlorobenzene-d5 (ISTD)	267351	9.916	280301	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	117086	11.856	137317	11.856	

* Values outside of QC limits

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

2708-190626-MULT802-109

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	A9F0860-02RE1	File ID:	VI19062812.D
Sampled:	06/26/19 15:50	Prepared:	06/28/19 10:51	Analyzed:	06/28/19 13:21
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9061478 Sequence: 9F28013 Calibration: A9F2102 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
67-64-1	Acetone	10	100	U
107-13-1	Acrylonitrile	10	10.0	U
71-43-2	Benzene	10	365	D
108-86-1	Bromobenzene	10	2.50	U
74-97-5	Bromochloromethane	10	5.00	U
75-27-4	Bromodichloromethane	10	5.00	U
75-25-2	Bromoform	10	5.00	U
74-83-9	Bromomethane	10	50.0	U
78-93-3	2-Butanone (MEK)	10	50.0	U
104-51-8	n-Butylbenzene	10	5.00	U
135-98-8	sec-Butylbenzene	10	5.00	U
98-06-6	tert-Butylbenzene	10	5.00	U
75-15-0	Carbon disulfide	10	50.0	U
56-23-5	Carbon tetrachloride	10	5.00	U
108-90-7	Chlorobenzene	10	2.50	U
75-00-3	Chloroethane	10	50.0	U
67-66-3	Chloroform	10	5.00	U
74-87-3	Chloromethane	10	50.0	U
95-49-8	2-Chlorotoluene	10	5.00	U
106-43-4	4-Chlorotoluene	10	5.00	U
124-48-1	Dibromochloromethane	10	5.00	U
96-12-8	1,2-Dibromo-3-chloropropane	10	25.0	U
106-93-4	1,2-Dibromoethane (EDB)	10	2.50	U
74-95-3	Dibromomethane	10	5.00	U
95-50-1	1,2-Dichlorobenzene	10	2.50	U
541-73-1	1,3-Dichlorobenzene	10	2.50	U
106-46-7	1,4-Dichlorobenzene	10	2.50	U
75-71-8	Dichlorodifluoromethane	10	5.00	U
75-34-3	1,1-Dichloroethane	10	2.00	U
107-06-2	1,2-Dichloroethane (EDC)	10	2.00	U
75-35-4	1,1-Dichloroethene	10	2.00	U
156-59-2	cis-1,2-Dichloroethene	10	2.00	U
156-60-5	trans-1,2-Dichloroethene	10	2.00	U
78-87-5	1,2-Dichloropropane	10	2.50	U
142-28-9	1,3-Dichloropropane	10	5.00	U
594-20-7	2,2-Dichloropropane	10	5.00	U
563-58-6	1,1-Dichloropropene	10	5.00	U
10061-01-5	cis-1,3-Dichloropropene	10	5.00	U
10061-02-6	trans-1,3-Dichloropropene	10	5.00	U
100-41-4	Ethylbenzene	10	19.6	D

ORGANIC ANALYSIS DATA SHEET

EPA 8260C

2708-190626-MULT802-109

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	A9F0860-02RE1	File ID:	VI19062812.D
Sampled:	06/26/19 15:50	Prepared:	06/28/19 10:51	Analyzed:	06/28/19 13:21
		Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Batch: 9061478 Sequence: 9F28013 Calibration: A9F2102 Instrument: VOA-GCMS9

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
87-68-3	Hexachlorobutadiene	10	25.0	U
591-78-6	2-Hexanone	10	50.0	U
98-82-8	Isopropylbenzene	10	5.00	U
99-87-6	4-Isopropyltoluene	10	5.00	U
75-09-2	Methylene chloride	10	15.0	U
108-10-1	4-Methyl-2-pentanone (MiBK)	10	50.0	U
1634-04-4	Methyl tert-butyl ether (MTBE)	10	5.00	U
91-20-3	Naphthalene	10	1520	D
103-65-1	n-Propylbenzene	10	2.50	U
100-42-5	Styrene	10	23.7	D
630-20-6	1,1,1,2-Tetrachloroethane	10	2.00	U
79-34-5	1,1,2,2-Tetrachloroethane	10	2.50	U
127-18-4	Tetrachloroethene (PCE)	10	2.00	U
87-61-6	1,2,3-Trichlorobenzene	10	10.0	U
120-82-1	1,2,4-Trichlorobenzene	10	10.0	U
71-55-6	1,1,1-Trichloroethane	10	2.00	U
79-00-5	1,1,2-Trichloroethane	10	2.50	U
79-01-6	Trichloroethene (TCE)	10	2.00	U
75-69-4	Trichlorofluoromethane	10	10.0	U
96-18-4	1,2,3-Trichloropropane	10	5.00	U
95-63-6	1,2,4-Trimethylbenzene	10	24.8	D
108-67-8	1,3,5-Trimethylbenzene	10	9.17	JD
108-88-3	Toluene	10	156	D
75-01-4	Vinyl chloride	10	2.00	U
179601-23-1	m,p-Xylene	10	67.0	D
95-47-6	o-Xylene	10	26.5	D

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	49.8	100	80 - 120	
4-Bromofluorobenzene (Surr)	50.0	49.1	98	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	251043	6.223	246439	6.223	
Chlorobenzene-d5 (ISTD)	378036	9.922	369799	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	178394	11.856	179307	11.856	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Batch: 9061358 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9061358-BLK1	VI19062706.D	06/27/19 11:30	
LCS	9061358-BS1	VI19062704.D	06/27/19 11:30	
2708-190626-MULT802-TB	A9F0860-01	VI19062713.D	06/27/19 13:37	

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

PREPARATION BATCH SUMMARY

EPA 8260C

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Batch: 9061478 Batch Matrix: Water Preparation: EPA 5030B

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9061478-BLK1	VI19062806.D	06/28/19 09:17	
LCS	9061478-BS1	VI19062804.D	06/28/19 09:17	
2708-190626-MULT802-109 (Dup)	9061478-DUP1	VI19062813.D	06/28/19 10:51	
2708-190626-MULT802-109 (MS)	9061478-MS1	VI19062814.D	06/28/19 10:51	
2708-190626-MULT802-109	A9F0860-02RE1	VI19062812.D	06/28/19 10:51	

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 8260C

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9061358-BLK1	File ID:	VI19062706.D
Prepared:	06/27/19 11:30	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	06/27/19 13:59	Instrument:	VOA-GCMS9		
Batch:	9061358	Sequence:	9F27033	Calibration:	A9F2102

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

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9061358-BLK1	File ID:	VI19062706.D
Prepared:	06/27/19 11:30	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	06/27/19 13:59	Instrument:	VOA-GCMS9		
Batch:	9061358	Sequence:	9F27033	Calibration:	A9F2102

CAS NO.	COMPOUND	CONC. (ug/L)	Q
594-20-7	2,2-Dichloropropane	0.500	U
563-58-6	1,1-Dichloropropene	0.500	U
10061-01-5	cis-1,3-Dichloropropene	0.500	U
10061-02-6	trans-1,3-Dichloropropene	0.500	U
100-41-4	Ethylbenzene	0.250	U
87-68-3	Hexachlorobutadiene	2.50	U
591-78-6	2-Hexanone	5.00	U
98-82-8	Isopropylbenzene	0.500	U
99-87-6	4-Isopropyltoluene	0.500	U
75-09-2	Methylene chloride	1.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.500	U
91-20-3	Naphthalene	1.00	U
103-65-1	n-Propylbenzene	0.250	U
100-42-5	Styrene	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	0.250	U
127-18-4	Tetrachloroethene (PCE)	0.200	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	U
71-55-6	1,1,1-Trichloroethane	0.200	U
79-00-5	1,1,2-Trichloroethane	0.250	U
79-01-6	Trichloroethene (TCE)	0.200	U
75-69-4	Trichlorofluoromethane	1.00	U
96-18-4	1,2,3-Trichloropropane	0.500	U
95-63-6	1,2,4-Trimethylbenzene	0.500	U
108-67-8	1,3,5-Trimethylbenzene	0.500	U
108-88-3	Toluene	0.500	U
75-01-4	Vinyl chloride	0.200	U
179601-23-1	m,p-Xylene	0.500	U
95-47-6	o-Xylene	0.250	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	51.4	103	80 - 120	
Toluene-d8 (Surr)	50.0	50.8	102	80 - 120	

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9061358-BLK1	File ID:	VI19062706.D
Prepared:	06/27/19 11:30	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	06/27/19 13:59	Instrument:	VOA-GCMS9		
Batch:	9061358	Sequence:	9F27033	Calibration:	A9F2102

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Surr)	50.0	49.3	99	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	179619	6.223	178232	6.217	
Chlorobenzene-d5 (ISTD)	276992	9.916	280301	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	121705	11.856	137317	11.856	

METHOD BLANK DATA SHEET
EPA 8260C

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9061478-BLK1	File ID:	VI19062806.D
Prepared:	06/28/19 09:17	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	06/28/19 10:39	Instrument:	VOA-GCMS9		
Batch:	9061478	Sequence:	9F28013	Calibration:	A9F2102

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

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9061478-BLK1	File ID:	VI19062806.D
Prepared:	06/28/19 09:17	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	06/28/19 10:39	Instrument:	VOA-GCMS9		
Batch:	9061478	Sequence:	9F28013	Calibration:	A9F2102

CAS NO.	COMPOUND	CONC. (ug/L)	Q
594-20-7	2,2-Dichloropropane	0.500	U
563-58-6	1,1-Dichloropropene	0.500	U
10061-01-5	cis-1,3-Dichloropropene	0.500	U
10061-02-6	trans-1,3-Dichloropropene	0.500	U
100-41-4	Ethylbenzene	0.250	U
87-68-3	Hexachlorobutadiene	2.50	U
591-78-6	2-Hexanone	5.00	U
98-82-8	Isopropylbenzene	0.500	U
99-87-6	4-Isopropyltoluene	0.500	U
75-09-2	Methylene chloride	1.50	U
108-10-1	4-Methyl-2-pentanone (MiBK)	5.00	U
1634-04-4	Methyl tert-butyl ether (MTBE)	0.500	U
91-20-3	Naphthalene	1.00	U
103-65-1	n-Propylbenzene	0.250	U
100-42-5	Styrene	0.500	U
630-20-6	1,1,1,2-Tetrachloroethane	0.200	U
79-34-5	1,1,2,2-Tetrachloroethane	0.250	U
127-18-4	Tetrachloroethene (PCE)	0.200	U
87-61-6	1,2,3-Trichlorobenzene	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	U
71-55-6	1,1,1-Trichloroethane	0.200	U
79-00-5	1,1,2-Trichloroethane	0.250	U
79-01-6	Trichloroethene (TCE)	0.200	U
75-69-4	Trichlorofluoromethane	1.00	U
96-18-4	1,2,3-Trichloropropane	0.500	U
95-63-6	1,2,4-Trimethylbenzene	0.500	U
108-67-8	1,3,5-Trimethylbenzene	0.500	U
108-88-3	Toluene	0.500	U
75-01-4	Vinyl chloride	0.200	U
179601-23-1	m,p-Xylene	0.500	U
95-47-6	o-Xylene	0.250	U

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
1,4-Difluorobenzene (Surr)	50.0	50.7	101	80 - 120	
Toluene-d8 (Surr)	50.0	51.4	103	80 - 120	

METHOD BLANK DATA SHEET

EPA 8260C

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9061478-BLK1	File ID:	VI19062806.D
Prepared:	06/28/19 09:17	Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL
Analyzed:	06/28/19 10:39	Instrument:	VOA-GCMS9		
Batch:	9061478	Sequence:	9F28013	Calibration:	A9F2102

SYSTEM MONITORING COMPOUND	ADDED (ng/mL)	CONC (ng/mL)	% REC	QC LIMITS	Q
4-Bromofluorobenzene (Surr)	50.0	51.4	103	80 - 120	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene (ISTD)	228577	6.225	246439	6.223	
Chlorobenzene-d5 (ISTD)	336167	9.918	369799	9.916	
1,4-Dichlorobenzene-d4 (ISTD)	145684	11.859	179307	11.856	

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061358	Laboratory ID:	9061358-BS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Acetone	40.0	46.9	117	80 - 120
Acrylonitrile	20.0	23.9	120	80 - 120
Benzene	20.0	20.3	101	80 - 120
Bromobenzene	20.0	18.8	94	80 - 120
Bromochloromethane	20.0	22.0	110	80 - 120
Bromodichloromethane	20.0	23.4	117	80 - 120
Bromoform	20.0	23.4	117	80 - 120
Bromomethane	20.0	19.3	97	80 - 120
2-Butanone (MEK)	40.0	49.1	123 *	80 - 120
n-Butylbenzene	20.0	19.9	100	80 - 120
sec-Butylbenzene	20.0	18.6	93	80 - 120
tert-Butylbenzene	20.0	19.2	96	80 - 120
Carbon disulfide	20.0	18.9	94	80 - 120
Carbon tetrachloride	20.0	22.6	113	80 - 120
Chlorobenzene	20.0	19.5	98	80 - 120
Chloroethane	20.0	22.6	113	80 - 120
Chloroform	20.0	22.2	111	80 - 120
Chloromethane	20.0	18.6	93	80 - 120
2-Chlorotoluene	20.0	18.2	91	80 - 120
4-Chlorotoluene	20.0	19.1	96	80 - 120
Dibromochloromethane	20.0	23.1	116	80 - 120
1,2-Dibromo-3-chloropropane	20.0	20.7	103	80 - 120
1,2-Dibromoethane (EDB)	20.0	21.1	105	80 - 120
Dibromomethane	20.0	23.3	117	80 - 120
1,2-Dichlorobenzene	20.0	19.3	97	80 - 120
1,3-Dichlorobenzene	20.0	19.2	96	80 - 120
1,4-Dichlorobenzene	20.0	18.8	94	80 - 120
Dichlorodifluoromethane	20.0	20.8	104	80 - 120
1,1-Dichloroethane	20.0	22.1	110	80 - 120
1,2-Dichloroethane (EDC)	20.0	24.0	120	80 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061358	Laboratory ID:	9061358-BS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
1,1-Dichloroethene	20.0	22.2	111	80 - 120
cis-1,2-Dichloroethene	20.0	21.9	109	80 - 120
trans-1,2-Dichloroethene	20.0	21.5	108	80 - 120
1,2-Dichloropropane	20.0	21.8	109	80 - 120
1,3-Dichloropropane	20.0	21.3	106	80 - 120
2,2-Dichloropropane	20.0	20.8	104	80 - 120
1,1-Dichloropropene	20.0	20.6	103	80 - 120
cis-1,3-Dichloropropene	20.0	20.6	103	80 - 120
trans-1,3-Dichloropropene	20.0	20.8	104	80 - 120
Ethylbenzene	20.0	19.7	98	80 - 120
Hexachlorobutadiene	20.0	18.9	94	80 - 120
2-Hexanone	40.0	46.1	115	80 - 120
Isopropylbenzene	20.0	19.2	96	80 - 120
4-Isopropyltoluene	20.0	19.2	96	80 - 120
Methylene chloride	20.0	19.5	98	80 - 120
4-Methyl-2-pentanone (MiBK)	40.0	47.0	117	80 - 120
Methyl tert-butyl ether (MTBE)	20.0	20.9	105	80 - 120
Naphthalene	20.0	18.8	94	80 - 120
n-Propylbenzene	20.0	19.2	96	80 - 120
Styrene	20.0	19.6	98	80 - 120
1,1,1,2-Tetrachloroethane	20.0	22.0	110	80 - 120
1,1,2,2-Tetrachloroethane	20.0	21.5	108	80 - 120
Tetrachloroethene (PCE)	20.0	18.5	92	80 - 120
1,2,3-Trichlorobenzene	20.0	19.2	96	80 - 120
1,2,4-Trichlorobenzene	20.0	18.7	94	80 - 120
1,1,1-Trichloroethane	20.0	22.0	110	80 - 120
1,1,2-Trichloroethane	20.0	21.3	107	80 - 120
Trichloroethene (TCE)	20.0	19.7	99	80 - 120
Trichlorofluoromethane	20.0	24.4	122 *	80 - 120
1,2,3-Trichloropropane	20.0	22.1	110	80 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061358	Laboratory ID:	9061358-BS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
1,2,4-Trimethylbenzene	20.0	19.6	98	80 - 120
1,3,5-Trimethylbenzene	20.0	18.9	95	80 - 120
Toluene	20.0	18.4	92	80 - 120
Vinyl chloride	20.0	20.1	101	80 - 120
m,p-Xylene	40.0	39.1	98	80 - 120
o-Xylene	20.0	19.2	96	80 - 120

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061478	Laboratory ID:	9061478-BS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Acetone	40.0	36.4	91	80 - 120
Acrylonitrile	20.0	20.8	104	80 - 120
Benzene	20.0	18.9	94	80 - 120
Bromobenzene	20.0	18.9	95	80 - 120
Bromochloromethane	20.0	21.6	108	80 - 120
Bromodichloromethane	20.0	20.7	103	80 - 120
Bromoform	20.0	23.6	118	80 - 120
Bromomethane	20.0	17.4	87	80 - 120
2-Butanone (MEK)	40.0	39.2	98	80 - 120
n-Butylbenzene	20.0	18.8	94	80 - 120
sec-Butylbenzene	20.0	18.1	91	80 - 120
tert-Butylbenzene	20.0	17.9	90	80 - 120
Carbon disulfide	20.0	17.8	89	80 - 120
Carbon tetrachloride	20.0	20.0	100	80 - 120
Chlorobenzene	20.0	19.5	98	80 - 120
Chloroethane	20.0	20.1	100	80 - 120
Chloroform	20.0	19.1	96	80 - 120
Chloromethane	20.0	15.1	75 *	80 - 120
2-Chlorotoluene	20.0	18.6	93	80 - 120
4-Chlorotoluene	20.0	18.4	92	80 - 120
Dibromochloromethane	20.0	22.4	112	80 - 120
1,2-Dibromo-3-chloropropane	20.0	21.2	106	80 - 120
1,2-Dibromoethane (EDB)	20.0	20.8	104	80 - 120
Dibromomethane	20.0	20.4	102	80 - 120
1,2-Dichlorobenzene	20.0	18.9	94	80 - 120
1,3-Dichlorobenzene	20.0	18.8	94	80 - 120
1,4-Dichlorobenzene	20.0	18.6	93	80 - 120
Dichlorodifluoromethane	20.0	17.1	86	80 - 120
1,1-Dichloroethane	20.0	19.3	96	80 - 120
1,2-Dichloroethane (EDC)	20.0	19.0	95	80 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061478	Laboratory ID:	9061478-BS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
1,1-Dichloroethene	20.0	19.3	96	80 - 120
cis-1,2-Dichloroethene	20.0	19.2	96	80 - 120
trans-1,2-Dichloroethene	20.0	18.9	95	80 - 120
1,2-Dichloropropane	20.0	19.7	99	80 - 120
1,3-Dichloropropane	20.0	20.1	100	80 - 120
2,2-Dichloropropane	20.0	17.1	86	80 - 120
1,1-Dichloropropene	20.0	18.9	95	80 - 120
cis-1,3-Dichloropropene	20.0	19.6	98	80 - 120
trans-1,3-Dichloropropene	20.0	19.3	97	80 - 120
Ethylbenzene	20.0	18.9	95	80 - 120
Hexachlorobutadiene	20.0	18.1	90	80 - 120
2-Hexanone	40.0	39.0	97	80 - 120
Isopropylbenzene	20.0	19.1	95	80 - 120
4-Isopropyltoluene	20.0	18.9	95	80 - 120
Methylene chloride	20.0	18.5	92	80 - 120
4-Methyl-2-pentanone (MiBK)	40.0	39.5	99	80 - 120
Methyl tert-butyl ether (MTBE)	20.0	18.9	95	80 - 120
Naphthalene	20.0	18.9	94	80 - 120
n-Propylbenzene	20.0	18.3	92	80 - 120
Styrene	20.0	19.6	98	80 - 120
1,1,1,2-Tetrachloroethane	20.0	22.0	110	80 - 120
1,1,2,2-Tetrachloroethane	20.0	20.6	103	80 - 120
Tetrachloroethene (PCE)	20.0	18.9	94	80 - 120
1,2,3-Trichlorobenzene	20.0	19.1	95	80 - 120
1,2,4-Trichlorobenzene	20.0	19.3	96	80 - 120
1,1,1-Trichloroethane	20.0	18.8	94	80 - 120
1,1,2-Trichloroethane	20.0	20.4	102	80 - 120
Trichloroethene (TCE)	20.0	19.2	96	80 - 120
Trichlorofluoromethane	20.0	19.0	95	80 - 120
1,2,3-Trichloropropane	20.0	20.8	104	80 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061478	Laboratory ID:	9061478-BS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
1,2,4-Trimethylbenzene	20.0	18.8	94	80 - 120
1,3,5-Trimethylbenzene	20.0	18.5	93	80 - 120
Toluene	20.0	18.5	92	80 - 120
Vinyl chloride	20.0	18.2	91	80 - 120
m,p-Xylene	40.0	37.4	94	80 - 120
o-Xylene	20.0	19.1	95	80 - 120

* = Values outside of QC limits

DUPLICATES

EPA 8260C

2708-190626-MULT802-109

Laboratory: Apex Laboratories
Client: Hahn and Associates
Matrix: Water
Batch: 9061478
Preparation: EPA 5030B
Source Sample Name: 2708-190626-MULT802-109

SDG: A9F0860
Project: Mult 802 Pump Test
Laboratory ID: 9061478-DUP1
Lab Source ID: A9F0860-02RE1
Initial/Final: 5 mL / 5 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	C	DUPLICATE CONCENTRATION (ug/L)	C	RPD %	Q	METHOD
Acetone	30	29.0		ND				EPA 8260C
Acrylonitrile	30	0.00		ND				EPA 8260C
Benzene	30	365		362		0.8		EPA 8260C
Bromobenzene	30	0.00		ND				EPA 8260C
Bromochloromethane	30	0.00		ND				EPA 8260C
Bromodichloromethane	30	0.00		ND				EPA 8260C
Bromoform	30	0.00		ND				EPA 8260C
Bromomethane	30	0.900		ND				EPA 8260C
2-Butanone (MEK)	30	0.00		ND				EPA 8260C
n-Butylbenzene	30	0.00		ND				EPA 8260C
sec-Butylbenzene	30	3.76		ND				EPA 8260C
tert-Butylbenzene	30	0.00		ND				EPA 8260C
Carbon disulfide	30	1.43		ND				EPA 8260C
Carbon tetrachloride	30	0.00		ND				EPA 8260C
Chlorobenzene	30	0.00		ND				EPA 8260C
Chloroethane	30	1.39		ND				EPA 8260C
Chloroform	30	0.00		ND				EPA 8260C
Chloromethane	30	0.00		ND				EPA 8260C
2-Chlorotoluene	30	0.00		ND				EPA 8260C
4-Chlorotoluene	30	0.00		ND				EPA 8260C
Dibromochloromethane	30	0.00		ND				EPA 8260C
1,2-Dibromo-3-chloropropane	30	0.00		ND				EPA 8260C
1,2-Dibromoethane (EDB)	30	0.00		ND				EPA 8260C
Dibromomethane	30	0.00		ND				EPA 8260C
1,2-Dichlorobenzene	30	0.00		ND				EPA 8260C
1,3-Dichlorobenzene	30	0.00		ND				EPA 8260C
1,4-Dichlorobenzene	30	0.00		ND				EPA 8260C
Dichlorodifluoromethane	30	0.00		ND				EPA 8260C
1,1-Dichloroethane	30	0.00		ND				EPA 8260C
1,2-Dichloroethane (EDC)	30	0.00		ND				EPA 8260C
1,1-Dichloroethene	30	0.00		ND				EPA 8260C
cis-1,2-Dichloroethene	30	0.00		ND				EPA 8260C

DUPLICATES

EPA 8260C

2708-190626-MULT802-109

Laboratory: Apex Laboratories
Client: Hahn and Associates
Matrix: Water
Batch: 9061478
Preparation: EPA 5030B
Source Sample Name: 2708-190626-MULT802-109

SDG: A9F0860
Project: Mult 802 Pump Test
Laboratory ID: 9061478-DUP1
Lab Source ID: A9F0860-02RE1
Initial/Final: 5 mL / 5 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	C	DUPLICATE CONCENTRATION (ug/L)	C	RPD %	Q	METHOD
trans-1,2-Dichloroethene	30	0.00		ND				EPA 8260C
1,2-Dichloropropane	30	0.00		ND				EPA 8260C
1,3-Dichloropropane	30	0.00		ND				EPA 8260C
2,2-Dichloropropane	30	0.00		ND				EPA 8260C
1,1-Dichloropropene	30	0.00		ND				EPA 8260C
cis-1,3-Dichloropropene	30	0.00		ND				EPA 8260C
trans-1,3-Dichloropropene	30	0.00		ND				EPA 8260C
Ethylbenzene	30	19.6		19.4		1		EPA 8260C
Hexachlorobutadiene	30	0.00		ND				EPA 8260C
2-Hexanone	30	0.00		ND				EPA 8260C
Isopropylbenzene	30	2.29		ND				EPA 8260C
4-Isopropyltoluene	30	0.00		ND				EPA 8260C
Methylene chloride	30	0.00		ND				EPA 8260C
4-Methyl-2-pentanone (MiBK)	30	0.00		ND				EPA 8260C
Methyl tert-butyl ether (MTBE)	30	0.00		ND				EPA 8260C
Naphthalene	30	1520		1600		5		EPA 8260C
n-Propylbenzene	30	1.76		ND				EPA 8260C
Styrene	30	23.7		24.4		3		EPA 8260C
1,1,1,2-Tetrachloroethane	30	0.00		ND				EPA 8260C
1,1,2,2-Tetrachloroethane	30	0.00		ND				EPA 8260C
Tetrachloroethene (PCE)	30	0.00		ND				EPA 8260C
1,2,3-Trichlorobenzene	30	0.00		ND				EPA 8260C
1,2,4-Trichlorobenzene	30	0.00		ND				EPA 8260C
1,1,1-Trichloroethane	30	0.00		ND				EPA 8260C
1,1,2-Trichloroethane	30	0.00		ND				EPA 8260C
Trichloroethene (TCE)	30	0.00		ND				EPA 8260C
Trichlorofluoromethane	30	0.00		ND				EPA 8260C
1,2,3-Trichloropropane	30	0.00		ND				EPA 8260C
1,2,4-Trimethylbenzene	30	24.8		24.8		0.3		EPA 8260C
1,3,5-Trimethylbenzene	30	9.17		9.09		0.9		EPA 8260C
Toluene	30	156		156		0.2		EPA 8260C
Vinyl chloride	30	0.00		ND				EPA 8260C

DUPLICATES

2708-190626-MULT802-109

EPA 8260C

Laboratory: Apex Laboratories
Client: Hahn and Associates
Matrix: Water
Batch: 9061478
Preparation: EPA 5030B
Source Sample Name: 2708-190626-MULT802-109

SDG: A9F0860
Project: Mult 802 Pump Test
Laboratory ID: 9061478-DUP1
Lab Source ID: A9F0860-02RE1
Initial/Final: 5 mL / 5 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (ug/L)	C	DUPLICATE CONCENTRATION (ug/L)	C	RPD %	Q	METHOD
m,p-Xylene	30	67.0		66.5		0.7		EPA 8260C
o-Xylene	30	26.5		26.6		0.6		EPA 8260C

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C

2708-190626-MULT802-109

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Matrix: Water
Batch: 9061478
Laboratory ID: 9061478-MS1
Preparation: EPA 5030B
Initial/Final: 5 mL / 5 mL
Source Sample Name: 2708-190626-MULT802-109

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. (*=Out)	QC LIMITS REC.
Acetone	400	ND	387	97	39 - 160
Acrylonitrile	200	ND	211	106	63 - 135
Benzene	200	365	560	98	79 - 120
Bromobenzene	200	ND	212	106	80 - 120
Bromochloromethane	200	ND	228	114	78 - 123
Bromodichloromethane	200	ND	222	111	79 - 125
Bromoform	200	ND	245	123	66 - 130
Bromomethane	200	ND	201	100	53 - 141
2-Butanone (MEK)	400	ND	397	99	56 - 143
n-Butylbenzene	200	ND	223	112	75 - 128
sec-Butylbenzene	200	ND	219	109	77 - 126
tert-Butylbenzene	200	ND	210	105	78 - 124
Carbon disulfide	200	ND	206	103	64 - 133
Carbon tetrachloride	200	ND	228	114	72 - 136
Chlorobenzene	200	ND	218	109	80 - 120
Chloroethane	200	ND	209	104	60 - 138
Chloroform	200	ND	215	108	79 - 124
Chloromethane	200	ND	181	90	50 - 139
2-Chlorotoluene	200	ND	214	107	79 - 122
4-Chlorotoluene	200	ND	208	104	78 - 122
Dibromochloromethane	200	ND	238	119	74 - 126
1,2-Dibromo-3-chloropropane	200	ND	214	107	62 - 128
1,2-Dibromoethane (EDB)	200	ND	222	111	77 - 121
Dibromomethane	200	ND	216	108	79 - 123
1,2-Dichlorobenzene	200	ND	212	106	80 - 120
1,3-Dichlorobenzene	200	ND	214	107	80 - 120
1,4-Dichlorobenzene	200	ND	210	105	79 - 120
Dichlorodifluoromethane	200	ND	202	101	32 - 152
1,1-Dichloroethane	200	ND	215	108	77 - 125
1,2-Dichloroethane (EDC)	200	ND	207	103	73 - 128
1,1-Dichloroethene	200	ND	223	112	71 - 131
cis-1,2-Dichloroethene	200	ND	210	105	78 - 123
trans-1,2-Dichloroethene	200	ND	214	107	75 - 124
1,2-Dichloropropane	200	ND	218	109	78 - 122
1,3-Dichloropropane	200	ND	213	106	80 - 120
2,2-Dichloropropane	200	ND	200	100	60 - 139
1,1-Dichloropropene	200	ND	217	108	79 - 125

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

EPA 8260C

2708-190626-MULT802-109

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061478	Laboratory ID:	9061478-MS1
Preparation:	EPA 5030B	Initial/Final:	5 mL / 5 mL

Source Sample Name: 2708-190626-MULT802-109

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC. (*=Out)	QC LIMITS REC.
cis-1,3-Dichloropropene	200	ND	209	104	75 - 124
trans-1,3-Dichloropropene	200	ND	209	104	73 - 127
Ethylbenzene	200	19.6	236	108	79 - 121
Hexachlorobutadiene	200	ND	218	109	66 - 134
2-Hexanone	400	ND	403	101	57 - 139
Isopropylbenzene	200	ND	222	111	72 - 131
4-Isopropyltoluene	200	ND	224	112	77 - 127
Methylene chloride	200	ND	204	102	74 - 124
4-Methyl-2-pentanone (MiBK)	400	ND	410	102	67 - 130
Methyl tert-butyl ether (MTBE)	200	ND	198	99	71 - 124
Naphthalene	200	1520	1870	176 *	61 - 128
n-Propylbenzene	200	ND	217	109	76 - 126
Styrene	200	23.7	249	113	78 - 123
1,1,1,2-Tetrachloroethane	200	ND	234	117	78 - 124
1,1,2,2-Tetrachloroethane	200	ND	216	108	71 - 121
Tetrachloroethene (PCE)	200	ND	221	111	74 - 129
1,2,3-Trichlorobenzene	200	ND	218	109	69 - 129
1,2,4-Trichlorobenzene	200	ND	220	110	69 - 130
1,1,1-Trichloroethane	200	ND	218	109	74 - 131
1,1,2-Trichloroethane	200	ND	217	108	80 - 120
Trichloroethene (TCE)	200	ND	219	110	79 - 123
Trichlorofluoromethane	200	ND	215	108	65 - 141
1,2,3-Trichloropropane	200	ND	218	109	73 - 122
1,2,4-Trimethylbenzene	200	24.8	244	109	76 - 124
1,3,5-Trimethylbenzene	200	9.17	224	107	75 - 124
Toluene	200	156	362	103	80 - 121
Vinyl chloride	200	ND	213	107	58 - 137
m,p-Xylene	400	67.0	496	107	80 - 121
o-Xylene	200	26.5	244	109	78 - 122

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F20044	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9F20044-TUN1	VI19062018.D	06/20/19 17:22
Initial Cal Blank	9F20044-ICB1	VI19062019.D	06/20/19 17:49
Cal Standard	9F20044-CAL1	VI19062020.D	06/20/19 18:16
Cal Standard	9F20044-CAL2	VI19062021.D	06/20/19 18:43
Cal Standard	9F20044-CAL3	VI19062022.D	06/20/19 19:10
Cal Standard	9F20044-CAL4	VI19062023.D	06/20/19 19:37
Cal Standard	9F20044-CAL5	VI19062024.D	06/20/19 20:04
Cal Standard	9F20044-CAL6	VI19062025.D	06/20/19 20:31
Cal Standard	9F20044-CAL7	VI19062026.D	06/20/19 20:58
Cal Standard	9F20044-CAL8	VI19062027.D	06/20/19 21:25
Cal Standard	9F20044-CAL9	VI19062028.D	06/20/19 21:52
Cal Standard	9F20044-CALA	VI19062030.D	06/20/19 22:46
Cal Standard	9F20044-CALB	VI19062032.D	06/20/19 23:40
Initial Cal Check	9F20044-ICV1	VI19062035.D	06/21/19 01:01
Initial Cal Check	9F20044-ICV2	VI19062036.D	06/21/19 01:28

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:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F27033	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9F27033-TUN1	VI19062703.D	06/27/19 12:38
Calibration Check	9F27033-CCV1	VI19062704.D	06/27/19 13:05
Blank	9061358-BLK1	VI19062706.D	06/27/19 13:59
2708-190626-MULT802-TB	A9F0860-01	VI19062713.D	06/27/19 17:08

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

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F28013	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9F28013-TUN1	VI19062803.D	06/28/19 09:17
Calibration Check	9F28013-CCV1	VI19062804.D	06/28/19 09:44
Blank	9061478-BLK1	VI19062806.D	06/28/19 10:39
2708-190626-MULT802-109	A9F0860-02RE1	VI19062812.D	06/28/19 13:21
2708-190626-MULT802-109 (Dup)	9061478-DUP1	VI19062813.D	06/28/19 13:48
2708-190626-MULT802-109 (MS)	9061478-MS1	VI19062814.D	06/28/19 14:15

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Lab File ID:	VI19062018.D	Injection Date:	06/20/19
Instrument ID:	VOA-GCMS9	Injection Time:	17:22
Sequence:	9F20044	Lab Sample ID:	9F20044-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		128.04	
m/z 96	5 - 9% of m/z 95	6.90	PASS
m/z 173		0.11	
m/z 174	50 - 200% of m/z 95	78.10	PASS
m/z 175	5 - 9% of m/z 174	7.26	PASS
m/z 176	95 - 101% of m/z 174	95.67	PASS
m/z 177	5 - 9% of m/z 176	6.77	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Lab File ID:	VI19062703.D	Injection Date:	06/27/19
Instrument ID:	VOA-GCMS9	Injection Time:	12:38
Sequence:	9F27033	Lab Sample ID:	9F27033-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		132.82	
m/z 96	5 - 9% of m/z 95	6.68	PASS
m/z 173		0.42	
m/z 174	50 - 200% of m/z 95	75.29	PASS
m/z 175	5 - 9% of m/z 174	7.28	PASS
m/z 176	95 - 101% of m/z 174	97.97	PASS
m/z 177	5 - 9% of m/z 176	6.59	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Lab File ID:	VI19062803.D	Injection Date:	06/28/19
Instrument ID:	VOA-GCMS9	Injection Time:	09:17
Sequence:	9F28013	Lab Sample ID:	9F28013-TUN1

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 50			
m/z 75			
m/z 95		125.06	
m/z 96	5 - 9% of m/z 95	6.80	PASS
m/z 173		0.36	
m/z 174	50 - 200% of m/z 95	79.96	PASS
m/z 175	5 - 9% of m/z 174	7.10	PASS
m/z 176	95 - 101% of m/z 174	96.77	PASS
m/z 177	5 - 9% of m/z 176	6.61	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8260C

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9F2102 Date: 06/21/19 11:39 Instrument: VOA-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acetone	0.2434885	Ave	10.57588	3.947	0.1096385			20	
Acrylonitrile	0.2765704	Ave	6.340252	4.75625	8.197235E-02			20	
Benzene	2.085786	Ave	3.179848	6.1277	4.804954E-02			20	
Bromobenzene	0.7663908	Ave	4.61144	11.0638	2.828284E-02			20	
Bromochloromethane	0.3246896	Ave	10.66199	5.451333	4.756015E-02			20	
Bromodichloromethane	0.6163157	Ave	9.411398	7.386333	3.198394E-02			20	
Bromoform	0.1738399	XXX	19.41734	10.543	1.812746E-02				
Bromomethane	0.3070322	Ave	13.49949	2.366	0.1355651			20	
2-Butanone (MEK)	0.4055141	Ave	5.176776	5.86325	8.491372E-02			20	
n-Butylbenzene	2.065014	Ave	8.763843	12.051	7.106634E-03			20	
sec-Butylbenzene	2.852736	Ave	5.863855	11.625	0			20	
tert-Butylbenzene	1.32558	Ave	5.518179	11.485	1.992181E-02			20	
Carbon disulfide	1.21758	Ave	3.983349	3.256	9.022187E-02			20	
Carbon tetrachloride	0.5490465	Ave	10.54705	5.66675	5.094061E-02			20	
Chlorobenzene	0.8672482	Ave	4.527721	9.934	6.59496E-03			20	
Chloroethane	0.2111647	Ave	5.052347	1.670667	77.46032			20	
Chloroform	0.8978863	Ave	4.359938	5.533667	8.015743E-02			20	
Chloromethane	0.6601212	Ave	9.097732	1.899778	0.1685629			20	
2-Chlorotoluene	0.6874441	Ave	5.058205	11.21156	1.102865E-02			20	
4-Chlorotoluene	2.131242	Ave	4.745225	11.3402	3.047566E-02			20	
Dibromochloromethane	0.2950505	Ave	14.87347	9.19275	0.0296783			20	
1,2-Dibromo-3-chloropropane	0.20274	Ave	12.43876	12.80514	9.19731E-03			20	
1,2-Dibromoethane (EDB)	0.3313323	Ave	12.57973	9.4314	4.247559E-02			20	
Dibromomethane	0.3318667	Ave	10.85933	7.204556	4.029543E-02			20	
1,2-Dichlorobenzene	1.298963	Ave	5.237602	12.1856	1.516183E-02			20	
1,3-Dichlorobenzene	1.341062	Ave	4.31851	11.8019	1.633031E-02			20	
1,4-Dichlorobenzene	1.38445	Ave	2.929356	11.8687	8.839948E-03			20	
Dichlorodifluoromethane	0.5184938	Ave	10.81728	1.683556	0.246695			20	
1,1-Dichloroethane	0.8696756	Ave	6.909406	4.69	0.0666443			20	
1,2-Dichloroethane (EDC)	0.6886107	Ave	5.651383	6.347555	4.920795E-02			20	
1,1-Dichloroethene	0.6757149	Ave	9.405083	3.2396	9.709839E-02			20	
cis-1,2-Dichloroethene	0.7043514	Ave	4.649517	5.250556	3.922802E-02			20	
trans-1,2-Dichloroethene	0.6599966	Ave	6.022416	4.045667	9.080339E-02			20	

INITIAL CALIBRATION DATA (Summary)

EPA 8260C

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9F2102 Date: 06/21/19 11:39 Instrument: VOA-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,2-Dichloropropane	0.5341861	Ave	5.750668	7.315333	4.418093E-02			20	
1,3-Dichloropropane	0.5607217	Ave	5.669531	9.295667	1.921146E-02			20	
2,2-Dichloropropane	0.6793414	Ave	4.035735	5.359	1.104518E-02			20	
1,1-Dichloropropene	0.6821729	Ave	5.591481	5.868667	6.628735E-02			20	
cis-1,3-Dichloropropene	0.5136052	Ave	9.382632	8.097667	1.938171E-02			20	
trans-1,3-Dichloropropene	0.4702767	Ave	10.91174	8.843667	3.234112E-02			20	
Ethylbenzene	1.493816	Ave	5.347931	9.958	1.329946E-02			20	
Hexachlorobutadiene	0.1872556	Ave	12.09856	13.31088	2.063208E-02			20	
2-Hexanone	0.3682236	Ave	5.057007	9.660667	0.0222956			20	
Isopropylbenzene	1.358566	Ave	7.170939	10.737	1.094524E-02			20	
4-Isopropyltoluene	2.251459	Ave	8.968072	11.7289	6.107456E-03			20	
Methylene chloride	2.134529	XXX	157.5961	3.878273	8.108968E-02				
4-Methyl-2-pentanone (MiBK)	0.5000627	Ave	5.157486	8.804	3.549445E-02			20	
Methyl tert-butyl ether (MTBE)	1.615841	Ave	4.015685	4.175667	0.1034204			20	
Naphthalene	2.443898	Ave	11.3127	13.633	1.635699E-02			20	
n-Propylbenzene	3.40326	Ave	5.7569	11.078	1.155977E-02			20	
Styrene	0.8763555	Ave	9.973425	10.5192	2.673313E-02			20	
1,1,1,2-Tetrachloroethane	0.2648021	Ave	14.7394	9.994333	2.417115E-02			20	
1,1,2,2-Tetrachloroethane	0.6419819	Ave	6.675706	11.1449	1.077536E-02			20	
Tetrachloroethene (PCE)	0.3239928	Ave	6.875949	8.803	2.740398E-02			20	
1,2,3-Trichlorobenzene	0.7253453	Ave	10.60542	13.791	1.731092E-02			20	
1,2,4-Trichlorobenzene	0.7471468	Ave	12.91952	13.351	2.970094E-02			20	
1,1,1-Trichloroethane	0.7156421	Ave	6.573862	5.739333	5.415064E-02			20	
1,1,2-Trichloroethane	0.3146206	Ave	7.894284	9.011667	3.782794E-02			20	
Trichloroethene (TCE)	0.5045859	Ave	6.149816	6.748	4.467709E-02			20	
Trichlorofluoromethane	0.6675443	Ave	6.447225	2.669333	0.2085856			20	
1,2,3-Trichloropropane	0.2947877	Ave	11.9915	11.254	1.372952E-02			20	
1,2,4-Trimethylbenzene	2.306115	Ave	6.68386	11.54	1.009832E-02			20	
1,3,5-Trimethylbenzene	2.300226	Ave	5.524091	11.236	1.129174E-02			20	
Toluene	1.426251	Ave	5.866511	8.364	2.333015E-02			20	
Vinyl chloride	0.5947047	Ave	5.542041	2.001	0.1999135			20	
m,p-Xylene	1.125331	Ave	5.380841	10.092	9.363782E-03			20	
o-Xylene	1.147079	Ave	6.205049	10.47064	2.902251E-02			20	

INITIAL CALIBRATION DATA (Summary)

EPA 8260C

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9F2102 Date: 06/21/19 11:39 Instrument: VOA-GCMS9

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
1,4-Difluorobenzene (Surr)	1.664164	Ave	0.8140014	6.788455	0.0320221			20	
Toluene-d8 (Surr)	1.306405	Ave	0.7600449	8.303636	9.634716E-03			20	
4-Bromofluorobenzene (Surr)	0.82839	Ave	1.789762	10.98	1.732521E-02			20	

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

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9F2102
Instrument: VOA-GCMS9
Calibration Date: 06/21/19 11:39

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Acetone	0.2	~~0~~	0.4	~~0~~	0.8	~~0~~	2	~~0~~	4	0.2904717	10	0.2572179
Acrylonitrile	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.2542605	2	0.2540798	5	0.2714708
Benzene	0.1	~~0~~	0.2	2.177207	0.4	2.088322	1	1.99968	2	2.036259	5	2.02653
Bromobenzene	0.1	~~0~~	0.2	0.7095471	0.4	0.7336159	1	0.7568372	2	0.7832631	5	0.7429801
Bromochloromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.2525171	1	0.305631	2	0.3210699	5	0.337842
Bromodichloromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.5483723	1	0.5337349	2	0.5843231	5	0.5848929
Bromoform	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.134525	2	0.1528593	5	0.1601587
Bromomethane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.394469	2	0.3365199	5	0.2919001
2-Butanone (MEK)	0.2	~~0~~	0.4	~~0~~	0.8	~~0~~	2	0.4387701	4	0.4224604	10	0.3931671
n-Butylbenzene	0.1	~~0~~	0.2	1.791344	0.4	1.939327	1	1.860344	2	1.933164	5	2.00098
sec-Butylbenzene	0.1	~~0~~	0.2	2.962272	0.4	2.548975	1	2.775757	2	2.677	5	2.723194
tert-Butylbenzene	0.1	~~0~~	0.2	1.296758	0.4	1.170898	1	1.28199	2	1.325211	5	1.287755
Carbon disulfide	0.1	~~0~~	0.2	~~0~~	0.4	1.17822	1	1.160785	2	1.197494	5	1.182756
Carbon tetrachloride	0.1	~~0~~	0.2	~~0~~	0.4	~~0.3715526~~	1	0.4856634	2	0.4870365	5	0.491061
Chlorobenzene	0.1	~~0~~	0.2	0.7987904	0.4	0.8280098	1	0.8437393	2	0.8650244	5	0.8565625
Chloroethane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.2139652	2	0.2310255	5	0.2058599
Chloroform	0.1	~~0~~	0.2	~~0~~	0.4	0.8488503	1	0.8516194	2	0.8904258	5	0.8730871
Chloromethane	0.1	~~1.341028~~	0.2	~~0.9813749~~	0.4	0.8084013	1	0.6727651	2	0.6527617	5	0.6121159
2-Chlorotoluene	0.1	~~0~~	0.2	~~0~~	0.4	0.6546503	1	0.6356747	2	0.6679739	5	0.6649508
4-Chlorotoluene	0.1	~~0~~	0.2	2.188061	0.4	1.942724	1	2.111936	2	2.047573	5	2.065801
Dibromochloromethane	0.1	~~0~~	0.2	~~0~~	0.4	~~0.219122~~	1	0.2377542	2	0.2474023	5	0.2631314
1,2-Dibromo-3-chloropropane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	~~0.1386677~~	2	0.1726699	5	0.1698804
1,2-Dibromoethane (EDB)	0.1	~~0~~	0.2	0.2353579	0.4	0.2970752	1	0.312646	2	0.3287719	5	0.3370387
Dibromomethane	0.1	~~0~~	0.2	~~0~~	0.4	0.2502057	1	0.3075161	2	0.3292777	5	0.328245
1,2-Dichlorobenzene	0.1	~~0~~	0.2	1.204133	0.4	1.209108	1	1.322835	2	1.274695	5	1.282376
1,3-Dichlorobenzene	0.1	~~0~~	0.2	1.261805	0.4	1.259204	1	1.340683	2	1.326091	5	1.312471
1,4-Dichlorobenzene	0.1	~~0~~	0.2	1.328216	0.4	1.349208	1	1.383588	2	1.387872	5	1.37307
Dichlorodifluoromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.4131572	1	0.4510236	2	0.5082802	5	0.5096374
1,1-Dichloroethane	0.1	~~0~~	0.2	~~0~~	0.4	0.7396381	1	0.8332391	2	0.8833044	5	0.8524204
1,2-Dichloroethane (EDC)	0.1	~~0~~	0.2	~~0~~	0.4	0.6003781	1	0.6935019	2	0.6881276	5	0.6800074
1,1-Dichloroethene	0.1	~~0~~	0.2	0.5314809	0.4	0.6223361	1	0.6444878	2	0.6896968	5	0.6705055

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: Apex Laboratories

SDG: A9F0860

Client: Hahn and Associates

Project: Mult 802 Pump Test

Calibration: A9F2102

Instrument: VOA-GCMS9

Calibration Date: 06/21/19 11:39

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
cis-1,2-Dichloroethene	0.1	~~0~~	0.2	~~0~~	0.4	0.6616294	1	0.6666384	2	0.7063538	5	0.6753039
trans-1,2-Dichloroethene	0.1	~~0~~	0.2	~~0~~	0.4	0.5963332	1	0.610555	2	0.6577105	5	0.6429973
1,2-Dichloropropane	0.1	~~0~~	0.2	~~0~~	0.4	0.4692079	1	0.5170041	2	0.5231267	5	0.529734
1,3-Dichloropropane	0.1	~~0~~	0.2	~~0~~	0.4	0.4925398	1	0.5502445	2	0.5586633	5	0.5609334
2,2-Dichloropropane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.6539136	2	0.6685738	5	0.6465605
1,1-Dichloropropene	0.1	~~0~~	0.2	~~0~~	0.4	0.6367822	1	0.6367115	2	0.6556586	5	0.6554924
cis-1,3-Dichloropropene	0.1	~~0~~	0.2	~~0~~	0.4	0.4254458	1	0.4708374	2	0.4949652	5	0.4881912
trans-1,3-Dichloropropene	0.1	~~0~~	0.2	~~0~~	0.4	0.4060544	1	0.4203905	2	0.41962	5	0.4360121
Ethylbenzene	0.1	1.356434	0.2	1.552411	0.4	1.405096	1	1.437735	2	1.439753	5	1.468699
Hexachlorobutadiene	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.149308	2	0.1643973	5	0.1707656
n-Hexane	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	7.587754E-02	2	7.966396E-02	5	8.718044E-02
2-Hexanone	0.2	~~0~~	0.4	~~0~~	0.8	0.3876327	2	0.3700993	4	0.3583718	10	0.3533978
Isopropylbenzene	0.1	~~0~~	0.2	1.263167	0.4	1.22941	1	1.249494	2	1.311794	5	1.309485
4-Isopropyltoluene	0.1	~~0~~	0.2	1.987081	0.4	1.976687	1	2.076926	2	2.148605	5	2.182027
Methylene chloride	0.1	11.61839	0.2	4.431339	0.4	2.183088	1	1.194247	2	0.8761829	5	0.6167719
4-Methyl-2-pentanone (MiBK)	0.2	~~0~~	0.4	~~0~~	0.8	~~0.5156155~~	2	~~0.5124093~~	4	0.4950455	10	0.5008817
Methyl tert-butyl ether (MTBE)	0.1	~~0~~	0.2	~~0~~	0.4	1.521459	1	1.586595	2	1.554171	5	1.605593
Naphthalene	0.1	~~0~~	0.2	~~0~~	0.4	2.160091	1	2.065599	2	2.174303	5	2.285998
n-Propylbenzene	0.1	~~0~~	0.2	3.23141	0.4	3.057582	1	3.325622	2	3.305195	5	3.302966
Styrene	0.1	~~0~~	0.2	0.7908658	0.4	0.7376462	1	0.7985862	2	0.8253436	5	0.8496662
1,1,1,2-Tetrachloroethane	0.1	~~0~~	0.2	~~0.1783014~~	0.4	0.2039968	1	0.2105066	2	0.2526234	5	0.2474808
1,1,2,2-Tetrachloroethane	0.1	~~0~~	0.2	0.5714825	0.4	0.6003084	1	0.6373909	2	0.6466761	5	0.662772
Tetrachloroethene (PCE)	0.1	~~0~~	0.2	~~0~~	0.4	0.2722543	1	0.3205867	2	0.3196951	5	0.316822
Tetrahydrofuran	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	~~0~~	2	0.3073098	5	0.2859138
1,2,3-Trichlorobenzene	0.1	~~0~~	0.2	~~0~~	0.4	0.5680429	1	0.6802955	2	0.6957841	5	0.6846964
1,2,4-Trichlorobenzene	0.1	~~0~~	0.2	~~0~~	0.4	0.5485137	1	0.6833846	2	0.7028247	5	0.7041016
1,1,1-Trichloroethane	0.1	~~0~~	0.2	~~0~~	0.4	0.6281146	1	0.7074049	2	0.6775058	5	0.685091
1,1,2-Trichloroethane	0.1	~~0~~	0.2	~~0~~	0.4	0.266049	1	0.2880453	2	0.3151166	5	0.3080678
Trichloroethene (TCE)	0.1	~~0~~	0.2	~~0~~	0.4	0.4449385	1	0.4934396	2	0.4793115	5	0.4903484
Trichlorofluoromethane	0.1	~~0~~	0.2	~~0~~	0.4	0.5749531	1	0.6553275	2	0.6574691	5	0.6519766
1,2,3-Trichloropropane	0.1	~~0~~	0.2	~~0~~	0.4	0.2063295	1	0.2944972	2	0.3046806	5	0.3035379

INITIAL CALIBRATION DATA

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9F2102
Instrument: VOA-GCMS9
Calibration Date: 06/21/19 11:39

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
1,1,2-Trichloro-1,2,2-trifluoroethan	0.1	~~0~~	0.2	~~0~~	0.4	~~0~~	1	0.3963541	2	0.4301854	5	0.4206991
1,2,4-Trimethylbenzene	0.1	~~0~~	0.2	2.200295	0.4	2.007255	1	2.243053	2	2.225523	5	2.229076
1,3,5-Trimethylbenzene	0.1	~~0~~	0.2	2.236996	0.4	2.149053	1	2.203924	2	2.142093	5	2.21614
Isobutyl alcohol	2.5	~~0~~	5	~~0~~	10	~~0~~	25	~~0~~	50	~~0~~	125	0.0393685
Toluene	0.1	1.616143	0.2	1.513581	0.4	1.415955	1	1.364401	2	1.377099	5	1.328316
Vinyl chloride	0.1	~~0~~	0.2	0.5850952	0.4	0.5859321	1	0.5393903	2	0.5594583	5	0.5698322
m,p-Xylene	0.2	1.055265	0.4	1.168072	0.8	1.044999	2	1.072774	4	1.078128	10	1.087968
o-Xylene	0.1	1.099854	0.2	1.08645	0.4	1.035885	1	1.089746	2	1.136765	5	1.109271
trans-1,4-Dichloro-2-butene	0.1	~~0~~	0.2	~~0~~	0.4	0.1851021	1	0.2292822	2	0.2191377	5	0.248114
Xylenes, total	0.3	1.070128	0.6	1.140865	1.2	1.041961	3	1.078431	6	1.097674	15	1.095069
1,4-Difluorobenzene (Surr)	50	1.656433	50	1.643684	50	1.638224	50	1.679354	50	1.673643	50	1.669289
Toluene-d8 (Surr)	50	1.313776	50	1.320106	50	1.309213	50	1.300308	50	1.313828	50	1.302321
4-Bromofluorobenzene (Surr)	50	0.8463302	50	0.8385169	50	0.8382988	50	0.836379	50	0.8342228	50	0.833238

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9F2102
Instrument: VOA-GCMS9
Matrix:
Calibration Date: 06/21/19 11:39

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
Acetone	20	0.2502252	40	0.2295738	100	0.241499	200	0.2153329	400	0.2200987		
Acrylonitrile	10	0.2791702	20	0.2842038	50	0.3082136	100	0.2770949	200	0.2840694		
Benzene	10	2.132941	20	2.099218	50	2.192502	100	2.022155	200	2.083045		
Bromobenzene	10	0.8198859	20	0.7876804	50	0.8130691	100	0.7444806	200	0.7725486		
Bromochloromethane	10	0.3483457	20	0.3471845	50	0.374815	100	0.3259103	200	0.3088905		
Bromodichloromethane	10	0.6254553	20	0.6328047	50	0.695563	100	0.6498006	200	0.6918943		
Bromoform	10	0.1733539	20	0.1916882	50	0.2304545	100	~~0.2243493~~	200	~~0.2451645~~		
Bromomethane	10	0.3062462	20	0.2995713	50	0.289429	100	0.265063	200	0.2730594		
2-Butanone (MEK)	20	0.4001256	40	0.4023398	100	0.423399	200	0.3761216	400	0.3877289		
n-Butylbenzene	10	2.208458	20	2.193297	50	2.308636	100	2.16355	200	2.251039		
sec-Butylbenzene	10	3.023718	20	2.947149	50	3.069135	100	2.852505	200	2.947656		
tert-Butylbenzene	10	1.397371	20	1.367829	50	1.428861	100	1.323966	200	1.375165		
Carbon disulfide	10	1.273314	20	1.252024	50	1.303326	100	1.189766	200	1.220532		
Carbon tetrachloride	10	0.5452097	20	0.5542677	50	0.6131423	100	0.5840346	200	0.631957		
Chlorobenzene	10	0.9116121	20	0.8913598	50	0.9314644	100	0.8619957	200	0.8839233		
Chloroethane	10	0.2101624	20	0.201583	50	0.2043922	100	~~9.548295E-02~~	200	~~8.916582E-02~~		
Chloroform	10	0.9256632	20	0.9169614	50	0.9722756	100	0.8877222	200	0.9143711		
Chloromethane	10	0.6520281	20	0.6355548	50	0.6709563	100	0.6235518	200	0.6129561		
2-Chlorotoluene	10	0.7324894	20	0.7108172	50	0.7336271	100	0.6821609	200	0.7046527		
4-Chlorotoluene	10	2.255721	20	2.191293	50	2.269798	100	2.080621	200	2.158888		
Dibromochloromethane	10	0.2881848	20	0.2985465	50	0.3417908	100	0.329668	200	0.3539263		
1,2-Dibromo-3-chloropropane	10	0.1964596	20	0.2040288	50	0.2326117	100	0.2124241	200	0.2311058		
1,2-Dibromoethane (EDB)	10	0.3601622	20	0.3560646	50	0.3809336	100	0.3475514	200	0.3577217		
Dibromomethane	10	0.3486333	20	0.3490258	50	0.3740872	100	0.342833	200	0.3569767		
1,2-Dichlorobenzene	10	1.381408	20	1.343696	50	1.409342	100	1.253343	200	1.308693		
1,3-Dichlorobenzene	10	1.419246	20	1.381027	50	1.426471	100	1.317766	200	1.365855		
1,4-Dichlorobenzene	10	1.435105	20	1.403694	50	1.458879	100	1.342292	200	1.38258		
Dichlorodifluoromethane	10	0.5479652	20	0.5351587	50	0.5922679	100	0.5633276	200	0.5456266		
1,1-Dichloroethane	10	0.923339	20	0.8959875	50	0.9479344	100	0.8614991	200	0.8897189		
1,2-Dichloroethane (EDC)	10	0.7123859	20	0.7016161	50	0.7460894	100	0.6778811	200	0.6975088		
1,1-Dichloroethene	10	0.7231205	20	0.7192143	50	0.7517297	100	0.6931068	200	0.7114706		

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9F2102
Instrument: VOA-GCMS9
Matrix:
Calibration Date: 06/21/19 11:39

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
cis-1,2-Dichloroethene	10	0.7241508	20	0.7228732	50	0.7630545	100	0.698423	200	0.720736		
trans-1,2-Dichloroethene	10	0.6970988	20	0.6810317	50	0.7217433	100	0.6579597	200	0.67454		
1,2-Dichloropropane	10	0.5569986	20	0.5523674	50	0.576301	100	0.5325459	200	0.5503891		
1,3-Dichloropropane	10	0.5826439	20	0.5734695	50	0.6112845	100	0.5508993	200	0.5658174		
2,2-Dichloropropane	10	0.7015076	20	0.6917724	50	0.7296456	100	0.6635898	200	0.6791678		
1,1-Dichloropropene	10	0.7049101	20	0.7151659	50	0.743493	100	0.6821164	200	0.7092264		
cis-1,3-Dichloropropene	10	0.5372517	20	0.5281833	50	0.5802182	100	0.5361369	200	0.5612167		
trans-1,3-Dichloropropene	10	0.482933	20	0.490118	50	0.5450764	100	0.5027907	200	0.529495		
Ethylbenzene	10	1.570988	20	1.54878	50	1.620157	100	1.493324	200	1.538597		
Hexachlorobutadiene	10	0.2026153	20	0.2048924	50	0.2115201	100	0.1939619	200	0.2005842		
n-Hexane	10	0.0973777	20	9.782306E-02	50	0.1047212	100	9.549457E-02	200	9.911925E-02		
2-Hexanone	20	0.3813544	40	0.371588	100	0.3988266	200	0.3455015	400	0.3472402		
Isopropylbenzene	10	1.456432	20	1.428943	50	1.505144	100	1.39924	200	1.43255		
4-Isopropyltoluene	10	2.407943	20	2.37725	50	2.531817	100	2.365821	200	2.460436		
Methylene chloride	10	0.5585081	20	0.517289	50	0.5246387	100	0.4748694	200	0.4844981		
4-Methyl-2-pentanone (MiBK)	20	0.5141917	40	0.5103722	100	0.5417066	200	0.4713766	400	0.4668649		
Methyl tert-butyl ether (MTBE)	10	1.646316	20	1.647648	50	1.747678	100	1.597996	200	1.63511		
Naphthalene	10	2.527057	20	2.570329	50	2.786788	100	2.660043	200	2.764875		
n-Propylbenzene	10	3.6573	20	3.533229	50	3.664306	100	3.406275	200	3.548718		
Styrene	10	0.9474149	20	0.9376887	50	1.005697	100	0.922154	200	0.9484929		
1,1,1,2-Tetrachloroethane	10	0.2772531	20	0.2806732	50	0.3086527	100	0.2926335	200	0.3093987		
1,1,2,2-Tetrachloroethane	10	0.6972595	20	0.6674238	50	0.7055404	100	0.605453	200	0.6255128		
Tetrachloroethene (PCE)	10	0.3432149	20	0.3371253	50	0.3461349	100	0.3227593	200	0.3373427		
Tetrahydrofuran	10	0.2841541	20	0.2710671	50	0.294376	100	0.2618947	200	0.2674693		
1,2,3-Trichlorobenzene	10	0.7570077	20	0.7608589	50	0.809087	100	0.7600329	200	0.8123019		
1,2,4-Trichlorobenzene	10	0.7979064	20	0.7986306	50	0.8515424	100	0.798273	200	0.8391437		
1,1,1-Trichloroethane	10	0.7350052	20	0.7425724	50	0.7850304	100	0.7244509	200	0.7556036		
1,1,2-Trichloroethane	10	0.3362452	20	0.3293364	50	0.3470122	100	0.3180969	200	0.3236156		
Trichloroethene (TCE)	10	0.5324864	20	0.5253976	50	0.5437871	100	0.5062716	200	0.5252925		
Trichlorofluoromethane	10	0.7087199	20	0.6872755	50	0.7235972	100	0.6890249	200	0.6595548		
1,2,3-Trichloropropane	10	0.3251026	20	0.3107279	50	0.3229114	100	0.2891764	200	0.2961262		

INITIAL CALIBRATION DATA (Continued)

EPA 8260C

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9F2102
Instrument: VOA-GCMS9
Matrix:
Calibration Date: 06/21/19 11:39

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
1,1,2-Trichloro-1,2,2-trifluoroethan	10	0.4562663	20	0.4510153	50	0.4736402	100	0.4310006	200	0.4519689		
1,2,4-Trimethylbenzene	10	2.469535	20	2.407021	50	2.512424	100	2.331146	200	2.435826		
1,3,5-Trimethylbenzene	10	2.455937	20	2.380053	50	2.4852	100	2.324529	200	2.408334		
Isobutyl alcohol	250	4.083921E-02	500	0.0414275	1250	0.0460315	2500	3.980446E-02	5000	4.080729E-02		
Toluene	10	1.452567	20	1.41724	50	1.468882	100	1.34679	200	1.387789		
Vinyl chloride	10	0.6211183	20	0.6084552	50	0.6485083	100	0.6220804	200	0.6071763		
m,p-Xylene	20	1.180578	40	1.156938	100	1.231861	200	1.137445	400	1.164618		
o-Xylene	10	1.224749	20	1.198785	50	1.274994	100	1.169697	200	1.191671		
trans-1,4-Dichloro-2-butene	10	0.2659456	20	0.2677093	50	0.2923691	100	0.2591346	200	0.2722175		
Xylenes, total	30	1.195301	60	1.170887	150	1.246238	300	1.148196	600	1.173635		
1,4-Difluorobenzene (Surr)	50	1.660515	50	1.664068	50	1.676449	50	1.667242	50	1.676907		
Toluene-d8 (Surr)	50	1.313661	50	1.29582	50	1.311679	50	1.2857	50	1.304042		
4-Bromofluorobenzene (Surr)	50	0.8392919	50	0.8238453	50	0.8132616	50	0.8089132	50	0.7999919		

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	VOA-GCMS9	Calibration:	A9F2102
Lab File ID:	VI19062035.D		
Sequence:	9F20044	Inject Date:	06/21/19
Lab Sample ID:	9F20044-ICV1	Inject Time:	01:01

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Acetone	40.0	39.0	-2.5	70 - 130
Acrylonitrile	20.0	20.5	2.5	70 - 130
Benzene	20.0	20.4	1.9	70 - 130
Bromobenzene	20.0	20.7	3.7	70 - 130
Bromochloromethane	20.0	22.0	10.0	70 - 130
Bromodichloromethane	20.0	21.3	6.4	70 - 130
Bromoform	20.0	21.1	5.4	70 - 130
Bromomethane	20.0	19.3	-3.6	70 - 130
2-Butanone (MEK)	40.0	39.5	-1.2	70 - 130
n-Butylbenzene	20.0	21.1	5.4	70 - 130
sec-Butylbenzene	20.0	20.7	3.6	70 - 130
tert-Butylbenzene	20.0	20.7	3.3	70 - 130
Carbon disulfide	20.0	22.1	10.4	70 - 130
Carbon tetrachloride	20.0	20.7	3.3	70 - 130
Chlorobenzene	20.0	21.1	5.7	70 - 130
Chloroethane	20.0	19.3	-3.7	70 - 130
Chloroform	20.0	20.7	3.7	70 - 130
Chloromethane	20.0	20.4	2.2	70 - 130
2-Chlorotoluene	20.0	20.9	4.3	70 - 130
4-Chlorotoluene	20.0	20.8	4.0	70 - 130
Dibromochloromethane	20.0	21.2	6.0	70 - 130
1,2-Dibromo-3-chloropropane	20.0	21.0	4.9	70 - 130
1,2-Dibromoethane (EDB)	20.0	21.5	7.6	70 - 130
Dibromomethane	20.0	21.2	6.0	70 - 130
1,2-Dichlorobenzene	20.0	21.0	5.0	70 - 130
1,3-Dichlorobenzene	20.0	21.2	5.9	70 - 130
1,4-Dichlorobenzene	20.0	20.6	2.9	70 - 130
Dichlorodifluoromethane	20.0	22.7	13.3	70 - 130
1,1-Dichloroethane	20.0	22.0	9.9	70 - 130
1,2-Dichloroethane (EDC)	20.0	21.2	6.1	70 - 130
1,1-Dichloroethene	20.0	21.0	5.1	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	VOA-GCMS9	Calibration:	A9F2102
Lab File ID:	VI19062035.D		
Sequence:	9F20044	Inject Date:	06/21/19
Lab Sample ID:	9F20044-ICV1	Inject Time:	01:01

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
cis-1,2-Dichloroethene	20.0	20.7	3.7	70 - 130
trans-1,2-Dichloroethene	20.0	21.7	8.3	70 - 130
1,2-Dichloropropane	20.0	21.0	4.9	70 - 130
1,3-Dichloropropane	20.0	20.7	3.5	70 - 130
2,2-Dichloropropane	20.0	19.0	-5.2	70 - 130
1,1-Dichloropropene	20.0	20.7	3.5	70 - 130
cis-1,3-Dichloropropene	20.0	21.0	4.8	70 - 130
trans-1,3-Dichloropropene	20.0	21.7	8.4	70 - 130
Ethylbenzene	20.0	20.9	4.3	70 - 130
Hexachlorobutadiene	20.0	21.4	7.0	70 - 130
2-Hexanone	40.0	40.7	1.8	70 - 130
Isopropylbenzene	20.0	20.9	4.4	70 - 130
4-Isopropyltoluene	20.0	21.3	6.6	70 - 130
Methylene chloride	20.0	20.5	2.7	70 - 130
4-Methyl-2-pentanone (MiBK)	40.0	40.9	2.3	70 - 130
Methyl tert-butyl ether (MTBE)	20.0	20.3	1.5	70 - 130
Naphthalene	20.0	21.2	5.9	70 - 130
n-Propylbenzene	20.0	20.6	3.1	70 - 130
Styrene	20.0	21.4	7.1	70 - 130
1,1,1,2-Tetrachloroethane	20.0	21.6	8.2	70 - 130
1,1,2,2-Tetrachloroethane	20.0	20.5	2.5	70 - 130
Tetrachloroethene (PCE)	20.0	20.8	4.2	70 - 130
1,2,3-Trichlorobenzene	20.0	21.1	5.5	70 - 130
1,2,4-Trichlorobenzene	20.0	21.2	6.0	70 - 130
1,1,1-Trichloroethane	20.0	21.3	6.7	70 - 130
1,1,2-Trichloroethane	20.0	21.5	7.3	70 - 130
Trichloroethene (TCE)	20.0	21.0	4.9	70 - 130
Trichlorofluoromethane	20.0	19.8	-1.1	70 - 130
1,2,3-Trichloropropane	20.0	21.4	7.0	70 - 130
1,2,4-Trimethylbenzene	20.0	20.8	4.2	70 - 130
1,3,5-Trimethylbenzene	20.0	20.7	3.7	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	VOA-GCMS9	Calibration:	A9F2102
Lab File ID:	VI19062035.D		
Sequence:	9F20044	Inject Date:	06/21/19
Lab Sample ID:	9F20044-ICV1	Inject Time:	01:01

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Toluene	20.0	19.8	-1.1	70 - 130
Vinyl chloride	20.0	20.2	0.9	70 - 130
m,p-Xylene	40.0	42.0	4.9	70 - 130
o-Xylene	20.0	21.0	5.2	70 - 130
1,4-Difluorobenzene (Surr)	50.0	50.4	0.8	70 - 130
Toluene-d8 (Surr)	50.0	49.7	-0.5	70 - 130
4-Bromofluorobenzene (Surr)	50.0	49.2	-1.7	70 - 130

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F20044	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9F20044-ICV1)				Lab File ID: VI19062035.D		Analyzed: 06/21/19 01:01		
1,4-Difluorobenzene (Surr)	50.0	101	70 - 130	6.789	6.788455	0.0005	+/-1.0	
Toluene-d8 (Surr)	50.0	99	70 - 130	8.304	8.303636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	70 - 130	10.974	10.98	-0.0060	+/-1.0	
Initial Cal Check (9F20044-ICV2)				Lab File ID: VI19062036.D		Analyzed: 06/21/19 01:28		
1,4-Difluorobenzene (Surr)	50.0	100	70 - 130	6.789	6.788455	0.0005	+/-1.0	
Toluene-d8 (Surr)	50.0	100	70 - 130	8.303	8.303636	-0.0006	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	103	70 - 130	10.98	10.98	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F27033	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9061358-BS1)			Lab File ID: VI19062704.D		Analyzed: 06/27/19 13:05			
1,4-Difluorobenzene (Surr)	50.0	104	80 - 120	6.783	6.788455	-0.0055	+/-1.0	
Toluene-d8 (Surr)	50.0	101	80 - 120	8.304	8.303636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	94	80 - 120	10.974	10.98	-0.0060	+/-1.0	
Blank (9061358-BLK1)			Lab File ID: VI19062706.D		Analyzed: 06/27/19 13:59			
1,4-Difluorobenzene (Surr)	50.0	103	80 - 120	6.789	6.788455	0.0005	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.304	8.303636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	99	80 - 120	10.974	10.98	-0.0060	+/-1.0	
2708-190626-MULT802-TB (A9F0860-01)			Lab File ID: VI19062713.D		Analyzed: 06/27/19 17:08			
1,4-Difluorobenzene (Surr)	50.0	105	80 - 120	6.789	6.788455	0.0005	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.303	8.303636	-0.0006	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	101	80 - 120	10.98	10.98	0.0000	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F28013	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
LCS (9061478-BS1)			Lab File ID: VI19062804.D		Analyzed: 06/28/19 09:44			
1,4-Difluorobenzene (Surr)	50.0	101	80 - 120	6.789	6.788455	0.0005	+/-1.0	
Toluene-d8 (Surr)	50.0	102	80 - 120	8.304	8.303636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	97	80 - 120	10.98	10.98	0.0000	+/-1.0	
Blank (9061478-BLK1)			Lab File ID: VI19062806.D		Analyzed: 06/28/19 10:39			
1,4-Difluorobenzene (Surr)	50.0	101	80 - 120	6.785	6.788455	-0.0035	+/-1.0	
Toluene-d8 (Surr)	50.0	103	80 - 120	8.306	8.303636	0.0024	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	103	80 - 120	10.977	10.98	-0.0030	+/-1.0	
2708-190626-MULT802-109 (A9F0860-02RE1)			Lab File ID: VI19062812.D		Analyzed: 06/28/19 13:21			
1,4-Difluorobenzene (Surr)	50.0	100	80 - 120	6.789	6.788455	0.0005	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.303	8.303636	-0.0006	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.98	10.98	0.0000	+/-1.0	
Duplicate (9061478-DUP1)			Lab File ID: VI19062813.D		Analyzed: 06/28/19 13:48			
1,4-Difluorobenzene (Surr)	50.0	100	80 - 120	6.789	6.788455	0.0005	+/-1.0	
Toluene-d8 (Surr)	50.0	100	80 - 120	8.304	8.303636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.98	10.98	0.0000	+/-1.0	
Matrix Spike (9061478-MS1)			Lab File ID: VI19062814.D		Analyzed: 06/28/19 14:15			
1,4-Difluorobenzene (Surr)	50.0	100	80 - 120	6.783	6.788455	-0.0055	+/-1.0	
Toluene-d8 (Surr)	50.0	99	80 - 120	8.304	8.303636	0.0004	+/-1.0	
4-Bromofluorobenzene (Surr)	50.0	98	80 - 120	10.98	10.98	0.0000	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F27033	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9061358-BS1)			Lab File ID: VI19062704.D			Analyzed: 06/27/19 13:05			
Pentafluorobenzene (ISTD)	178232	6.217	178232	6.217	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	280301	9.916	280301	9.916	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	137317	11.856	137317	11.856	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9F27033-CCV1)			Lab File ID: VI19062704.D			Analyzed: 06/27/19 13:05			
Pentafluorobenzene (ISTD)	178232	6.217	211811	6.223	84	50 - 200	-0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	280301	9.916	321290	9.916	87	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	137317	11.856	153422	11.856	90	50 - 200	0.0000	+/-0.50	
Blank (9061358-BLK1)			Lab File ID: VI19062706.D			Analyzed: 06/27/19 13:59			
Pentafluorobenzene (ISTD)	179619	6.223	178232	6.217	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	276992	9.916	280301	9.916	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	121705	11.856	137317	11.856	89	50 - 200	0.0000	+/-0.50	
Duplicate (9061358-DUP1)			Lab File ID: VI19062708.D			Analyzed: 06/27/19 14:53			
Pentafluorobenzene (ISTD)	162051	6.223	178232	6.217	91	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	262192	9.916	280301	9.916	94	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	123082	11.856	137317	11.856	90	50 - 200	0.0000	+/-0.50	
Matrix Spike (9061358-MS1)			Lab File ID: VI19062711.D			Analyzed: 06/27/19 16:14			
Pentafluorobenzene (ISTD)	180586	6.223	178232	6.217	101	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	282657	9.916	280301	9.916	101	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	136954	11.856	137317	11.856	100	50 - 200	0.0000	+/-0.50	
2708-190626-MULT802-TB (A9F0860-01)			Lab File ID: VI19062713.D			Analyzed: 06/27/19 17:08			
Pentafluorobenzene (ISTD)	173138	6.223	178232	6.217	97	50 - 200	0.0060	+/-0.50	
Chlorobenzene-d5 (ISTD)	267351	9.916	280301	9.916	95	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	117086	11.856	137317	11.856	85	50 - 200	0.0000	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8260C

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F28013	Instrument:	VOA-GCMS9
Matrix:	Water	Calibration:	A9F2102

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS (9061478-BS1)			Lab File ID: VI19062804.D			Analyzed: 06/28/19 09:44			
Pentafluorobenzene (ISTD)	246439	6.223	246439	6.223	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	369799	9.916	369799	9.916	100	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	179307	11.856	179307	11.856	100	50 - 200	0.0000	+/-0.50	
Calibration Check (9F28013-CCV1)			Lab File ID: VI19062804.D			Analyzed: 06/28/19 09:44			
Pentafluorobenzene (ISTD)	246439	6.223	211811	6.223	116	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	369799	9.916	321290	9.916	115	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	179307	11.856	153422	11.856	117	50 - 200	0.0000	+/-0.50	
Blank (9061478-BLK1)			Lab File ID: VI19062806.D			Analyzed: 06/28/19 10:39			
Pentafluorobenzene (ISTD)	228577	6.225	246439	6.223	93	50 - 200	0.0020	+/-0.50	
Chlorobenzene-d5 (ISTD)	336167	9.918	369799	9.916	91	50 - 200	0.0020	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	145684	11.859	179307	11.856	81	50 - 200	0.0030	+/-0.50	
2708-190626-MULT802-109 (A9F0860-02RE1)			Lab File ID: VI19062812.D			Analyzed: 06/28/19 13:21			
Pentafluorobenzene (ISTD)	251043	6.223	246439	6.223	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	378036	9.922	369799	9.916	102	50 - 200	0.0060	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	178394	11.856	179307	11.856	99	50 - 200	0.0000	+/-0.50	
Duplicate (9061478-DUP1)			Lab File ID: VI19062813.D			Analyzed: 06/28/19 13:48			
Pentafluorobenzene (ISTD)	245881	6.223	246439	6.223	100	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	365861	9.916	369799	9.916	99	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	173757	11.856	179307	11.856	97	50 - 200	0.0000	+/-0.50	
Matrix Spike (9061478-MS1)			Lab File ID: VI19062814.D			Analyzed: 06/28/19 14:15			
Pentafluorobenzene (ISTD)	251471	6.223	246439	6.223	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (ISTD)	377902	9.916	369799	9.916	102	50 - 200	0.0000	+/-0.50	
1,4-Dichlorobenzene-d4 (ISTD)	181992	11.856	179307	11.856	101	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

EPA 8260C

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

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
2708-190626-MULT802-TB	06/26/19 06:00	06/27/19 12:00	06/27/19 13:37	1.32	14.00	06/27/19 17:08	1.46	14.00	
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	06/28/19 10:51	1.79	14.00	06/28/19 13:21	1.90	14.00	

Apex Laboratories

SDG: A9F0860

CLASS: GCMS

METHOD: EPA 8270D

ANALYSES DATA PACKAGE COVER PAGE

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test

Client Sample Id:	Lab Sample Id:	Matrix
2708-190626-MULT802-109	A9F0860-02	Water

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: 10/1/2019 2:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
Acenaphthene	0.500	1.00	ug/L
Acenaphthylene	0.500	1.00	ug/L
Aniline	0.500	1.00	ug/L
Anthracene	0.500	1.00	ug/L
Azobenzene (1,2-DPH)	0.500	1.00	ug/L
Benz(a)anthracene	0.500	1.00	ug/L
Benzo(a)pyrene	0.500	1.00	ug/L
Benzo(b)fluoranthene	0.500	1.00	ug/L
Benzo(k)fluoranthene	0.500	1.00	ug/L
Benzo(g,h,i)perylene	0.500	1.00	ug/L
Benzoic acid	2.50	5.00	ug/L
Benzyl alcohol	0.500	1.00	ug/L
Bis(2-Chloroethoxy) methane	0.500	1.00	ug/L
Bis(2-Chloroethyl) ether	0.500	1.00	ug/L
2,2'-Oxybis(1-Chloropropane)	0.500	1.00	ug/L
Bis(2-Ethylhexyl) adipate	0.500	1.00	ug/L
Bis(2-ethylhexyl)phthalate	1.00	2.00	ug/L
4-Bromophenyl phenyl ether	0.500	1.00	ug/L
Butyl benzyl phthalate	1.00	2.00	ug/L
Carbazole	0.750	1.50	ug/L
4-Chloroaniline	0.500	1.00	ug/L
4-Chloro-3-methylphenol	0.500	1.00	ug/L
2-Chloronaphthalene	0.500	1.00	ug/L
2-Chlorophenol	0.500	1.00	ug/L
4-Chlorophenyl phenyl ether	0.500	1.00	ug/L
Chrysene	0.500	1.00	ug/L
Dibenz(a,h)anthracene	0.500	1.00	ug/L
Dibenzofuran	0.500	1.00	ug/L
1,2-Dichlorobenzene	0.500	1.00	ug/L
1,3-Dichlorobenzene	0.500	1.00	ug/L
1,4-Dichlorobenzene	0.500	1.00	ug/L
2,4-Dichlorophenol	0.500	1.00	ug/L
Di-n-butylphthalate	1.00	2.00	ug/L
Diethylphthalate	1.00	2.00	ug/L
Dimethylphthalate	1.00	2.00	ug/L
2,4-Dimethylphenol	0.500	1.00	ug/L
1,2-Dinitrobenzene	0.500	1.00	ug/L

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
1,3-Dinitrobenzene	0.500	1.00	ug/L
1,4-Dinitrobenzene	0.500	1.00	ug/L
4,6-Dinitro-2-methylphenol	1.00	2.00	ug/L
2,4-Dinitrophenol	0.500	1.00	ug/L
2,4-Dinitrotoluene	0.500	1.00	ug/L
2,6-Dinitrotoluene	0.500	1.00	ug/L
Di-n-octyl phthalate	1.00	2.00	ug/L
Fluoranthene	0.500	1.00	ug/L
Fluorene	0.500	1.00	ug/L
Hexachlorobenzene	0.500	1.00	ug/L
Hexachlorobutadiene	0.500	1.00	ug/L
Hexachlorocyclopentadiene	0.500	1.00	ug/L
Hexachloroethane	0.500	1.00	ug/L
Indeno(1,2,3-cd)pyrene	0.500	1.00	ug/L
Isophorone	0.500	1.00	ug/L
1-Methylnaphthalene	0.500	1.00	ug/L
2-Methylnaphthalene	0.500	1.00	ug/L
2-Methylphenol	0.500	1.00	ug/L
3+4-Methylphenol(s)	0.500	1.00	ug/L
Naphthalene	0.500	1.00	ug/L
2-Nitroaniline	1.00	2.00	ug/L
3-Nitroaniline	1.00	2.00	ug/L
4-Nitroaniline	0.500	1.00	ug/L
Nitrobenzene	0.500	1.00	ug/L
2-Nitrophenol	0.500	1.00	ug/L
4-Nitrophenol	1.00	2.00	ug/L
N-Nitrosodimethylamine	0.500	1.00	ug/L
N-Nitroso-di-n-propylamine	0.500	1.00	ug/L
N-Nitrosodiphenylamine	0.500	1.00	ug/L
Pentachlorophenol (PCP)	1.00	2.00	ug/L
Phenanthrene	0.500	1.00	ug/L
Phenol	0.500	1.00	ug/L
Pyrene	0.500	1.00	ug/L
Pyridine	1.00	2.00	ug/L
2,3,4,6-Tetrachlorophenol	0.500	1.00	ug/L
2,3,5,6-Tetrachlorophenol	0.500	1.00	ug/L
1,2,4-Trichlorobenzene	0.500	1.00	ug/L

METHOD DETECTION AND REPORTING LIMITS

EPA 8270D

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
2,4,5-Trichlorophenol	0.500	1.00	ug/L
2,4,6-Trichlorophenol	0.500	1.00	ug/L

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

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

2708-190626-MULT802-109

Laboratory:	Apex Laboratories		SDG:	A9F0860	
Client:	Hahn and Associates		Project:	Mult 802 Pump Test	
Matrix:	Water	Laboratory ID:	A9F0860-02RE2	File ID:	E07031919.D
Sampled:	06/26/19 15:50	Prepared:	07/03/19 07:08	Analyzed:	07/03/19 18:58
		Preparation:	EPA 3510C (Acid/Base Neut	Initial/Final:	1040 mL / 5 mL

Batch: 9070583 Sequence: 9G03020 Calibration: A9A3103 Instrument: SV-GCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
83-32-9	Acenaphthene	10	84.0	D
208-96-8	Acenaphthylene	10	29.6	D
62-53-3	Aniline	10	12.0	U
120-12-7	Anthracene	10	39.7	D
103-33-3	Azobenzene (1,2-DPH)	10	12.0	U
56-55-3	Benz(a)anthracene	10	25.1	D
50-32-8	Benzo(a)pyrene	10	29.1	D
205-99-2	Benzo(b)fluoranthene	10	26.4	D
207-08-9	Benzo(k)fluoranthene	10	12.0	U
191-24-2	Benzo(g,h,i)perylene	10	16.3	JD
65-85-0	Benzoic acid	10	60.1	U
100-51-6	Benzyl alcohol	10	12.0	U
111-91-1	Bis(2-Chloroethoxy) methane	10	12.0	U
111-44-4	Bis(2-Chloroethyl) ether	10	12.0	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	10	12.0	U
103-23-1	Bis(2-Ethylhexyl) adipate	10	12.0	U
117-81-7	Bis(2-ethylhexyl)phthalate	10	24.0	U
101-55-3	4-Bromophenyl phenyl ether	10	12.0	U
85-68-7	Butyl benzyl phthalate	10	24.0	U
86-74-8	Carbazole	10	43.7	D
106-47-8	4-Chloroaniline	10	12.0	U
59-50-7	4-Chloro-3-methylphenol	10	12.0	U
91-58-7	2-Chloronaphthalene	10	12.0	U
95-57-8	2-Chlorophenol	10	12.0	U
7005-72-3	4-Chlorophenyl phenyl ether	10	12.0	U
218-01-9	Chrysene	10	28.6	D
53-70-3	Dibenz(a,h)anthracene	10	12.0	U
132-64-9	Dibenzofuran	10	45.8	D
95-50-1	1,2-Dichlorobenzene	10	12.0	U
541-73-1	1,3-Dichlorobenzene	10	12.0	U
106-46-7	1,4-Dichlorobenzene	10	12.0	U
120-83-2	2,4-Dichlorophenol	10	12.0	U
84-74-2	Di-n-butylphthalate	10	24.0	U
84-66-2	Diethylphthalate	10	24.0	U
131-11-3	Dimethylphthalate	10	24.0	U
105-67-9	2,4-Dimethylphenol	10	12.0	U
528-29-0	1,2-Dinitrobenzene	10	12.0	U
99-65-0	1,3-Dinitrobenzene	10	12.0	U
100-25-4	1,4-Dinitrobenzene	10	12.0	U
534-52-1	4,6-Dinitro-2-methylphenol	10	24.0	U

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

2708-190626-MULT802-109

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	A9F0860-02RE2	File ID:	E07031919.D
Sampled:	06/26/19 15:50	Prepared:	07/03/19 07:08	Analyzed:	07/03/19 18:58
		Preparation:	EPA 3510C (Acid/Base Neut	Initial/Final:	1040 mL / 5 mL

Batch: 9070583 Sequence: 9G03020 Calibration: A9A3103 Instrument: SV-GCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q
51-28-5	2,4-Dinitrophenol	10	12.0	U
121-14-2	2,4-Dinitrotoluene	10	12.0	U
606-20-2	2,6-Dinitrotoluene	10	12.0	U
117-84-0	Di-n-octyl phthalate	10	24.0	U
206-44-0	Fluoranthene	10	84.8	D
86-73-7	Fluorene	10	63.7	D
118-74-1	Hexachlorobenzene	10	12.0	U
87-68-3	Hexachlorobutadiene	10	12.0	U
77-47-4	Hexachlorocyclopentadiene	10	12.0	U
67-72-1	Hexachloroethane	10	12.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	10	15.6	JD
78-59-1	Isophorone	10	12.0	U
90-12-0	1-Methylnaphthalene	10	143	D
91-57-6	2-Methylnaphthalene	10	81.9	D
95-48-7	2-Methylphenol	10	12.0	U
NA	3+4-Methylphenol(s)	10	15.3	JD
91-20-3	Naphthalene	10	12.0	U
88-74-4	2-Nitroaniline	10	24.0	U
99-09-2	3-Nitroaniline	10	24.0	U
100-01-6	4-Nitroaniline	10	12.0	U
98-95-3	Nitrobenzene	10	12.0	U
88-75-5	2-Nitrophenol	10	12.0	U
100-02-7	4-Nitrophenol	10	24.0	U
62-75-9	N-Nitrosodimethylamine	10	12.0	U
621-64-7	N-Nitroso-di-n-propylamine	10	12.0	U
86-30-6	N-Nitrosodiphenylamine	10	12.0	U
87-86-5	Pentachlorophenol (PCP)	10	24.0	U
85-01-8	Phenanthrene	10	230	D
108-95-2	Phenol	10	12.0	U
129-00-0	Pyrene	10	100	D
110-86-1	Pyridine	10	24.0	U
58-90-2	2,3,4,6-Tetrachlorophenol	10	12.0	U
935-95-5	2,3,5,6-Tetrachlorophenol	10	12.0	U
120-82-1	1,2,4-Trichlorobenzene	10	12.0	U
95-95-4	2,4,5-Trichlorophenol	10	12.0	U
88-06-2	2,4,6-Trichlorophenol	10	12.0	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Nitrobenzene-d5 (Surr)	4.81	3.51	73	44 - 120	
2-Fluorobiphenyl (Surr)	4.81	4.09	85	44 - 120	
Phenol-d6 (Surr)	4.81	1.13	23	10 - 120	

ORGANIC ANALYSIS DATA SHEET

EPA 8270D

2708-190626-MULT802-109

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	A9F0860-02RE2	File ID:	E07031919.D
Sampled:	06/26/19 15:50	Prepared:	07/03/19 07:08	Analyzed:	07/03/19 18:58
		Preparation:	EPA 3510C (Acid/Base Neut	Initial/Final:	1040 mL / 5 mL

Batch: 9070583 Sequence: 9G03020 Calibration: A9A3103 Instrument: SV-GCMS5

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
p-Terphenyl-d14 (Surr)	4.81	3.96	82	50 - 133	
2-Fluorophenol (Surr)	4.81	2.01	42	19 - 120	
2,4,6-Tribromophenol (Surr)	4.81	5.69	118	43 - 140	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4 (ISTD)	233133	6.751	234951	6.751	
Naphthalene-d8 (ISTD)	910670	7.997	905720	7.997	
Acenaphthene-d10 (ISTD)	465464	9.773	459698	9.773	
Phenanthrene-d10 (ISTD)	882111	11.292	863936	11.287	
Chrysene-d12 (ISTD)	815812	15.197	812051	15.197	
Perylene-d12 (ISTD)	707748	18.711	737977	18.705	
Dibenz(a,h)anthracene-d14 (ISTD)	567616	21.102	674023	21.102	

* Values outside of QC limits

PREPARATION BATCH SUMMARY

EPA 8270D

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Batch: 9070583 Batch Matrix: Water Preparation: EPA 3510C (Acid/Base Neutral)

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9070583-BLK1	E07031913.D	07/03/19 07:08	
LCS	9070583-BS1	E07031914.D	07/03/19 07:08	
LCS Dup	9070583-BSD1	E07031915.D	07/03/19 07:08	
2708-190626-MULT802-109	A9F0860-02RE2	E07031919.D	07/03/19 07:08	

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

METHOD BLANK DATA SHEET
EPA 8270D

Laboratory:	Apex Laboratories		SDG:	A9F0860	
Client:	Hahn and Associates		Project:	Mult 802 Pump Test	
Matrix:	Water	Laboratory ID:	9070583-BLK1	File ID:	E07031913.D
Prepared:	07/03/19 07:08	Preparation:	EPA 3510C (Acid/Base Neut	Initial/Final:	1100 mL / 1 mL
Analyzed:	07/03/19 15:18	Instrument:	SV-GCMS5		
Batch:	9070583	Sequence:	9G03020	Calibration:	A9A3103

CAS NO.	COMPOUND	CONC. (ug/L)	Q
83-32-9	Acenaphthene	0.227	U
208-96-8	Acenaphthylene	0.227	U
62-53-3	Aniline	0.227	U
120-12-7	Anthracene	0.227	U
103-33-3	Azobenzene (1,2-DPH)	0.227	U
56-55-3	Benz(a)anthracene	0.227	U
50-32-8	Benzo(a)pyrene	0.227	U
205-99-2	Benzo(b)fluoranthene	0.227	U
207-08-9	Benzo(k)fluoranthene	0.227	U
191-24-2	Benzo(g,h,i)perylene	0.227	U
65-85-0	Benzoic acid	1.14	U
100-51-6	Benzyl alcohol	0.227	U
111-91-1	Bis(2-Chloroethoxy) methane	0.227	U
111-44-4	Bis(2-Chloroethyl) ether	0.227	U
108-60-1	2,2'-Oxybis(1-Chloropropane)	0.227	U
103-23-1	Bis(2-Ethylhexyl) adipate	0.227	U
117-81-7	Bis(2-ethylhexyl)phthalate	0.455	U
101-55-3	4-Bromophenyl phenyl ether	0.227	U
85-68-7	Butyl benzyl phthalate	0.455	U
86-74-8	Carbazole	0.341	U
106-47-8	4-Chloroaniline	0.227	U
59-50-7	4-Chloro-3-methylphenol	0.227	U
91-58-7	2-Chloronaphthalene	0.227	U
95-57-8	2-Chlorophenol	0.227	U
7005-72-3	4-Chlorophenyl phenyl ether	0.227	U
218-01-9	Chrysene	0.227	U
53-70-3	Dibenz(a,h)anthracene	0.227	U
132-64-9	Dibenzofuran	0.227	U
95-50-1	1,2-Dichlorobenzene	0.227	U
541-73-1	1,3-Dichlorobenzene	0.227	U
106-46-7	1,4-Dichlorobenzene	0.227	U
120-83-2	2,4-Dichlorophenol	0.227	U
84-74-2	Di-n-butylphthalate	0.455	U
84-66-2	Diethylphthalate	0.455	U
131-11-3	Dimethylphthalate	0.455	U

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9070583-BLK1	File ID:	E07031913.D
Prepared:	07/03/19 07:08	Preparation:	EPA 3510C (Acid/Base Neut	Initial/Final:	1100 mL / 1 mL
Analyzed:	07/03/19 15:18	Instrument:	SV-GCMS5		
Batch:	9070583	Sequence:	9G03020	Calibration:	A9A3103

CAS NO.	COMPOUND	CONC. (ug/L)	Q
105-67-9	2,4-Dimethylphenol	0.227	U
528-29-0	1,2-Dinitrobenzene	0.227	U
99-65-0	1,3-Dinitrobenzene	0.227	U
100-25-4	1,4-Dinitrobenzene	0.227	U
534-52-1	4,6-Dinitro-2-methylphenol	0.455	U
51-28-5	2,4-Dinitrophenol	0.227	U
121-14-2	2,4-Dinitrotoluene	0.227	U
606-20-2	2,6-Dinitrotoluene	0.227	U
117-84-0	Di-n-octyl phthalate	0.455	U
206-44-0	Fluoranthene	0.227	U
86-73-7	Fluorene	0.227	U
118-74-1	Hexachlorobenzene	0.227	U
87-68-3	Hexachlorobutadiene	0.227	U
77-47-4	Hexachlorocyclopentadiene	0.227	U
67-72-1	Hexachloroethane	0.227	U
193-39-5	Indeno(1,2,3-cd)pyrene	0.227	U
78-59-1	Isophorone	0.227	U
90-12-0	1-Methylnaphthalene	0.227	U
91-57-6	2-Methylnaphthalene	0.227	U
95-48-7	2-Methylphenol	0.227	U
NA	3+4-Methylphenol(s)	0.227	U
91-20-3	Naphthalene	0.227	U
88-74-4	2-Nitroaniline	0.455	U
99-09-2	3-Nitroaniline	0.455	U
100-01-6	4-Nitroaniline	0.227	U
98-95-3	Nitrobenzene	0.227	U
88-75-5	2-Nitrophenol	0.227	U
100-02-7	4-Nitrophenol	0.455	U
62-75-9	N-Nitrosodimethylamine	0.227	U
621-64-7	N-Nitroso-di-n-propylamine	0.227	U
86-30-6	N-Nitrosodiphenylamine	0.227	U
87-86-5	Pentachlorophenol (PCP)	0.455	U
85-01-8	Phenanthrene	0.227	U
108-95-2	Phenol	0.227	U
129-00-0	Pyrene	0.227	U

METHOD BLANK DATA SHEET

EPA 8270D

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9070583-BLK1	File ID:	E07031913.D
Prepared:	07/03/19 07:08	Preparation:	EPA 3510C (Acid/Base Neut	Initial/Final:	1100 mL / 1 mL
Analyzed:	07/03/19 15:18	Instrument:	SV-GCMS5		
Batch:	9070583	Sequence:	9G03020	Calibration:	A9A3103

CAS NO.	COMPOUND	CONC. (ug/L)	Q
110-86-1	Pyridine	0.455	U
58-90-2	2,3,4,6-Tetrachlorophenol	0.227	U
935-95-5	2,3,5,6-Tetrachlorophenol	0.227	U
120-82-1	1,2,4-Trichlorobenzene	0.227	U
95-95-4	2,4,5-Trichlorophenol	0.227	U
88-06-2	2,4,6-Trichlorophenol	0.227	U

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Nitrobenzene-d5 (Surr)	4.55	3.00	66	44 - 120	
2-Fluorobiphenyl (Surr)	4.55	2.96	65	44 - 120	
Phenol-d6 (Surr)	4.55	0.108	2	10 - 120	*
p-Terphenyl-d14 (Surr)	4.55	3.97	87	50 - 133	
2-Fluorophenol (Surr)	4.55	1.29	28	19 - 120	
2,4,6-Tribromophenol (Surr)	4.55	3.89	86	43 - 140	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
1,4-Dichlorobenzene-d4 (ISTD)	231752	6.751	234951	6.751	
Naphthalene-d8 (ISTD)	888443	7.997	905720	7.997	
Acenaphthene-d10 (ISTD)	450097	9.773	459698	9.773	
Phenanthrene-d10 (ISTD)	849610	11.287	863936	11.287	
Chrysene-d12 (ISTD)	766778	15.197	812051	15.197	
Perylene-d12 (ISTD)	657745	18.705	737977	18.705	
Dibenz(a,h)anthracene-d14 (ISTD)	524214	21.096	674023	21.102	

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070583	Laboratory ID:	9070583-BS1
Preparation:	EPA 3510C (Acid/Base Neutral)	Initial/Final:	1000 mL / 1 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Acenaphthene	4.00	3.26	82	47 - 122
Acenaphthylene	4.00	3.35	84	41 - 130
Aniline	4.00	2.70	68	6 - 120
Anthracene	4.00	3.58	89	57 - 123
Azobenzene (1,2-DPH)	4.00	3.12	78	61 - 120
Benz(a)anthracene	4.00	3.80	95	58 - 125
Benzo(a)pyrene	4.00	4.46	112	54 - 128
Benzo(b)fluoranthene	4.00	4.38	110	53 - 131
Benzo(k)fluoranthene	4.00	4.52	113	57 - 129
Benzo(g,h,i)perylene	4.00	3.63	91	50 - 134
Benzoic acid	8.00	4.21	53	5 - 120
Benzyl alcohol	4.00	2.81	70	31 - 120
Bis(2-Chloroethoxy) methane	4.00	3.07	77	48 - 120
Bis(2-Chloroethyl) ether	4.00	2.85	71	43 - 120
2,2'-Oxybis(1-Chloropropane)	4.00	2.53	63	37 - 130
Bis(2-Ethylhexyl) adipate	4.00	3.74	94	40 - 125
Bis(2-ethylhexyl)phthalate	4.00	4.00	100	55 - 135
4-Bromophenyl phenyl ether	4.00	3.67	92	54 - 124
Butyl benzyl phthalate	4.00	3.97	99	53 - 134
Carbazole	4.00	3.63	91	60 - 122
4-Chloroaniline	4.00	3.48	87	33 - 120
4-Chloro-3-methylphenol	4.00	3.64	91	52 - 120
2-Chloronaphthalene	4.00	2.94	74	40 - 120
2-Chlorophenol	4.00	2.01	50	38 - 120
4-Chlorophenyl phenyl ether	4.00	3.64	91	53 - 121
Chrysene	4.00	3.88	97	59 - 123
Dibenz(a,h)anthracene	4.00	4.23	106	51 - 134
Dibenzofuran	4.00	3.43	86	53 - 120
1,2-Dichlorobenzene	4.00	2.26	56	32 - 120
1,3-Dichlorobenzene	4.00	2.17	54	28 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070583	Laboratory ID:	9070583-BS1
Preparation:	EPA 3510C (Acid/Base Neutral)	Initial/Final:	1000 mL / 1 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
1,4-Dichlorobenzene	4.00	2.24	56	29 - 120
2,4-Dichlorophenol	4.00	3.64	91	47 - 121
Di-n-butylphthalate	4.00	3.73	93	59 - 127
Diethylphthalate	4.00	4.13	103	55 - 125
Dimethylphthalate	4.00	4.00	100	45 - 127
2,4-Dimethylphenol	4.00	2.51	63	31 - 124
1,2-Dinitrobenzene	4.00	4.13	103	59 - 120
1,3-Dinitrobenzene	4.00	4.34	108	49 - 128
1,4-Dinitrobenzene	4.00	4.67	117	40 - 120
4,6-Dinitro-2-methylphenol	4.00	5.59	140 *	44 - 137
2,4-Dinitrophenol	4.00	5.62	141	23 - 143
2,4-Dinitrotoluene	4.00	4.28	107	57 - 128
2,6-Dinitrotoluene	4.00	4.10	103	57 - 124
Di-n-octyl phthalate	4.00	4.54	113	51 - 140
Fluoranthene	4.00	3.84	96	57 - 128
Fluorene	4.00	3.60	90	52 - 124
Hexachlorobenzene	4.00	3.76	94	52 - 125
Hexachlorobutadiene	4.00	2.44	61	22 - 124
Hexachlorocyclopentadiene	4.00	2.15	54	5 - 127
Hexachloroethane	4.00	2.04	51	21 - 120
Indeno(1,2,3-cd)pyrene	4.00	3.82	96	52 - 133
Isophorone	4.00	3.35	84	42 - 124
1-Methylnaphthalene	4.00	2.95	74	41 - 120
2-Methylnaphthalene	4.00	2.98	74	40 - 121
2-Methylphenol	4.00	2.49	62	30 - 120
3+4-Methylphenol(s)	4.00	2.42	61	29 - 120
Naphthalene	4.00	2.67	67	40 - 121
2-Nitroaniline	4.00	3.99	100	54 - 127
3-Nitroaniline	4.00	3.68	92	41 - 128
4-Nitroaniline	4.00	4.02	101	35 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070583	Laboratory ID:	9070583-BS1
Preparation:	EPA 3510C (Acid/Base Neutral)	Initial/Final:	1000 mL / 1 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Nitrobenzene	4.00	3.00	75	45 - 121
2-Nitrophenol	4.00	3.77	94	47 - 123
4-Nitrophenol	4.00	1.38	35	5 - 120
N-Nitrosodimethylamine	4.00	1.78	45	6 - 120
N-Nitroso-di-n-propylamine	4.00	3.05	76	49 - 120
N-Nitrosodiphenylamine	4.00	3.59	90	51 - 123
Pentachlorophenol (PCP)	4.00	3.81	95	35 - 138
Phenanthrene	4.00	3.61	90	59 - 120
Phenol	4.00	0.563	14	5 - 120
Pyrene	4.00	3.85	96	57 - 126
Pyridine	4.00	1.61	40	5 - 120
2,3,4,6-Tetrachlorophenol	4.00	3.92	98	50 - 128
2,3,5,6-Tetrachlorophenol	4.00	4.19	105	50 - 121
1,2,4-Trichlorobenzene	4.00	2.61	65	29 - 120
2,4,5-Trichlorophenol	4.00	4.08	102	53 - 123
2,4,6-Trichlorophenol	4.00	3.87	97	50 - 125

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070583	Laboratory ID:	9070583-BSD1
Preparation:	EPA 3510C (Acid/Base Neutral)	Initial/Final:	1000 mL / 1 mL

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	
Acenaphthene	4.00	3.19	80	2	30	47 - 122
Acenaphthylene	4.00	3.28	82	2	30	41 - 130
Aniline	4.00	2.61	65	3	30	6 - 120
Anthracene	4.00	3.51	88	2	30	57 - 123
Azobenzene (1,2-DPH)	4.00	3.09	77	1	30	61 - 120
Benz(a)anthracene	4.00	3.75	94	1	30	58 - 125
Benzo(a)pyrene	4.00	4.40	110	1	30	54 - 128
Benzo(b)fluoranthene	4.00	4.36	109	0.6	30	53 - 131
Benzo(k)fluoranthene	4.00	4.52	113	0.1	30	57 - 129
Benzo(g,h,i)perylene	4.00	3.58	90	1	30	50 - 134
Benzoic acid	8.00	4.28	53	2	30	5 - 120
Benzyl alcohol	4.00	2.74	69	3	30	31 - 120
Bis(2-Chloroethoxy) methane	4.00	3.00	75	2	30	48 - 120
Bis(2-Chloroethyl) ether	4.00	2.72	68	5	30	43 - 120
2,2'-Oxybis(1-Chloropropane)	4.00	2.48	62	2	30	37 - 130
Bis(2-Ethylhexyl) adipate	4.00	3.70	92	1	30	40 - 125
Bis(2-ethylhexyl)phthalate	4.00	3.94	99	1	30	55 - 135
4-Bromophenyl phenyl ether	4.00	3.64	91	0.9	30	54 - 124
Butyl benzyl phthalate	4.00	3.94	98	0.8	30	53 - 134
Carbazole	4.00	3.60	90	0.9	30	60 - 122
4-Chloroaniline	4.00	3.38	85	3	30	33 - 120
4-Chloro-3-methylphenol	4.00	3.58	89	2	30	52 - 120
2-Chloronaphthalene	4.00	2.87	72	3	30	40 - 120
2-Chlorophenol	4.00	2.08	52	3	30	38 - 120
4-Chlorophenyl phenyl ether	4.00	3.56	89	2	30	53 - 121
Chrysene	4.00	3.83	96	1	30	59 - 123
Dibenz(a,h)anthracene	4.00	4.12	103	3	30	51 - 134
Dibenzofuran	4.00	3.32	83	3	30	53 - 120
1,2-Dichlorobenzene	4.00	2.28	57	1	30	32 - 120
1,3-Dichlorobenzene	4.00	2.14	53	1	30	28 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070583	Laboratory ID:	9070583-BSD1
Preparation:	EPA 3510C (Acid/Base Neutral)	Initial/Final:	1000 mL / 1 mL

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	
1,4-Dichlorobenzene	4.00	2.20	55	2	30	29 - 120
2,4-Dichlorophenol	4.00	3.57	89	2	30	47 - 121
Di-n-butylphthalate	4.00	3.63	91	3	30	59 - 127
Diethylphthalate	4.00	4.03	101	2	30	55 - 125
Dimethylphthalate	4.00	3.91	98	2	30	45 - 127
2,4-Dimethylphenol	4.00	2.41	60	4	30	31 - 124
1,2-Dinitrobenzene	4.00	4.03	101	2	30	59 - 120
1,3-Dinitrobenzene	4.00	4.21	105	3	30	49 - 128
1,4-Dinitrobenzene	4.00	4.60	115	2	30	40 - 120
4,6-Dinitro-2-methylphenol	4.00	5.45	136	2	30	44 - 137
2,4-Dinitrophenol	4.00	5.44	136	3	30	23 - 143
2,4-Dinitrotoluene	4.00	4.15	104	3	30	57 - 128
2,6-Dinitrotoluene	4.00	3.99	100	3	30	57 - 124
Di-n-octyl phthalate	4.00	4.54	114	0.1	30	51 - 140
Fluoranthene	4.00	3.78	95	2	30	57 - 128
Fluorene	4.00	3.53	88	2	30	52 - 124
Hexachlorobenzene	4.00	3.73	93	0.9	30	52 - 125
Hexachlorobutadiene	4.00	2.41	60	2	30	22 - 124
Hexachlorocyclopentadiene	4.00	2.01	50	7	30	5 - 127
Hexachloroethane	4.00	2.02	50	1	30	21 - 120
Indeno(1,2,3-cd)pyrene	4.00	3.74	94	2	30	52 - 133
Isophorone	4.00	3.28	82	2	30	42 - 124
1-Methylnaphthalene	4.00	2.88	72	2	30	41 - 120
2-Methylnaphthalene	4.00	2.90	73	3	30	40 - 121
2-Methylphenol	4.00	2.41	60	3	30	30 - 120
3+4-Methylphenol(s)	4.00	2.35	59	3	30	29 - 120
Naphthalene	4.00	2.62	65	2	30	40 - 121
2-Nitroaniline	4.00	3.95	99	1	30	54 - 127
3-Nitroaniline	4.00	3.61	90	2	30	41 - 128
4-Nitroaniline	4.00	3.96	99	2	30	35 - 120

LCS / LCS DUPLICATE RECOVERY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070583	Laboratory ID:	9070583-BSD1
Preparation:	EPA 3510C (Acid/Base Neutral)	Initial/Final:	1000 mL / 1 mL

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	QC LIMITS
Nitrobenzene	4.00	2.91	73	3	30	45 - 121
2-Nitrophenol	4.00	3.63	91	4	30	47 - 123
4-Nitrophenol	4.00	1.41	35	2	30	5 - 120
N-Nitrosodimethylamine	4.00	1.71	43	4	30	6 - 120
N-Nitroso-di-n-propylamine	4.00	2.97	74	3	30	49 - 120
N-Nitrosodiphenylamine	4.00	3.62	90	0.7	30	51 - 123
Pentachlorophenol (PCP)	4.00	3.88	97	2	30	35 - 138
Phenanthrene	4.00	3.58	89	0.8	30	59 - 120
Phenol	4.00	0.553	14	2	30	5 - 120
Pyrene	4.00	3.79	95	2	30	57 - 126
Pyridine	4.00	1.57	39	3	30	5 - 120
2,3,4,6-Tetrachlorophenol	4.00	3.87	97	1	30	50 - 128
2,3,5,6-Tetrachlorophenol	4.00	4.09	102	2	30	50 - 121
1,2,4-Trichlorobenzene	4.00	2.56	64	2	30	29 - 120
2,4,5-Trichlorophenol	4.00	3.92	98	4	30	53 - 123
2,4,6-Trichlorophenol	4.00	3.84	96	0.6	30	50 - 125

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9A30046	Instrument:	SV-GCMS5
Matrix:	Water	Calibration:	A9A3103

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9A30046-TUN2	E01301912.D	01/30/19 17:18
Initial Cal Blank	9A30046-ICB1	E01301913.D	01/30/19 18:24
Cal Standard	9A30046-CAL1	E01301914.D	01/30/19 19:00
Cal Standard	9A30046-CAL2	E01301915.D	01/30/19 19:37
Cal Standard	9A30046-CAL3	E01301916.D	01/30/19 20:13
Cal Standard	9A30046-CAL4	E01301917.D	01/30/19 20:50
Cal Standard	9A30046-CAL5	E01301918.D	01/30/19 21:26
Cal Standard	9A30046-CAL6	E01301919.D	01/30/19 22:02
Cal Standard	9A30046-CAL7	E01301920.D	01/30/19 22:39
Cal Standard	9A30046-CAL8	E01301921.D	01/30/19 23:15
Cal Standard	9A30046-CAL9	E01301922.D	01/30/19 23:51
Cal Standard	9A30046-CALA	E01301923.D	01/31/19 00:28
Initial Cal Check	9A30046-ICV1	E01301925.D	01/31/19 01:40

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:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G03020	Instrument:	SV-GCMS5
Matrix:	Water	Calibration:	A9A3103

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
MS Tune	9G03020-TUN2	E07031903.D	07/03/19 09:19
Calibration Check	9G03020-CCV1	E07031905.D	07/03/19 10:24
Calibration Blank	9G03020-CCB1	E07031906.D	07/03/19 11:01
Blank	9070583-BLK1	E07031913.D	07/03/19 15:18
LCS	9070583-BS1	E07031914.D	07/03/19 15:55
LCS Dup	9070583-BSD1	E07031915.D	07/03/19 16:31
2708-190626-MULT802-109	A9F0860-02RE2	E07031919.D	07/03/19 18:58

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

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Lab File ID:	E01301912.D	Injection Date:	01/30/19
Instrument ID:	SV-GCMS5	Injection Time:	17:18
Sequence:	9A30046	Lab Sample ID:	9A30046-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 127			
m/z 275			
m/z 51			
m/z 68	Less than 2% of m/z 69	1.15	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.51	PASS
m/z 197	Less than 2% of m/z 198	0.00	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.83	PASS
m/z 365	1 - 100% of m/z 198	2.92	PASS
m/z 441	Less than 24% of m/z 443	80.30	FAIL
m/z 442	50 - 200% of m/z 198	93.97	PASS
m/z 443	15 - 24% of m/z 442	19.37	PASS

MASS SPECTROMETER INSTRUMENT PERFORMANCE CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Lab File ID:	E07031903.D	Injection Date:	07/03/19
Instrument ID:	SV-GCMS5	Injection Time:	09:19
Sequence:	9G03020	Lab Sample ID:	9G03020-TUN2

m/z	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
m/z 127			
m/z 275			
m/z 51			
m/z 68	Less than 2% of m/z 69	0.00	PASS
m/z 69	Base peak, 100% relative abundance	100.00	PASS
m/z 70	Less than 2% of m/z 69	0.52	PASS
m/z 197	Less than 2% of m/z 198	0.00	PASS
m/z 198	Base peak, 100% relative abundance	100.00	PASS
m/z 199	5 - 9% of m/z 198	6.69	PASS
m/z 365	1 - 100% of m/z 198	3.10	PASS
m/z 441	Less than 24% of m/z 443	78.85	FAIL
m/z 442	50 - 200% of m/z 198	102.21	PASS
m/z 443	15 - 24% of m/z 442	19.27	PASS

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9A3103 Date: 01/31/19 12:46 Instrument: SV-GCMS5

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Acenaphthene	1.320947	Ave	5.949628	9.9147	6.536659E-02			20	
Acenaphthylene	1.948127	Ave	6.974163	9.7362	6.674685E-02			20	
Aniline	2.277302	Ave	3.805495	6.534222	0.1082941			20	
Anthracene	1.126296	Ave	6.714884	11.4772	5.207044E-02			20	
Azobenzene (1,2-DPH)	0.8632647	Ave	9.310497	10.5898	5.583337E-02			20	
Benz(a)anthracene	1.128129	Ave	5.074536	15.3977	0.106993			20	
Benzo(a)pyrene	0.9593879	Ave	12.80263	18.8171	0.1495143			20	
Benzo(b)fluoranthene	1.056647	Ave	9.9883	18.0323	0.1288222			20	
Benzo(k)fluoranthene	1.038438	Ave	7.494547	18.1019	0.1396707			20	
Benzo(g,h,i)perylene	1.079251	Ave	6.879347	21.9071	0.1403967			20	
Benzoic acid	0.1322269	XXX	67.4824	7.862286	0.9610814				
Benzyl alcohol	0.8288152	Ave	14.46936	6.970445	0.1171506			20	
Bis(2-Chloroethoxy) methane	0.4294555	Ave	3.655775	7.835	7.346376E-02			20	
Bis(2-Chloroethyl) ether	1.428377	Ave	3.676982	6.5832	8.622709E-02			20	
2,2'-Oxybis(1-Chloropropane)	2.265085	Ave	5.427816	7.0982	5.914393E-02			20	
Bis(2-Ethylhexyl) adipate	0.582133	Ave	6.923493	14.34689	5.828602E-02			20	
Bis(2-ethylhexyl)phthalate	0.8360134	Ave	8.225791	15.55186	5.607471E-02			20	
4-Bromophenyl phenyl ether	0.1850303	Ave	4.314689	10.93	4.062685E-02			20	
Butyl benzyl phthalate	0.5849967	Ave	12.34692	14.16388	7.180324E-02			20	
Carbazole	1.054571	Ave	7.607666	11.6322	4.463845E-02			20	
4-Chloroaniline	0.3674415	Ave	11.4342	8.1626	6.092182E-02			20	
4-Chloro-3-methylphenol	0.2413427	XXX	25.27585	8.637444	4.969096E-02				
2-Chloronaphthalene	1.235318	Ave	3.860455	9.3116	5.802517E-02			20	
2-Chlorophenol	1.30863	Ave	10.075	6.6496	5.442939E-02			20	
4-Chlorophenyl phenyl ether	0.6088409	Ave	3.895979	10.4285	4.196255E-02			20	
Chrysene	1.074697	Ave	1.516659	15.4833	0.1326285			20	
Dibenz(a,h)anthracene	1.003913	Ave	7.04009	21.4274	0.1198169			20	
Dibenzofuran	1.717298	Ave	3.286899	10.087	5.995257E-02			20	
1,2-Dichlorobenzene	1.431698	Ave	2.252083	7.0136	3.267058E-02			20	
1,3-Dichlorobenzene	1.495926	Ave	1.866664	6.7986	4.628441E-02			20	
1,4-Dichlorobenzene	1.511459	Ave	2.639512	6.8641	0.0285175			20	
2,4-Dichlorophenol	0.2319116	Ave	14.17836	7.952111	0.0834268			20	
Di-n-butylphthalate	1.319517	Ave	11.22258	11.9709	3.529533E-02			20	

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9A3103 Date: 01/31/19 12:46 Instrument: SV-GCMS5

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Diethylphthalate	1.28282	Ave	8.529976	10.301	9.202948E-02			20	
Dimethylphthalate	1.283596	Ave	8.567467	9.5865	0.1480812			20	
2,4-Dimethylphenol	0.299284	Ave	5.218344	7.741778	0.1041158			20	
1,2-Dinitrobenzene	0.117849	XXX	34.46559	9.709556	0.1456921				
1,3-Dinitrobenzene	0.1812784	XXX	35.16104	9.62	0.1401266				
1,4-Dinitrobenzene	0.1481233	XXX	42.67613	9.53525	8.189535E-02				
4,6-Dinitro-2-methylphenol	0.1455335	XXX	51.27245	10.48529	0.1280859				
2,4-Dinitrophenol	0.1019697	XXX	66.14618	9.930714	0.1074455				
2,4-Dinitrotoluene	0.3440619	XXX	29.92281	10.0625	0.1245006				
2,6-Dinitrotoluene	0.2615088	XXX	30.00701	9.647556	0.1074389				
Di-n-octyl phthalate	1.246523	XXX	30.56301	17.24233	6.983688E-02				
Fluoranthene	1.138647	Ave	4.232687	12.7482	5.695524E-02			20	
Fluorene	1.375044	Ave	4.743735	10.4394	5.936047E-02			20	
Hexachlorobenzene	0.1861317	Ave	4.033625	11.0121	4.953628E-02			20	
Hexachlorobutadiene	0.1357031	Ave	3.72295	8.2449	0.0406983			20	
Hexachlorocyclopentadiene	0.2565529	Ave	14.98556	8.9822	2.227601E-02			20	
Hexachloroethane	0.5579667	Ave	3.352047	7.3455	0.0137626			20	
Indeno(1,2,3-cd)pyrene	1.096233	Ave	4.600052	21.3646	0.1368844			20	
Isophorone	0.6825585	Ave	10.26341	7.6319	0.1404563			20	
1-Methylnaphthalene	0.6426808	Ave	3.816017	8.9162	4.677698E-02			20	
2-Methylnaphthalene	0.6711103	Ave	3.334761	8.8152	0.0447606			20	
2-Methylphenol	1.088329	Ave	8.487817	7.0685	6.549627E-02			20	
3+4-Methylphenol(s)	1.374725	Ave	10.56189	7.217	0.1291613			20	
Naphthalene	1.066921	Ave	5.537751	8.1214	5.854596E-02			20	
2-Nitroaniline	0.3702385	XXX	28.23683	9.408125	0.1042349				
3-Nitroaniline	0.3062495	XXX	28.21772	9.824889	0.1316324				
4-Nitroaniline	0.3629245	Ave	14.61617	10.45471	0.1864303			20	
Nitrobenzene	1.444232	Ave	11.11157	7.4004	9.437459E-02			20	
2-Nitrophenol	0.1443712	XXX	25.03106	7.715778	4.812027E-02				
4-Nitrophenol	0.2397874	XXX	35.58164	9.98175	0.1483755				
N-Nitrosodimethylamine	0.9437778	Ave	6.244047	4.3918	0.2312906			20	
N-Nitroso-di-n-propylamine	1.070659	Ave	7.741657	7.2283	0.1389803			20	
N-Nitrosodiphenylamine	0.6318248	Ave	6.597877	10.548	8.233323E-02			20	

INITIAL CALIBRATION DATA (Summary)

EPA 8270D

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9A3103 Date: 01/31/19 12:46 Instrument: SV-GCMS5

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Pentachlorophenol (PCP)	9.168545E-02	XXX	38.65199	11.20375	3.397425E-02				
Phenanthrene	1.097729	Ave	6.04717	11.4244	4.696862E-02			20	
Phenol	1.747572	Ave	8.492996	6.4913	0.1319487			20	
Pyrene	1.156671	Ave	3.589047	13.0652	7.633489E-02			20	
Pyridine	1.528478	Ave	7.273905	4.430445	0.395778			20	
2,3,4,6-Tetrachlorophenol	0.2561983	XXX	24.93	10.21111	5.975054E-02				
2,3,5,6-Tetrachlorophenol	0.2222679	XXX	38.40998	10.16722	4.109213E-02				
1,2,4-Trichlorobenzene	0.2778323	Ave	3.414369	8.0396	5.069098E-02			20	
2,4,5-Trichlorophenol	0.2979435	XXX	25.31734	9.1327	4.806389E-02				
2,4,6-Trichlorophenol	0.2881154	XXX	27.15283	9.0961	4.442468E-02				
Nitrobenzene-d5 (Surr)	1.495363	Ave	14.62468	7.381	0.0786081			20	
2-Fluorobiphenyl (Surr)	1.487403	Ave	4.929551	9.1815	4.062064E-02			20	
Phenol-d6 (Surr)	1.667801	Ave	8.616792	6.4784	0.1138408			20	
p-Terphenyl-d14 (Surr)	0.9344531	Ave	2.672287	13.2814	5.360748E-02			20	
2-Fluorophenol (Surr)	1.246855	Ave	9.113913	5.631	4.598658E-02			20	
2,4,6-Tribromophenol (Surr)	6.982892E-02	XXX	35.86959	10.6855	5.493493E-02				

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: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9A3103
Instrument: SV-GCMS5
Calibration Date: 01/31/19 12:46

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	20	1.414492	50	1.362869	100	1.367935	200	1.36516	500	1.381346	1000	1.33102
Acenaphthylene	20	1.642755	50	1.912026	100	1.983877	200	2.012928	500	2.105963	1000	2.031948
Aniline	20	~~1.522714~~	50	2.152066	100	2.241748	200	2.188285	500	2.258519	1000	2.212892
Anthracene	20	1.175119	50	1.189458	100	1.174634	200	1.168763	500	1.198241	1000	1.146571
Azobenzene (1,2-DPH)	20	0.6942691	50	0.8167636	100	0.8746577	200	0.9045237	500	0.9567354	1000	0.9377242
Benz(a)anthracene	20	1.279933	50	1.159563	100	1.088704	200	1.102521	500	1.128764	1000	1.095893
Benzidine	40	~~7.232425E-02~~	100	~~0.1641413~~	200	0.2361006	400	0.2202974	1000	0.326824	2000	0.3221937
Benzo(a)pyrene	20	0.7536824	50	0.8065926	100	0.8270754	200	0.9173605	500	1.016943	1000	1.015634
Benzo(b)fluoranthene	20	0.8736277	50	0.9317524	100	0.951542	200	1.030242	500	1.101928	1000	1.091363
Benzo(k)fluoranthene	20	0.9120518	50	0.9495578	100	0.967133	200	1.056704	500	1.105624	1000	1.108982
Benzo(b+k)fluoranthene(s)	40	1.017523	100	1.042987	200	1.041493	400	1.10316	1000	1.149849	2000	1.138413
Benzo(g,h,i)perylene	20	0.908517	50	1.020405	100	1.040625	200	1.089586	500	1.141035	1000	1.137596
Benzoic acid	40	~~3.267244E-03~~	100	~~1.048386E-03~~	200	~~2.823121E-03~~	400	8.862115E-03	1000	0.042992	2000	8.897499E-02
Benzyl alcohol	20	~~0.4064555~~	50	0.6128437	100	0.6963734	200	0.7471112	500	0.8384646	1000	0.8367035
Bis(2-Chloroethoxy) methane	20	0.4017289	50	0.4353048	100	0.4330008	200	0.4300407	500	0.4512248	1000	0.4340741
Bis(2-Chloroethyl) ether	20	1.479752	50	1.394973	100	1.376566	200	1.454067	500	1.491653	1000	1.435469
2,2'-Oxybis(1-Chloropropane)	20	2.199641	50	2.387644	100	2.39095	200	2.3311	500	2.388941	1000	2.275754
Bis(2-Ethylhexyl) adipate	20	~~1.068338~~	50	0.6738819	100	0.5311872	200	0.5558734	500	0.5646773	1000	0.5575532
Bis(2-ethylhexyl)phthalate	20	~~0.4644027~~	50	~~0.4958776~~	100	~~0.556937~~	200	0.7015704	500	0.8034163	1000	0.8181979
4-Bromophenyl phenyl ether	20	0.1712166	50	0.1747991	100	0.1777142	200	0.1852966	500	0.1887031	1000	0.1861115
Butyl benzyl phthalate	20	~~0.3659644~~	50	~~0.4131545~~	100	0.4278984	200	0.5331004	500	0.5924328	1000	0.5999635
Carbazole	20	1.208794	50	1.101245	100	1.089104	200	1.074805	500	1.100527	1000	1.037638
4-Chloroaniline	20	0.2817405	50	0.3328625	100	0.3546683	200	0.3506226	500	0.3669206	1000	0.3567484
4-Chloro-3-methylphenol	20	~~8.475892E-02~~	50	0.1323962	100	0.1712205	200	0.1971278	500	0.2490133	1000	0.2503017
2-Chloronaphthalene	20	1.251535	50	1.26766	100	1.284896	200	1.269523	500	1.284691	1000	1.226043
2-Chlorophenol	20	0.9978333	50	1.188985	100	1.259653	200	1.303138	500	1.378372	1000	1.346751
4-Chlorophenyl phenyl ether	20	0.620102	50	0.5714237	100	0.5790403	200	0.5979105	500	0.6391487	1000	0.5952215
Chrysene	20	1.075992	50	1.060422	100	1.069355	200	1.079554	500	1.107315	1000	1.079312
Dibenz(a,h)anthracene	20	0.8707706	50	0.9471764	100	0.9421022	200	0.9757685	500	1.019029	1000	0.9970825
Dibenzofuran	20	1.741848	50	1.701815	100	1.712239	200	1.71099	500	1.81217	1000	1.697298
1,2-Dichlorobenzene	20	1.380006	50	1.434379	100	1.476423	200	1.447981	500	1.47678	1000	1.423599

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9A3103
Instrument: SV-GCMS5
Calibration Date: 01/31/19 12:46

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
1,3-Dichlorobenzene	20	1.476016	50	1.515181	100	1.519426	200	1.516294	500	1.543558	1000	1.485498
1,4-Dichlorobenzene	20	1.449492	50	1.495834	100	1.558495	200	1.54122	500	1.574593	1000	1.505754
3,3'-Dichlorobenzidine	40	0.1651432	100	0.232241	200	0.2655936	400	0.3027598	1000	0.3462759	2000	0.3274561
2,4-Dichlorophenol	20	~~0.1474521~~	50	0.1781507	100	0.1892775	200	0.2063044	500	0.2375979	1000	0.2361719
Di-n-butylphthalate	20	1.680787	50	1.371939	100	1.30274	200	1.315452	500	1.361928	1000	1.289098
Diethylphthalate	20	1.136991	50	1.159398	100	1.179378	200	1.289209	500	1.43014	1000	1.336958
Dimethylphthalate	20	1.116596	50	1.112476	100	1.178661	200	1.266369	500	1.373305	1000	1.311957
2,4-Dimethylphenol	20	~~0.1974552~~	50	0.2747145	100	0.2782608	200	0.2875913	500	0.3112944	1000	0.3065676
1,2-Dinitrobenzene	20	~~4.182084E-02~~	50	4.658067E-02	100	7.161037E-02	200	8.587493E-02	500	0.122362	1000	0.1238491
1,3-Dinitrobenzene	20	~~5.047342E-02~~	50	~~6.381381E-02~~	100	7.312861E-02	200	0.1069268	500	0.1650451	1000	0.175083
1,4-Dinitrobenzene	20	~~4.058475E-02~~	50	~~4.461848E-02~~	100	5.288539E-02	200	7.442494E-02	500	0.1177414	1000	0.1336136
4,6-Dinitro-2-methylphenol	20	~~0~~	50	~~6.313131E-03~~	100	~~1.442329E-02~~	200	3.302418E-02	500	8.015737E-02	1000	0.1036798
2,4-Dinitrophenol	20	~~0~~	50	~~0~~	100	~~0~~	200	1.378016E-02	500	0.0376782	1000	5.775572E-02
2,4-Dinitrotoluene	20	~~0.118458~~	50	~~0.1224236~~	100	0.1616083	200	0.2265893	500	0.326262	1000	0.3375197
2,6-Dinitrotoluene	20	~~8.941006E-02~~	50	0.1227648	100	0.1612288	200	0.2100772	500	0.2757106	1000	0.2812516
Di-n-octyl phthalate	20	~~0.5037963~~	50	0.6357778	100	0.6993076	200	0.9907836	500	1.291859	1000	1.337716
Fluoranthene	20	1.178727	50	1.16041	100	1.159178	200	1.153889	500	1.204801	1000	1.137653
Fluorene	20	1.314987	50	1.327464	100	1.361314	200	1.393022	500	1.482833	1000	1.395764
Hexachlorobenzene	20	0.1717633	50	0.1804969	100	0.1831026	200	0.1855551	500	0.1837848	1000	0.1886186
Hexachlorobutadiene	20	0.1221665	50	0.1396974	100	0.1372147	200	0.1345394	500	0.1375215	1000	0.1388702
Hexachlorocyclopentadiene	20	0.1852065	50	0.2080774	100	0.224784	200	0.2455923	500	0.2728237	1000	0.2778995
Hexachloroethane	20	0.5103108	50	0.5484012	100	0.5712245	200	0.5587433	500	0.5715947	1000	0.5589242
Indeno(1,2,3-cd)pyrene	20	1.064709	50	1.040185	100	1.0502	200	1.054242	500	1.081652	1000	1.077653
Isophorone	20	0.515751	50	0.6279082	100	0.6501245	200	0.6758946	500	0.7272685	1000	0.7152284
1-Methylnaphthalene	20	0.6469142	50	0.6578996	100	0.6490979	200	0.6458848	500	0.6744765	1000	0.6442177
2-Methylnaphthalene	20	0.6573315	50	0.6810389	100	0.6725812	200	0.6759831	500	0.6999201	1000	0.6731325
2-Methylphenol	20	0.887627	50	0.9740345	100	1.079546	200	1.073927	500	1.156063	1000	1.106977
3+4-Methylphenol(s)	20	1.044904	50	1.257126	100	1.317308	200	1.32772	500	1.48438	1000	1.407121
Naphthalene	20	1.128572	50	1.152438	100	1.09352	200	1.084438	500	1.10054	1000	1.063222
2-Nitroaniline	20	~~0.1365873~~	50	~~0.1737817~~	100	0.19657	200	0.2424787	500	0.3444931	1000	0.3616734
3-Nitroaniline	20	~~0.11784~~	50	0.152283	100	0.2035286	200	0.2508753	500	0.3203706	1000	0.3078089

INITIAL CALIBRATION DATA

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9A3103
Instrument: SV-GCMS5
Calibration Date: 01/31/19 12:46

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
4-Nitroaniline	20	~~0.146888~~	50	~~0.1780474~~	100	~~0.2153794~~	200	0.2635105	500	0.3550913	1000	0.3238925
Nitrobenzene	20	1.145024	50	1.216298	100	1.343912	200	1.422471	500	1.55439	1000	1.492096
2-Nitrophenol	20	~~0.0733946~~	50	0.0856681	100	9.913922E-02	200	0.1148399	500	0.1452879	1000	0.1532318
4-Nitrophenol	20	~~6.901468E-02~~	50	~~8.548321E-02~~	100	0.1015113	200	0.1361143	500	0.2174086	1000	0.2233945
N-Nitrosodimethylamine	20	0.8775403	50	0.8491328	100	0.880416	200	0.914748	500	0.9745578	1000	0.9535952
N-Nitroso-di-n-propylamine	20	0.9021967	50	0.974319	100	1.041499	200	1.063441	500	1.149569	1000	1.08596
N-Nitrosodiphenylamine	20	0.5390152	50	0.6064044	100	0.6257566	200	0.6519042	500	0.682752	1000	0.6636236
Pentachlorophenol (PCP)	20	~~3.444012E-02~~	50	~~0.0290484~~	100	3.392382E-02	200	5.019257E-02	500	7.777878E-02	1000	9.059143E-02
Phenanthrene	20	1.135759	50	1.132074	100	1.15556	200	1.139531	500	1.161203	1000	1.114081
Phenol	20	1.353482	50	1.674651	100	1.793049	200	1.752244	500	1.819105	1000	1.763968
Pyrene	20	1.178289	50	1.172874	100	1.166489	200	1.175202	500	1.221973	1000	1.156787
Pyridine	20	~~0.9376868~~	50	1.300088	100	1.426859	200	1.474798	500	1.575245	1000	1.536664
2,3,4,6-Tetrachlorophenol	20	~~0.1089814~~	50	0.1545864	100	0.1821046	200	0.1938463	500	0.2650104	1000	0.2619132
2,3,5,6-Tetrachlorophenol	20	~~7.004475E-02~~	50	8.625102E-02	100	0.1144585	200	0.1540526	500	0.224108	1000	0.2309256
1,2,4-Trichlorobenzene	20	0.2605272	50	0.296169	100	0.2845303	200	0.2824007	500	0.2822304	1000	0.2757771
2,4,5-Trichlorophenol	20	0.1446218	50	0.2225805	100	0.255191	200	0.260417	500	0.3175779	1000	0.3237182
2,4,6-Trichlorophenol	20	0.1553345	50	0.1821424	100	0.2282422	200	0.2543505	500	0.3104392	1000	0.3144928
Nitrobenzene-d5 (Surr)	20	~~1.121862~~	50	1.108041	100	1.261548	200	1.338825	500	1.655095	1000	1.4705
2-Fluorobiphenyl (Surr)	20	1.465171	50	1.543219	100	1.555522	200	1.550489	500	1.558785	1000	1.507404
Phenol-d6 (Surr)	20	1.308652	50	1.562268	100	1.660538	200	1.649723	500	1.76703	1000	1.705784
p-Terphenyl-d14 (Surr)	20	0.8913611	50	0.9262564	100	0.9345524	200	0.9673796	500	0.9632891	1000	0.9637374
2-Fluorophenol (Surr)	20	1.009788	50	1.105053	100	1.193471	200	1.229187	500	1.313395	1000	1.299271
2,4,6-Tribromophenol (Surr)	20	2.503742E-02	50	0.0391721	100	5.130313E-02	200	6.037912E-02	500	7.400232E-02	1000	7.888365E-02

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9A3103
Instrument: SV-GCMS5
Matrix:
Calibration Date: 01/31/19 12:46

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	2000	1.314814	4000	1.293512	6000	1.217835	8000	1.160489				
Acenaphthylene	2000	2.041211	4000	2.028944	6000	1.903932	8000	1.817687				
Aniline	2000	2.325972	4000	2.380035	6000	2.393579	8000	2.342622				
Anthracene	2000	1.123437	4000	1.09019	6000	1.023647	8000	0.9729037				
Azobenzene (1,2-DPH)	2000	0.9168646	4000	0.9080307	6000	0.834747	8000	0.7883316				
Benz(a)anthracene	2000	1.104395	4000	1.120195	6000	1.106883	8000	1.094434				
Benzidine	4000	0.479657	8000	0.6153542	12000	~~0.6053913~~	16000	~~0.5928461~~				
Benzo(a)pyrene	2000	1.054769	4000	1.08259	6000	1.059411	8000	1.059821				
Benzo(b)fluoranthene	2000	1.116478	4000	1.136151	6000	1.1348	8000	1.198588				
Benzo(k)fluoranthene	2000	1.121339	4000	1.111683	6000	1.065441	8000	0.9858626				
Benzo(b+k)fluoranthene(s)	4000	1.14801	8000	1.165644	12000	1.146068	16000	1.143721				
Benzo(g,h,i)perylene	2000	1.131652	4000	1.141517	6000	1.116176	8000	1.065396				
Benzoic acid	4000	0.1397112	8000	0.1782118	12000	0.2275293	16000	0.2393072				
Benzyl alcohol	2000	0.9020899	4000	0.9397993	6000	0.9549631	8000	0.9309882				
Bis(2-Chloroethoxy) methane	2000	0.4380842	4000	0.4426526	6000	0.4240849	8000	0.4043589				
Bis(2-Chloroethyl) ether	2000	1.433208	4000	1.488799	6000	1.395245	8000	1.334034				
2,2'-Oxybis(1-Chloropropane)	2000	2.267517	4000	2.261211	6000	2.137555	8000	2.010536				
Bis(2-Ethylhexyl) adipate	2000	0.5790331	4000	0.5980507	6000	0.5920042	8000	0.586936				
Bis(2-ethylhexyl)phthalate	2000	0.867756	4000	0.8945474	6000	0.8858992	8000	0.8807067				
4-Bromophenyl phenyl ether	2000	0.1865957	4000	0.1946511	6000	0.1924653	8000	0.1927494				
Butyl benzyl phthalate	2000	0.6248856	4000	0.6408075	6000	0.6343325	8000	0.6265528				
Carbazole	2000	1.03536	4000	1.015231	6000	0.9569949	8000	0.926012				
4-Chloroaniline	2000	0.3975497	4000	0.4200865	6000	0.4110537	8000	0.4021626				
4-Chloro-3-methylphenol	2000	0.2822323	4000	0.3010981	6000	0.2980379	8000	0.2906565				
2-Chloronaphthalene	2000	1.231578	4000	1.220328	6000	1.18032	8000	1.136607				
2-Chlorophenol	2000	1.380778	4000	1.424305	6000	1.415544	8000	1.390938				
4-Chlorophenyl phenyl ether	2000	0.6324506	4000	0.635833	6000	0.6169862	8000	0.6002927				
Chrysene	2000	1.078768	4000	1.087363	6000	1.059509	8000	1.049385				
Dibenz(a,h)anthracene	2000	1.049774	4000	1.083182	6000	1.079948	8000	1.074301				
Dibenzofuran	2000	1.764425	4000	1.753937	6000	1.675065	8000	1.603195				
1,2-Dichlorobenzene	2000	1.417663	4000	1.448341	6000	1.421858	8000	1.389953				

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9A3103
Instrument: SV-GCMS5
Matrix:
Calibration Date: 01/31/19 12:46

Compound	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF	ng/mL	RF
1,3-Dichlorobenzene	2000	1.47794	4000	1.500325	6000	1.475358	8000	1.449665				
1,4-Dichlorobenzene	2000	1.506318	4000	1.526665	6000	1.496029	8000	1.460193				
3,3'-Dichlorobenzidine	4000	0.3560157	8000	0.3864348	12000	0.412765	16000	0.4125805				
2,4-Dichlorophenol	2000	0.2519616	4000	0.2628338	6000	0.2648526	8000	0.2600543				
Di-n-butylphthalate	2000	1.300973	4000	1.269109	6000	1.181391	8000	1.121755				
Diethylphthalate	2000	1.429074	4000	1.377548	6000	1.280995	8000	1.208511				
Dimethylphthalate	2000	1.368051	4000	1.406023	6000	1.362104	8000	1.340413				
2,4-Dimethylphenol	2000	0.3130697	4000	0.3117453	6000	0.3140256	8000	0.2962869				
1,2-Dinitrobenzene	2000	0.1452923	4000	0.1554208	6000	0.1560436	8000	0.1536073				
1,3-Dinitrobenzene	2000	0.2157137	4000	0.2335438	6000	0.2386696	8000	0.2421167				
1,4-Dinitrobenzene	2000	0.1769435	4000	0.2021364	6000	0.2115828	8000	0.2156586				
4,6-Dinitro-2-methylphenol	2000	0.1600869	4000	0.1971057	6000	0.2171684	8000	0.2275118				
2,4-Dinitrophenol	2000	0.1042387	4000	0.1445553	6000	0.1714022	8000	0.1843774				
2,4-Dinitrotoluene	2000	0.4068271	4000	0.4315026	6000	0.433573	8000	0.4286129				
2,6-Dinitrotoluene	2000	0.3115402	4000	0.3320521	6000	0.3296484	8000	0.3293054				
Di-n-octyl phthalate	2000	1.503973	4000	1.58944	6000	1.584655	8000	1.585199				
Fluoranthene	2000	1.150733	4000	1.12397	6000	1.075914	8000	1.041194				
Fluorene	2000	1.449961	4000	1.420573	6000	1.330397	8000	1.27413				
Hexachlorobenzene	2000	0.1829855	4000	0.195317	6000	0.1939131	8000	0.1957801				
Hexachlorobutadiene	2000	0.134526	4000	0.1386029	6000	0.1375234	8000	0.1363693				
Hexachlorocyclopentadiene	2000	0.2914157	4000	0.2865911	6000	0.2933911	8000	0.2797481				
Hexachloroethane	2000	0.5590159	4000	0.5759839	6000	0.567813	8000	0.5576559				
Indeno(1,2,3-cd)pyrene	2000	1.104696	4000	1.139298	6000	1.171385	8000	1.178312				
Isophorone	2000	0.7269977	4000	0.7492621	6000	0.727933	8000	0.7092167				
1-Methylnaphthalene	2000	0.6491472	4000	0.6554182	6000	0.6186805	8000	0.5850715				
2-Methylnaphthalene	2000	0.6850245	4000	0.6903095	6000	0.6550667	8000	0.6207151				
2-Methylphenol	2000	1.154267	4000	1.181838	6000	1.155456	8000	1.113556				
3+4-Methylphenol(s)	2000	1.494615	4000	1.526709	6000	1.471656	8000	1.415713				
Naphthalene	2000	1.048774	4000	1.043041	6000	1.001759	8000	0.9529047				
2-Nitroaniline	2000	0.4261525	4000	0.4572682	6000	0.466107	8000	0.467165				
3-Nitroaniline	2000	0.3666027	4000	0.3837178	6000	0.3867144	8000	0.3843445				

INITIAL CALIBRATION DATA (Continued)

EPA 8270D

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Calibration: A9A3103
Instrument: SV-GCMS5
Matrix:
Calibration Date: 01/31/19 12:46

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
4-Nitroaniline	2000	0.3935944	4000	0.398796	6000	0.4007271	8000	0.40486				
Nitrobenzene	2000	1.572866	4000	1.613598	6000	1.567649	8000	1.514014				
2-Nitrophenol	2000	0.1637897	4000	0.1777603	6000	0.1797984	8000	0.1798254				
4-Nitrophenol	2000	0.290204	4000	0.3085269	6000	0.320978	8000	0.320162				
N-Nitrosodimethylamine	2000	0.9759868	4000	1.012654	6000	1.000141	8000	0.999006				
N-Nitroso-di-n-propylamine	2000	1.143066	4000	1.171886	6000	1.106848	8000	1.067805				
N-Nitrosodiphenylamine	2000	0.6549598	4000	0.6634139	6000	0.6263998	8000	0.6040189				
Pentachlorophenol (PCP)	2000	0.1068869	4000	0.1198472	6000	0.1262877	8000	0.1279752				
Phenanthrene	2000	1.096232	4000	1.076913	6000	1.003821	8000	0.9621179				
Phenol	2000	1.808085	4000	1.86865	6000	1.843413	8000	1.799074				
Pyrene	2000	1.170984	4000	1.147648	6000	1.102756	8000	1.073706				
Pyridine	2000	1.564119	4000	1.653509	6000	1.623426	8000	1.601594				
2,3,4,6-Tetrachlorophenol	2000	0.2965316	4000	0.3149755	6000	0.3178729	8000	0.3189439				
2,3,5,6-Tetrachlorophenol	2000	0.2752351	4000	0.2992908	6000	0.3080004	8000	0.3080888				
1,2,4-Trichlorobenzene	2000	0.2727954	4000	0.2781057	6000	0.2752029	8000	0.2705838				
2,4,5-Trichlorophenol	2000	0.3474458	4000	0.3697569	6000	0.3665615	8000	0.3715641				
2,4,6-Trichlorophenol	2000	0.3514142	4000	0.358158	6000	0.3698613	8000	0.3567184				
Nitrobenzene-d5 (Surr)	2000	1.717295	4000	1.629928	6000	1.735825	8000	1.541207				
2-Fluorobiphenyl (Surr)	2000	1.489536	4000	1.464818	6000	1.403919	8000	1.335166				
Phenol-d6 (Surr)	2000	1.760804	4000	1.793978	6000	1.751682	8000	1.717552				
p-Terphenyl-d14 (Surr)	2000	0.9322996	4000	0.9379354	6000	0.9188462	8000	0.9088737				
2-Fluorophenol (Surr)	2000	1.291093	4000	1.352435	6000	1.343054	8000	1.331807				
2,4,6-Tribromophenol (Surr)	2000	8.301903E-02	4000	9.248324E-02	6000	0.0955793	8000	9.842992E-02				

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	SV-GCMS5	Calibration:	A9A3103
Lab File ID:	E01301925.D		
Sequence:	9A30046	Inject Date:	01/31/19
Lab Sample ID:	9A30046-ICV1	Inject Time:	01:40

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
Acenaphthene	1000	1030	3.3	70 - 130
Acenaphthylene	1000	1070	6.9	70 - 130
Aniline	1000	980	-2.0	70 - 130
Anthracene	1000	1030	3.4	70 - 130
Azobenzene (1,2-DPH)	1000	1110	11.2	70 - 130
Benz(a)anthracene	1000	1060	5.6	70 - 130
Benzo(a)pyrene	1000	1090	9.4	70 - 130
Benzo(b)fluoranthene	1000	1080	8.1	70 - 130
Benzo(k)fluoranthene	1000	1080	8.3	70 - 130
Benzo(g,h,i)perylene	1000	1050	5.4	70 - 130
Benzoic acid	2000	2260	12.8	70 - 130
Benzyl alcohol	1000	989	-1.1	70 - 130
Bis(2-Chloroethoxy) methane	1000	1060	6.1	70 - 130
Bis(2-Chloroethyl) ether	1000	1040	4.0	70 - 130
2,2'-Oxybis(1-Chloropropane)	1000	1010	1.0	70 - 130
Bis(2-Ethylhexyl) adipate	1000	982	-1.8	70 - 130
Bis(2-ethylhexyl)phthalate	1000	1010	1.0	70 - 130
4-Bromophenyl phenyl ether	1000	1060	5.9	70 - 130
Butyl benzyl phthalate	1000	1060	5.5	70 - 130
Carbazole	1000	1000	0.2	70 - 130
4-Chloroaniline	1000	1110	10.9	70 - 130
4-Chloro-3-methylphenol	1000	1060	6.0	70 - 130
2-Chloronaphthalene	1000	1020	1.7	70 - 130
2-Chlorophenol	1000	1050	5.2	70 - 130
4-Chlorophenyl phenyl ether	1000	1080	7.7	70 - 130
Chrysene	1000	1030	3.1	70 - 130
Dibenz(a,h)anthracene	1000	1030	2.6	70 - 130
Dibenzofuran	1000	1060	6.5	70 - 130
1,2-Dichlorobenzene	1000	1030	3.0	70 - 130
1,3-Dichlorobenzene	1000	1020	1.5	70 - 130
1,4-Dichlorobenzene	1000	1020	2.4	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	SV-GCMS5	Calibration:	A9A3103
Lab File ID:	E01301925.D		
Sequence:	9A30046	Inject Date:	01/31/19
Lab Sample ID:	9A30046-ICV1	Inject Time:	01:40

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
2,4-Dichlorophenol	1000	1080	7.5	70 - 130
Di-n-butylphthalate	1000	1020	1.8	70 - 130
Diethylphthalate	1000	1150	14.6	70 - 130
Dimethylphthalate	1000	1120	12.1	70 - 130
2,4-Dimethylphenol	1000	1010	0.9	70 - 130
1,2-Dinitrobenzene	1000	1170	16.8	70 - 130
1,3-Dinitrobenzene	1000	1150	15.2	70 - 130
1,4-Dinitrobenzene	1000	1160	15.8	70 - 130
4,6-Dinitro-2-methylphenol	1000	1210	21.0	70 - 130
2,4-Dinitrophenol	1000	1090	9.0	70 - 130
2,4-Dinitrotoluene	1000	1140	13.7	70 - 130
2,6-Dinitrotoluene	1000	1130	13.4	70 - 130
Di-n-octyl phthalate	1000	1060	6.3	70 - 130
Fluoranthene	1000	1040	4.0	70 - 130
Fluorene	1000	1110	10.5	70 - 130
Hexachlorobenzene	1000	1050	4.6	70 - 130
Hexachlorobutadiene	1000	1040	4.3	70 - 130
Hexachlorocyclopentadiene	1000	981	-1.9	70 - 130
Hexachloroethane	1000	1020	1.8	70 - 130
Indeno(1,2,3-cd)pyrene	1000	995	-0.5	70 - 130
Isophorone	1000	1080	7.6	70 - 130
1-Methylnaphthalene	1000	1060	5.9	70 - 130
2-Methylnaphthalene	1000	1080	7.8	70 - 130
2-Methylphenol	1000	1050	4.7	70 - 130
3+4-Methylphenol(s)	1000	1080	8.0	70 - 130
Naphthalene	1000	1020	1.7	70 - 130
2-Nitroaniline	1000	1110	11.4	70 - 130
3-Nitroaniline	1000	1120	12.0	70 - 130
4-Nitroaniline	1000	1080	7.9	70 - 130
Nitrobenzene	1000	1090	9.4	70 - 130
2-Nitrophenol	1000	1120	12.0	70 - 130

SECOND-SOURCE CALIBRATION VERIFICATION

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	SV-GCMS5	Calibration:	A9A3103
Lab File ID:	E01301925.D		
Sequence:	9A30046	Inject Date:	01/31/19
Lab Sample ID:	9A30046-ICV1	Inject Time:	01:40

ANALYTE	EXPECTED (ng/mL)	FOUND (ng/mL)	% DRIFT	QC LIMIT
4-Nitrophenol	1000	1090	8.8	70 - 130
N-Nitrosodimethylamine	1000	1030	3.5	70 - 130
N-Nitroso-di-n-propylamine	1000	1070	6.6	70 - 130
N-Nitrosodiphenylamine	1000	1070	7.4	70 - 130
Pentachlorophenol (PCP)	1000	1000	-0.04	70 - 130
Phenanthrene	1000	1040	3.7	70 - 130
Phenol	1000	1020	2.1	70 - 130
Pyrene	1000	1050	4.8	70 - 130
Pyridine	1000	1030	3.0	70 - 130
2,3,4,6-Tetrachlorophenol	1000	1110	10.7	70 - 130
2,3,5,6-Tetrachlorophenol	1000	1150	15.1	70 - 130
1,2,4-Trichlorobenzene	1000	1020	2.3	70 - 130
2,4,5-Trichlorophenol	1000	1100	9.8	70 - 130
2,4,6-Trichlorophenol	1000	1100	10.2	70 - 130
Nitrobenzene-d5 (Surr)	1000	1060	6.1	70 - 130
2-Fluorobiphenyl (Surr)	1000	1020	1.9	70 - 130
Phenol-d6 (Surr)	1000	1040	3.9	70 - 130
p-Terphenyl-d14 (Surr)	1000	1050	5.0	70 - 130
2-Fluorophenol (Surr)	1000	1030	2.6	70 - 130
2,4,6-Tribromophenol (Surr)	1000	1140	13.8	70 - 130

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	SV-GCMS5	Calibration:	A9A3103
Lab File ID:	E07031905.D	Calibration Date:	01/31/19 12:46
Sequence:	9G03020	Injection Date:	07/03/19
Lab Sample ID:	9G03020-CCV1	Injection Time:	10:24

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Acenaphthene	Ave	1000	1030		1.320947	1.354637	2.6	20
Acenaphthylene	Ave	1000	1050		1.948127	2.042054	4.8	20
Aniline	Ave	1000	860		2.277302	1.957489	-14.0	20
Anthracene	Ave	1000	1010		1.126296	1.13623	0.9	20
Azobenzene (1,2-DPH)	Ave	1000	896		0.8632647	0.7738143	-10.4	20
Benz(a)anthracene	Ave	1000	974		1.128129	1.098616	-2.6	20
Benzo(a)pyrene	Ave	1000	1180		0.9593879	1.127859	17.6	20
Benzo(b)fluoranthene	Ave	1000	1110		1.056647	1.173251	11.0	20
Benzo(k)fluoranthene	Ave	1000	1160		1.038438	1.203455	15.9	20
Benzo(g,h,i)perylene	Ave	1000	1070		1.079251	1.151477	6.7	20
Benzoic acid	XXX	2000	2450	22.6 *				20
Benzyl alcohol	Ave	1000	887		0.8288152	0.7355661	-11.3	20
Bis(2-Chloroethoxy) methane	Ave	1000	930		0.4294555	0.3993574	-7.0	20
Bis(2-Chloroethyl) ether	Ave	1000	917		1.428377	1.309499	-8.3	20
2,2'-Oxybis(1-Chloropropane)	Ave	1000	867		2.265085	1.963533	-13.3	20
Bis(2-Ethylhexyl) adipate	Ave	1000	982		0.582133	0.5719124	-1.8	20
Bis(2-ethylhexyl)phthalate	Ave	1000	943		0.8360134	0.7886721	-5.7	20
4-Bromophenyl phenyl ether	Ave	1000	1040		0.1850303	0.1917966	3.7	20
Butyl benzyl phthalate	Ave	1000	936		0.5849967	0.5475961	-6.4	20
Carbazole	Ave	1000	946		1.054571	0.9980068	-5.4	20
4-Chloroaniline	Ave	1000	988		0.3674415	0.3630305	-1.2	20
4-Chloro-3-methylphenol	XXX	1000	1090	9.0				20
2-Chloronaphthalene	Ave	1000	988		1.235318	1.220514	-1.2	20
2-Chlorophenol	Ave	1000	1040		1.30863	1.354861	3.5	20
4-Chlorophenyl phenyl ether	Ave	1000	1070		0.6088409	0.6490827	6.6	20
Chrysene	Ave	1000	1010		1.074697	1.088646	1.3	20
Dibenz(a,h)anthracene	Ave	1000	1070		1.003913	1.076919	7.3	20
Dibenzofuran	Ave	1000	1040		1.717298	1.788818	4.2	20
1,2-Dichlorobenzene	Ave	1000	1000		1.431698	1.432554	0.06	20
1,3-Dichlorobenzene	Ave	1000	992		1.495926	1.483705	-0.8	20

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	SV-GCMS5	Calibration:	A9A3103
Lab File ID:	E07031905.D	Calibration Date:	01/31/19 12:46
Sequence:	9G03020	Injection Date:	07/03/19
Lab Sample ID:	9G03020-CCV1	Injection Time:	10:24

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
1,4-Dichlorobenzene	Ave	1000	1000		1.511459	1.51303	0.1	20
2,4-Dichlorophenol	Ave	1000	1140		0.2319116	0.264828	14.2	20
Di-n-butylphthalate	Ave	1000	939		1.319517	1.239416	-6.1	20
Diethylphthalate	Ave	1000	1110		1.28282	1.419327	10.6	20
Dimethylphthalate	Ave	1000	1090		1.283596	1.402342	9.3	20
2,4-Dimethylphenol	Ave	1000	1020		0.299284	0.3039195	1.5	20
1,2-Dinitrobenzene	XXX	1000	1190	18.9				20
1,3-Dinitrobenzene	XXX	1000	1210	20.7 *				20
1,4-Dinitrobenzene	XXX	1000	1350	35.3 *				20
4,6-Dinitro-2-methylphenol	XXX	1000	1570	57.4 *				20
2,4-Dinitrophenol	XXX	1000	1750	75.2 *				20
2,4-Dinitrotoluene	XXX	1000	1190	18.7				20
2,6-Dinitrotoluene	XXX	1000	1160	15.8				20
Di-n-octyl phthalate	XXX	1000	995	-0.5				20
Fluoranthene	Ave	1000	1030		1.138647	1.167929	2.6	20
Fluorene	Ave	1000	1060		1.375044	1.456339	5.9	20
Hexachlorobenzene	Ave	1000	1100		0.1861317	0.2042999	9.8	20
Hexachlorobutadiene	Ave	1000	1110		0.1357031	0.1500265	10.6	20
Hexachlorocyclopentadiene	Ave	1000	1210		0.2565529	0.3105735	21.1*	20
Hexachloroethane	Ave	1000	980		0.5579667	0.5470758	-2.0	20
Indeno(1,2,3-cd)pyrene	Ave	1000	1020		1.096233	1.121801	2.3	20
Isophorone	Ave	1000	949		0.6825585	0.6475533	-5.1	20
1-Methylnaphthalene	Ave	1000	1060		0.6426808	0.6784105	5.6	20
2-Methylnaphthalene	Ave	1000	1060		0.6711103	0.7094643	5.7	20
2-Methylphenol	Ave	1000	995		1.088329	1.082924	-0.5	20
3+4-Methylphenol(s)	Ave	1000	991		1.374725	1.361858	-0.9	20
Naphthalene	Ave	1000	988		1.066921	1.053944	-1.2	20
2-Nitroaniline	XXX	1000	1090	9.3				20
3-Nitroaniline	XXX	1000	1030	3.4				20
4-Nitroaniline	Ave	1000	959		0.3629245	0.3479415	-4.1	20

CONTINUING CALIBRATION CHECK

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Instrument ID:	SV-GCMS5	Calibration:	A9A3103
Lab File ID:	E07031905.D	Calibration Date:	01/31/19 12:46
Sequence:	9G03020	Injection Date:	07/03/19
Lab Sample ID:	9G03020-CCV1	Injection Time:	10:24

COMPOUND	Curve Fit	Calculated Concentration (ng/mL) [L/Q Fits]			Response Factors [Ave RF]			Limit
		STD	CCV	% DIFF	ICAL	CCV	% Drift	
Nitrobenzene	Ave	1000	961		1.444232	1.38743	-3.9	20
2-Nitrophenol	XXX	1000	1200	20.3 *				20
4-Nitrophenol	XXX	1000	885	-11.5				20
N-Nitrosodimethylamine	Ave	1000	877		0.9437778	0.8273981	-12.3	20
N-Nitroso-di-n-propylamine	Ave	1000	943		1.070659	1.009257	-5.7	20
N-Nitrosodiphenylamine	Ave	1000	1050		0.6318248	0.6620444	4.8	20
Pentachlorophenol (PCP)	XXX	1000	1010	1.0				20
Phenanthrene	Ave	1000	1030		1.097729	1.128243	2.8	20
Phenol	Ave	1000	997		1.747572	1.741657	-0.3	20
Pyrene	Ave	1000	1040		1.156671	1.199607	3.7	20
Pyridine	Ave	1000	880		1.528478	1.345115	-12.0	20
2,3,4,6-Tetrachlorophenol	XXX	1000	1160	15.7				20
2,3,5,6-Tetrachlorophenol	XXX	1000	1200	20.3 *				20
1,2,4-Trichlorobenzene	Ave	1000	1080		0.2778323	0.2987833	7.5	20
2,4,5-Trichlorophenol	XXX	1000	1140	14.4				20
2,4,6-Trichlorophenol	XXX	1000	1140	14.2				20

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

* = Values outside of QC limits

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9A30046	Instrument:	SV-GCMS5
Matrix:	Water	Calibration:	A9A3103

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Initial Cal Check (9A30046-ICV1)				Lab File ID: E01301925.D		Analyzed: 01/31/19 01:40		
Nitrobenzene-d5 (Surr)	1000	106	70 - 130	7.377	7.381	-0.0040	+/-1.0	
2-Fluorobiphenyl (Surr)	1000	102	70 - 130	9.179	9.1815	-0.0025	+/-1.0	
Phenol-d6 (Surr)	1000	104	70 - 130	6.473	6.4784	-0.0054	+/-1.0	
p-Terphenyl-d14 (Surr)	1000	105	70 - 130	13.277	13.2814	-0.0044	+/-1.0	
2-Fluorophenol (Surr)	1000	103	70 - 130	5.628	5.631	-0.0030	+/-1.0	
2,4,6-Tribromophenol (Surr)	1000	114	70 - 130	10.682	10.6855	-0.0035	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G03020	Instrument:	SV-GCMS5
Matrix:	Water	Calibration:	A9A3103

Surrogate Compound	Spike Level ng/mL	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
Calibration Check (9G03020-CCV1)			Lab File ID: E07031905.D		Analyzed: 07/03/19 10:24			
Nitrobenzene-d5 (Surr)	1000	94	80 - 120	7.281	7.381	-0.1000	+/-1.0	
2-Fluorobiphenyl (Surr)	1000	100	80 - 120	9.078	9.1815	-0.1035	+/-1.0	
Phenol-d6 (Surr)	1000	94	80 - 120	6.398	6.4784	-0.0804	+/-1.0	
p-Terphenyl-d14 (Surr)	1000	97	80 - 120	13.116	13.2814	-0.1654	+/-1.0	
2-Fluorophenol (Surr)	1000	98	80 - 120	5.548	5.631	-0.0830	+/-1.0	
2,4,6-Tribromophenol (Surr)	1000	124	80 - 120	10.575	10.6855	-0.1105	+/-1.0	*
Calibration Blank (9G03020-CCB1)			Lab File ID: E07031906.D		Analyzed: 07/03/19 11:01			
Nitrobenzene-d5 (Surr)			44 - 120	7.291	7.381	-0.0900	+/-1.0	
2-Fluorobiphenyl (Surr)			44 - 120	0	9.1815	-9.1815	+/-1.0	
Phenol-d6 (Surr)			10 - 120	0	6.4784	-6.4784	+/-1.0	
p-Terphenyl-d14 (Surr)			50 - 133	0	13.2814	-13.2814	+/-1.0	
2-Fluorophenol (Surr)			19 - 120	5.649	5.631	0.0180	+/-1.0	
2,4,6-Tribromophenol (Surr)			43 - 140	0	10.6855	-10.6855	+/-1.0	
Blank (9070583-BLK1)			Lab File ID: E07031913.D		Analyzed: 07/03/19 15:18			
Nitrobenzene-d5 (Surr)	4.55	66	44 - 120	7.291	7.381	-0.0900	+/-1.0	
2-Fluorobiphenyl (Surr)	4.55	65	44 - 120	9.078	9.1815	-0.1035	+/-1.0	
Phenol-d6 (Surr)	4.55	2	10 - 120	6.409	6.4784	-0.0694	+/-1.0	*
p-Terphenyl-d14 (Surr)	4.55	87	50 - 133	13.127	13.2814	-0.1544	+/-1.0	
2-Fluorophenol (Surr)	4.55	28	19 - 120	5.558	5.631	-0.0730	+/-1.0	
2,4,6-Tribromophenol (Surr)	4.55	86	43 - 140	10.581	10.6855	-0.1045	+/-1.0	
LCS (9070583-BS1)			Lab File ID: E07031914.D		Analyzed: 07/03/19 15:55			
Nitrobenzene-d5 (Surr)	5.00	72	44 - 120	7.286	7.381	-0.0950	+/-1.0	
2-Fluorobiphenyl (Surr)	5.00	77	44 - 120	9.078	9.1815	-0.1035	+/-1.0	
Phenol-d6 (Surr)	5.00	8	10 - 120	6.414	6.4784	-0.0644	+/-1.0	*
p-Terphenyl-d14 (Surr)	5.00	93	50 - 133	13.121	13.2814	-0.1604	+/-1.0	
2-Fluorophenol (Surr)	5.00	41	19 - 120	5.558	5.631	-0.0730	+/-1.0	
2,4,6-Tribromophenol (Surr)	5.00	106	43 - 140	10.581	10.6855	-0.1045	+/-1.0	
LCS Dup (9070583-BSD1)			Lab File ID: E07031915.D		Analyzed: 07/03/19 16:31			
Nitrobenzene-d5 (Surr)	5.00	70	44 - 120	7.291	7.381	-0.0900	+/-1.0	
2-Fluorobiphenyl (Surr)	5.00	75	44 - 120	9.078	9.1815	-0.1035	+/-1.0	
Phenol-d6 (Surr)	5.00	7	10 - 120	6.409	6.4784	-0.0694	+/-1.0	*
p-Terphenyl-d14 (Surr)	5.00	92	50 - 133	13.121	13.2814	-0.1604	+/-1.0	
2-Fluorophenol (Surr)	5.00	40	19 - 120	5.558	5.631	-0.0730	+/-1.0	
2,4,6-Tribromophenol (Surr)	5.00	105	43 - 140	10.581	10.6855	-0.1045	+/-1.0	

SURROGATE STANDARD RECOVERY AND RT SUMMARY

EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G03020	Instrument:	SV-GCMS5
Matrix:	Water	Calibration:	A9A3103

Surrogate Compound	Spike Level ug/L	% Recovery	Recovery Limits	RT	Calibration Mean RT	RT Diff	RT Diff Limit	Q
2708-190626-MULT802-109 (A9F0860-02RE2)			Lab File ID: E07031919.D		Analyzed: 07/03/19 18:58			
Nitrobenzene-d5 (Surr)	4.81	73	44 - 120	7.286	7.381	-0.0950	+/-1.0	
2-Fluorobiphenyl (Surr)	4.81	85	44 - 120	9.078	9.1815	-0.1035	+/-1.0	
Phenol-d6 (Surr)	4.81	23	10 - 120	6.404	6.4784	-0.0744	+/-1.0	
p-Terphenyl-d14 (Surr)	4.81	82	50 - 133	13.116	13.2814	-0.1654	+/-1.0	
2-Fluorophenol (Surr)	4.81	42	19 - 120	5.553	5.631	-0.0780	+/-1.0	
2,4,6-Tribromophenol (Surr)	4.81	118	43 - 140	10.581	10.6855	-0.1045	+/-1.0	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G03020	Instrument:	SV-GCMS5
Matrix:	Water	Calibration:	A9A3103

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (9G03020-CCV1)			Lab File ID: E07031905.D			Analyzed: 07/03/19 10:24			
1,4-Dichlorobenzene-d4 (ISTD)	234951	6.751	286436	6.848	82	50 - 200	-0.0970	+/-0.50	
Naphthalene-d8 (ISTD)	905720	7.997	1096117	8.099	83	50 - 200	-0.1020	+/-0.50	
Acenaphthene-d10 (ISTD)	459698	9.773	493423	9.88	93	50 - 200	-0.1070	+/-0.50	
Phenanthrene-d10 (ISTD)	863936	11.287	840808	11.399	103	50 - 200	-0.1120	+/-0.50	
Chrysene-d12 (ISTD)	812051	15.197	707423	15.416	115	50 - 200	-0.2190	+/-0.50	
Perylene-d12 (ISTD)	737977	18.705	630113	18.951	117	50 - 200	-0.2460	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	674023	21.102	502143	21.348	134	50 - 200	-0.2460	+/-0.50	
Calibration Blank (9G03020-CCB1)			Lab File ID: E07031906.D			Analyzed: 07/03/19 11:01			
1,4-Dichlorobenzene-d4 (ISTD)	225977	6.751	234951	6.751	96	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	881858	7.992	905720	7.997	97	50 - 200	-0.0050	+/-0.50	
Acenaphthene-d10 (ISTD)	432050	9.773	459698	9.773	94	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	836493	11.287	863936	11.287	97	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	763815	15.191	812051	15.197	94	50 - 200	-0.0060	+/-0.50	
Perylene-d12 (ISTD)	695256	18.705	737977	18.705	94	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	631472	21.096	674023	21.102	94	50 - 200	-0.0060	+/-0.50	
Blank (9070583-BLK1)			Lab File ID: E07031913.D			Analyzed: 07/03/19 15:18			
1,4-Dichlorobenzene-d4 (ISTD)	231752	6.751	234951	6.751	99	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	888443	7.997	905720	7.997	98	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	450097	9.773	459698	9.773	98	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	849610	11.287	863936	11.287	98	50 - 200	0.0000	+/-0.50	
Chrysene-d12 (ISTD)	766778	15.197	812051	15.197	94	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	657745	18.705	737977	18.705	89	50 - 200	0.0000	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	524214	21.096	674023	21.102	78	50 - 200	-0.0060	+/-0.50	
LCS (9070583-BS1)			Lab File ID: E07031914.D			Analyzed: 07/03/19 15:55			
1,4-Dichlorobenzene-d4 (ISTD)	229327	6.751	234951	6.751	98	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	891004	7.997	905720	7.997	98	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	452675	9.778	459698	9.773	98	50 - 200	0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	869647	11.292	863936	11.287	101	50 - 200	0.0050	+/-0.50	
Chrysene-d12 (ISTD)	798902	15.202	812051	15.197	98	50 - 200	0.0050	+/-0.50	
Perylene-d12 (ISTD)	702755	18.716	737977	18.705	95	50 - 200	0.0110	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	565979	21.107	674023	21.102	84	50 - 200	0.0050	+/-0.50	

INTERNAL STANDARD AREA AND RT SUMMARY
EPA 8270D

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G03020	Instrument:	SV-GCMS5
Matrix:	Water	Calibration:	A9A3103

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
LCS Dup (9070583-BSD1)			Lab File ID: E07031915.D			Analyzed: 07/03/19 16:31			
1,4-Dichlorobenzene-d4 (ISTD)	226113	6.751	234951	6.751	96	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	879886	7.997	905720	7.997	97	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	448860	9.778	459698	9.773	98	50 - 200	0.0050	+/-0.50	
Phenanthrene-d10 (ISTD)	848691	11.292	863936	11.287	98	50 - 200	0.0050	+/-0.50	
Chrysene-d12 (ISTD)	769736	15.202	812051	15.197	95	50 - 200	0.0050	+/-0.50	
Perylene-d12 (ISTD)	668000	18.716	737977	18.705	91	50 - 200	0.0110	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	540102	21.112	674023	21.102	80	50 - 200	0.0100	+/-0.50	
2708-190626-MULT802-109 (A9F0860-02RE2)			Lab File ID: E07031919.D			Analyzed: 07/03/19 18:58			
1,4-Dichlorobenzene-d4 (ISTD)	233133	6.751	234951	6.751	99	50 - 200	0.0000	+/-0.50	
Naphthalene-d8 (ISTD)	910670	7.997	905720	7.997	101	50 - 200	0.0000	+/-0.50	
Acenaphthene-d10 (ISTD)	465464	9.773	459698	9.773	101	50 - 200	0.0000	+/-0.50	
Phenanthrene-d10 (ISTD)	882111	11.292	863936	11.287	102	50 - 200	0.0050	+/-0.50	
Chrysene-d12 (ISTD)	815812	15.197	812051	15.197	100	50 - 200	0.0000	+/-0.50	
Perylene-d12 (ISTD)	707748	18.711	737977	18.705	96	50 - 200	0.0060	+/-0.50	
Dibenz(a,h)anthracene-d14 (ISTD)	567616	21.102	674023	21.102	84	50 - 200	0.0000	+/-0.50	

HOLDING TIME SUMMARY

EPA 8270D

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

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
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	07/03/19 07:08	6.64	7.00	07/03/19 18:58	0.49	40.00	

Apex Laboratories

SDG: A9F0860

CLASS: METALS

METHOD: EPA 6020A

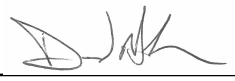
ANALYSES DATA PACKAGE COVER PAGE

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test

Client Sample Id:	Lab Sample Id:	Matrix
2708-190626-MULT802-109	A9F0860-02	Water

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: 10/1/2019 2:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 6020A

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
Aluminum	25.0	50.0	ug/L
Antimony	0.500	1.00	ug/L
Arsenic	0.500	1.00	ug/L
Barium	0.500	1.00	ug/L
Beryllium	0.100	0.200	ug/L
Cadmium	0.0400	0.200	ug/L
Chromium	0.500	1.00	ug/L
Copper	0.500	1.00	ug/L
Iron	25.0	50.0	ug/L
Lead	0.100	0.200	ug/L
Manganese	0.500	1.00	ug/L
Mercury	0.0400	0.0800	ug/L
Nickel	0.500	1.00	ug/L
Selenium	0.500	1.00	ug/L
Silver	0.100	0.200	ug/L
Thallium	0.100	0.200	ug/L
Vanadium	0.500	1.00	ug/L
Zinc	2.00	4.00	ug/L

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

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

2708-190626-MULT802-109

Laboratory: Apex Laboratories | SDG: A9F0860

Client: Hahn and Associates | Project: Mult 802 Pump Test

Matrix: Water | Laboratory ID: A9F0860-02 | File ID: 9G02057-087

Sampled: 06/26/19 15:50 | Prepared: 07/01/19 14:41 | Analyzed: 07/03/19 01:56

Solids: N/A | Preparation: EPA 3015A | Initial/Final: 45 mL / 50 mL

Batch: 9070523 | Sequence: 9G02057 | Instrument: ICPMS5

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	Method
7429-90-5	Aluminum	317	1		EPA 6020A
7440-36-0	Antimony	0.500	1	U	EPA 6020A
7440-38-2	Arsenic	0.500	1	U	EPA 6020A
7440-39-3	Barium	33.9	1		EPA 6020A
7440-41-7	Beryllium	0.100	1	U	EPA 6020A
7440-43-9	Cadmium	0.0400	1	U	EPA 6020A
7440-47-3	Chromium	0.500	1	U	EPA 6020A
7440-50-8	Copper	0.500	1	U	EPA 6020A
7439-89-6	Iron	1390	1		EPA 6020A
7439-92-1	Lead	0.317	1		EPA 6020A
7439-96-5	Manganese	800	1		EPA 6020A
7439-97-6	Mercury	0.0400	1	U	EPA 6020A
7440-02-0	Nickel	1.18	1		EPA 6020A
7782-49-2	Selenium	0.500	1	U	EPA 6020A
7440-22-4	Silver	0.100	1	U	EPA 6020A
7440-28-0	Thallium	0.100	1	U	EPA 6020A
7440-62-2	Vanadium	22.5	1		EPA 6020A
7440-66-6	Zinc	17.8	1		EPA 6020A

PREPARATION BATCH SUMMARY

EPA 6020A

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Batch: 9070523 Batch Matrix: Water Preparation: EPA 3015A

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9070523-BLK1	9G02057-085	07/01/19 14:41	
LCS	9070523-BS1	9G02057-086	07/01/19 14:41	
2708-190626-MULT802-109	A9F0860-02	9G02057-087	07/01/19 14:41	

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.

METHOD BLANK DATA SHEET

EPA 6020A

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9070523-BLK1	File ID:	9G02057-085
Prepared:	07/01/19 14:41	Preparation:	EPA 3015A	Initial/Final:	45 mL / 50 mL
Analyzed:	07/03/19 01:47	Instrument:	ICPMS5		
Batch:	9070523	Sequence:	9G02057	Calibration:	UNASSIGNED

CAS NO.	COMPOUND	CONC. (ug/L)	Q
7429-90-5	Aluminum	25.0	U
7440-36-0	Antimony	0.500	U
7440-38-2	Arsenic	0.500	U
7440-39-3	Barium	0.500	U
7440-41-7	Beryllium	0.100	U
7440-43-9	Cadmium	0.0400	U
7440-47-3	Chromium	0.500	U
7440-50-8	Copper	0.500	U
7439-89-6	Iron	25.0	U
7439-92-1	Lead	0.100	U
7439-96-5	Manganese	0.500	U
7439-97-6	Mercury	0.0400	U
7440-02-0	Nickel	0.500	U
7782-49-2	Selenium	0.500	U
7440-22-4	Silver	0.100	U
7440-28-0	Thallium	0.100	U
7440-62-2	Vanadium	0.500	U
7440-66-6	Zinc	2.00	U

LCS / LCS DUPLICATE RECOVERY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070523	Laboratory ID:	9070523-BS1
Preparation:	EPA 3015A	Initial/Final:	45 mL / 50 mL

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Aluminum	2780	2740	99	80 - 120
Antimony	27.8	28.4	102	80 - 120
Arsenic	55.6	54.0	97	80 - 120
Barium	55.6	56.7	102	80 - 120
Beryllium	27.8	27.0	97	80 - 120
Cadmium	55.6	53.9	97	80 - 120
Chromium	55.6	57.1	103	80 - 120
Copper	55.6	58.9	106	80 - 120
Iron	2780	2620	94	80 - 120
Lead	55.6	56.2	101	80 - 120
Manganese	55.6	53.1	96	80 - 120
Mercury	1.11	1.04	94	80 - 120
Nickel	55.6	56.9	102	80 - 120
Selenium	27.8	25.5	92	80 - 120
Silver	27.8	28.6	103	80 - 120
Thallium	27.8	26.9	97	80 - 120
Vanadium	55.6	55.7	100	80 - 120
Zinc	55.6	58.1	105	80 - 120

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G02057	Instrument:	ICPMS5
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	9G02057-ICV1	9G02057-014	07/02/19 20:30
Initial Cal Blank	9G02057-ICB1	9G02057-015	07/02/19 20:34
Instrument RL Check	9G02057-CRL1	9G02057-016	07/02/19 20:38
Instrument RL Check	9G02057-CRL2	9G02057-017	07/02/19 20:43
Instrument RL Check	9G02057-CRL3	9G02057-018	07/02/19 20:47
Calibration Check	9G02057-CCV1	9G02057-031	07/02/19 21:55
Calibration Blank	9G02057-CCB1	9G02057-032	07/02/19 21:59
Calibration Check	9G02057-CCV2	9G02057-043	07/02/19 22:47
Calibration Blank	9G02057-CCB2	9G02057-044	07/02/19 22:51
Calibration Check	9G02057-CCV3	9G02057-055	07/02/19 23:38
Calibration Blank	9G02057-CCB3	9G02057-056	07/02/19 23:43
Calibration Check	9G02057-CCV4	9G02057-067	07/03/19 00:30
Calibration Blank	9G02057-CCB4	9G02057-068	07/03/19 00:34
Instrument RL Check	9G02057-CRL4	9G02057-069	07/03/19 00:39
Instrument RL Check	9G02057-CRL5	9G02057-070	07/03/19 00:43
Instrument RL Check	9G02057-CRL6	9G02057-071	07/03/19 00:47
Instrument RL Check	9G02057-CRL7	9G02057-072	07/03/19 00:52
Calibration Check	9G02057-CCV5	9G02057-083	07/03/19 01:39
Calibration Blank	9G02057-CCB5	9G02057-084	07/03/19 01:43
Blank	9070523-BLK1	9G02057-085	07/03/19 01:47
LCS	9070523-BS1	9G02057-086	07/03/19 01:52
2708-190626-MULT802-109	A9F0860-02	9G02057-087	07/03/19 01:56
Calibration Check	9G02057-CCV6	9G02057-095	07/03/19 02:30
Calibration Blank	9G02057-CCB6	9G02057-096	07/03/19 02:35
Calibration Check	9G02057-CCV8	9G02057-108	07/03/19 03:26
Calibration Blank	9G02057-CCB7	9G02057-109	07/03/19 03:30
Calibration Check	9G02057-CCV9	9G02057-120	07/03/19 04:18
Calibration Blank	9G02057-CCB9	9G02057-122	07/03/19 04:26
Calibration Check	9G02057-CCVA	9G02057-133	07/03/19 05:13
Calibration Blank	9G02057-CCBA	9G02057-134	07/03/19 05:18
Calibration Check	9G02057-CCVB	9G02057-136	07/03/19 05:26
Calibration Blank	9G02057-CCBB	9G02057-137	07/03/19 05:30
Calibration Blank	9G02057-CCBC	9G02057-138	07/03/19 05:35

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 6020A

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G02057	Instrument:	ICPMS5
Matrix:	Water	Calibration:	UNASSIGNED

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Instrument RL Check	9G02057-CRL8	9G02057-139	07/03/19 05:39
Instrument RL Check	9G02057-CRL9	9G02057-140	07/03/19 05:43
Instrument RL Check	9G02057-CRLA	9G02057-141	07/03/19 05:48
Instrument RL Check	9G02057-CRLB	9G02057-142	07/03/19 05:52

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: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9G02057-ICV1	Aluminum	4000	3950	99	ug/L	EPA 6020A
	Antimony	40.0	38.2	95	ug/L	EPA 6020A
	Arsenic	100	101	101	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	41.0	103	ug/L	EPA 6020A
	Cadmium	100	98.8	99	ug/L	EPA 6020A
	Chromium	100	104	104	ug/L	EPA 6020A
	Copper	100	109	109	ug/L	EPA 6020A
	Iron	4000	3760	94	ug/L	EPA 6020A
	Lead	100	102	102	ug/L	EPA 6020A
	Manganese	100	96.5	96	ug/L	EPA 6020A
	Mercury	800	801	100	ng/L	EPA 6020A
	Nickel	100	106	106	ug/L	EPA 6020A
	Selenium	40.0	40.1	100	ug/L	EPA 6020A
	Silver	40.0	42.0	105	ug/L	EPA 6020A
	Thallium	40.0	40.4	101	ug/L	EPA 6020A
	Vanadium	100	101	101	ug/L	EPA 6020A
	Zinc	100	108	108	ug/L	EPA 6020A
9G02057-CCV1	Aluminum	4000	3930	98	ug/L	EPA 6020A
	Antimony	40.0	37.3	93	ug/L	EPA 6020A
	Arsenic	100	99.5	100	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	39.5	99	ug/L	EPA 6020A
	Cadmium	100	97.9	98	ug/L	EPA 6020A
	Chromium	100	105	105	ug/L	EPA 6020A
	Copper	100	110	110	ug/L	EPA 6020A
	Iron	4000	3860	96	ug/L	EPA 6020A
	Lead	100	101	101	ug/L	EPA 6020A
	Manganese	100	96.2	96	ug/L	EPA 6020A
	Mercury	800	796	100	ng/L	EPA 6020A
	Nickel	100	108	108	ug/L	EPA 6020A
	Selenium	40.0	40.1	100	ug/L	EPA 6020A
	Silver	40.0	42.0	105	ug/L	EPA 6020A
	Thallium	40.0	39.7	99	ug/L	EPA 6020A
	Vanadium	100	103	103	ug/L	EPA 6020A
	Zinc	100	106	106	ug/L	EPA 6020A
9G02057-CCV2	Aluminum	4000	3890	97	ug/L	EPA 6020A
	Antimony	40.0	37.5	94	ug/L	EPA 6020A
	Arsenic	100	98.7	99	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	40.0	100	ug/L	EPA 6020A
	Cadmium	100	99.1	99	ug/L	EPA 6020A
	Chromium	100	104	104	ug/L	EPA 6020A
	Copper	100	109	109	ug/L	EPA 6020A
	Iron	4000	3830	96	ug/L	EPA 6020A
	Lead	100	102	102	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9G02057-CCV2	Manganese	100	95.9	96	ug/L	EPA 6020A
	Mercury	800	818	102	ng/L	EPA 6020A
	Nickel	100	107	107	ug/L	EPA 6020A
	Selenium	40.0	40.1	100	ug/L	EPA 6020A
	Silver	40.0	42.0	105	ug/L	EPA 6020A
	Thallium	40.0	40.1	100	ug/L	EPA 6020A
	Vanadium	100	102	102	ug/L	EPA 6020A
	Zinc	100	105	105	ug/L	EPA 6020A
9G02057-CCV3	Aluminum	4000	3930	98	ug/L	EPA 6020A
	Antimony	40.0	37.9	95	ug/L	EPA 6020A
	Arsenic	100	97.7	98	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A
	Beryllium	40.0	41.0	103	ug/L	EPA 6020A
	Cadmium	100	101	101	ug/L	EPA 6020A
	Chromium	100	103	103	ug/L	EPA 6020A
	Copper	100	107	107	ug/L	EPA 6020A
	Iron	4000	3840	96	ug/L	EPA 6020A
	Lead	100	104	104	ug/L	EPA 6020A
	Manganese	100	96.4	96	ug/L	EPA 6020A
	Mercury	800	803	100	ng/L	EPA 6020A
	Nickel	100	106	106	ug/L	EPA 6020A
	Selenium	40.0	39.9	100	ug/L	EPA 6020A
	Silver	40.0	42.3	106	ug/L	EPA 6020A
	Thallium	40.0	40.7	102	ug/L	EPA 6020A
	Vanadium	100	100	100	ug/L	EPA 6020A
	Zinc	100	107	107	ug/L	EPA 6020A
9G02057-CCV4	Aluminum	4000	3960	99	ug/L	EPA 6020A
	Antimony	40.0	37.9	95	ug/L	EPA 6020A
	Arsenic	100	99.7	100	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	41.1	103	ug/L	EPA 6020A
	Cadmium	100	100	100	ug/L	EPA 6020A
	Chromium	100	105	105	ug/L	EPA 6020A
	Copper	100	108	108	ug/L	EPA 6020A
	Iron	4000	3860	96	ug/L	EPA 6020A
	Lead	100	105	105	ug/L	EPA 6020A
	Manganese	100	96.9	97	ug/L	EPA 6020A
	Mercury	800	830	104	ng/L	EPA 6020A
	Nickel	100	106	106	ug/L	EPA 6020A
	Selenium	40.0	40.1	100	ug/L	EPA 6020A
	Silver	40.0	42.0	105	ug/L	EPA 6020A
	Thallium	40.0	39.9	100	ug/L	EPA 6020A
	Vanadium	100	102	102	ug/L	EPA 6020A
	Zinc	100	106	106	ug/L	EPA 6020A
9G02057-CCV5	Aluminum	4000	3990	100	ug/L	EPA 6020A
	Antimony	40.0	37.6	94	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9G02057-CCV5	Arsenic	100	98.9	99	ug/L	EPA 6020A
	Barium	100	106	106	ug/L	EPA 6020A
	Beryllium	40.0	39.6	99	ug/L	EPA 6020A
	Cadmium	100	97.5	97	ug/L	EPA 6020A
	Chromium	100	104	104	ug/L	EPA 6020A
	Copper	100	107	107	ug/L	EPA 6020A
	Iron	4000	3860	97	ug/L	EPA 6020A
	Lead	100	100	100	ug/L	EPA 6020A
	Manganese	100	96.2	96	ug/L	EPA 6020A
	Mercury	800	801	100	ng/L	EPA 6020A
	Nickel	100	106	106	ug/L	EPA 6020A
	Selenium	40.0	40.7	102	ug/L	EPA 6020A
	Silver	40.0	42.0	105	ug/L	EPA 6020A
	Thallium	40.0	40.0	100	ug/L	EPA 6020A
	Vanadium	100	102	102	ug/L	EPA 6020A
	Zinc	100	107	107	ug/L	EPA 6020A
9G02057-CCV6	Aluminum	4000	3990	100	ug/L	EPA 6020A
	Antimony	40.0	38.0	95	ug/L	EPA 6020A
	Arsenic	100	98.1	98	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	40.0	100	ug/L	EPA 6020A
	Cadmium	100	99.6	100	ug/L	EPA 6020A
	Chromium	100	103	103	ug/L	EPA 6020A
	Copper	100	108	108	ug/L	EPA 6020A
	Iron	4000	3840	96	ug/L	EPA 6020A
	Lead	100	104	104	ug/L	EPA 6020A
	Manganese	100	96.4	96	ug/L	EPA 6020A
	Mercury	800	807	101	ng/L	EPA 6020A
	Nickel	100	105	105	ug/L	EPA 6020A
	Selenium	40.0	41.0	103	ug/L	EPA 6020A
	Silver	40.0	42.2	105	ug/L	EPA 6020A
	Thallium	40.0	40.5	101	ug/L	EPA 6020A
	Vanadium	100	101	101	ug/L	EPA 6020A
	Zinc	100	107	107	ug/L	EPA 6020A
9G02057-CCV8	Aluminum	4000	4040	101	ug/L	EPA 6020A
	Antimony	40.0	37.6	94	ug/L	EPA 6020A
	Arsenic	100	97.9	98	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	39.2	98	ug/L	EPA 6020A
	Cadmium	100	105	105	ug/L	EPA 6020A
	Chromium	100	106	106	ug/L	EPA 6020A
	Copper	100	109	109	ug/L	EPA 6020A
	Iron	4000	3920	98	ug/L	EPA 6020A
	Lead	100	106	106	ug/L	EPA 6020A
	Manganese	100	97.7	98	ug/L	EPA 6020A
	Mercury	800	840	105	ng/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9G02057-CCV8	Nickel	100	107	107	ug/L	EPA 6020A
	Selenium	40.0	40.6	102	ug/L	EPA 6020A
	Silver	40.0	41.9	105	ug/L	EPA 6020A
	Thallium	40.0	40.1	100	ug/L	EPA 6020A
	Vanadium	100	103	103	ug/L	EPA 6020A
	Zinc	100	106	106	ug/L	EPA 6020A
9G02057-CCV9	Aluminum	4000	4020	100	ug/L	EPA 6020A
	Antimony	40.0	37.0	93	ug/L	EPA 6020A
	Arsenic	100	98.6	99	ug/L	EPA 6020A
	Barium	100	105	105	ug/L	EPA 6020A
	Beryllium	40.0	38.4	96	ug/L	EPA 6020A
	Cadmium	100	100	100	ug/L	EPA 6020A
	Chromium	100	106	106	ug/L	EPA 6020A
	Copper	100	109	109	ug/L	EPA 6020A
	Iron	4000	3910	98	ug/L	EPA 6020A
	Lead	100	101	101	ug/L	EPA 6020A
	Manganese	100	98.1	98	ug/L	EPA 6020A
	Mercury	800	783	98	ng/L	EPA 6020A
	Nickel	100	107	107	ug/L	EPA 6020A
	Selenium	40.0	41.1	103	ug/L	EPA 6020A
	Silver	40.0	42.3	106	ug/L	EPA 6020A
	Thallium	40.0	39.8	100	ug/L	EPA 6020A
	Vanadium	100	104	104	ug/L	EPA 6020A
	Zinc	100	107	107	ug/L	EPA 6020A
9G02057-CCVA	Aluminum	4000	3930	98	ug/L	EPA 6020A
	Antimony	40.0	37.4	94	ug/L	EPA 6020A
	Arsenic	100	97.6	98	ug/L	EPA 6020A
	Barium	100	104	104	ug/L	EPA 6020A
	Beryllium	40.0	40.9	102	ug/L	EPA 6020A
	Cadmium	100	107	107	ug/L	EPA 6020A
	Chromium	100	105	105	ug/L	EPA 6020A
	Copper	100	108	108	ug/L	EPA 6020A
	Iron	4000	3880	97	ug/L	EPA 6020A
	Lead	100	109	109	ug/L	EPA 6020A
	Manganese	100	97.5	98	ug/L	EPA 6020A
	Mercury	800	839	105	ng/L	EPA 6020A
	Nickel	100	106	106	ug/L	EPA 6020A
	Selenium	40.0	41.1	103	ug/L	EPA 6020A
	Silver	40.0	42.2	106	ug/L	EPA 6020A
	Thallium	40.0	40.3	101	ug/L	EPA 6020A
	Vanadium	100	103	103	ug/L	EPA 6020A
	Zinc	100	107	107	ug/L	EPA 6020A
9G02057-CCVB	Aluminum	4000	3870	97	ug/L	EPA 6020A
	Antimony	40.0	37.2	93	ug/L	EPA 6020A
	Arsenic	100	97.9	98	ug/L	EPA 6020A
	Barium	100	103	103	ug/L	EPA 6020A

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Control Limt: +/- 10.00%
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9G02057-CCVB	Beryllium	40.0	38.5	96	ug/L	EPA 6020A
	Cadmium	100	99.9	100	ug/L	EPA 6020A
	Chromium	100	104	104	ug/L	EPA 6020A
	Copper	100	108	108	ug/L	EPA 6020A
	Iron	4000	3880	97	ug/L	EPA 6020A
	Lead	100	102	102	ug/L	EPA 6020A
	Manganese	100	96.6	97	ug/L	EPA 6020A
	Mercury	800	763	95	ng/L	EPA 6020A
	Nickel	100	106	106	ug/L	EPA 6020A
	Selenium	40.0	40.4	101	ug/L	EPA 6020A
	Silver	40.0	41.8	105	ug/L	EPA 6020A
	Thallium	40.0	39.5	99	ug/L	EPA 6020A
	Vanadium	100	102	102	ug/L	EPA 6020A
	Zinc	100	107	107	ug/L	EPA 6020A

* Values outside of QC limits

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Pump Test
Sequence: 9G02057
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02057-ICB1	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
9G02057-CCB1	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Pump Test
Sequence: 9G02057
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02057-CCB1	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
9G02057-CCB2	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
9G02057-CCB3	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Pump Test
Sequence: 9G02057
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02057-CCB3	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
9G02057-CCB4	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
9G02057-CCB5	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Pump Test
Sequence: 9G02057
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02057-CCB5	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
9G02057-CCB6	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
9G02057-CCB7	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Pump Test
Sequence: 9G02057
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02057-CCB7	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
9G02057-CCB9	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
9G02057-CCBA	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Pump Test
Sequence: 9G02057
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02057-CCBA	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
9G02057-CCBB	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	0.583	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A

INSTRUMENT BLANKS
EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: ICPMS5
Project: Mult 802 Pump Test
Sequence: 9G02057
Calibration: UNASSIGNED

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02057-CCBC	Mercury	ND	36.0 (Inst)	ng/L		EPA 6020A
	Nickel	ND	0.450 (Inst)	ug/L		EPA 6020A
	Manganese	ND	0.450 (Inst)	ug/L		EPA 6020A
	Lead	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Iron	ND	22.5 (Inst)	ug/L		EPA 6020A
	Aluminum	ND	22.5 (Inst)	ug/L		EPA 6020A
	Thallium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Antimony	ND	0.450 (Inst)	ug/L		EPA 6020A
	Silver	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Selenium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Zinc	ND	1.80 (Inst)	ug/L		EPA 6020A
	Vanadium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Copper	ND	0.450 (Inst)	ug/L		EPA 6020A
	Chromium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Cadmium	ND	0.0360 (Inst)	ug/L		EPA 6020A
	Beryllium	ND	0.0900 (Inst)	ug/L		EPA 6020A
	Barium	ND	0.450 (Inst)	ug/L		EPA 6020A
	Arsenic	ND	0.450 (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: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9G02057-CRL1	Aluminum	9.00	11.1	124	ug/L	70 - 130
	Antimony	0.180	0.199	111	ug/L	70 - 130
	Beryllium	0.180	0.183	102	ug/L	70 - 130
	Cadmium	0.180	0.190	106	ug/L	70 - 130
	Chromium	0.180	0.213	118	ug/L	70 - 130
	Iron	9.00	11.7	130	ug/L	70 - 130
	Lead	0.180	0.215	120	ug/L	70 - 130
	Manganese	0.180	0.216	120	ug/L	70 - 130
	Nickel	0.180	0.197	109	ug/L	70 - 130
	Selenium	0.180	0.194	108	ug/L	70 - 130
	Silver	0.180	0.191	106	ug/L	70 - 130
	Thallium	0.180	0.181	101	ug/L	70 - 130
	Vanadium	0.180	0.142	79	ug/L	70 - 130
9G02057-CRL2	Aluminum	45.0	46.1	103	ug/L	70 - 130
	Antimony	0.900	0.937	104	ug/L	70 - 130
	Arsenic	0.900	0.890	99	ug/L	70 - 130
	Barium	0.900	1.01	113	ug/L	70 - 130
	Beryllium	0.900	0.905	101	ug/L	70 - 130
	Cadmium	0.900	0.860	96	ug/L	70 - 130
	Chromium	0.900	0.957	106	ug/L	70 - 130
	Copper	0.900	1.07	119	ug/L	70 - 130
	Iron	45.0	46.3	103	ug/L	70 - 130
	Lead	0.900	0.929	103	ug/L	70 - 130
	Manganese	0.900	0.921	102	ug/L	70 - 130
	Mercury	36.0	38.5	107	ng/L	70 - 130
	Nickel	0.900	0.918	102	ug/L	70 - 130
	Selenium	0.900	0.908	101	ug/L	70 - 130
	Silver	0.900	0.925	103	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9G02057-CRL2	Thallium	0.900	0.916	102	ug/L	70 - 130
	Vanadium	0.900	0.820	91	ug/L	70 - 130
	Zinc	0.900	0.976	108	ug/L	70 - 130
9G02057-CRL3	Aluminum	90.0	92.5	103	ug/L	70 - 130
	Antimony	1.80	1.81	101	ug/L	70 - 130
	Arsenic	1.80	1.83	102	ug/L	70 - 130
	Barium	1.80	2.03	113	ug/L	70 - 130
	Beryllium	1.80	1.78	99	ug/L	70 - 130
	Cadmium	1.80	1.85	103	ug/L	70 - 130
	Chromium	1.80	1.94	108	ug/L	70 - 130
	Copper	1.80	2.28	126	ug/L	70 - 130
	Iron	90.0	89.9	100	ug/L	70 - 130
	Lead	1.80	1.92	106	ug/L	70 - 130
	Manganese	1.80	1.86	104	ug/L	70 - 130
	Mercury	72.0	85.3	118	ng/L	70 - 130
	Nickel	1.80	1.84	102	ug/L	70 - 130
	Selenium	1.80	1.77	98	ug/L	70 - 130
	Silver	1.80	1.89	105	ug/L	70 - 130
	Thallium	1.80	1.84	102	ug/L	70 - 130
	Vanadium	1.80	1.89	105	ug/L	70 - 130
	Zinc	1.80	2.15	119	ug/L	70 - 130
9G02057-CRL4	Aluminum	9.00	9.44	105	ug/L	70 - 130
	Arsenic	0.180	0.209	116	ug/L	70 - 130
	Barium	0.180	0.221	123	ug/L	70 - 130
	Beryllium	0.180	0.194	108	ug/L	70 - 130
	Cadmium	0.180	0.168	93	ug/L	70 - 130
	Chromium	0.180	0.164	91	ug/L	70 - 130
	Iron	9.00	8.02	89	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9G02057-CRL4	Lead	0.180	0.188	105	ug/L	70 - 130
	Manganese	0.180	0.181	100	ug/L	70 - 130
	Nickel	0.180	0.179	99	ug/L	70 - 130
	Selenium	0.180	0.162	90	ug/L	70 - 130
	Silver	0.180	0.191	106	ug/L	70 - 130
	Thallium	0.180	0.180	100	ug/L	70 - 130
	Zinc	0.180	0.221	123	ug/L	70 - 130
9G02057-CRL5	Aluminum	45.0	42.2	94	ug/L	70 - 130
	Antimony	0.900	0.920	102	ug/L	70 - 130
	Arsenic	0.900	0.940	104	ug/L	70 - 130
	Barium	0.900	1.03	115	ug/L	70 - 130
	Beryllium	0.900	0.921	102	ug/L	70 - 130
	Cadmium	0.900	0.878	98	ug/L	70 - 130
	Chromium	0.900	0.845	94	ug/L	70 - 130
	Copper	0.900	0.946	105	ug/L	70 - 130
	Iron	45.0	42.3	94	ug/L	70 - 130
	Lead	0.900	0.937	104	ug/L	70 - 130
	Manganese	0.900	0.949	105	ug/L	70 - 130
	Mercury	36.0	44.3	123	ng/L	70 - 130
	Nickel	0.900	0.896	100	ug/L	70 - 130
	Selenium	0.900	0.857	95	ug/L	70 - 130
	Silver	0.900	0.943	105	ug/L	70 - 130
	Thallium	0.900	0.909	101	ug/L	70 - 130
	Vanadium	0.900	0.978	109	ug/L	70 - 130
	Zinc	0.900	0.982	109	ug/L	70 - 130
9G02057-CRL6	Aluminum	90.0	90.5	101	ug/L	70 - 130
	Antimony	1.80	1.90	105	ug/L	70 - 130
	Arsenic	1.80	1.77	98	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9G02057-CRL6	Barium	1.80	1.94	108	ug/L	70 - 130
	Beryllium	1.80	1.73	96	ug/L	70 - 130
	Cadmium	1.80	1.71	95	ug/L	70 - 130
	Chromium	1.80	1.88	104	ug/L	70 - 130
	Copper	1.80	1.85	103	ug/L	70 - 130
	Iron	90.0	85.9	95	ug/L	70 - 130
	Lead	1.80	1.91	106	ug/L	70 - 130
	Manganese	1.80	1.72	96	ug/L	70 - 130
	Mercury	72.0	75.0	104	ng/L	70 - 130
	Nickel	1.80	1.89	105	ug/L	70 - 130
	Selenium	1.80	1.82	101	ug/L	70 - 130
	Silver	1.80	1.85	103	ug/L	70 - 130
	Thallium	1.80	1.81	100	ug/L	70 - 130
	Vanadium	1.80	2.00	111	ug/L	70 - 130
	Zinc	1.80	1.88	104	ug/L	70 - 130
9G02057-CRL7	Aluminum	180	178	99	ug/L	70 - 130
	Antimony	3.60	3.68	102	ug/L	70 - 130
	Arsenic	3.60	3.67	102	ug/L	70 - 130
	Barium	3.60	3.88	108	ug/L	70 - 130
	Beryllium	3.60	3.78	105	ug/L	70 - 130
	Cadmium	3.60	3.59	100	ug/L	70 - 130
	Chromium	3.60	3.60	100	ug/L	70 - 130
	Copper	3.60	3.88	108	ug/L	70 - 130
	Iron	180	171	95	ug/L	70 - 130
	Lead	3.60	3.74	104	ug/L	70 - 130
	Manganese	3.60	3.48	97	ug/L	70 - 130
	Mercury	144	145	101	ng/L	70 - 130
	Nickel	3.60	3.71	103	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9G02057-CRL7	Selenium	3.60	3.57	99	ug/L	70 - 130
	Silver	3.60	3.50	97	ug/L	70 - 130
	Thallium	3.60	3.60	100	ug/L	70 - 130
	Vanadium	3.60	3.78	105	ug/L	70 - 130
	Zinc	3.60	3.84	107	ug/L	70 - 130
9G02057-CRL8	Aluminum	9.00	10.0	111	ug/L	70 - 130
	Antimony	0.180	0.187	104	ug/L	70 - 130
	Arsenic	0.180	0.203	113	ug/L	70 - 130
	Beryllium	0.180	0.191	106	ug/L	70 - 130
	Cadmium	0.180	0.198	110	ug/L	70 - 130
	Chromium	0.180	0.198	110	ug/L	70 - 130
	Iron	9.00	10.3	114	ug/L	70 - 130
	Lead	0.180	0.208	115	ug/L	70 - 130
	Nickel	0.180	0.181	101	ug/L	70 - 130
	Selenium	0.180	0.164	91	ug/L	70 - 130
	Silver	0.180	0.186	104	ug/L	70 - 130
	Thallium	0.180	0.177	98	ug/L	70 - 130
9G02057-CRL9	Aluminum	45.0	46.9	104	ug/L	70 - 130
	Antimony	0.900	0.945	105	ug/L	70 - 130
	Arsenic	0.900	0.925	103	ug/L	70 - 130
	Barium	0.900	0.994	110	ug/L	70 - 130
	Beryllium	0.900	0.863	96	ug/L	70 - 130
	Cadmium	0.900	0.939	104	ug/L	70 - 130
	Chromium	0.900	0.954	106	ug/L	70 - 130
	Copper	0.900	0.936	104	ug/L	70 - 130
	Iron	45.0	44.8	99	ug/L	70 - 130
	Lead	0.900	0.941	105	ug/L	70 - 130
	Manganese	0.900	1.04	116	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9G02057-CRL9	Mercury	36.0	41.8	116	ng/L	70 - 130
	Nickel	0.900	0.936	104	ug/L	70 - 130
	Selenium	0.900	0.848	94	ug/L	70 - 130
	Silver	0.900	0.921	102	ug/L	70 - 130
	Thallium	0.900	0.870	97	ug/L	70 - 130
	Vanadium	0.900	0.973	108	ug/L	70 - 130
	Zinc	0.900	1.09	122	ug/L	70 - 130
9G02057-CRLA	Aluminum	90.0	90.9	101	ug/L	70 - 130
	Antimony	1.80	1.76	98	ug/L	70 - 130
	Arsenic	1.80	1.76	98	ug/L	70 - 130
	Barium	1.80	1.92	107	ug/L	70 - 130
	Beryllium	1.80	1.74	97	ug/L	70 - 130
	Cadmium	1.80	1.72	96	ug/L	70 - 130
	Chromium	1.80	2.04	113	ug/L	70 - 130
	Copper	1.80	1.94	108	ug/L	70 - 130
	Iron	90.0	88.9	99	ug/L	70 - 130
	Lead	1.80	1.87	104	ug/L	70 - 130
	Manganese	1.80	1.80	100	ug/L	70 - 130
	Mercury	72.0	73.0	101	ng/L	70 - 130
	Nickel	1.80	2.06	115	ug/L	70 - 130
	Selenium	1.80	1.85	103	ug/L	70 - 130
	Silver	1.80	1.84	102	ug/L	70 - 130
	Thallium	1.80	1.83	102	ug/L	70 - 130
	Vanadium	1.80	1.84	102	ug/L	70 - 130
	Zinc	1.80	1.99	110	ug/L	70 - 130
9G02057-CRLB	Aluminum	180	180	100	ug/L	70 - 130
	Antimony	3.60	3.55	99	ug/L	70 - 130
	Arsenic	3.60	3.52	98	ug/L	70 - 130

CRDL STANDARD

EPA 6020A

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: ICPMS5
Calibration: UNASSIGNED
Sequence: 9G02057

Lab Sample ID	Analyte	True	Found	%R	Units	QC Limts
9G02057-CRLB	Barium	3.60	3.86	107	ug/L	70 - 130
	Beryllium	3.60	3.49	97	ug/L	70 - 130
	Cadmium	3.60	3.62	100	ug/L	70 - 130
	Chromium	3.60	3.64	101	ug/L	70 - 130
	Copper	3.60	3.91	109	ug/L	70 - 130
	Iron	180	170	94	ug/L	70 - 130
	Lead	3.60	3.76	104	ug/L	70 - 130
	Manganese	3.60	3.59	100	ug/L	70 - 130
	Mercury	144	147	102	ng/L	70 - 130
	Nickel	3.60	3.67	102	ug/L	70 - 130
	Selenium	3.60	3.63	101	ug/L	70 - 130
	Silver	3.60	3.57	99	ug/L	70 - 130
	Thallium	3.60	3.73	104	ug/L	70 - 130
	Vanadium	3.60	3.69	103	ug/L	70 - 130
	Zinc	3.60	3.94	110	ug/L	70 - 130

* Values outside of QC limits

HOLDING TIME SUMMARY

EPA 6020A

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

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
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	07/01/19 14:41	4.95	28.00	07/03/19 01:56	6.42	28.00	
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	07/01/19 14:41	4.95	180.00	07/03/19 01:56	6.42	180.00	

Apex Laboratories

SDG: A9F0860

CLASS: WET

METHOD: EPA 335.4

ANALYSES DATA PACKAGE COVER PAGE

EPA 335.4

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test

Client Sample Id:	Lab Sample Id:	Matrix
2708-190626-MULT802-109	A9F0860-02	Water

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: 10/1/2019 2:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

EPA 335.4

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
Cyanide, Total	0.00500	0.00500	mg/L

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

INORGANIC ANALYSIS DATA SHEET

EPA 335.4

2708-190626-MULT802-109

Laboratory: Apex Laboratories | SDG: A9F0860

Client: Hahn and Associates | Project: Mult 802 Pump Test

Matrix: Water | Laboratory ID: A9F0860-02RE1 | File ID: 9G02054b-011

Sampled: 06/26/19 15:50 | Prepared: 07/02/19 11:41 | Analyzed: 07/02/19 15:19

Solids: N/A | Preparation: Lachat Micro Dist - aqueous | Initial/Final: 6 mL / 6 mL

Batch: 9070559 | Sequence: 9G02054 | Calibration: A9G0207 | Instrument: FLOW

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
57-12-5	Cyanide, Total	0.00500	1	U	EPA 335.4

PREPARATION BATCH SUMMARY

EPA 335.4

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Batch: 9070559 Batch Matrix: Water Preparation: Lachat Micro Dist - aqueous

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9070559-BLK1	9G02054-025	07/02/19 11:41	
LCS	9070559-BS1	9G02054-029	07/02/19 11:41	
2708-190626-MULT802-109	A9F0860-02RE1	9G02054b-011	07/02/19 11:41	

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.

METHOD BLANK DATA SHEET

EPA 335.4

Laboratory:	Apex Laboratories		SDG:	A9F0860	
Client:	Hahn and Associates		Project:	Mult 802 Pump Test	
Matrix:	Water	Laboratory ID:	9070559-BLK1	File ID:	9G02054-025
Prepared:	07/02/19 11:41	Preparation:	Lachat Micro Dist - aqueous	Initial/Final:	6 mL / 6 mL
Analyzed:	07/02/19 14:12	Instrument:	FLOW		
Batch:	9070559	Sequence:	9G02054	Calibration:	A9G0207

CAS NO.	COMPOUND	CONC. (mg/L)	Q
57-12-5	Cyanide, Total	0.00500	U

LCS / LCS DUPLICATE RECOVERY

EPA 335.4

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070559	Laboratory ID:	9070559-BS1
Preparation:	Lachat Micro Dist - aqueous	Initial/Final:	6 mL / 6 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Cyanide, Total	0.250	0.264	106	90 - 110

* = Values outside of QC limits

ANALYSIS BATCH (SEQUENCE) SUMMARY

EPA 335.4

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G02054	Instrument:	FLOW
Matrix:	Water	Calibration:	A9G0207

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	9G02054-CAL2	9G02054-005	07/02/19 13:32
Cal Standard	9G02054-CAL3	9G02054-006	07/02/19 13:34
Cal Standard	9G02054-CAL4	9G02054-007	07/02/19 13:36
Cal Standard	9G02054-CAL5	9G02054-008	07/02/19 13:38
Cal Standard	9G02054-CAL6	9G02054-009	07/02/19 13:40
Cal Standard	9G02054-CAL7	9G02054-010	07/02/19 13:42
Cal Standard	9G02054-CAL8	9G02054-011	07/02/19 13:44
Initial Cal Check	9G02054-ICV1	9G02054-014	07/02/19 13:50
Initial Cal Blank	9G02054-ICB1	9G02054-015	07/02/19 13:52
Blank	9070559-BLK1	9G02054-025	07/02/19 14:12
Calibration Check	9G02054-CCV1	9G02054-026	07/02/19 14:14
Calibration Blank	9G02054-CCB1	9G02054-027	07/02/19 14:16
LCS	9070559-BS1	9G02054-029	07/02/19 14:20
Calibration Check	9G02054-CCV2	9G02054-039	07/02/19 14:40
Calibration Blank	9G02054-CCB2	9G02054-040	07/02/19 14:42
Calibration Check	9G02054-CCV3	9G02054b-004	07/02/19 15:05
Calibration Blank	9G02054-CCB3	9G02054b-005	07/02/19 15:07
2708-190626-MULT802-109	A9F0860-02RE1	9G02054b-011	07/02/19 15:19
Calibration Check	9G02054-CCV4	9G02054b-012	07/02/19 15:21
Calibration Blank	9G02054-CCB4	9G02054b-013	07/02/19 15:23

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)

EPA 335.4

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9G0207 Date: 07/02/19 11:44 Instrument: FLOW

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Cyanide, Total	0.9887714	Q **	2.856549				0.9999219		

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 335.4

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Calibration:	A9G0207	Instrument:	FLOW
		Calibration Date:	07/02/19 11:44

Compound	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Cyanide, Total	5	0.96	10	0.95	25	1.008	50	0.98	100	1.032	200	0.991

INITIAL CALIBRATION DATA (Continued)

EPA 335.4

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Calibration:	A9G0207	Instrument:	FLOW
Matrix:		Calibration Date:	07/02/19 11:44

	Level 07		Level 08		Level 09		Level 10		Level 11		Level 12	
Compound	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Cyanide, Total	500	1.0004										

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 335.4

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: FLOW
Calibration: A9G0207
Control Limt: +/- 10.00%
Sequence: 9G02054

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9G02054-ICV1	Cyanide, Total	250	255	102	ug/L	EPA 335.4
9G02054-CCV1	Cyanide, Total	250	256	102	ug/L	EPA 335.4
9G02054-CCV2	Cyanide, Total	250	259	104	ug/L	EPA 335.4
9G02054-CCV3	Cyanide, Total	250	258	103	ug/L	EPA 335.4
9G02054-CCV4	Cyanide, Total	250	257	103	ug/L	EPA 335.4

* Values outside of QC limits

INSTRUMENT BLANKS

EPA 335.4

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: FLOW
Project: Mult 802 Pump Test
Sequence: 9G02054
Calibration: A9G0207

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02054-ICB1	Cyanide, Total	ND	5.00 (Inst)	ug/L		EPA 335.4
9G02054-CCB1	Cyanide, Total	ND	5.00 (Inst)	ug/L		EPA 335.4
9G02054-CCB2	Cyanide, Total	ND	5.00 (Inst)	ug/L		EPA 335.4
9G02054-CCB3	Cyanide, Total	ND	5.00 (Inst)	ug/L		EPA 335.4
9G02054-CCB4	Cyanide, Total	ND	5.00 (Inst)	ug/L		EPA 335.4

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

HOLDING TIME SUMMARY

EPA 335.4

Laboratory: Apex Laboratories

SDG: A9F0860

Client: Hahn and Associates

Project: Mult 802 Pump Test

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
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	07/02/19 11:41	5.83	14.00	07/02/19 15:19	0.15	14.00	

Apex Laboratories

SDG: A9F0860

CLASS: WET

METHOD: D6888-09

ANALYSES DATA PACKAGE COVER PAGE

D6888-09

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test

Client Sample Id:	Lab Sample Id:	Matrix
2708-190626-MULT802-109	A9F0860-02	Water

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: 10/1/2019 2:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

D6888-09

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
Cyanide, Available	0.00100	0.00200	mg/L

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

INORGANIC ANALYSIS DATA SHEET

D6888-09

2708-190626-MULT802-109

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Matrix: Water Laboratory ID: A9F0860-02 File ID: 9G02024-022

Sampled: 06/26/19 15:50 Prepared: 07/02/19 07:09 Analyzed: 07/02/19 09:28

Solids: N/A Preparation: Method Prep: Aq Initial/Final: 5 mL / 5 mL

Batch: 9070536 Sequence: 9G02024 Calibration: A9G0204 Instrument: OIA FS3000-2

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
CN-Avail	Cyanide, Available	0.00100	1	U	D6888-09

PREPARATION BATCH SUMMARY

D6888-09

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Batch: 9070536 Batch Matrix: Water Preparation: Method Prep: Aq

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9070536-BLK1	9G02024-019	07/02/19 07:09	
LCS	9070536-BS1	9G02024-020	07/02/19 07:09	
2708-190626-MULT802-109 (MS)	9070536-MS1	9G02024-023	07/02/19 07:09	
2708-190626-MULT802-109 (MSD)	9070536-MSD1	9G02024-024	07/02/19 07:09	
2708-190626-MULT802-109	A9F0860-02	9G02024-022	07/02/19 07:09	

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

D6888-09

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9070536-BLK1	File ID:	9G02024-019
Prepared:	07/02/19 07:09	Preparation:	Method Prep: Aq	Initial/Final:	5 mL / 5 mL
Analyzed:	07/02/19 09:24	Instrument:	OIA FS3000-2		
Batch:	9070536	Sequence:	9G02024	Calibration:	A9G0204

CAS NO.	COMPOUND	CONC. (mg/L)	Q
CN-Avail	Cyanide, Available	0.00100	U

LCS / LCS DUPLICATE RECOVERY

D6888-09

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070536	Laboratory ID:	9070536-BS1
Preparation:	Method Prep: Aq	Initial/Final:	5 mL / 5 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Cyanide, Available	0.0250	0.0262	105	90 - 117

* = Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

D6888-09

2708-190626-MULT802-109

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070536	Laboratory ID:	9070536-MS1
Preparation:	Method Prep: Aq	Initial/Final:	4.975 mL / 5 mL

Source Sample Name: 2708-190626-MULT802-109

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. (*=Out)	QC LIMITS REC.
Cyanide, Available	0.0251	ND	0.0266	106	82 - 130

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

D6888-09

2708-190626-MULT802-109

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9070536	Laboratory ID:	9070536-MSD1
Preparation:	Method Prep: Aq	Initial/Final:	4.975 mL / 5 mL

Source Sample Name: 2708-190626-MULT802-109

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % RECOVERY	% RPD	QC LIMITS RPD	QC LIMITS REC.
Cyanide, Available	0.0251	0.0269	107	0.9	11	82 - 130

ANALYSIS BATCH (SEQUENCE) SUMMARY

D6888-09

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9G02024	Instrument:	OIA FS3000-2
Matrix:	Water	Calibration:	A9G0204

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	9G02024-CAL2	9G02024-008	07/02/19 09:07
Cal Standard	9G02024-CAL3	9G02024-009	07/02/19 09:09
Cal Standard	9G02024-CAL4	9G02024-010	07/02/19 09:10
Cal Standard	9G02024-CAL5	9G02024-011	07/02/19 09:12
Cal Standard	9G02024-CAL6	9G02024-012	07/02/19 09:13
Cal Standard	9G02024-CAL7	9G02024-013	07/02/19 09:15
Initial Cal Check	9G02024-ICV1	9G02024-016	07/02/19 09:19
Initial Cal Blank	9G02024-ICB1	9G02024-017	07/02/19 09:21
Blank	9070536-BLK1	9G02024-019	07/02/19 09:24
LCS	9070536-BS1	9G02024-020	07/02/19 09:25
2708-190626-MULT802-109	A9F0860-02	9G02024-022	07/02/19 09:28
2708-190626-MULT802-109 (MS)	9070536-MS1	9G02024-023	07/02/19 09:30
2708-190626-MULT802-109 (MSD)	9070536-MSD1	9G02024-024	07/02/19 09:31
Calibration Check	9G02024-CCV1	9G02024-026	07/02/19 09:34
Calibration Blank	9G02024-CCB1	9G02024-027	07/02/19 09:36

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

INITIAL CALIBRATION DATA (Summary)

D6888-09

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9G0204 Date: 07/02/19 07:12 Instrument: OIA FS3000-2

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Cyanide, Available	1332.37	Q **	2.117735				0.9999928		

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

D6888-09

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Calibration:	A9G0204	Instrument:	OIA FS3000-2
		Calibration Date:	07/02/19 07:12

	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
Compound	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Cyanide, Available	1	1377	2	1304.5	5	1333.4	10	1350.8	25	1324.64	50	1303.88

INITIAL AND CONTINUING CALIBRATION CHECK

D6888-09

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: OIA FS3000-2
Calibration: A9G0204
Control Limt: +/- 14.00%
Sequence: 9G02024

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9G02024-ICV1	Cyanide, Available	25.0	25.4	102	ug/L	D6888-09
9G02024-CCV1	Cyanide, Available	25.0	25.7	103	ug/L	D6888-09

* Values outside of QC limits

INSTRUMENT BLANKS

D6888-09

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: OIA FS3000-2
Project: Mult 802 Pump Test
Sequence: 9G02024
Calibration: A9G0204

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9G02024-ICB1	Cyanide, Available	ND	1.00 (Inst)	ug/L		D6888-09
9G02024-CCB1	Cyanide, Available	ND	1.00 (Inst)	ug/L		D6888-09

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

HOLDING TIME SUMMARY

D6888-09

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

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
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	07/02/19 07:09	5.64	14.00	07/02/19 09:28	5.73	14.00	

Apex Laboratories

SDG: A9F0860

CLASS: WET

METHOD: D4282-02

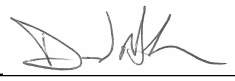
ANALYSES DATA PACKAGE COVER PAGE

D4282-02

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test

Client Sample Id:	Lab Sample Id:	Matrix
2708-190626-MULT802-109	A9F0860-02	Water

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: 10/1/2019 2:06PM
Title: Technical Manager

METHOD DETECTION AND REPORTING LIMITS

D4282-02

Laboratory: Apex Laboratories **SDG:** A9F0860

Client: Hahn and Associates **Project:** Mult 802 Pump Test

Batch Matrix: Water

Analyte	MDL	MRL	Units
Cyanide, Free	0.00250	0.00500	mg/L

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

INORGANIC ANALYSIS DATA SHEET

D4282-02

2708-190626-MULT802-109

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Matrix: Water
Laboratory ID: A9F0860-02
File ID: 9F28015-006
Sampled: 06/26/19 15:50
Prepared: 06/28/19 07:20
Analyzed: 06/28/19 11:34
Solids: N/A
Preparation: Method Prep: Aq
Initial/Final: 3 mL / 3 mL
Batch: 9061475
Sequence: 9F28015
Calibration: A9A2404
Instrument: Hach DR3800

CAS NO.	Analyte	Concentration (mg/L)	Dilution Factor	Q	Method
CN-Free	Cyanide, Free	0.00250	1	U	D4282-02

PREPARATION BATCH SUMMARY

D4282-02

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Batch: 9061475 Batch Matrix: Water Preparation: Method Prep: Aq

SAMPLE NAME	LAB SAMPLE ID	LAB FILE ID	DATE PREPARED	OBSERVATIONS
Blank	9061475-BLK1	9F28015-003	06/28/19 07:20	
LCS	9061475-BS1	9F28015-004	06/28/19 07:20	
LCS Dup	9061475-BSD1	9F28015-005	06/28/19 07:20	
2708-190626-MULT802-109 (Dup)	9061475-DUP1	9F28015-007	06/28/19 07:20	
2708-190626-MULT802-109 (MS)	9061475-MS1	9F28015-008	06/28/19 07:20	
2708-190626-MULT802-109	A9F0860-02	9F28015-006	06/28/19 07:20	

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.

METHOD BLANK DATA SHEET

D4282-02

Laboratory:	Apex Laboratories			SDG:	A9F0860
Client:	Hahn and Associates			Project:	Mult 802 Pump Test
Matrix:	Water	Laboratory ID:	9061475-BLK1	File ID:	9F28015-003
Prepared:	06/28/19 07:20	Preparation:	Method Prep: Aq	Initial/Final:	3 mL / 3 mL
Analyzed:	06/28/19 11:28	Instrument:	Hach DR3800		
Batch:	9061475	Sequence:	9F28015	Calibration:	A9A2404

CAS NO.	COMPOUND	CONC. (mg/L)	Q
CN-Free	Cyanide, Free	0.00250	U

LCS / LCS DUPLICATE RECOVERY

D4282-02

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061475	Laboratory ID:	9061475-BS1
Preparation:	Method Prep: Aq	Initial/Final:	3 mL / 3 mL

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC. (*=Out)	QC LIMITS REC.
Cyanide, Free	0.0667	0.0637	96	85 - 115

* = Values outside of QC limits

LCS / LCS DUPLICATE RECOVERY

D4282-02

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061475	Laboratory ID:	9061475-BSD1
Preparation:	Method Prep: Aq	Initial/Final:	3 mL / 3 mL

COMPOUND	SPIKE ADDED (mg/L)	LCSD CONCENTRATION (mg/L)	LCSD % REC. #	% RPD #	QC LIMITS RPD	
Cyanide, Free	0.0667	0.0692	104	8	10	85 - 115

* = Values outside of QC limits

DUPLICATES

2708-190626-MULT802-109

D4282-02

Laboratory: Apex Laboratories
Client: Hahn and Associates
Matrix: Water
Batch: 9061475
Preparation: Method Prep: Aq
Source Sample Name: 2708-190626-MULT802-109

SDG: A9F0860
Project: Mult 802 Pump Test
Laboratory ID: 9061475-DUP1
Lab Source ID: A9F0860-02
Initial/Final: 3 mL / 3 mL
% Solids:

ANALYTE	CONTROL LIMIT	SAMPLE CONCENTRATION (mg/L)	C	DUPLICATE CONCENTRATION (mg/L)	C	RPD %	Q	METHOD
Cyanide, Free	20	0.000553		ND				D4282-02

* Values outside of QC limits

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

D4282-02

2708-190626-MULT802-109

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Matrix:	Water		
Batch:	9061475	Laboratory ID:	9061475-MS1
Preparation:	Method Prep: Aq	Initial/Final:	3 mL / 3 mL

Source Sample Name: 2708-190626-MULT802-109

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC. (*=Out)	QC LIMITS REC.
Cyanide, Free	0.0667	ND	0.0677	102	80 - 120

ANALYSIS BATCH (SEQUENCE) SUMMARY

D4282-02

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9A24031	Instrument:	Hach DR3800
Matrix:	Water	Calibration:	A9A2404

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Cal Standard	9A24031-CAL2	9A24031-004	01/24/19 15:03
Cal Standard	9A24031-CAL3	9A24031-005	01/24/19 15:03
Cal Standard	9A24031-CAL4	9A24031-006	01/24/19 15:04
Cal Standard	9A24031-CAL5	9A24031-007	01/24/19 15:04
Cal Standard	9A24031-CAL6	9A24031-008	01/24/19 15:04
Initial Cal Check	9A24031-ICV1	9A24031-009	01/24/19 15:09
Initial Cal Blank	9A24031-ICB1	9A24031-010	01/24/19 15:10
Calibration Check	9A24031-CCV1	9A24031-015	01/24/19 15:18
Calibration Blank	9A24031-CCB1	9A24031-016	01/24/19 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

D4282-02

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Sequence:	9F28015	Instrument:	Hach DR3800
Matrix:	Water	Calibration:	A9A2404

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Check	9F28015-CCV1	9F28015-001	06/28/19 11:27
Calibration Blank	9F28015-CCB1	9F28015-002	06/28/19 11:27
Blank	9061475-BLK1	9F28015-003	06/28/19 11:28
LCS	9061475-BS1	9F28015-004	06/28/19 11:28
LCS Dup	9061475-BSD1	9F28015-005	06/28/19 11:33
2708-190626-MULT802-109	A9F0860-02	9F28015-006	06/28/19 11:34
2708-190626-MULT802-109 (Dup)	9061475-DUP1	9F28015-007	06/28/19 11:34
2708-190626-MULT802-109 (MS)	9061475-MS1	9F28015-008	06/28/19 11:34
Calibration Check	9F28015-CCV2	9F28015-012	06/28/19 11:42
Calibration Blank	9F28015-CCB2	9F28015-013	06/28/19 11:42

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)

D4282-02

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

Calibration: A9A2404 Date: 01/24/19 14:35 Instrument: Hach DR3800

Compound	Mean RF	FIT	RF RSD	Mean RT	RT RSD	Linear r	Quad COD	LIMIT	Q
Cyanide, Free		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

D4282-02

Laboratory:	Apex Laboratories	SDG:	A9F0860
Client:	Hahn and Associates	Project:	Mult 802 Pump Test
Calibration:	A9A2404	Instrument:	Hach DR3800
		Calibration Date:	01/24/19 14:35

	Level 01		Level 02		Level 03		Level 04		Level 05		Level 06	
Compound	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF	ug/L	RF
Cyanide, Free	5		10		50		100		250			

INITIAL AND CONTINUING CALIBRATION CHECK

D4282-02

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: Hach DR3800
Calibration: A9A2404
Control Limt: +/- 10.00%
Sequence: 9A24031

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9A24031-ICV1	Cyanide, Free	66.7	61.6	92	ug/L	D4282-02
9A24031-CCV1	Cyanide, Free	100	100	100	ug/L	D4282-02

* Values outside of QC limits

INITIAL AND CONTINUING CALIBRATION CHECK

D4282-02

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Project: Mult 802 Pump Test
Instrument ID: Hach DR3800
Calibration: A9A2404
Control Limt: +/- 10.00%
Sequence: 9F28015

Lab Sample ID	Analyte	True	Found	%R	Units	Method
9F28015-CCV1	Cyanide, Free	100	94.1	94	ug/L	D4282-02
9F28015-CCV2	Cyanide, Free	100	98.4	98	ug/L	D4282-02

* Values outside of QC limits

INSTRUMENT BLANKS

D4282-02

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: Hach DR3800
Project: Mult 802 Pump Test
Sequence: 9A24031
Calibration: A9A2404

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9A24031-ICB1	Cyanide, Free	ND	2.50 (Inst)	ug/L		D4282-02
9A24031-CCB1	Cyanide, Free	ND	2.50 (Inst)	ug/L		D4282-02

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

INSTRUMENT BLANKS

D4282-02

Laboratory: Apex Laboratories
SDG: A9F0860
Client: Hahn and Associates
Instrument ID: Hach DR3800
Project: Mult 802 Pump Test
Sequence: 9F28015
Calibration: A9A2404

Lab Sample ID	Analyte	Found	RL	Units	C	Method
9F28015-CCB1	Cyanide, Free	ND	2.50 (Inst)	ug/L		D4282-02
9F28015-CCB2	Cyanide, Free	ND	2.50 (Inst)	ug/L		D4282-02

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

HOLDING TIME SUMMARY

D4282-02

Laboratory: Apex Laboratories SDG: A9F0860

Client: Hahn and Associates Project: Mult 802 Pump Test

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
2708-190626-MULT802-109	06/26/19 15:50	06/27/19 12:00	06/28/19 07:20	1.65	2.00	06/28/19 11:34	0.18	0.33	

Raw Data

Diesel and /or Oil Hydrocarbons by NWTPH-Dx
Benchsheet & Analysis Sequence Data

Batch 9070617

Sequence 9G03030 (A9F0860-02)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9070617 (Water)

JUL 09 2019

Prep Method: EPA 3510C (Fuels/Acid Ext.)

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9070617-BLK1		QC	07/03/19 12:55	1100	5				100					
	9070617-BSD1		QC	07/03/19 12:55	1000	5	A19G002		100	100					
	9070617-BS1		QC	07/03/19 12:55	1000	5	A19G002		100	100					
	A9F0860-02	G	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	1040	5				100	2708-190626-M ULT802-109				
	A9G0038-16	E	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	980	5				100	SB2-GW	possible Pahs follow ups. Limited Volume 1/2 HCL Ambers 1/4 Full			
	A9G0042-09	G	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	960	5				100	GW2				
	A9G0042-10	H	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	900	5				100	GW3				
	A9G0042-11	H	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	940	5				100	GW8				

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A18K311	12/31/20	Glass Wool
A19D007	09/30/20	DCM CHEM PROD. 186806
A19F120	06/12/20	Conc. HCl - Omnitrace
A19F362	12/23/19	Sodium Sulfate Lot # 183474

Analyte Spike(s)

Std ID	Exp. Date	Description
A19G002	12/28/19	NWTPH-DX Spike in Methanol

Surrogate(s)

Std ID	Exp. Date	Description
A19E021	08/31/19	NWTPH-DX Water Surrogate in MeOH

Witness:_____

Bottle Check:_____

Prepared By: Date

Ben Hahn 7.5.19

Reviewed By: Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9070617 (Water)

Prep Method: EPA 3510C (Fuels/Acid Ext.)

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9070617-BLK1		QC	07/03/19 12:55	~~1000~~ 1100	5 ✓				100			✓		
	9070617-BSD1		QC	07/03/19 12:55	1000	5 ✓	A19F140		100	100			✓		
	9070617-BS1		QC	07/03/19 12:55	1000	5 ✓	A19F140		100	100			✓		
	A9F0860-02	G	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	~~1000~~ 1040	5 ✓				100	2708-190626-M ULT802-109 ✓	E	✓		
	A9G0038-16	E	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	~~1000~~ 980	5 ✓				100	SB2-GW ✓	possible Pahs follow ups. Limited Volume 1/2 HCL Ambers 1/4 Full D,E	✓		
	A9G0042-09	G	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	~~1000~~ 960	5 ✓				100	GW2 ✓	D TEMP	✓		
	A9G0042-10	H	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	~~1000~~ 900	5 ✓				100	GW3 ✓	D TEMP	✓		
	A9G0042-11	H	NWTPH-Dx (Diesel/Oil)	07/03/19 12:55	~~1000~~ 940	5 ✓				100	GW8 ✓	D TEMP	✓		

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
~~A18G040~~	~~01/02/21~~	~~Silica Gel 60-200 mesh P184001~~
~~A18K137~~	~~11/08/23~~	~~Sulfuric Acid~~
A18K311	12/31/20	Glass Wool
A19D007	09/30/20	DCM CHEM PROD. 186806
A19F120	06/12/20	Conc. HCl - Omnitrace
~~A19F173~~ A19E362	06/30/21	Sodium Sulfate Lot # ~~Q154005~~ 1634746

cas 7/3/19

Analyte Spike(s) cas

Std ID	Exp. Date	Description
~~A19F140~~ A19E003	~~12/09/19~~ 12/28/19	NWTPH-DX Spike in Methanol

cas 7/3/19

Surrogate(s) cas

Std ID	Exp. Date	Description
A19E021	08/31/19	NWTPH-DX Water Surrogate in MeOH

cas 7/3/19

D = Decanted
E = Emulsion

Witness: CAH 7/3/19

Bottle Check: CAH 7/3/19

cas 7/3/19
Prepared By: Date

CAH 7.3.19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9G03030**	Instrument:	**DUALFID1F**
Date:	**07/03/19 12:35**	Calibration:	**A9D2602**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9G03030-RES1	Water	QC	QC				A19E278
2	9G03030-CCV1	Water	QC	QC				A19F378
3	9G03030-CCV2	Water	QC	QC				A19F379
4	9G03030-CCB1	Water	QC	QC				
5	9070619-BLK1	Water	QC	QC		9070619		
6	9070619-BS1	Water	QC	QC		9070619		
7	9070619-BSD1	Water	QC	QC		9070619		
8	A9F0936-07	Water	NWTPH-Dx (Diesel/Oil) Low Level		07/05/19	9070619		
9	A9F0936-08	Water	NWTPH-Dx (Diesel/Oil) Low Level		07/05/19	9070619		
10	A9F0936-09	Water	NWTPH-Dx (Diesel/Oil) Low Level		07/05/19	9070619		
11	A9F0936-11	Water	NWTPH-Dx (Diesel/Oil) Low Level		07/05/19	9070619		
12	A9F0936-12	Water	NWTPH-Dx (Diesel/Oil) Low Level		07/05/19	9070619		
13	A9G0056-03	Water	NWTPH-Dx (Diesel/Oil) Low Level		07/10/19	9070619		
14	A9F0936-10	Water	NWTPH-Dx (Diesel/Oil) Low Level		07/05/19	9070619		
15	9G03030-CCV3	Water	QC	QC				A19F378
16	9G03030-CCV4	Water	QC	QC				A19F379
17	9G03030-CCB2	Water	QC	QC				
18	9070617-BLK1	Water	QC	QC		9070617		
19	9070617-BS1	Water	QC	QC		9070617		
20	9070617-BSD1	Water	QC	QC		9070617		
21	A9F0860-02	Water	NWTPH-Dx (Diesel/Oil)	Hahn and Associates	07/05/19	9070617		
22	A9G0038-16	Water	NWTPH-Dx (Diesel/Oil)		07/09/19	9070617		
23	A9G0042-09	Water	NWTPH-Dx (Diesel/Oil)		07/05/19	9070617		
24	A9G0042-10	Water	NWTPH-Dx (Diesel/Oil)		07/05/19	9070617		
25	A9G0042-11	Water	NWTPH-Dx (Diesel/Oil)		07/05/19	9070617		
26	9G03030-CCV5	Water	QC	QC				A19F378
27	9G03030-CCV6	Water	QC	QC				A19F379

Data Entered By: AR 7.5.19

Data Reviewed By: [signature] 7/5/19

Comments:

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070302.D Vial: 94
Acq On : 3 Jul 2019 17:08 Operator: BLL
Sample : 9G03030-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

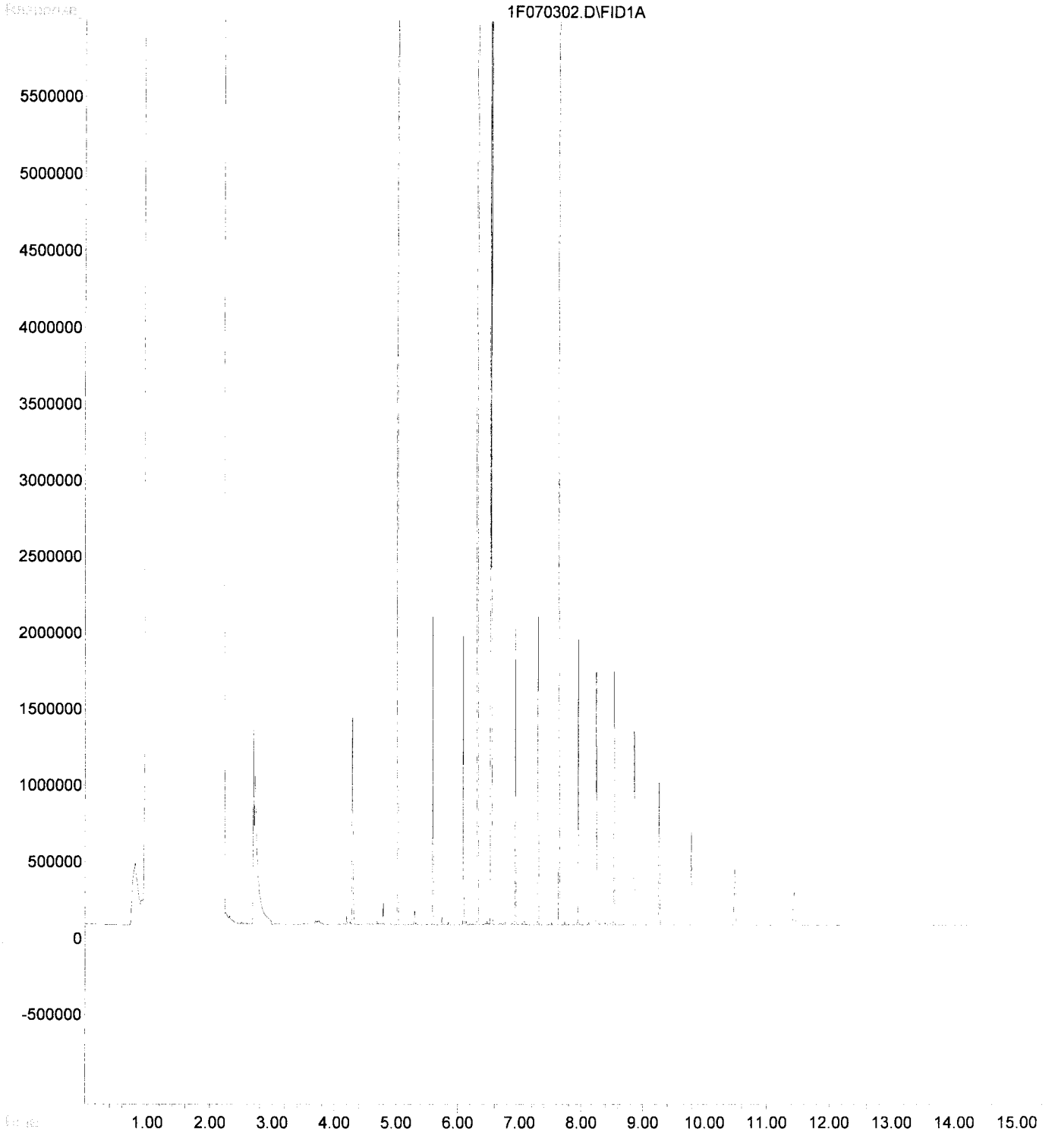
		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.78	124390	0.089	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	434360040	340.768	ug/ml
2)	H	Diesel	6.00	434360040	340.768	ug/mL
3)	H	DRO(C12-C24)	6.00	364193025	285.720	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	299138814	319.132	ug/ml
5)	H	TPHd (C10-C25)	6.00	379926156	328.073	ug/ml
7)	H	OIL	10.00	266691560	242.338	ug/mL
8)	H	RRO (C24-C40)	10.00	76708946	69.704	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	114156612	156.948	ug/mL
10)	H	TPHmo (C25-C36)	9.00	65256296	98.334	ug/mL

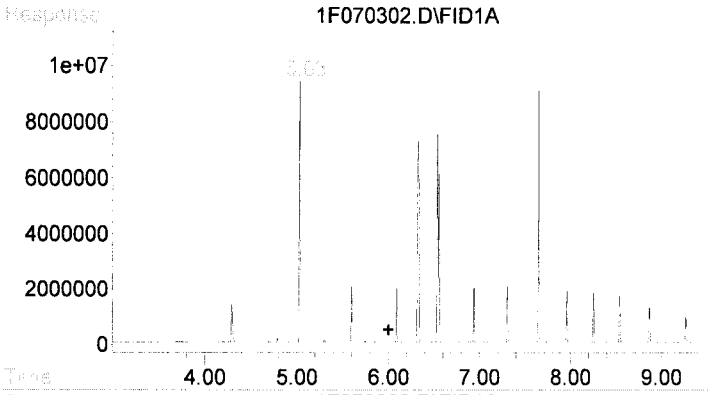
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070302.D Vial: 94
Acq On : 3 Jul 2019 17:08 Operator: BLL
Sample : 9G03030-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

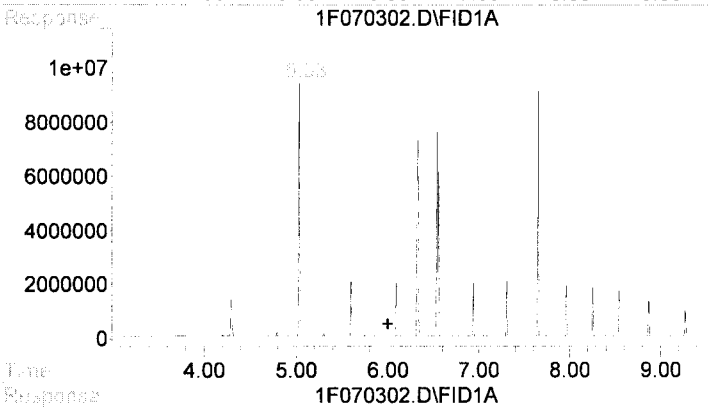
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





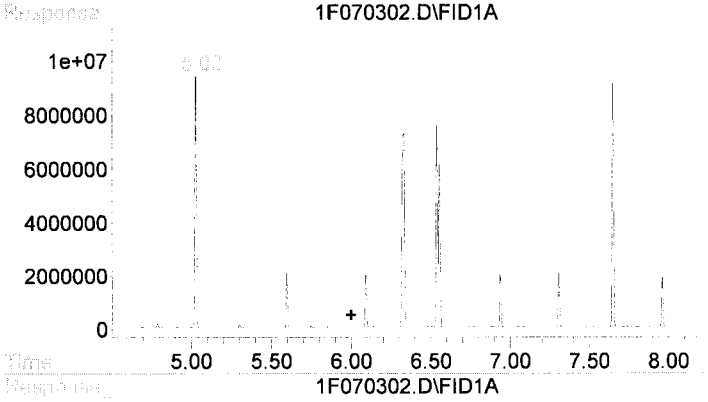
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 434360040
Conc: 340.77 ug/ml m



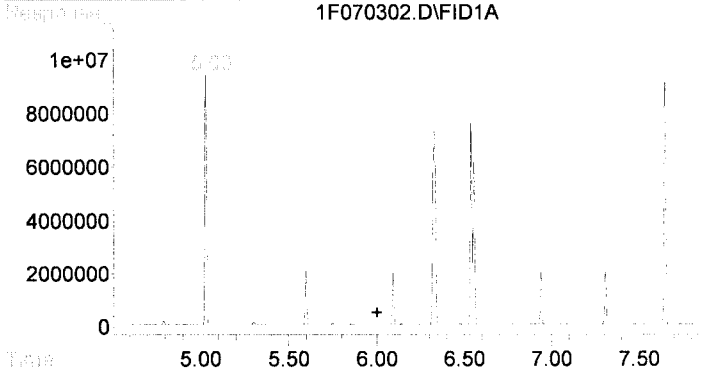
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 434360040
Conc: 340.77 ug/mL m



#3 DRO(C12-C24)

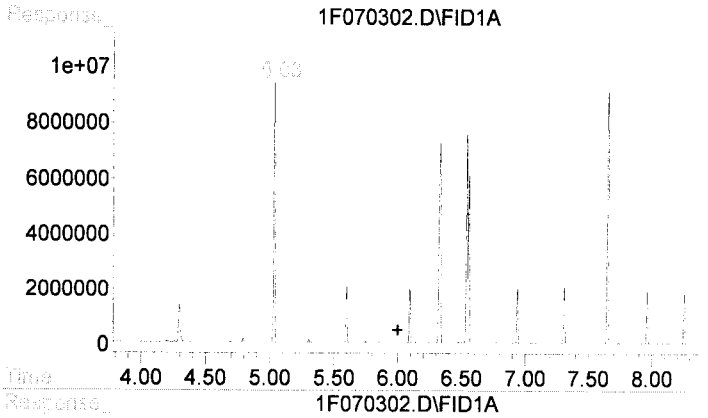
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 364193025
Conc: 285.72 ug/mL m



#4 Ca Luft DRO (C12-C22)

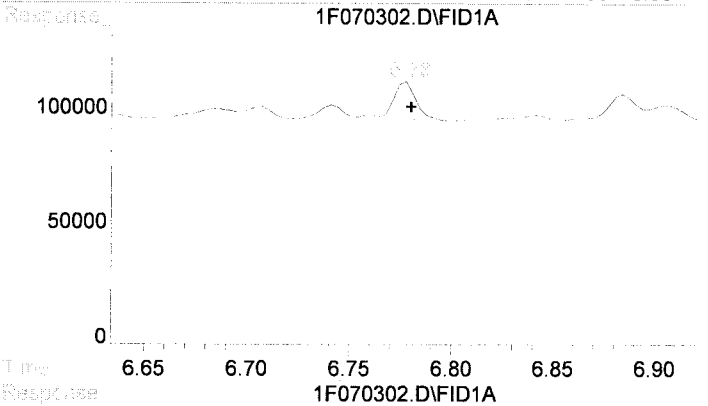
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 299138814
Conc: 319.13 ug/ml m

✓ AL 7.5.19



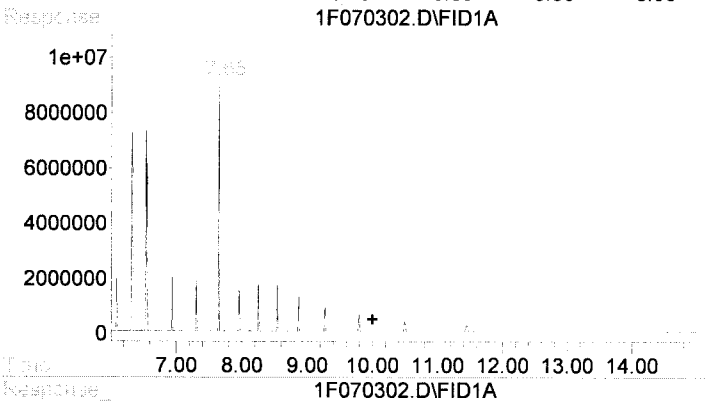
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 379926156
Conc: 328.07 ug/ml m



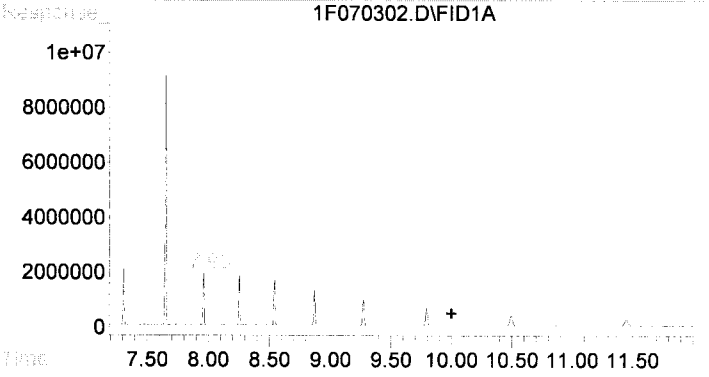
#6 o-Terphenyl

R.T.: 6.778 min
Delta R.T.: -0.002 min
Response: 124390
Conc: 0.09 ug/mL



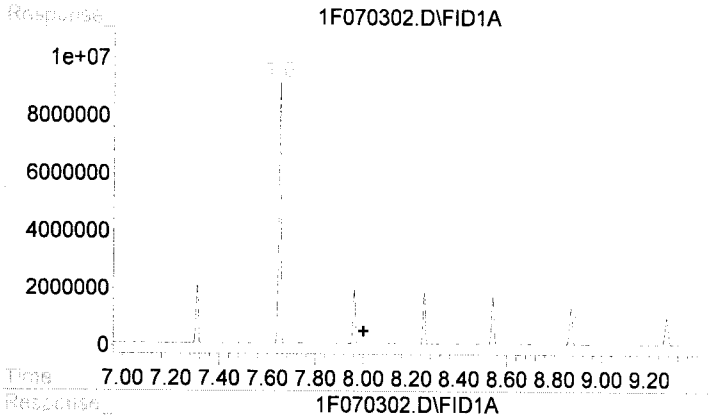
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 266691560
Conc: 242.34 ug/mL m



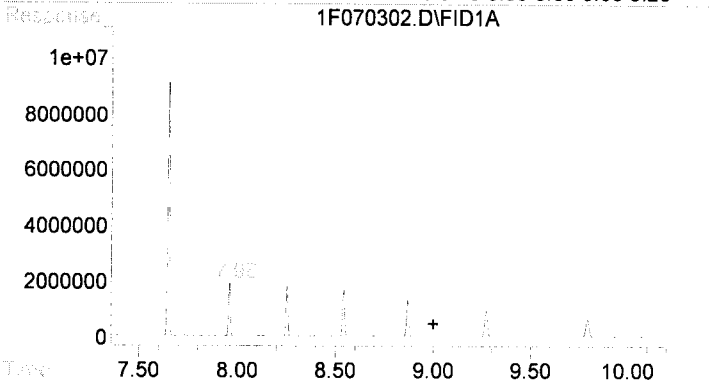
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 76708946
Conc: 69.70 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 114156612
Conc: 156.95 ug/mL m



#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 65256296
Conc: 98.33 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070302.D Vial: 94
Acq On : 3 Jul 2019 17:08 Operator: BLL
Sample : 9G03030-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:04 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	BFB (Surr)	0.00	0	N.D.	ug/mL
7)	S	o-Terphenyl	6.78	124390	0.089	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	434360040	340.768	ug/ml
2)	H	Diesel	6.00	434360040	340.768	ug/mL
3)	H	DRO(C12-C24)	6.00	364193025	285.720	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	299138814	319.132	ug/ml
5)	H	TPHd (C10-C25)	6.00	377072995	325.610	ug/ml
8)	H	OIL	10.00	266691560	242.338	ug/mL
9)	H	RRO (C24-C40)	10.00	76708946	69.704	ug/mL
10)	H	Ca Luft ORO (C23-C32)	8.00	114156612	156.948	ug/mL
11)	H	TPHmo (C25-C36)	9.00	65252808	98.329	ug/mL

(f)=RT Delta > 1/2 window (m)=manual int.

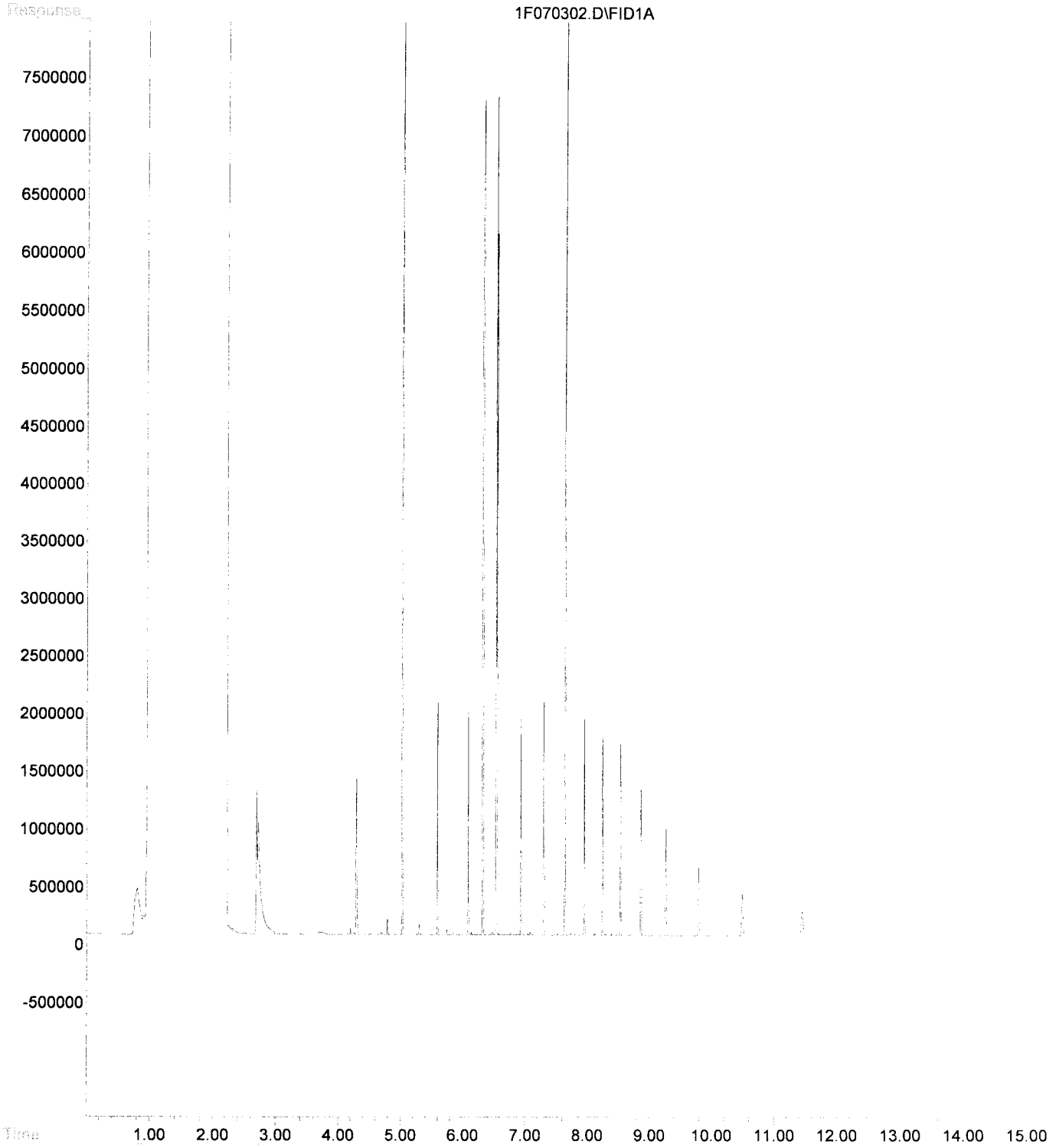
1F070302.D 1F90425W.M Fri Jul 05 08:04:56 2019 SV-GCMS3 Page 1

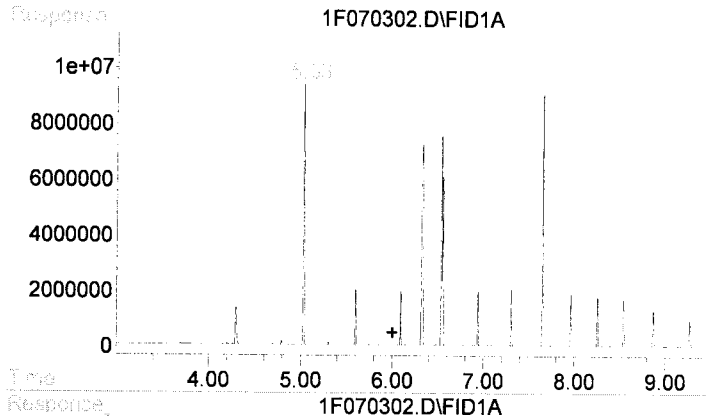
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070302.D Vial: 94
Acq On : 3 Jul 2019 17:08 Operator: BLL
Sample : 9G03030-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:04 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

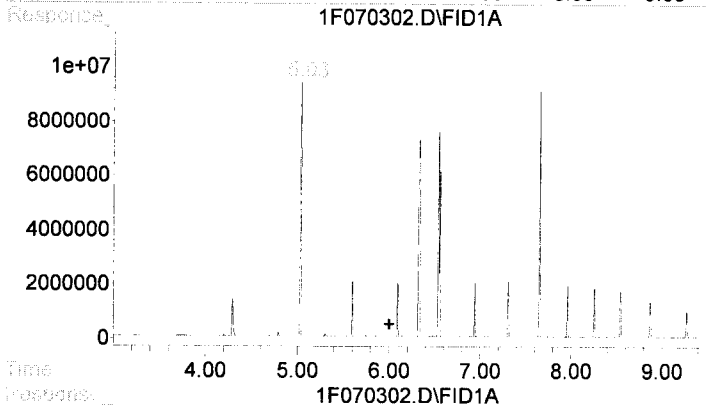
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





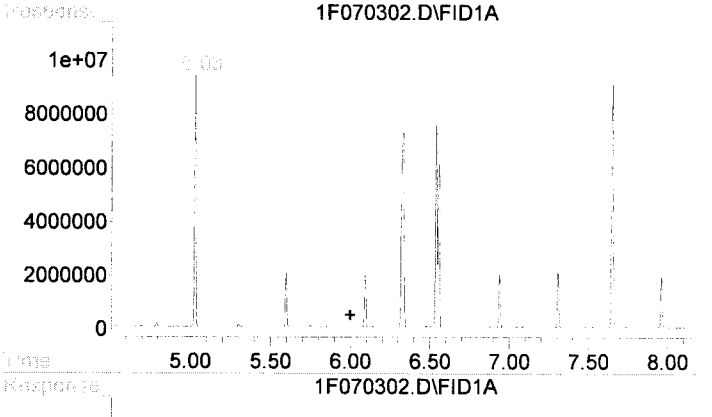
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 434360040
Conc: 340.77 ug/ml m



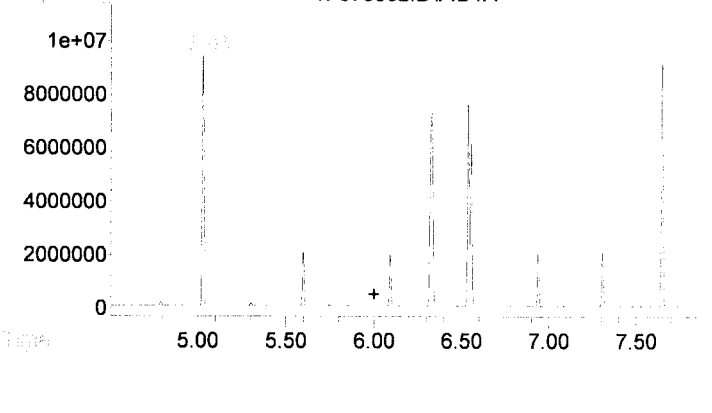
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 434360040
Conc: 340.77 ug/mL m



#3 DRO(C12-C24)

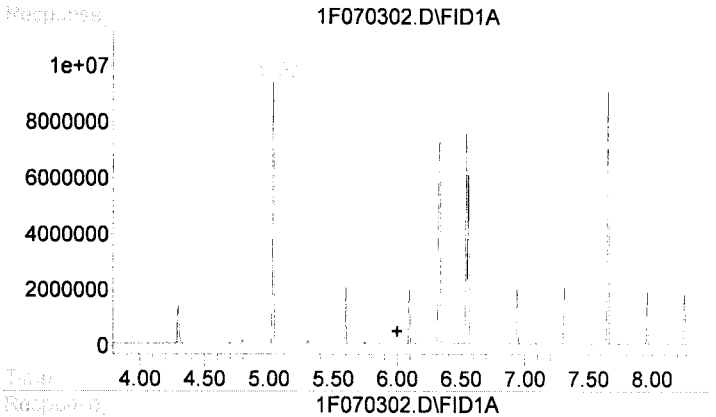
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 364193025
Conc: 285.72 ug/mL m



#4 Ca Luft DRO (C12-C22)

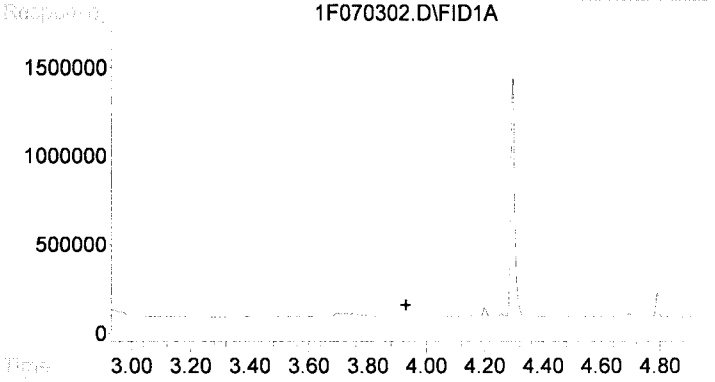
R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 299138814
Conc: 319.13 ug/ml m

✓ AR 7.5.19



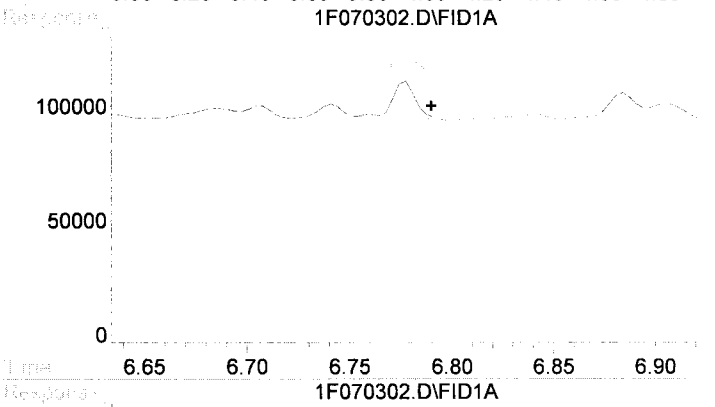
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 377072995
Conc: 325.61 ug/ml m



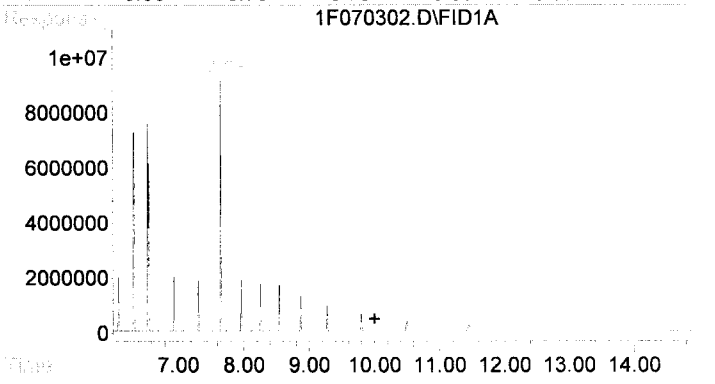
#6 BFB (Surr)

R.T.: 0.000 min
Exp R.T. : 3.930 min
Response: 0
Conc: N.D.



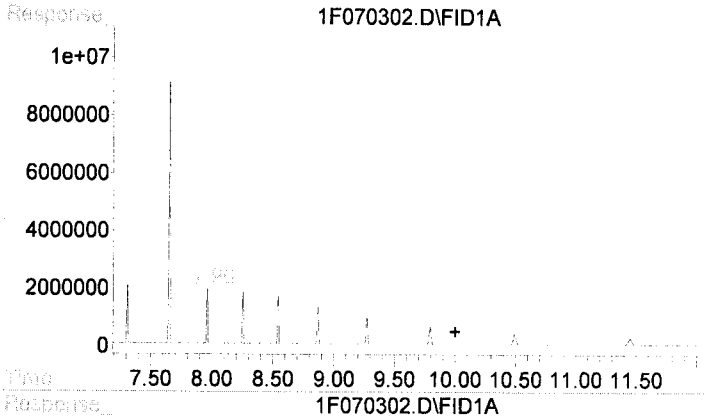
#7 o-Terphenyl

R.T.: 6.778 min
Delta R.T.: -0.012 min
Response: 124390
Conc: 0.09 ug/mL



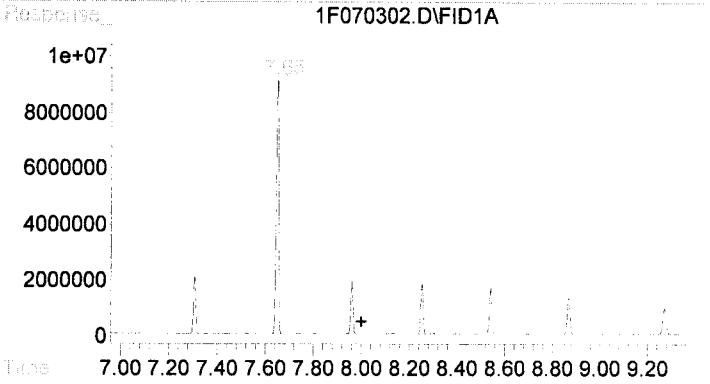
#8 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 266691560
Conc: 242.34 ug/mL m



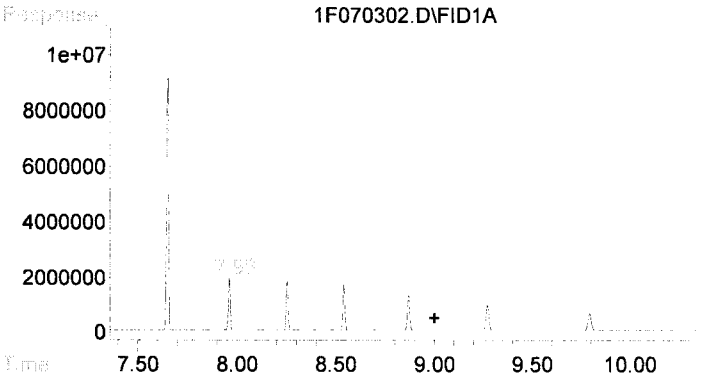
#9 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 76708946
Conc: 69.70 ug/mL m



#10 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 114156612
Conc: 156.95 ug/mL m



#11 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 65252808
Conc: 98.33 ug/mL m

Evaluate Continuing Calibration Report

Data File : F:\1\DATA\2019-07\9G03030\1F070303.D Vial: 1
Acq On : 3 Jul 2019 17:31 Operator: BLL
Sample : 9G03030-CCV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	H	Mineral Oil	1000.000	1027.851	-2.8	105	0.00
2	H	Diesel	1000.000	1027.851	-2.8	105	0.00
3	H	DRO(C12-C24)	1000.000	805.063	19.5#	82	0.00
4	H	Ca Luft DRO (C12-C22)	1000.000	1044.976	-4.5	103	0.00
5	H	TPHd (C10-C25)	1000.000	1046.906	-4.7	104	0.00
6	S	o-Terphenyl	-1.000	54.963	0.0	0	0.00
7	H	OIL	-1.000	315.798	0.0	101	0.00
8	H	RRO (C24-C40)	-1.000	20.499	0.0	7	0.00
9	H	Ca Luft ORO (C23-C32)	-1.000	57.775	0.0	107	0.00
10	H	TPHmo (C25-C36)	-1.000	20.405	0.0	114	0.00

MA

7.5.19

V

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

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070303.D Vial: 1
Acq On : 3 Jul 2019 17:31 Operator: BLL
Sample : 9G03030-CCV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.79	76482606	54.963	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	1310151827	1027.851	ug/ml
2)	H	Diesel	6.00	1310151827	1027.851	ug/mL
3)	H	DRO(C12-C24)	6.00	1026174597	805.063	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	979510218	1044.976	ug/ml
5)	H	TPHd (C10-C25)	6.00	1212371646	1046.906	ug/ml
7)	H	OIL	10.00	347532950	315.798	ug/mL
8)	H	RRO (C24-C40)	10.00	22558889	20.499	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	42022891	57.775	ug/mL
10)	H	TPHmo (C25-C36)	9.00	13541192	20.405	ug/mL

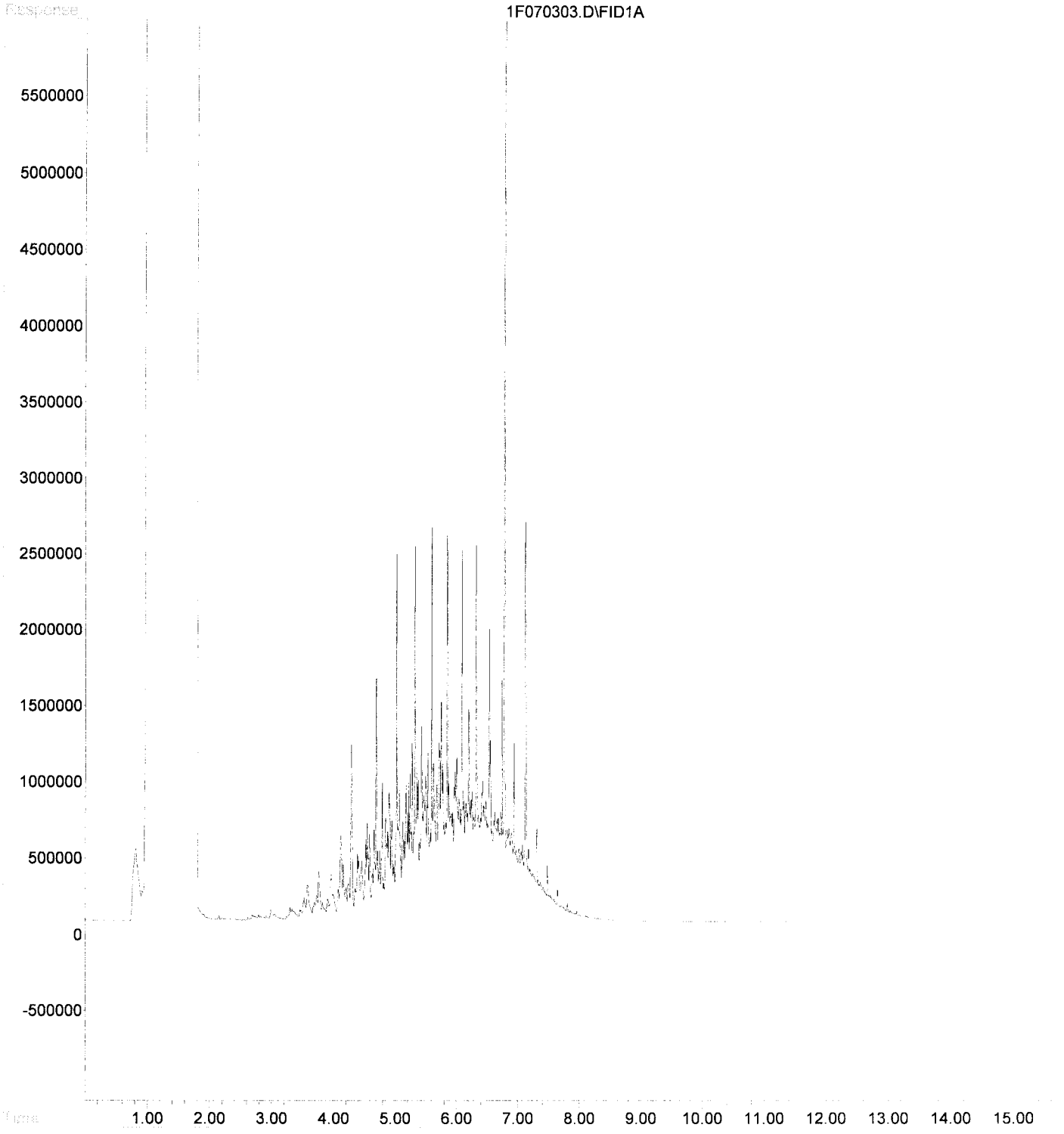
M
7.5.19

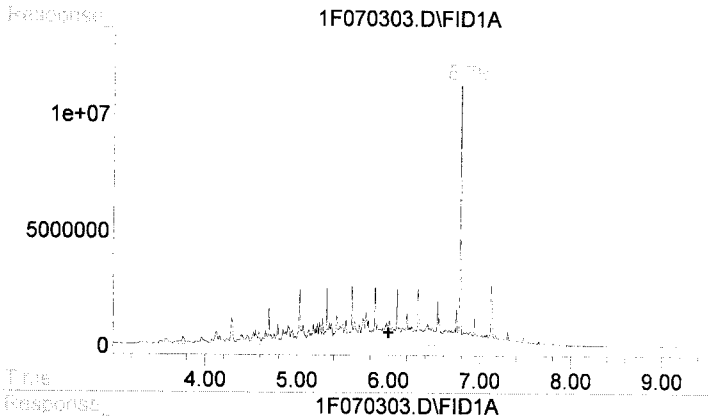
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070303.D Vial: 1
Acq On : 3 Jul 2019 17:31 Operator: BLL
Sample : 9G03030-CCV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

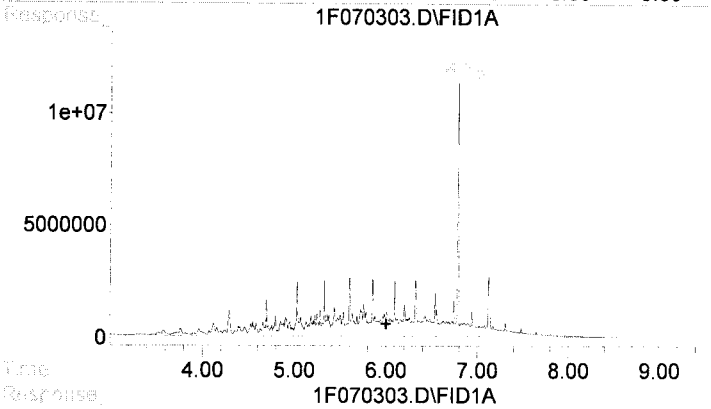
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





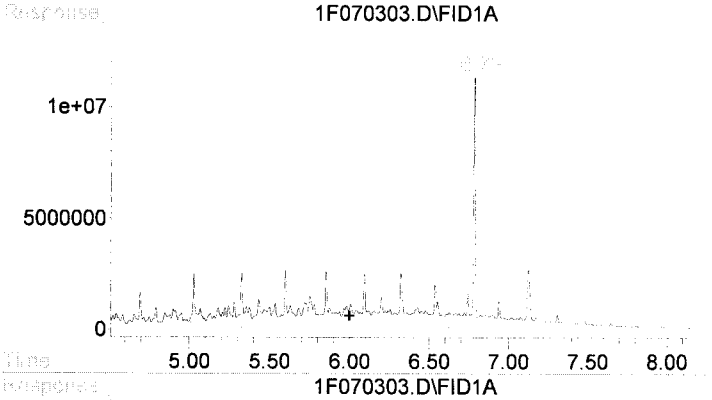
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1310151827
Conc: 1027.85 ug/ml m



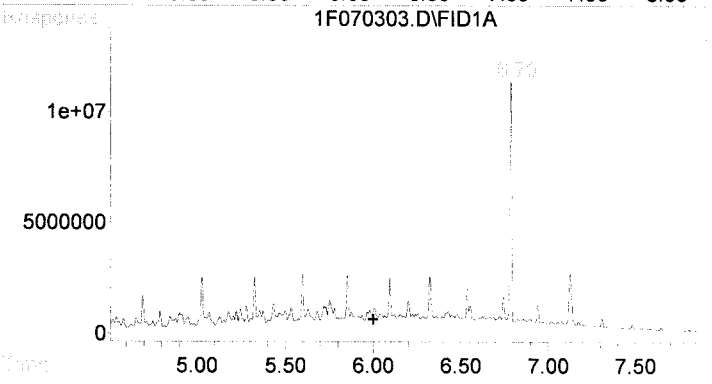
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1310151827
Conc: 1027.85 ug/mL m



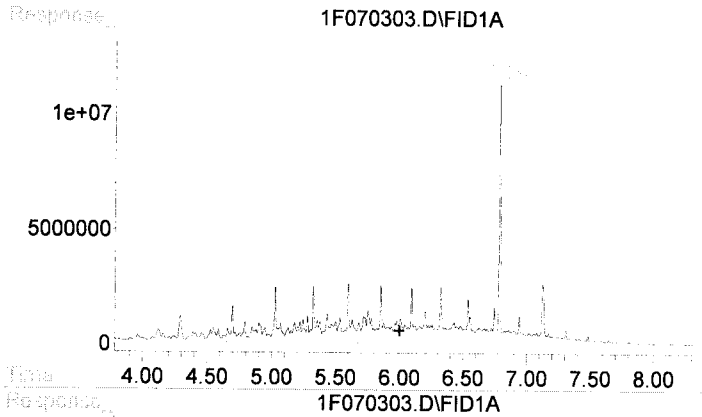
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1026174597
Conc: 805.06 ug/mL m



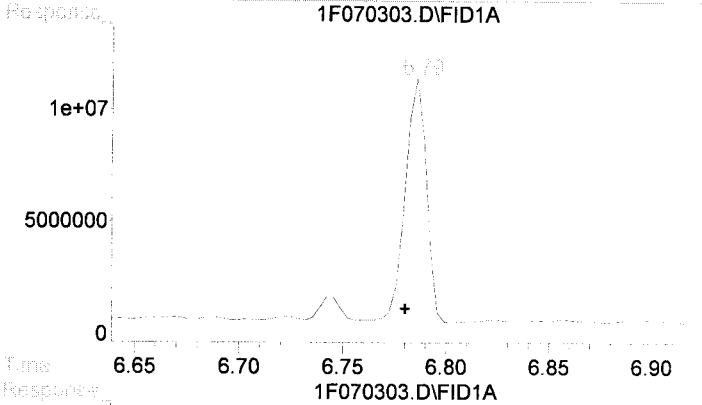
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 979510218
Conc: 1044.98 ug/ml m



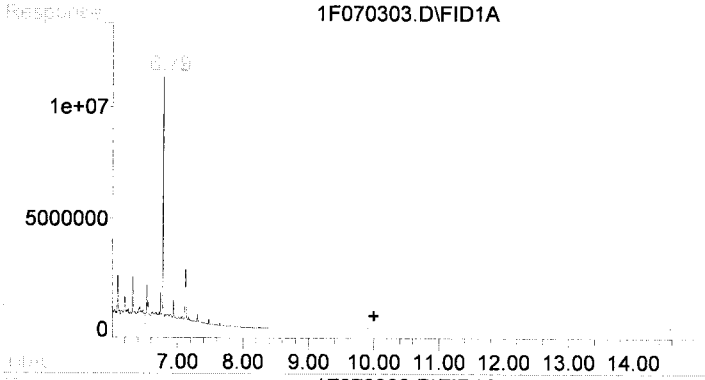
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1212371646
Conc: 1046.91 ug/ml m



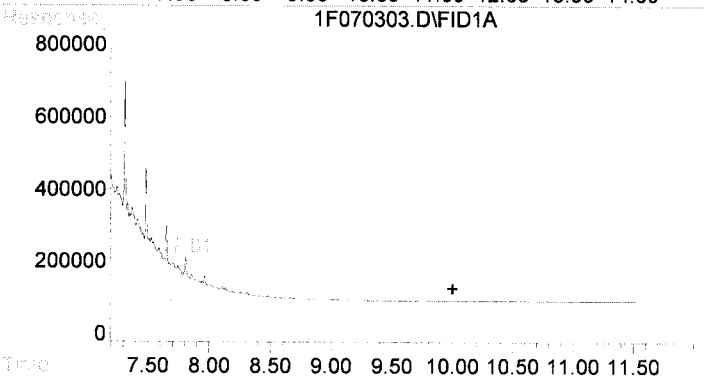
#6 o-Terphenyl

R.T.: 6.787 min
Delta R.T.: 0.007 min
Response: 76482606
Conc: 54.96 ug/mL



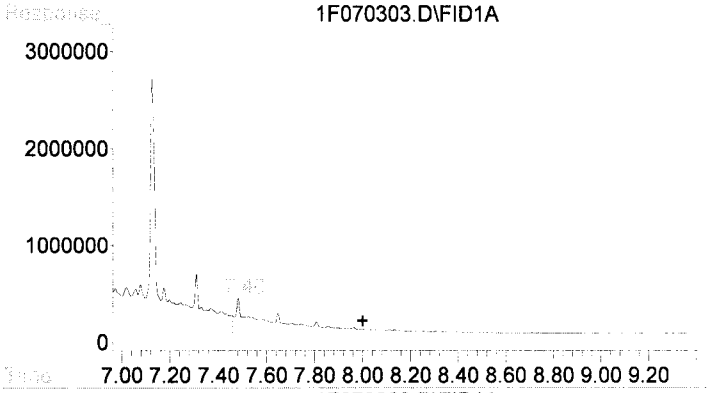
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 347532950
Conc: 315.80 ug/mL m



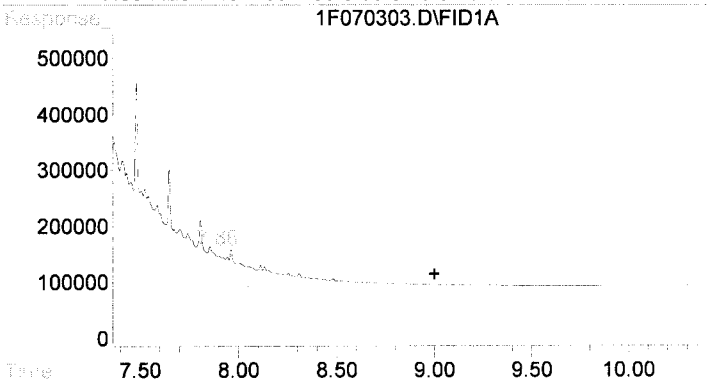
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 22558889
Conc: 20.50 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 42022891
Conc: 57.78 ug/mL m



#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 13541192
Conc: 20.41 ug/mL m

Evaluate Continuing Calibration Report

Data File : F:\1\DATA\2019-07\9G03030\1F070304.D
Acq On : 3 Jul 2019 17:54
Sample : 9G03030-CCV2
Misc :
IntFile : SUR.E

Vial: 2
Operator: BLL
Inst : HP G1530A
Multiplr: 1.00

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	H	Mineral Oil	-1.000	347.180	0.0	103	0.00
2	H	Diesel	-1.000	347.180	0.0	103	0.00
3	H	DRO(C12-C24)	-1.000	82.476	0.0	24	0.00
4	H	Ca Luft DRO (C12-C22)	-1.000	38.355	0.0	103	0.00
5	H	TPHd (C10-C25)	-1.000	139.072	0.0	107	0.00
6	S	o-Terphenyl	-1.000	54.392	0.0	0	0.00
7	H	OIL	500.000	519.599	-3.9	104	0.00
8	H	RRO (C24-C40)	500.000	405.255	18.9#	81	0.00
9	H	Ca Luft ORO (C23-C32)	500.000	524.282	-4.9	103	0.00
10	H	TPHmo (C25-C36)	500.000	515.081	-3.0	102	0.00

MR
7.5.19

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

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070304.D Vial: 2
Acq On : 3 Jul 2019 17:54 Operator: BLL
Sample : 9G03030-CCV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.79	75688037	54.392	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	442533918	347.180	ug/ml
2)	H	Diesel	6.00	442533918	347.180	ug/mL
3)	H	DRO(C12-C24)	6.00	105128435	82.476	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	35952263	38.355	ug/ml
5)	H	TPHd (C10-C25)	6.00	161052147	139.072	ug/ml
7)	H	OIL	10.00	571815510	519.599	ug/mL
8)	H	RRO (C24-C40)	10.00	445980260	405.255	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	381336799	524.282	ug/mL
10)	H	TPHmo (C25-C36)	9.00	341817354	515.081	ug/mL

AM
7.5.19

(f)=RT Delta > 1/2 Window (m)=manual int.:

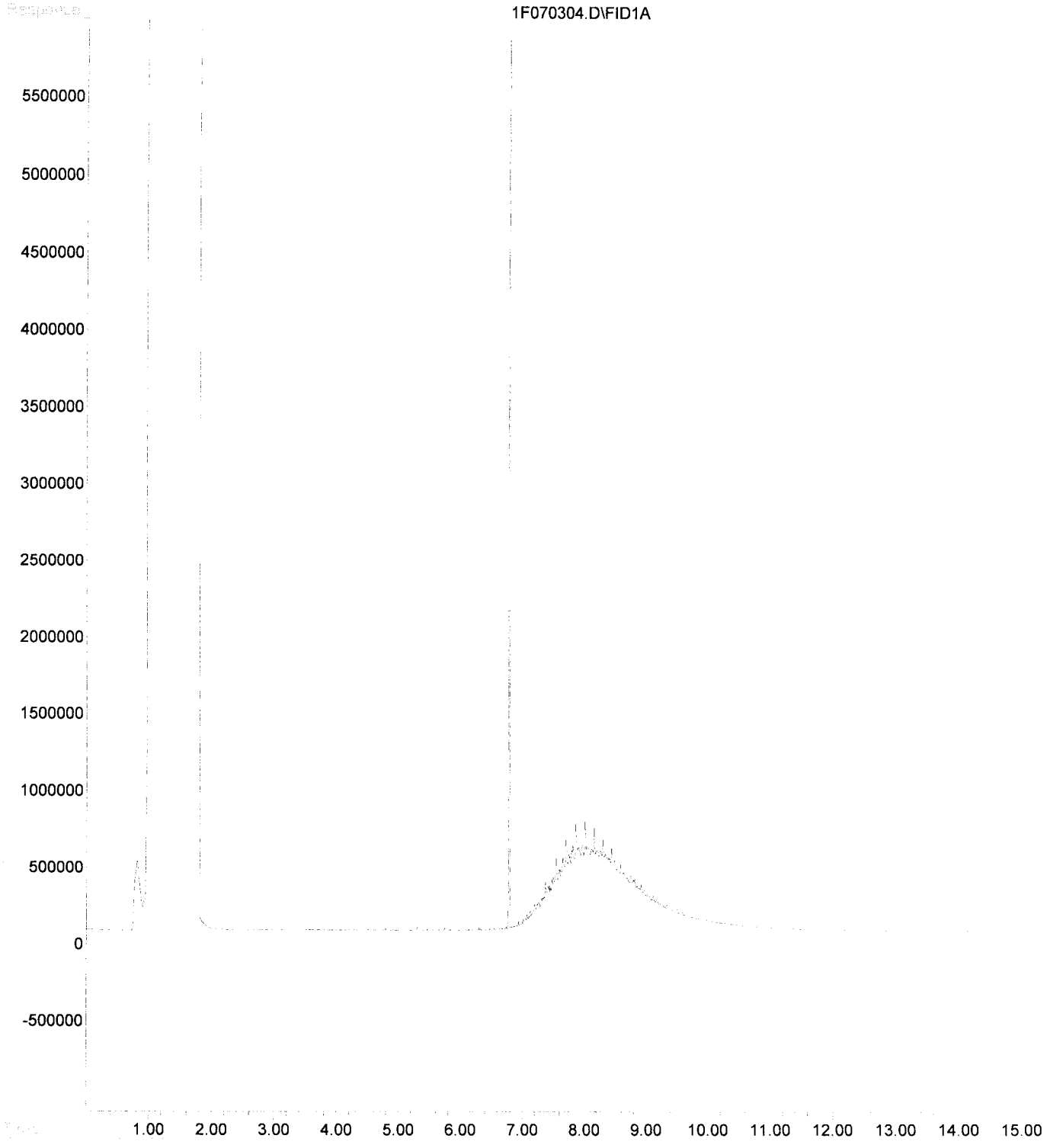
1F070304.D 1F90425D.M Fri Jul 05 08:03:13 2019 SV-GCMS3

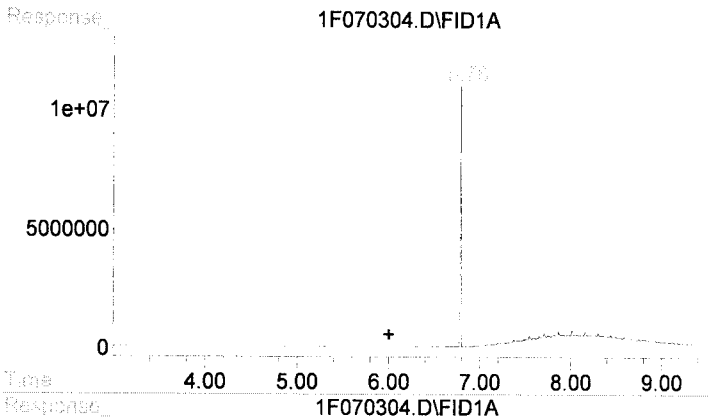
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070304.D Vial: 2
Acq On : 3 Jul 2019 17:54 Operator: BLL
Sample : 9G03030-CCV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

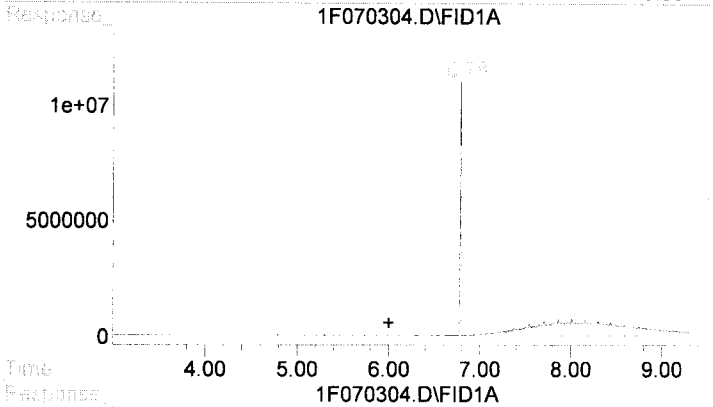
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





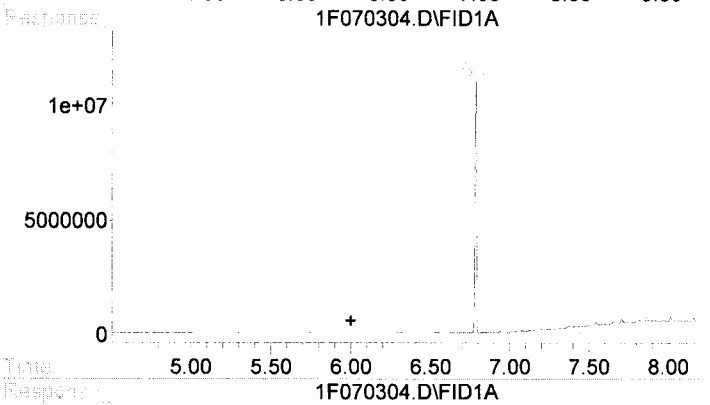
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 442533918
Conc: 347.18 ug/ml m



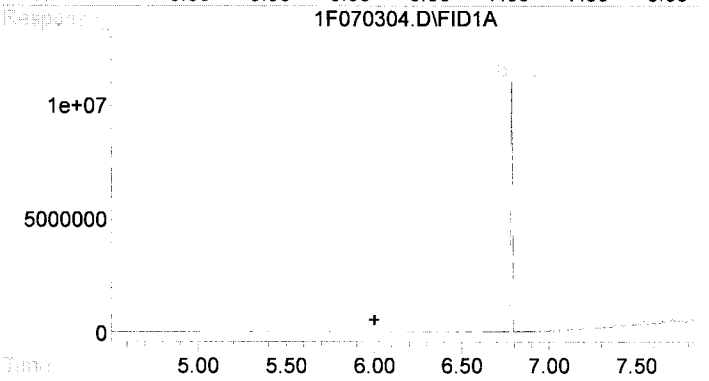
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 442533918
Conc: 347.18 ug/mL m



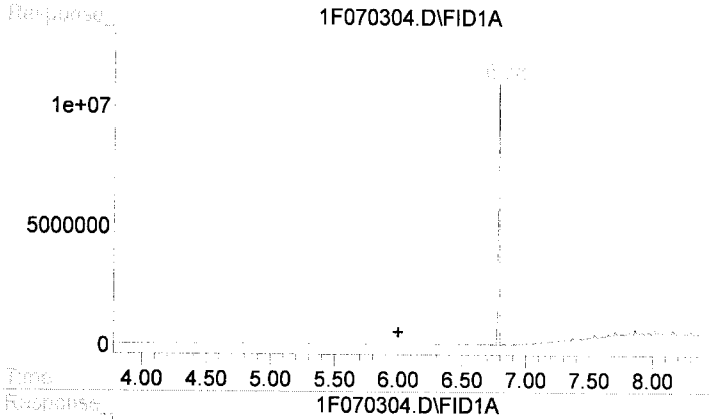
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 105128435
Conc: 82.48 ug/mL m



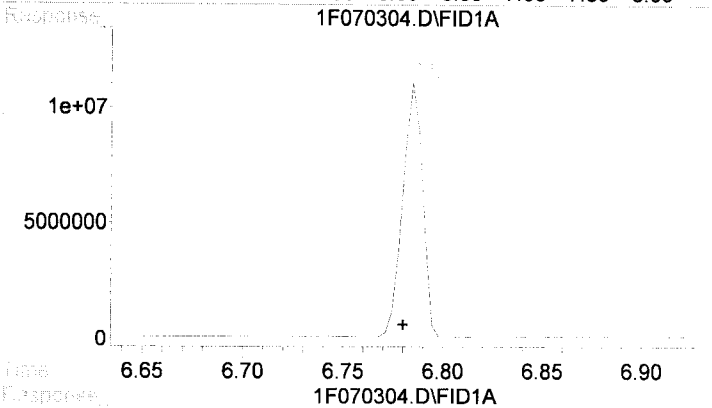
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 35952263
Conc: 38.36 ug/ml m



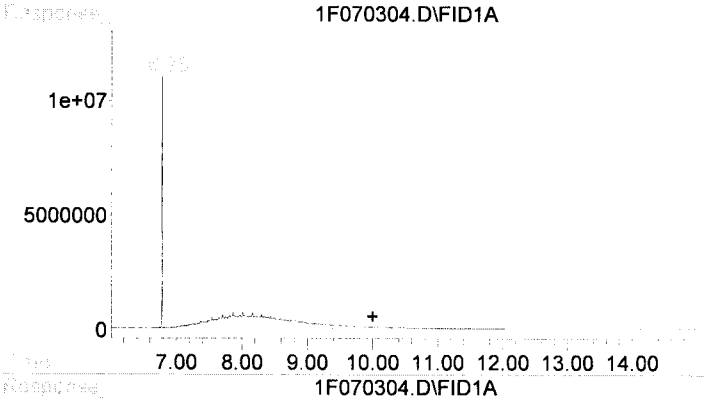
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 161052147
Conc: 139.07 ug/ml m



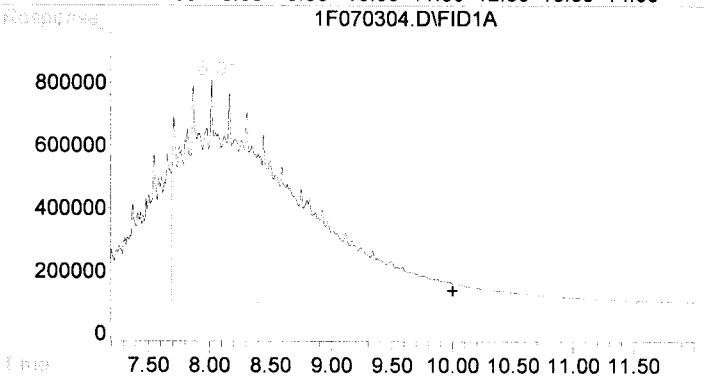
#6 o-Terphenyl

R.T.: 6.786 min
Delta R.T.: 0.006 min
Response: 75688037
Conc: 54.39 ug/mL



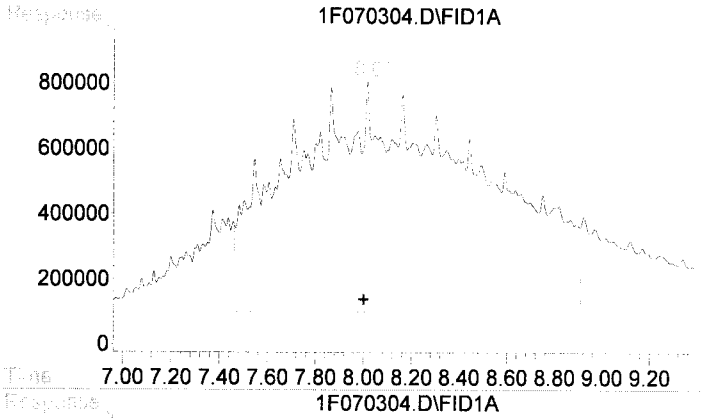
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 571815510
Conc: 519.60 ug/mL m



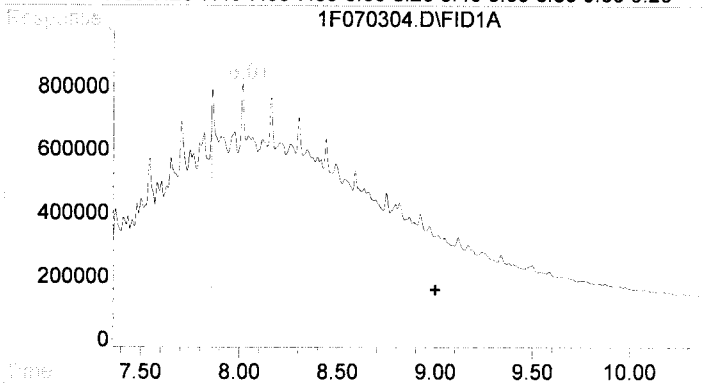
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 445980260
Conc: 405.26 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 381336799
Conc: 524.28 ug/mL m



#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 341817354
Conc: 515.08 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070305.D Vial: 99
Acq On : 3 Jul 2019 23:03 Operator: BLL
Sample : 9G03030-CCB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	5696410	4.469	ug/ml
2)	H	Diesel	6.00	5696410	4.469	ug/mL
3)	H	DRO(C12-C24)	6.00	1527300	1.198	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	1355512	1.446	ug/ml
5)	H	TPHd (C10-C25)	6.00	2941242	2.540	ug/ml
7)	H	OIL	10.00	2851618	2.591	ug/mL
8)	H	RRO (C24-C40)	10.00	1708917	1.553	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	1261563	1.734	ug/mL
10)	H	TPHmo (C25-C36)	9.00	1261011	1.900	ug/mL

< 1/2 RL

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(f)=RT Delta > 1/2 Window (m)=manual int.

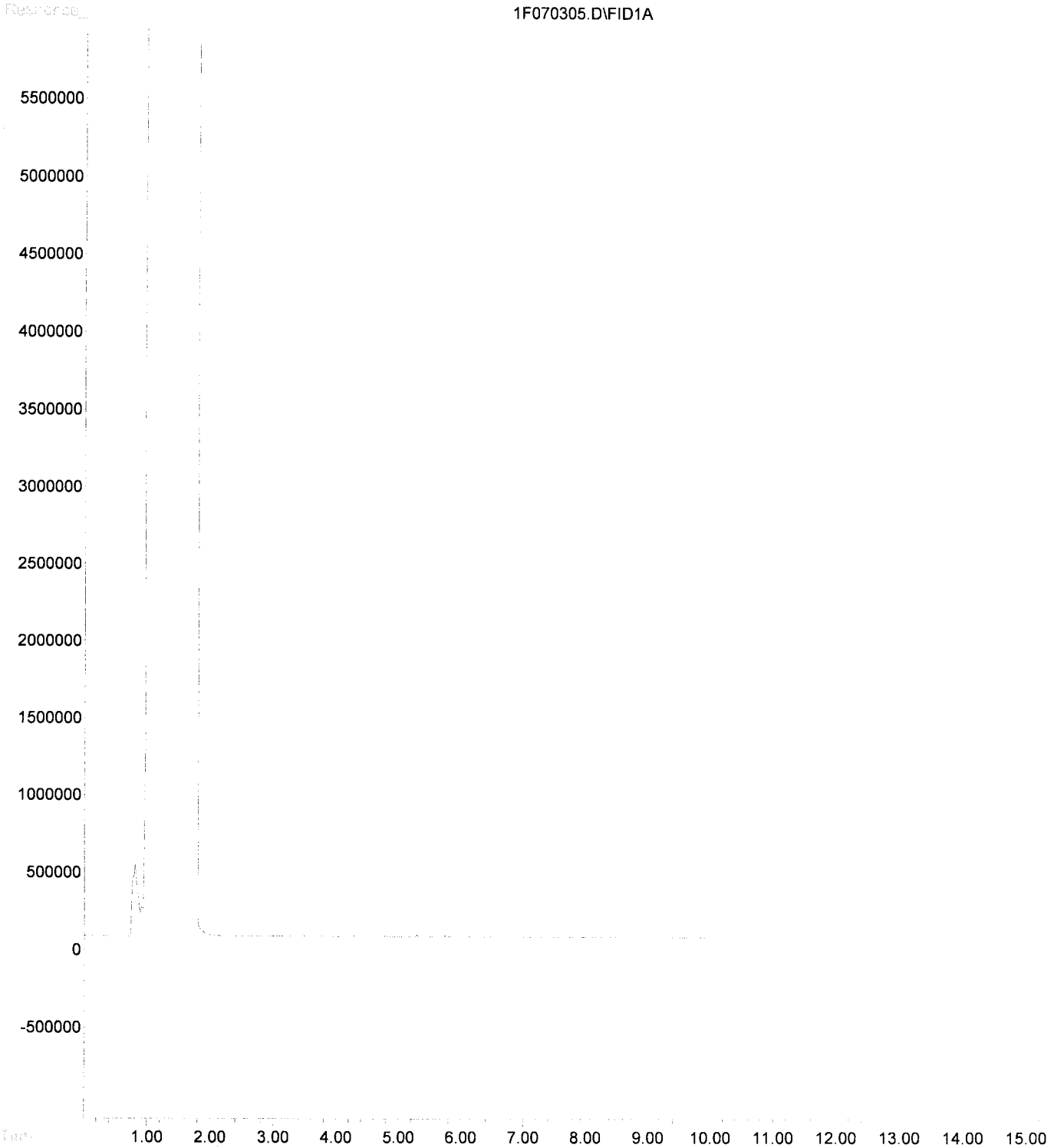
1F070305.D 1F90425D.M Fri Jul 05 08:03:16 2019 SV-GCMS3 Page 1

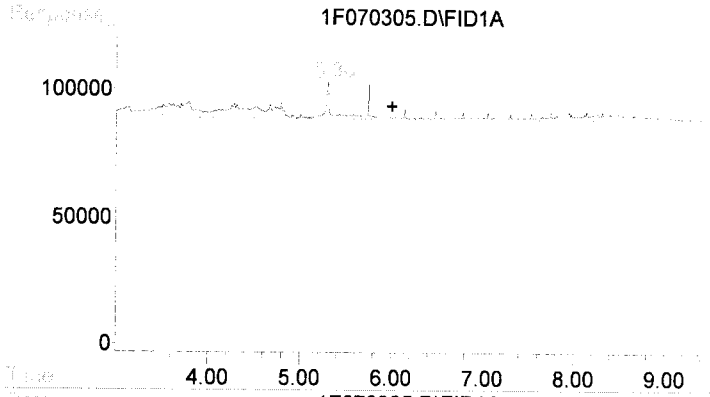
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070305.D Vial: 99
Acq On : 3 Jul 2019 23:03 Operator: BLL
Sample : 9G03030-CCB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

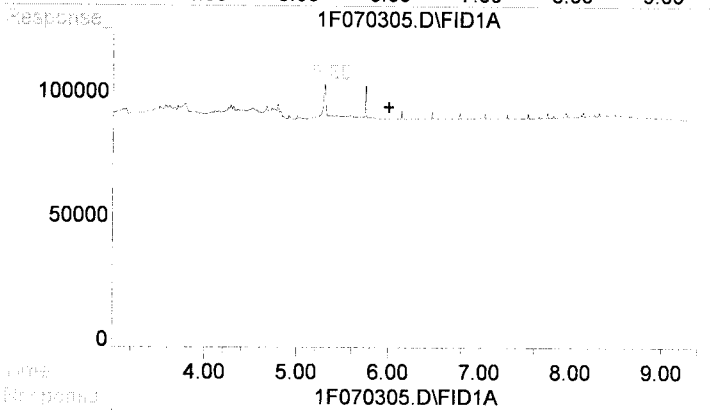
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





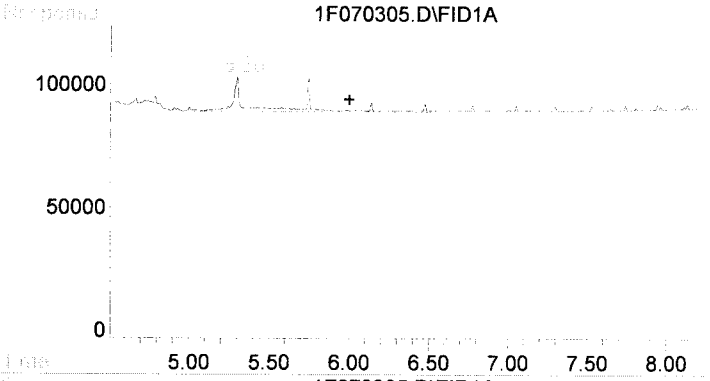
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 5696410
Conc: 4.47 ug/ml m



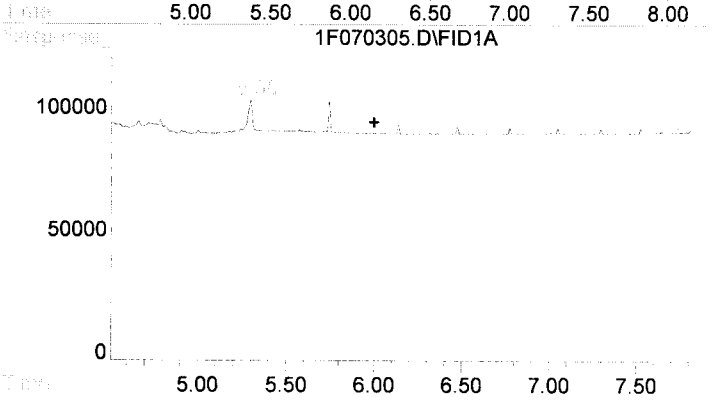
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 5696410
Conc: 4.47 ug/mL m



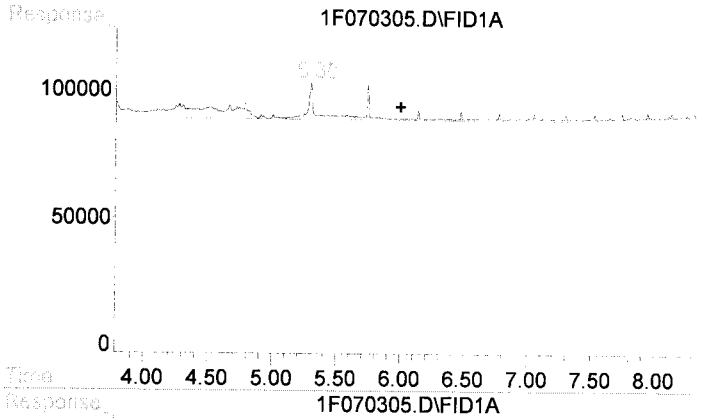
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1527300
Conc: 1.20 ug/mL m



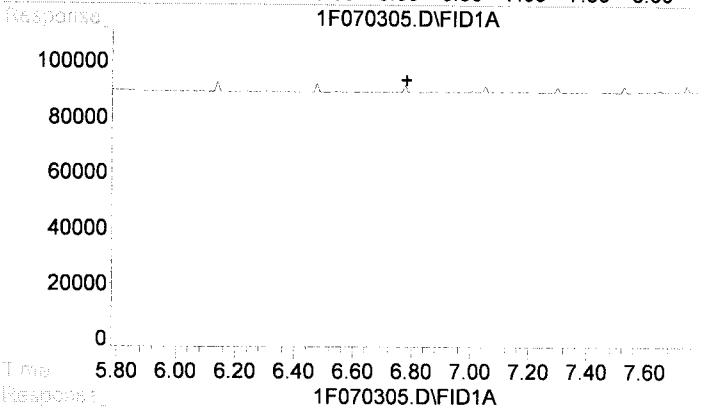
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1355512
Conc: 1.45 ug/ml m



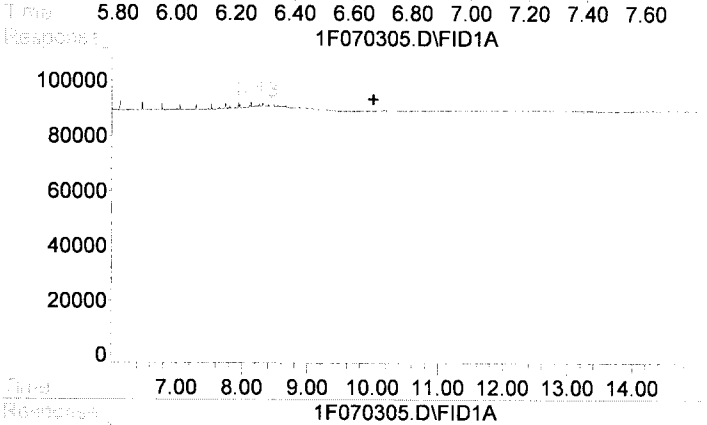
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2941242
Conc: 2.54 ug/ml m



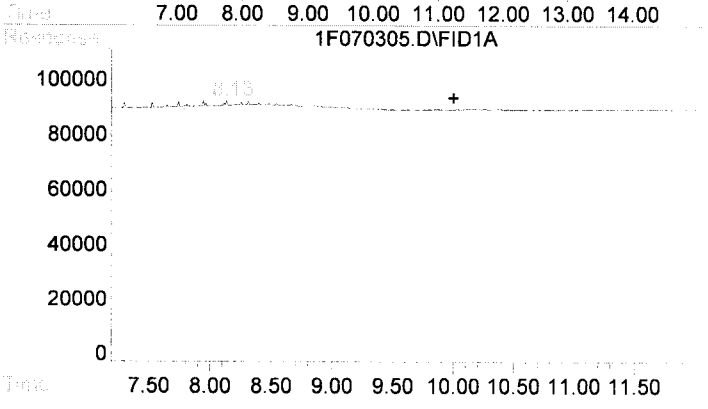
#6 o-Terphenyl

R.T.: 0.000 min
Exp R.T. : 6.780 min
Response: 0
Conc: N.D.



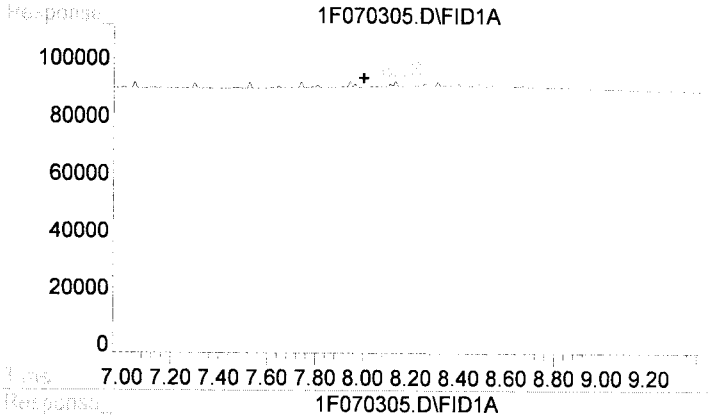
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 2851618
Conc: 2.59 ug/mL m



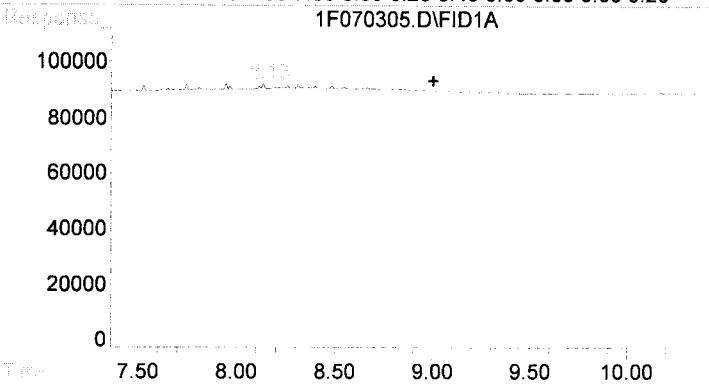
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 1708917
Conc: 1.55 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.:	8.000 min
Delta R.T.:	0.000 min
Response:	1261563
Conc:	1.73 ug/mL m



#10 TPHmo (C25-C36)

R.T.:	9.000 min
Delta R.T.:	0.000 min
Response:	1261011
Conc:	1.90 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070306.D Vial: 3
Acq On : 3 Jul 2019 23:26 Operator: BLL
Sample : 9070619-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
6)	S	o-Terphenyl	6.78	66227056	47.593 ug/mL
		Target Compounds			
1)	H	Mineral Oil	6.00	28227803	22.146 ug/ml
2)	H	Diesel	6.00	28227803	22.146 ug/mL
3)	H	DRO(C12-C24)	6.00	4966060	3.896 ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	4618543	4.927 ug/ml
5)	H	TPHd (C10-C25)	6.00	7591179	6.555 ug/ml
7)	H	OIL	10.00	8225975	7.475 ug/mL
8)	H	RRO (C24-C40)	10.00	5090384	4.626 ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	4786805	6.581 ug/mL
10)	H	TPHmo (C25-C36)	9.00	4122313	6.212 ug/mL

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(f)=RT Delta > 1/2 Window (m)=manual int.

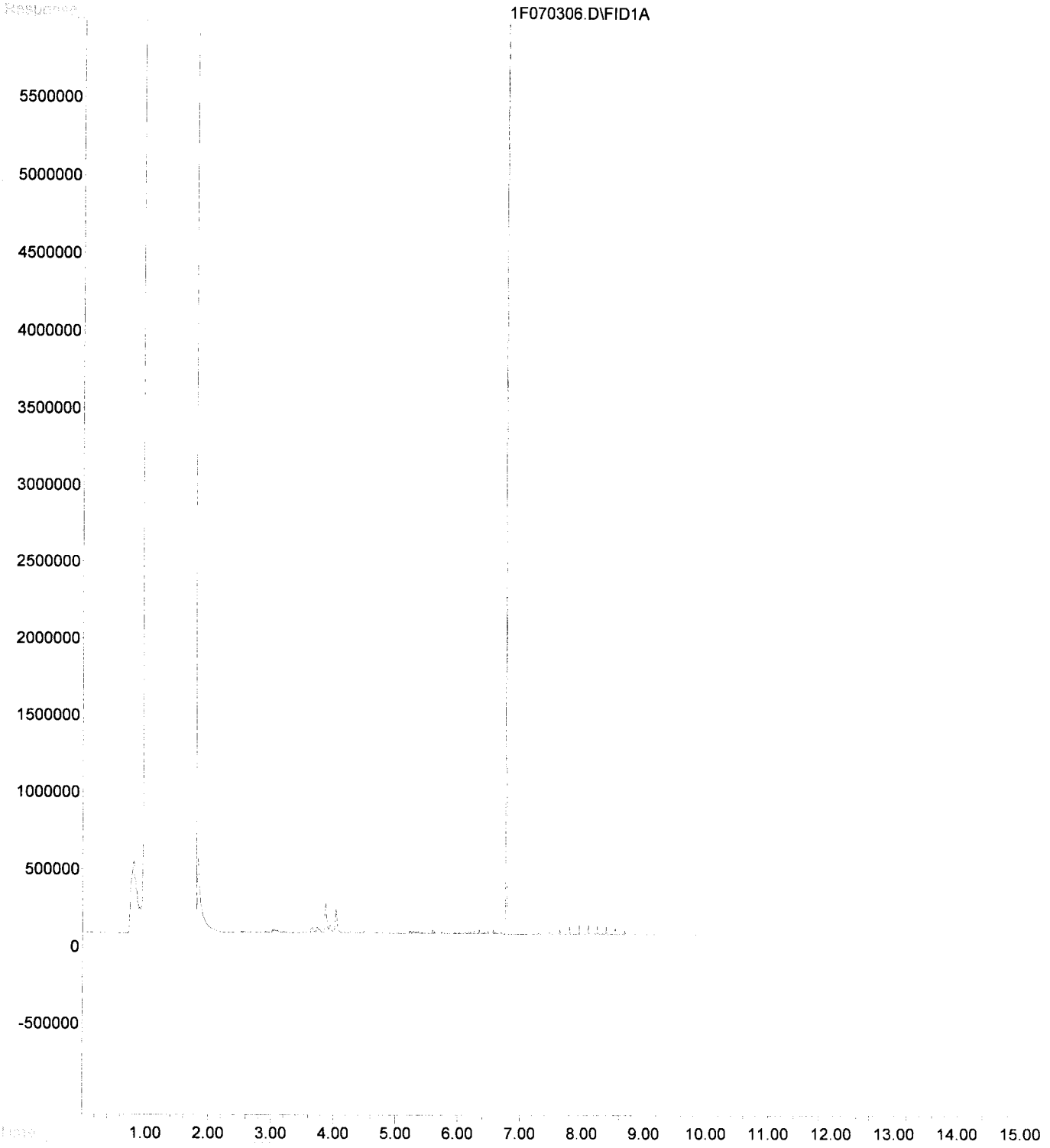
1F070306.D 1F90425D.M Fri Jul 05 08:03:19 2019 SV-GCMS3

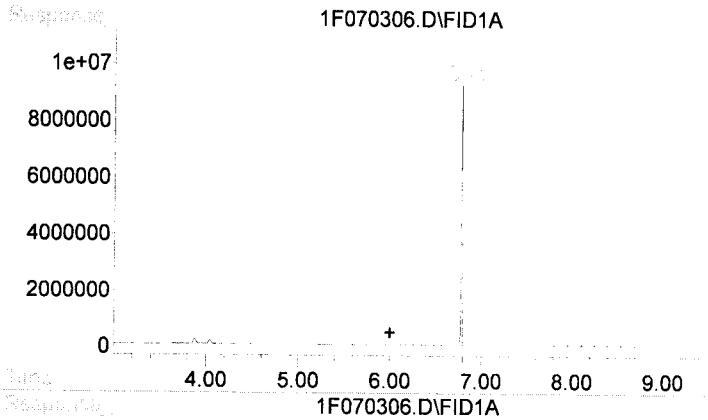
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070306.D Vial: 3
Acq On : 3 Jul 2019 23:26 Operator: BLL
Sample : 9070619-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

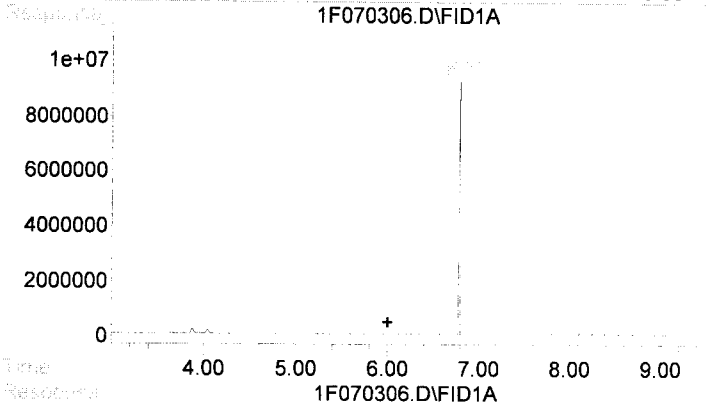
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





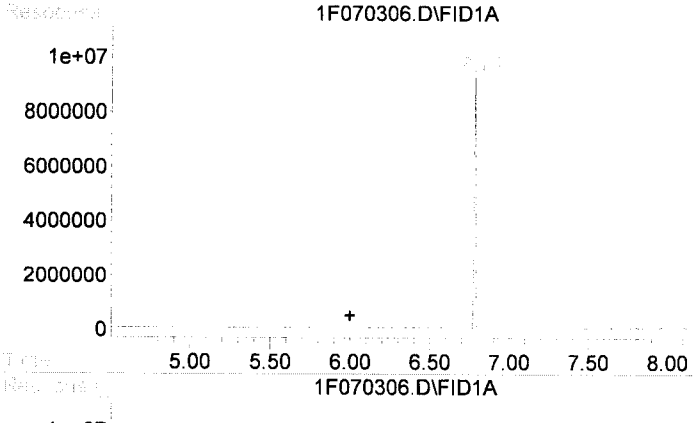
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 28227803
Conc: 22.15 ug/ml m



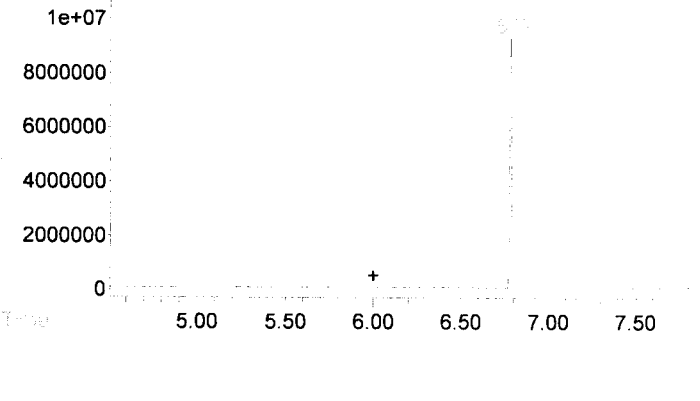
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 28227803
Conc: 22.15 ug/mL m



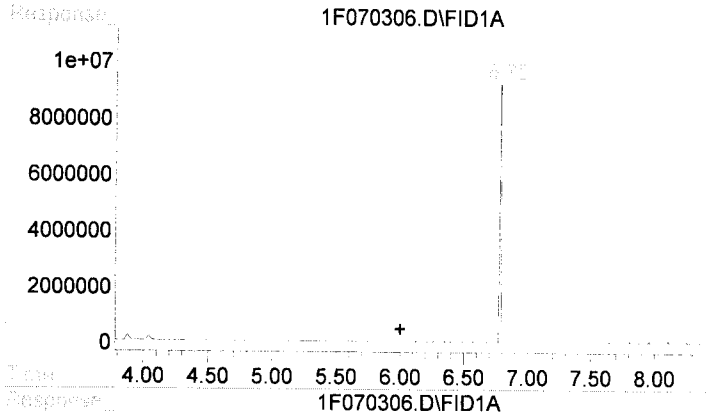
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 4966060
Conc: 3.90 ug/mL m



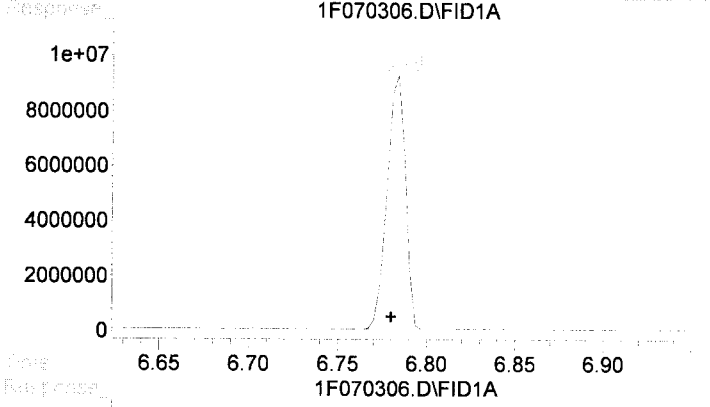
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 4618543
Conc: 4.93 ug/ml m



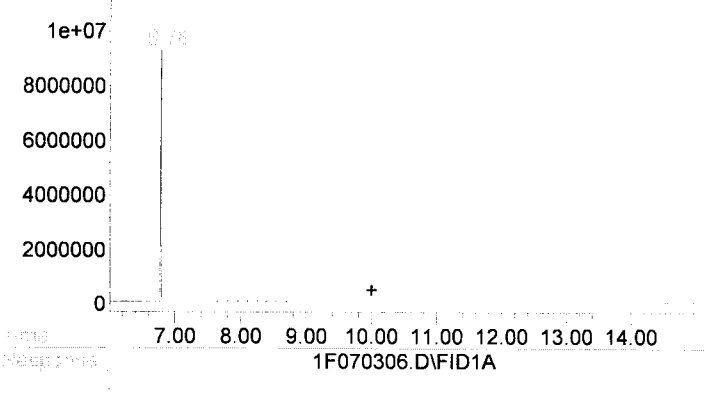
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 7591179
Conc: 6.56 ug/ml m



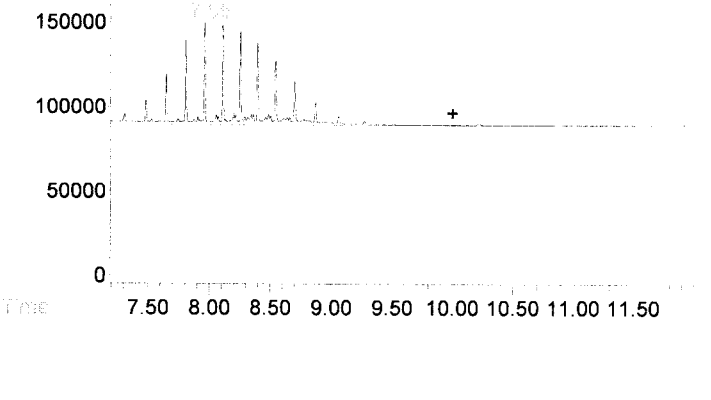
#6 o-Terphenyl

R.T.: 6.784 min
Delta R.T.: 0.004 min
Response: 66227056
Conc: 47.59 ug/mL



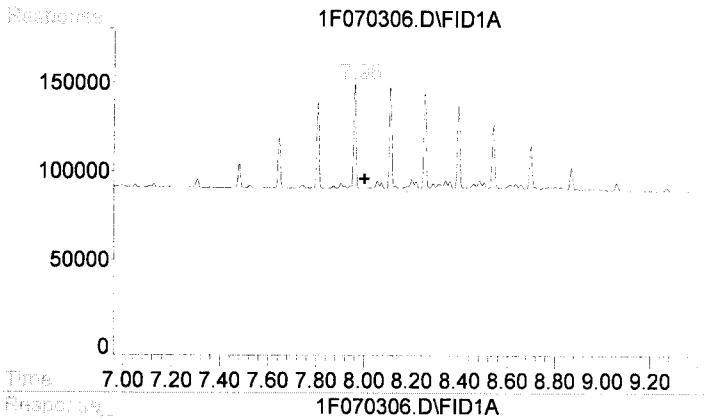
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 8225975
Conc: 7.47 ug/mL m



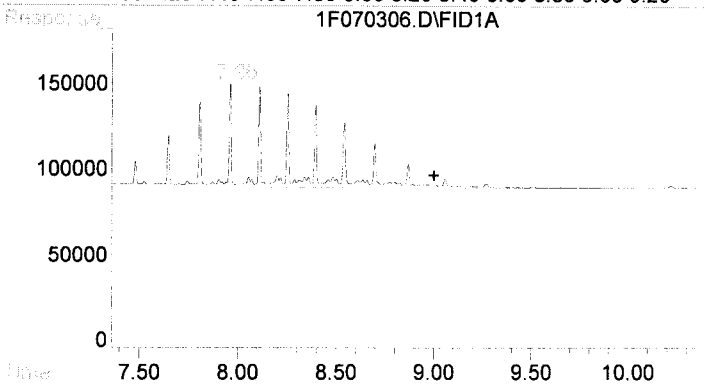
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 5090384
Conc: 4.63 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.:	8.000 min
Delta R.T.:	0.000 min
Response:	4786805
Conc:	6.58 ug/mL m



#10 TPHmo (C25-C36)

R.T.:	9.000 min
Delta R.T.:	0.000 min
Response:	4122313
Conc:	6.21 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070307.D Vial: 4
Acq On : 3 Jul 2019 23:48 Operator: BLL
Sample : 9070619-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.79	69701040	50.090	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	324700863	254.737	ug/ml
2)	H	Diesel	6.00	324700863	254.737	ug/mL
3)	H	DRO(C12-C24)	6.00	249863561	196.025	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	235231414	250.953	ug/ml
5)	H	TPHd (C10-C25)	6.00	286701816	247.572	ug/ml
7)	H	OIL	10.00	99127714	90.076	ug/mL
8)	H	RRO (C24-C40)	10.00	11440500	10.396	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	15864789	21.812	ug/mL
10)	H	TPHmo (C25-C36)	9.00	7777657	11.720	ug/mL

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(f)=RT Delta > 1/2 Window (m)=manual int.

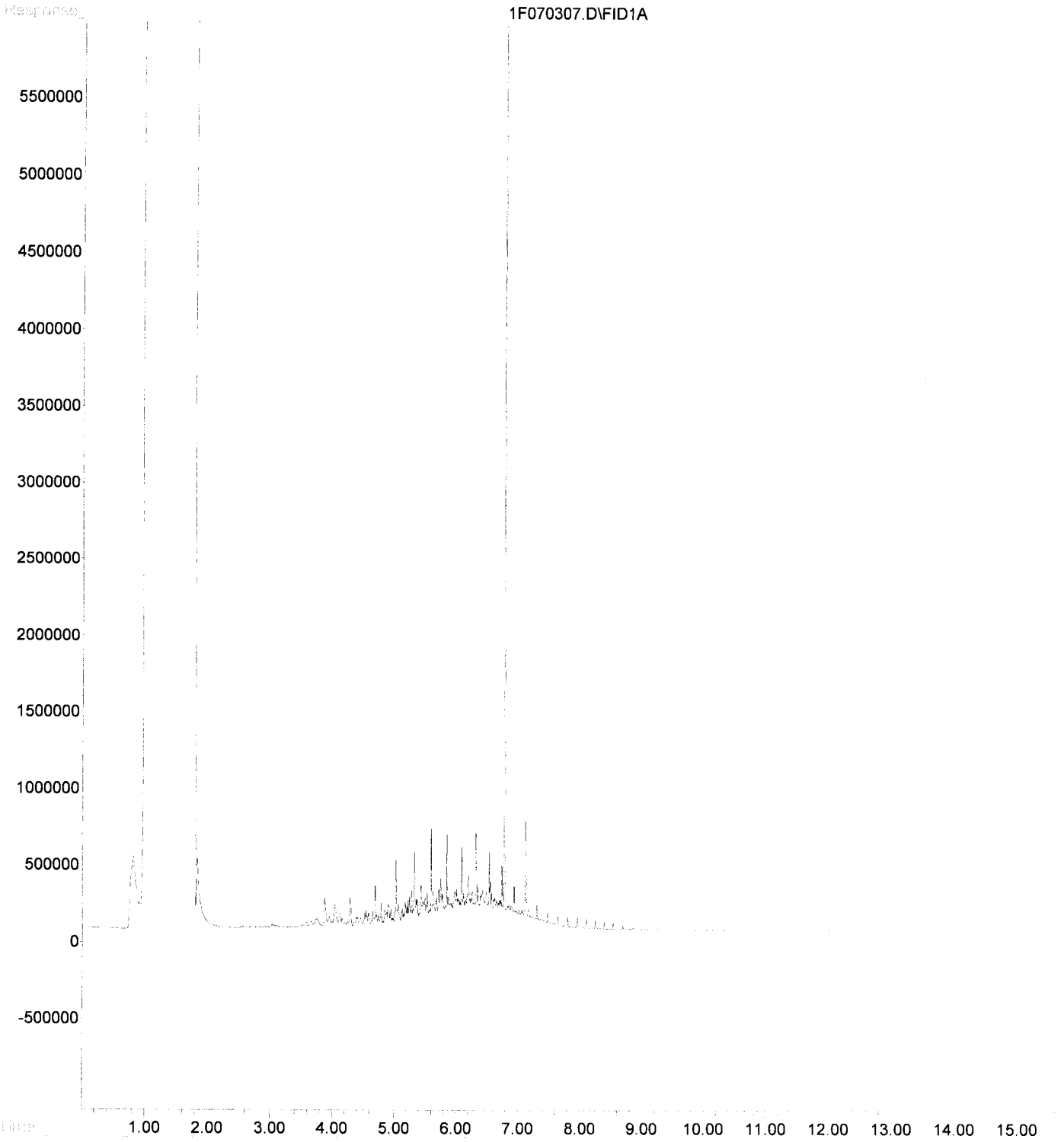
1F070307.D 1F90425D.M Fri Jul 05 08:03:22 2019 SV-GCMS3

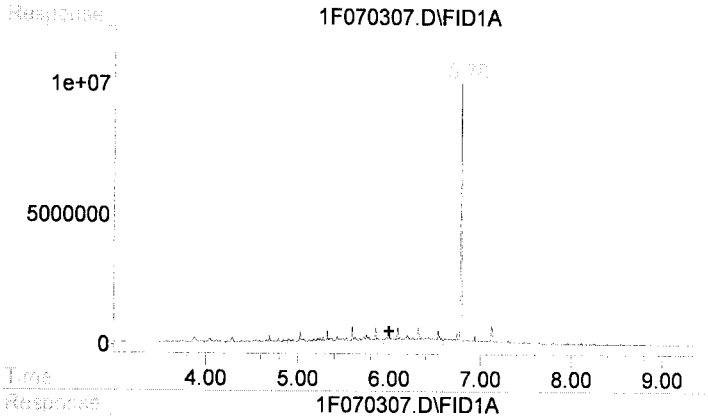
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070307.D Vial: 4
Acq On : 3 Jul 2019 23:48 Operator: BLL
Sample : 9070619-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

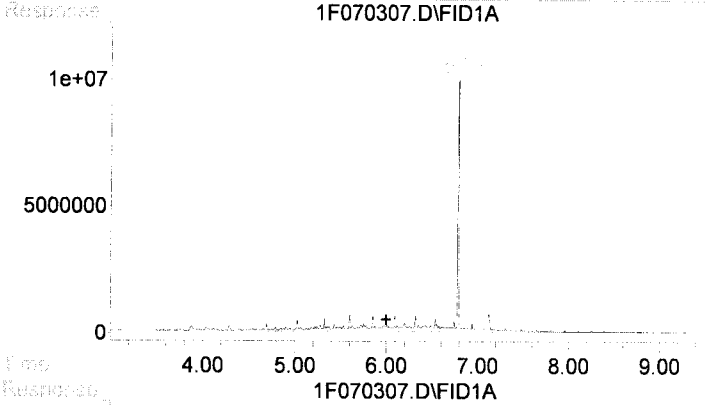
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





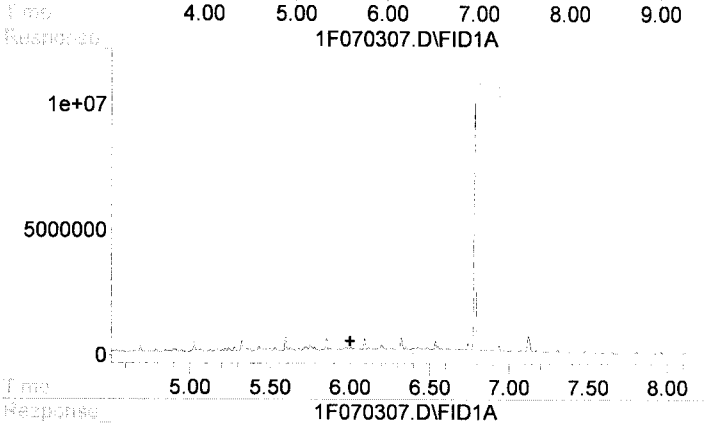
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 324700863
Conc: 254.74 ug/ml m



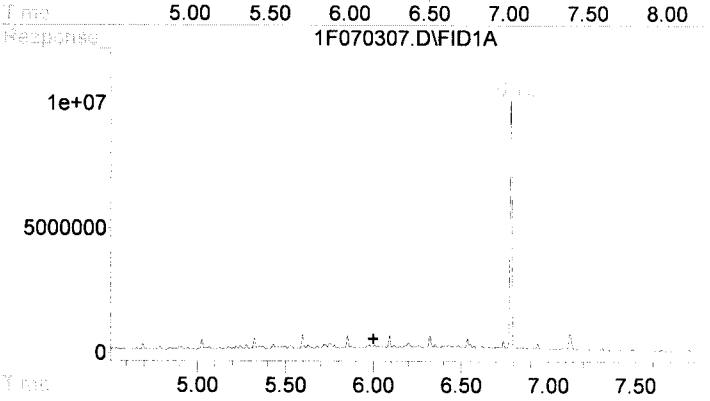
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 324700863
Conc: 254.74 ug/mL m



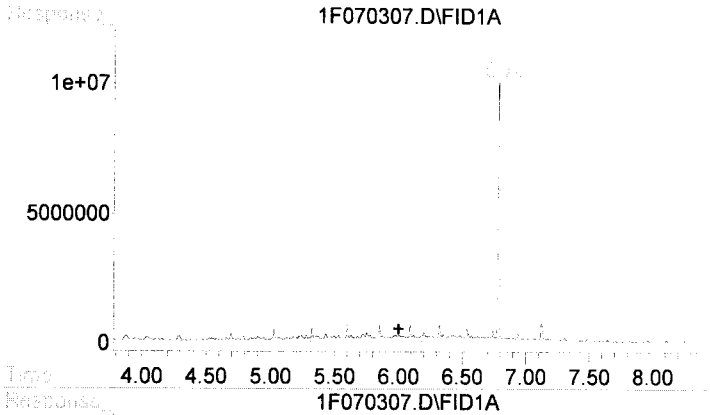
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 249863561
Conc: 196.03 ug/mL m



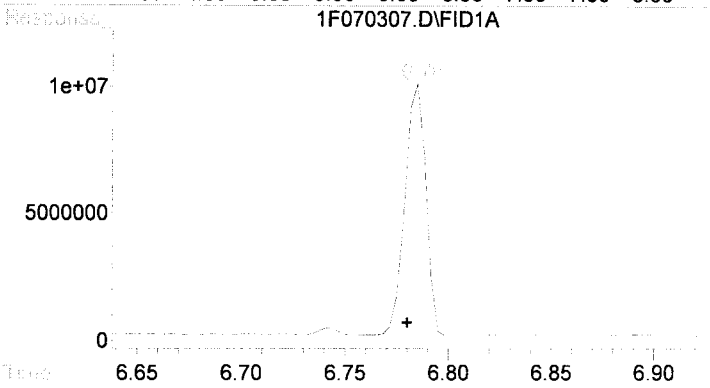
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 235231414
Conc: 250.95 ug/ml m



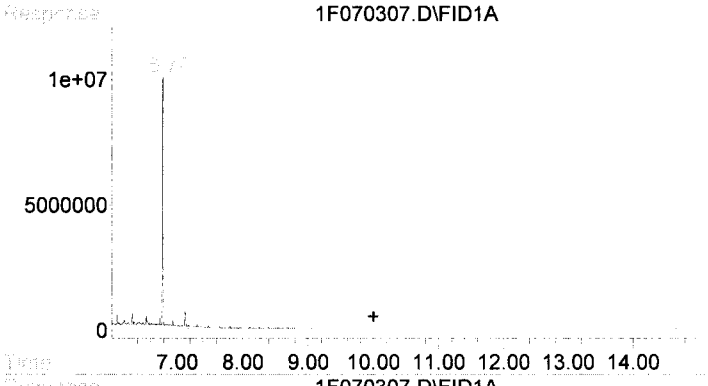
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 286701816
Conc: 247.57 ug/ml m



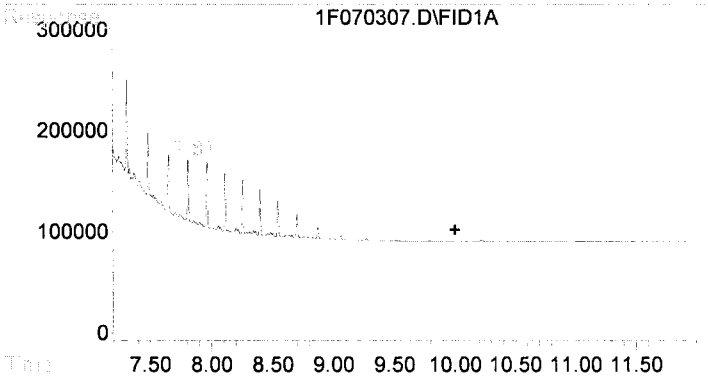
#6 o-Terphenyl

R.T.: 6.785 min
Delta R.T.: 0.005 min
Response: 69701040
Conc: 50.09 ug/mL



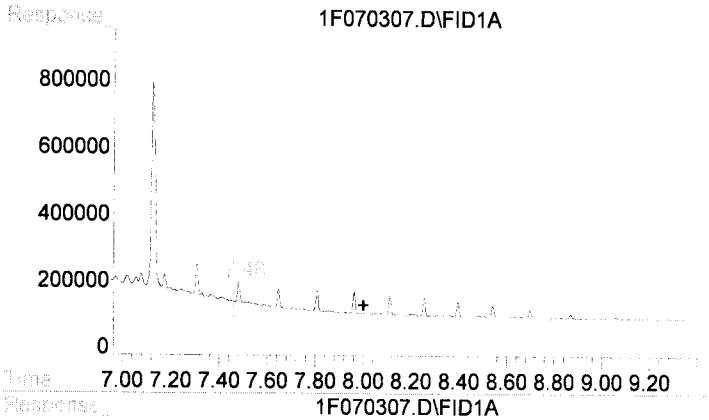
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 99127714
Conc: 90.08 ug/mL m



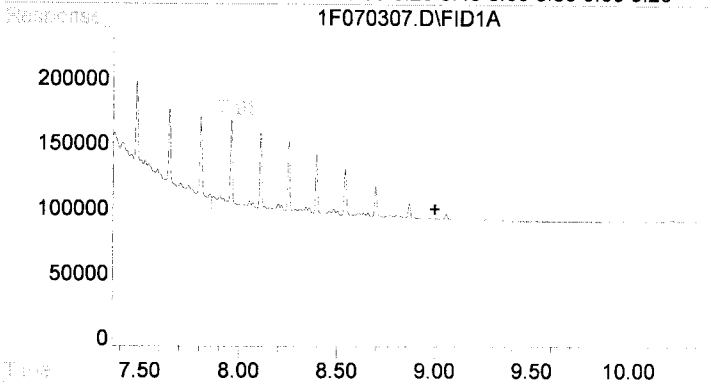
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 11440500
Conc: 10.40 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.:	8.000 min
Delta R.T.:	0.000 min
Response:	15864789
Conc:	21.81 ug/mL m



#10 TPHmo (C25-C36)

R.T.:	9.000 min
Delta R.T.:	0.000 min
Response:	7777657
Conc:	11.72 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070308.D Vial: 5
Acq On : 4 Jul 2019 00:11 Operator: BLL
Sample : 9070619-BSD1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.79	65794632	47.282	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	292608160	229.559	ug/ml
2)	H	Diesel	6.00	292608160	229.559	ug/mL
3)	H	DRO(C12-C24)	6.00	227105826	178.171	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	212810786	227.034	ug/ml
5)	H	TPHd (C10-C25)	6.00	258971370	223.627	ug/ml
7)	H	OIL	10.00	95128393	86.442	ug/mL
8)	H	RRO (C24-C40)	10.00	11600740	10.541	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	15584711	21.427	ug/mL
10)	H	TPHmo (C25-C36)	9.00	8192483	12.345	ug/mL

BL
7.5.19

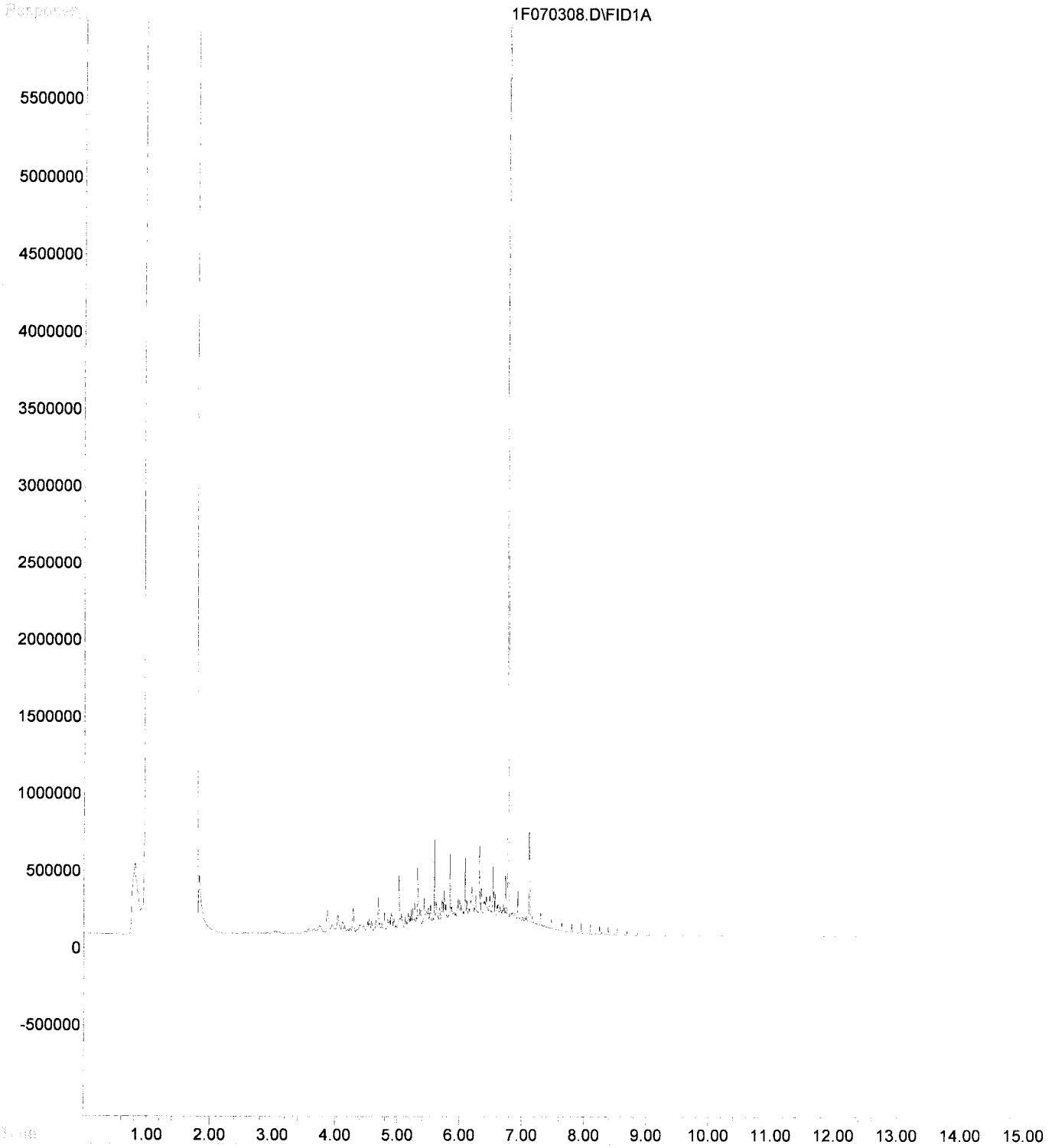
✓

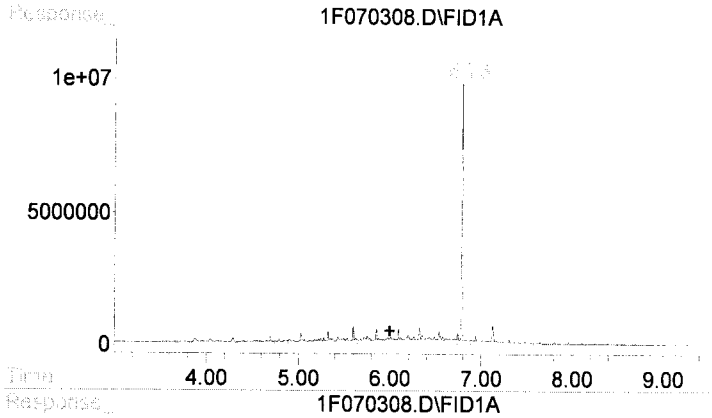
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070308.D Vial: 5
Acq On : 4 Jul 2019 00:11 Operator: BLL
Sample : 9070619-BSD1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

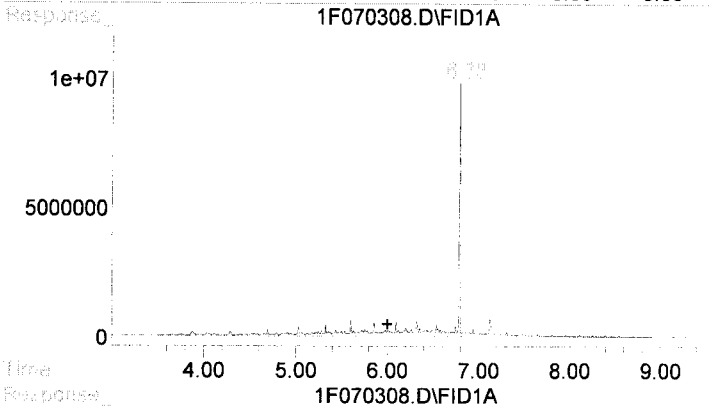
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





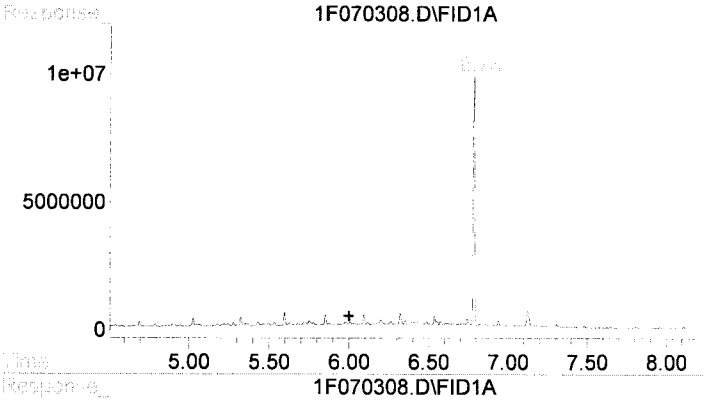
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 292608160
Conc: 229.56 ug/ml m



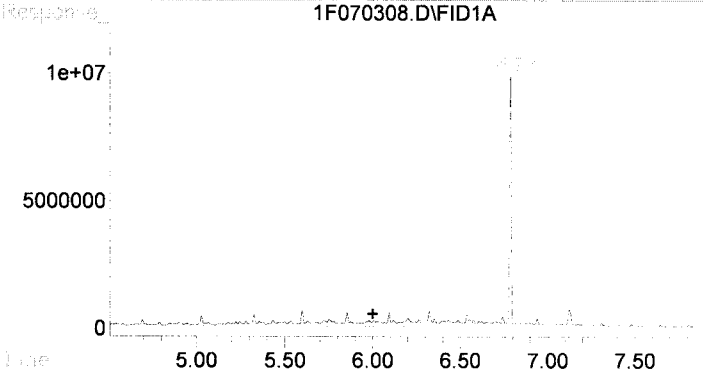
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 292608160
Conc: 229.56 ug/mL m



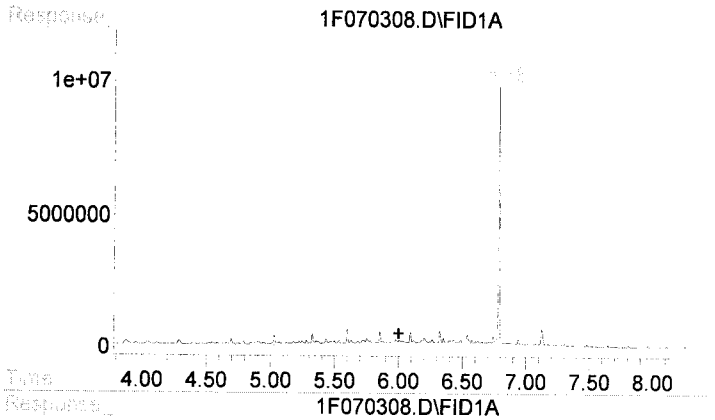
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 227105826
Conc: 178.17 ug/mL m



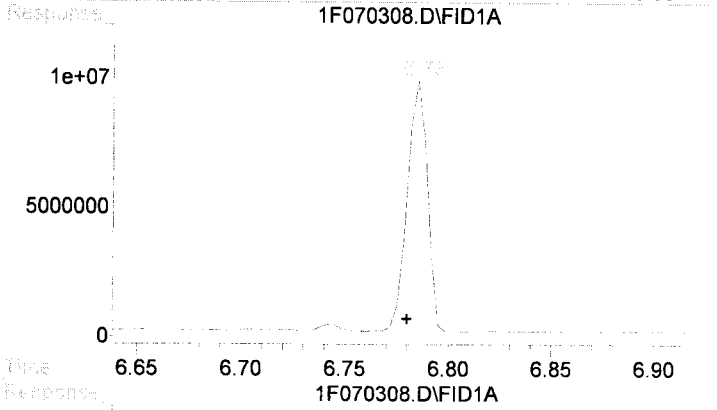
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 212810786
Conc: 227.03 ug/ml m



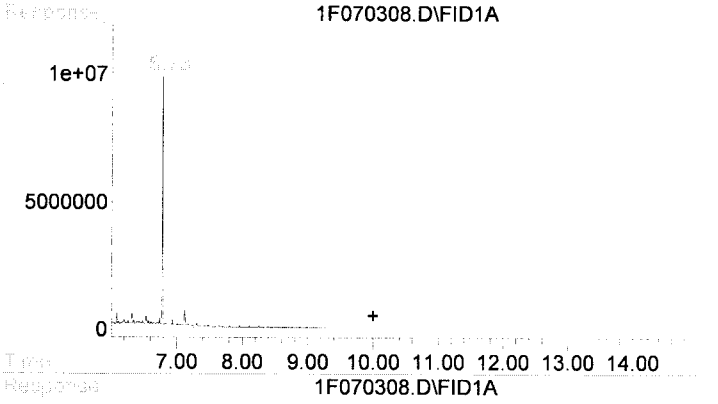
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 258971370
Conc: 223.63 ug/ml m



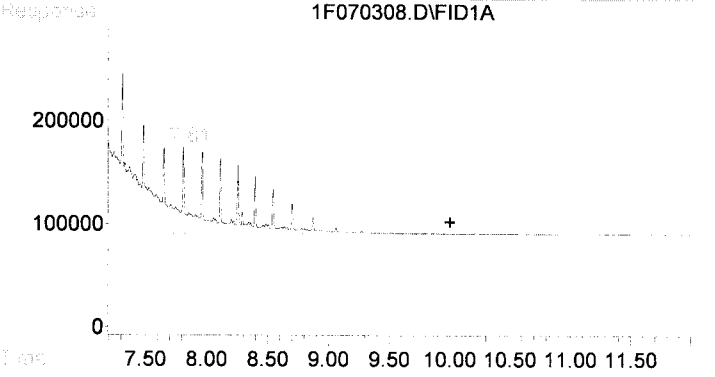
#6 o-Terphenyl

R.T.: 6.786 min
Delta R.T.: 0.006 min
Response: 65794632
Conc: 47.28 ug/mL



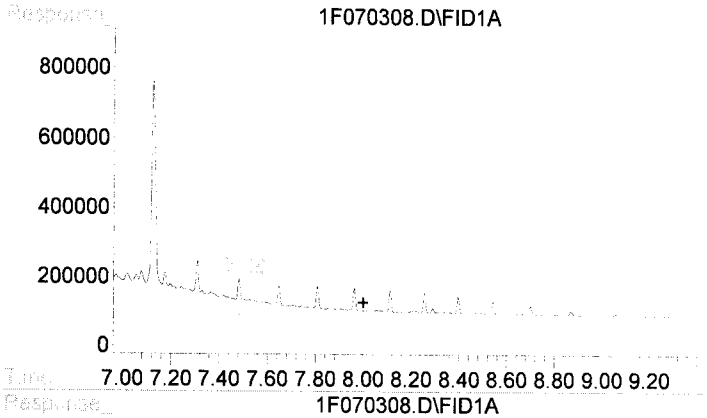
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 95128393
Conc: 86.44 ug/mL m



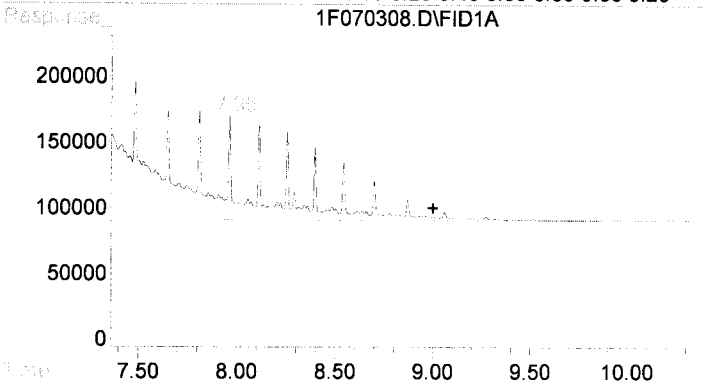
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 11600740
Conc: 10.54 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 15584711
Conc: 21.43 ug/mL m



#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 8192483
Conc: 12.35 ug/mL m

Evaluate Continuing Calibration Report

Data File : F:\1\DATA\2019-07\9G03030\1F070317.D Vial: 13
Acq On : 4 Jul 2019 3:34 Operator: BLL
Sample : 9G03030-CCV3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	H	Mineral Oil	1000.000	1029.233	-2.9	105	0.00
2	H	Diesel	1000.000	1029.233	-2.9	105	0.00
3	H	DRO(C12-C24)	1000.000	809.151	19.1#	83	0.00
4	H	Ca Luft DRO (C12-C22)	1000.000	1050.153	-5.0	104	0.00
5	H	TPHd (C10-C25)	1000.000	1049.515	-5.0	104	0.00
6	S	o-Terphenyl	-1.000	55.229	0.0	0	0.00
7	H	OIL	-1.000	319.068	0.0	102	0.00
8	H	RRO (C24-C40)	-1.000	20.206	0.0	6	0.00
9	H	Ca Luft ORO (C23-C32)	-1.000	57.855	0.0	107	0.00
10	H	TPHmo (C25-C36)	-1.000	19.876	0.0	111	0.00

M

7.5.19

✓

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

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070317.D Vial: 13
Acq On : 4 Jul 2019 3:34 Operator: BLL
Sample : 9G03030-CCV3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.79	76852463	55.229	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	1311913440	1029.233	ug/ml
2)	H	Diesel	6.00	1311913440	1029.233	ug/mL
3)	H	DRO(C12-C24)	6.00	1031385081	809.151	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	984363094	1050.153	ug/ml
5)	H	TPHd (C10-C25)	6.00	1215393673	1049.515	ug/ml
7)	H	OIL	10.00	351132505	319.068	ug/mL
8)	H	RRO (C24-C40)	10.00	22236189	20.206	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	42080726	57.855	ug/mL
10)	H	TPHmo (C25-C36)	9.00	13190314	19.876	ug/mL

M
7.5.19

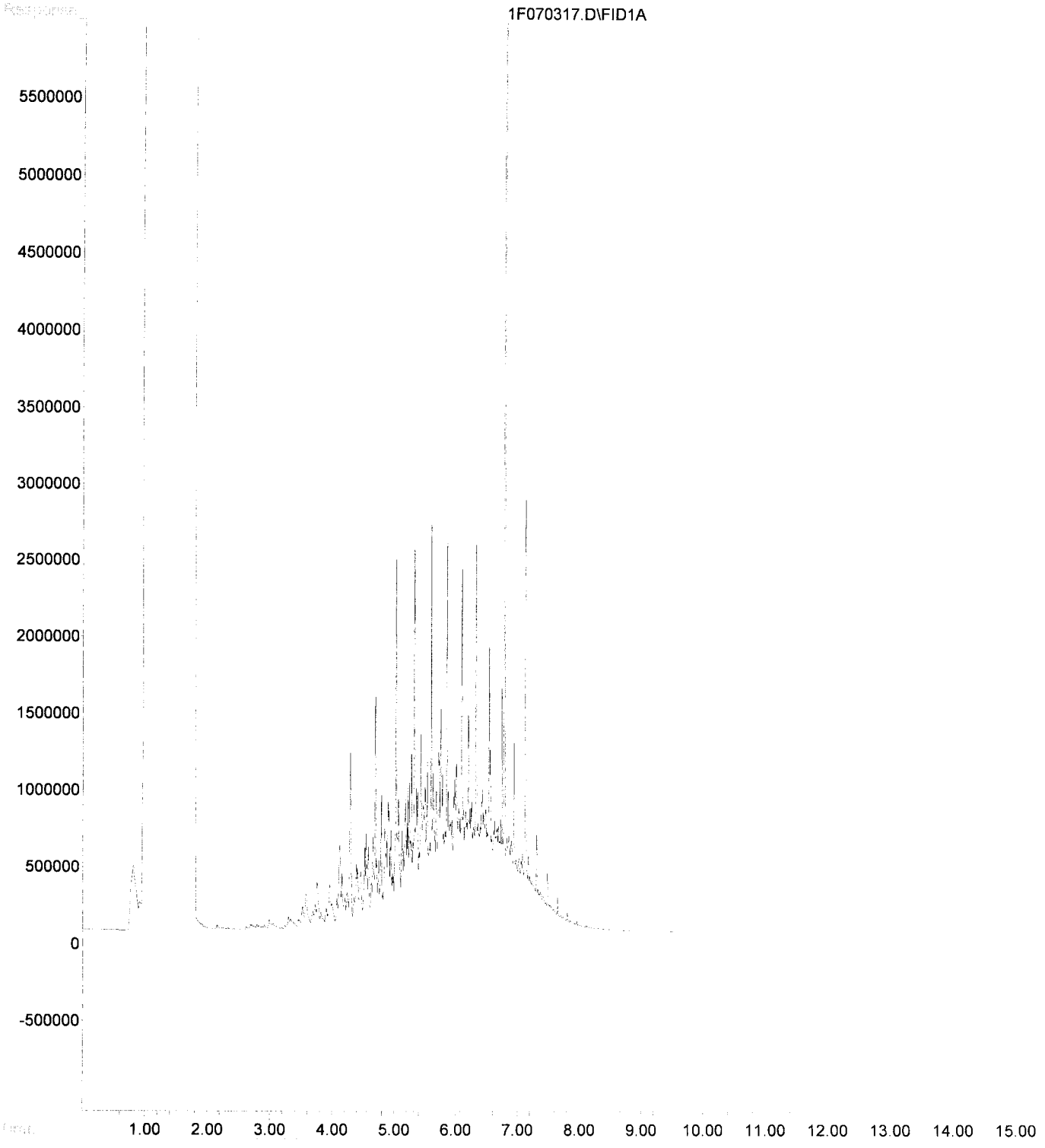
(f)=RT Delta > 1/2 Window (m)=manual int.

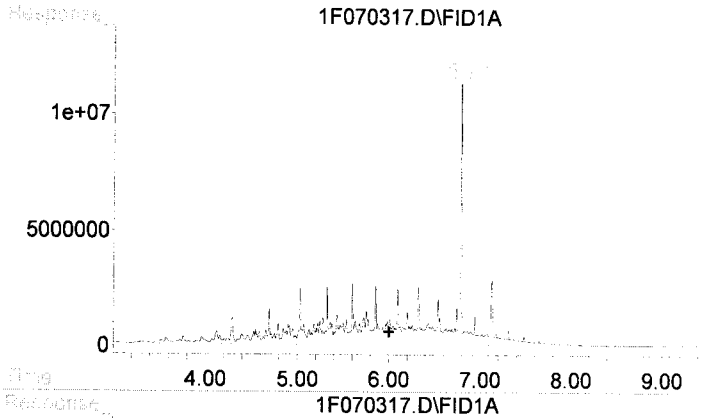
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070317.D Vial: 13
Acq On : 4 Jul 2019 3:34 Operator: BLL
Sample : 9G03030-CCV3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

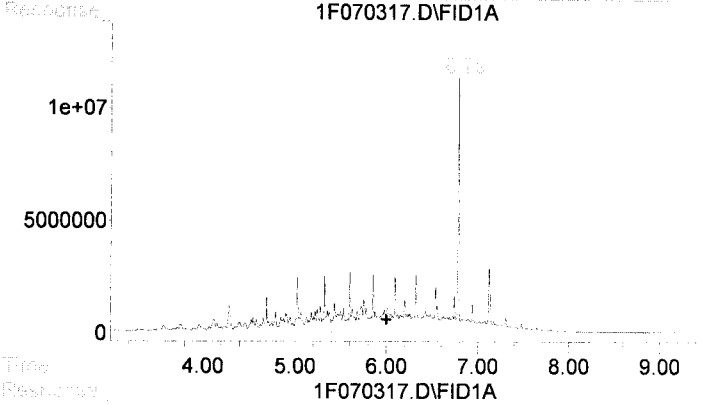
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





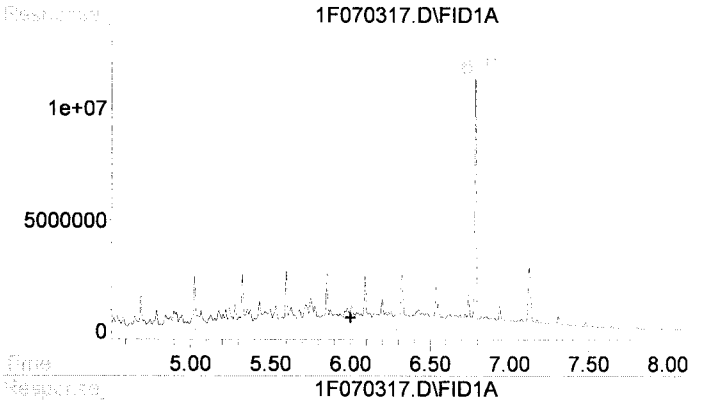
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1311913440
Conc: 1029.23 ug/ml m



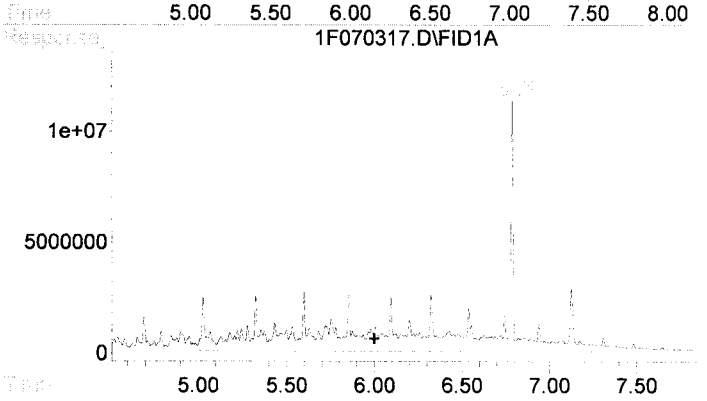
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1311913440
Conc: 1029.23 ug/mL m



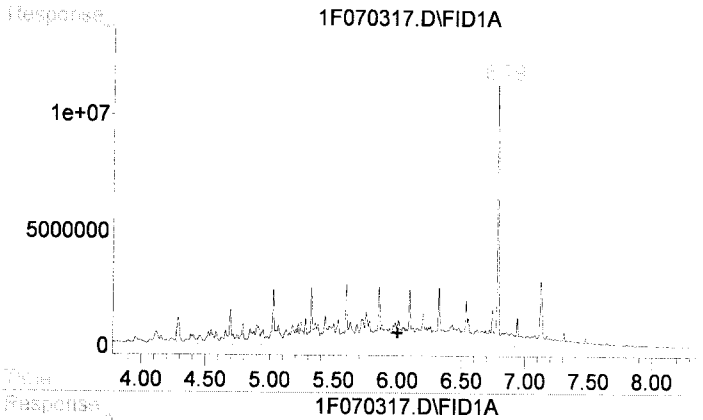
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1031385081
Conc: 809.15 ug/mL m



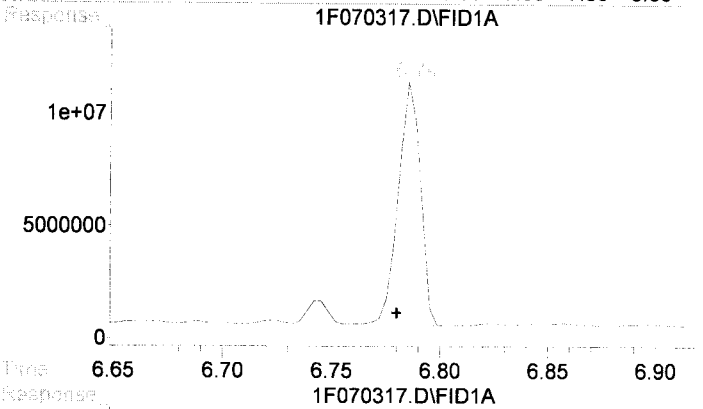
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 984363094
Conc: 1050.15 ug/ml m



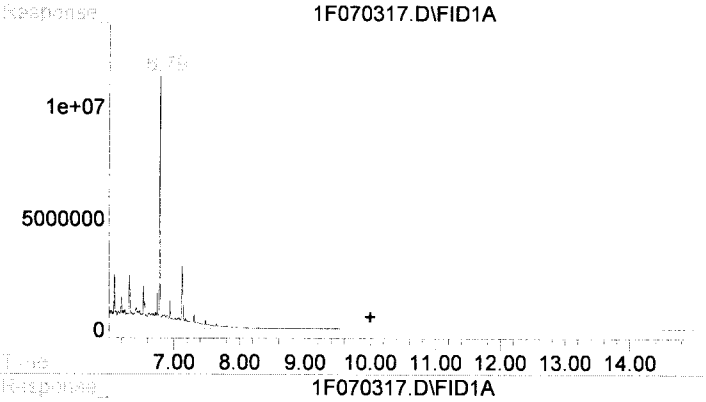
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1215393673
Conc: 1049.52 ug/ml m



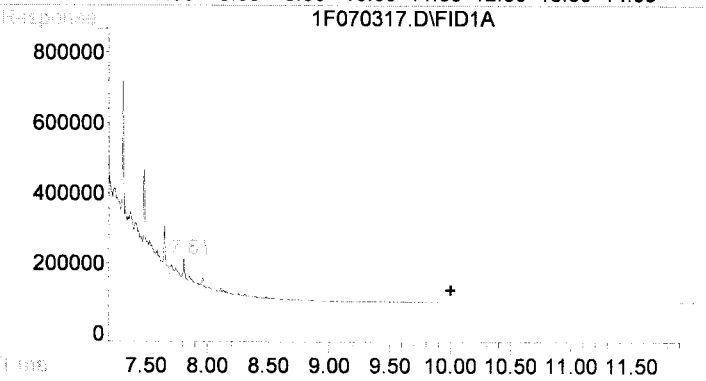
#6 o-Terphenyl

R.T.: 6.787 min
Delta R.T.: 0.007 min
Response: 76852463
Conc: 55.23 ug/mL



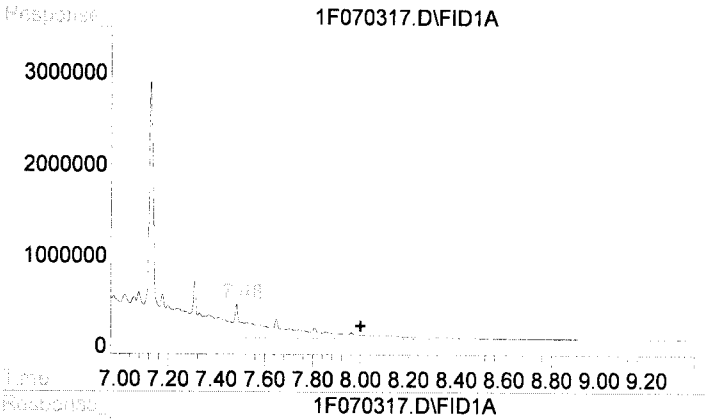
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 351132505
Conc: 319.07 ug/mL m



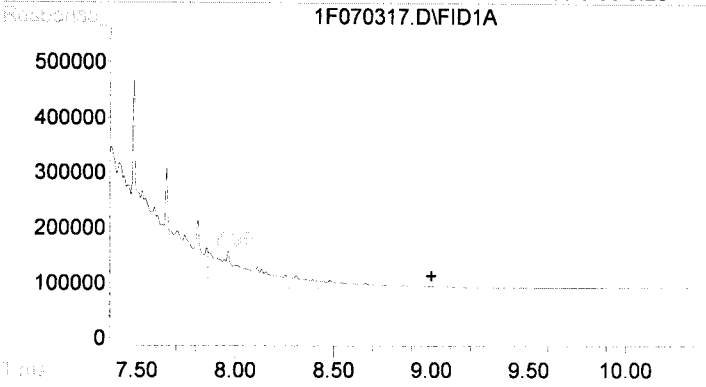
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 22236189
Conc: 20.21 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 42080726
Conc: 57.85 ug/mL m



#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 13190314
Conc: 19.88 ug/mL m

Evaluate Continuing Calibration Report

Data File : F:\1\DATA\2019-07\9G03030\1F070318.D
Acq On : 4 Jul 2019 3:57
Sample : 9G03030-CCV4
Misc :
IntFile : SUR.E

Vial: 14
Operator: BLL
Inst : HP G1530A
Multiplr: 1.00

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	H	Mineral Oil	-1.000	352.837	0.0	104	0.00
2	H	Diesel	-1.000	352.837	0.0	104	0.00
3	H	DRO(C12-C24)	-1.000	85.396	0.0	25	0.00
4	H	Ca Luft DRO (C12-C22)	-1.000	40.835	0.0	109	0.00
5	H	TPHd (C10-C25)	-1.000	142.855	0.0	110	0.00
6	S	o-Terphenyl	-1.000	54.733	0.0	0	0.00
7	H	OIL	500.000	524.488	-4.9	105	0.00
8	H	RRO (C24-C40)	500.000	408.720	18.3#	82	0.00
9	H	Ca Luft ORO (C23-C32)	500.000	530.505	-6.1	104	0.00
10	H	TPHmo (C25-C36)	500.000	521.682	-4.3	103	0.00

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

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070318.D Vial: 14
Acq On : 4 Jul 2019 3:57 Operator: BLL
Sample : 9G03030-CCV4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
6)	S	o-Terphenyl	6.79	76162960	54.733 ug/mL
		Target Compounds			
1)	H	Mineral Oil	6.00	449744054	352.837 ug/ml
2)	H	Diesel	6.00	449744054	352.837 ug/mL
3)	H	DRO(C12-C24)	6.00	108850078	85.396 ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	38277152	40.835 ug/ml
5)	H	TPHd (C10-C25)	6.00	165433419	142.855 ug/ml
7)	H	OIL	10.00	577195548	524.488 ug/mL
8)	H	RRO (C24-C40)	10.00	449793049	408.720 ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	385863242	530.505 ug/mL
10)	H	TPHmo (C25-C36)	9.00	346198271	521.682 ug/mL

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7.5.19

(f)=RT Delta > 1/2 window (m)=manual int.

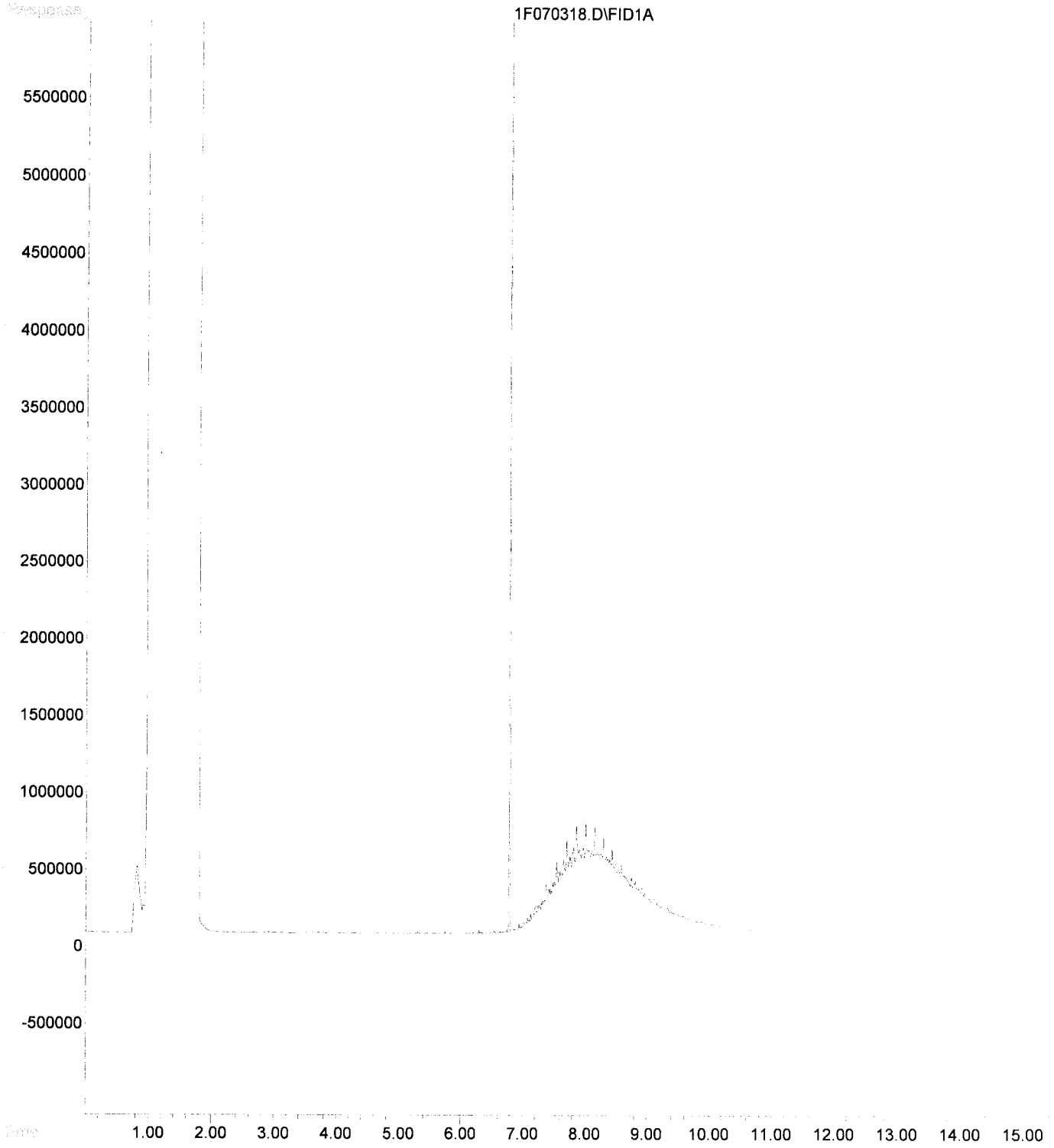
1F070318.D 1F90425D.M Fri Jul 05 08:03:56 2019 SV-GCMS3

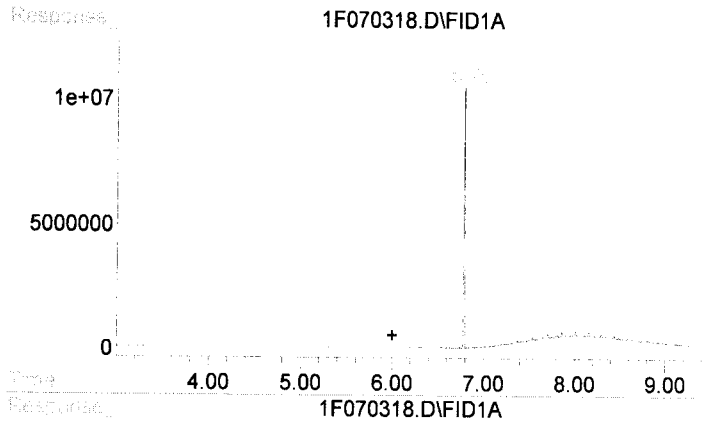
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070318.D Vial: 14
Acq On : 4 Jul 2019 3:57 Operator: BLL
Sample : 9G03030-CCV4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:03 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

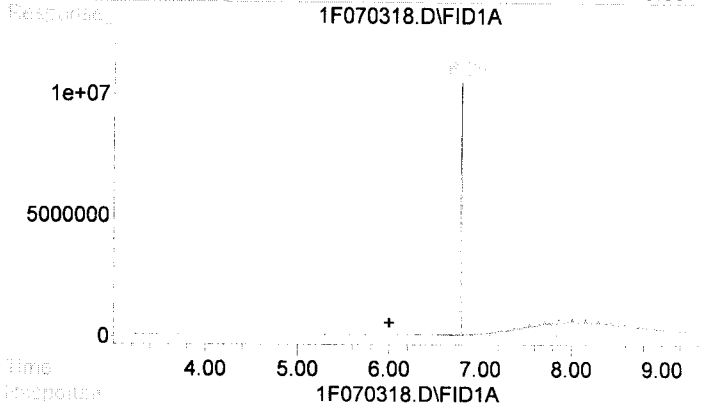
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





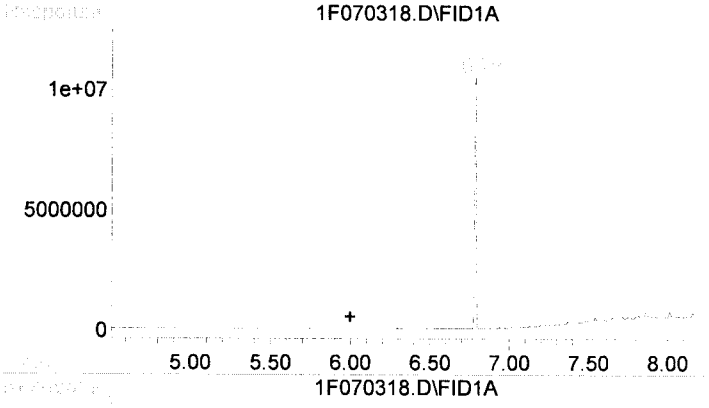
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 449744054
Conc: 352.84 ug/ml m



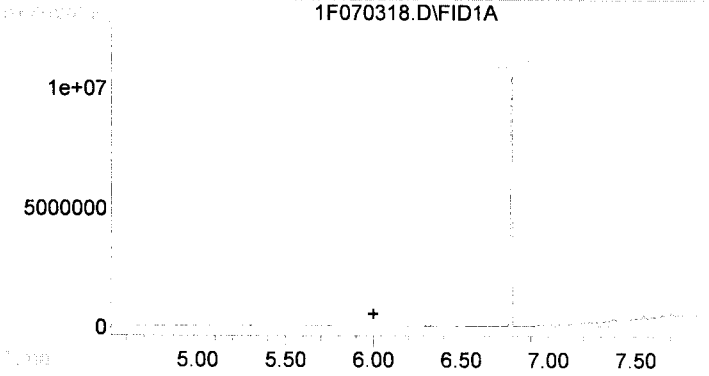
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 449744054
Conc: 352.84 ug/mL m



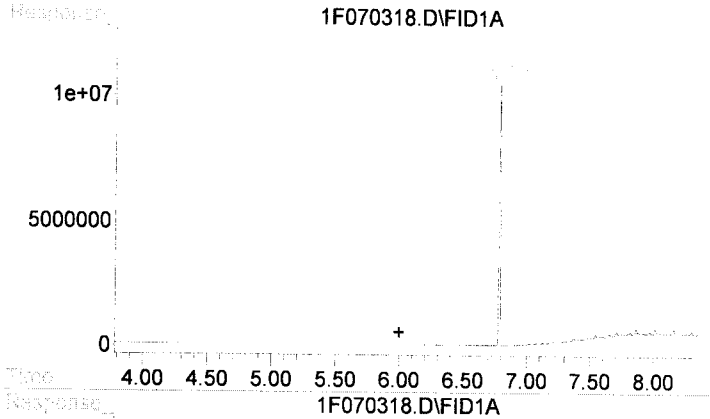
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 108850078
Conc: 85.40 ug/mL m



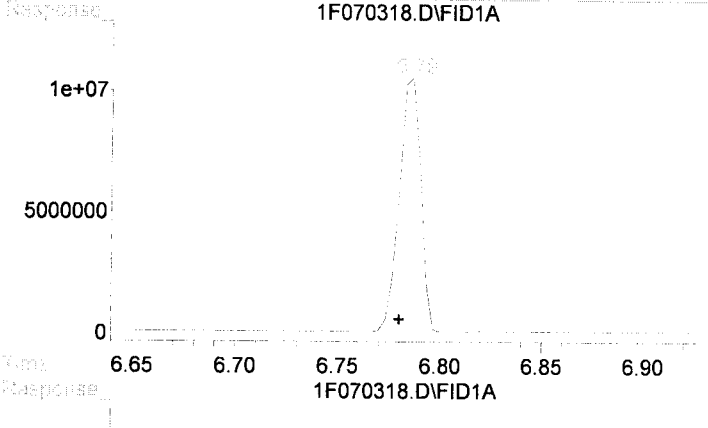
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 38277152
Conc: 40.84 ug/ml m



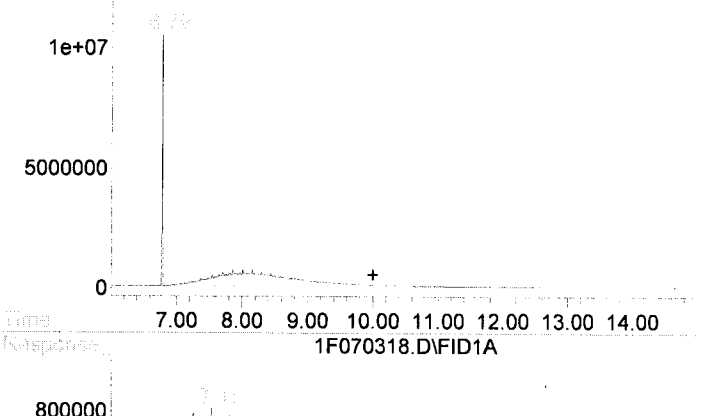
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 165433419
Conc: 142.85 ug/ml m



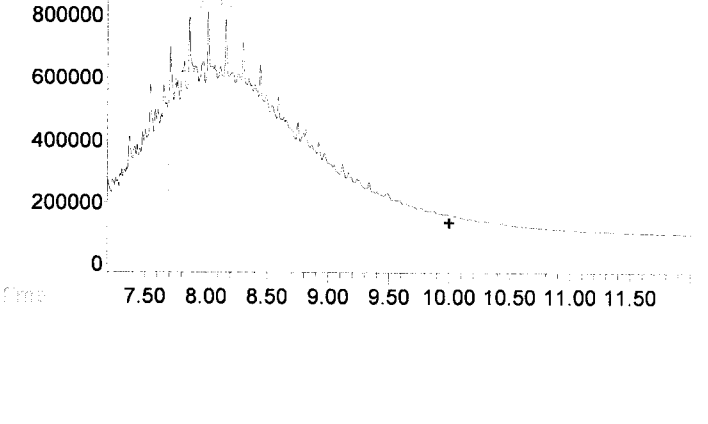
#6 o-Terphenyl

R.T.: 6.787 min
Delta R.T.: 0.006 min
Response: 76162960
Conc: 54.73 ug/mL



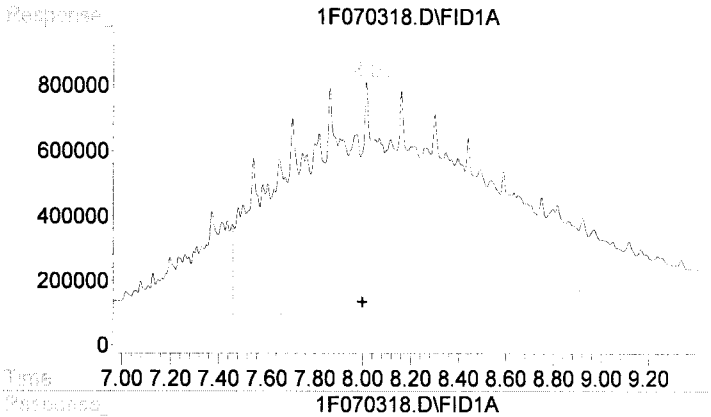
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 577195548
Conc: 524.49 ug/mL m



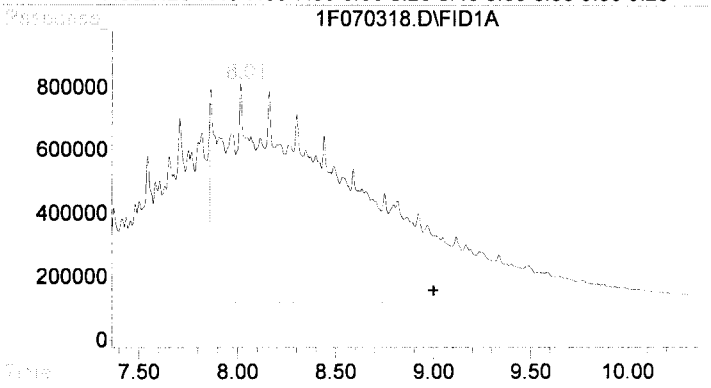
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 449793049
Conc: 408.72 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 385863242
Conc: 530.51 ug/mL m



#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 346198271
Conc: 521.68 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070319.D Vial: 99
Acq On : 4 Jul 2019 4:19 Operator: BLL
Sample : 9G03030-CCB2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:07 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	6496650	5.097	ug/ml
2)	H	Diesel	6.00	6496650	5.097	ug/mL
3)	H	DRO(C12-C24)	6.00	2347458	1.842	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	2041173	2.178	ug/ml
5)	H	TPHd (C10-C25)	6.00	3491427	3.015	ug/ml
7)	H	OIL	10.00	6142607	5.582	ug/mL
8)	H	RRO (C24-C40)	10.00	3604178	3.275	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	1750140	2.406	ug/mL
10)	H	TPHmo (C25-C36)	9.00	1719808	2.592	ug/mL

< 1/2 RL

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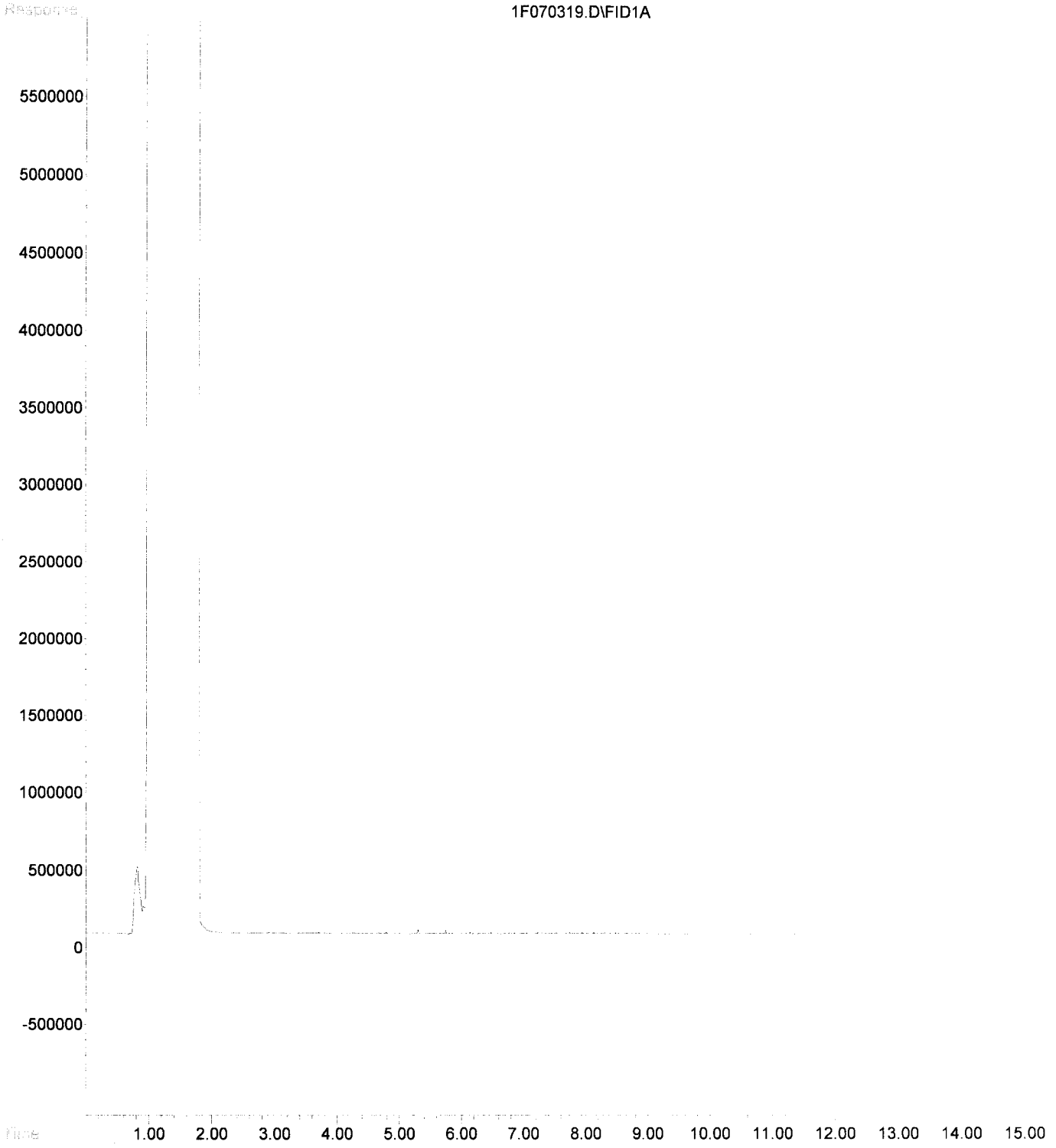
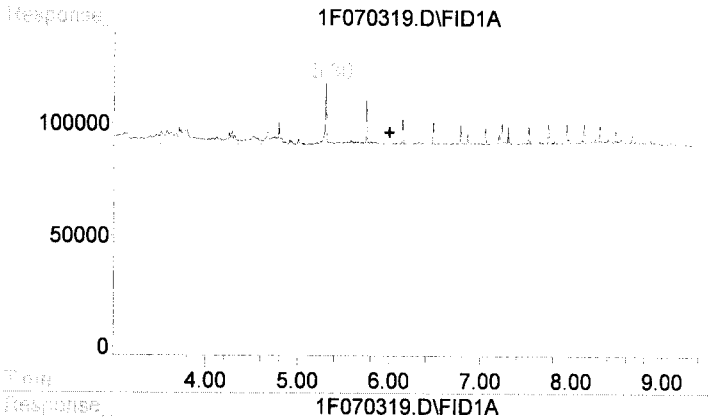
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070319.D Vial: 99
Acq On : 4 Jul 2019 4:19 Operator: BLL
Sample : 9G03030-CCB2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:07 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

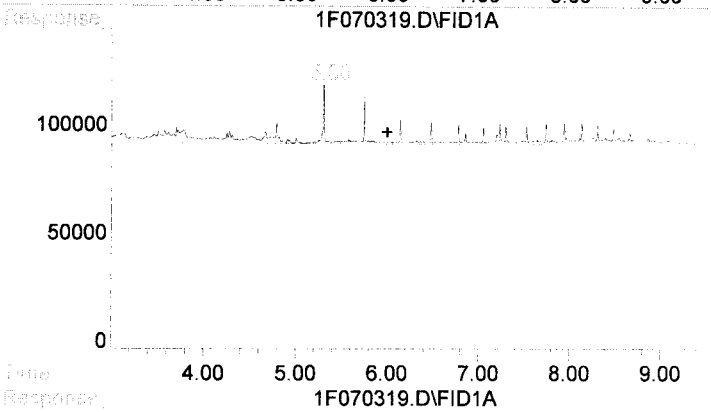
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





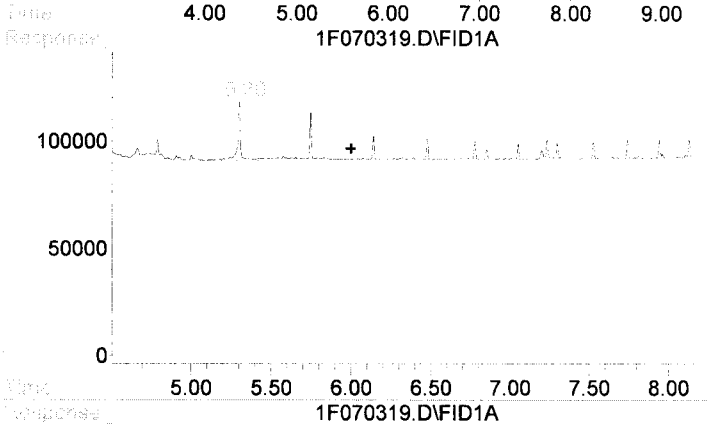
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 6496650
Conc: 5.10 ug/ml m



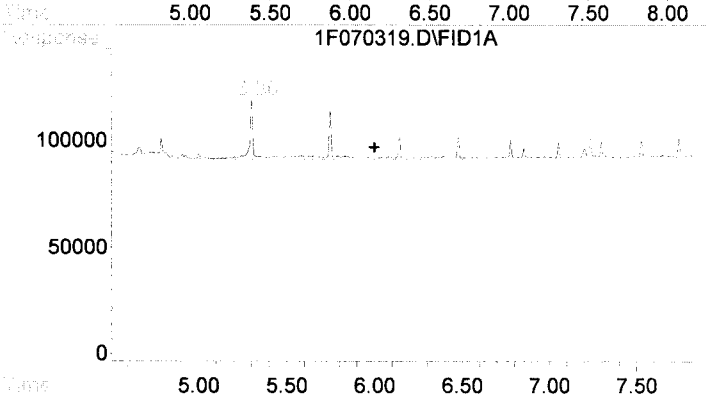
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 6496650
Conc: 5.10 ug/mL m



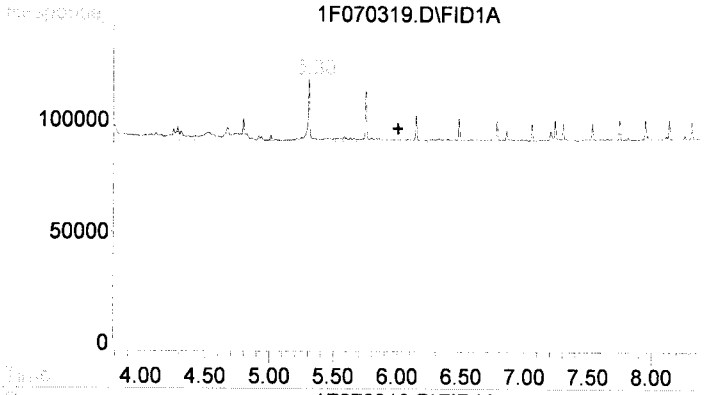
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2347458
Conc: 1.84 ug/mL m



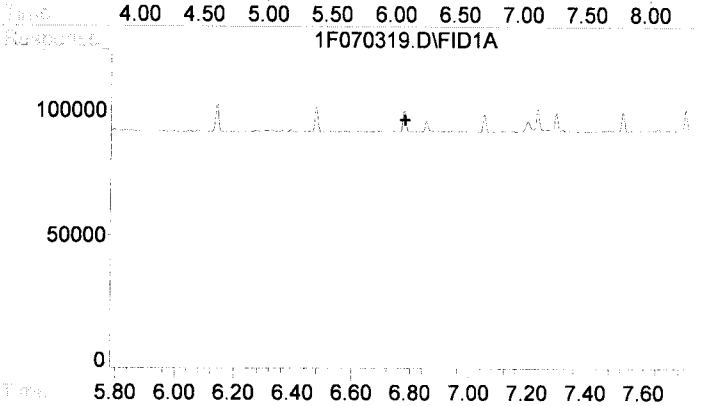
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2041173
Conc: 2.18 ug/ml m



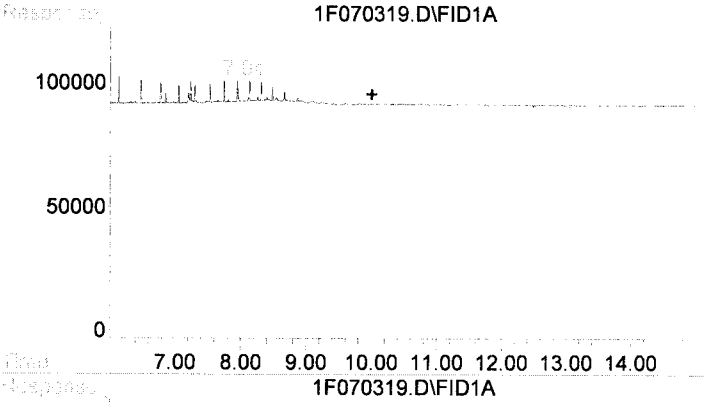
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 3491427
Conc: 3.01 ug/ml m



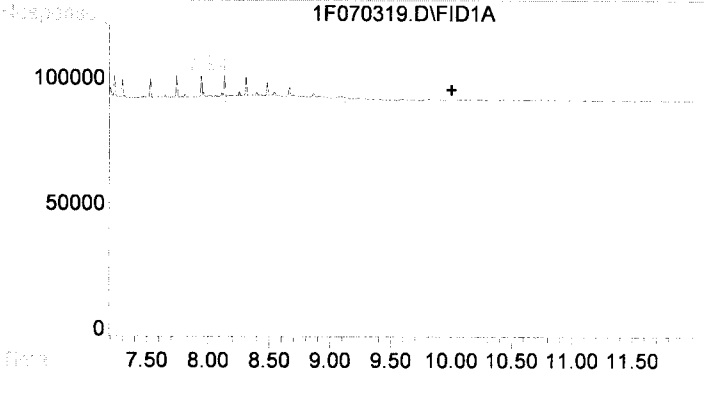
#6 o-Terphenyl

R.T.: 0.000 min
Exp R.T. : 6.780 min
Response: 0
Conc: N.D.



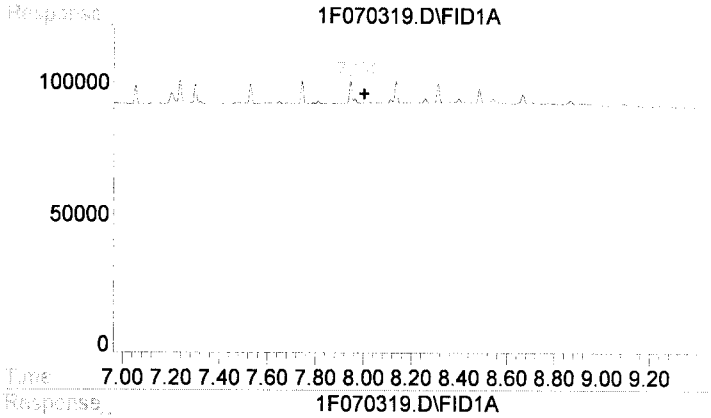
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 6142607
Conc: 5.58 ug/mL m



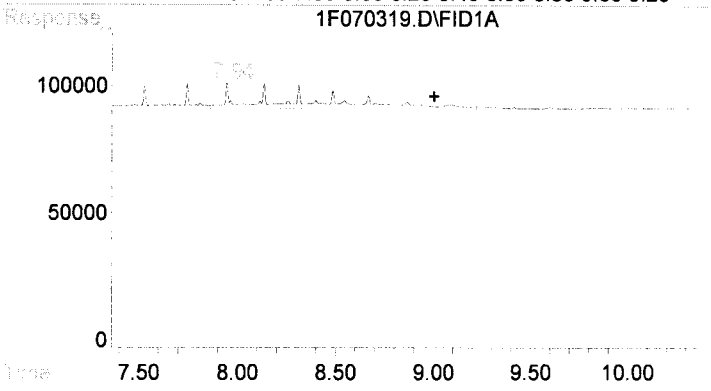
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 3604178
Conc: 3.28 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.:	8.000 min
Delta R.T.:	0.000 min
Response:	1750140
Conc:	2.41 ug/mL m



#10 TPHmo (C25-C36)

R.T.:	9.000 min
Delta R.T.:	0.000 min
Response:	1719808
Conc:	2.59 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070320.D Vial: 15
Acq On : 4 Jul 2019 4:42 Operator: BLL
Sample : 9070617-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:05 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	BFB (Surr)	3.93	18669458	NoCal	ug/mL
7)	S	o-Terphenyl	6.79	73965087	53.154	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	12432775	9.754	ug/ml
2)	H	Diesel	6.00	12432775	9.754	ug/mL
3)	H	DRO(C12-C24)	6.00	4681570	3.673	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	4235529	4.519	ug/ml
5)	H	TPHd (C10-C25)	6.00	6156854	5.317	ug/ml
8)	H	OIL	10.00	7426411	6.748	ug/mL
9)	H	RRO (C24-C40)	10.00	4680729	4.253	ug/mL
10)	H	Ca Luft ORO (C23-C32)	8.00	4129538	5.678	ug/mL
11)	H	TPHmo (C25-C36)	9.00	3628550	5.468	ug/mL

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(f)=RT Delta > 1/2 Window (m)=manual int.

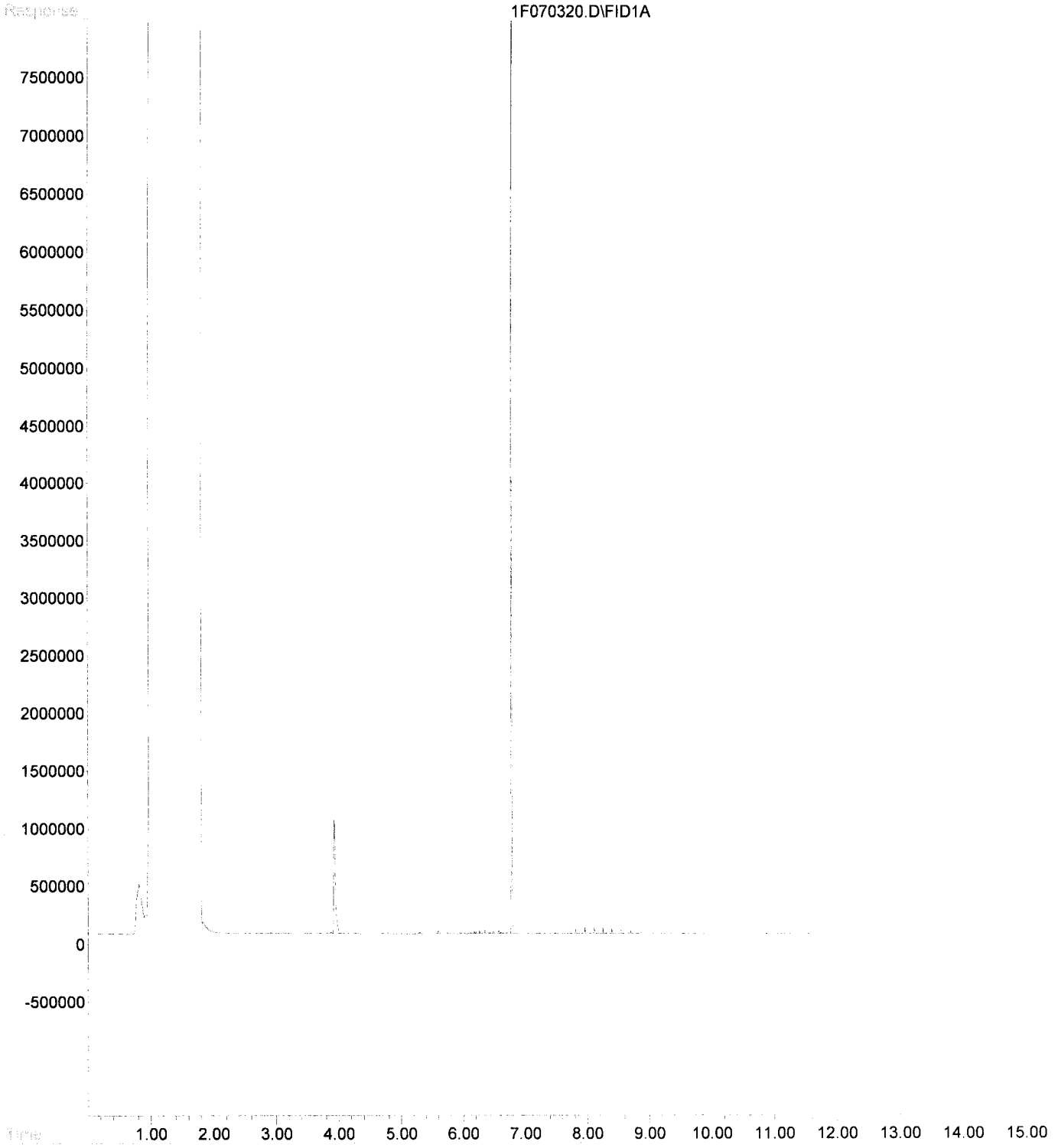
1F070320.D 1F90425W.M Fri Jul 05 08:05:19 2019 SV-GCMS3 Page 1

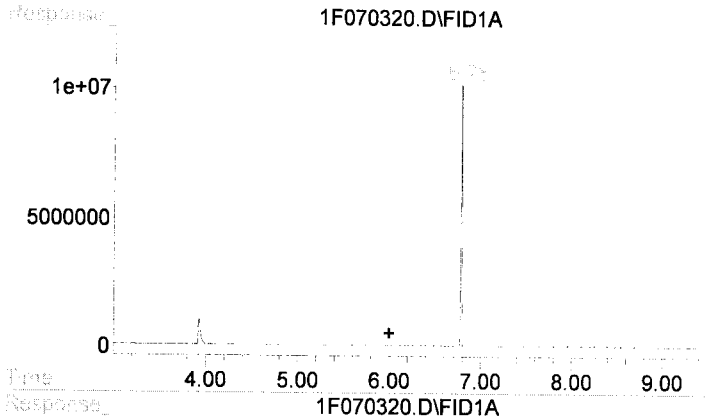
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070320.D Vial: 15
Acq On : 4 Jul 2019 4:42 Operator: BLL
Sample : 9070617-BLK1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:05 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

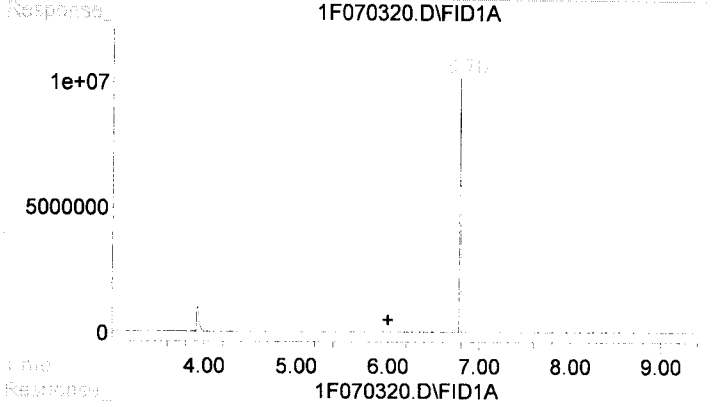
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





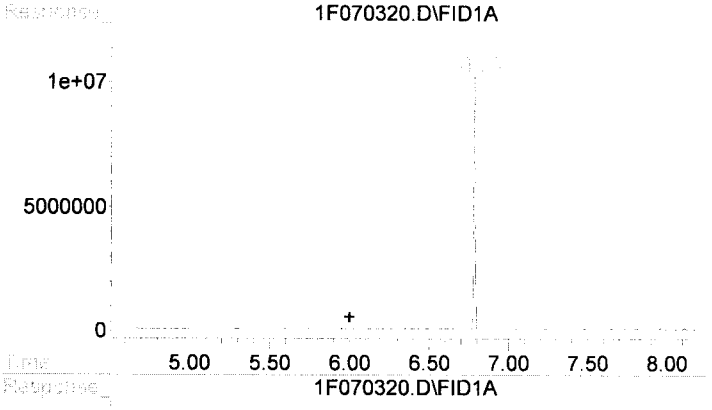
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 12432775
Conc: 9.75 ug/ml m



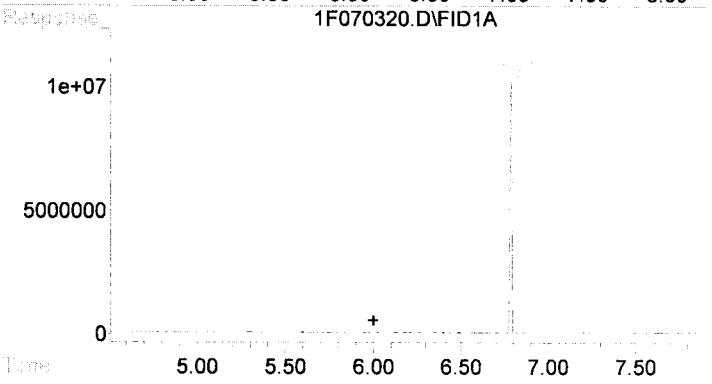
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 12432775
Conc: 9.75 ug/mL m



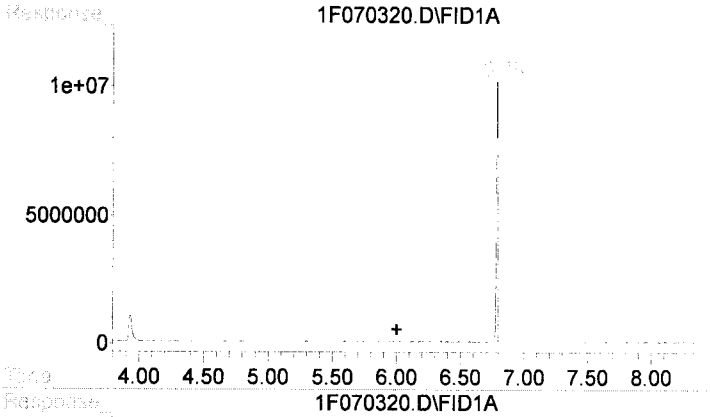
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 4681570
Conc: 3.67 ug/mL m



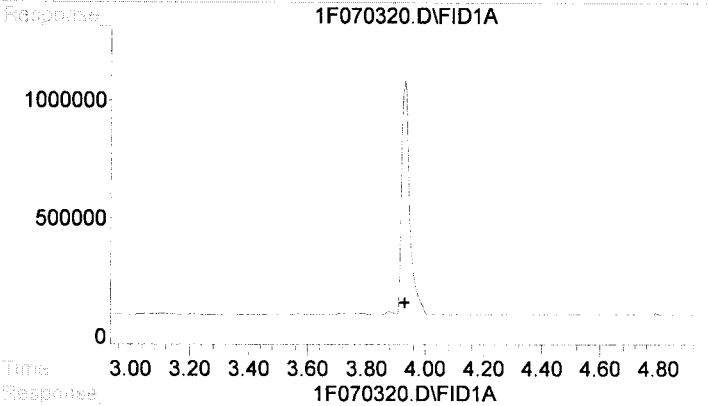
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 4235529
Conc: 4.52 ug/ml m



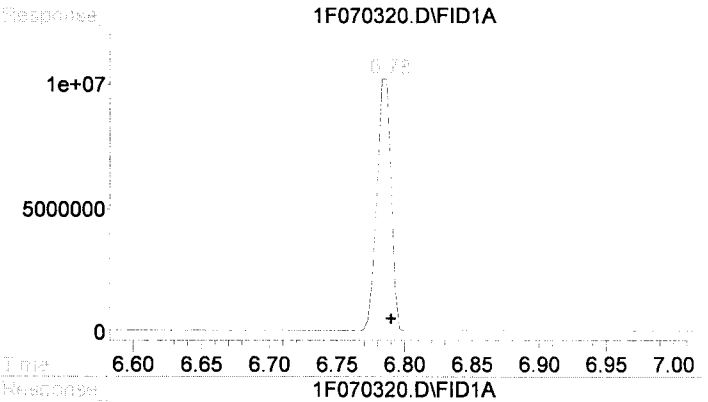
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 6156854
Conc: 5.32 ug/ml m



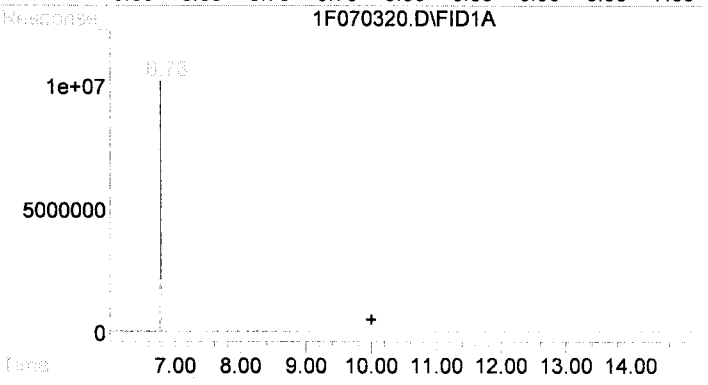
#6 BFB (Surr)

R.T.: 3.931 min
Delta R.T.: 0.000 min
Response: 18669458
Conc: N.D.



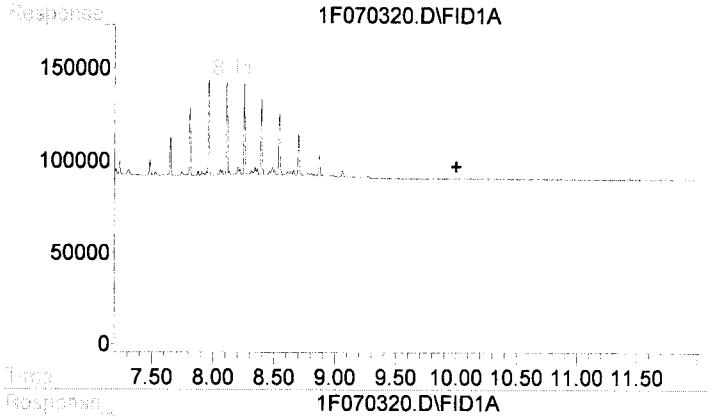
#7 o-Terphenyl

R.T.: 6.786 min
Delta R.T.: -0.004 min
Response: 73965087
Conc: 53.15 ug/mL



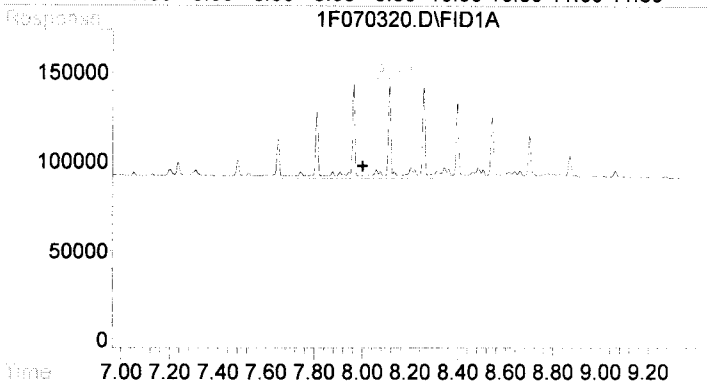
#8 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 7426411
Conc: 6.75 ug/mL m



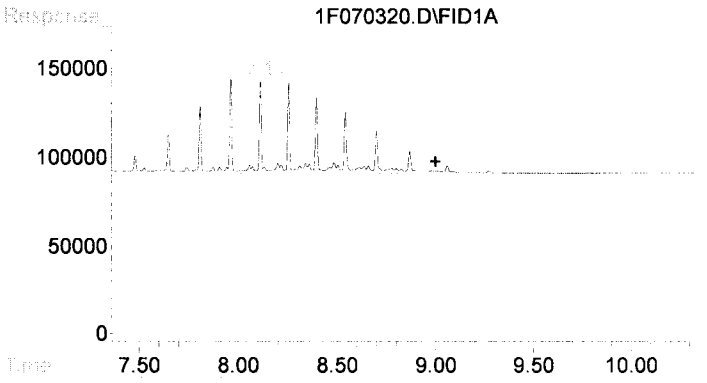
#9 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 4680729
Conc: 4.25 ug/mL m



#10 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 4129538
Conc: 5.68 ug/mL m



#11 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 3628550
Conc: 5.47 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070321.D Vial: 16
Acq On : 4 Jul 2019 5:04 Operator: BLL
Sample : 9070617-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:05 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	BFB (Surr)	3.93	19718988	NoCal	ug/mL
7)	S	o-Terphenyl	6.79	73967461	53.156	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	282839692	221.896	ug/ml
2)	H	Diesel	6.00	282839692	221.896	ug/mL
3)	H	DRO(C12-C24)	6.00	223365553	175.237	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	211438717	225.570	ug/ml
5)	H	TPHd (C10-C25)	6.00	257905032	222.706	ug/ml
8)	H	OIL	10.00	86360762	78.475	ug/mL
9)	H	RRO (C24-C40)	10.00	10632600	9.662	ug/mL
10)	H	Ca Luft ORO (C23-C32)	8.00	15292231	21.025	ug/mL
11)	H	TPHmo (C25-C36)	9.00	7799791	11.753	ug/mL

AR
7.5.19

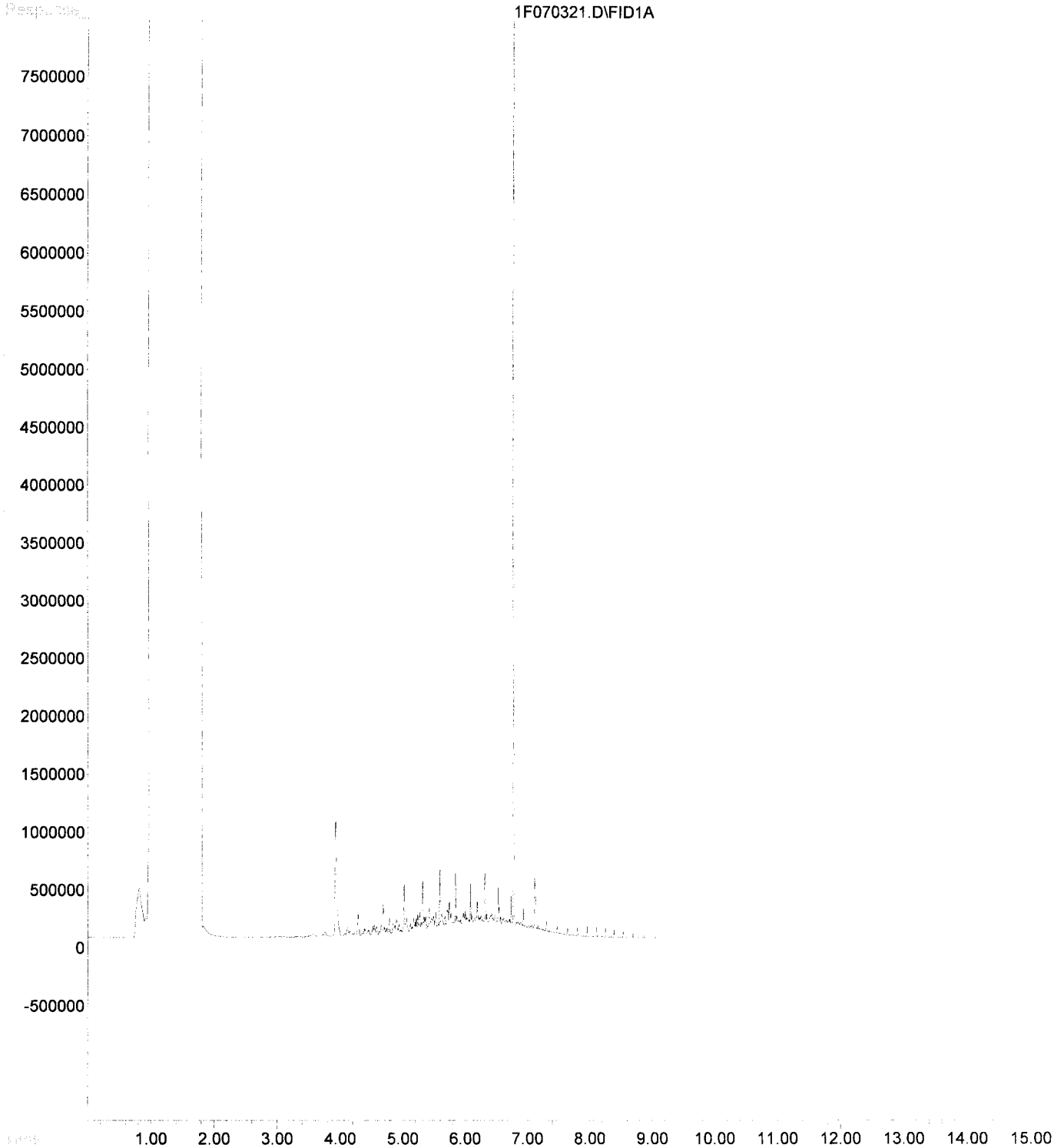
(f)=RT Delta > 1/2 Window (m)=manual int.:

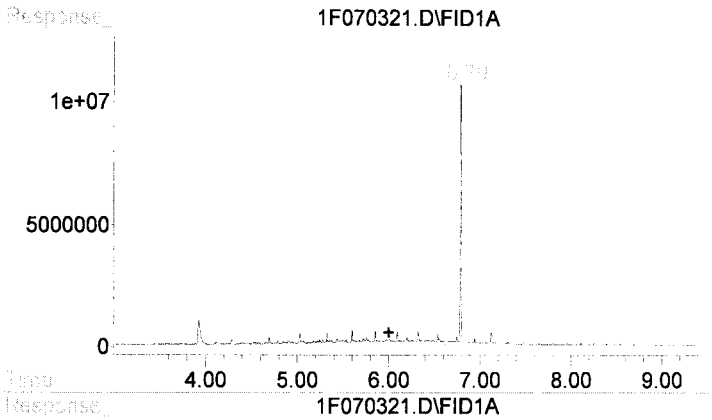
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070321.D Vial: 16
Acq On : 4 Jul 2019 5:04 Operator: BLL
Sample : 9070617-BS1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:05 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

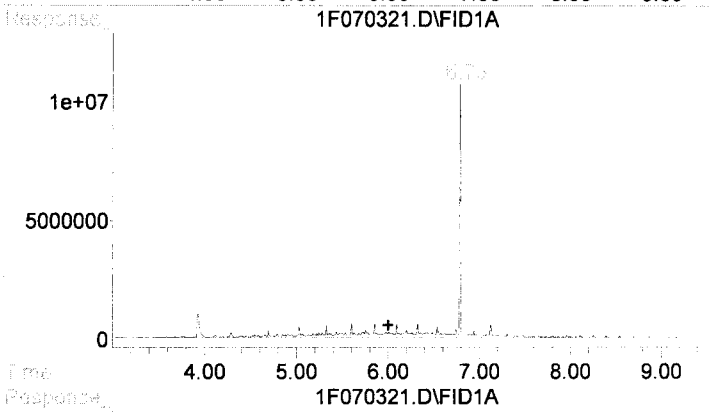
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





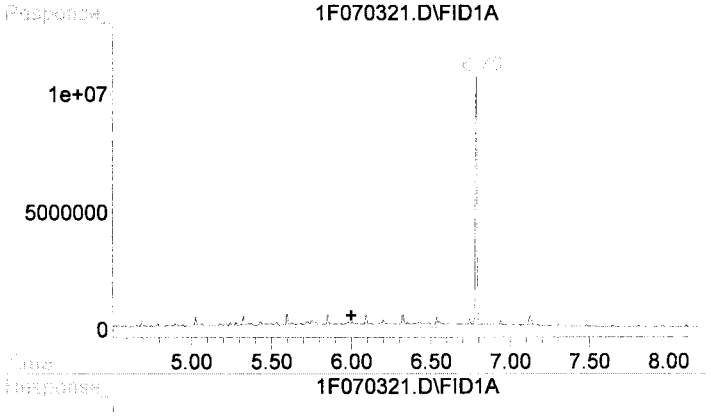
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 282839692
Conc: 221.90 ug/ml m



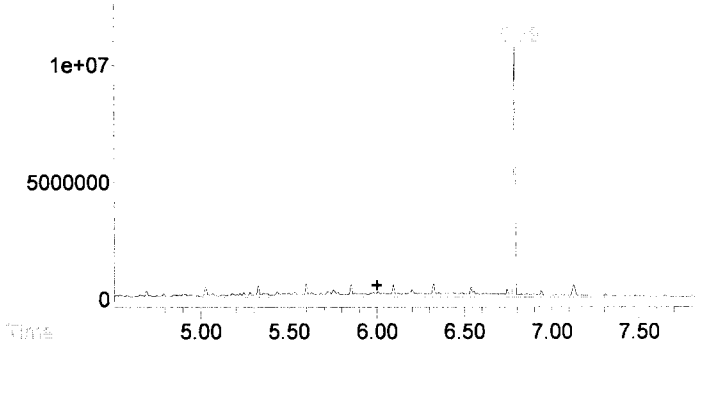
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 282839692
Conc: 221.90 ug/mL m



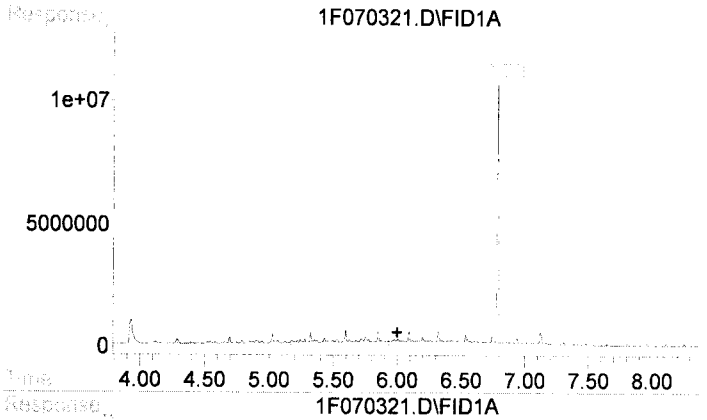
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 223365553
Conc: 175.24 ug/mL m



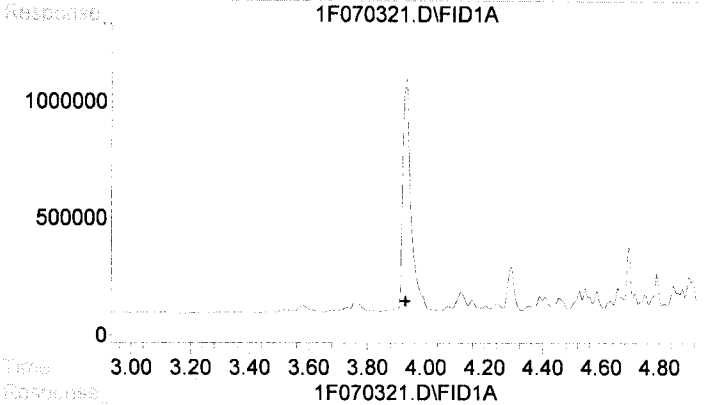
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 211438717
Conc: 225.57 ug/ml m



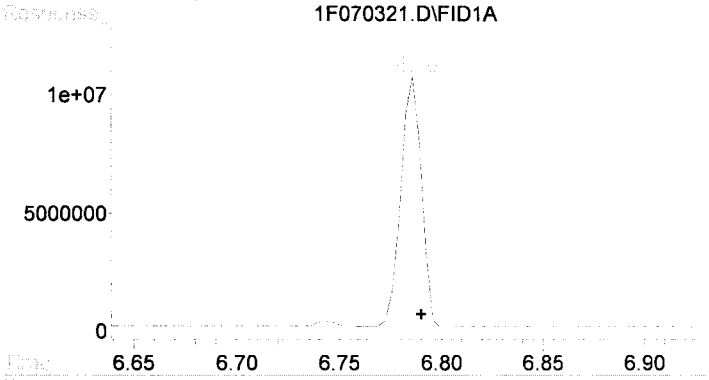
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 257905032
Conc: 222.71 ug/ml m



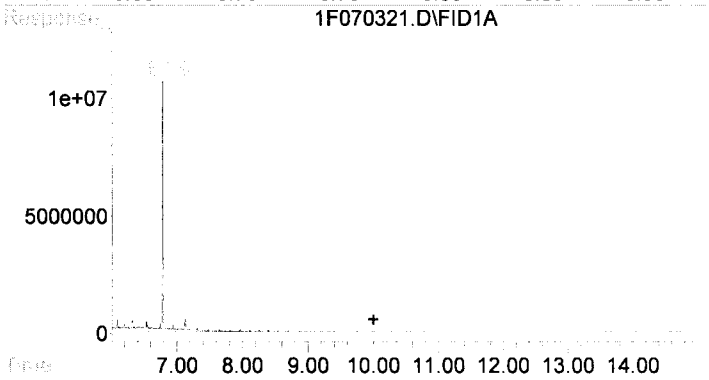
#6 BFB (Surr)

R.T.: 3.932 min
Delta R.T.: 0.002 min
Response: 19718988
Conc: N.D.



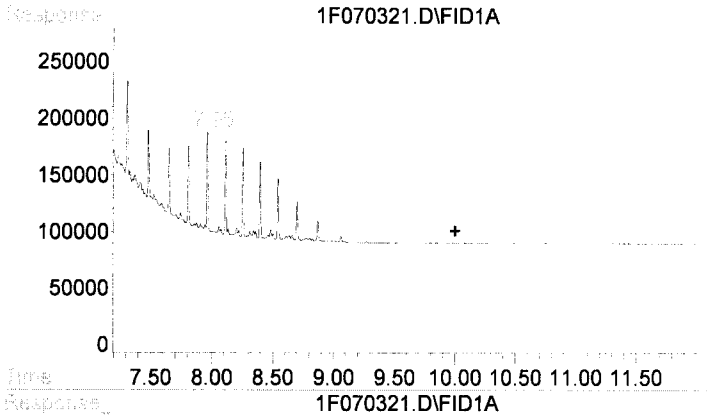
#7 o-Terphenyl

R.T.: 6.787 min
Delta R.T.: -0.003 min
Response: 73967461
Conc: 53.16 ug/mL



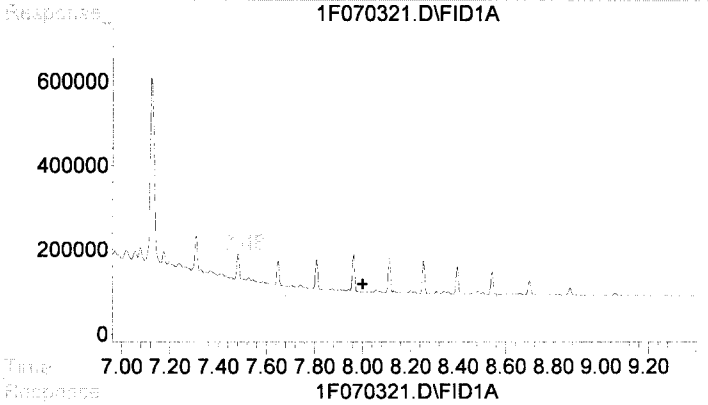
#8 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 86360762
Conc: 78.47 ug/mL m



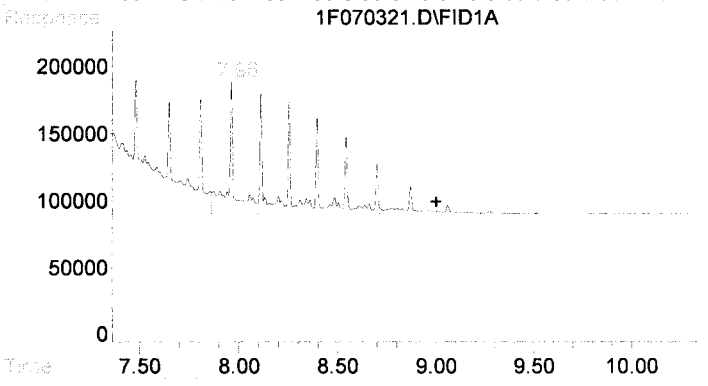
#9 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 10632600
Conc: 9.66 ug/mL m



#10 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 15292231
Conc: 21.02 ug/mL m



#11 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 7799791
Conc: 11.75 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070322.D Vial: 17
Acq On : 4 Jul 2019 5:27 Operator: BLL
Sample : 9070617-BSD1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:05 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	BFB (Surr)	3.93	20240055	NoCal	ug/mL
7)	S	o-Terphenyl	6.79	77289805	55.543	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	291684621	228.835	ug/ml
2)	H	Diesel	6.00	291684621	228.835	ug/mL
3)	H	DRO(C12-C24)	6.00	231747779	181.813	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	219426569	234.092	ug/ml
5)	H	TPHd (C10-C25)	6.00	267330175	230.845	ug/ml
8)	H	OIL	10.00	87218123	79.254	ug/mL
9)	H	RRO (C24-C40)	10.00	9482493	8.617	ug/mL
10)	H	Ca Luft ORO (C23-C32)	8.00	14347433	19.726	ug/mL
11)	H	TPHmo (C25-C36)	9.00	6746353	10.166	ug/mL

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(f)=RT Delta > 1/2 Window (m) Manual Int.

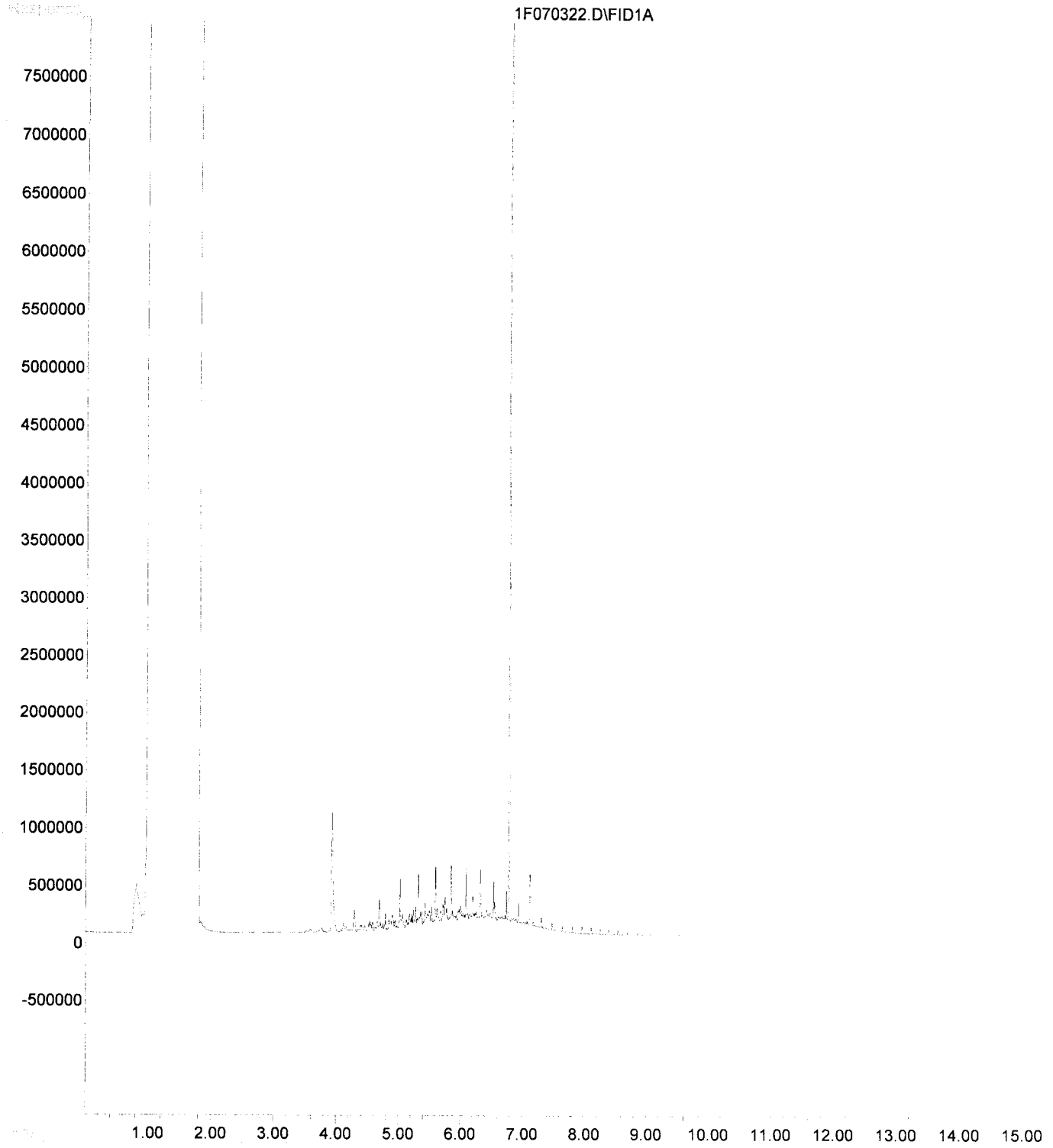
1F070322.D 1F90425W.M Fri Jul 05 08:05:25 2019 SV-GCMS3 Page 1

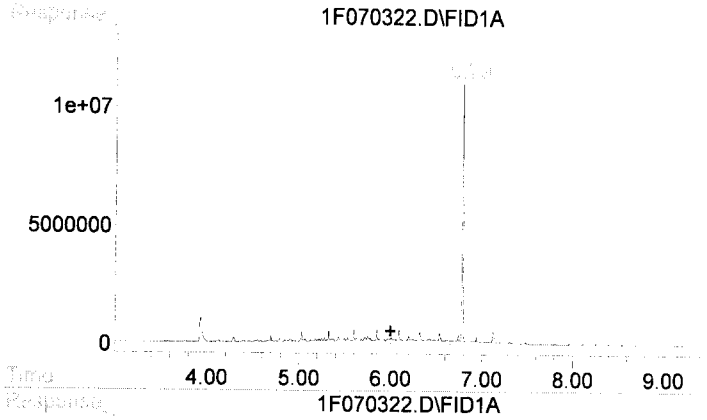
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070322.D Vial: 17
Acq On : 4 Jul 2019 5:27 Operator: BLL
Sample : 9070617-BSD1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:05 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

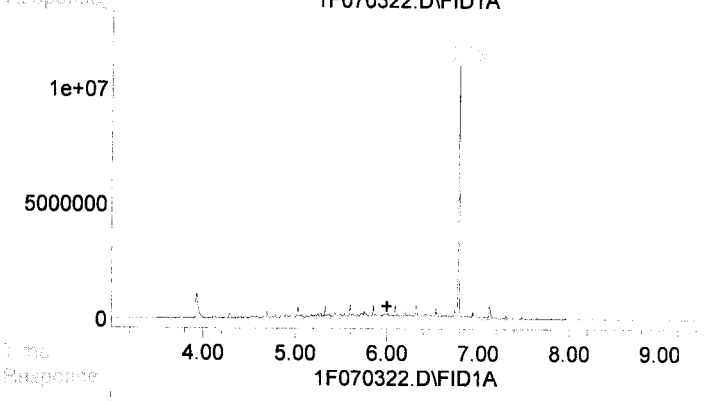
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





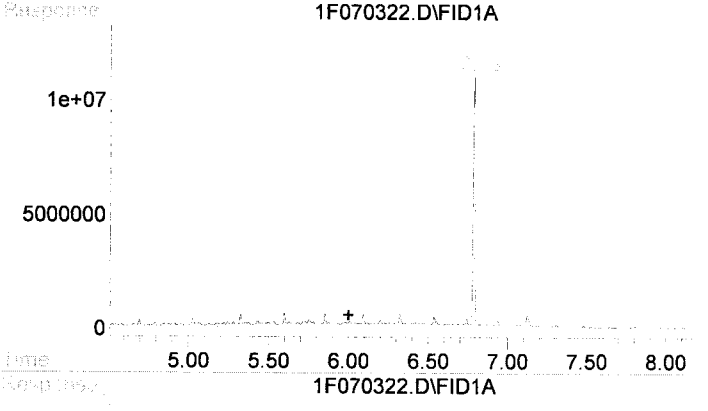
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 291684621
Conc: 228.83 ug/ml m



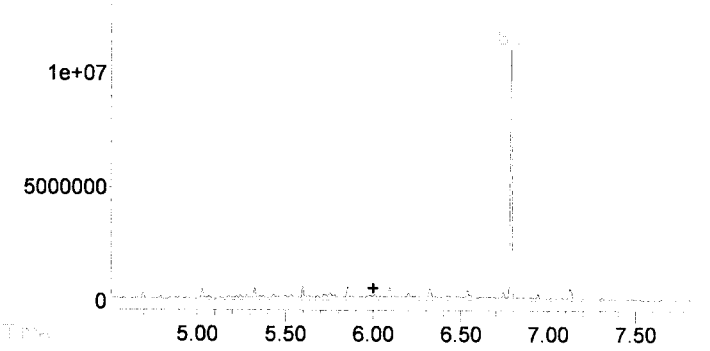
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 291684621
Conc: 228.83 ug/mL m



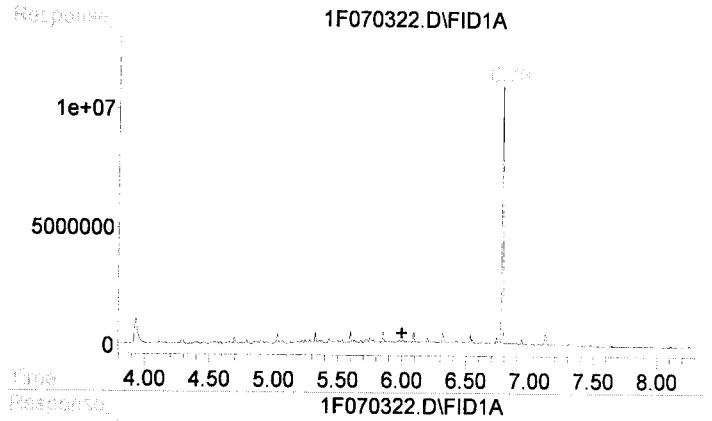
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 231747779
Conc: 181.81 ug/mL m



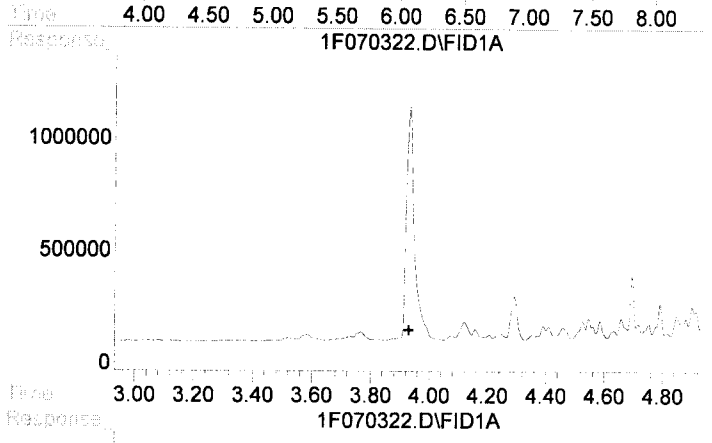
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 219426569
Conc: 234.09 ug/ml m



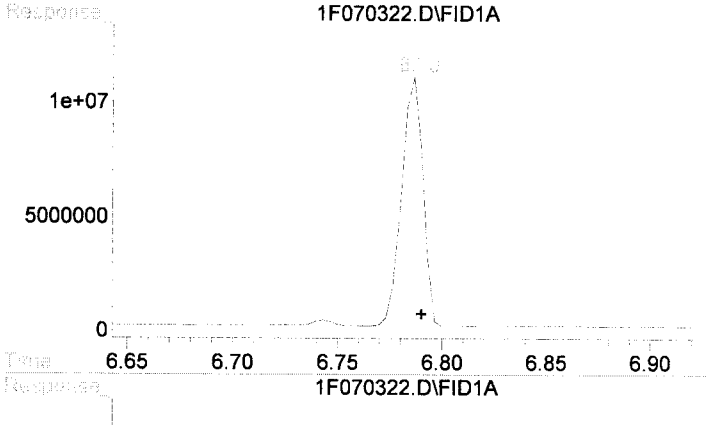
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 267330175
Conc: 230.84 ug/ml m



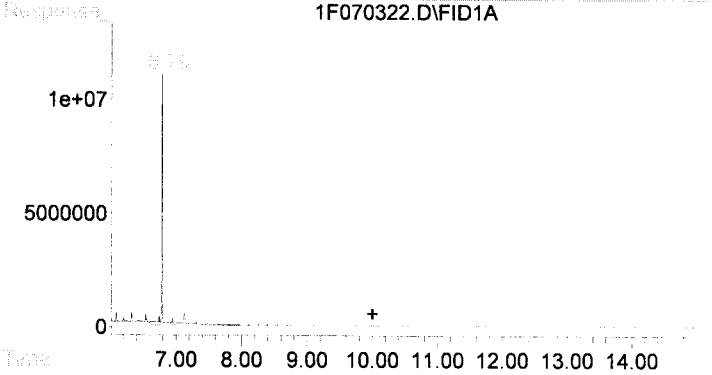
#6 BFB (Surr)

R.T.: 3.933 min
Delta R.T.: 0.003 min
Response: 20240055
Conc: N.D.



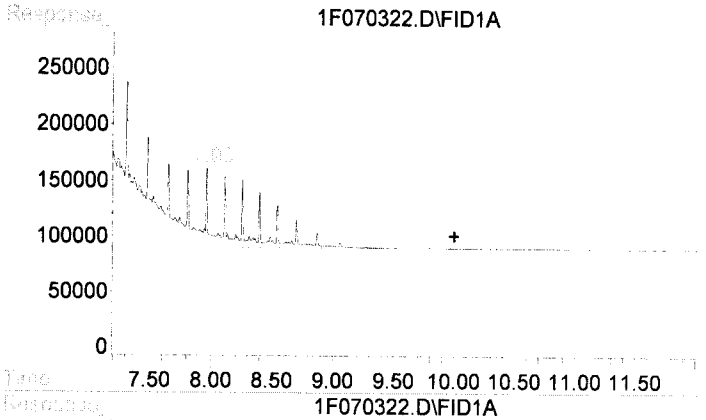
#7 o-Terphenyl

R.T.: 6.787 min
Delta R.T.: -0.003 min
Response: 77289805
Conc: 55.54 ug/mL



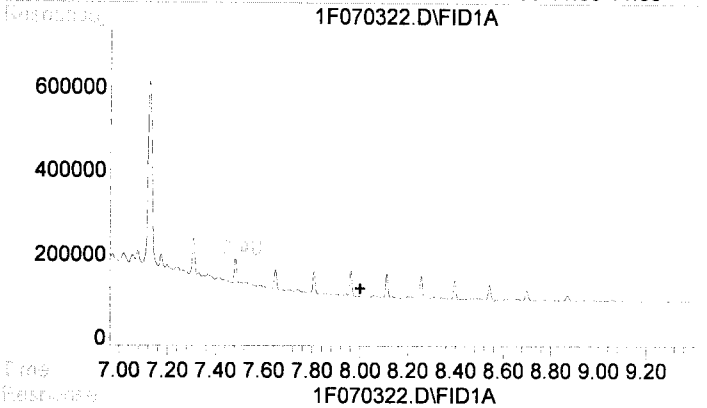
#8 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 87218123
Conc: 79.25 ug/mL m



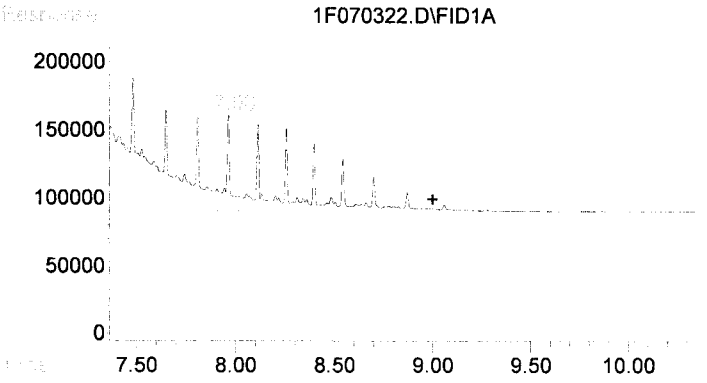
#9 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 9482493
Conc: 8.62 ug/mL m



#10 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 14347433
Conc: 19.73 ug/mL m



#11 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 6746353
Conc: 10.17 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070323.D Vial: 18
Acq On : 4 Jul 2019 5:49 Operator: BLL
Sample : A9F0860-02 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:05 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	BFB (Surr)	3.93	19513413	NoCal	ug/mL
7)	S	o-Terphenyl	6.79	75491176	54.251	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	2519938376	1976.963	ug/ml
2)	H	Diesel	6.00	2519938376	1976.963	ug/mL
3)	H	DRO(C12-C24)	6.00	2015221855	1580.999	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	1922347633	2050.828	ug/ml
5)	H	TPHd (C10-C25)	6.00	2229044799	1924.822	ug/ml
8)	H	OIL	10.00	991264316	900.746	ug/mL
9)	H	RRO (C24-C40)	10.00	351881622	319.749	ug/mL
10)	H	Ca Luft ORO (C23-C32)	8.00	290640665	399.588	ug/mL
11)	H	TPHmo (C25-C36)	9.00	269119103	405.533	ug/mL

F.17

Report DRO/RRO
AR 7.5.19

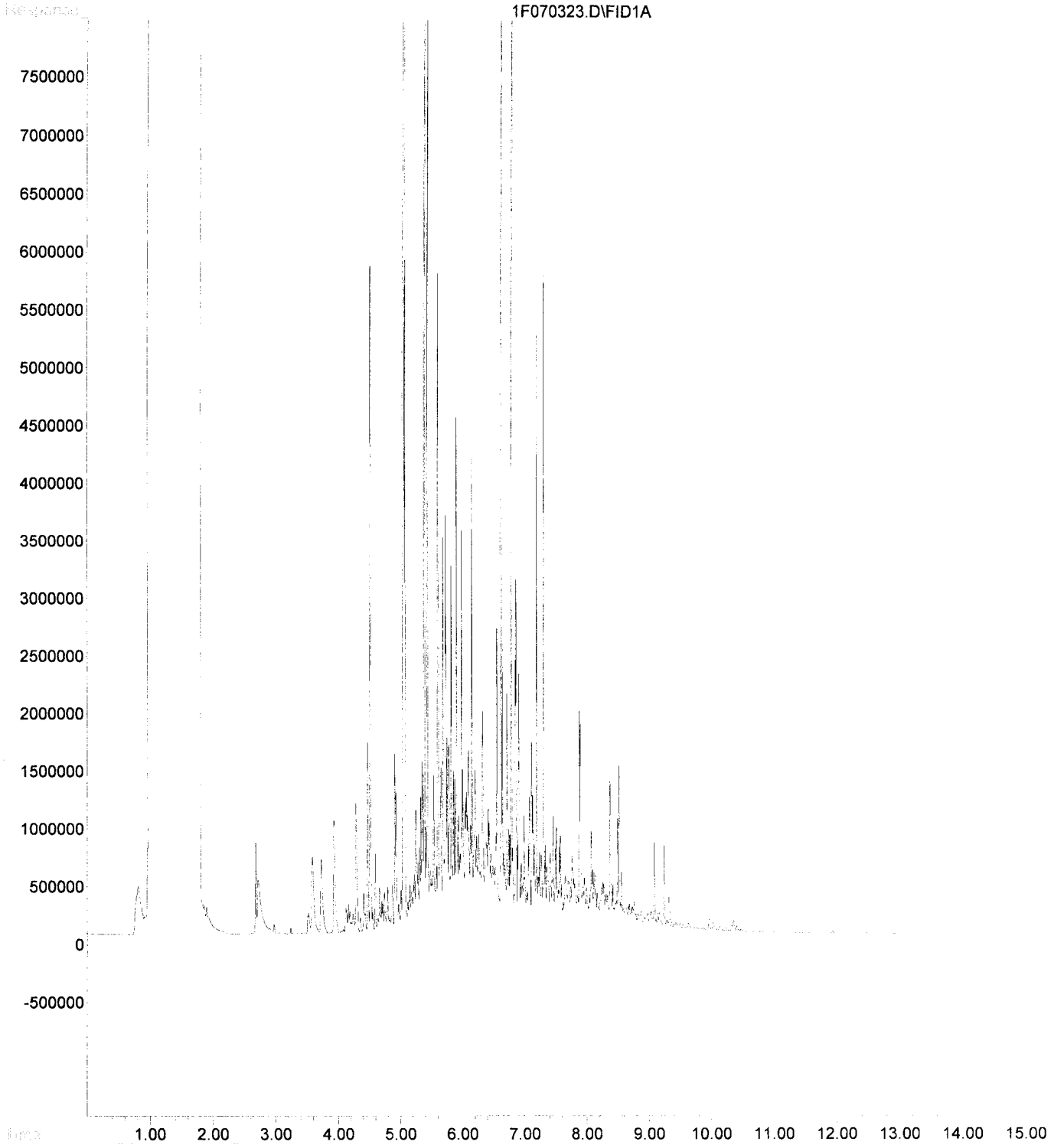
(f)=RT Delta > 1/2 Window (m)=manual int.

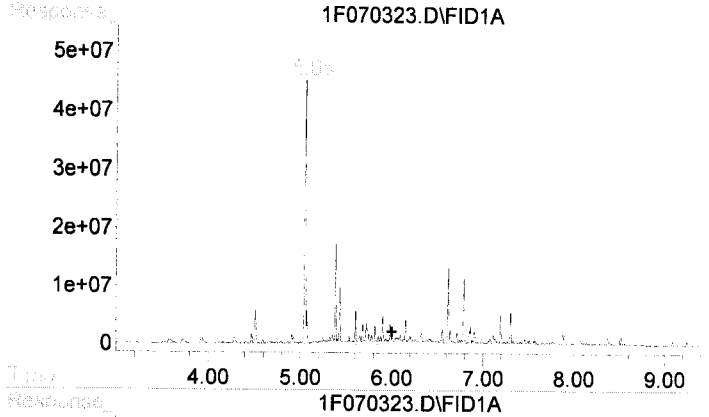
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070323.D Vial: 18
Acq On : 4 Jul 2019 5:49 Operator: BLL
Sample : A9F0860-02 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:05 2019 Quant Results File: 1F90425W.RES

Quant Method : F:\1\METHODS\1F90425W.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Jun 28 14:12:47 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

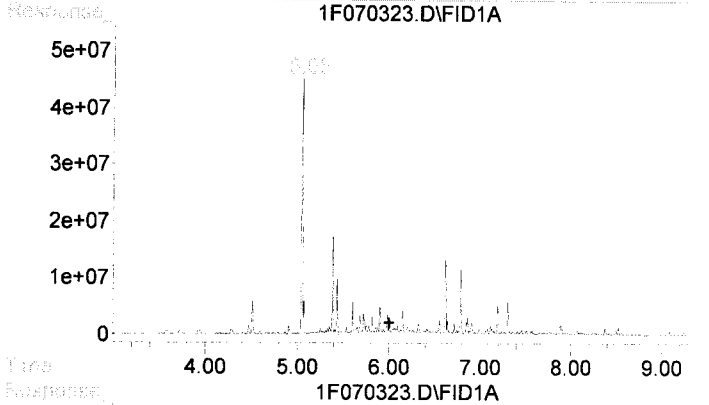
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





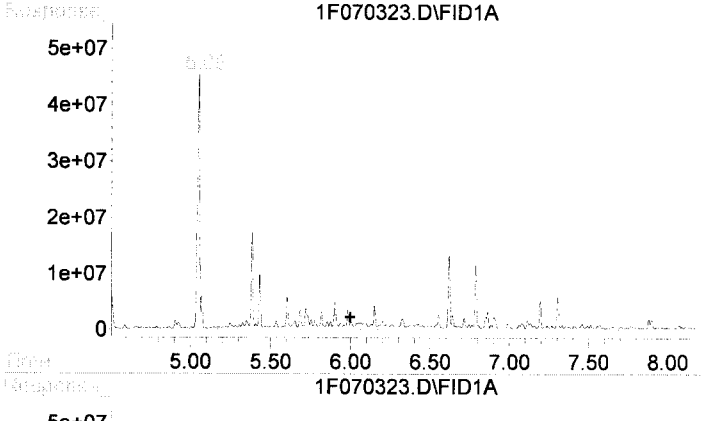
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2519938376
Conc: 1976.96 ug/ml m



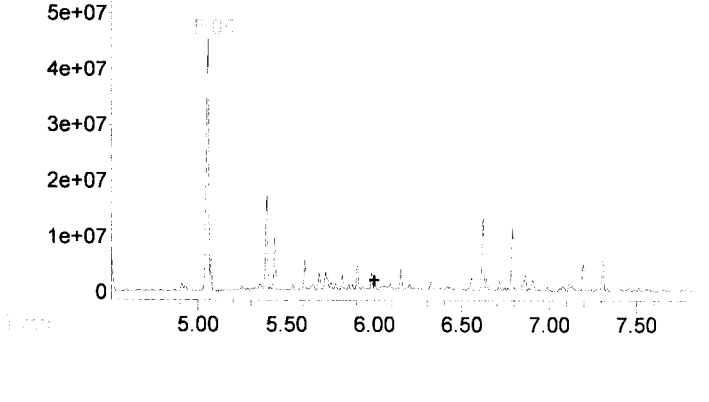
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2519938376
Conc: 1976.96 ug/mL m



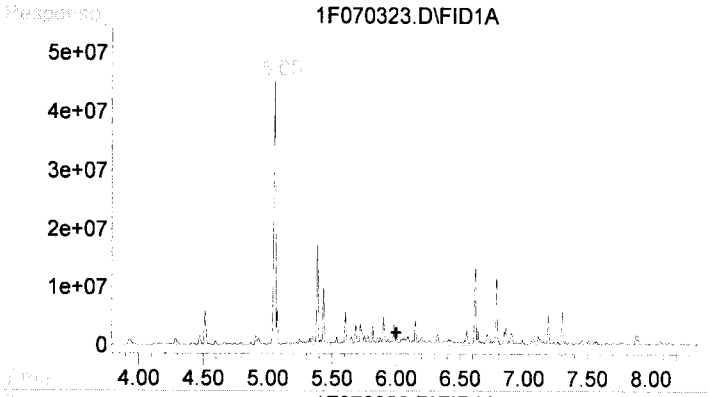
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2015221855
Conc: 1581.00 ug/mL m



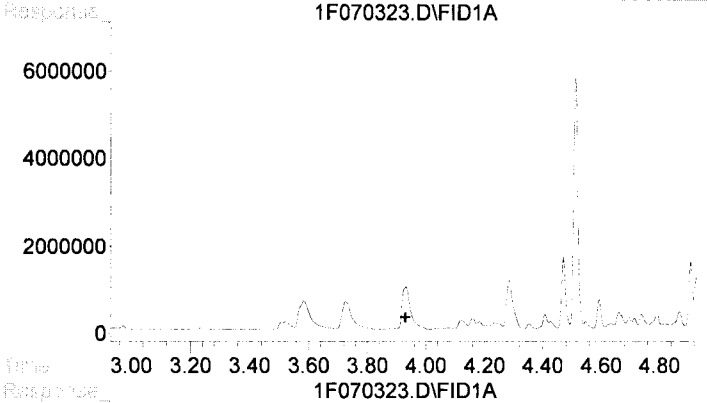
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1922347633
Conc: 2050.83 ug/ml m



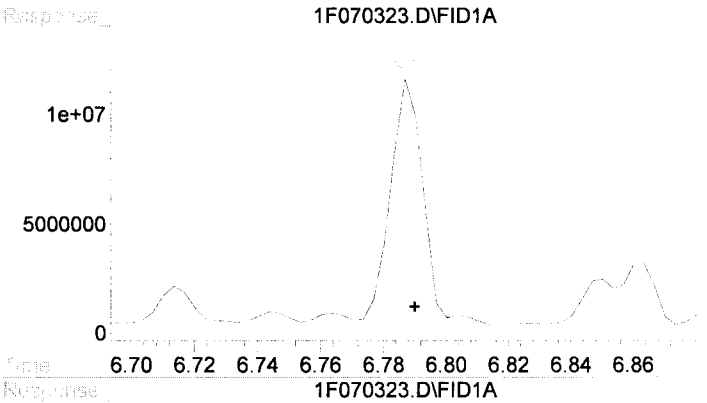
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 2229044799
Conc: 1924.82 ug/ml m



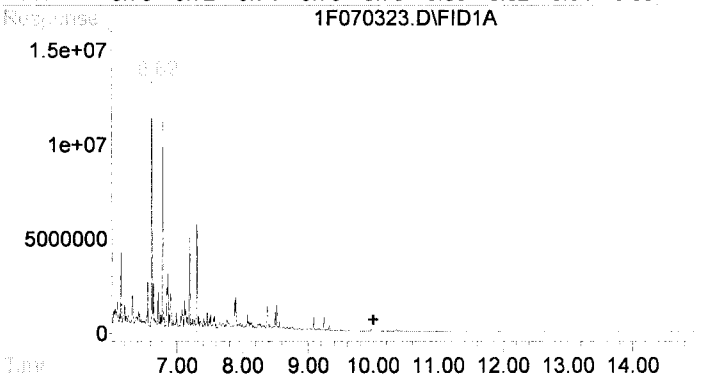
#6 BFB (Surr)

R.T.: 3.932 min
Delta R.T.: 0.002 min
Response: 19513413
Conc: N.D.



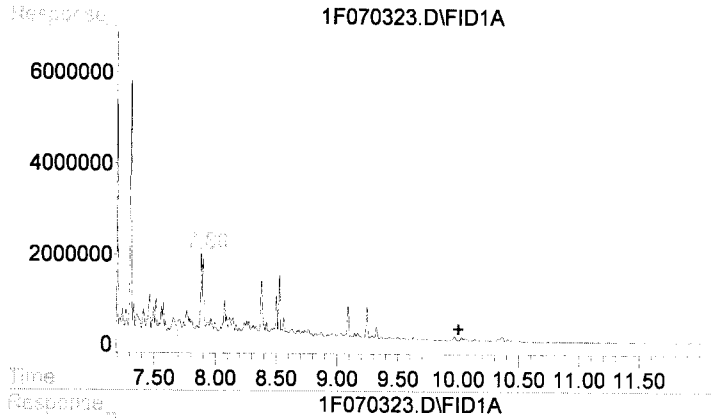
#7 o-Terphenyl

R.T.: 6.789 min
Delta R.T.: 0.000 min
Response: 75491176
Conc: 54.25 ug/mL



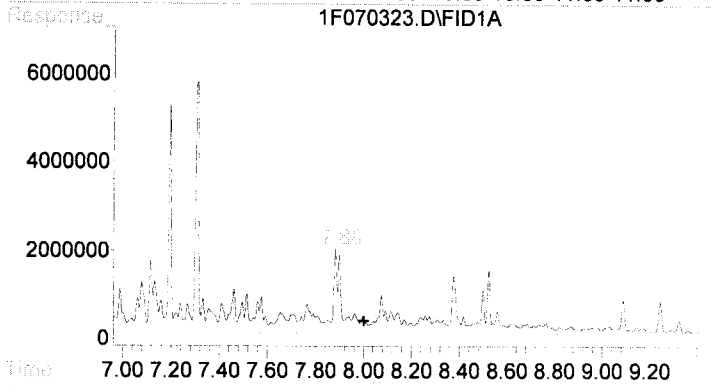
#8 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 991264316
Conc: 900.75 ug/mL m



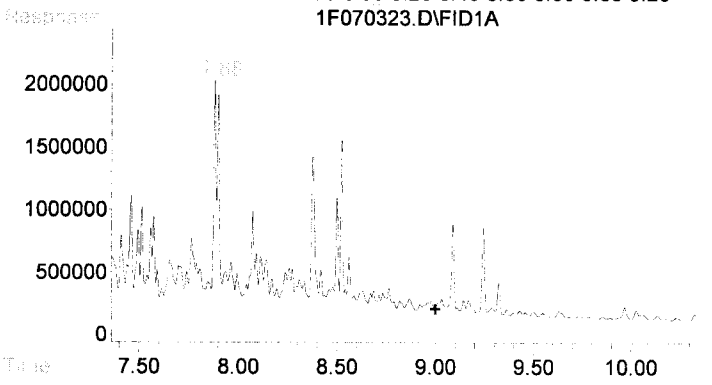
#9 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 351881622
Conc: 319.75 ug/mL m



#10 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 290640665
Conc: 399.59 ug/mL m



#11 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 269119103
Conc: 405.53 ug/mL m

Evaluate Continuing Calibration Report

Data File : F:\1\DATA\2019-07\9G03030\1F070329.D
Acq On : 4 Jul 2019 8:04
Sample : 9G03030-CCV5
Misc :
IntFile : SUR.E

Vial: 23
Operator: BLL
Inst : HP G1530A
Multiplr: 1.00

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	H	Mineral Oil	1000.000	1034.164	-3.4	105	0.00
2	H	Diesel	1000.000	1034.164	-3.4	105	0.00
3	H	DRO(C12-C24)	1000.000	812.157	18.8#	83	0.00
4	H	Ca Luft DRO (C12-C22)	1000.000	1054.201	-5.4	104	0.00
5	H	TPHd (C10-C25)	1000.000	1054.660	-5.5	105	0.00
6	S	o-Terphenyl	-1.000	55.390	0.0	0	0.00
7	H	OIL	-1.000	319.424	0.0	102	0.00
8	H	RRO (C24-C40)	-1.000	20.114	0.0	6	0.00
9	H	Ca Luft ORO (C23-C32)	-1.000	58.115	0.0	108	0.00
10	H	TPHmo (C25-C36)	-1.000	19.834	0.0	111	0.00

AL
7.5.19

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

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070329.D Vial: 23
Acq On : 4 Jul 2019 8:04 Operator: BLL
Sample : 9G03030-CCV5 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:42 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.79	77076413	55.390	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	1318197911	1034.164	ug/ml
2)	H	Diesel	6.00	1318197911	1034.164	ug/mL
3)	H	DRO(C12-C24)	6.00	1035217197	812.157	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	988157354	1054.201	ug/ml
5)	H	TPHd (C10-C25)	6.00	1221350761	1054.660	ug/ml
7)	H	OIL	10.00	351523689	319.424	ug/mL
8)	H	RRO (C24-C40)	10.00	22135819	20.114	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	42269964	58.115	ug/mL
10)	H	TPHmo (C25-C36)	9.00	13162169	19.834	ug/mL

AR
7.5.19

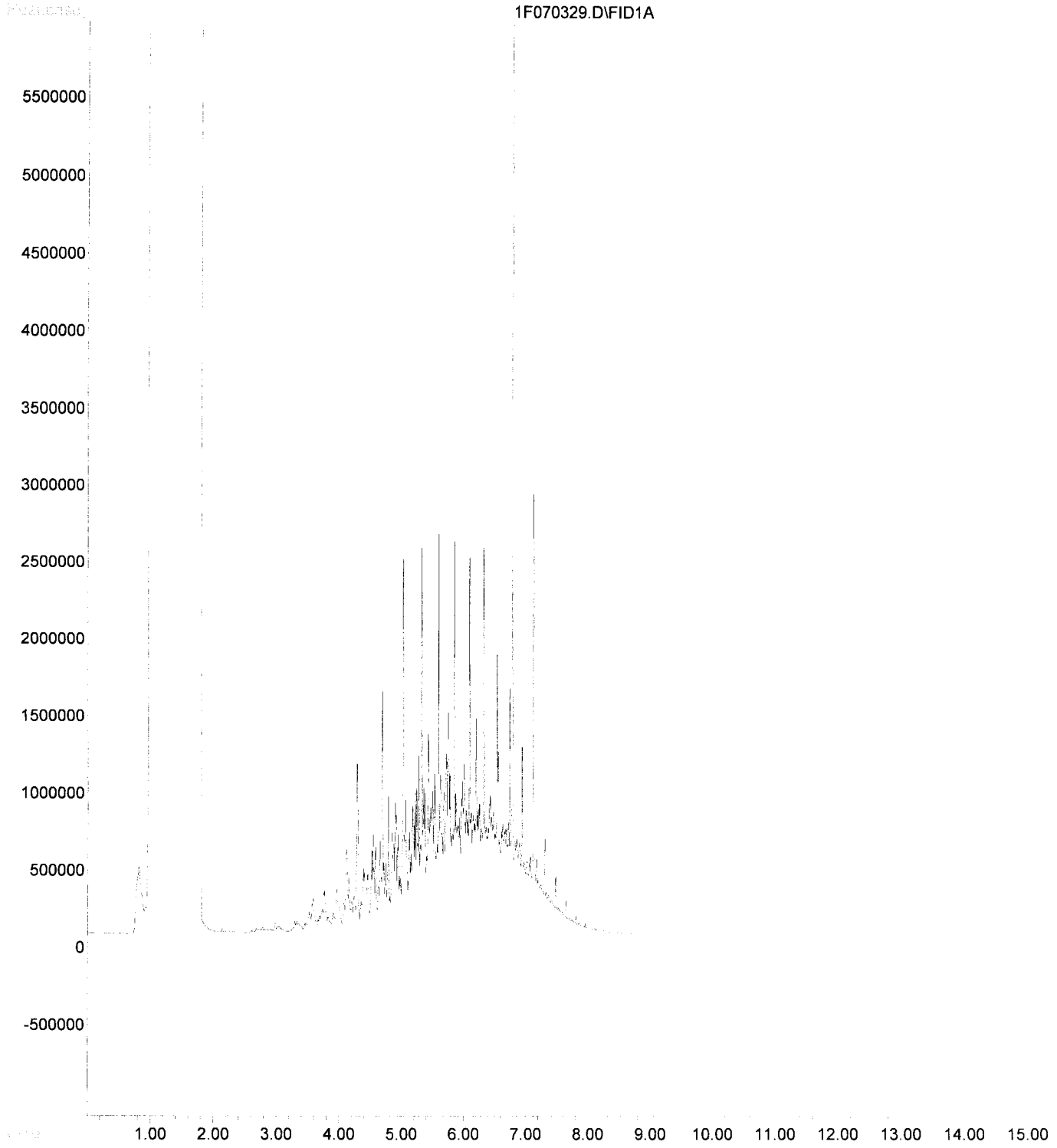
✓

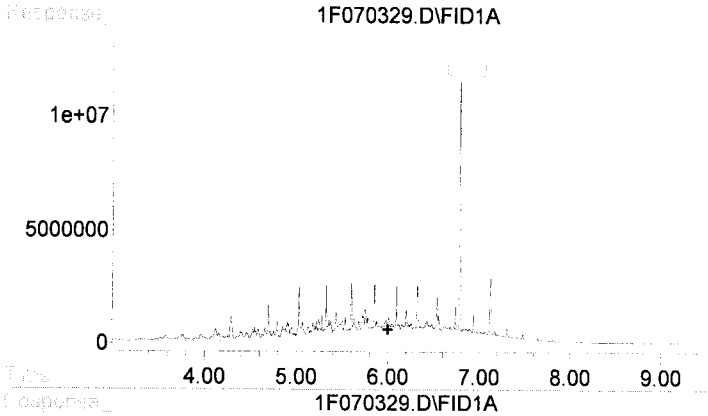
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070329.D Vial: 23
Acq On : 4 Jul 2019 8:04 Operator: BLL
Sample : 9G03030-CCV5 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:42 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

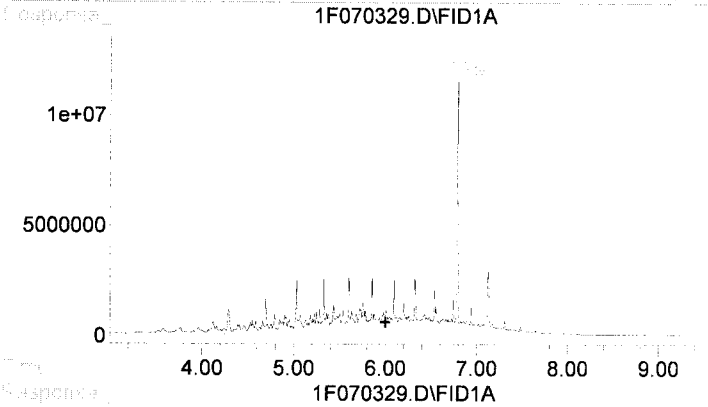
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





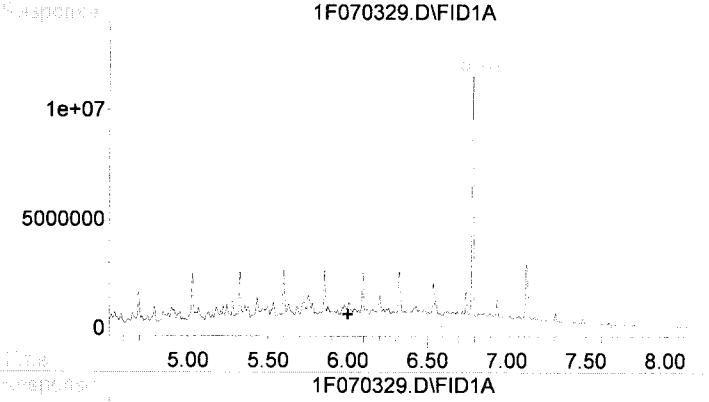
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1318197911
Conc: 1034.16 ug/ml m



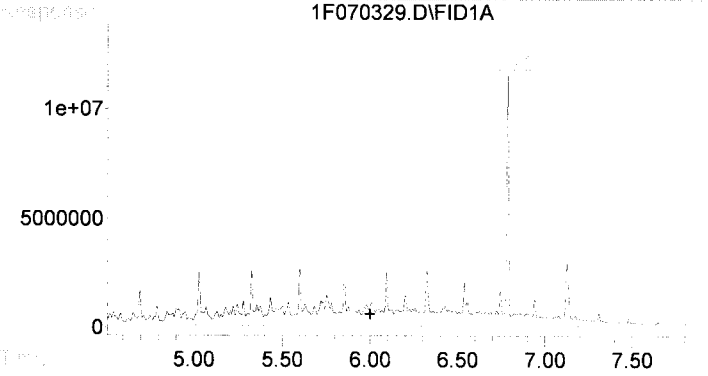
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1318197911
Conc: 1034.16 ug/mL m



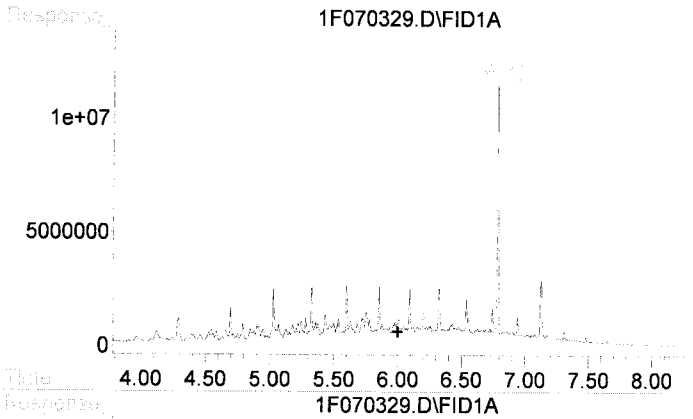
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1035217197
Conc: 812.16 ug/mL m



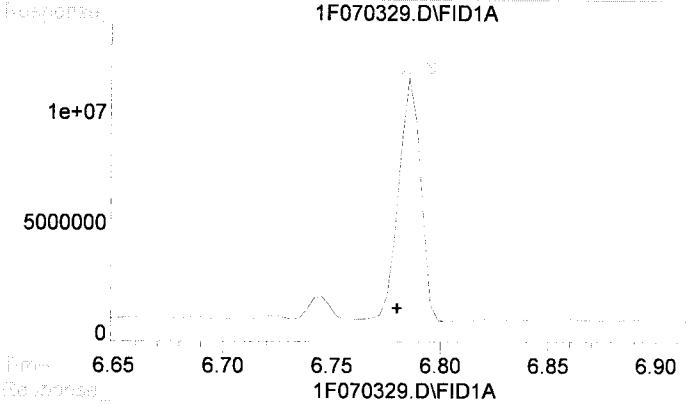
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 988157354
Conc: 1054.20 ug/ml m



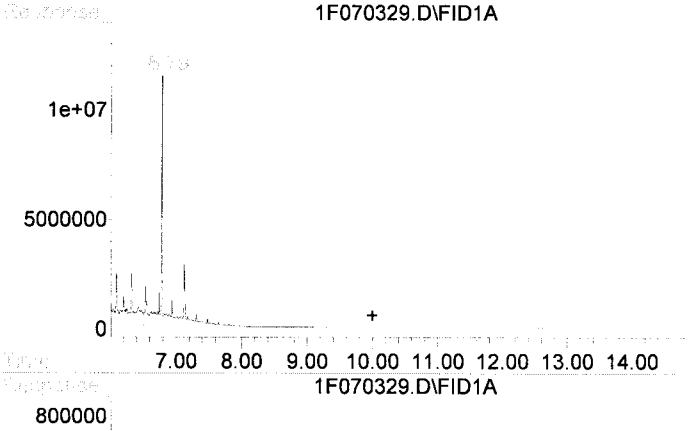
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 1221350761
Conc: 1054.66 ug/ml m



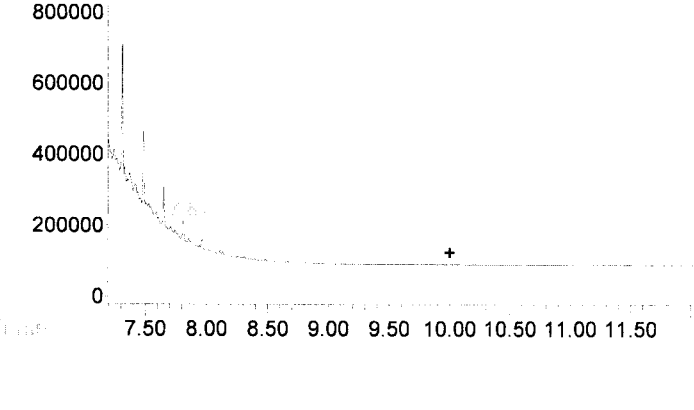
#6 o-Terphenyl

R.T.: 6.787 min
Delta R.T.: 0.007 min
Response: 77076413
Conc: 55.39 ug/mL



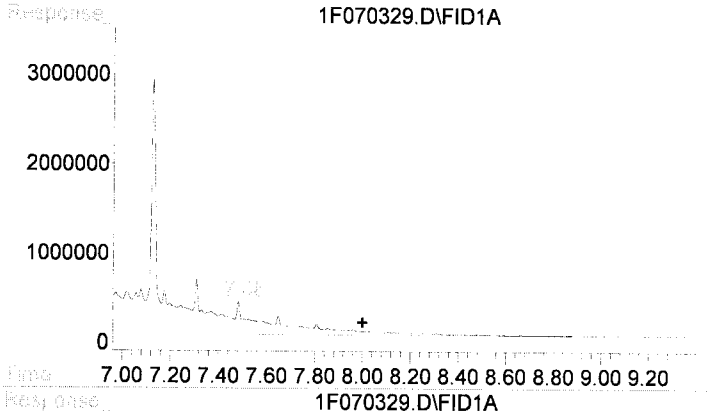
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 351523689
Conc: 319.42 ug/mL m



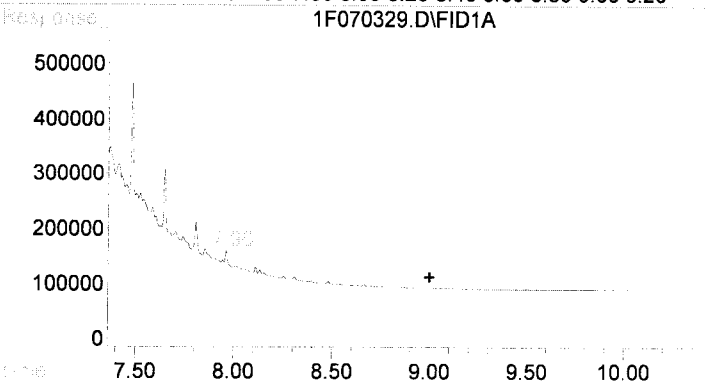
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 22135819
Conc: 20.11 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 42269964
Conc: 58.11 ug/mL m



#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 13162169
Conc: 19.83 ug/mL m

Evaluate Continuing Calibration Report

Data File : F:\1\DATA\2019-07\9G03030\1F070330.D Vial: 24
Acq On : 4 Jul 2019 8:27 Operator: BLL
Sample : 9G03030-CCV6 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	H	Mineral Oil	-1.000	351.533	0.0	104	0.00
2	H	Diesel	-1.000	351.533	0.0	104	0.00
3	H	DRO(C12-C24)	-1.000	84.576	0.0	25	0.00
4	H	Ca Luft DRO (C12-C22)	-1.000	40.108	0.0	107	0.00
5	H	TPHd (C10-C25)	-1.000	141.828	0.0	109	0.00
6	S	o-Terphenyl	-1.000	54.717	0.0	0	0.00
7	H	OIL	500.000	523.181	-4.6	104	0.00
8	H	RRO (C24-C40)	500.000	409.103	18.2#	82	0.00
9	H	Ca Luft ORO (C23-C32)	500.000	529.178	-5.8	104	0.00
10	H	TPHmo (C25-C36)	500.000	520.248	-4.0	103	0.00

AL
7.5.19

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

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070330.D Vial: 24
Acq On : 4 Jul 2019 8:27 Operator: BLL
Sample : 9G03030-CCV6 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:42 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.79	76139976	54.717	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	448081547	351.533	ug/ml
2)	H	Diesel	6.00	448081547	351.533	ug/mL
3)	H	DRO(C12-C24)	6.00	107804648	84.576	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	37595321	40.108	ug/ml
5)	H	TPHd (C10-C25)	6.00	164243727	141.828	ug/ml
7)	H	OIL	10.00	575756974	523.181	ug/mL
8)	H	RRO (C24-C40)	10.00	450214674	409.103	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	384897782	529.178	ug/mL
10)	H	TPHmo (C25-C36)	9.00	345246337	520.248	ug/mL

AR
7.5.19

(f)=RT Delta > 1/2 Window (m)=Manual Int.

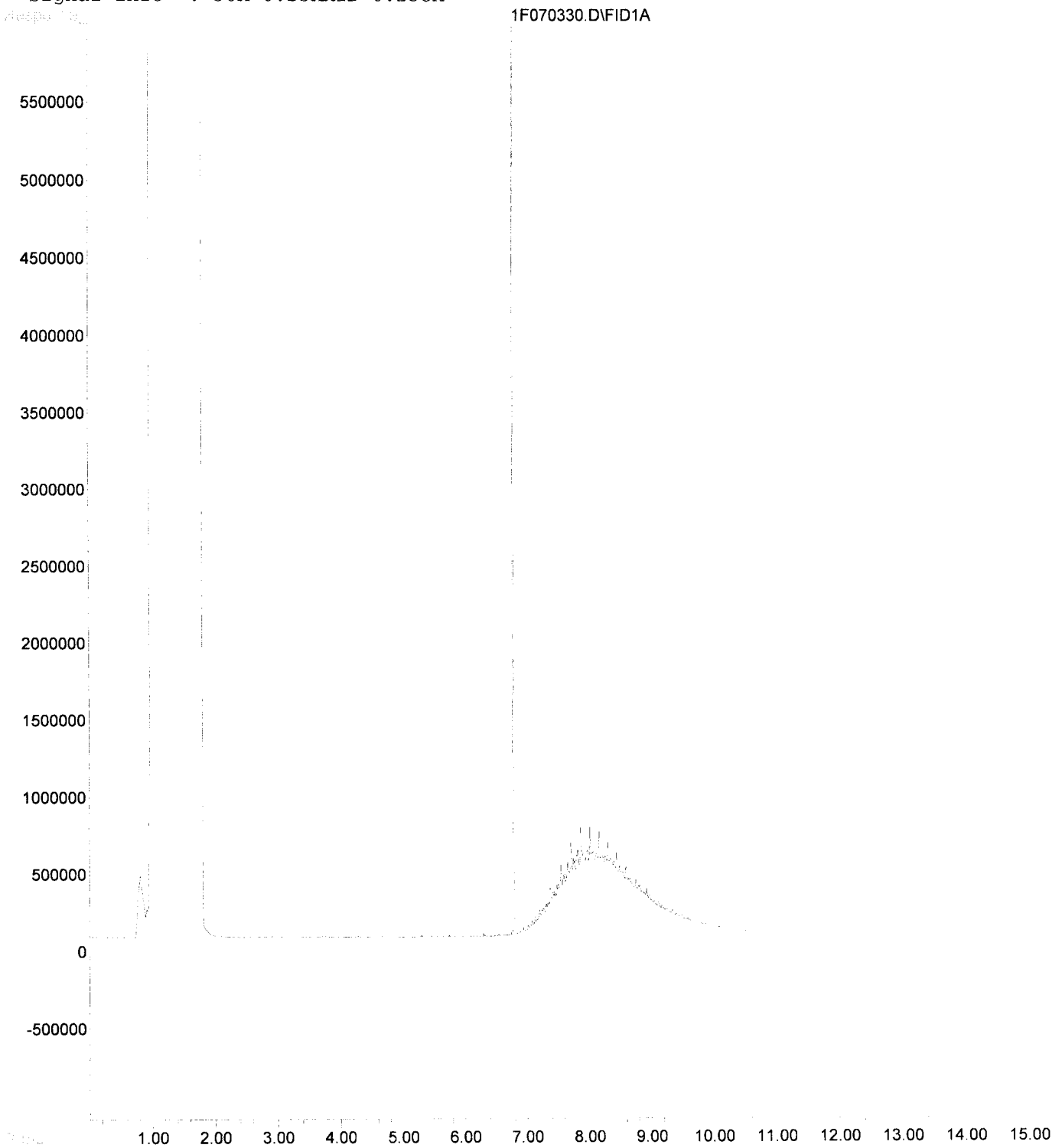
1F070330.D 1F90425D.M Fri Jul 05 08:42:45 2019 SV-GCMS3

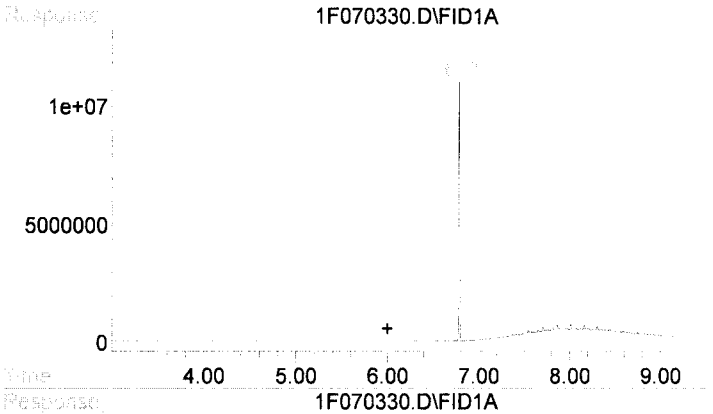
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-07\9G03030\1F070330.D Vial: 24
Acq On : 4 Jul 2019 8:27 Operator: BLL
Sample : 9G03030-CCV6 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Jul 5 8:42 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Mon Jul 01 05:13:34 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

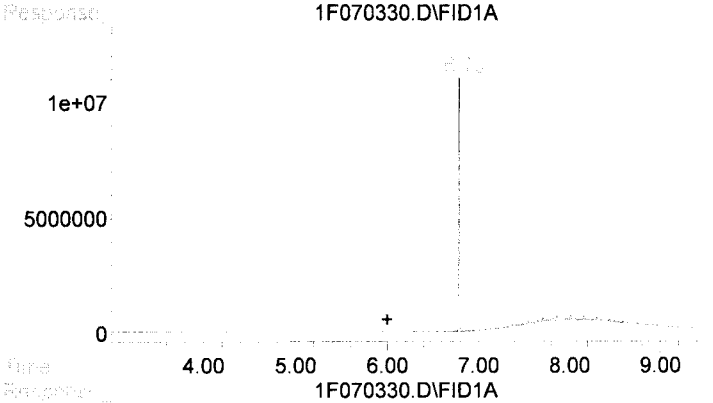
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





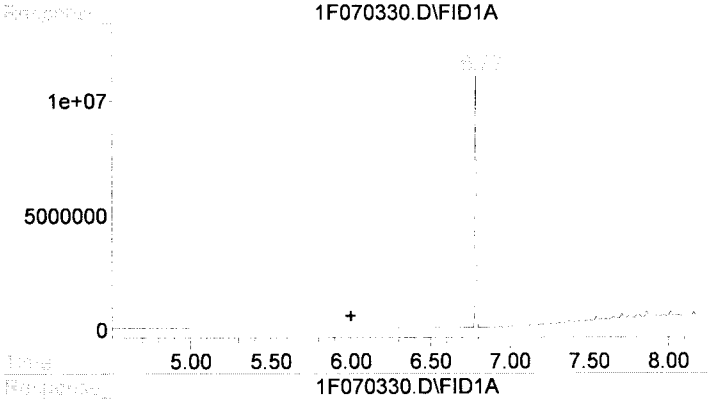
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 448081547
Conc: 351.53 ug/ml m



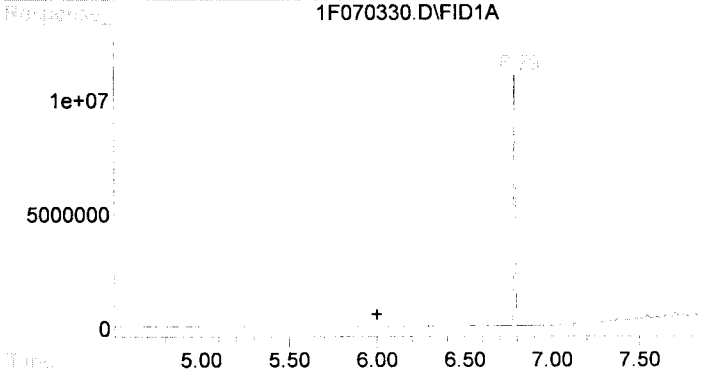
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 448081547
Conc: 351.53 ug/mL m



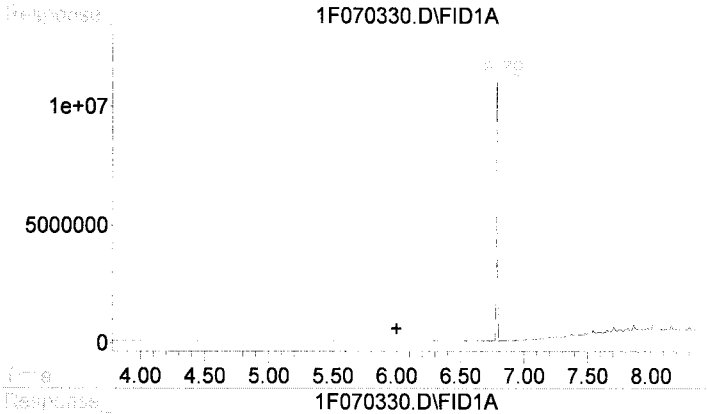
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 107804648
Conc: 84.58 ug/mL m



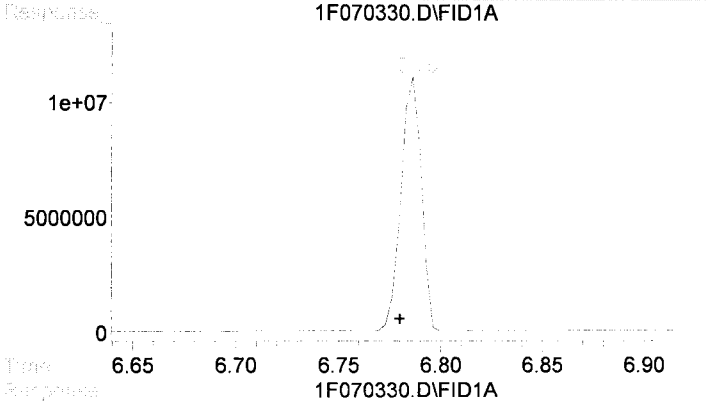
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 37595321
Conc: 40.11 ug/ml m



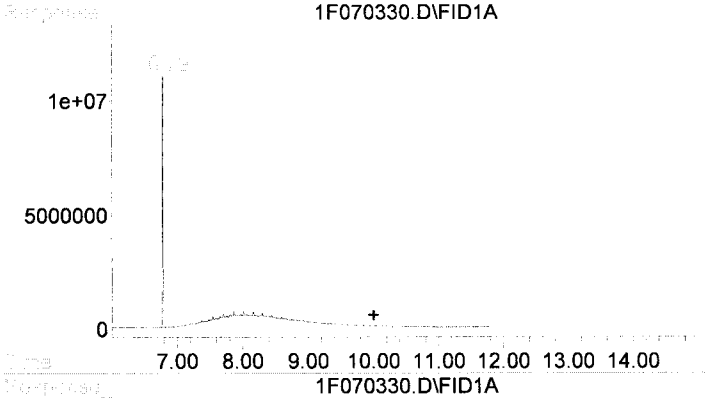
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 164243727
Conc: 141.83 ug/ml m



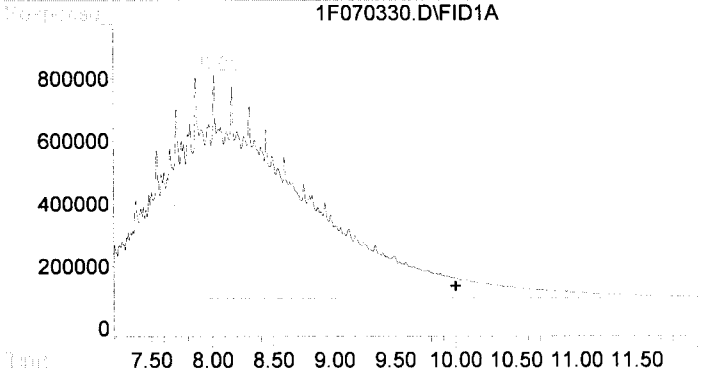
#6 o-Terphenyl

R.T.: 6.787 min
Delta R.T.: 0.007 min
Response: 76139976
Conc: 54.72 ug/mL



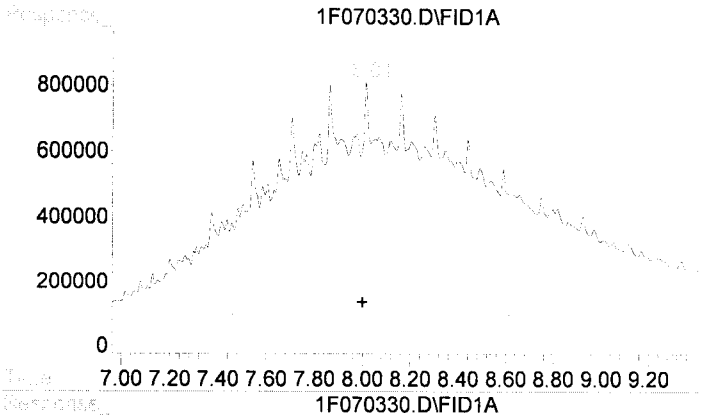
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 575756974
Conc: 523.18 ug/mL m



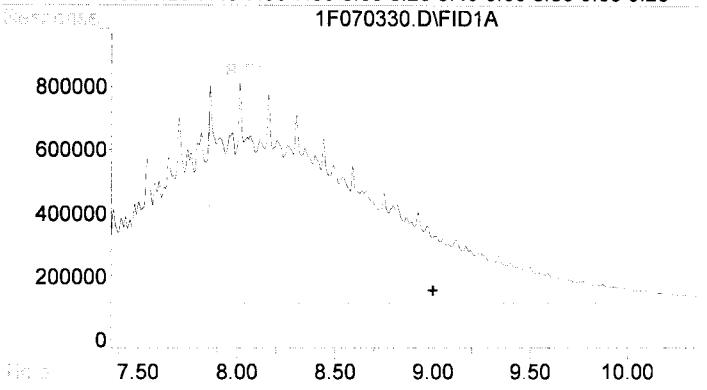
#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 450214674
Conc: 409.10 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 384897782
Conc: 529.18 ug/mL m



#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 345246337
Conc: 520.25 ug/mL m

Diesel and /or Oil Hydrocarbons by NWTPH-Dx
Calibration Data

Sequence 9D25027 (Cal ID A9D2602) DUALFID1R

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9D25027**	Instrument:	**DUALFID1F**
Date:	**04/25/19 11:47**	Calibration:	**A9D2602**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9D25027-RES1	Soil	QC	QC				A19C198
2	9D25027-ICB1	Soil	QC	QC				
3	9D25027-CAL1	Soil	QC	QC				A19C305
4	9D25027-CAL2	Soil	QC	QC				A19C306
5	9D25027-CAL3	Soil	QC	QC				A19C307
6	9D25027-CAL4	Soil	QC	QC				A19C308
7	9D25027-CAL5	Soil	QC	QC				A19C309
8	9D25027-CAL6	Soil	QC	QC				A19C310
9	9D25027-CAL7	Soil	QC	QC				A19C311
10	9D25027-CAL8	Soil	QC	QC				A19C204
11	9D25027-CAL9	Soil	QC	QC				A19D191
12	9D25027-CALA	Soil	QC	QC				A19D192
13	9D25027-CALB	Soil	QC	QC				A19D193
14	9D25027-CALC	Soil	QC	QC				A19D194
15	9D25027-CALD	Soil	QC	QC				A19C210
16	9D25027-CALE	Soil	QC	QC				A19C365
17	9D25027-CALF	Soil	QC	QC				A19C366
18	9D25027-CALG	Soil	QC	QC				A19C367
19	9D25027-CALH	Soil	QC	QC				A19C368
20	9D25027-CALI	Soil	QC	QC				A19C373
21	9D25027-CALJ	Soil	QC	QC				A19C370
22	9D25027-IBL1	Soil	QC	QC				
23	9D25027-CALK	Soil	QC	QC				A19C364
24	9D25027-IBL2	Soil	QC	QC				
25	9D25027-ICV1	Soil	QC	QC				A19D271
26	9D25027-ICV2	Soil	QC	QC				A19D272

Data Entered By: Kelt 4/26/19

Data Reviewed By: [signature] 4/26/19

Comments:

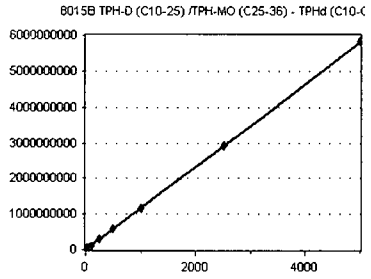
Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **8015B TPH-D (C10-25) /TPH·** Instrument Cal ID: **1F90425D.m**

TPHd (C10-C25)

Curve Fit: **AVERAGE RF**

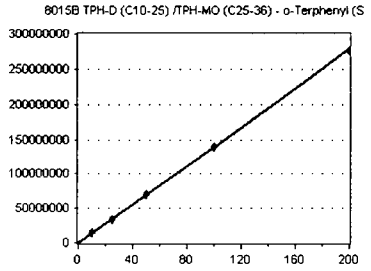


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	851515E+07	1140606.000	6.00
9D25027-CAL2	40	575255E+07	1143814.000	6.00
9D25027-CAL3	100	134596E+08	1134596.000	6.00
9D25027-CAL4	250	921196E+08	1168479.000	6.00
9D25027-CAL5	500	899296E+08	1179859.000	6.00
9D25027-CAL6	1000	164841E+09	1164841.000	6.00
9D25027-CAL7	2500	1.91916E+09	1167664.000	6.00
9D25027-CAL8	5000	822794E+09	1164559.000	6.00

AVE RF **1158052.000** RF RSD **1.39** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

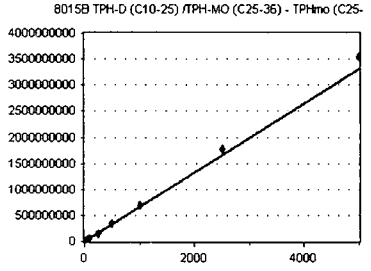


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	1.45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	1.75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

TPHmo (C25-C36)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	362306E+07	590576.500	9.00
9D25027-CALF	80	952232E+07	619029.000	9.00
9D25027-CALG	250	606323E+08	642529.200	9.00
9D25027-CALH	500	360458E+08	672091.600	9.00
9D25027-CALI	1000	7.0138E+08	701379.900	9.00
9D25027-CALJ	2500	775804E+09	710321.600	9.00
9D25027-CALK	5000	547022E+09	709404.400	9.00

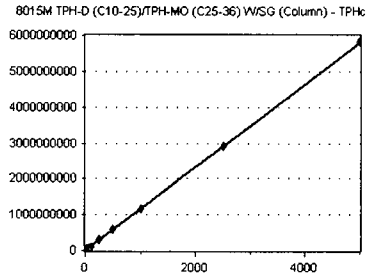
AVE RF **663618.900** RF RSD **7.16** AVE RT **9.00**

Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **8015M TPH-D (C10-25)/TPH-** Instrument Cal ID: **1F90425D.m**

TPHd (C10-C25)

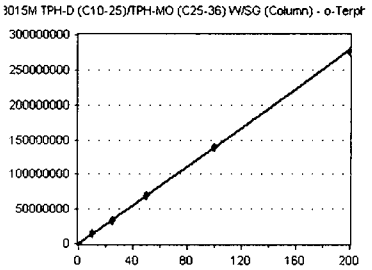


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	851515E+07	1140606.000	6.00
9D25027-CAL2	40	575255E+07	1143814.000	6.00
9D25027-CAL3	100	134596E+08	1134596.000	6.00
9D25027-CAL4	250	921196E+08	1168479.000	6.00
9D25027-CAL5	500	899296E+08	1179859.000	6.00
9D25027-CAL6	1000	164841E+09	1164841.000	6.00
9D25027-CAL7	2500	.91916E+09	1167664.000	6.00
9D25027-CAL8	5000	822794E+09	1164559.000	6.00

AVE RF **1158052.000** RF RSD **1.39** AVE RT **6.00**

o-Terphenyl (Surr)

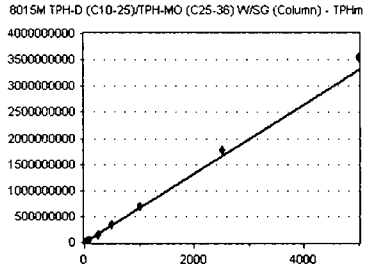


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	.45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	.75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

TPHmo (C25-C36)



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	362306E+07	590576.500	9.00
9D25027-CALF	80	952232E+07	619029.000	9.00
9D25027-CALG	250	606323E+08	642529.200	9.00
9D25027-CALH	500	360458E+08	672091.600	9.00
9D25027-CALI	1000	7.0138E+08	701379.900	9.00
9D25027-CALJ	2500	775804E+09	710321.600	9.00
9D25027-CALK	5000	547022E+09	709404.400	9.00

AVE RF **663618.900** RF RSD **7.16** AVE RT **9.00**

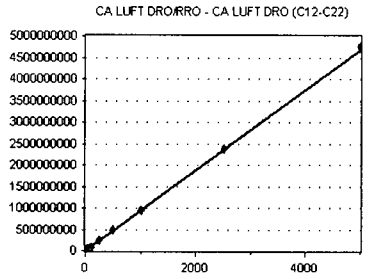
Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **CA LUFT DRO/RRO** Instrument Cal ID: **1F90425D.m**

CA LUFT DRO (C12-C22)

Curve Fit: **AVERAGE RF**

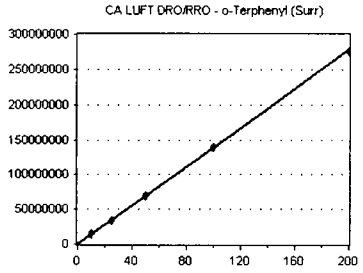


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	268475E+07	907390.000	6.00
9D25027-CAL2	40	647287E+07	911821.800	6.00
9D25027-CAL3	100	181746E+07	918174.600	6.00
9D25027-CAL4	250	370784E+08	948313.600	6.00
9D25027-CAL5	500	808429E+08	961685.800	6.00
9D25027-CAL6	1000	500637E+08	950063.700	6.00
9D25027-CAL7	2500	380626E+09	952250.400	6.00
9D25027-CAL8	5000	745589E+09	949117.900	6.00

AVE RF **937352.200** RF RSD **2.26** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

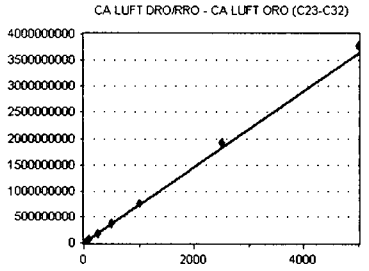


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	3.45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	1.75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

CA LUFT ORO (C23-C32)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	624002E+07	656000.500	8.00
9D25027-CALF	80	537953E+07	692244.100	8.00
9D25027-CALG	250	787992E+08	715196.800	8.00
9D25027-CALH	500	3.69625E+08	739250.000	8.00
9D25027-CALI	1000	7.64513E+08	764513.000	8.00
9D25027-CALJ	2500	913826E+09	765530.400	8.00
9D25027-CALK	5000	793601E+09	758720.200	8.00

AVE RF **727350.700** RF RSD **5.73** AVE RT **8.00**

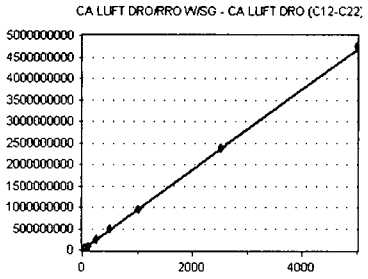
Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **CA LUFT DRO/RRO W/SG** Instrument Cal ID: **1F90425D.m**

CA LUFT DRO (C12-C22)

Curve Fit: **AVERAGE RF**

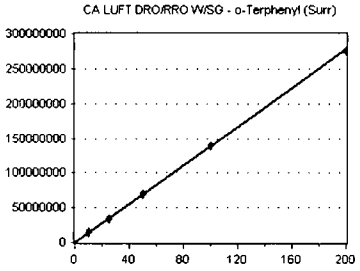


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	268475E+07	907390.000	6.00
9D25027-CAL2	40	547287E+07	911821.800	6.00
9D25027-CAL3	100	181746E+07	918174.600	6.00
9D25027-CAL4	250	370784E+08	948313.600	6.00
9D25027-CAL5	500	808429E+08	961685.800	6.00
9D25027-CAL6	1000	500637E+08	950063.700	6.00
9D25027-CAL7	2500	380626E+09	952250.400	6.00
9D25027-CAL8	5000	745589E+09	949117.900	6.00

AVE RF **937352.200** RF RSD **2.26** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

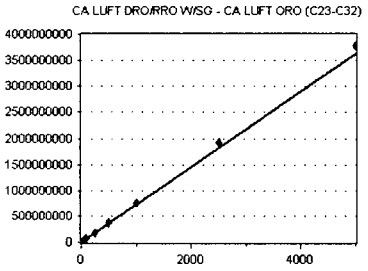


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	1.45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	1.75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

CA LUFT ORO (C23-C32)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	624002E+07	656000.500	8.00
9D25027-CALF	80	537953E+07	692244.100	8.00
9D25027-CALG	250	787992E+08	715196.800	8.00
9D25027-CALH	500	1.69625E+08	739250.000	8.00
9D25027-CALI	1000	7.64513E+08	764513.000	8.00
9D25027-CALJ	2500	913826E+09	765530.400	8.00
9D25027-CALK	5000	793601E+09	758720.200	8.00

AVE RF **727350.700** RF RSD **5.73** AVE RT **8.00**

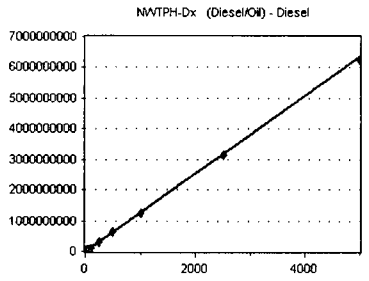
Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **NWTPH-Dx (Diesel/Oil)** Instrument Cal ID: **1F90425D.m**

Diesel

Curve Fit: **AVERAGE RF**

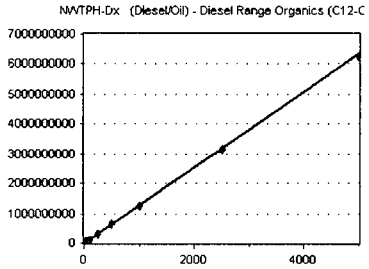


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

Diesel Range Organics (C12-C24

Curve Fit: **AVERAGE RF**

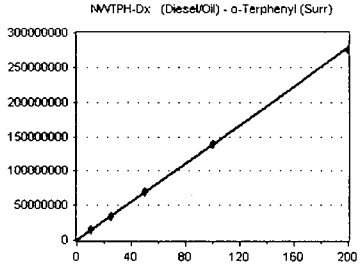


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

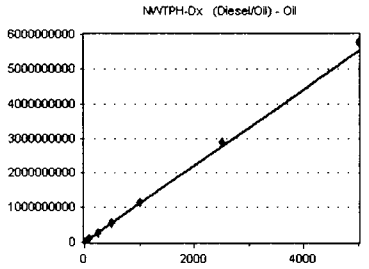


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	3.45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	1.75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

Oil

Curve Fit: **AVERAGE RF**

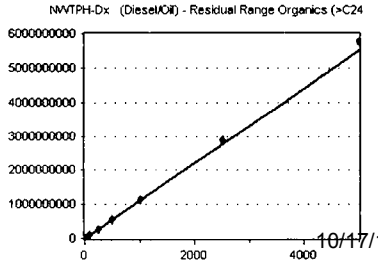


Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	5.78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

Residual Range Organics (>C24

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	5.78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

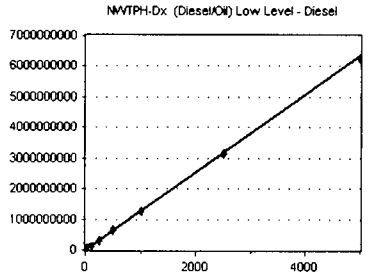
Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **NWTPH-Dx (Diesel/Oil) Low** Instrument Cal ID: **1F90425D.m**

Diesel

Curve Fit: **AVERAGE RF**

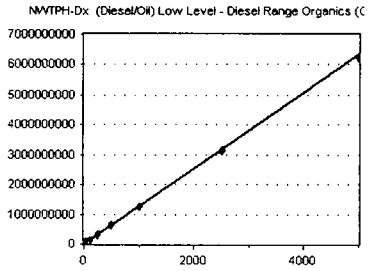


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

Diesel Range Organics (C12-C24

Curve Fit: **AVERAGE RF**

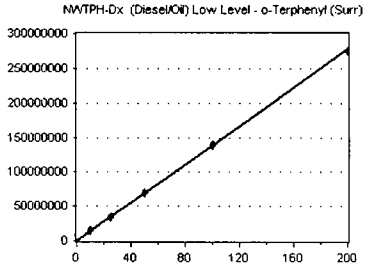


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

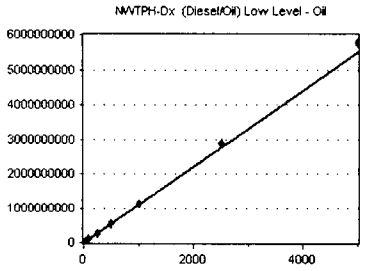


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	1.45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	1.75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

Oil

Curve Fit: **AVERAGE RF**

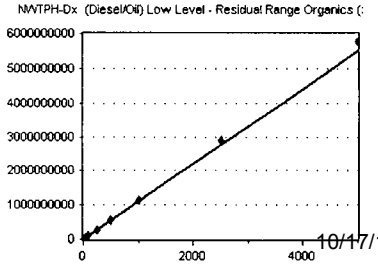


Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	5.78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

Residual Range Organics (>C24

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	5.78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

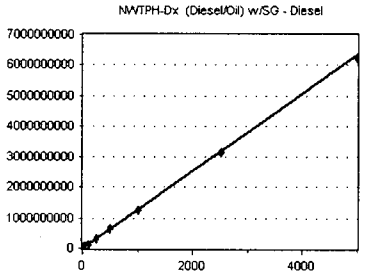
Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **NWTPH-Dx (Diesel/Oil) w/S** Instrument Cal ID: **1F90425D.m**

Diesel

Curve Fit: **AVERAGE RF**

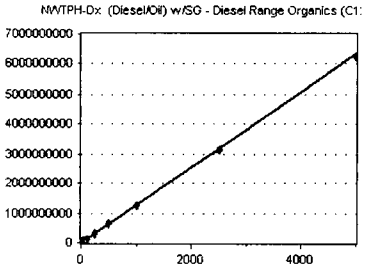


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

Diesel Range Organics (C12-C24

Curve Fit: **AVERAGE RF**

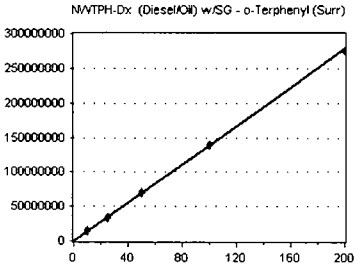


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

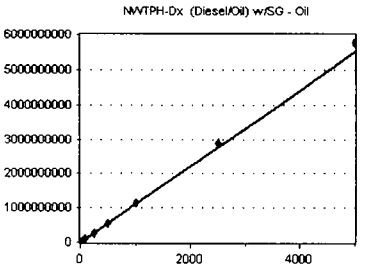


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

Oil

Curve Fit: **AVERAGE RF**

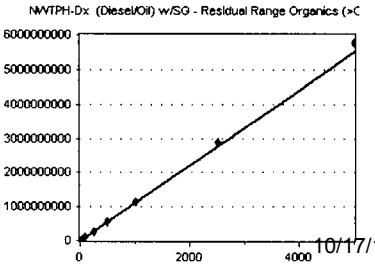


Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

Residual Range Organics (>C24

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

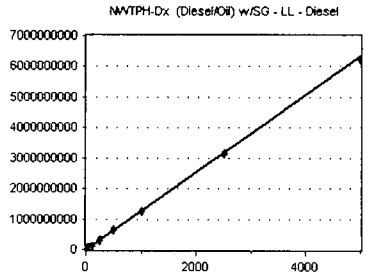
Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **NWTPH-Dx (Diesel/Oil) w/S** Instrument Cal ID: **1F90425D.m**

Diesel

Curve Fit: **AVERAGE RF**

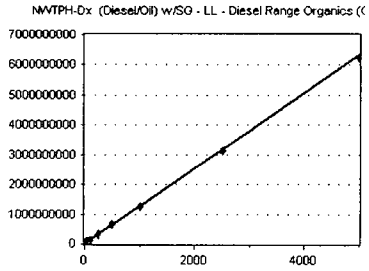


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

Diesel Range Organics (C12-C24

Curve Fit: **AVERAGE RF**

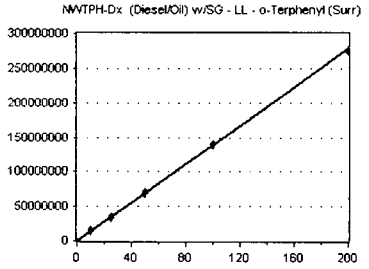


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

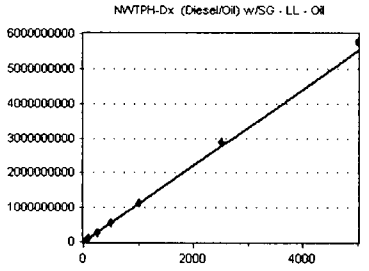


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	1.45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	1.75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

Oil

Curve Fit: **AVERAGE RF**

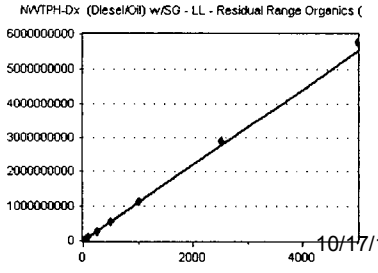


Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	5.78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

Residual Range Organics (>C24

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	5.78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

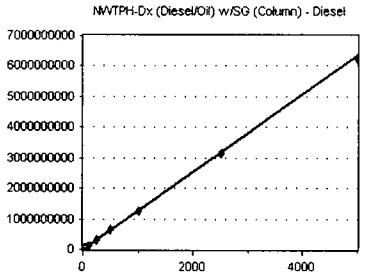
Element Calibration Review Sheet

Calibration ID: **A9D2602** Instrument: **DUALFID1F** Calibration Date: **04/26/2019**

Analysis: **NWTPH-Dx (Diesel/Oil) w/SC** Instrument Cal ID: **1F90425D.m**

Diesel

Curve Fit: **AVERAGE RF**

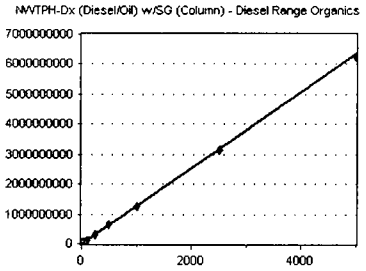


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

Diesel Range Organics (C12-C24

Curve Fit: **AVERAGE RF**

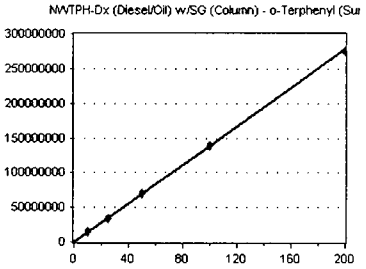


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL1	25	386099E+07	1354440.000	6.00
9D25027-CAL2	40	226552E+07	1306638.000	6.00
9D25027-CAL3	100	253969E+08	1253969.000	6.00
9D25027-CAL4	250	161261E+08	1264505.000	6.00
9D25027-CAL5	500	352581E+08	1270516.000	6.00
9D25027-CAL6	1000	249782E+09	1249782.000	6.00
9D25027-CAL7	2500	126505E+09	1250602.000	6.00
9D25027-CAL8	5000	233782E+09	1246756.000	6.00

AVE RF **1274651.000** RF RSD **2.95** AVE RT **6.00**

o-Terphenyl (Surr)

Curve Fit: **AVERAGE RF**

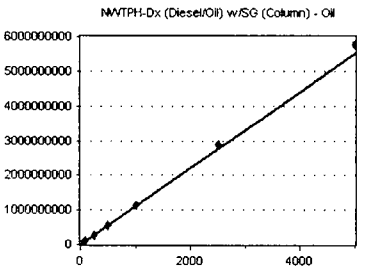


Standard	Concentration	Response	Response Factor	RT
9D25027-CAL9	10	392742E+07	1392742.000	6.79
9D25027-CALA	25	1.45403E+07	1381612.000	6.79
9D25027-CALB	50	020782E+07	1404157.000	6.79
9D25027-CALC	100	400981E+08	1400981.000	6.80
9D25027-CALD	200	1.75628E+08	1378140.000	6.80

AVE RF **1391526.000** RF RSD **0.83** AVE RT **6.79**

Oil

Curve Fit: **AVERAGE RF**

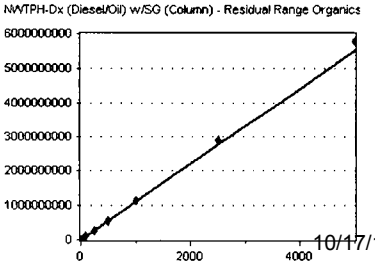


Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	5.78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

Residual Range Organics (>C24

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9D25027-CALE	40	065842E+07	1016461.000	10.00
9D25027-CALF	80	408106E+07	1051013.000	10.00
9D25027-CALG	250	671317E+08	1068527.000	10.00
9D25027-CALH	500	513768E+08	1102754.000	10.00
9D25027-CALI	1000	146401E+09	1146401.000	10.00
9D25027-CALJ	2500	902022E+09	1160809.000	10.00
9D25027-CALK	5000	5.78743E+09	1157486.000	10.00

AVE RF **1100493.000** RF RSD **5.18** AVE RT **10.00**

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9D25027 **Seq. Date: 4/26/2019**

SEQUENCE LOG

SampleID	Analysis	Matrix	STDID	Analyzed
9D25027-ICB1	8015B TPH-D (C10-25) /TPH-MO	Soil		4/25/2019 5:18:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"		"
"	+CA LUFT DRO/RRO	"		"
"	+CA LUFT DRO/RRO W/SG	"		"
"	+NWTPH-Dx (Diesel/Oil)	"		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"		"
"	+NWTPH-Dx (Diesel/Oil) w/SG ((	"		"
9D25027-CAL1	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C305	4/25/2019 5:41:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C305	"
"	+CA LUFT DRO/RRO	"	A19C305	"
"	+CA LUFT DRO/RRO W/SG	"	A19C305	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C305	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C305	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C305	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C305	"
"	+NWTPH-Dx (Diesel/Oil) w/SG ((	"	A19C305	"
9D25027-CAL2	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C306	4/25/2019 6:03:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C306	"
"	+CA LUFT DRO/RRO	"	A19C306	"
"	+CA LUFT DRO/RRO W/SG	"	A19C306	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C306	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C306	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C306	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C306	"
"	+NWTPH-Dx (Diesel/Oil) w/SG ((	"	A19C306	"
9D25027-CAL3	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C307	4/25/2019 6:26:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C307	"
"	+CA LUFT DRO/RRO	"	A19C307	"
"	+CA LUFT DRO/RRO W/SG	"	A19C307	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C307	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C307	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C307	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C307	"
"	+NWTPH-Dx (Diesel/Oil) w/SG ((	"	A19C307	"
9D25027-CAL4	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C308	4/25/2019 6:49:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C308	"
"	+CA LUFT DRO/RRO	"	A19C308	"
"	+CA LUFT DRO/RRO W/SG	"	A19C308	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C308	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C308	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C308	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C308	"
"	+NWTPH-Dx (Diesel/Oil) w/SG ((	"	A19C308	"

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9D25027 **Seq. Date: 4/26/2019**

9D25027-CAL5	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C309	4/25/2019	7:12:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C309		"
"	+CA LUFT DRO/RRO	"	A19C309		"
"	+CA LUFT DRO/RRO W/SG	"	A19C309		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C309		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C309		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C309		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C309		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C309		"
9D25027-CAL6	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C310	4/25/2019	7:35:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C310		"
"	+CA LUFT DRO/RRO	"	A19C310		"
"	+CA LUFT DRO/RRO W/SG	"	A19C310		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C310		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C310		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C310		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C310		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C310		"
9D25027-CAL7	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C311	4/25/2019	7:58:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C311		"
"	+CA LUFT DRO/RRO	"	A19C311		"
"	+CA LUFT DRO/RRO W/SG	"	A19C311		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C311		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C311		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C311		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C311		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C311		"
9D25027-CAL8	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C204	4/25/2019	8:20:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C204		"
"	+CA LUFT DRO/RRO	"	A19C204		"
"	+CA LUFT DRO/RRO W/SG	"	A19C204		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C204		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C204		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C204		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C204		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C204		"
9D25027-CAL9	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D191	4/25/2019	8:43:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19D191		"
"	+CA LUFT DRO/RRO	"	A19D191		"
"	+CA LUFT DRO/RRO W/SG	"	A19D191		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19D191		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19D191		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19D191		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19D191		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19D191		"
9D25027-CALA	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D192	4/25/2019	9:06:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19D192		"
"	+CA LUFT DRO/RRO	"	A19D192		"
"	+CA LUFT DRO/RRO W/SG	"	A19D192		"

"	+NWTPH-Dx (Diesel/Oil)	"	A19D192		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19D192		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19D192		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19D192		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19D192		"
9D25027-CALB	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D193	4/25/2019 9:29:00PM	
"	+8015M TPH-D (C10-25)/TPH-M	"	A19D193		"
"	+CA LUFT DRO/RRO	"	A19D193		"
"	+CA LUFT DRO/RRO W/SG	"	A19D193		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19D193		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19D193		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19D193		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19D193		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19D193		"
9D25027-CALC	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D194	4/25/2019 9:51:00PM	
"	+8015M TPH-D (C10-25)/TPH-M	"	A19D194		"
"	+CA LUFT DRO/RRO	"	A19D194		"
"	+CA LUFT DRO/RRO W/SG	"	A19D194		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19D194		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19D194		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19D194		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19D194		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19D194		"
9D25027-CALD	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C210	4/25/2019 10:14:00PM	
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C210		"
"	+CA LUFT DRO/RRO	"	A19C210		"
"	+CA LUFT DRO/RRO W/SG	"	A19C210		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C210		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C210		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C210		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C210		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C210		"
9D25027-CALE	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C365	4/25/2019 10:37:00PM	
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C365		"
"	+CA LUFT DRO/RRO	"	A19C365		"
"	+CA LUFT DRO/RRO W/SG	"	A19C365		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C365		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C365		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C365		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C365		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C365		"
9D25027-CALF	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C366	4/25/2019 10:59:00PM	
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C366		"
"	+CA LUFT DRO/RRO	"	A19C366		"
"	+CA LUFT DRO/RRO W/SG	"	A19C366		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C366		"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C366		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C366		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C366		"

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9D25027 **Seq. Date: 4/26/2019**

"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C366	"
9D25027-CALG	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C367	4/25/2019 11:22:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C367	"
"	+CA LUFT DRO/RRO	"	A19C367	"
"	+CA LUFT DRO/RRO W/SG	"	A19C367	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C367	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C367	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C367	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C367	"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C367	"
9D25027-CALH	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C368	4/25/2019 11:45:00PM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C368	"
"	+CA LUFT DRO/RRO	"	A19C368	"
"	+CA LUFT DRO/RRO W/SG	"	A19C368	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C368	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C368	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C368	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C368	"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C368	"
9D25027-CALI	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C373	4/26/2019 12:07:00AM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C373	"
"	+CA LUFT DRO/RRO	"	A19C373	"
"	+CA LUFT DRO/RRO W/SG	"	A19C373	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C373	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C373	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C373	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C373	"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C373	"
9D25027-CALJ	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C370	4/26/2019 12:30:00AM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C370	"
"	+CA LUFT DRO/RRO	"	A19C370	"
"	+CA LUFT DRO/RRO W/SG	"	A19C370	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C370	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C370	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C370	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C370	"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C370	"
9D25027-CALK	8015B TPH-D (C10-25) /TPH-MO	Soil	A19C364	4/26/2019 1:15:00AM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19C364	"
"	+CA LUFT DRO/RRO	"	A19C364	"
"	+CA LUFT DRO/RRO W/SG	"	A19C364	"
"	+NWTPH-Dx (Diesel/Oil)	"	A19C364	"
"	+NWTPH-Dx (Diesel/Oil) Low Le	"	A19C364	"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19C364	"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19C364	"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19C364	"
9D25027-ICV1	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D271	4/26/2019 2:00:00AM
"	+8015M TPH-D (C10-25)/TPH-M	"	A19D271	"
"	+CA LUFT DRO/RRO	"	A19D271	"

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9D25027 **Seq. Date: 4/26/2019**

"	+CA LUFT DRO/RRO W/SG	"	A19D271		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19D271		"
"	+NWTPH-Dx (Diesel/Oil) Low L	"	A19D271		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19D271		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19D271		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19D271		"
9D25027-ICV2	8015B TPH-D (C10-25) /TPH-MO	Soil	A19D272	4/26/2019 2:23:00AM	
"	+8015M TPH-D (C10-25)/TPH-M	"	A19D272		"
"	+CA LUFT DRO/RRO	"	A19D272		"
"	+CA LUFT DRO/RRO W/SG	"	A19D272		"
"	+NWTPH-Dx (Diesel/Oil)	"	A19D272		"
"	+NWTPH-Dx (Diesel/Oil) Low L	"	A19D272		"
"	+NWTPH-Dx (Diesel/Oil) w/SG	"	A19D272		"
"	+NWTPH-Dx (Diesel/Oil) w/SG -	"	A19D272		"
"	+NWTPH-Dx (Diesel/Oil) w/SG (	"	A19D272		"

CALIBRATION STANDARD RECOVERIES

Calibration: **A9D2602** Instrument: **DUALFID1F**

8015B TPH-D (C10-25) /TPH- Sequence: **9D25027** Matrix: **Soil**

9D25027-CAL1	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CAL2	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CAL3	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CAL4	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CAL5	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CAL6	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CAL7	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CAL8	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CALE	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CALF	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CALG	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CALH	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CALI	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CALJ	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9D25027-CALK	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**

Compounds listed above have recalculated recoveries outside 85-115% 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: 9D25027 **Seq. Date: 4/26/2019**

Analytes With Quadratic Curve Fits

Qualifier	MRL	Recalc Value	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 (85-115 or as specified).

ICV RECOVERIES

Calibration: **A9D2602** Instrument: **DUALFID1F**

NWTPH-Dx (Diesel/Oil) Sequence: **9D25027** Matrix: **Soil**

9D25027-ICV1	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**

9D25027-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.

Calibration Status Report HP G1530A

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:45:04 2019
Response via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	D1	25.00	0.00	F:\1\DATA\2019-04\9D25027\1F042504.D
2	D2	40.00	0.00	F:\1\DATA\2019-04\9D25027\1F042505.D
3	D3	100.00	0.00	F:\1\DATA\2019-04\9D25027\1F042506.D
4	D4	250.00	0.00	F:\1\DATA\2019-04\9D25027\1F042507.D
5	D5	500.00	0.00	F:\1\DATA\2019-04\9D25027\1F042508.D
6	D6	1000.00	0.00	F:\1\DATA\2019-04\9D25027\1F042509.D
7	D7	2500.00	0.00	F:\1\DATA\2019-04\9D25027\1F042510.D
8	D8	5000.00	0.00	F:\1\DATA\2019-04\9D25027\1F042511.D
9	S1	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042512.D
10	S2	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042513.D
11	S3	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042514.D
12	S4	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042515.D
13	S5	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042516.D
14	01	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042517.D
15	02	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042518.D
16	03	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042519.D
17	04	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042520.D
18	05	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042521.D
19	06	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042522.D
20	07	-1.00	0.00	F:\1\DATA\2019-04\9D25027\1F042524.D

A9D2602
kat 4/26/19

#	ID	Update Time	Quant Time	Acquisition Time
1	D1	Apr 26 08:37 2019	Apr 26 08:21 2019	25 Apr 2019 17:41
2	D2	Apr 26 08:37 2019	Apr 26 08:22 2019	25 Apr 2019 18:03
3	D3	Apr 26 08:37 2019	Apr 26 08:22 2019	25 Apr 2019 18:26
4	D4	Apr 26 08:38 2019	Apr 26 08:23 2019	25 Apr 2019 18:49
5	D5	Apr 26 08:38 2019	Apr 26 08:23 2019	25 Apr 2019 19:12
6	D6	Apr 26 08:38 2019	Apr 26 08:24 2019	25 Apr 2019 19:35
7	D7	Apr 26 08:38 2019	Apr 26 08:24 2019	25 Apr 2019 19:58
8	D8	Apr 26 08:38 2019	Apr 26 08:27 2019	25 Apr 2019 20:20
9	S1	Apr 26 08:39 2019	Apr 26 08:27 2019	25 Apr 2019 20:43
10	S2	Apr 26 08:39 2019	Apr 26 08:28 2019	25 Apr 2019 21:06
11	S3	Apr 26 08:39 2019	Apr 26 08:28 2019	25 Apr 2019 21:29
12	S4	Apr 26 08:39 2019	Apr 26 08:28 2019	25 Apr 2019 21:51
13	S5	Apr 26 08:39 2019	Apr 26 08:28 2019	25 Apr 2019 22:14
14	01	Apr 26 08:40 2019	Apr 26 08:29 2019	25 Apr 2019 22:37
15	02	Apr 26 08:40 2019	Apr 26 08:29 2019	25 Apr 2019 22:59
16	03	Apr 26 08:44 2019	Apr 26 08:29 2019	25 Apr 2019 23:22
17	04	Apr 26 08:44 2019	Apr 26 08:30 2019	25 Apr 2019 23:45
18	05	Apr 26 08:44 2019	Apr 26 08:30 2019	26 Apr 2019 00:07
19	06	Apr 26 08:44 2019	Apr 26 08:31 2019	26 Apr 2019 00:30
20	07	Apr 26 08:45 2019	Apr 26 08:31 2019	26 Apr 2019 1:15

✓

1F90425D.M Fri Apr 26 09:06:16 2019 SV-GCMS3

Response Factor Report HP G1530A

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:45:04 2019

Calibration Files
D1 =1F042504.D D2 =1F042505.D D3 =1F042506.D
D4 =1F042507.D D5 =1F042508.D D6 =1F042509.D

		Compound	D1	D2	D3	D4	D5	D6	Avg		%RSD
1)	H	Mineral Oil	1.354	1.307	1.254	1.265	1.271	1.250	1.275	E6	2.95
2)	H	Diesel	1.354	1.307	1.254	1.265	1.271	1.250	1.275	E6	2.95
3)	H	DRO(C12-C24)	1.354	1.307	1.254	1.265	1.271	1.250	1.275	E6	2.95
4)	H	Ca Luft DRO (C12-C2	9.074	9.118	9.182	9.483	9.617	9.501	9.374	E5	2.26
5)	H	TPHd (C10-C25)	1.141	1.144	1.135	1.168	1.180	1.165	1.158	E6	1.39
6)	S	o-Terphenyl							1.392	E6	0.83
7)	H	OIL							1.100	E6	5.18
8)	H	RRO (C24-C40)							1.100	E6	5.18
9)	H	Ca Luft ORO (C23-C3							7.274	E5	5.73
10)	H	TPHmo (C25-C36)							6.636	E5	7.16

Jcrt 4/26/19

(#) = Out of Range ### Number of calibration levels exceeded format ###

Compound List Report HP G1530A

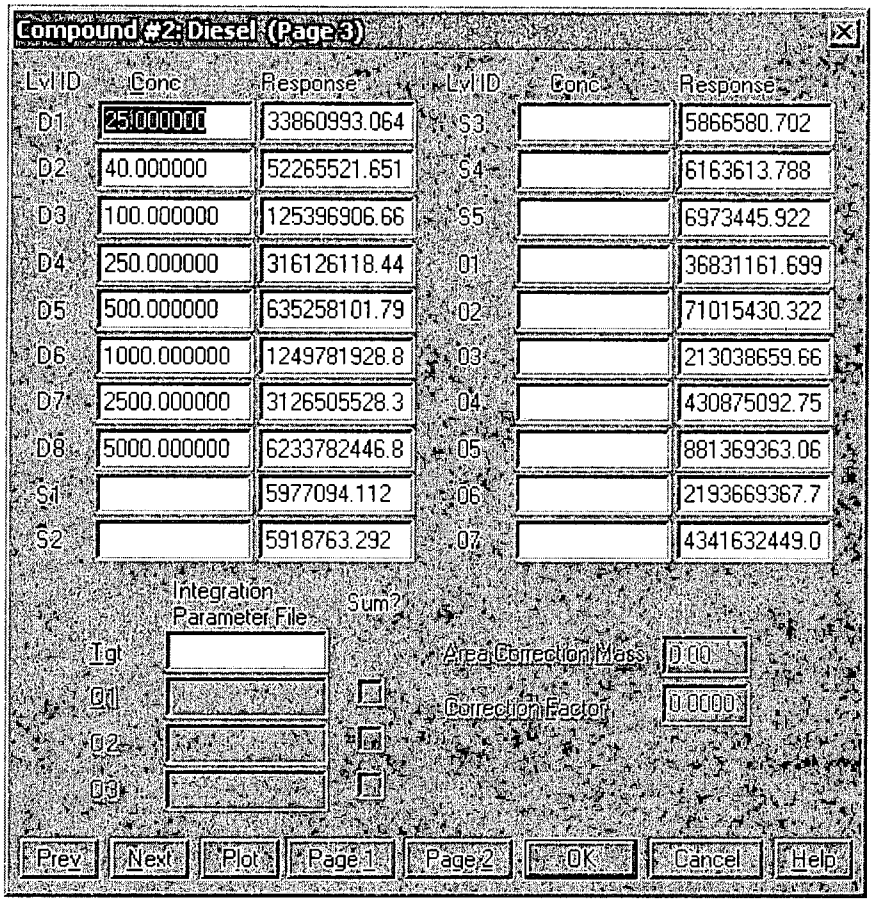
Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:45:04 2019
Response via : Initial Calibration
Total Cpnds : 10

PK#	Type	Compound Name	Exp_RT	Rel_RT	Cal	A/H	ID
1	H	Mineral Oil	6.00	1.000	A	A	A
2	H	Diesel	6.00	1.000	A	A	A
3	H	DRO(C12-C24)	6.00	1.000	A	A	A
4	H	Ca Luft DRO (C12-C22)	6.00	1.000	A	A	A
5	H	TPHd (C10-C25)	6.00	1.000	A	A	A
6	S	o-Terphenyl	6.79	1.000	A	A	R
7	H	OIL	10.00	1.000	A	A	A
8	H	RRO (C24-C40)	10.00	1.000	A	A	A
9	H	Ca Luft ORO (C23-C32)	8.00	1.000	A	A	A
10	H	TPHmo (C25-C36)	9.00	1.000	A	A	A

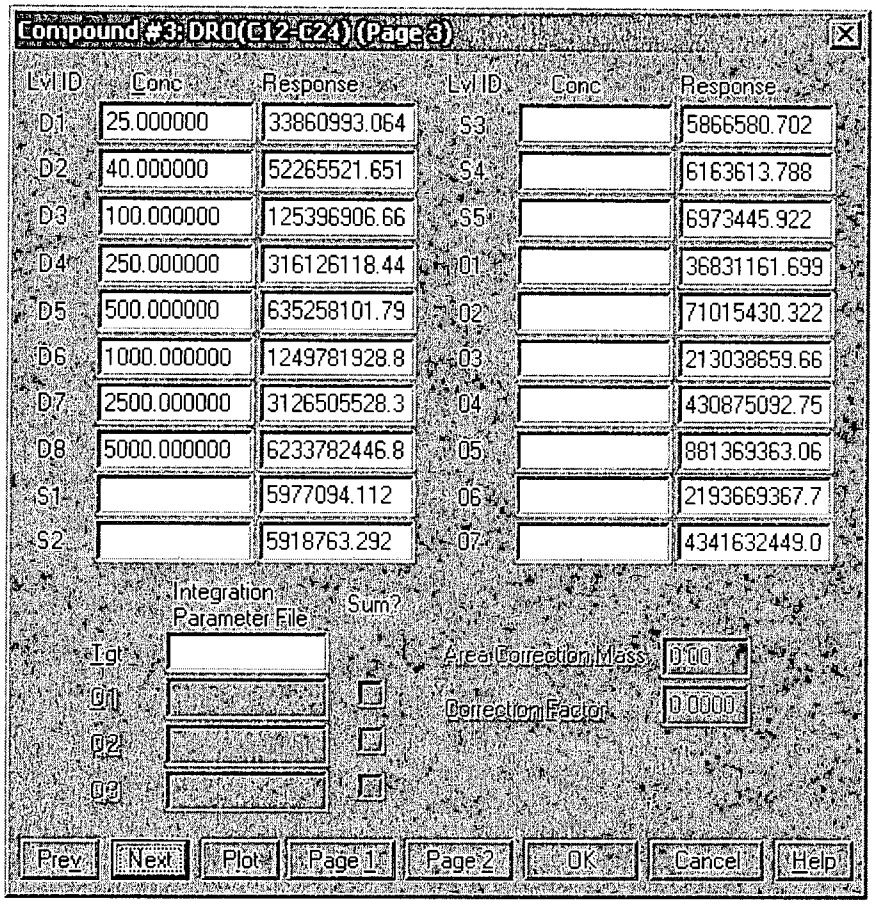
kat 4/26/19

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

1F90425D.M Fri Apr 26 08:52:40 2019 SV-GCMS3


Compound #2: Diesel (Page 3)
LvlID
Conc
Response
LvlID
Conc
Response
D1
25.000000
33860993.064
S3
5866580.702
D2
40.000000
52265521.651
S4
6163613.788
D3
100.000000
125396906.66
S5
6973445.922
D4
250.000000
316126118.44
01
36831161.699
D5
500.000000
635258101.79
02
71015430.322
D6
1000.000000
1249781928.8
03
213038659.66
D7
2500.000000
3126505528.3
04
430875092.75
D8
5000.000000
6233782446.8
05
881369363.06
S1
5977094.112
06
2193669367.7
S2
5918763.292
07
4341632449.0
Integration Parameter File
Sum?
Tgt
01
02
03
Area Correction Mass
0.00
Correction Factor
0.0000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help

fcH 4/26/19


Compound #3: DRO(C12-C24) (Page 3)
Lvl ID
Conc
Response
D1 25.000000 33860993.064
D2 40.000000 52265521.651
D3 100.000000 125396906.66
D4 250.000000 316126118.44
D5 500.000000 635258101.79
D6 1000.000000 1249781928.8
D7 2500.000000 3126505528.3
D8 5000.000000 6233782446.8
S1 5977094.112
S2 5918763.292
S3 5866580.702
S4 6163613.788
S5 6973445.922
01 36831161.699
02 71015430.322
03 213038659.66
04 430875092.75
05 881369363.06
06 2193669367.7
07 4341632449.0
Integration Parameter File
Sum?
Lg
01
02
03
Area Correction Mass
0.00
Correction Factor
0.0000
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Page 1
Page 2
OK
Cancel
Help

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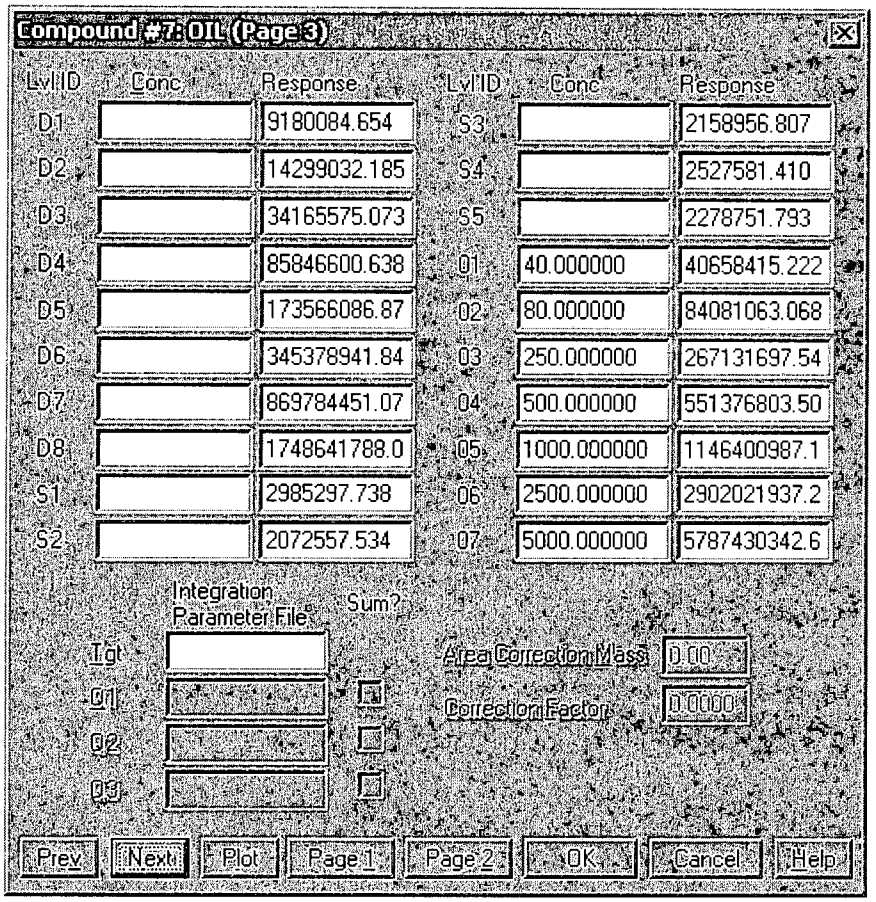
Compound #7: OIL (Page 3)
Lvl ID
Conc
Response
D1
9180084.654
D2
14299032.185
D3
34165575.073
D4
85846600.638
D5
173566086.87
D6
345378941.84
D7
869784451.07
D8
1748641788.0
S1
2985297.738
S2
2072557.534
Lvl ID
Conc
Response
S3
2158956.807
S4
2527581.410
S5
2278751.793
01
40.000000
40658415.222
02
80.000000
84081063.068
03
250.000000
267131697.54
04
500.000000
551376803.50
05
1000.000000
1146400987.1
06
2500.000000
2902021937.2
07
5000.000000
5787430342.6
Integration Parameter File
Sum?
Tgt
01
02
03
Area Correction Mass
0.00
Correction Factor
0.0000
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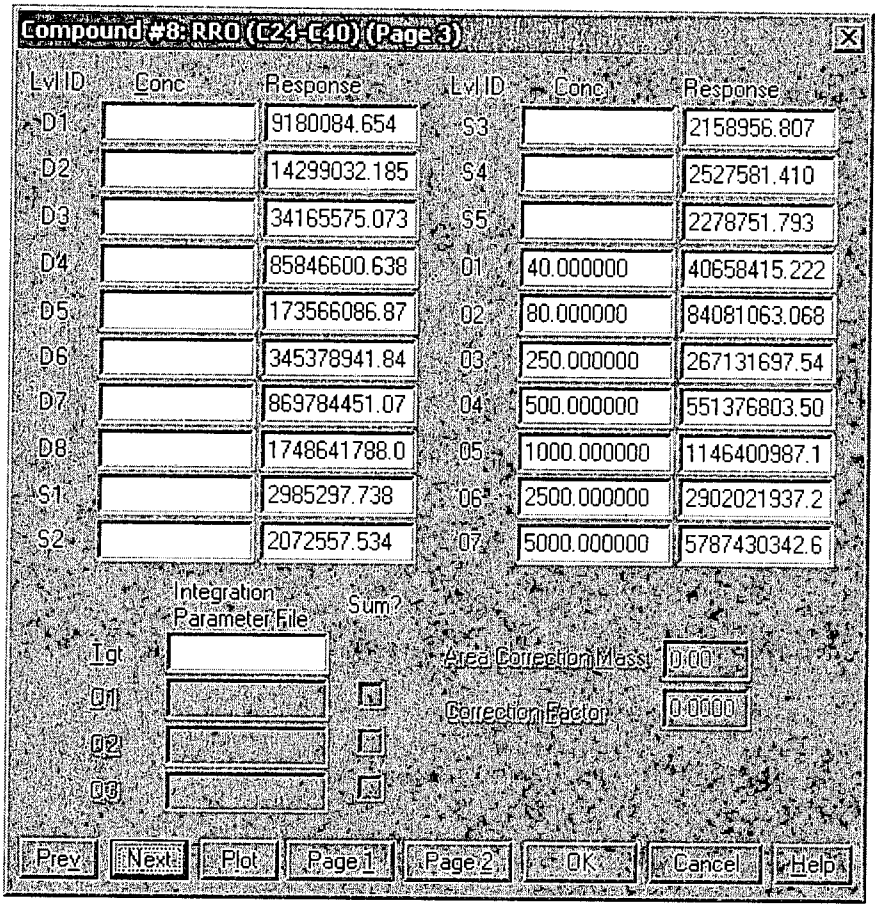
Plot
Page 1
Page 2
OK
Cancel
Help

KSH 4/26/19


Compound #8: RRO (C24-C40) (Page 3)
Lvl ID
Conc
Response
D1
9180084.654
D2
14299032.185
D3
34165575.073
D4
85846600.638
D5
173566086.87
D6
345378941.84
D7
869784451.07
D8
1748641788.0
S1
2985297.738
S2
2072557.534
Lvl ID
Conc
Response
S3
2158956.807
S4
2527581.410
S5
2278751.793
01
40.000000
40658415.222
02
80.000000
84081063.068
03
250.000000
267131697.54
04
500.000000
551376803.50
05
1000.000000
1146400987.1
06
2500.000000
2902021937.2
07
5000.000000
5787430342.6
Integration Parameter File
Sum?
Igt
01
02
03
Area Correction Mass
0.00
Correction Factor
0.0000
Prev
Next
Plot
Page 1
Page 2
OK
Cancel
Help

kst 4/24/19

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\REQUANTF\1F042503.D Vial: 99
Acq On : 25 Apr 2019 17:18 Operator: KEH
Sample : 9D25027-ICB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:48 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:45:04 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	5781618	4.536	ug/ml
2)	H	Diesel	6.00	5781618	4.536	ug/mL
3)	H	DRO(C12-C24)	6.00	5781618	4.536	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	1385695	1.478	ug/ml
5)	H	TPHd (C10-C25)	6.00	2645348	2.284	ug/ml
7)	H	OIL	10.00	3856780	3.505	ug/mL
8)	H	RRO (C24-C40)	10.00	3856780	3.505	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	808628	1.112	ug/mL
10)	H	TPHmo (C25-C36)	9.00	1042130	1.570	ug/mL

Kent 4/26/19

(f)=RT Delta > 1/2 Window (m)=manual int.

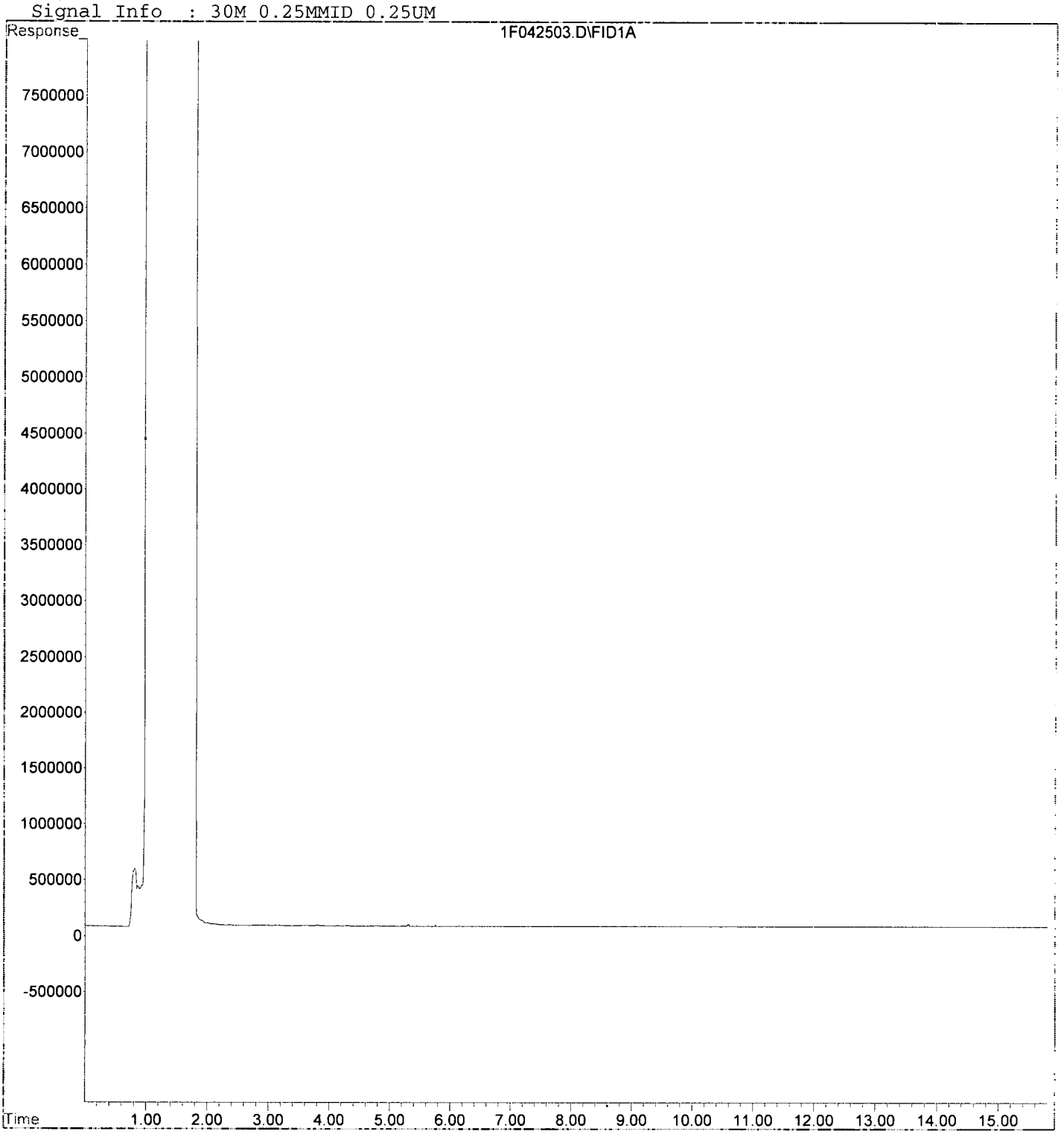
1F042503.D 1F90425D.M Fri Apr 26 09:00:05 2019 SV-GCMS3 Page 1

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\REQUANTF\1F042503.D Vial: 99
Acq On : 25 Apr 2019 17:18 Operator: KEH
Sample : 9D25027-ICB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:48 2019 Quant Results File: 1F90425D.RES

Quant Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:45:04 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Evaluate Continuing Calibration Report

Data File : F:\1\DATA\2019-04\9D25027\REQUANTF\1F042526.D Vial: 21
Acq On : 26 Apr 2019 2:00 Operator: KEH
Sample : 9D25027-ICV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:45:04 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	H	Mineral Oil	1000.000	962.289	3.8	98	0.00
2	H	Diesel	1000.000	962.289	3.8	98	0.00
3	H	DRO(C12-C24)	1000.000	962.289	3.8	98	0.00
4	H	Ca Luft DRO (C12-C22)	1000.000	994.989	0.5	98	0.00
5	H	TPHd (C10-C25)	1000.000	986.382	1.4	98	0.00
7	H	OIL	-1.000	315.549	0.0	101	0.00
8	H	RRO (C24-C40)	-1.000	315.549	0.0	101	0.00
9	H	Ca Luft ORO (C23-C32)	-1.000	56.094	0.0	104	0.00
10	H	TPHmo (C25-C36)	-1.000	19.874	0.0	111	0.00

Kat 4/26/19

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

Evaluate Continuing Calibration Report

Data File : F:\1\DATA\2019-04\9D25027\REQUANTF\1F042527.D Vial: 22
Acq On : 26 Apr 2019 2:23 Operator: KEH
Sample : 9D25027-ICV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E

Method : F:\1\METHODS\1F90425D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:45:04 2019
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	H	Mineral Oil	-1.000	708.334	0.0	102	0.00
2	H	Diesel	-1.000	708.334	0.0	102	0.00
3	H	DRO(C12-C24)	-1.000	708.334	0.0	102	0.00
4	H	Ca Luft DRO (C12-C22)	-1.000	94.472	0.0	128	0.00
5	H	TPHd (C10-C25)	-1.000	289.474	0.0	110	0.00
7	H	OIL	1000.000	1032.482	-3.2	99	0.00
8	H	RRO (C24-C40)	1000.000	1032.482	-3.2	99	0.00
9	H	Ca Luft ORO (C23-C32)	1000.000	1040.226	-4.0	99	0.00
10	H	TPHmo (C25-C36)	1000.000	1002.532	-0.3	95	0.00

KAH 4/24/19

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

Sequence: C:\HPCHEM\1\SEQUENCE\9D25027.S

Sequence Table (Front Injector):

Method and Injection Info Part:

Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 99	DCM	A1F40422	1	Sample		
2	Vial 94	9D25027-RES1	A1F40422	1	Sample		
3	Vial 99	9D25027-ICB1	A1F40422	1	Sample		
4	Vial 1	9D25027-CAL1	A1F40422	1	Sample		
5	Vial 2	9D25027-CAL2	A1F40422	1	Sample		
6	Vial 3	9D25027-CAL3	A1F40422	1	Sample		
7	Vial 4	9D25027-CAL4	A1F40422	1	Sample		
8	Vial 5	9D25027-CAL5	A1F40422	1	Sample		
9	Vial 6	9D25027-CAL6	A1F40422	1	Sample		
10	Vial 7	9D25027-CAL7	A1F40422	1	Sample		
11	Vial 8	9D25027-CAL8	A1F40422	1	Sample		
12	Vial 9	9D25027-CAL9	A1F40422	1	Sample		
13	Vial 10	9D25027-CALA	A1F40422	1	Sample		
14	Vial 11	9D25027-CALB	A1F40422	1	Sample		
15	Vial 12	9D25027-CALC	A1F40422	1	Sample		
16	Vial 13	9D25027-CALD	A1F40422	1	Sample		
17	Vial 14	9D25027-CALE	A1F40422	1	Sample		
18	Vial 15	9D25027-CALF	A1F40422	1	Sample		
19	Vial 16	9D25027-CALG	A1F40422	1	Sample		
20	Vial 17	9D25027-CALH	A1F40422	1	Sample		
21	Vial 18	9D25027-CALI	A1F40422	1	Sample		
22	Vial 19	9D25027-CALJ	A1F40422	1	Sample		
23	Vial 99	9D25027-IBL1	A1F40422	1	Sample		
24	Vial 20	9D25027-CALK	A1F40422	1	Sample		
25	Vial 99	9D25027-IBL2	A1F40422	1	Sample		
26	Vial 21	9D25027-ICV1	A1F40422	1	Sample		
27	Vial 22	9D25027-ICV2	A1F40422	1	Sample		
28	Vial 99	DCM	A1F40422	1	Sample		
29	Vial 99	DCM	A1F40422	1	Sample		

KEH 4/26/19

Sequence Table (Back Injector):

Method and Injection Info Part:

Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 100	DCM	A1F40422	1	Sample		
2	Vial 100	DCM	A1F40422	1	Sample		
3	Vial 95	9D25028-RES1	A1F40422	1	Sample		
4	Vial 100	9D25028-ICB1	A1F40422	1	Sample		
5	Vial 1	9D25028-CAL1	A1F40422	1	Sample		
6	Vial 2	9D25028-CAL2	A1F40422	1	Sample		
7	Vial 3	9D25028-CAL3	A1F40422	1	Sample		
8	Vial 4	9D25028-CAL4	A1F40422	1	Sample		
9	Vial 5	9D25028-CAL5	A1F40422	1	Sample		
10	Vial 6	9D25028-CAL6	A1F40422	1	Sample		
11	Vial 7	9D25028-CAL7	A1F40422	1	Sample		
12	Vial 8	9D25028-CAL8	A1F40422	1	Sample		
13	Vial 9	9D25028-CAL9	A1F40422	1	Sample		
14	Vial 10	9D25028-CALA	A1F40422	1	Sample		
15	Vial 11	9D25028-CALB	A1F40422	1	Sample		
16	Vial 12	9D25028-CALC	A1F40422	1	Sample		
17	Vial 13	9D25028-CALD	A1F40422	1	Sample		
18	Vial 14	9D25028-CALE	A1F40422	1	Sample		
19	Vial 15	9D25028-CALF	A1F40422	1	Sample		
20	Vial 16	9D25028-CALG	A1F40422	1	Sample		
21	Vial 17	9D25028-CALH	A1F40422	1	Sample		

Injection Log

Directory: F:\1\DATA\2019-04\9D25027

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	99	1f042501.d	1.	DCM		25 Apr 2019 16:33
2	94	1f042502.d	1.	9D25027-RES1		25 Apr 2019 16:55
3	99	1f042503.d	1.	9D25027-ICB1		25 Apr 2019 17:18
4	1	1f042504.d	1.	9D25027-CAL1		25 Apr 2019 17:41
5	2	1f042505.d	1.	9D25027-CAL2		25 Apr 2019 18:03
6	3	1f042506.d	1.	9D25027-CAL3		25 Apr 2019 18:26
7	4	1f042507.d	1.	9D25027-CAL4		25 Apr 2019 18:49
8	5	1f042508.d	1.	9D25027-CAL5		25 Apr 2019 19:12
9	6	1f042509.d	1.	9D25027-CAL6		25 Apr 2019 19:35
10	7	1f042510.d	1.	9D25027-CAL7		25 Apr 2019 19:58
11	8	1f042511.d	1.	9D25027-CAL8		25 Apr 2019 20:20
12	9	1f042512.d	1.	9D25027-CAL9		25 Apr 2019 20:43
13	10	1f042513.d	1.	9D25027-CALA		25 Apr 2019 21:06
14	11	1f042514.d	1.	9D25027-CALB		25 Apr 2019 21:29
15	12	1f042515.d	1.	9D25027-CALC		25 Apr 2019 21:51
16	13	1f042516.d	1.	9D25027-CALD		25 Apr 2019 22:14
17	14	1f042517.d	1.	9D25027-CALE		25 Apr 2019 22:37
18	15	1f042518.d	1.	9D25027-CALF		25 Apr 2019 22:59
19	16	1f042519.d	1.	9D25027-CALG		25 Apr 2019 23:22
20	17	1f042520.d	1.	9D25027-CALH		25 Apr 2019 23:45
21	18	1f042521.d	1.	9D25027-CALI		26 Apr 2019 00:07
22	19	1f042522.d	1.	9D25027-CALJ		26 Apr 2019 00:30
23	99	1f042523.d	1.	9D25027-IBL1		26 Apr 2019 00:52
24	20	1f042524.d	1.	9D25027-CALK		26 Apr 2019 01:15
25	99	1f042525.d	1.	9D25027-IBL2		26 Apr 2019 01:38
26	21	1f042526.d	1.	9D25027-ICV1		26 Apr 2019 02:00
27	22	1f042527.d	1.	9D25027-ICV2		26 Apr 2019 02:23
28	99	1f042528.d	1.	DCM		26 Apr 2019 02:45
29	99	1f042529.d	1.	DCM		26 Apr 2019 03:08
30	100	1r042501.d	1.	DCM		25 Apr 2019 16:33
31	100	1r042502.d	1.	DCM		25 Apr 2019 16:55

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042502.D Vial: 94
Acq On : 25 Apr 2019 16:55 Operator: KEH
Sample : 9D25027-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:33 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

KEH 4/26/19

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.89f	97544	0.049	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	520082471	302.541	ug/ml
2)	H	Diesel	6.00	520082471	302.541	ug/mL
3)	H	DRO(C12-C24)	6.00	520082471	302.541	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	360736775	278.530	ug/ml
5)	H	TPHd (C10-C25)	6.00	457146954	287.017	ug/ml
7)	H	OIL	10.00	335090044	208.451	ug/mL
8)	H	RRO (C24-C40)	10.00	335090044	208.451	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	135403820	134.522	ug/mL
10)	H	TPHmo (C25-C36)	9.00	83077489	91.148	ug/mL

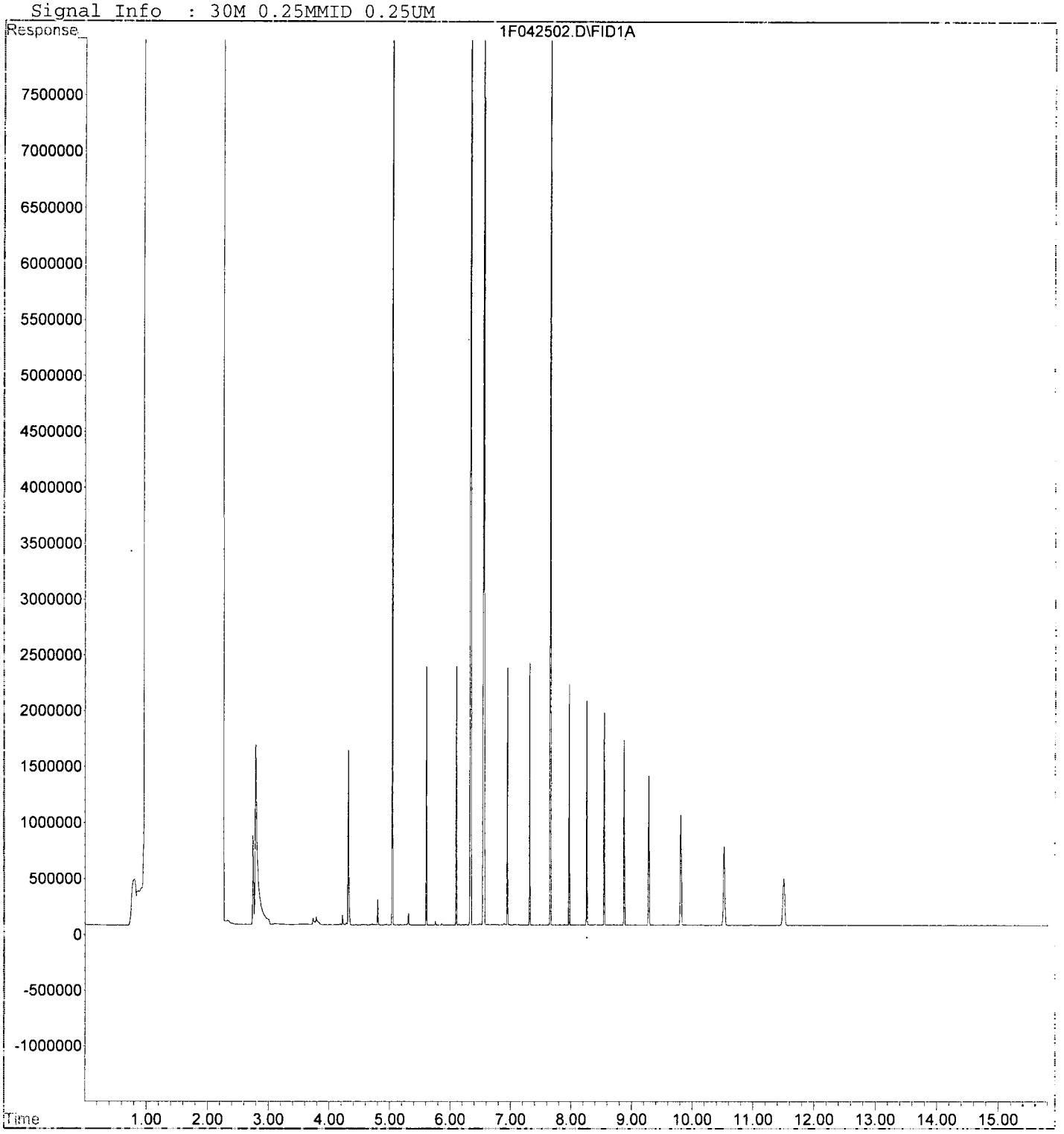
(f)=RT Delta > 1/2 Window (m)=manual int.

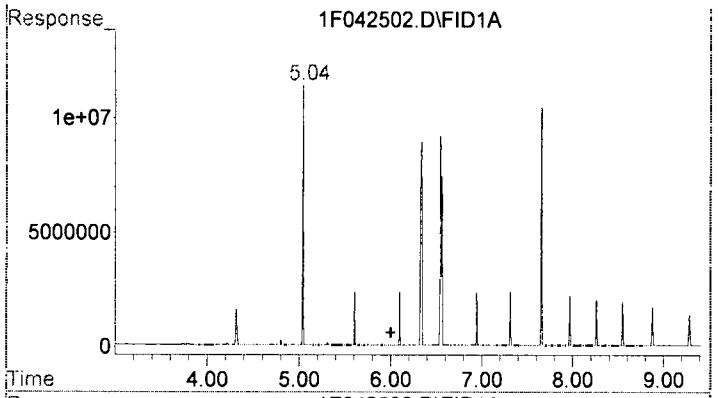
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042502.D Vial: 94
Acq On : 25 Apr 2019 16:55 Operator: KEH
Sample : 9D25027-RES1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:33 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

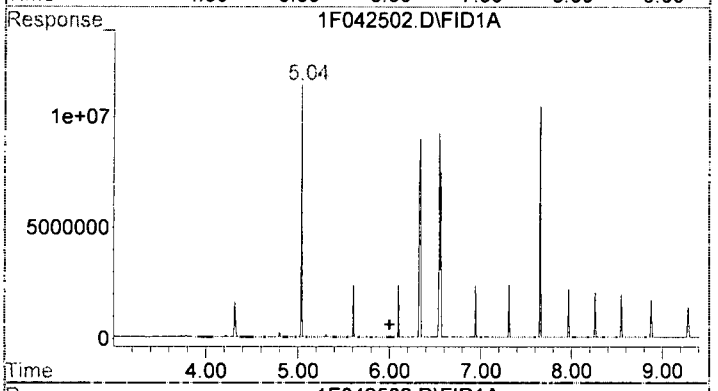
Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM





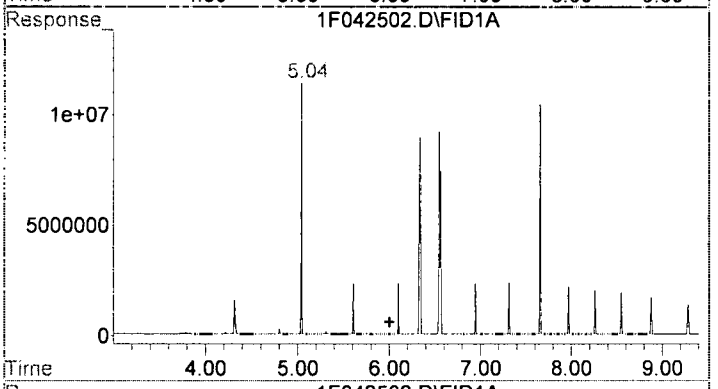
#1 Mineral Oil

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 520082471
Conc: 302.54 ug/ml m



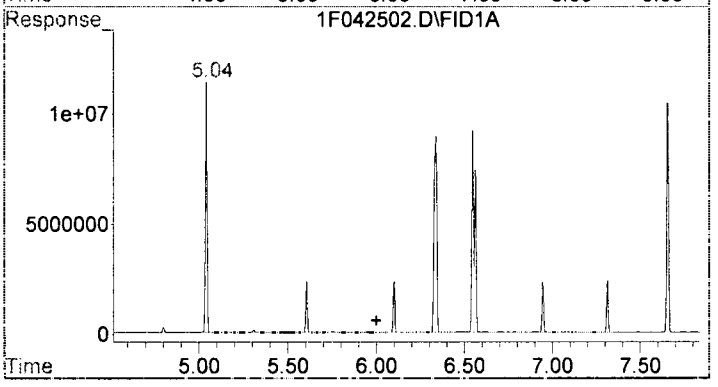
#2 Diesel

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 520082471
Conc: 302.54 ug/mL m



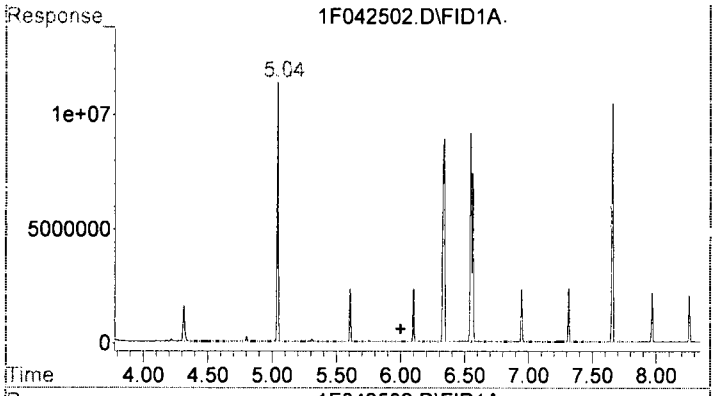
#3 DRO(C12-C24)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 520082471
Conc: 302.54 ug/mL m



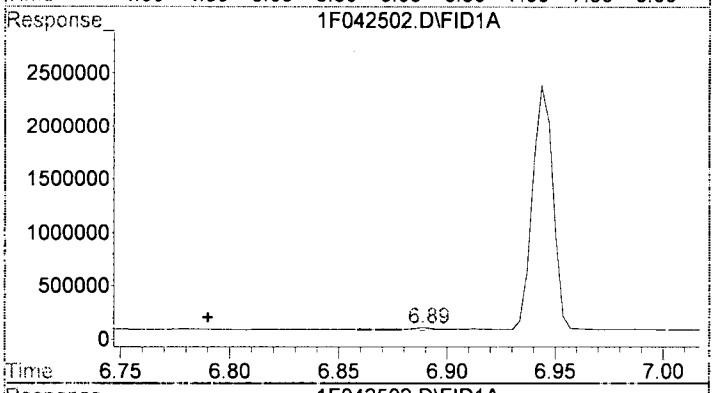
#4 Ca Luft DRO (C12-C22)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 360736775
Conc: 278.53 ug/ml m



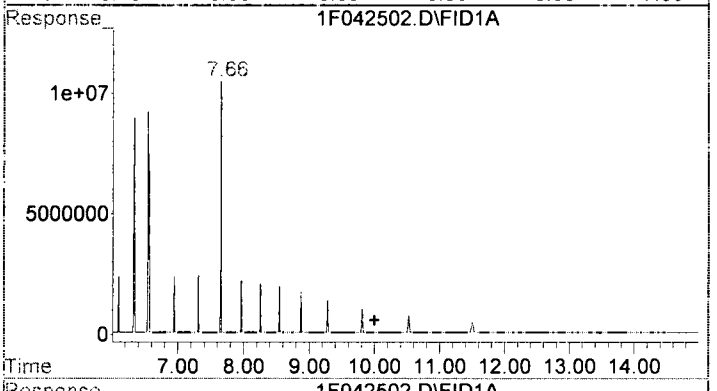
#5 TPHd (C10-C25)

R.T.: 6.000 min
Delta R.T.: 0.000 min
Response: 457146954
Conc: 287.02 ug/ml m



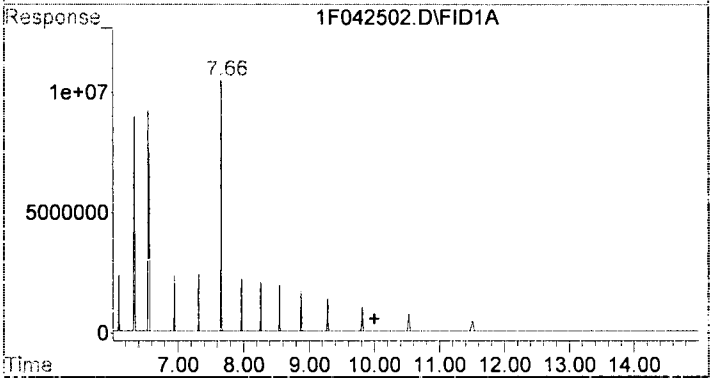
#6 o-Terphenyl

R.T.: 6.890 min
Delta R.T.: 0.100 min
Response: 97544
Conc: 0.05 ug/mL



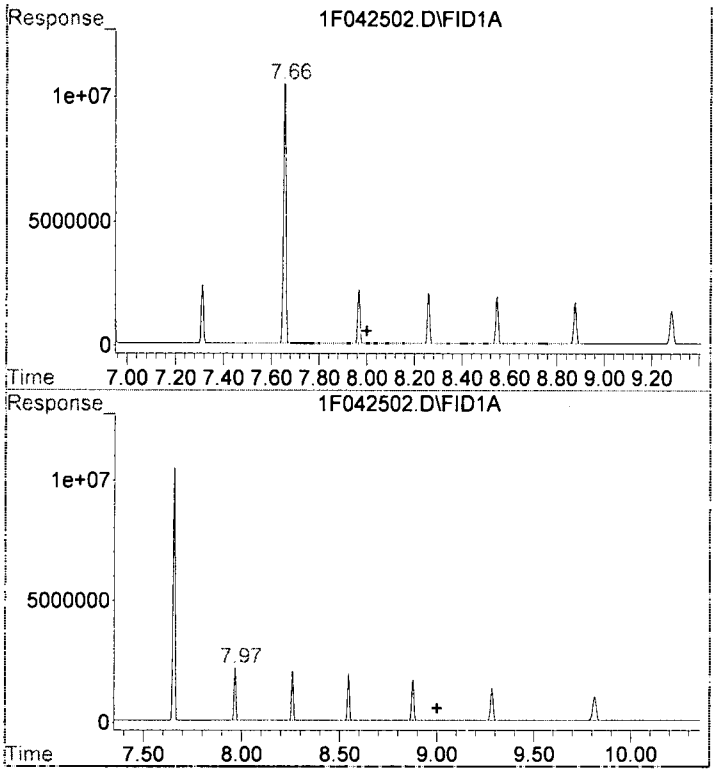
#7 OIL

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 335090044
Conc: 208.45 ug/mL m



#8 RRO (C24-C40)

R.T.: 10.000 min
Delta R.T.: 0.000 min
Response: 335090044
Conc: 208.45 ug/mL m



#9 Ca Luft ORO (C23-C32)

R.T.: 8.000 min
Delta R.T.: 0.000 min
Response: 135403820
Conc: 134.52 ug/mL m

#10 TPHmo (C25-C36)

R.T.: 9.000 min
Delta R.T.: 0.000 min
Response: 83077489
Conc: 91.15 ug/mL m

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042503.D Vial: 99
Acq On : 25 Apr 2019 17:18 Operator: KEH
Sample : 9D25027-ICB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:21 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

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Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	5781618	3.363	ug/ml
2)	H	Diesel	6.00	5781618	3.363	ug/mL
3)	H	DRO(C12-C24)	6.00	5781618	3.363	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	1385695	1.070	ug/ml
5)	H	TPHd (C10-C25)	6.00	2645348	1.661	ug/ml
7)	H	OIL	10.00	3856780	2.399	ug/mL
8)	H	RRO (C24-C40)	10.00	3856780	2.399	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	808628	0.803	ug/mL
10)	H	TPHmo (C25-C36)	9.00	1042130	1.143	ug/mL

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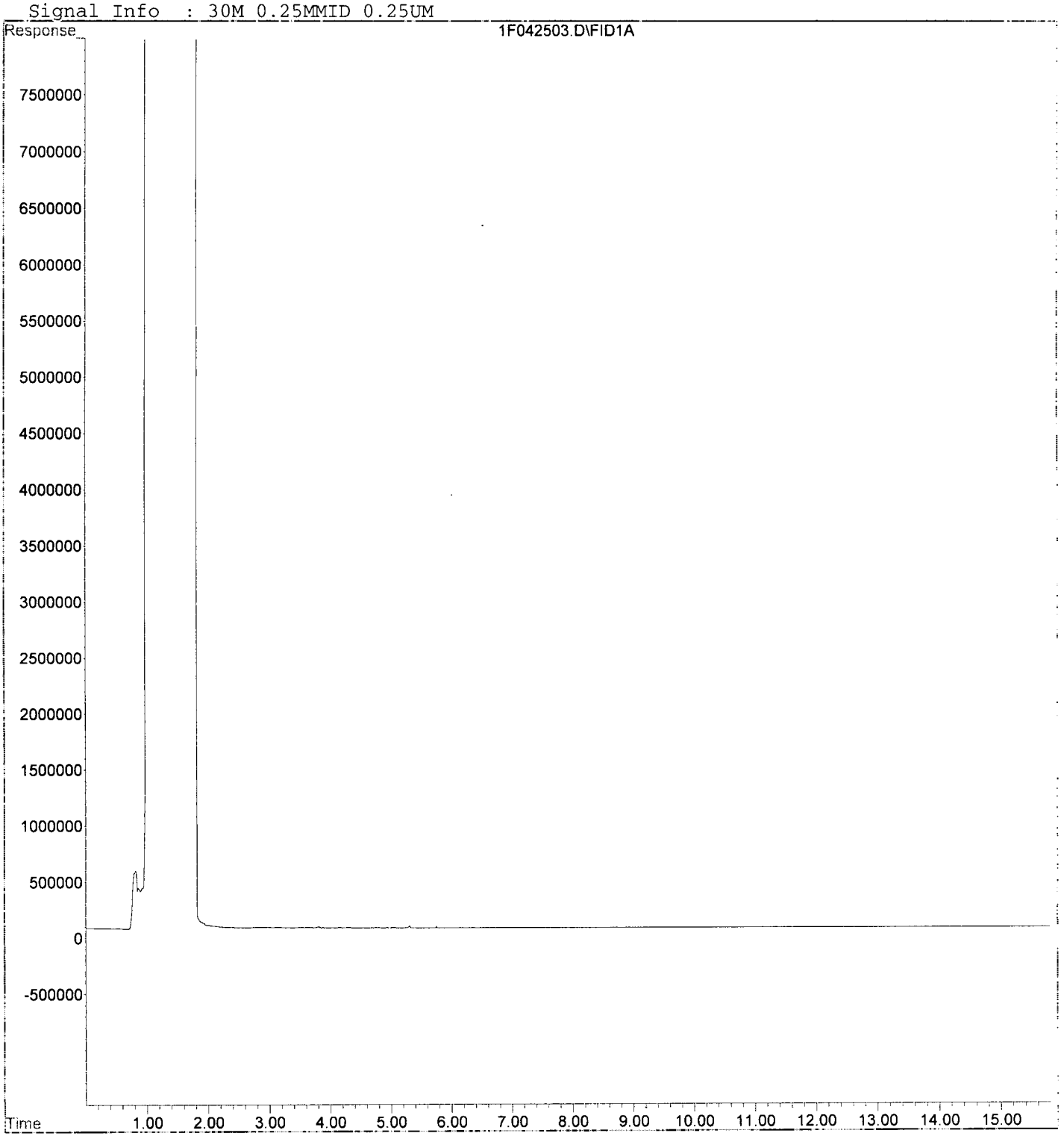
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042503.D Vial: 99
Acq On : 25 Apr 2019 17:18 Operator: KEH
Sample : 9D25027-ICB1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:21 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042504.D Vial: 1
Acq On : 25 Apr 2019 17:41 Operator: KEH
Sample : 9D25027-CAL1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:21 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	33860993	19.698	ug/ml
2)	H	Diesel	6.00	33860993	19.698	ug/mL
3)	H	DRO(C12-C24)	6.00	33860993	19.698	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	22684746	17.515	ug/ml
5)	H	TPHd (C10-C25)	6.00	28515147	17.903	ug/ml
7)	H	OIL	10.00	9180085	5.711	ug/mL
8)	H	RRO (C24-C40)	10.00	9180085	5.711	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	1269961	1.262	ug/mL
10)	H	TPHmo (C25-C36)	9.00	801867	0.880	ug/mL

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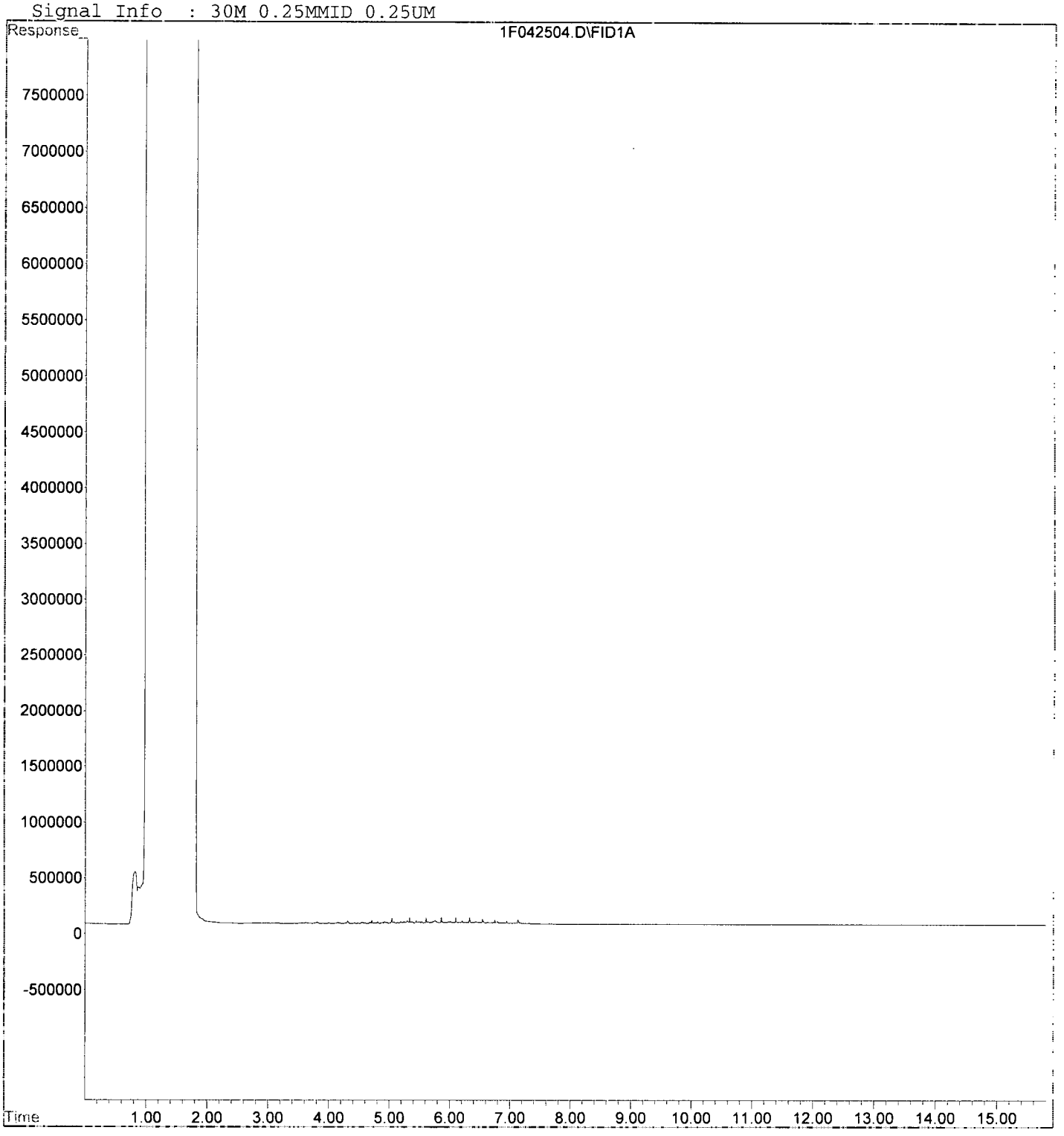
(f)=RT Delta > 1/2 window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042504.D Vial: 1
Acq On : 25 Apr 2019 17:41 Operator: KEH
Sample : 9D25027-CAL1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:21 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042505.D Vial: 2
Acq On : 25 Apr 2019 18:03 Operator: KEH
Sample : 9D25027-CAL2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:22 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	52265522	30.404	ug/ml
2)	H	Diesel	6.00	52265522	30.404	ug/mL
3)	H	DRO(C12-C24)	6.00	52265522	30.404	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	36472870	28.161	ug/ml
5)	H	TPHd (C10-C25)	6.00	45752550	28.725	ug/ml
7)	H	OIL	10.00	14299032	8.895	ug/mL
8)	H	RRO (C24-C40)	10.00	14299032	8.895	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	1844602	1.833	ug/mL
10)	H	TPHmo (C25-C36)	9.00	1029381	1.129	ug/mL

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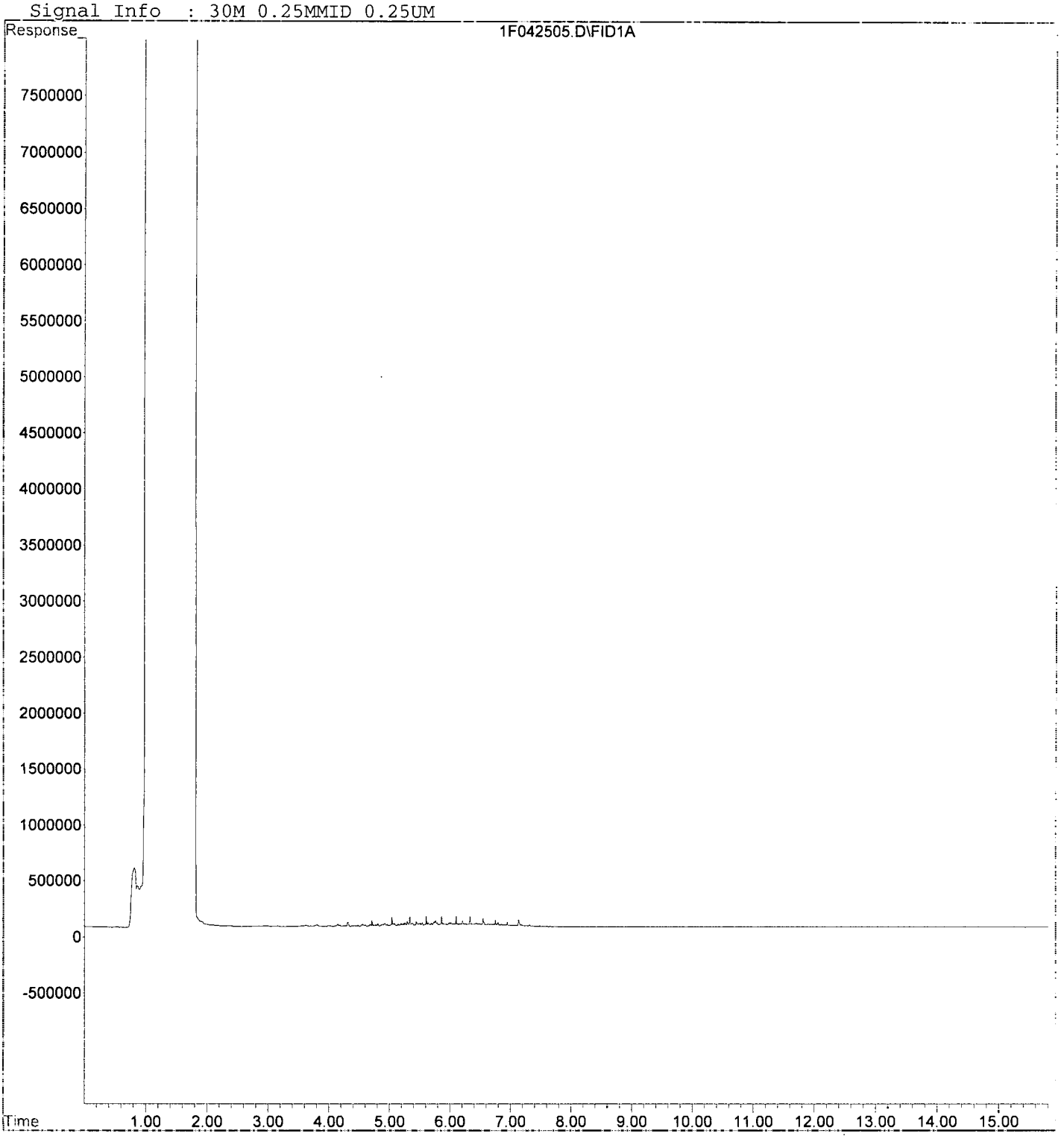
Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042505.D Vial: 2
Acq On : 25 Apr 2019 18:03 Operator: KEH
Sample : 9D25027-CAL2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:22 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042506.D Vial: 3
Acq On : 25 Apr 2019 18:26 Operator: KEH
Sample : 9D25027-CAL3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:22 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	125396907	72.945	ug/ml
2)	H	Diesel	6.00	125396907	72.945	ug/mL
3)	H	DRO(C12-C24)	6.00	125396907	72.945	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	91817455	70.894	ug/ml
5)	H	TPHd (C10-C25)	6.00	113459598	71.235	ug/ml
7)	H	OIL	10.00	34165575	21.253	ug/mL
8)	H	RRO (C24-C40)	10.00	34165575	21.253	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	4041069	4.015	ug/mL
10)	H	TPHmo (C25-C36)	9.00	1688690	1.853	ug/mL

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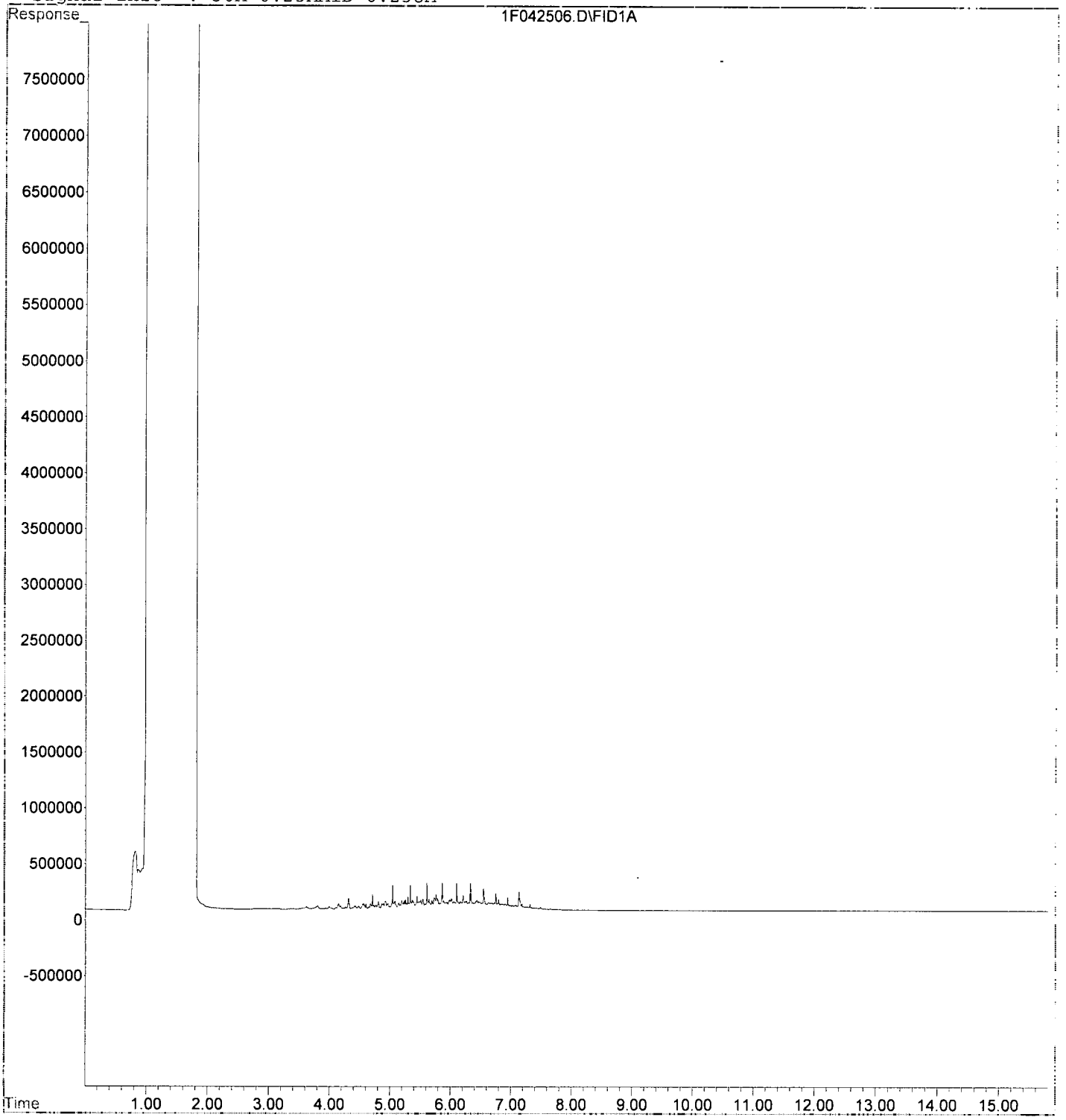
Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042506.D Vial: 3
Acq On : 25 Apr 2019 18:26 Operator: KEH
Sample : 9D25027-CAL3 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:22 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042507.D Vial: 4
Acq On : 25 Apr 2019 18:49 Operator: KEH
Sample : 9D25027-CAL4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:23 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	316126118	183.896	ug/ml
2)	H	Diesel	6.00	316126118	183.896	ug/mL
3)	H	DRO(C12-C24)	6.00	316126118	183.896	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	237078422	183.052	ug/ml
5)	H	TPHd (C10-C25)	6.00	292119635	183.405	ug/ml
7)	H	OIL	10.00	85846601	53.403	ug/mL
8)	H	RRO (C24-C40)	10.00	85846601	53.403	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	9744076	9.681	ug/mL
10)	H	TPHmo (C25-C36)	9.00	3415923	3.748	ug/mL

KAH 4/26/19

✓

(f)=RT Delta > 1/2 window (m)=manual int.

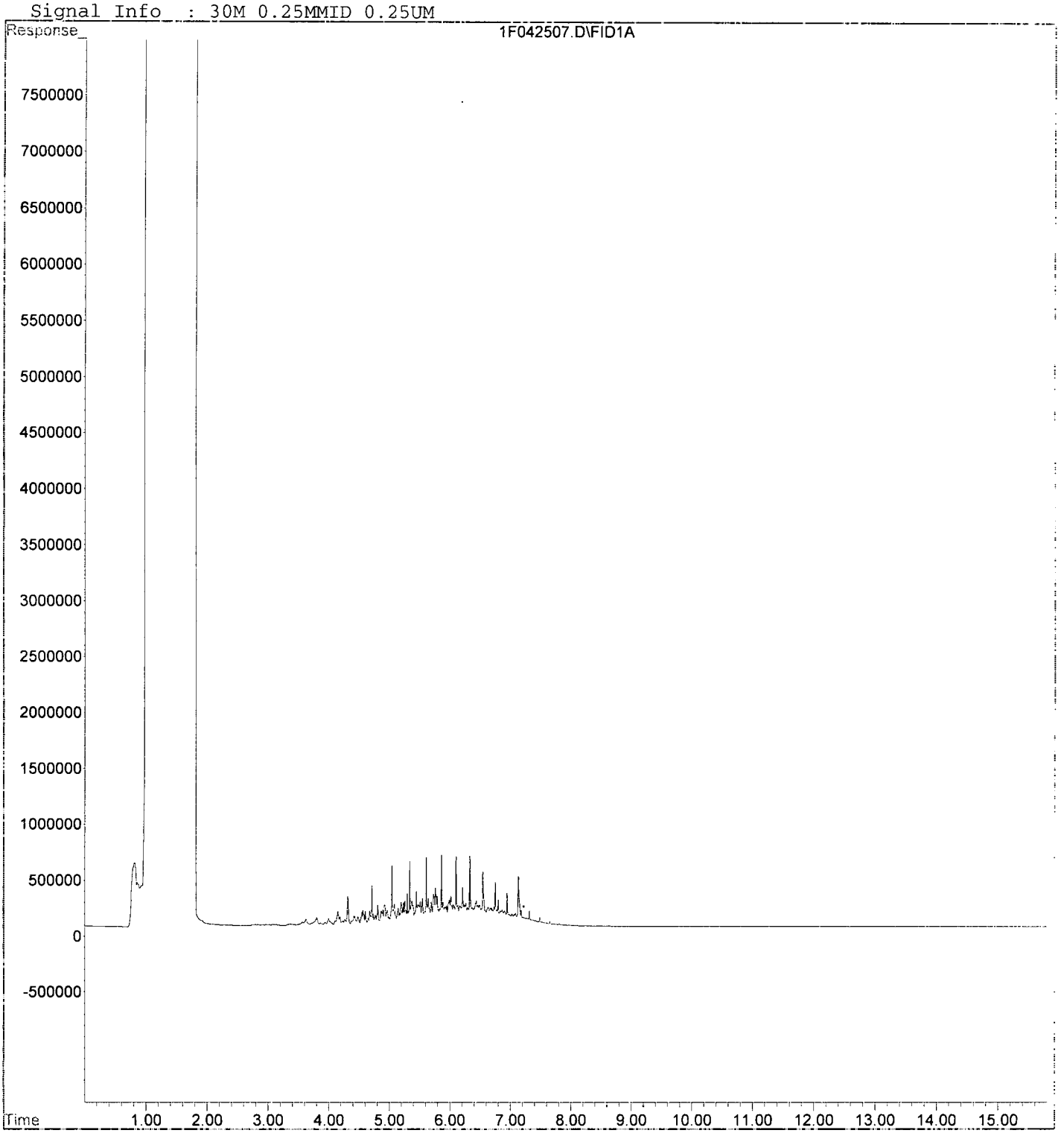
1F042507.D 1F90329D.M Fri Apr 26 08:34:16 2019 SV-GCMS3 Page 1

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042507.D Vial: 4
Acq On : 25 Apr 2019 18:49 Operator: KEH
Sample : 9D25027-CAL4 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:23 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042508.D Vial: 5
Acq On : 25 Apr 2019 19:12 Operator: KEH
Sample : 9D25027-CAL5 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:23 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	635258102	369.540	ug/ml
2)	H	Diesel	6.00	635258102	369.540	ug/mL
3)	H	DRO(C12-C24)	6.00	635258102	369.540	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	480842896	371.266	ug/ml
5)	H	TPHd (C10-C25)	6.00	589929594	370.383	ug/ml
7)	H	OIL	10.00	173566087	107.971	ug/mL
8)	H	RRO (C24-C40)	10.00	173566087	107.971	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	19752176	19.624	ug/mL
10)	H	TPHmo (C25-C36)	9.00	6164011	6.763	ug/mL

KAH 4/26/19

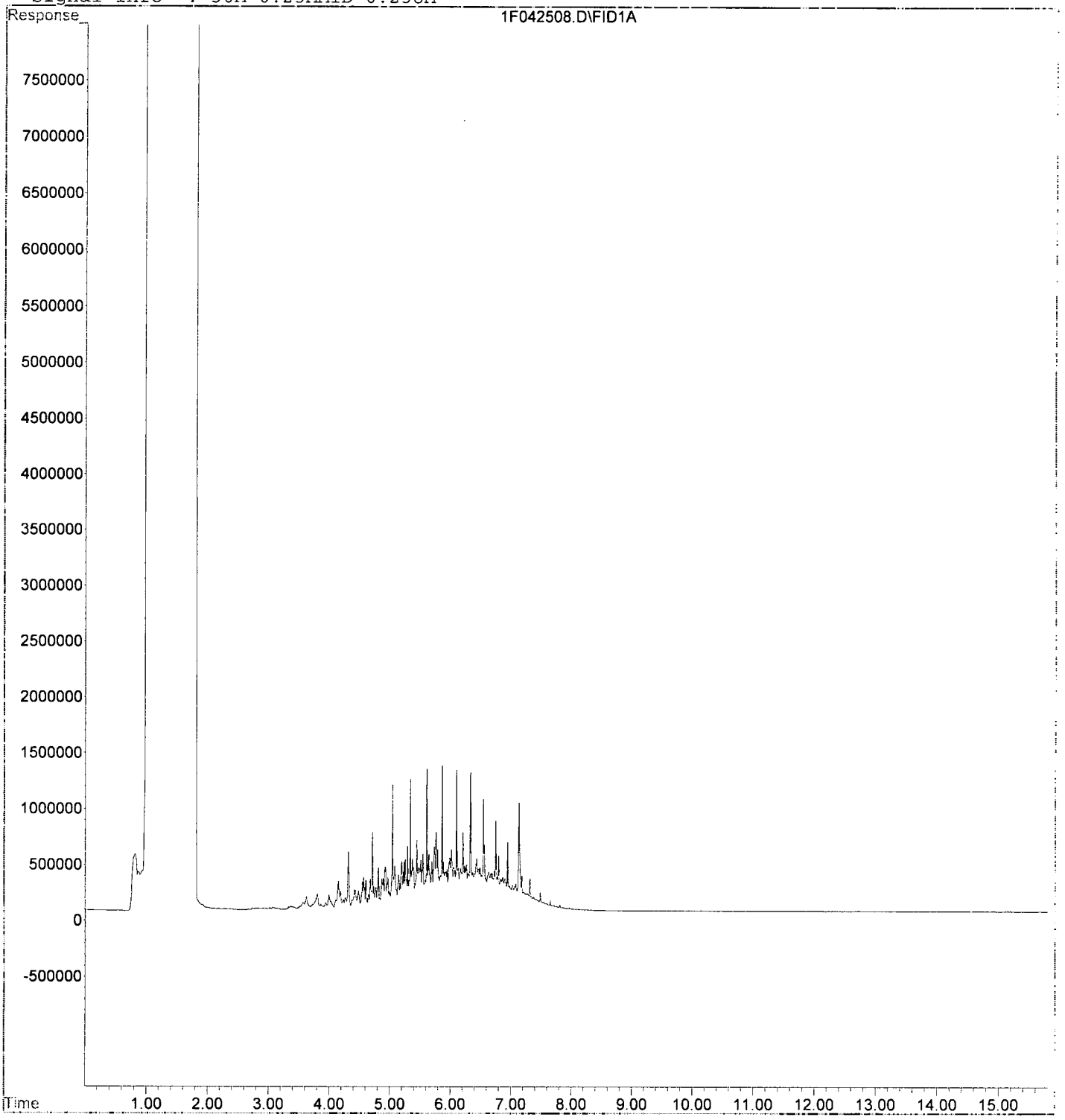
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042508.D Vial: 5
Acq On : 25 Apr 2019 19:12 Operator: KEH
Sample : 9D25027-CAL5 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:23 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042509.D Vial: 6
Acq On : 25 Apr 2019 19:35 Operator: KEH
Sample : 9D25027-CAL6 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:24 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	1249781929	727.019	ug/ml
2)	H	Diesel	6.00	1249781929	727.019	ug/mL
3)	H	DRO(C12-C24)	6.00	1249781929	727.019	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	950063692	733.558	ug/ml
5)	H	TPHd (C10-C25)	6.00	1164841259	731.337	ug/ml
7)	H	OIL	10.00	345378942	214.851	ug/mL
8)	H	RRO (C24-C40)	10.00	345378942	214.851	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	39198271	38.943	ug/mL
10)	H	TPHmo (C25-C36)	9.00	11854960	13.007	ug/mL

KEH 4/24/19

(f)=RT Delta > 1/2 Window (m)=manual int.:

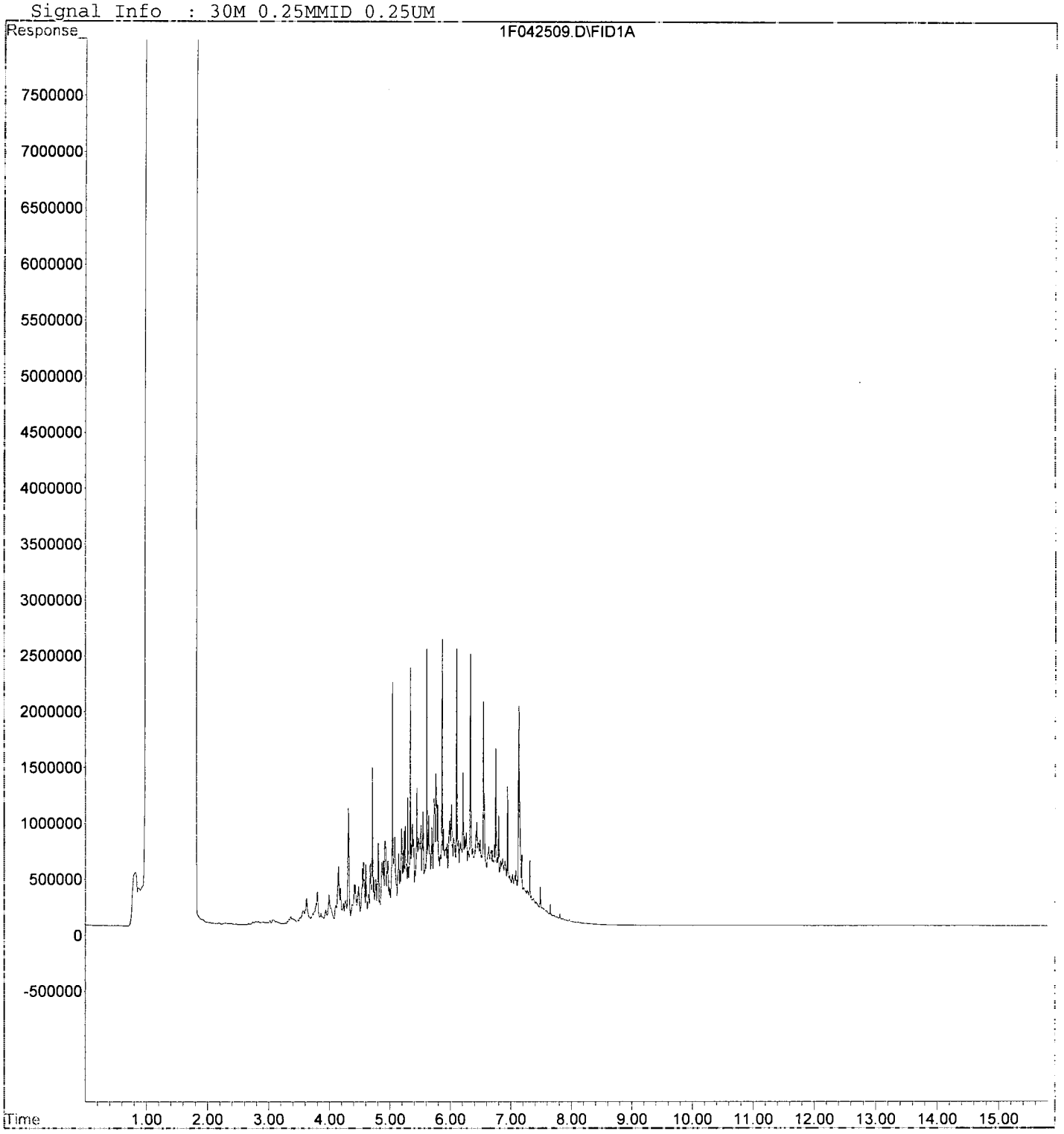
1F042509.D 1F90329D.M Fri Apr 26 08:34:17 2019 SV-GCMS3 Page 1

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042509.D Vial: 6
Acq On : 25 Apr 2019 19:35 Operator: KEH
Sample : 9D25027-CAL6 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:24 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042510.D Vial: 7
Acq On : 25 Apr 2019 19:58 Operator: KEH
Sample : 9D25027-CAL7 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:24 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	3126505528	1818.741	ug/ml
2)	H	Diesel	6.00	3126505528	1818.741	ug/mL
3)	H	DRO(C12-C24)	6.00	3126505528	1818.741	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	2380625778	1838.115	ug/ml
5)	H	TPHd (C10-C25)	6.00	2919159469	1832.774	ug/ml
7)	H	OIL	10.00	869784451	541.070	ug/mL
8)	H	RRO (C24-C40)	10.00	869784451	541.070	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	99816400	99.167	ug/mL
10)	H	TPHmo (C25-C36)	9.00	29597171	32.472	ug/mL

KEH 4/26/19

(f)=RT Delta > 1/2 Window (m)=manual int.

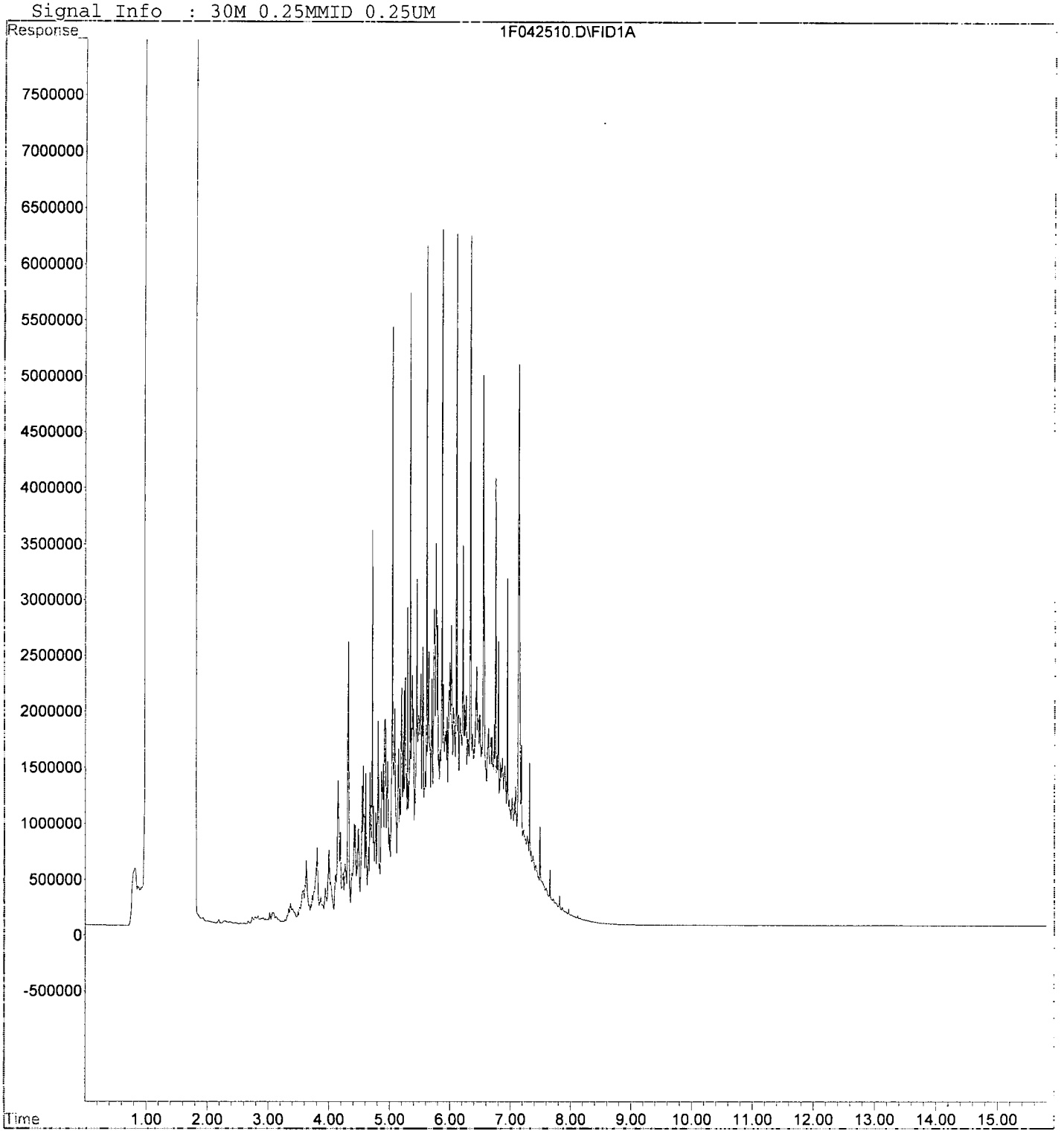
1F042510.D 1F90329D.M Fri Apr 26 08:34:18 2019 SV-GCMS3 Page 1

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042510.D Vial: 7
Acq On : 25 Apr 2019 19:58 Operator: KEH
Sample : 9D25027-CAL7 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:24 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042511.D Vial: 8
Acq On : 25 Apr 2019 20:20 Operator: KEH
Sample : 9D25027-CAL8 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:27 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	6233782447	3626.296	ug/ml
2)	H	Diesel	6.00	6233782447	3626.296	ug/mL
3)	H	DRO(C12-C24)	6.00	6233782447	3626.296	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	4745589091	3664.137	ug/ml
5)	H	TPHd (C10-C25)	6.00	5822794146	3655.801	ug/ml
7)	H	OIL	10.00	1748641788	1087.783	ug/mL
8)	H	RRO (C24-C40)	10.00	1748641788	1087.783	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	202599923	201.281	ug/mL
10)	H	TPHmo (C25-C36)	9.00	59879783	65.697	ug/mL

KGH 4/26/19

✓

(f)=RT Delta > 1/2 window (m)=manual int.

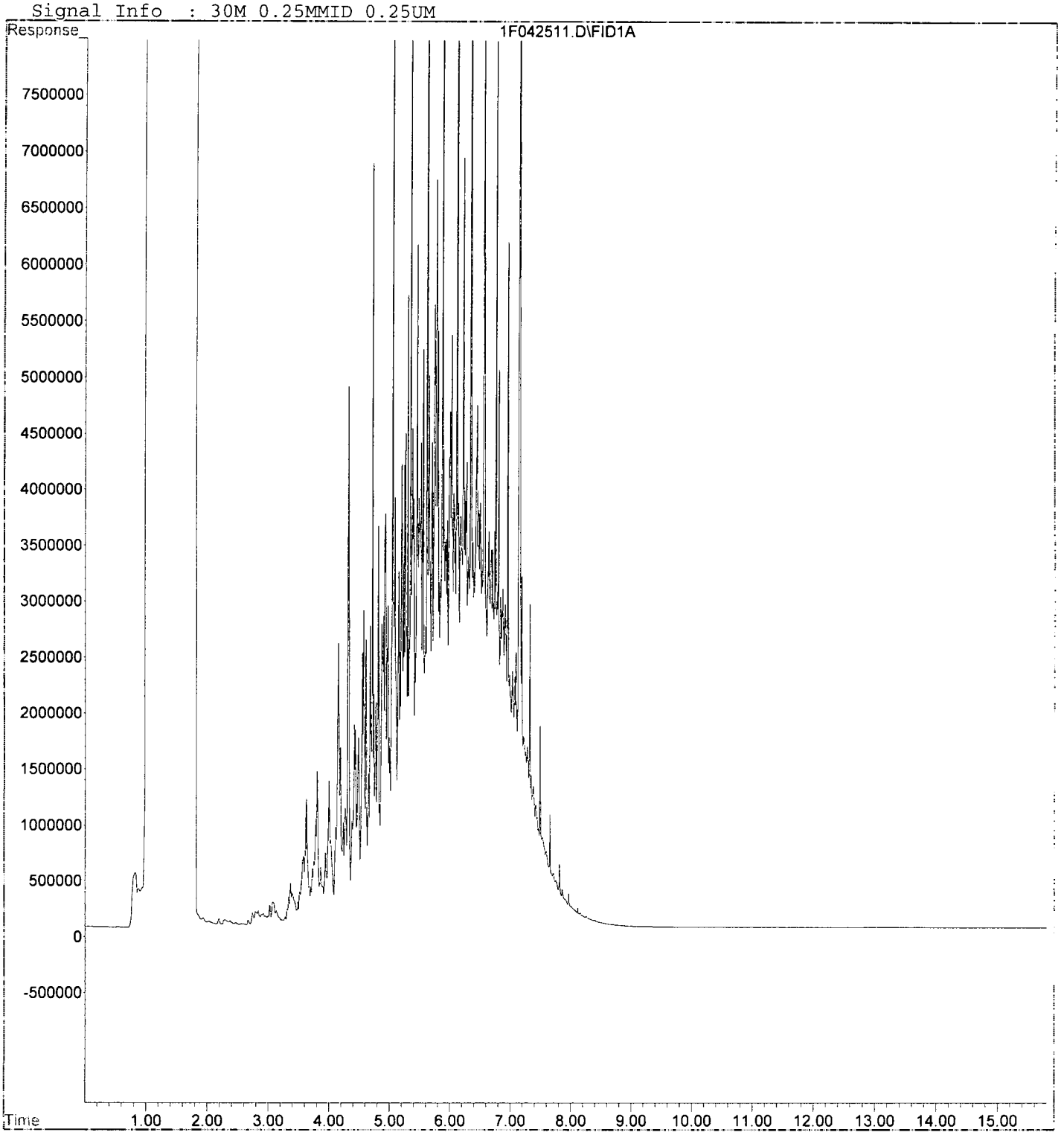
1F042511.D 1F90329D.M Fri Apr 26 08:34:19 2019 SV-GCMS3

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042511.D Vial: 8
Acq On : 25 Apr 2019 20:20 Operator: KEH
Sample : 9D25027-CAL8 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:27 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:19:31 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042512.D Vial: 9
Acq On : 25 Apr 2019 20:43 Operator: KEH
Sample : 9D25027-CAL9 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:27 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
6)	S	o-Terphenyl	6.79	13927415	6.967 ug/mL
		Target Compounds			
1)	H	Mineral Oil	6.00	5977094	3.477 ug/ml
2)	H	Diesel	6.00	5977094	3.477 ug/mL
3)	H	DRO(C12-C24)	6.00	5977094	3.477 ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	1650864	1.275 ug/ml
5)	H	TPHd (C10-C25)	6.00	2898648	1.820 ug/ml
7)	H	OIL	10.00	2985298	1.857 ug/mL
8)	H	RRO (C24-C40)	10.00	2985298	1.857 ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	693563	0.689 ug/mL
10)	H	TPHmo (C25-C36)	9.00	774201	0.849 ug/mL

Fqit 4/26/19

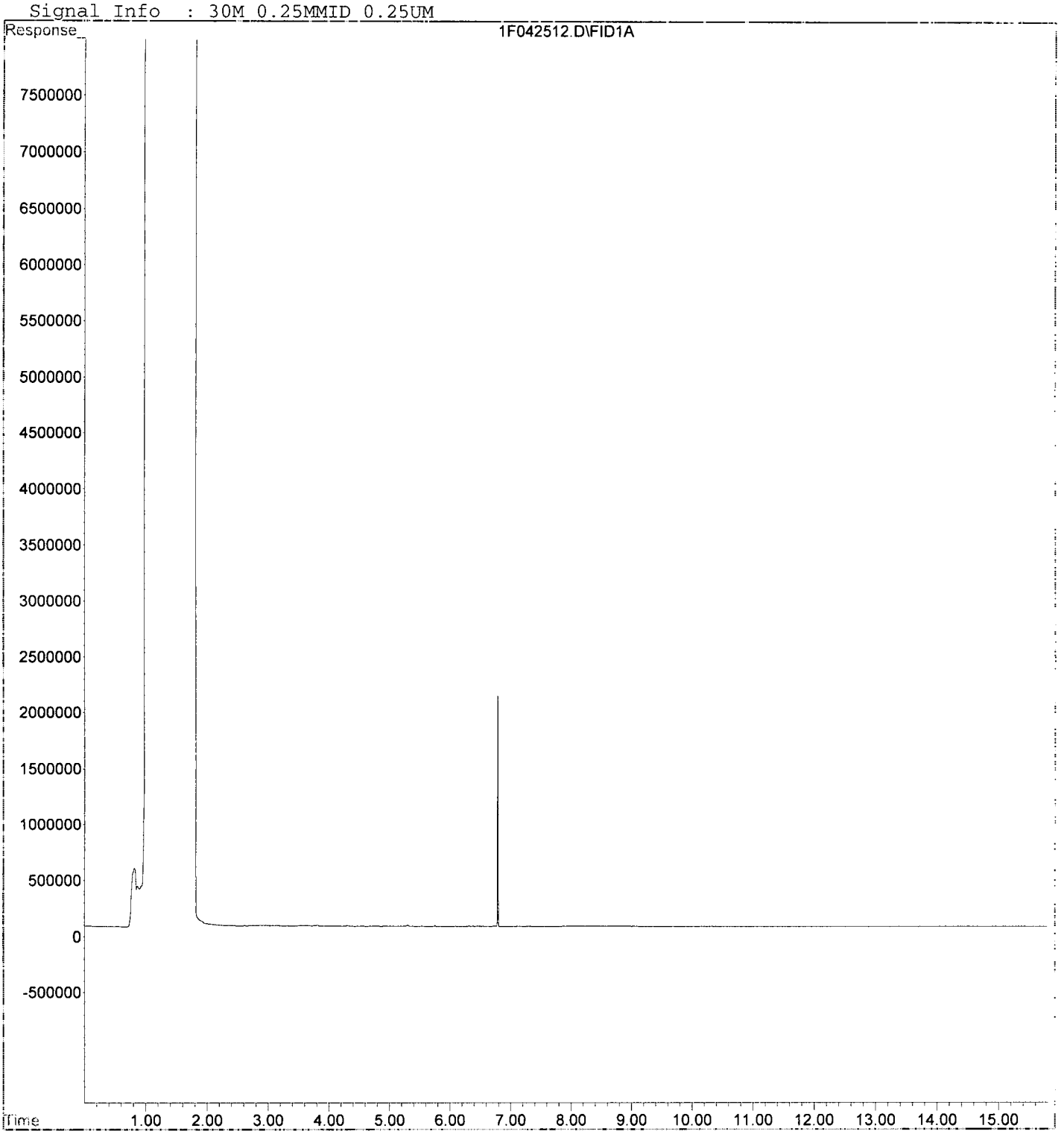
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042512.D Vial: 9
Acq On : 25 Apr 2019 20:43 Operator: KEH
Sample : 9D25027-CAL9 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:27 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042513.D Vial: 10
Acq On : 25 Apr 2019 21:06 Operator: KEH
Sample : 9D25027-CALA Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:28 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
6)	S	o-Terphenyl	6.79	34540304	17.279 ug/mL
		Target Compounds			
1)	H	Mineral Oil	6.00	5918763	3.443 ug/ml
2)	H	Diesel	6.00	5918763	3.443 ug/mL
3)	H	DRO(C12-C24)	6.00	5918763	3.443 ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	1529139	1.181 ug/ml
5)	H	TPHd (C10-C25)	6.00	2819953	1.770 ug/ml
7)	H	OIL	10.00	2072558	1.289 ug/mL
8)	H	RRO (C24-C40)	10.00	2072558	1.289 ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	674006	0.670 ug/mL
10)	H	TPHmo (C25-C36)	9.00	725827	0.796 ug/mL

KEH 4/26/19

(f)=RT Delta > 1/2 window (m)=manual int.

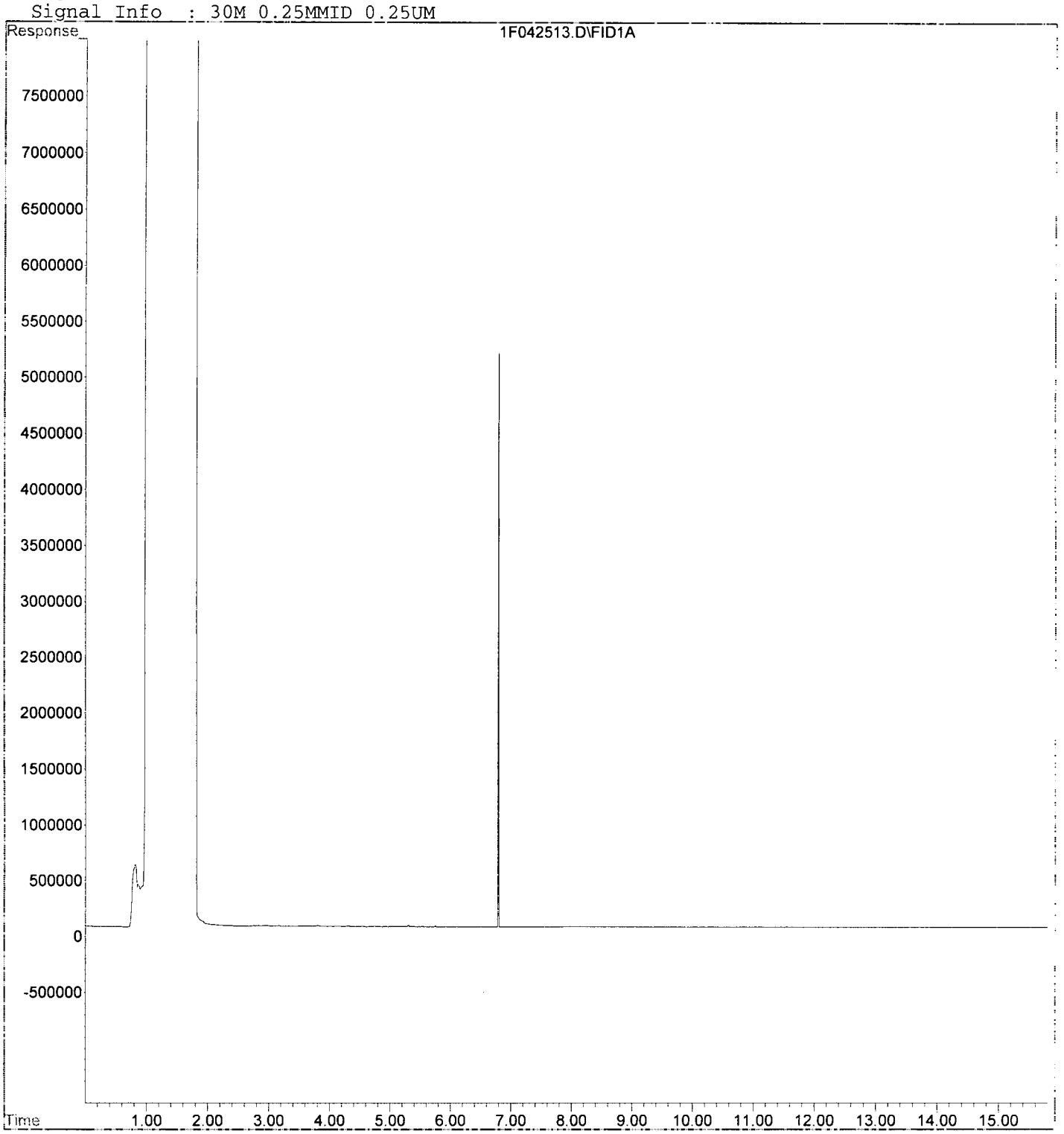
1F042513.D 1F90329D.M Fri Apr 26 08:34:20 2019 SV-GCMS3 Page 1

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042513.D Vial: 10
Acq On : 25 Apr 2019 21:06 Operator: KEH
Sample : 9D25027-CALA Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:28 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042514.D Vial: 11
Acq On : 25 Apr 2019 21:29 Operator: KEH
Sample : 9D25027-CALB Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:28 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc Units
		System Monitoring Compounds			
6)	S	o-Terphenyl	6.79	70207816	35.123 ug/mL
		Target Compounds			
1)	H	Mineral Oil	6.00	5866581	3.413 ug/ml
2)	H	Diesel	6.00	5866581	3.413 ug/mL
3)	H	DRO(C12-C24)	6.00	5866581	3.413 ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	1567369	1.210 ug/ml
5)	H	TPHd (C10-C25)	6.00	2849847	1.789 ug/ml
7)	H	OIL	10.00	2158957	1.343 ug/mL
8)	H	RRO (C24-C40)	10.00	2158957	1.343 ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	587997	0.584 ug/mL
10)	H	TPHmo (C25-C36)	9.00	718951	0.789 ug/mL

KEH 4/26/19

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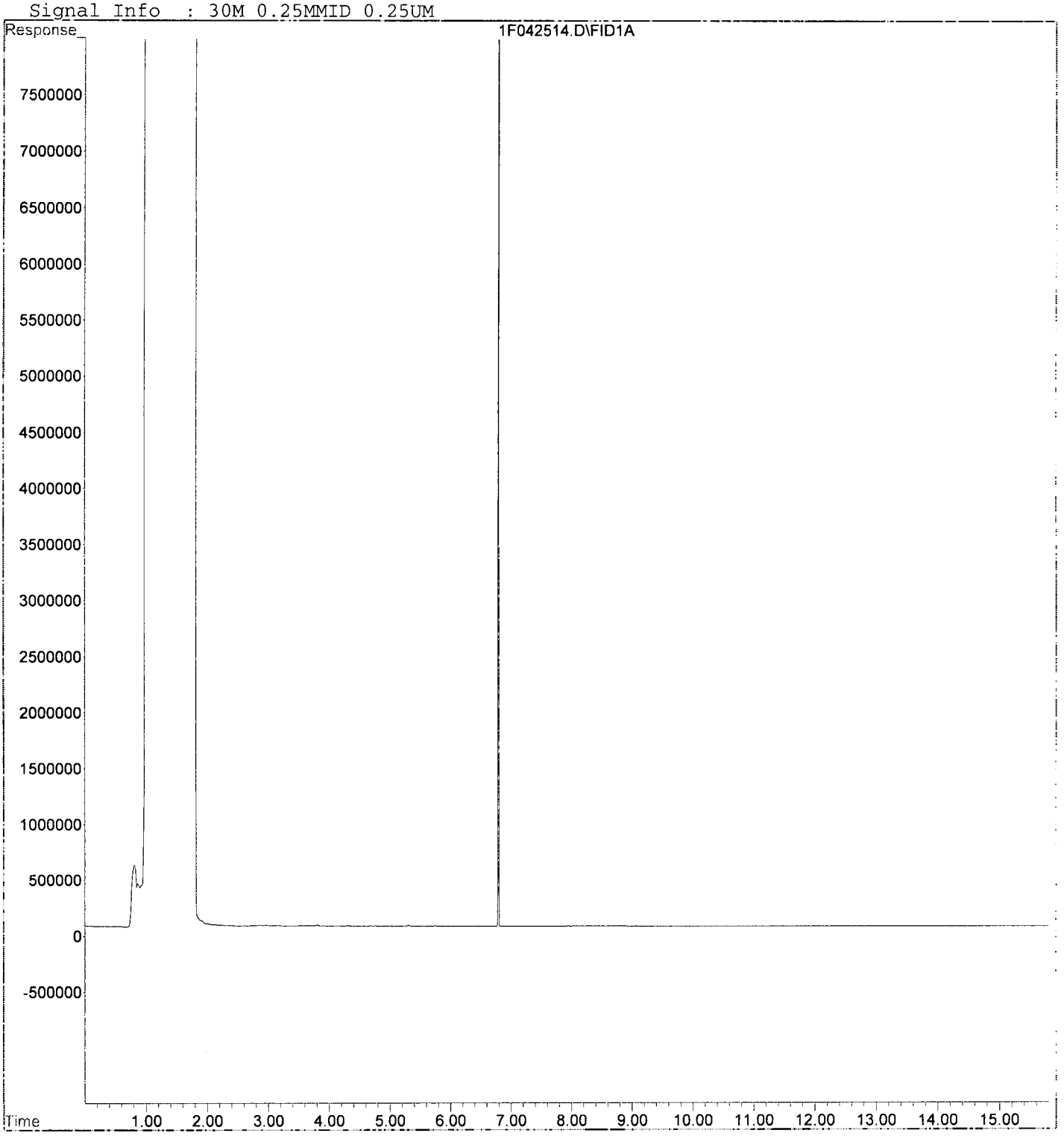
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042514.D Vial: 11
Acq On : 25 Apr 2019 21:29 Operator: KEH
Sample : 9D25027-CALB Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:28 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042515.D Vial: 12
Acq On : 25 Apr 2019 21:51 Operator: KEH
Sample : 9D25027-CALC Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:28 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.80	140098135	70.087	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	6163614	3.585	ug/ml
2)	H	Diesel	6.00	6163614	3.585	ug/mL
3)	H	DRO(C12-C24)	6.00	6163614	3.585	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	1722774	1.330	ug/ml
5)	H	TPHd (C10-C25)	6.00	3016373	1.894	ug/ml
7)	H	OIL	10.00	2527581	1.572	ug/mL
8)	H	RRO (C24-C40)	10.00	2527581	1.572	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	623874	0.620	ug/mL
10)	H	TPHmo (C25-C36)	9.00	687656	0.754	ug/mL

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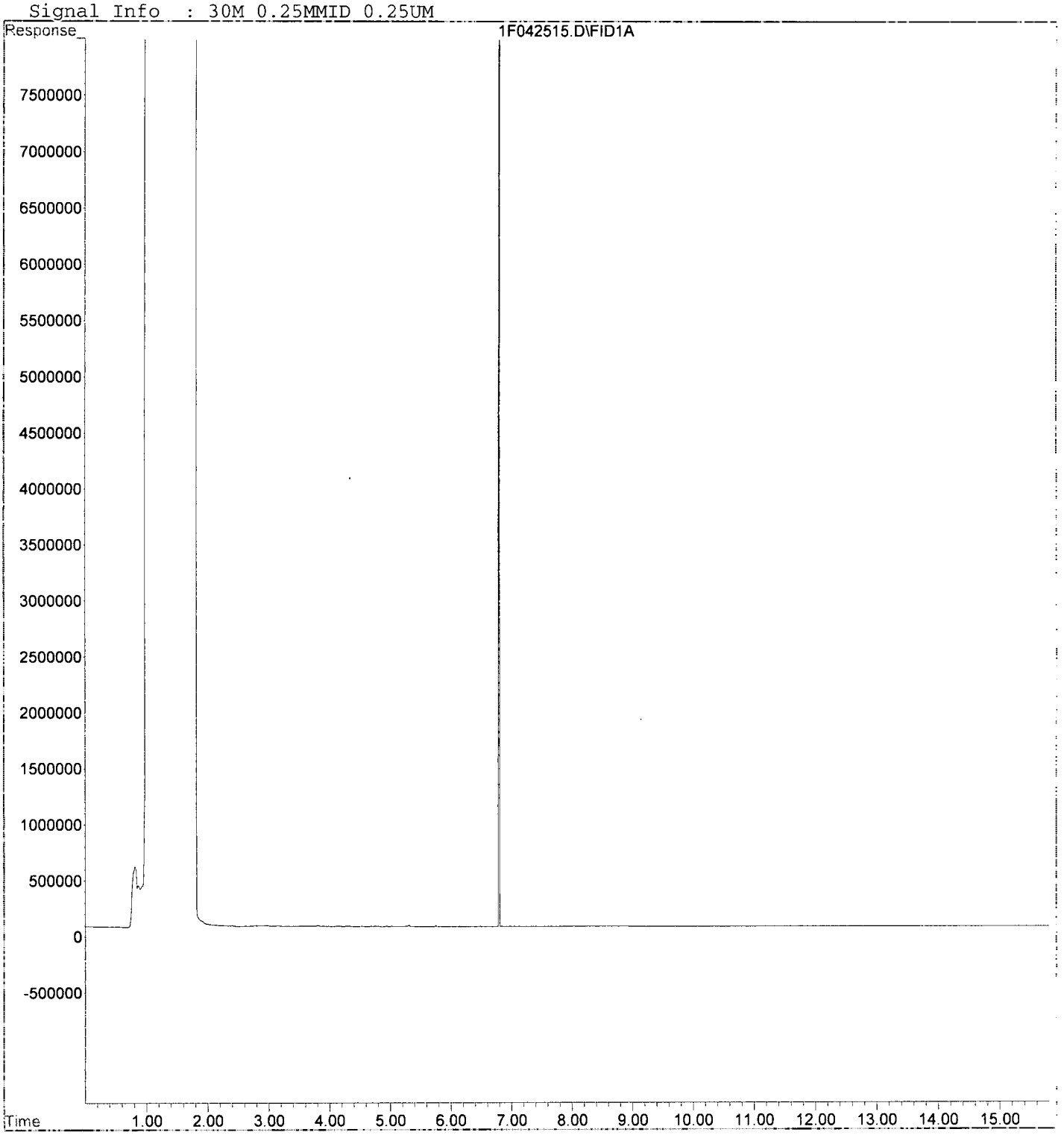
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042515.D Vial: 12
Acq On : 25 Apr 2019 21:51 Operator: KEH
Sample : 9D25027-CALC Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:28 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042516.D Vial: 13
Acq On : 25 Apr 2019 22:14 Operator: KEH
Sample : 9D25027-CALD Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:28 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	6.80	275627983	137.888	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	6973446	4.057	ug/ml
2)	H	Diesel	6.00	6973446	4.057	ug/mL
3)	H	DRO(C12-C24)	6.00	6973446	4.057	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	2051907	1.584	ug/ml
5)	H	TPHd (C10-C25)	6.00	3468122	2.177	ug/ml
7)	H	OIL	10.00	2278752	1.418	ug/mL
8)	H	RRO (C24-C40)	10.00	2278752	1.418	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	639985	0.636	ug/mL
10)	H	TPHmo (C25-C36)	9.00	754331	0.828	ug/mL

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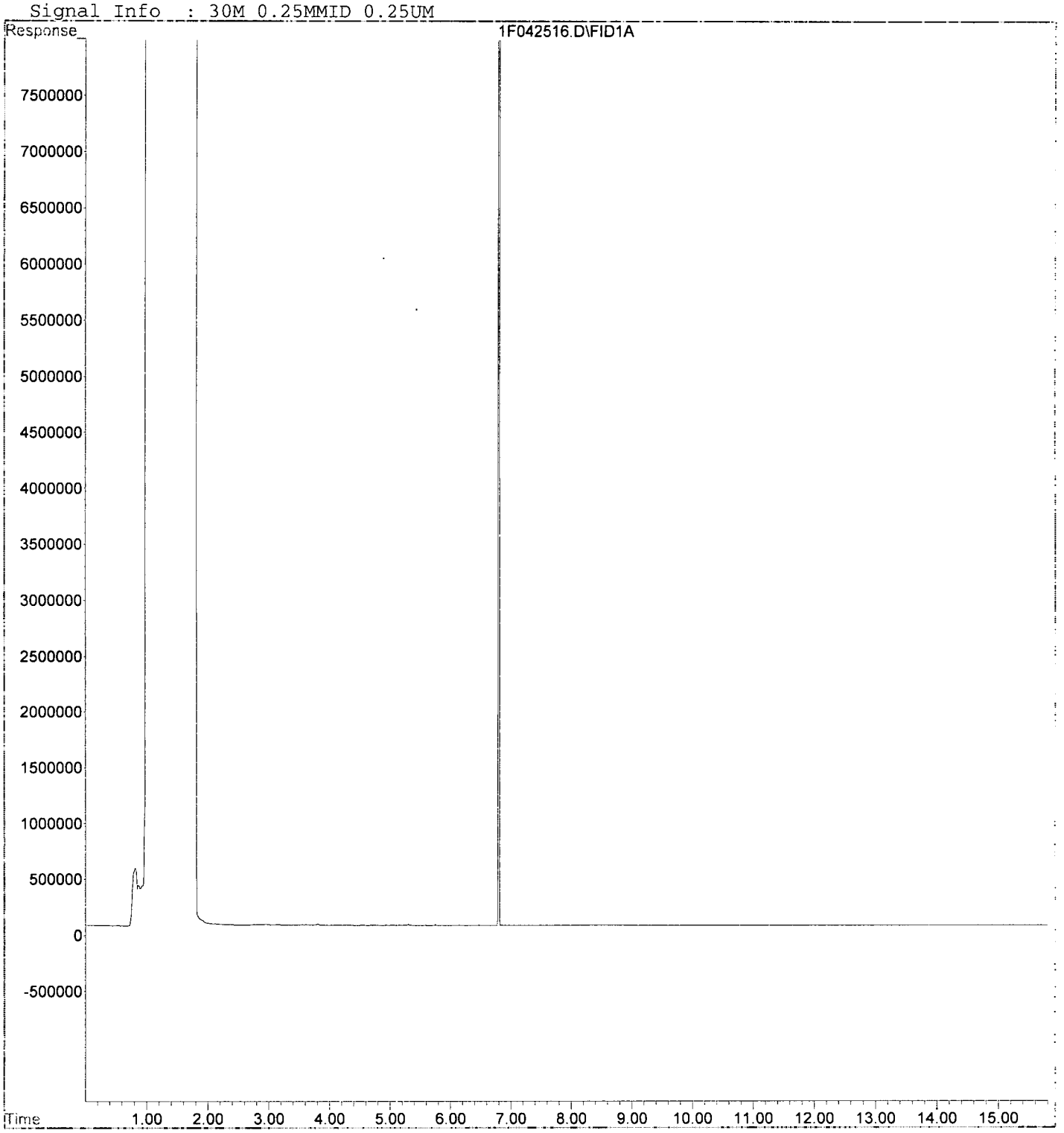
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042516.D Vial: 13
Acq On : 25 Apr 2019 22:14 Operator: KEH
Sample : 9D25027-CALD Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:28 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042517.D Vial: 14
Acq On : 25 Apr 2019 22:37 Operator: KEH
Sample : 9D25027-CALE Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:29 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	36831162	21.425	ug/ml
2)	H	Diesel	6.00	36831162	21.425	ug/mL
3)	H	DRO(C12-C24)	6.00	36831162	21.425	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	4658754	3.597	ug/ml
5)	H	TPHd (C10-C25)	6.00	14352579	9.011	ug/ml
7)	H	OIL	10.00	40658415	25.293	ug/mL
8)	H	RRO (C24-C40)	10.00	40658415	25.293	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	26240021	26.069	ug/mL
10)	H	TPHmo (C25-C36)	9.00	23623063	25.918	ug/mL

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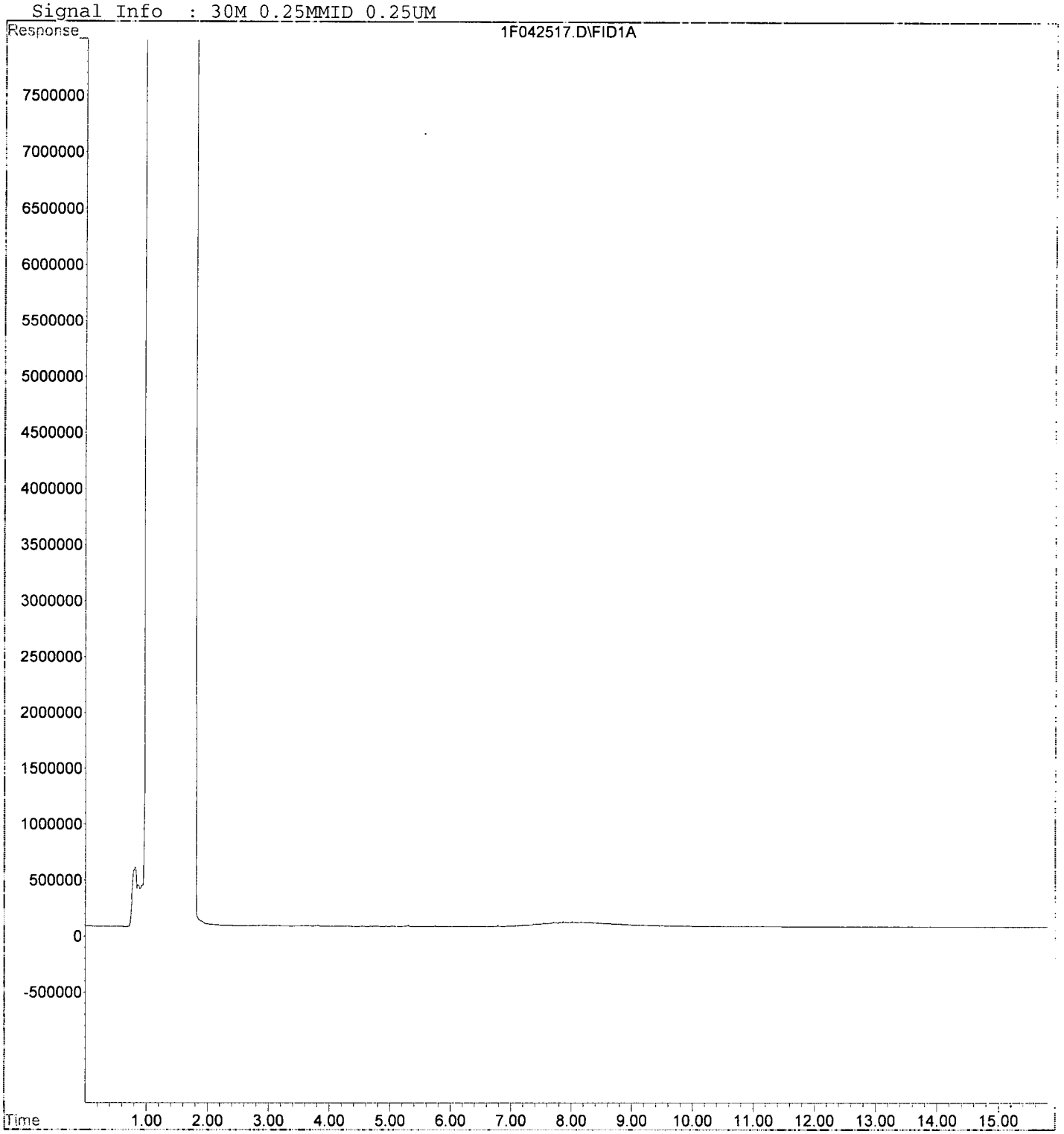
Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042517.D Vial: 14
Acq On : 25 Apr 2019 22:37 Operator: KEH
Sample : 9D25027-CALE Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:29 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042518.D Vial: 15
Acq On : 25 Apr 2019 22:59 Operator: KEH
Sample : 9D25027-CALF Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:29 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	71015430	41.311	ug/ml
2)	H	Diesel	6.00	71015430	41.311	ug/mL
3)	H	DRO(C12-C24)	6.00	71015430	41.311	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	7510524	5.799	ug/ml
5)	H	TPHd (C10-C25)	6.00	26686415	16.755	ug/ml
7)	H	OIL	10.00	84081063	52.305	ug/mL
8)	H	RRO (C24-C40)	10.00	84081063	52.305	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	55379526	55.019	ug/mL
10)	H	TPHmo (C25-C36)	9.00	49522315	54.333	ug/mL

KSH 4/26/19

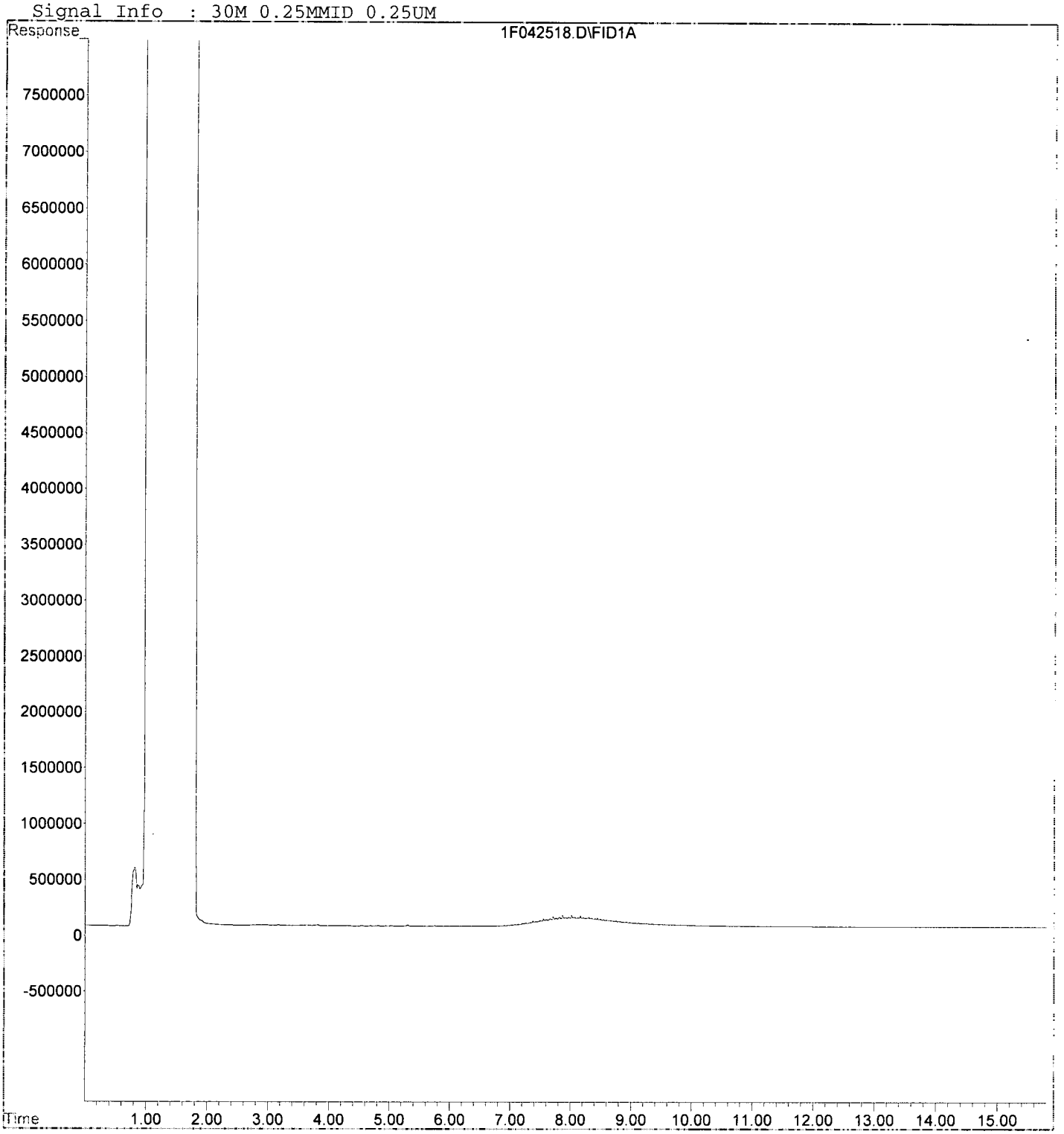
(f)=RT Delta > 1/2 window (m)=manual int.

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042518.D Vial: 15
Acq On : 25 Apr 2019 22:59 Operator: KEH
Sample : 9D25027-CALF Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:29 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042519.D Vial: 16
Acq On : 25 Apr 2019 23:22 Operator: KEH
Sample : 9D25027-CALG Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:29 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	213038660	123.928	ug/ml
2)	H	Diesel	6.00	213038660	123.928	ug/mL
3)	H	DRO(C12-C24)	6.00	213038660	123.928	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	18384233	14.195	ug/ml
5)	H	TPHd (C10-C25)	6.00	76186160	47.833	ug/ml
7)	H	OIL	10.00	267131698	166.176	ug/mL
8)	H	RRO (C24-C40)	10.00	267131698	166.176	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	178799247	177.635	ug/mL
10)	H	TPHmo (C25-C36)	9.00	160632315	176.237	ug/mL

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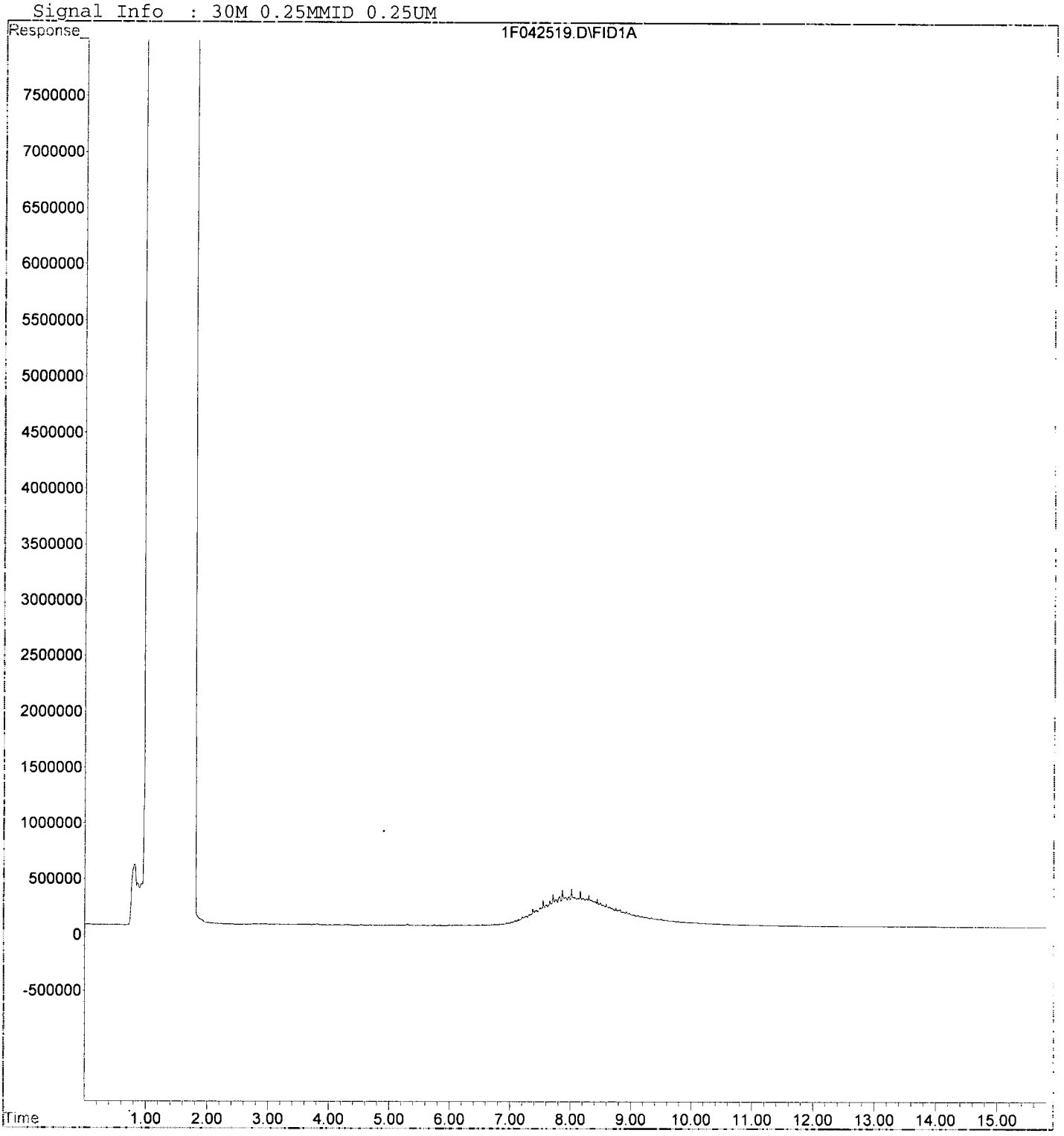
Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042519.D Vial: 16
Acq On : 25 Apr 2019 23:22 Operator: KEH
Sample : 9D25027-CALG Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:29 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042520.D Vial: 17
Acq On : 25 Apr 2019 23:45 Operator: KEH
Sample : 9D25027-CALH Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:30 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	430875093	250.647	ug/ml
2)	H	Diesel	6.00	430875093	250.647	ug/mL
3)	H	DRO(C12-C24)	6.00	430875093	250.647	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	35036900	27.052	ug/ml
5)	H	TPHd (C10-C25)	6.00	150801879	94.680	ug/ml
7)	H	OIL	10.00	551376804	342.997	ug/mL
8)	H	RRO (C24-C40)	10.00	551376804	342.997	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	369625025	367.219	ug/mL
10)	H	TPHmo (C25-C36)	9.00	336045814	368.690	ug/mL

KEH 4/26/19

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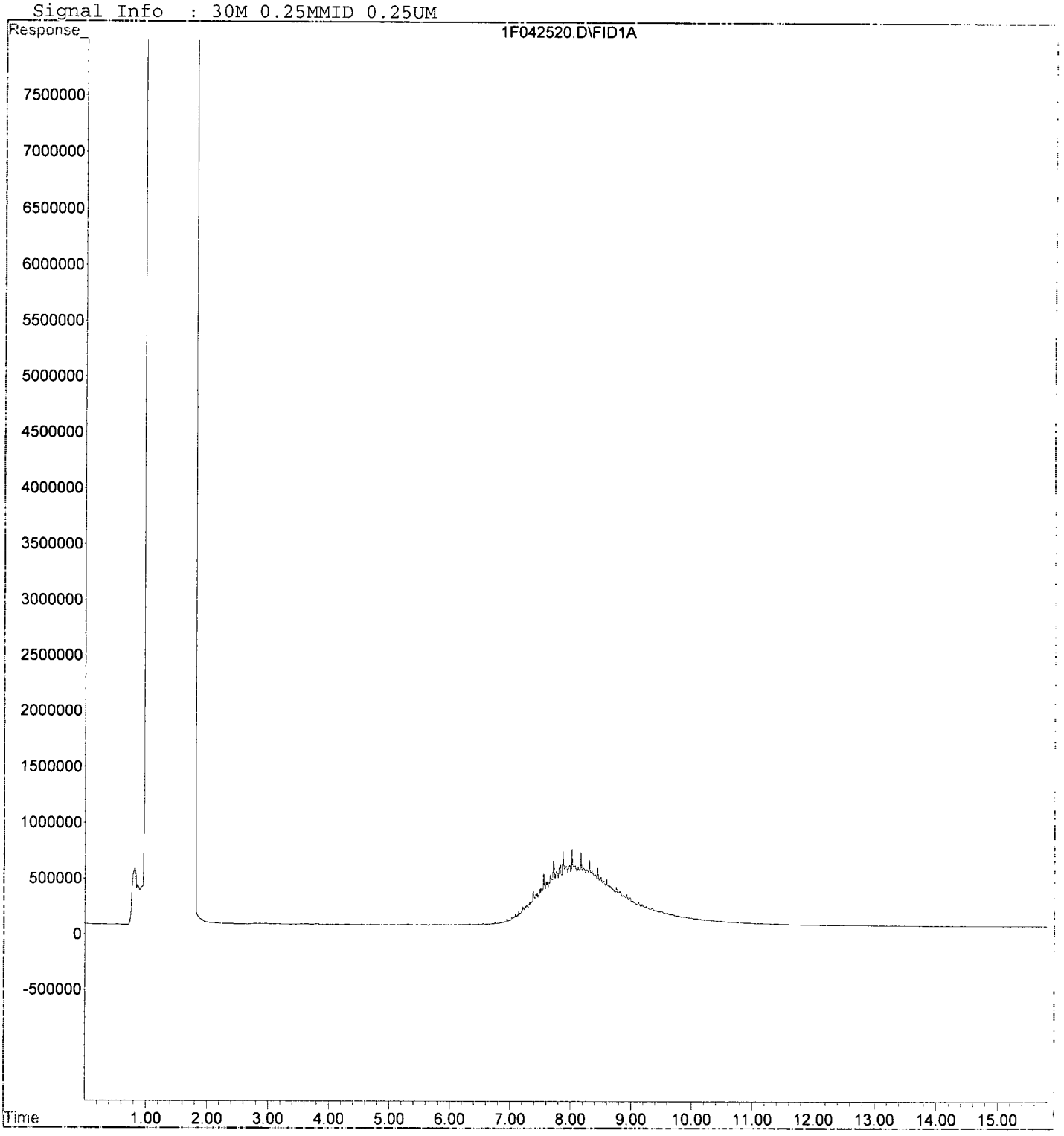
Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042520.D Vial: 17
Acq On : 25 Apr 2019 23:45 Operator: KEH
Sample : 9D25027-CALH Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:30 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042521.D Vial: 18
Acq On : 26 Apr 2019 00:07 Operator: KEH
Sample : 9D25027-CALI Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:30 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	881369363	512.707	ug/ml
2)	H	Diesel	6.00	881369363	512.707	ug/mL
3)	H	DRO(C12-C24)	6.00	881369363	512.707	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	68981455	53.262	ug/ml
5)	H	TPHd (C10-C25)	6.00	304588612	191.234	ug/ml
7)	H	OIL	10.00	1146400987	713.145	ug/mL
8)	H	RRO (C24-C40)	10.00	1146400987	713.145	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	764513007	759.536	ug/mL
10)	H	TPHmo (C25-C36)	9.00	701380034	769.514	ug/mL

KAH 4/29/19

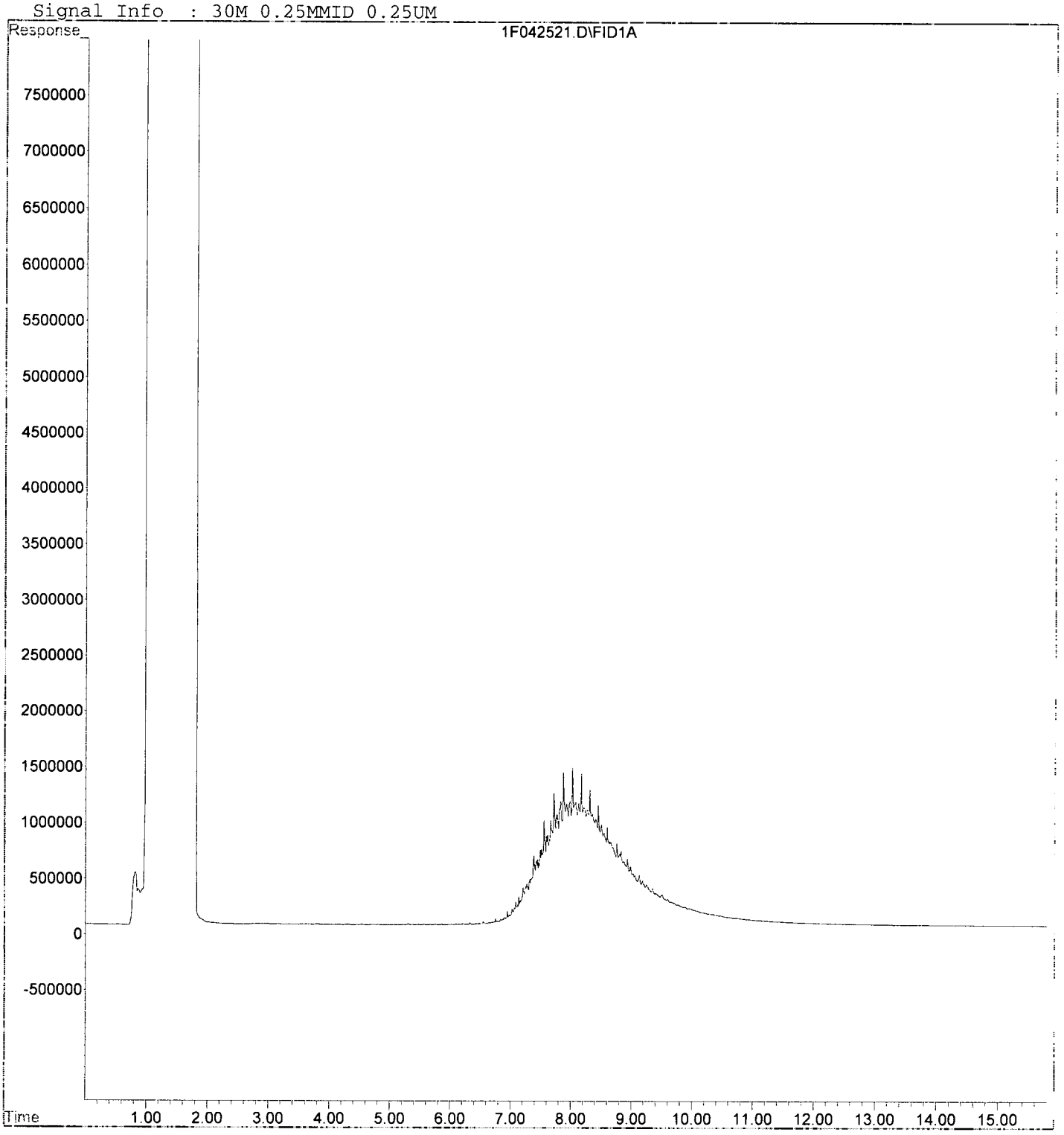
(f)=RT Delta > 1/2 window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042521.D Vial: 18
Acq On : 26 Apr 2019 00:07 Operator: KEH
Sample : 9D25027-CALI Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:30 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042522.D Vial: 19
Acq On : 26 Apr 2019 00:30 Operator: KEH
Sample : 9D25027-CALJ Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:31 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	2193669368	1276.095	ug/ml
2)	H	Diesel	6.00	2193669368	1276.095	ug/mL
3)	H	DRO(C12-C24)	6.00	2193669368	1276.095	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	167378076	129.235	ug/ml
5)	H	TPHd (C10-C25)	6.00	750009055	470.888	ug/ml
7)	H	OIL	10.00	2902021937	1805.270	ug/mL
8)	H	RRO (C24-C40)	10.00	2902021937	1805.270	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	1913826307	1901.368	ug/mL
10)	H	TPHmo (C25-C36)	9.00	1775803656	1948.311	ug/mL

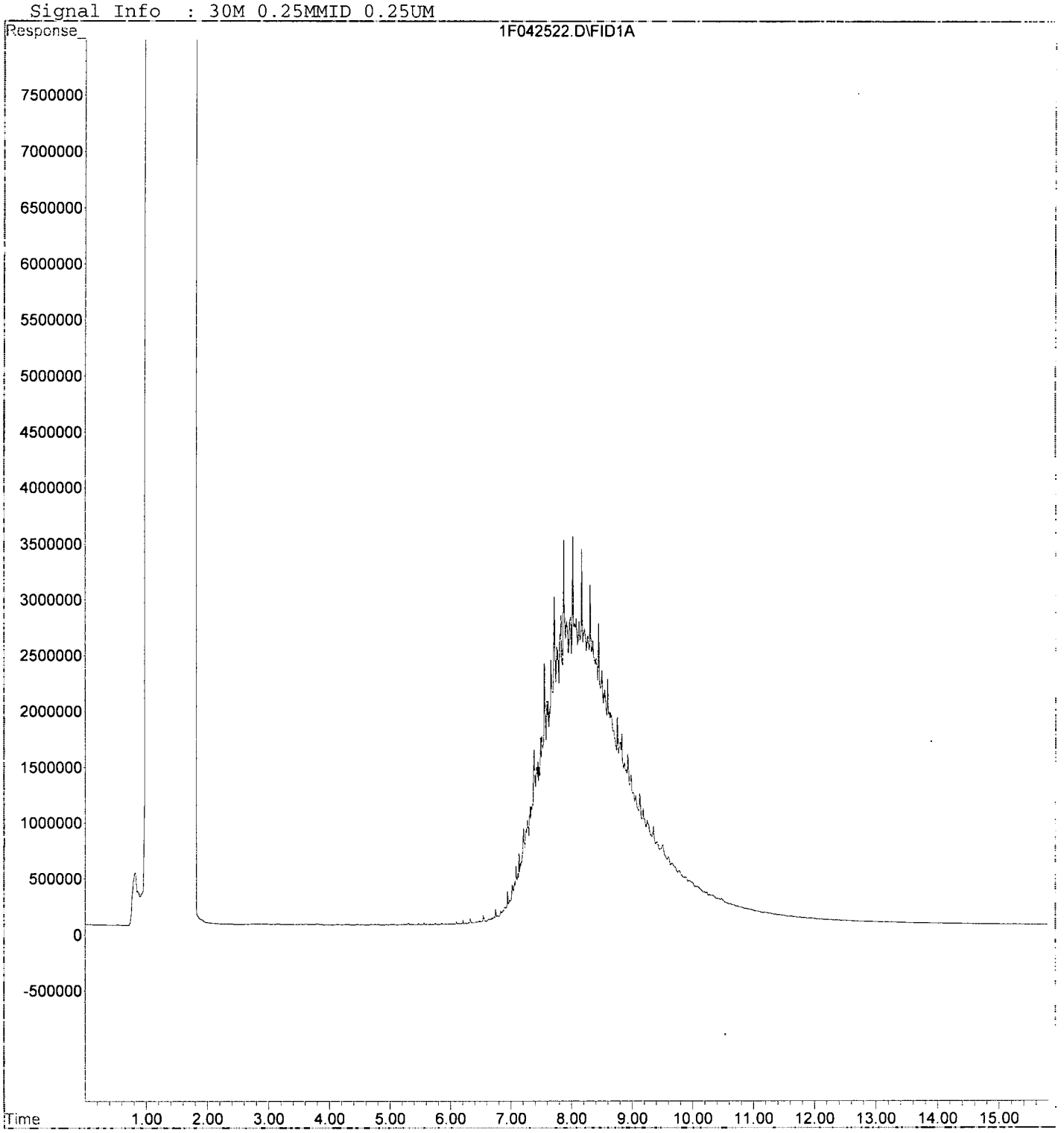
KEH 4/26/19

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042522.D Vial: 19
Acq On : 26 Apr 2019 00:30 Operator: KEH
Sample : 9D25027-CALJ Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:31 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042523.D Vial: 99
Acq On : 26 Apr 2019 00:52 Operator: KEH
Sample : 9D25027-IBL1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:31 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	12553111	7.302	ug/ml
2)	H	Diesel	6.00	12553111	7.302	ug/mL
3)	H	DRO(C12-C24)	6.00	12553111	7.302	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	3043185	2.350	ug/ml
5)	H	TPHd (C10-C25)	6.00	5401700	3.391	ug/ml
7)	H	OIL	10.00	13157718	8.185	ug/mL
8)	H	RRO (C24-C40)	10.00	13157718	8.185	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	4396275	4.368	ug/mL
10)	H	TPHmo (C25-C36)	9.00	6098211	6.691	ug/mL

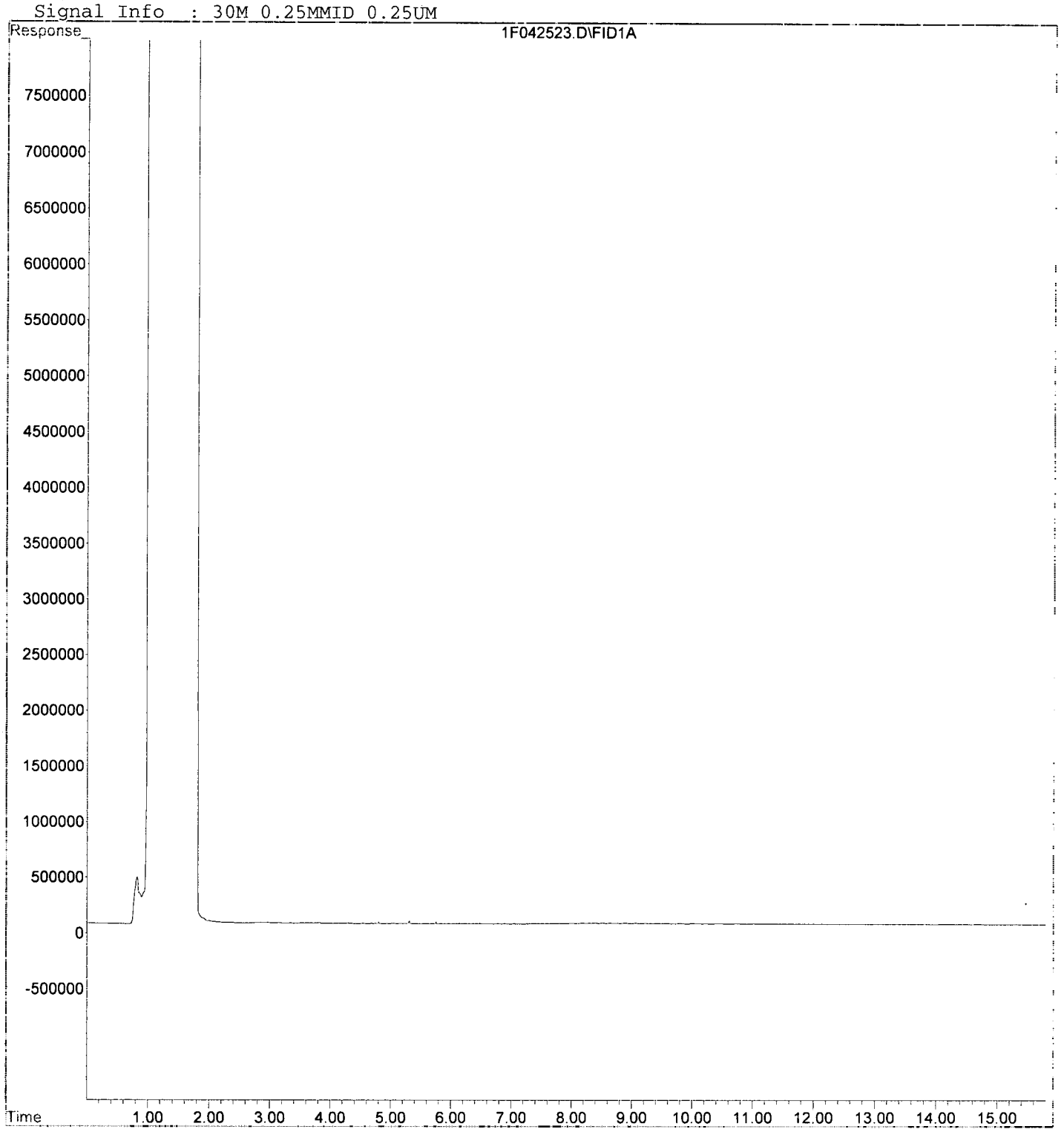
NK
Kat 4/26/19

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042523.D Vial: 99
Acq On : 26 Apr 2019 00:52 Operator: KEH
Sample : 9D25027-IBL1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:31 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042524.D Vial: 20
Acq On : 26 Apr 2019 1:15 Operator: KEH
Sample : 9D25027-CALK Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:31 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	4341632449	2525.601	ug/ml
2)	H	Diesel	6.00	4341632449	2525.601	ug/mL
3)	H	DRO(C12-C24)	6.00	4341632449	2525.601	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	330829671	255.438	ug/ml
5)	H	TPHd (C10-C25)	6.00	1477040392	927.350	ug/ml
7)	H	OIL	10.00	5787430343	3600.206	ug/mL
8)	H	RRO (C24-C40)	10.00	5787430343	3600.206	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	3793601205	3768.907	ug/mL
10)	H	TPHmo (C25-C36)	9.00	3547021564	3891.590	ug/mL

Kat 4/24/19

V

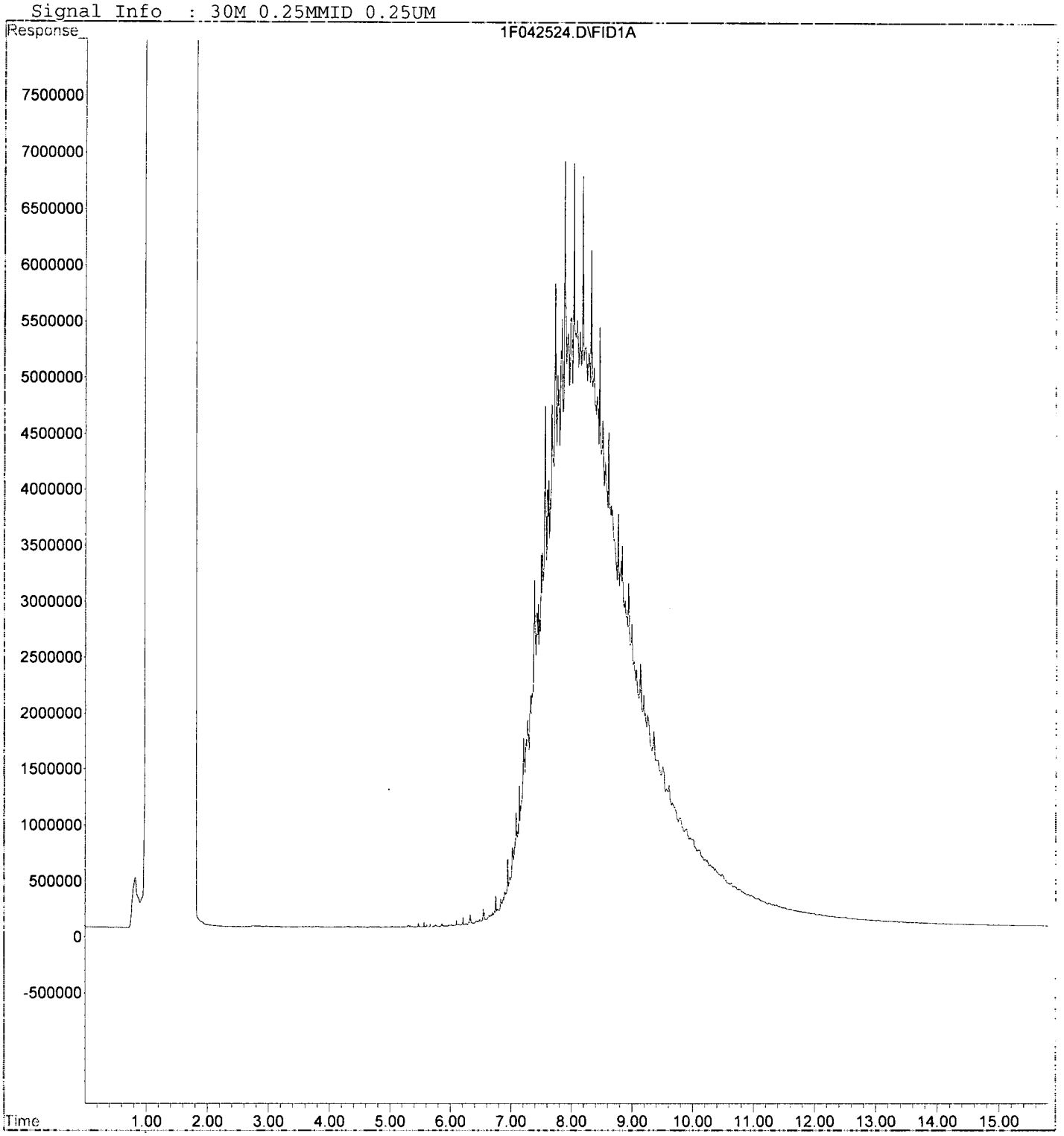
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042524.D Vial: 20
Acq On : 26 Apr 2019 1:15 Operator: KEH
Sample : 9D25027-CALK Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:31 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042525.D Vial: 99
Acq On : 26 Apr 2019 1:38 Operator: KEH
Sample : 9D25027-IBL2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:32 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mL
		Target Compounds				
1)	H	Mineral Oil	6.00	17306765	10.068	ug/ml
2)	H	Diesel	6.00	17306765	10.068	ug/mL
3)	H	DRO(C12-C24)	6.00	17306765	10.068	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	3341633	2.580	ug/ml
5)	H	TPHd (C10-C25)	6.00	6442173	4.045	ug/ml
7)	H	OIL	10.00	25756096	16.022	ug/mL
8)	H	RRO (C24-C40)	10.00	25756096	16.022	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	8614639	8.559	ug/mL
10)	H	TPHmo (C25-C36)	9.00	12535043	13.753	ug/mL

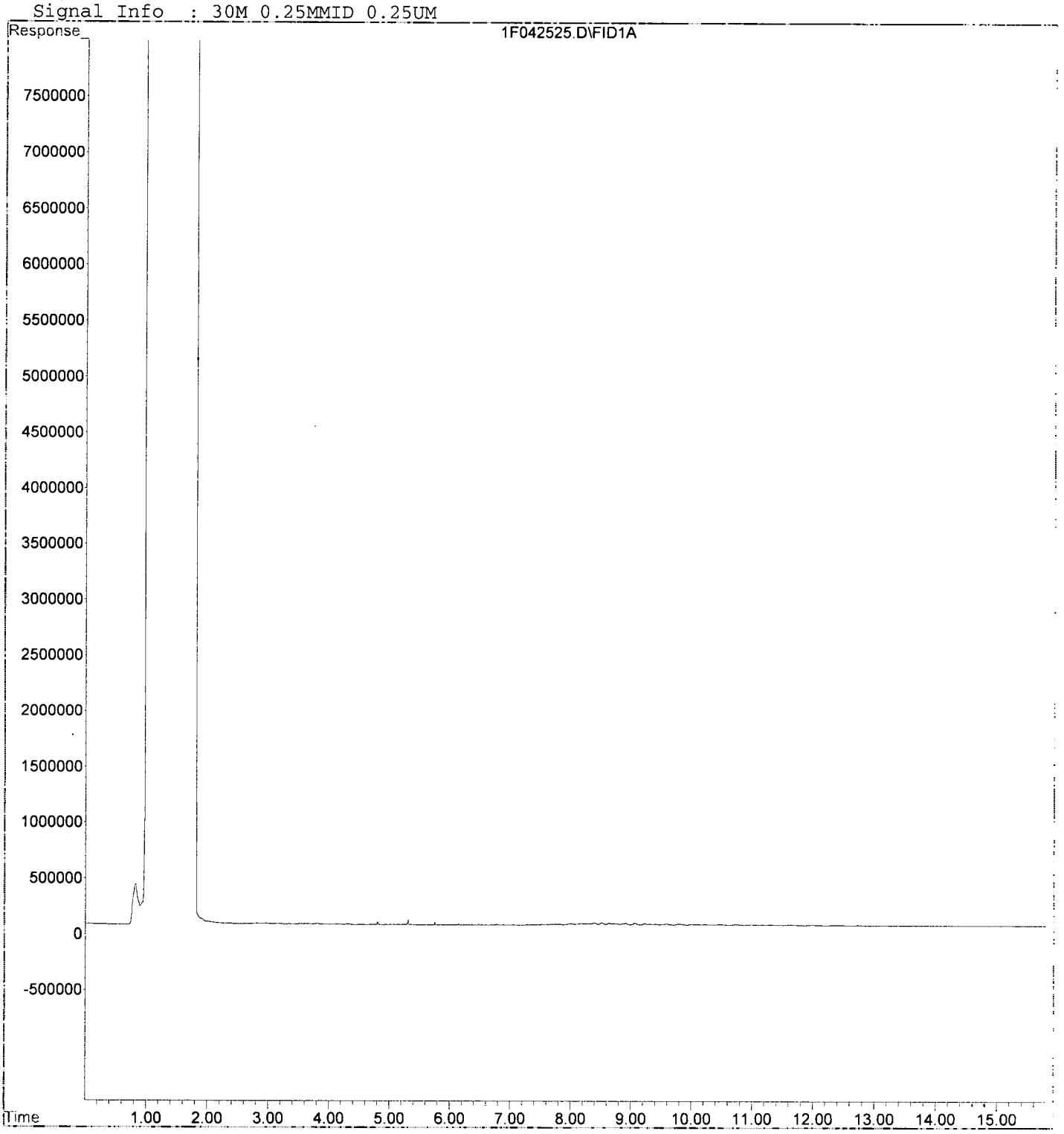
NR
Kat 4/24/19

Quantitation Report (Not Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042525.D Vial: 99
Acq On : 26 Apr 2019 1:38 Operator: KEH
Sample : 9D25027-IBL2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:32 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042526.D Vial: 21
Acq On : 26 Apr 2019 2:00 Operator: KEH
Sample : 9D25027-ICV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:32 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	1226583001	713.524	ug/ml
2)	H	Diesel	6.00	1226583001	713.524	ug/mL
3)	H	DRO(C12-C24)	6.00	1226583001	713.524	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	932655378	720.117	ug/ml
5)	H	TPHd (C10-C25)	6.00	1142282058	717.174	ug/ml
7)	H	OIL	10.00	347259589	216.021	ug/mL
8)	H	RRO (C24-C40)	10.00	347259589	216.021	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	40800192	40.535	ug/mL
10)	H	TPHmo (C25-C36)	9.00	13188744	14.470	ug/mL

KGH 4/26/19

✓

(f)=RT Delta > 1/2 Window (m)=manual int.

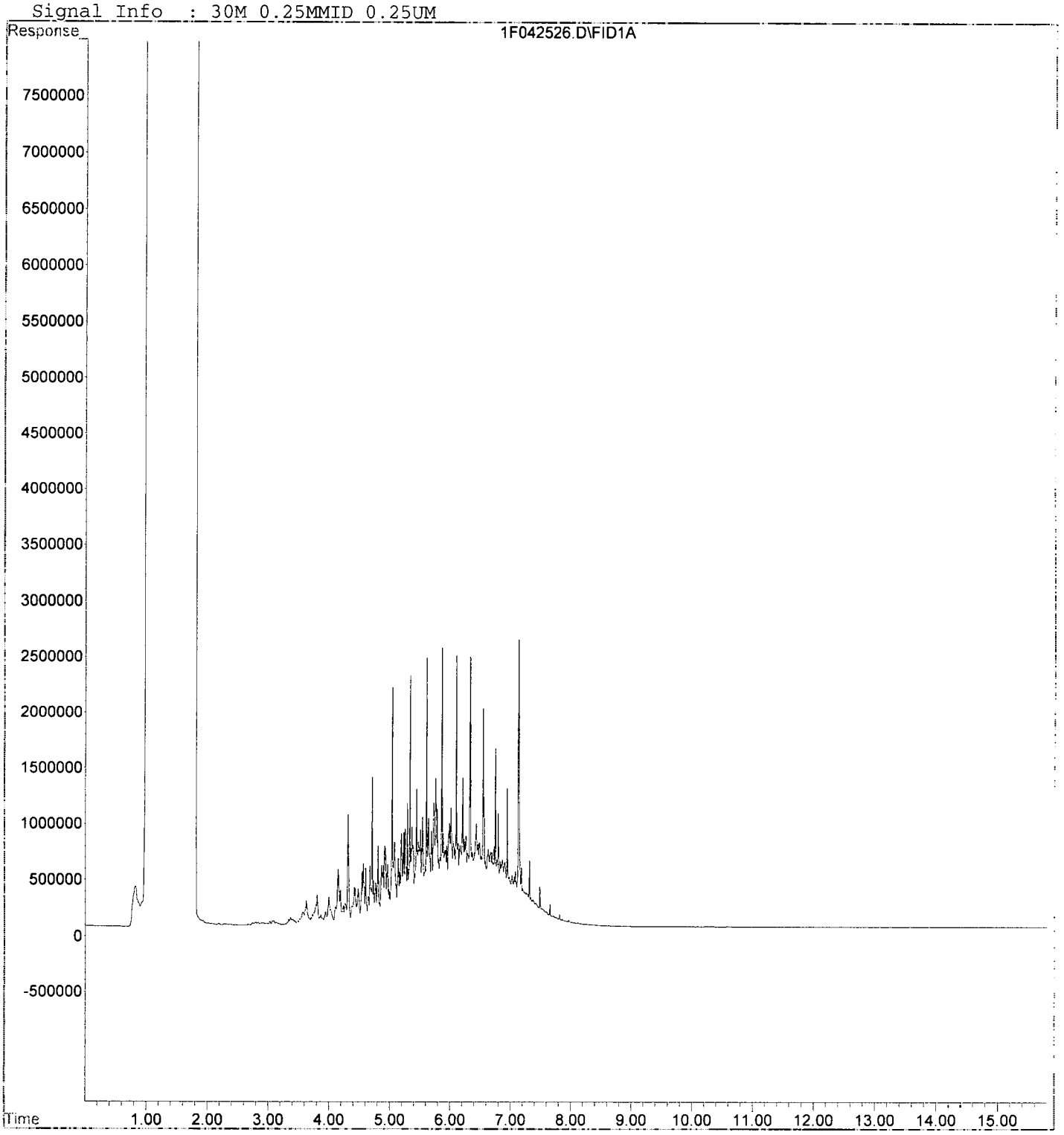
1F042526.D 1F90329D.M Fri Apr 26 08:34:27 2019 SV-GCMS3

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042526.D Vial: 21
Acq On : 26 Apr 2019 2:00 Operator: KEH
Sample : 9D25027-ICV1 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:32 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042527.D Vial: 22
Acq On : 26 Apr 2019 2:23 Operator: KEH
Sample : 9D25027-ICV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:33 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Initial Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM

		Compound	R.T.	Response	Conc	Units
		System Monitoring Compounds				
6)	S	o-Terphenyl	0.00	0	N.D.	ug/mLd
		Target Compounds				
1)	H	Mineral Oil	6.00	902879266	525.220	ug/ml
2)	H	Diesel	6.00	902879266	525.220	ug/mL
3)	H	DRO(C12-C24)	6.00	902879266	525.220	ug/mL
4)	H	Ca Luft DRO (C12-C22)	6.00	88553298	68.373	ug/ml
5)	H	TPHd (C10-C25)	6.00	335225897	210.469	ug/ml
7)	H	OIL	10.00	1136238940	706.824	ug/mL
8)	H	RRO (C24-C40)	10.00	1136238940	706.824	ug/mL
9)	H	Ca Luft ORO (C23-C32)	8.00	756609544	751.684	ug/mL
10)	H	TPHmo (C25-C36)	9.00	665299183	729.928	ug/mL

KEH 4/26/19

✓

(f)=RT Delta > 1/2 window (m)=manual int.

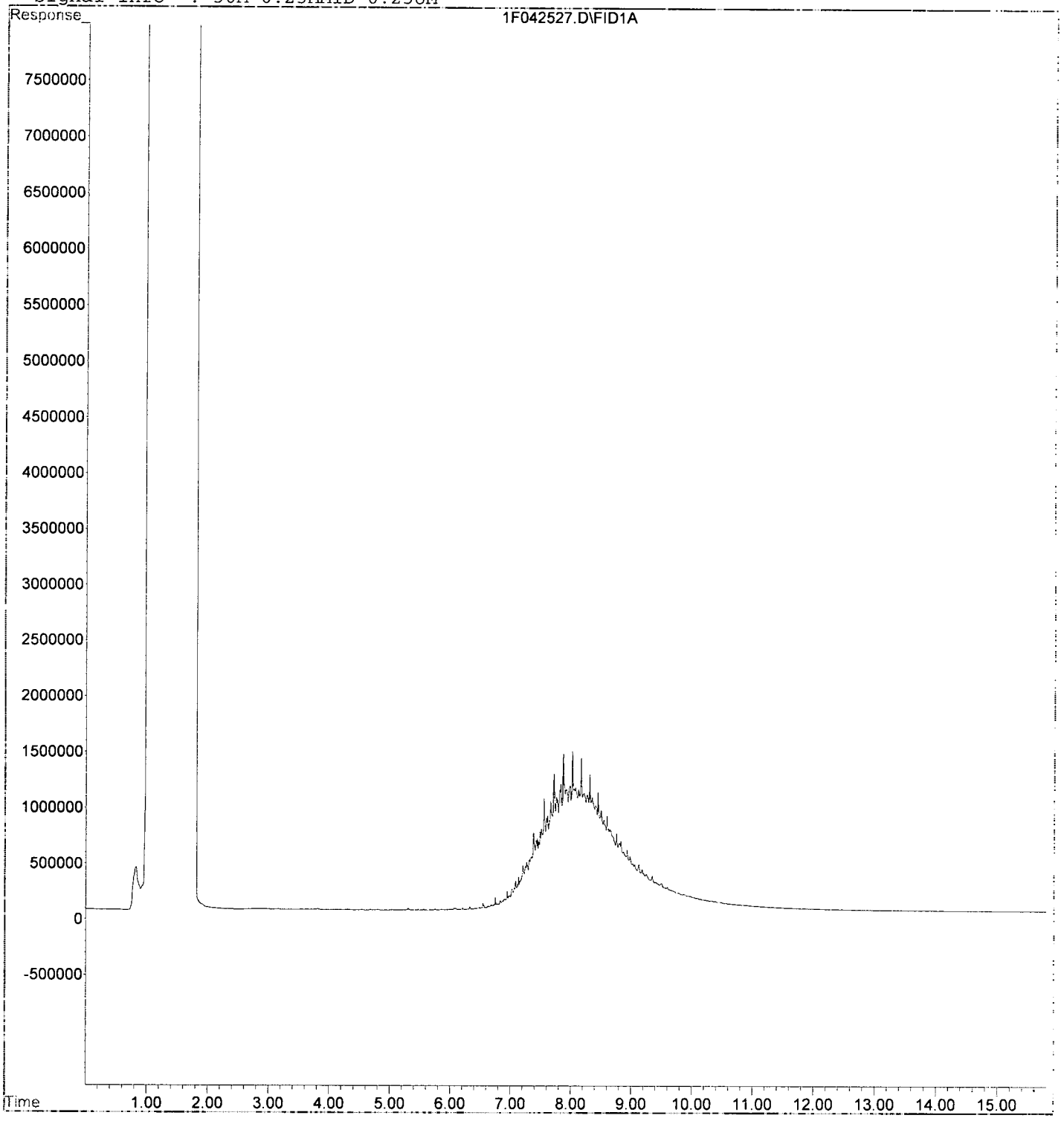
1F042527.D 1F90329D.M Fri Apr 26 08:34:28 2019 SV-GCMS3 Page 1

Quantitation Report (QT Reviewed)

Data File : F:\1\DATA\2019-04\9D25027\1F042527.D Vial: 22
Acq On : 26 Apr 2019 2:23 Operator: KEH
Sample : 9D25027-ICV2 Inst : HP G1530A
Misc : Multiplr: 1.00
IntFile : SUR.E
Quant Time: Apr 26 8:33 2019 Quant Results File: 1F90329D.RES

Quant Method : F:\1\METHODS\1F90329D.M (Chemstation Integrator)
Title : DUALFID1F, NWTPH-Dx/TPH-8015m
Last Update : Fri Apr 26 08:27:45 2019
Response via : Multiple Level Calibration
DataAcq Meth : A1F40422.M

Volume Inj. : 1uL
Signal Phase : Restek Rxi-5Sil MS
Signal Info : 30M 0.25MMID 0.25UM



Gasoline Range Hydrocarbons (Benzene though Naphthalene) by NWTPH-Gx

Benchsheet & Analysis Sequence Data

Batch 9061478

Sequence 9F28013 (A9F0860-02RE1)

PREPARATION BENCH SHEET

BATCH #: 9061478 (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*
9061478-BLK1		QC	06/28/19 09:17	5	5							
9061478-BS1		QC	06/28/19 09:17	5	5	A19F366		5				
9061478-BS2		QC	06/28/19 09:17	5	5	A19F151		5				
A9F0384-05RE2	D	8260C Full List	06/28/19 10:51	5	5					GS-061219-05	500X (CONFIRM) Out of hold	<2
A9F0820-01RE1	B	624 Volatiles	06/28/19 10:51	5	5					Wastewater 7/2/19	1X RR-01 OK (7)	<2
A9F0844-02RE1	B	8260C Full List	06/28/19 10:51	5	5					B-1-GW	1X RR-01	<2
A9F0844-02RE1	B	NWTPH-Gx	06/28/19 10:51	5	5					B-1-GW	1X RR-01	<2
A9F0860-02RE1	B	624 Volatiles	06/28/19 10:51	5	5					2708-190626-MULT802-109	Added for BatchQC in: 9061478	<2
A9F0860-02RE1	B	8260C Full List	06/28/19 10:51	5	5					2708-190626-MULT802-109	10X (RR03)	<2
A9F0860-02RE1	B	NWTPH-Gx	06/28/19 10:51	5	5					2708-190626-MULT802-109	10X (RR03)	<2
9061478-DUP1		QC	06/28/19 10:51	5	5		A9F0860-02RE1					<2
9061478-MS1		QC	06/28/19 10:51	5	5	A19F366	A9F0860-02RE1	50			@10X	<2
A9F0900-03	A	624 Volatiles	06/28/19 13:00	5	5					Sandburg upstairs women's restr	STUDY	<2
A9F0900-03RE1	B	624 Volatiles	06/28/19 13:00	5	5					Sandburg upstairs women's restr	STUDY HS	<2
A9F0900-03RE2	C	624 Volatiles	06/28/19 13:00	5	5					Sandburg upstairs women's restr	STUDY	<2

*pH <2 verified MH 7/2/19

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description

Analyte Spike(s)

Std ID	Exp. Date	Description
A19F151	12/10/19	Prim NWTPH-Gx Spike (500 ug/mL)
A19F366	07/14/19	8260 Cal. Std. B VOCR+OXY Spike (20-40ug/r

Surrogate(s)

Std ID	Exp. Date	Description

GCMS9

Add on A9F0384-05RE2 Confirmation only

7/2/19 hri
Prepared By: Date

MH 7/2/19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9F28013	Instrument:	VOA-GCMS9
Date:	06/28/19 07:13	Calibration:	A9F2102

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9F28013-IBL1	Water	QC	QC			A19C125	
2	9F28013-TUN1	Water	QC	QC			A19C125	
3	9F28013-CCV1	Water	QC	QC			A19C125	
4	9061478-BS1	Water	QC	QC		9061478	A19C125	
5	9F28013-CCV2	Water	QC	QC			A19C125	
6	9061478-BS2	Water	QC	QC		9061478	A19C125	
7	9061478-BLK1	Water	QC	QC		9061478	A19C125	
8	A9F0820-01RE1	Water	624 Volatiles		07/10/19	9061478	A19C125	
9	A9F0844-02RE1	Water	8260C Full List		07/08/19	9061478	A19C125	
"	"	Water	NWTPH-Gx	"	07/08/19	9061478	A19C125	
10	9F28013-IBL2	Water	QC	QC			A19C125	
11	9F28013-IBL3	Water	QC	QC			A19C125	
12	9F28013-IBL4	Water	QC	QC			A19C125	
13	A9F0860-02RE1	Water	8260C Full List	Hahn and Associates	06/28/19	9061478	A19C125	
"	"	Water	NWTPH-Gx	"	07/05/19	9061478	A19C125	
"	"	Water	624 Volatiles	(QC Source)		9061478	A19C125	
14	9061478-DUP1	Water	QC	QC		9061478	A19C125	
15	9061478-MS1	Water	QC	QC		9061478	A19C125	
16	9F28013-IBL5	Water	QC	QC			A19C125	
17	A9F0900-03	Water	624 Volatiles		07/12/19	9061478	A19C125	
18	A9F0900-03RE1	Water	624 Volatiles		07/12/19	9061478	A19C125	
19	A9F0900-03RE2	Water	624 Volatiles		07/12/19	9061478	A19C125	
20	A9F0384-05RE2	Water	8260C Full List		06/25/19	9061478	A19C125	
21	9F28013-IBL6	Water	QC	QC			A19C125	
22	9F28013-IBL7	Water	QC	QC			A19C125	
23	9F28013-IBL8	Water	QC	QC			A19C125	

Add on A9F0384-05RE2 (Confirmation)

Data Entered By: [signature] 7/02/2019

Comments:

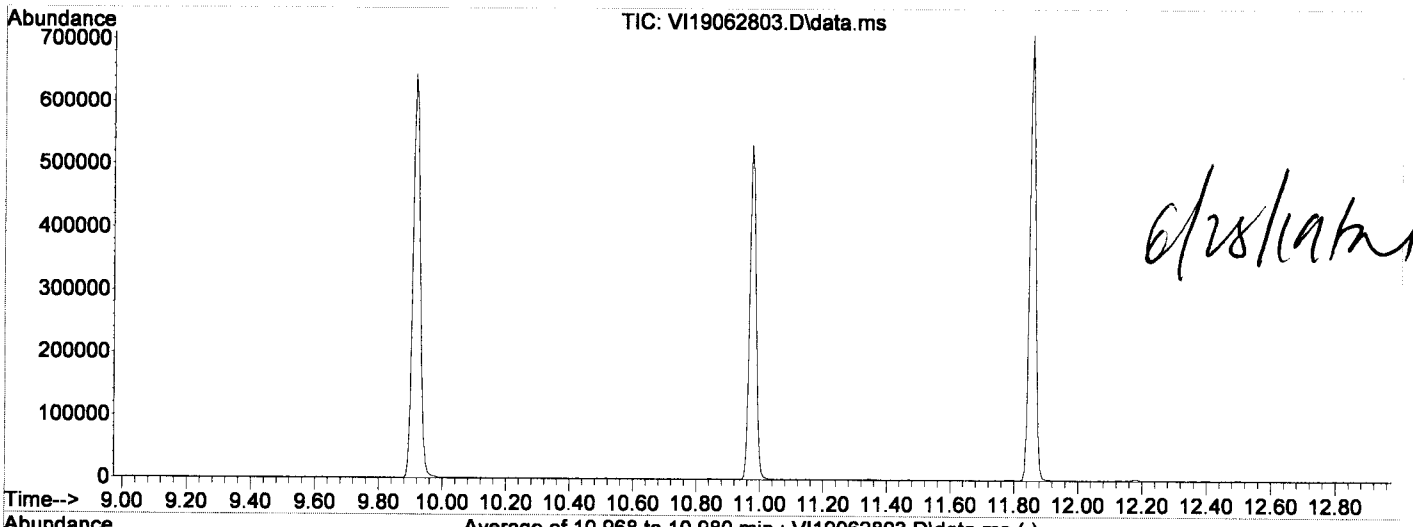
Data Reviewed By: [signature] 7/2/19

BFB

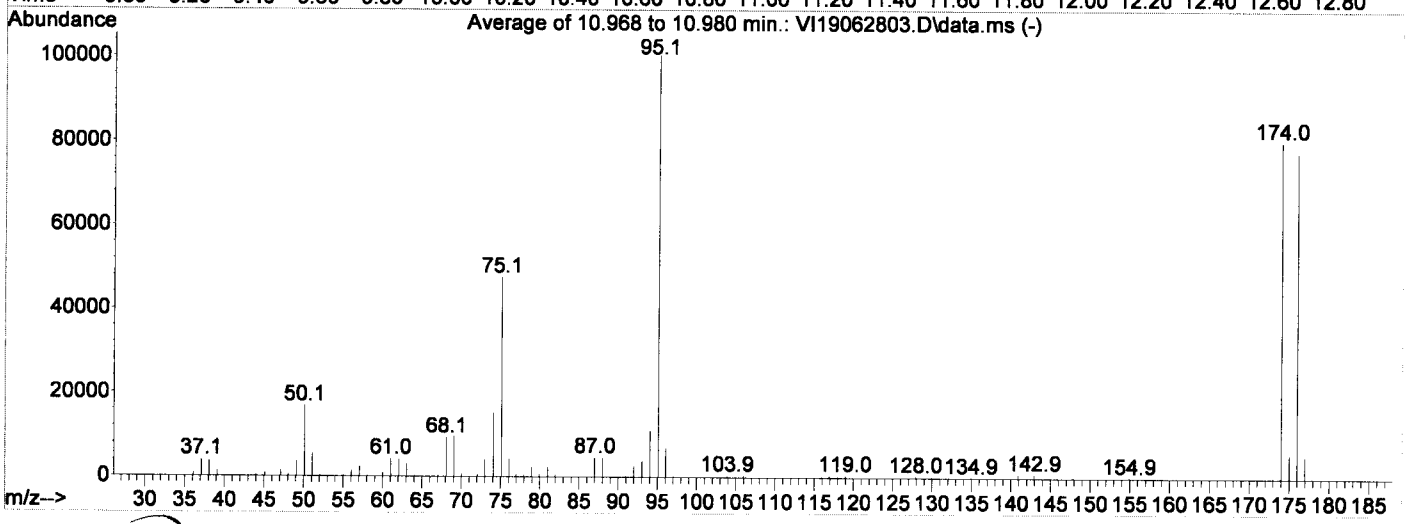
Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062803.D
Acq On : 28 Jun 2019 9:17 am
Operator : TNL
Sample : 9F28013-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019



6/28/2019



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

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	16.8	16830	PASS
75	95	30	60	47.4	47555	PASS
95	95	100	100	100.0	100245	PASS
96	95	5	9	6.8	6815	PASS
173	174	0.00	2	0.4	286	PASS
174	95	50	200	80.0	80160	PASS
175	174	5	9	7.1	5689	PASS
176	174	95	101	96.8	77573	PASS
177	176	5	9	6.6	5131	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062803.D
Acq On : 28 Jun 2019 9:17 am
Operator : TNL
Sample : 9F28013-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:15 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	244373	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	357808	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	159085	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	134695	51.13 ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	407619	50.12 ug/L		0.00
48) Toluene-d8 (S)	8.304	98	478730	51.21 ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	134593	51.07 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.898	50	322	0.10 ug/L		71
5) Bromomethane	2.360	96	303	0.20 ug/L	#	32
6) Chloroethane	2.500	64	380	0.37 ug/L	#	36
14) Methylene Chloride	3.875	84	3491	Below Cal		87
15) Acetone	3.948	43	976	0.82 ug/L		98

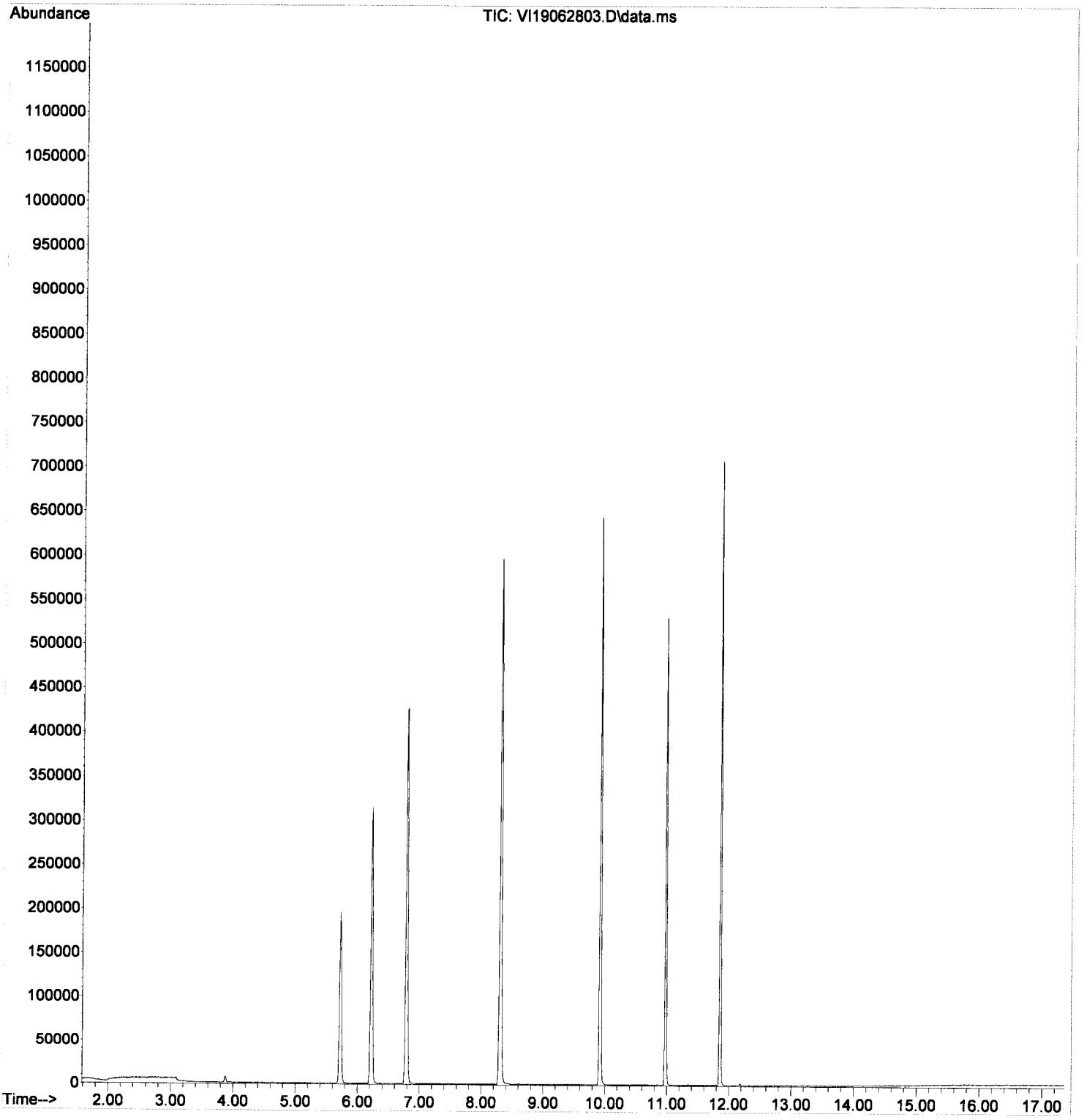
(#) = qualifier out of range (m) = manual integration (+) = signals summed

6/28/2019

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062803.D
Acq On : 28 Jun 2019 9:17 am
Operator : TNL
Sample : 9F28013-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:15 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

6/28/19 tml

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	116	0.00
2		Dichlorodifluoromethane	20.000	17.149	14.3	97	0.00
3	P	Chloromethane	20.000	15.082	24.6#	91	0.00
4	C	Vinyl Chloride	20.000	18.230	8.8	104	0.00
5		Bromomethane	20.000	17.437	12.8	104	0.00
6		Chloroethane	20.000	20.073	-0.4	122	0.00
7		Trichlorofluoromethane	20.000	19.010	4.9	107	0.00
8		Ethanol	1250.000	1221.226	2.3	113	0.00
9	C	1,1-Dichloroethene	20.000	19.253	3.7	105	0.00
10		Carbon Disulfide	20.000	17.786	11.1	101	0.00
11		Freon 113	20.000	18.911	5.4	107	0.00
12		Iodomethane	20.000	9.929	50.4#	66	0.00
13		Acrolein	20.000	21.083	-5.4	125	0.00
14		Methylene Chloride	20.000	18.498	7.5	108	0.00
15		Acetone	40.000	36.372	9.1	112	0.00
16		t-1,2-Dichloroethene	20.000	18.901	5.5	107	0.00
17		n-Hexane	20.000	18.447	7.8	101	0.00
18		Methyl-tert-butyl-ether	20.000	18.913	5.4	108	0.00
19		tert-Butanol (TBA)	1250.000	1244.872	0.4	112	0.00
20		Diisopropyl ether (DIPE)	5.000	4.517	9.7	108	0.00
21	P	1,1-Dichloroethane	20.000	19.297	3.5	109	0.00
22		Acrylonitrile	20.000	20.820	-4.1	118	0.00
23		Ethyl-tert-butyl ether (ET	5.000	4.593	8.1	105	0.00
24		Vinyl Acetate	20.000	21.236	-6.2	127	0.00
25		c-1,2-Dichloroethene	20.000	19.177	4.1	109	0.00
26		2,2-Dichloropropane	20.000	17.125	14.4	98	0.00
27		Bromochloromethane	20.000	21.592	-8.0	117	0.00
28	C	Chloroform	20.000	19.104	4.5	109	0.00
29		Carbon Tetrachloride	20.000	19.994	0.0	115	0.00
30		Tetrahydrofuran	20.000	18.569	7.2	112	0.00
31		1,1,1-Trichloroethane	20.000	18.795	6.0	105	0.00
32	S	Dibromofluoromethane (S)	50.000	51.195	-2.4	119	0.00
33		1,1-Dichloropropene	20.000	18.920	5.4	105	0.00
34		2-Butanone (MEK)	40.000	39.231	1.9	115	0.00
35		Benzene	20.000	18.886	5.6	109	0.00
36		tert-Amyl methyl ether (TA	5.000	4.533	9.3	106	0.00
37		1,2-Dichloroethane (EDC)	20.000	18.960	5.2	108	0.00
38		iso-Butyl Alcohol	500.000	463.085	7.4	108	0.00
39	S	1,4-Difluorobenzene (S)	50.000	50.437	-0.9	117	0.00
40		Trichloroethene (TCE)	20.000	19.205	4.0	107	0.00
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	4.536	9.3	101	0.00
42		Dibromomethane	20.000	20.414	-2.1	113	0.00
43	C	1,2-Dichloropropane	20.000	19.746	1.3	111	0.00
44		Bromodichloromethane	20.000	20.653	-3.3	117	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	115	0.00
46		2-Chloroethyl Vinyl Ether	20.000	18.553	7.2	102	0.00
47		c-1,3-Dichloropropene	20.000	19.609	2.0	110	0.00
48	S	Toluene-d8 (S)	50.000	50.752	-1.5	118	0.00
49	C	Toluene	20.000	18.466	7.7	107	0.00
50		Tetrachloroethene (PCE)	20.000	18.865	5.7	104	0.00

NR

055

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	39.532	1.2	111	0.00
52		t-1,3-Dichloropropene	20.000	19.340	3.3	107	0.00
53		1,1,2-Trichloroethane	20.000	20.384	-1.9	112	0.00
54		Dibromochloromethane	20.000	22.410	-12.1	127	0.00
55		1,3-Dichloropropane	20.000	20.091	-0.5	113	0.00
56		1,2-Dibromoethane (EDB)	20.000	20.825	-4.1	112	0.00
57		2-Hexanone	40.000	38.982	2.5	111	0.00
58	P	Chlorobenzene	20.000	19.545	2.3	109	0.00
59	C	Ethylbenzene	20.000	18.903	5.5	105	0.00
60		1,1,1,2-Tetrachloroethane	20.000	22.036	-10.2	120	0.00
61		m,p-Xylenes (2)	40.000	37.414	6.5	105	0.00
62		o-Xylene	20.000	19.077	4.6	105	0.00
63		Styrene	20.000	19.634	1.8	106	0.00
64	P	Bromoform	20.000	23.560	-17.8	138	0.00
65		Isopropylbenzene	20.000	19.051	4.7	104	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	117	0.00
67	S	4-Bromofluorobenzene (S)	50.000	48.712	2.6	114	0.00
68		Bromobenzene	20.000	18.938	5.3	108	0.00
69		n-Propylbenzene	20.000	18.349	8.3	103	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.597	-3.0	116	0.00
71		2-Chlorotoluene	20.000	18.569	7.2	105	0.00
72		1,3,5-Trimethylbenzene	20.000	18.531	7.3	105	0.00
73		1,2,3-Trichloropropane	20.000	20.817	-4.1	115	0.00
74		t-1,4-Dichloro-2-butene	20.000	19.107	4.5	104	0.00
75		4-Chlorotoluene	20.000	18.385	8.1	104	0.00
76		tert-Butylbenzene	20.000	17.918	10.4	101	0.00
77		1,2,4-Trimethylbenzene	20.000	18.836	5.8	105	0.00
78		sec-Butylbenzene	20.000	18.112	9.4	102	0.00
79		4-Isopropyltoluene	20.000	18.916	5.4	105	0.00
80		1,3-Dichlorobenzene	20.000	18.823	5.9	107	0.00
81		1,4-Dichlorobenzene	20.000	18.552	7.2	107	0.00
82		n-Butylbenzene	20.000	18.758	6.2	103	0.00
83		1,2-Dichlorobenzene	20.000	18.898	5.5	107	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	21.150	-5.7	123	0.00
85		Hexachlorobutadiene	20.000	18.051	9.7	96	0.00
86		1,2,4-Trichlorobenzene	20.000	19.281	3.6	105	0.00
87		Naphthalene	20.000	18.891	5.5	105	0.00
88		1,2,3-Trichlorobenzene	20.000	19.054	4.7	106	0.00

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

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	246439	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	369799	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	179307	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	136004	51.19	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	413697	50.44	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	490369	50.75	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	144710	48.71	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	43826	17.15	ug/L		98
3) Chloromethane	1.898	50	49072	15.08	ug/L		96
4) Vinyl Chloride	2.001	62	53436	18.23	ug/L		96
5) Bromomethane	2.366	96	26388	17.44	ug/L		92
6) Chloroethane	2.500	64	20892	20.07	ug/L		84
7) Trichlorofluoromethane	2.664	101	62545	19.01	ug/L		98
8) Ethanol	3.242	45	73649	1221.23	ug/L		88
9) 1,1-Dichloroethene	3.236	61	64121	19.25	ug/L		95
10) Carbon Disulfide	3.254	76	106736	17.79	ug/L		99
11) Freon 113	3.291	101	40908	18.91	ug/L		99
12) Iodomethane	3.394	142	9520	9.93	ug/L		91
13) Acrolein	3.625	56	14145	21.08	ug/L		77
14) Methylene Chloride	3.875	84	47499	18.50	ug/L		92
15) Acetone	3.948	43	43650	36.37	ug/L		94
16) t-1,2-Dichloroethene	4.045	61	61486	18.90	ug/L		98
17) n-Hexane	4.124	86	8379	18.45	ug/L	#	80
18) Methyl-tert-butyl-ether	4.173	73	150622	18.91	ug/L		94
19) tert-Butanol (TBA)	4.301	59	667208	1244.87	ug/L		86
20) Diisopropyl ether (DIPE)	4.574	45	37561	4.52	ug/L		93
21) 1,1-Dichloroethane	4.690	63	82714	19.30	ug/L		96
22) Acrylonitrile	4.757	53	28381	20.82	ug/L		98
23) Ethyl-tert-butyl ether...	4.945	59	36996	4.59	ug/L		94
24) Vinyl Acetate	4.964	43	115219	21.24	ug/L		96
25) c-1,2-Dichloroethene	5.250	61	66575	19.18	ug/L		97
26) 2,2-Dichloropropane	5.359	77	57339	17.12	ug/L		96
27) Bromochloromethane	5.450	130	34554	21.59	ug/L		89
28) Chloroform	5.536	83	84543	19.10	ug/L		98
29) Carbon Tetrachloride	5.663	117	54107	19.99	ug/L		94
30) Tetrahydrofuran	5.706	42	25785	18.57	ug/L		88
31) 1,1,1-Trichloroethane	5.736	97	66295	18.80	ug/L		96
33) 1,1-Dichloropropene	5.870	75	63616	18.92	ug/L		97
34) 2-Butanone (MEK)	5.864	43	78410	39.23	ug/L		99
35) Benzene	6.126	78	194156	18.89	ug/L		98
36) tert-Amyl methyl ether...	6.253	73	35055	4.53	ug/L		95
37) 1,2-Dichloroethane (EDC)	6.345	62	64352	18.96	ug/L		92
38) iso-Butyl Alcohol	6.381	43	94447	463.09	ug/L		92
40) Trichloroethene (TCE)	6.746	130	47762	19.20	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	26959	4.54	ug/L		87
42) Dibromomethane	7.202	93	33391	20.41	ug/L		93
43) 1,2-Dichloropropane	7.318	63	51990	19.75	ug/L		86
44) Bromodichloromethane	7.385	83	62736	20.65	ug/L		95
46) 2-Chloroethyl Vinyl Ether	8.030	63	37695	18.55	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	74488	19.61	ug/L		89

6/28/19 bnl
Q55

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

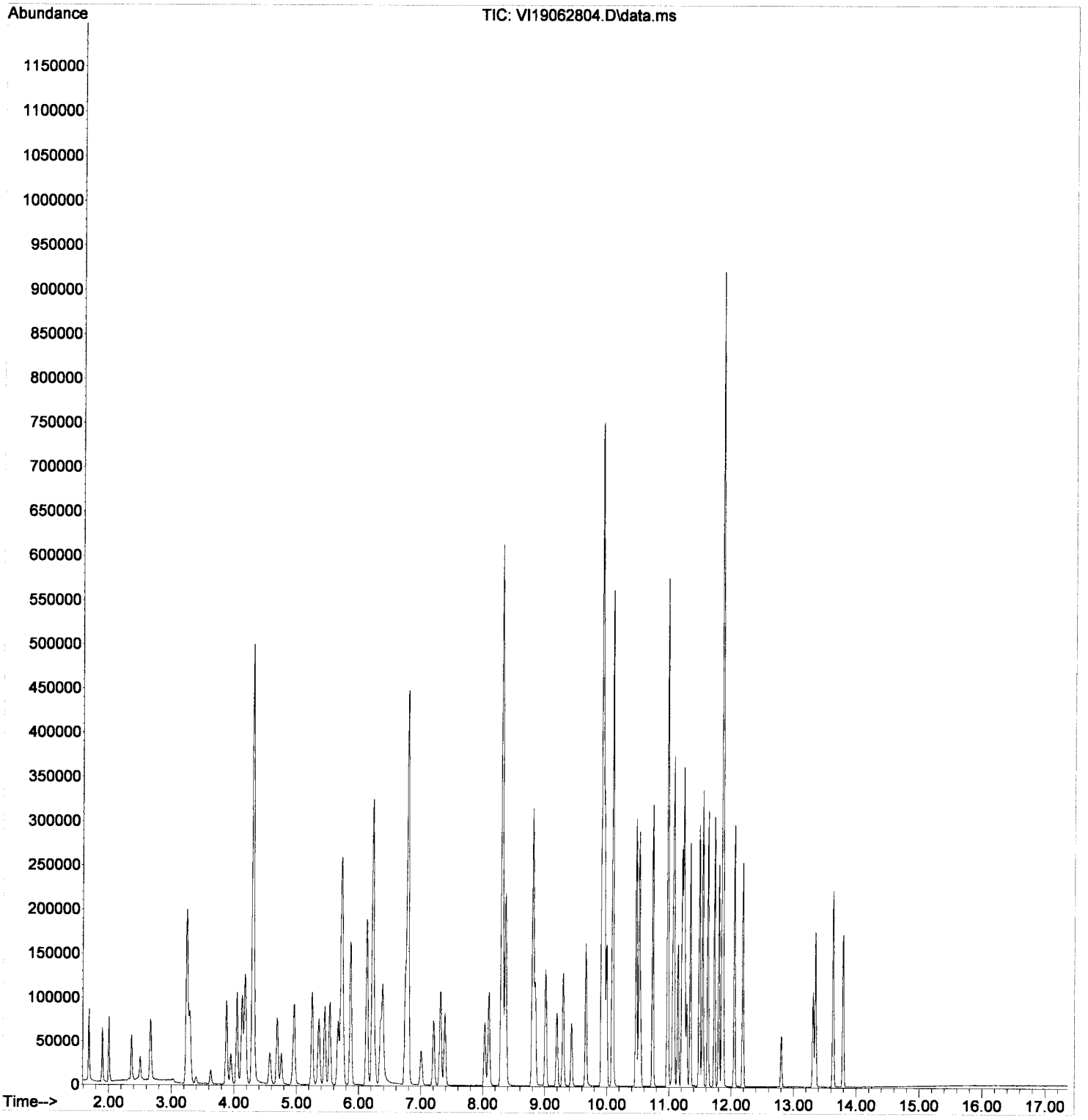
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	194786	18.47	ug/L		98
50) Tetrachloroethene (PCE)	8.802	166	45205	18.86	ug/L		90
51) 4-Methyl-2-Pentanone (...	8.802	43	146208	39.53	ug/L		99
52) t-1,3-Dichloropropene	8.845	75	67268	19.34	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	47433	20.38	ug/L		96
54) Dibromochloromethane	9.192	129	48903	22.41	ug/L		98
55) 1,3-Dichloropropane	9.295	76	83319	20.09	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.429	107	51032	20.82	ug/L		93
57) 2-Hexanone	9.660	43	106162	38.98	ug/L		91
58) Chlorobenzene	9.934	112	125362	19.54	ug/L		95
59) Ethylbenzene	9.958	91	208842	18.90	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.995	131	43156	22.04	ug/L		96
61) m,p-Xylenes (2)	10.092	91	311398	37.41	ug/L		97
62) o-Xylene	10.469	91	161845	19.08	ug/L		98
63) Styrene	10.518	104	127256	19.63	ug/L		96
64) Bromoform	10.542	173	33918	23.56	ug/L		97
65) Isopropylbenzene	10.737	105	191419	19.05	ug/L		100
68) Bromobenzene	11.059	156	52048	18.94	ug/L	#	78
69) n-Propylbenzene	11.078	91	223936	18.35	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	47419	20.60	ug/L		94
71) 2-Chlorotoluene	11.211	126	45778	18.57	ug/L		94
72) 1,3,5-Trimethylbenzene	11.236	105	152862	18.53	ug/L		99
73) 1,2,3-Trichloropropane	11.254	110	22007	20.82	ug/L		96
74) t-1,4-Dichloro-2-butene	11.284	53	17046	19.11	ug/L		79
75) 4-Chlorotoluene	11.339	91	140515	18.38	ug/L		94
76) tert-Butylbenzene	11.485	91	85178	17.92	ug/L		93
77) 1,2,4-Trimethylbenzene	11.540	105	155775	18.84	ug/L		95
78) sec-Butylbenzene	11.625	105	185289	18.11	ug/L		98
79) 4-Isopropyltoluene	11.729	119	152729	18.92	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	90524	18.82	ug/L		98
81) 1,4-Dichlorobenzene	11.869	146	92106	18.55	ug/L		97
82) n-Butylbenzene	12.051	91	138909	18.76	ug/L		96
83) 1,2-Dichlorobenzene	12.185	146	88031	18.90	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	15377	21.15	ug/L		88
85) Hexachlorobutadiene	13.310	223	12122	18.05	ug/L		94
86) 1,2,4-Trichlorobenzene	13.347	180	51660	19.28	ug/L		94
87) Naphthalene	13.633	128	165563	18.89	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	49563	19.05	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062805.D
Acq On : 28 Jun 2019 10:12 am
Operator : TNL
Sample : 9061478-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	125	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	50.068	-0.1	127	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.859	0.3	125	0.00
4	H	NWTPH-Gx (TPH)	500.000	466.458	6.7	116	0.00
5	H	TPHg (C5-C9)	500.000	463.374	7.3	116	0.00
6	H	TPHg (C6-C10)	500.000	470.998	5.8	117	0.00
7	H	CA-LUFT (C5-C12)	500.000	460.638	7.9	116	0.00
8		Benzene (NR)	-1.000	0.000	0.0	124	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	125	0.00
10		Toluene (NR)	-1.000	0.000	0.0	120	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	126	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	126	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	147	0.00

6/28/19 MJ

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062805.D
Acq On : 28 Jun 2019 10:12 am
Operator : TNL
Sample : 9061478-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.223	168	242334	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.789	114	408092	50.07 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	141257	49.86 ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	479254	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	370224	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	271250	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3547787m	466.46 ug/L	
5) TPHg (C5-C9)	9.890	TIC	4930842m	463.37 ug/L	
6) TPHg (C6-C10)	9.890	TIC	4228316m	471.00 ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	5833348m	460.64 ug/L	

6/28/19 tml

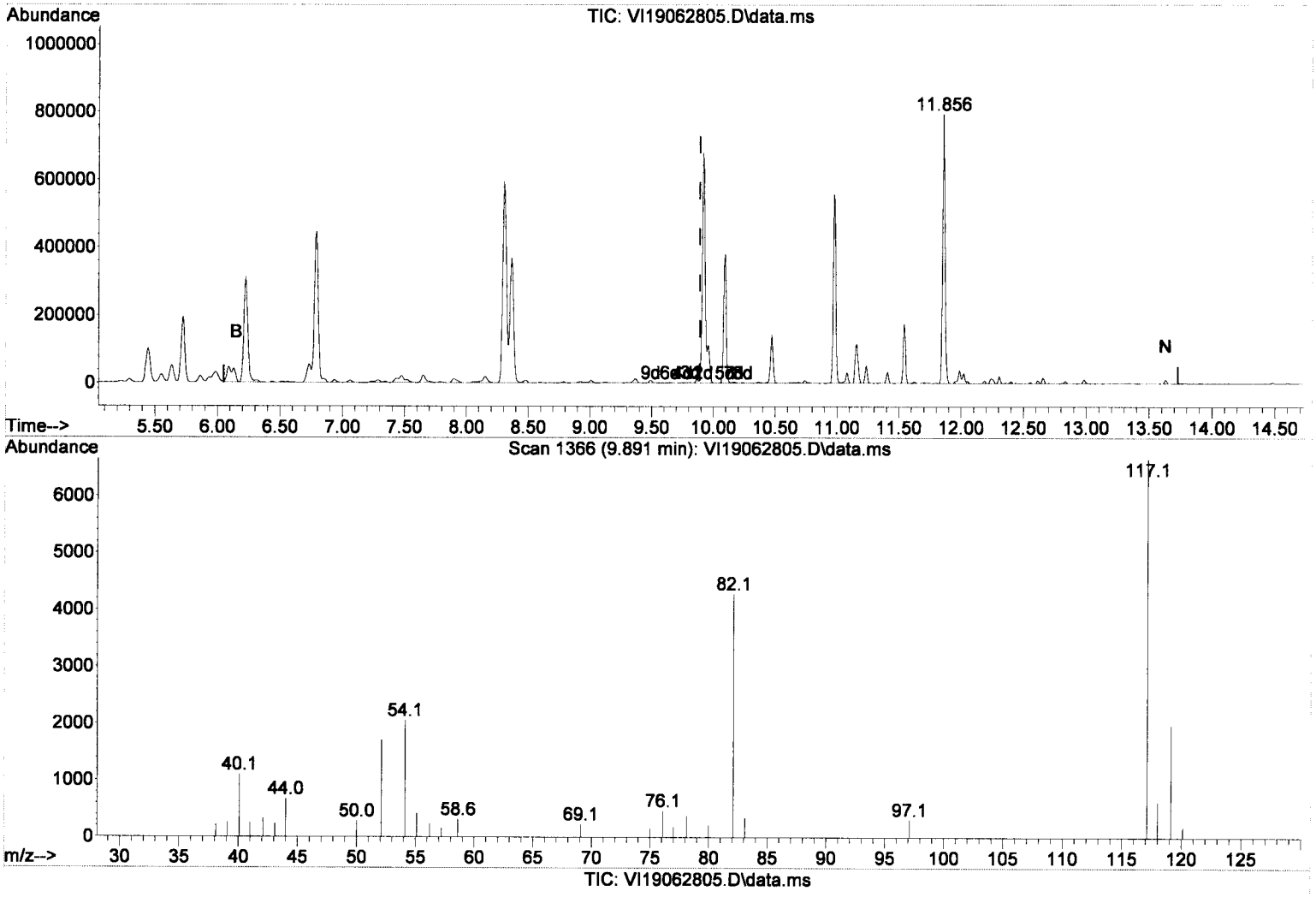
NR

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062805.D
Acq On : 28 Jun 2019 10:12 am
Operator : TNL
Sample : 9061478-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



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

9.890min (0.000) 466.46 ug/L 6/28/19 mt

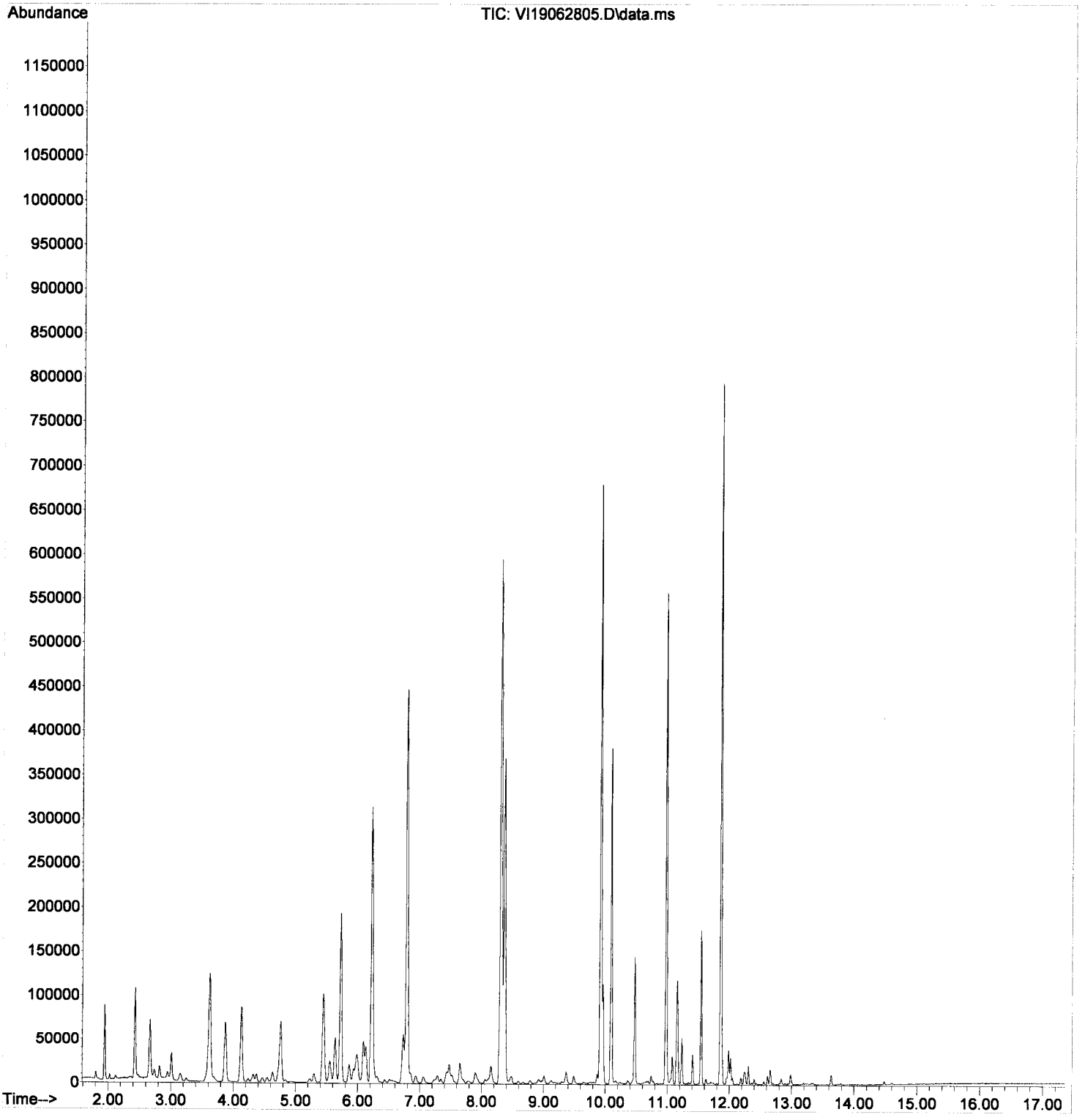
response 3547787

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\2019-06\9F28013\
Data File : VI19062805.D
Acq On : 28 Jun 2019 10:12 am
Operator : TNL
Sample : 9061478-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062806.D
Acq On : 28 Jun 2019 10:39 am
Operator : TNL
Sample : 9061478-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:57:10 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.225	168	228577	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.785	114	386441	50.27 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.977	174	124030	46.41 ug/L	0.00
9) Toluene-d8 (NR)	8.306	98	451431	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.918	117	336167	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.859	150	229372	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	9896m	26.47 ug/L	
5) TPHg (C5-C9)	9.890	TIC	396672m	15.57 ug/L	
6) TPHg (C6-C10)	9.890	TIC	384247m	21.98 ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	415282m	16.90 ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062806.D
Acq On : 28 Jun 2019 10:39 am
Operator : TNL
Sample : 9061478-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.225	168	228577	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.918	117	336167	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.859	152	145684	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.720	111	126802	51.46 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.785	114	385666	50.69 ug/L	0.00
48) Toluene-d8 (S)	8.306	98	451431	51.40 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.977	174	124030	51.39 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.900	50	325	0.11 ug/L #	47
5) Bromomethane	2.362	96	227	0.16 ug/L	92
6) Chloroethane	2.466	64	325	0.34 ug/L #	36
14) Methylene Chloride	3.877	84	1980	Below Cal	88
15) Acetone	3.950	43	338	0.30 ug/L #	44

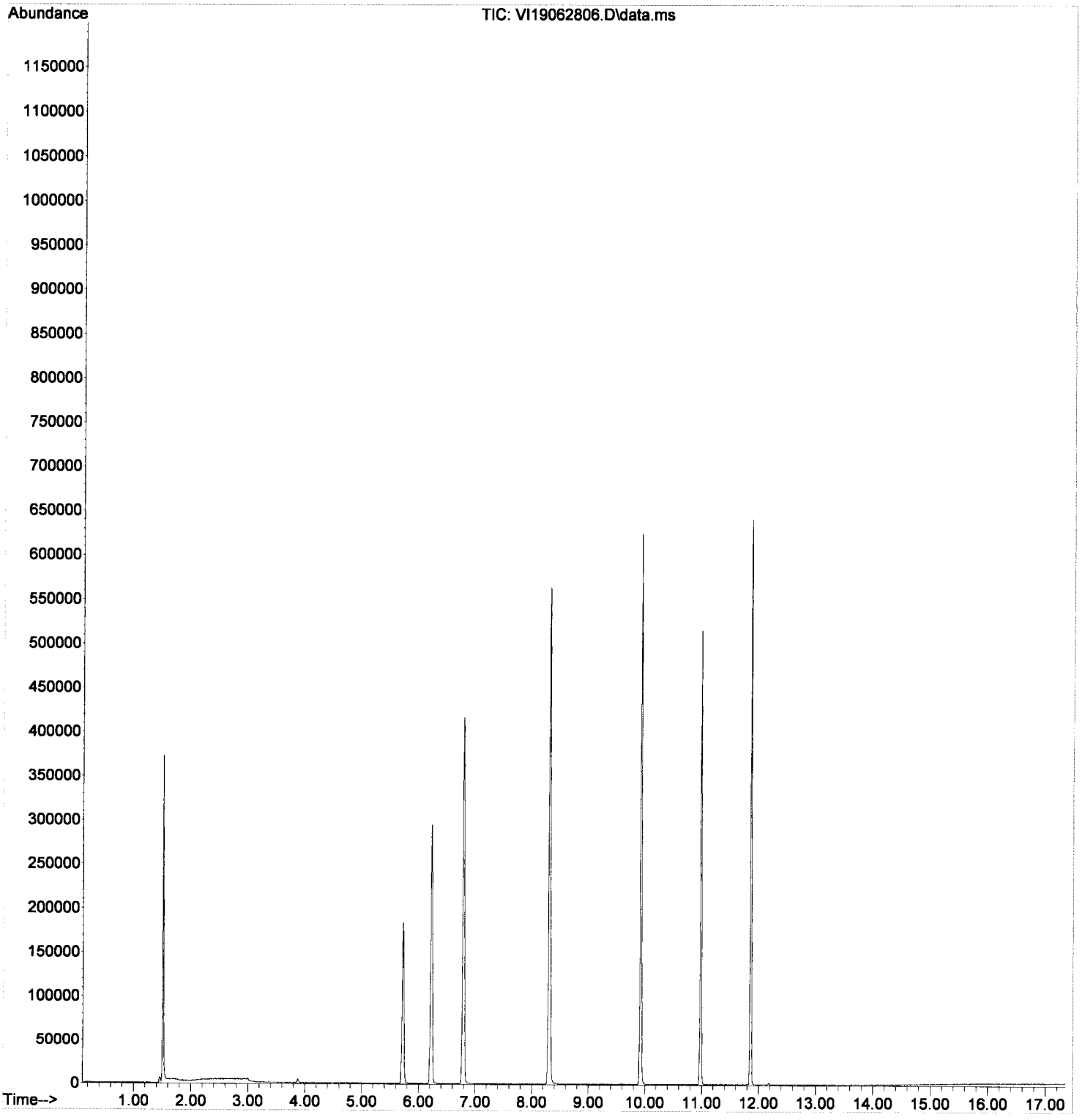
6/28/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062806.D
Acq On : 28 Jun 2019 10:39 am
Operator : TNL
Sample : 9061478-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:54:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.223	168	251043	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.789	114	419564	49.69 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	145133	49.45 ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	491650	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.922	117	378036	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	279385	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	5163545m	644.61 ug/L	
5) TPHg (C5-C9)	9.890	TIC	1988657m	164.49 ug/L	
6) TPHg (C6-C10)	9.890	TIC	1952540m	195.73 ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	2845982m	206.90 ug/L	

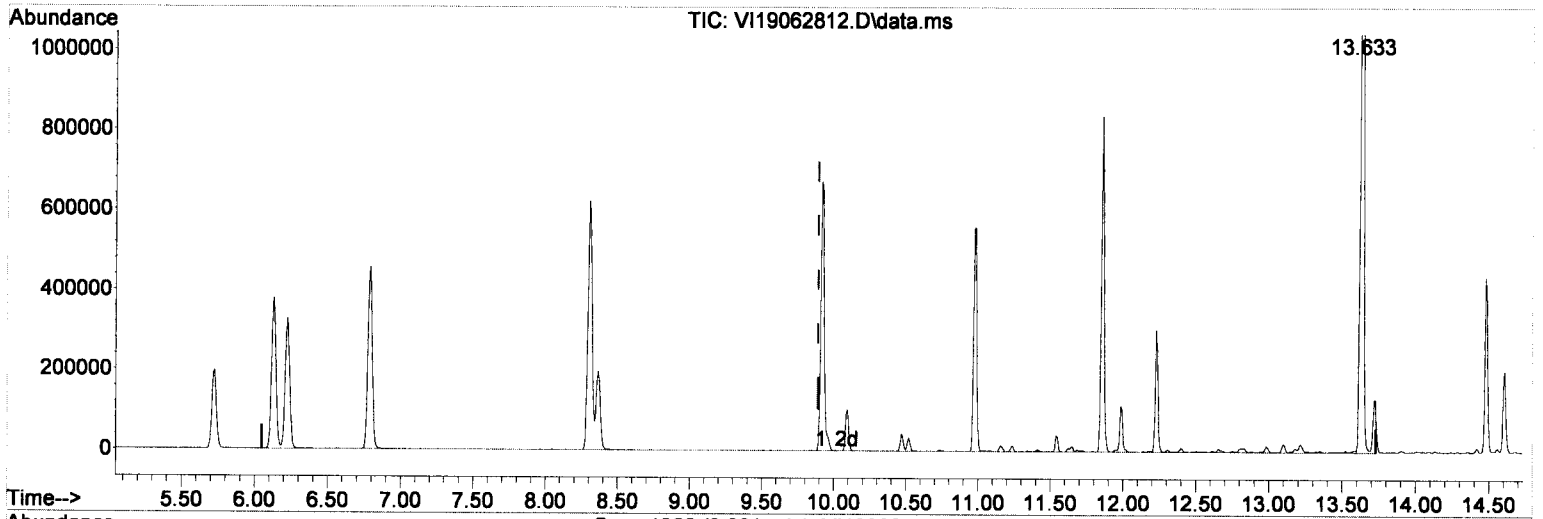
(#) = qualifier out of range (m) = manual integration (+) = signals summed

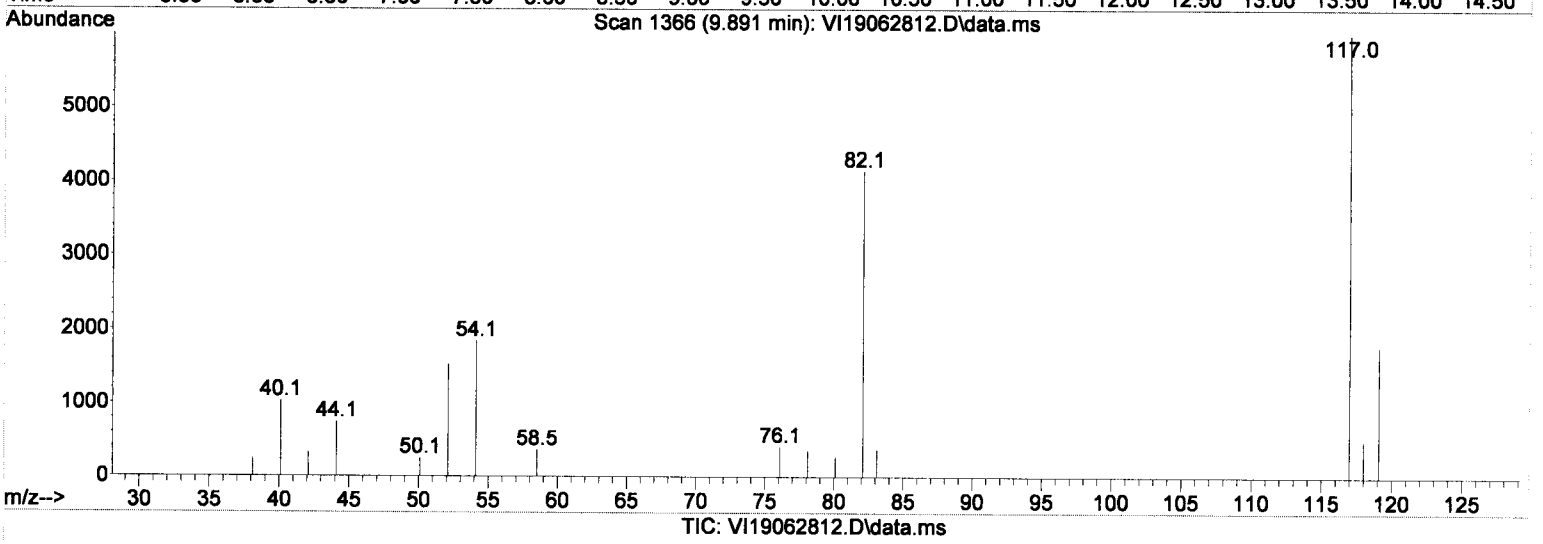
6/28/19 MR

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:54:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





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

9.890min (0.000) 644.61 ug/L m

6/28/19 bnl

response 5163545

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.15#
0.00	0.00	1.72#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	251043	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.922	117	378036	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	178394	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	136190	50.32 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	418856	50.13 ug/L	0.00
48) Toluene-d8 (S)	8.303	98	491651	49.78 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	145133	49.10 ug/L	0.00
Target Compounds					Qvalue
5) Bromomethane	2.366	96	138	0.09 ug/L	66
6) Chloroethane	2.494	64	147	0.14 ug/L #	36
10) Carbon Disulfide	3.260	76	876	0.14 ug/L	78
14) Methylene Chloride	3.881	84	1967	Below Cal #	76
15) Acetone	3.954	43	3548	2.90 ug/L	100
19) tert-Butanol (TBA)	4.294	59	180	0.33 ug/L	46
35) Benzene	6.132	78	381968	36.47 ug/L	98
36) tert-Amyl methyl ether...	6.132	73	5928	0.75 ug/L #	46
49) Toluene	8.364	91	168550	15.63 ug/L	99
59) Ethylbenzene	9.958	91	22850	2.02 ug/L	98
61) m,p-Xylenes (2)	10.092	91	56999	6.70 ug/L	97
62) o-Xylene	10.469	91	22949	2.65 ug/L	98
63) Styrene	10.518	104	15678	2.37 ug/L	89
65) Isopropylbenzene	10.743	105	2354	0.23 ug/L	96
69) n-Propylbenzene	11.084	91	2139	0.18 ug/L	97
72) 1,3,5-Trimethylbenzene	11.236	105	7526	0.92 ug/L	95
76) tert-Butylbenzene	11.540	91	2022	0.43 ug/L #	74
77) 1,2,4-Trimethylbenzene	11.540	105	20375	2.48 ug/L	100
78) sec-Butylbenzene	11.625	105	3832	0.38 ug/L	91
87) Naphthalene	13.633	128	1322832	151.71 ug/L	96

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

6/28/19 MS

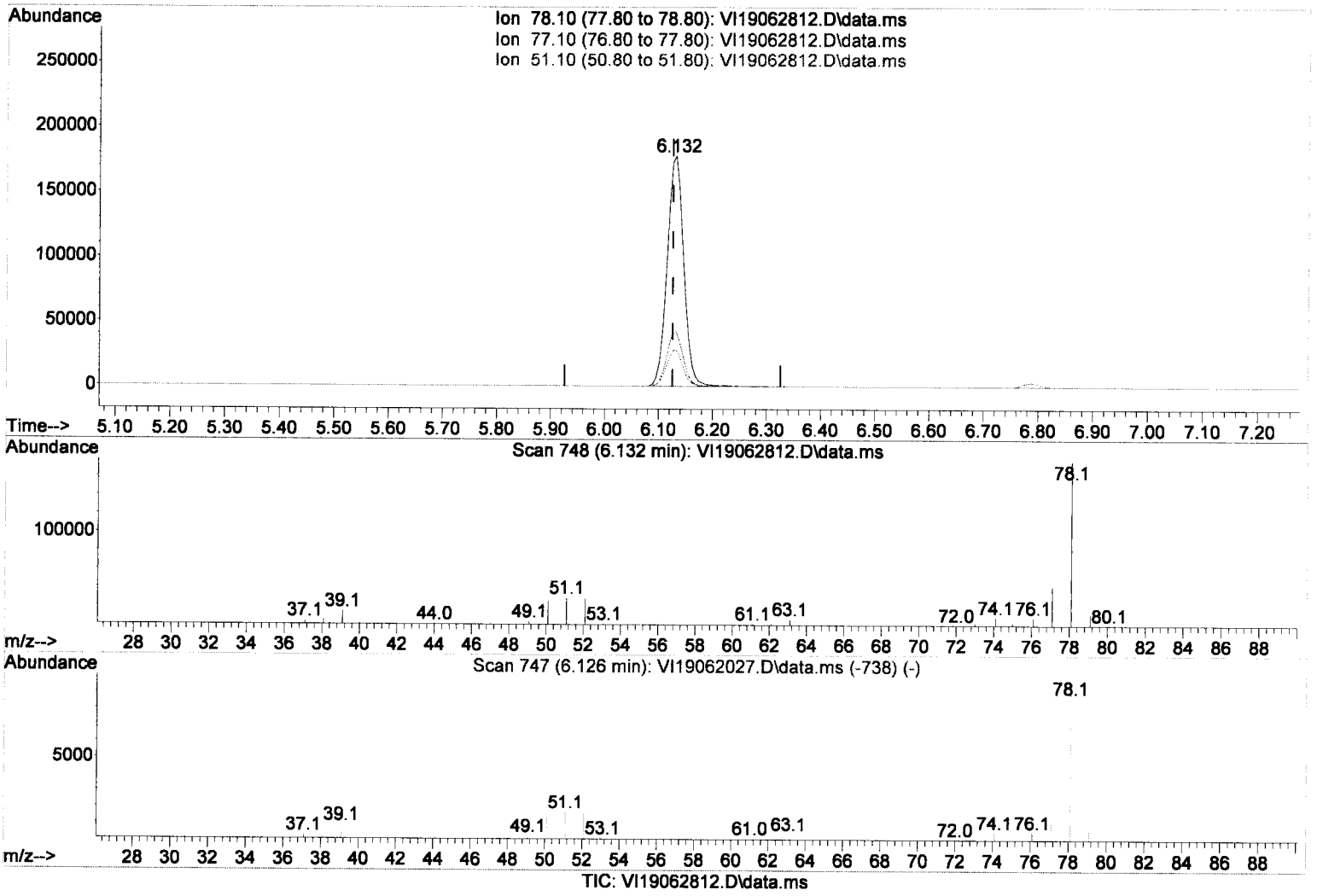
ME ND

ME ND

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(35) Benzene

6.132min (+ 0.006) 36.47 ug/L

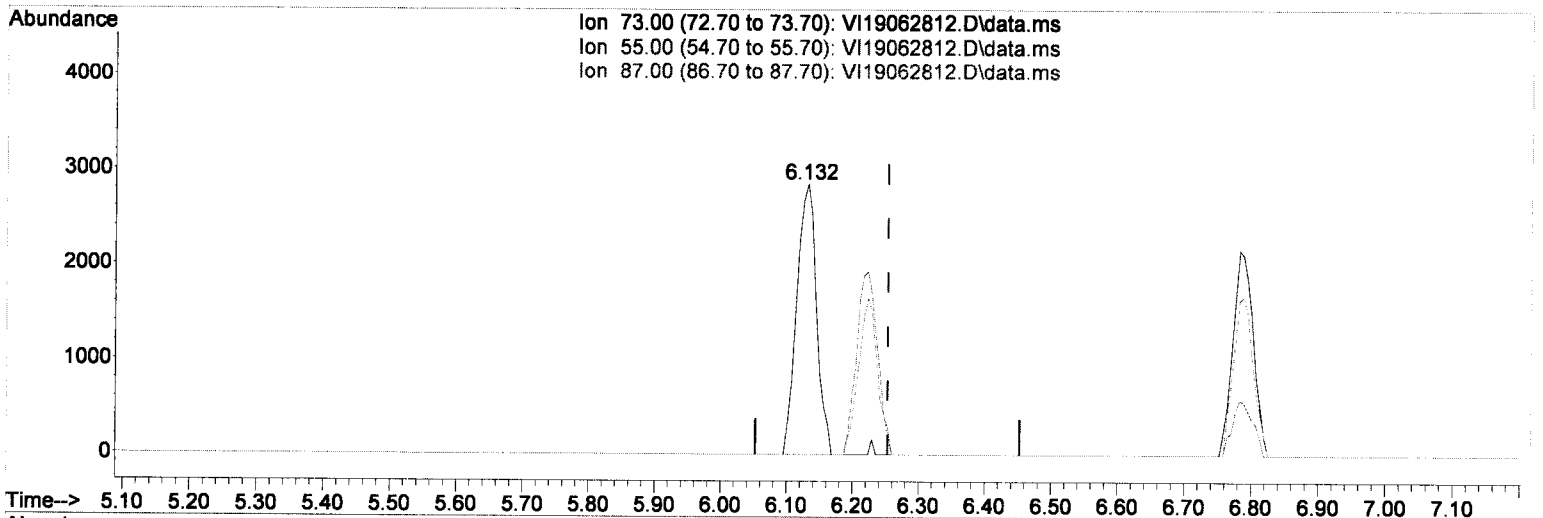
response 381968

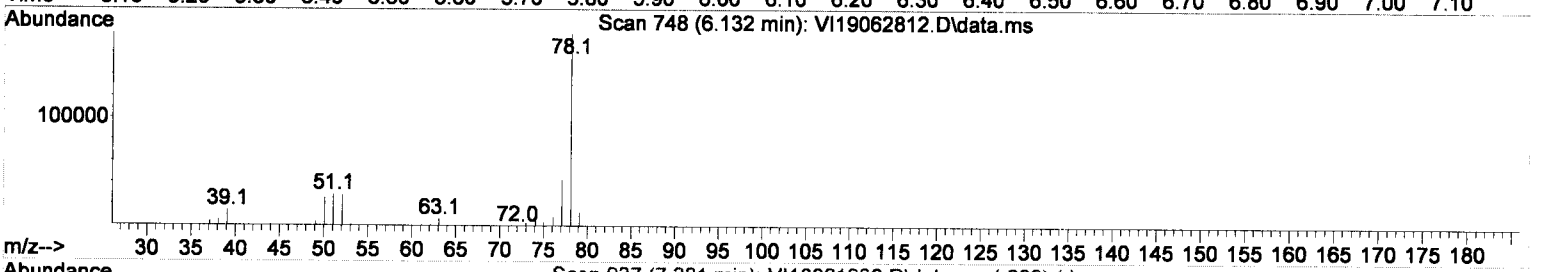
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	23.79
51.10	17.20	16.21
0.00	0.00	0.00

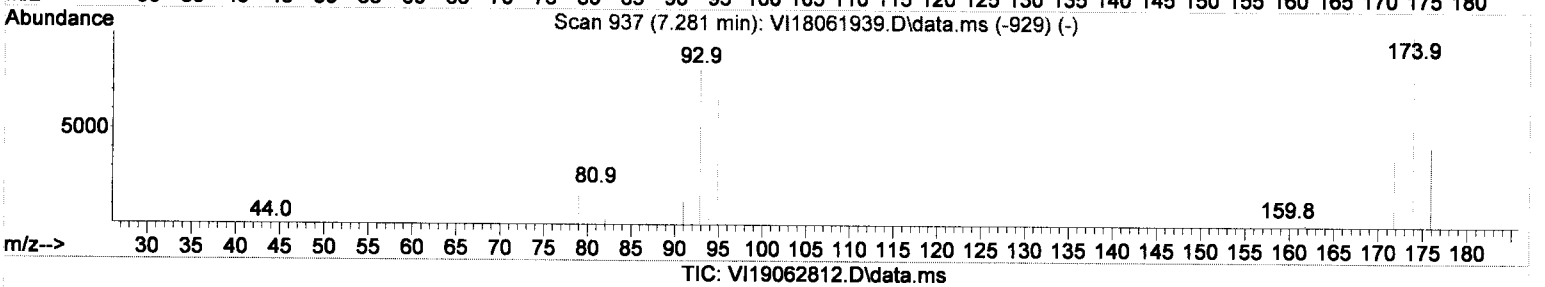
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.132min (-0.121) 0.75 ug/L

response 5928

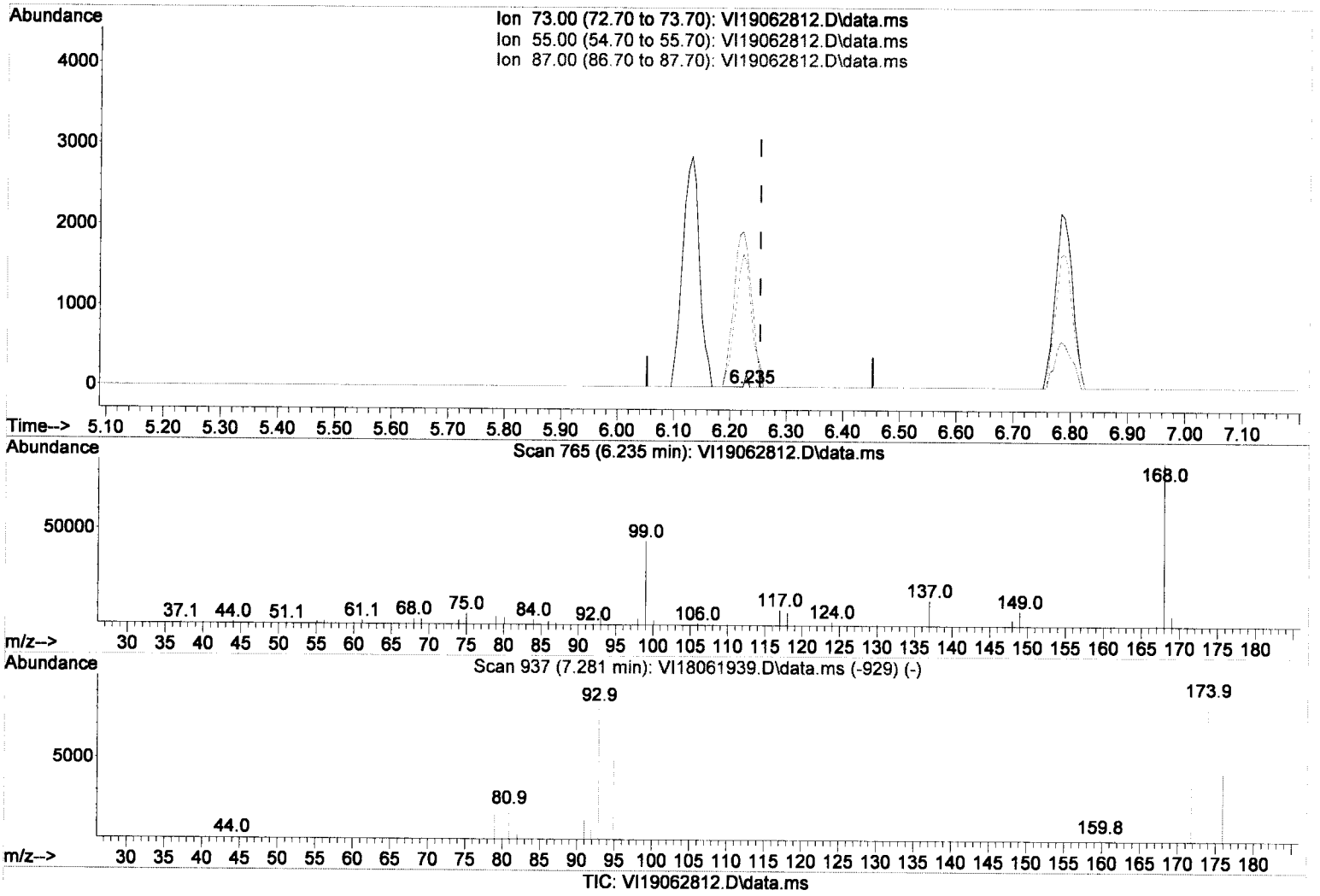
Ion	Exp%	Act%
73.00	100.00	100.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

ME 6/28/19 AM

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.235min (-0.018) 0.00 ug/L m

response 0

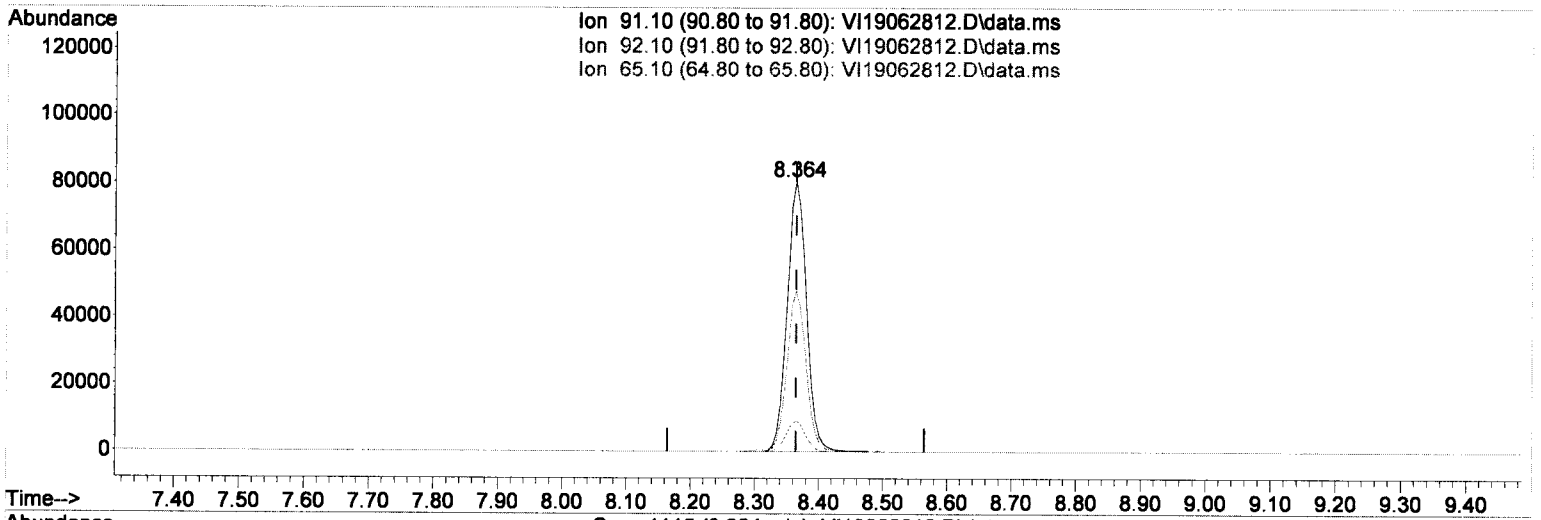
Ion	Exp%	Act%
73.00	100.00	0.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

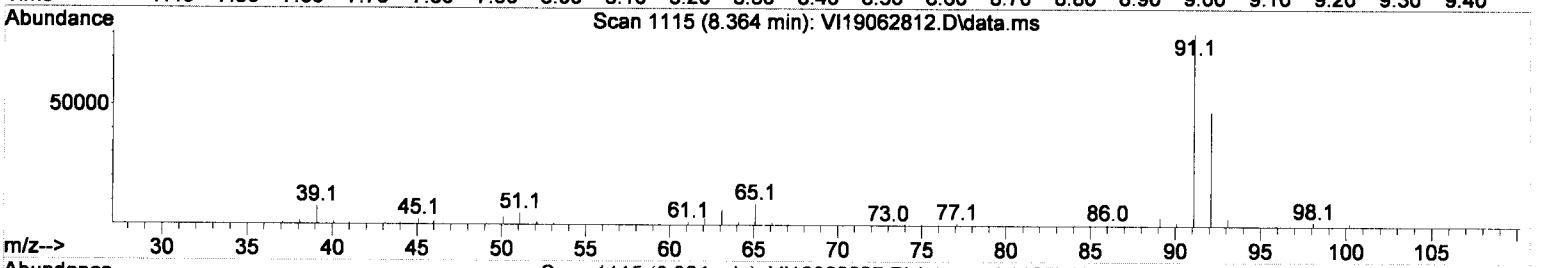
ND
6/20/19 AM

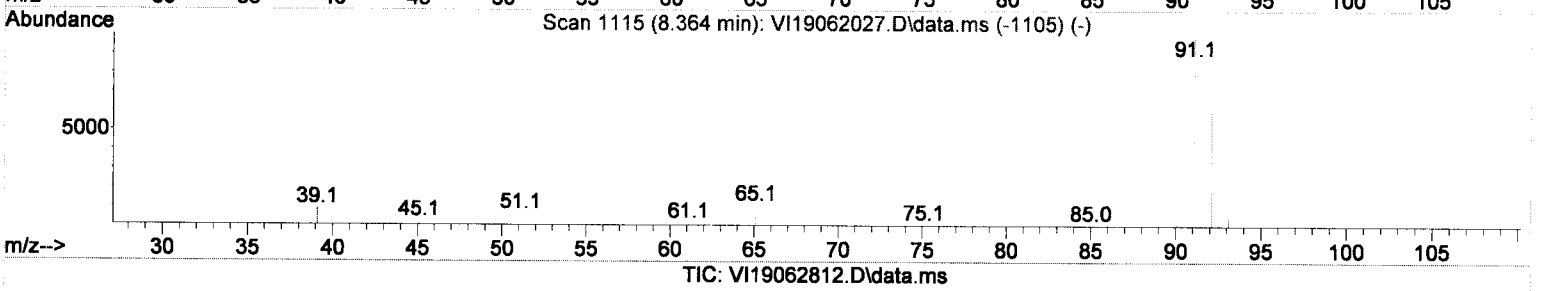
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(49) Toluene (C)

8.364min (-0.000) 15.63 ug/L

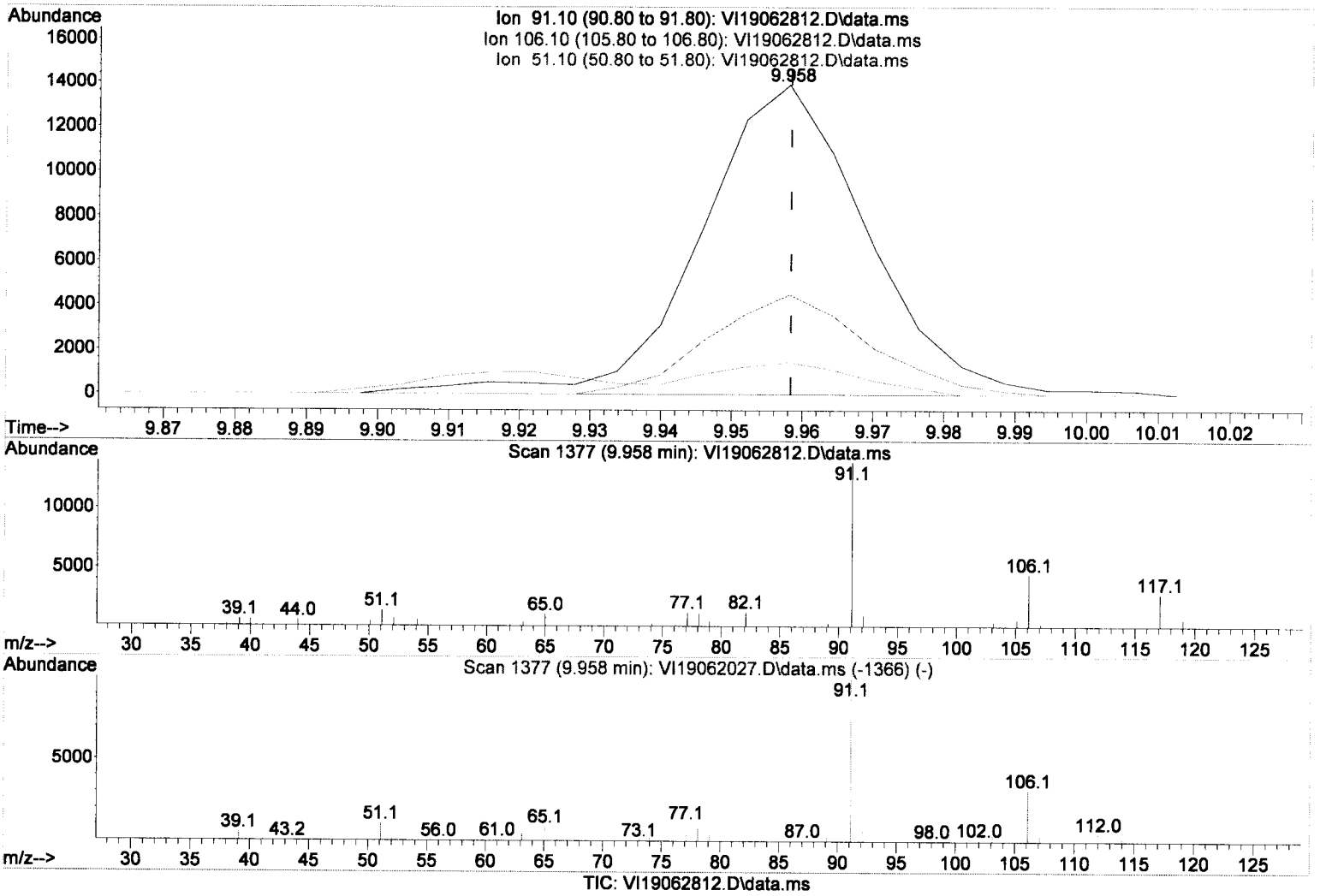
response 168550

Ion	Exp%	Act%
91.10	100.00	100.00
92.10	59.80	59.59
65.10	10.30	11.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(59) Ethylbenzene (C)

9.958min (-0.000) 2.02 ug/L

response 22850

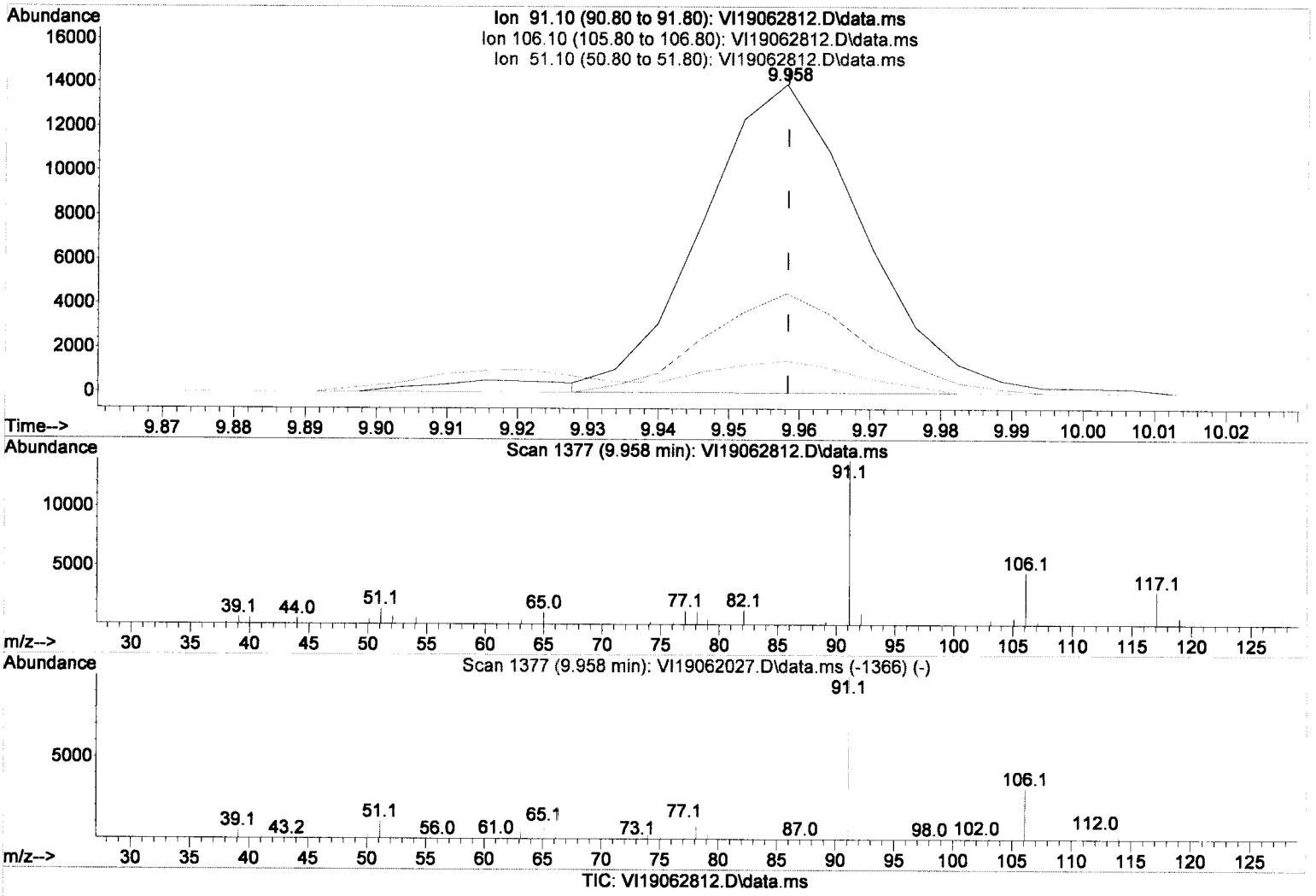
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.26
51.10	10.40	10.34
0.00	0.00	0.00

MLS 6/28/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(59) Ethylbenzene (C)

9.958min (-0.000) 1.96 ug/L (m)

6/28/19 bnl

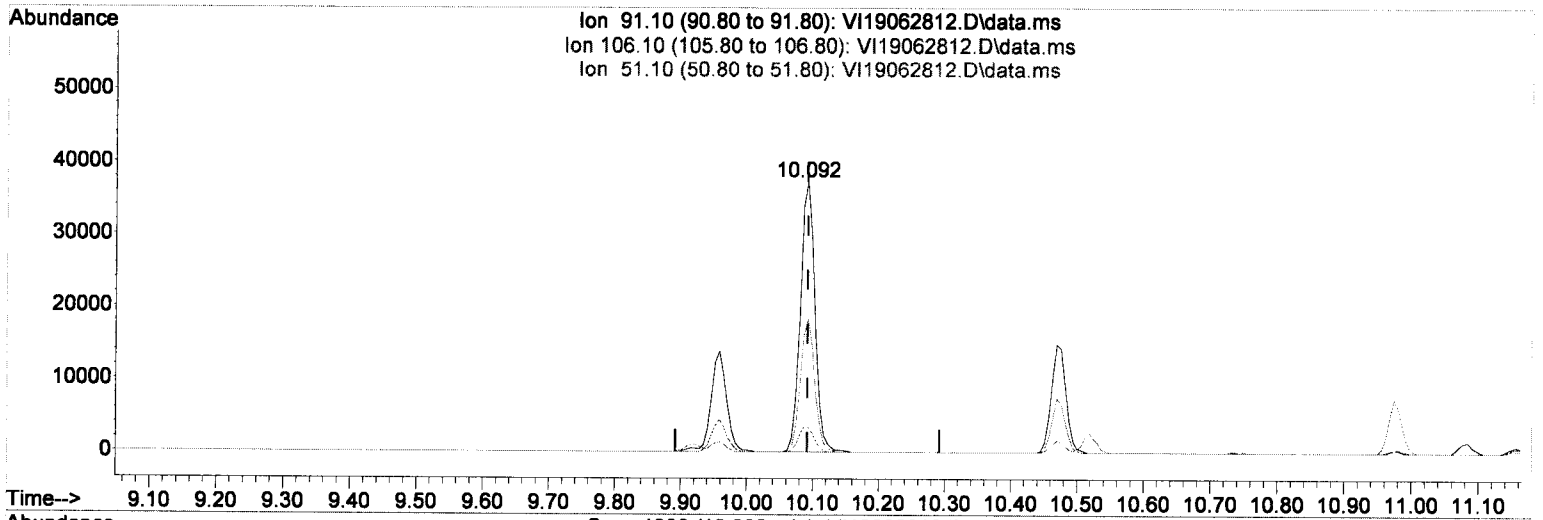
response 22125

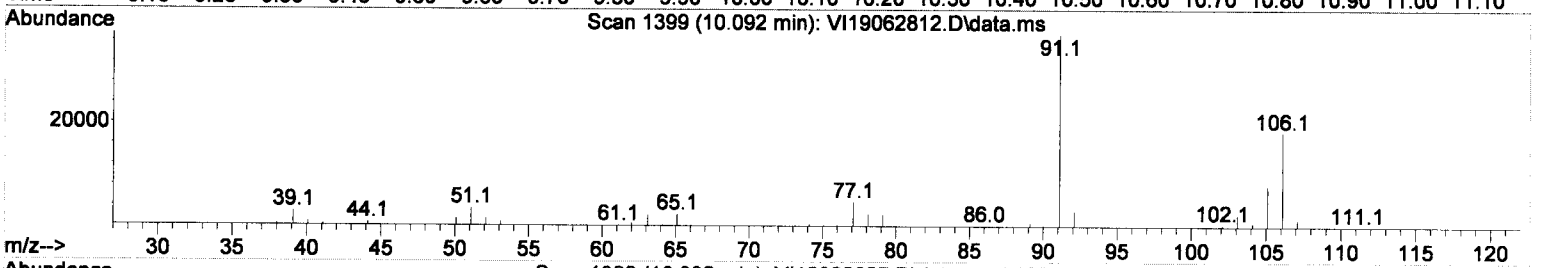
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.26
51.10	10.40	10.34
0.00	0.00	0.00

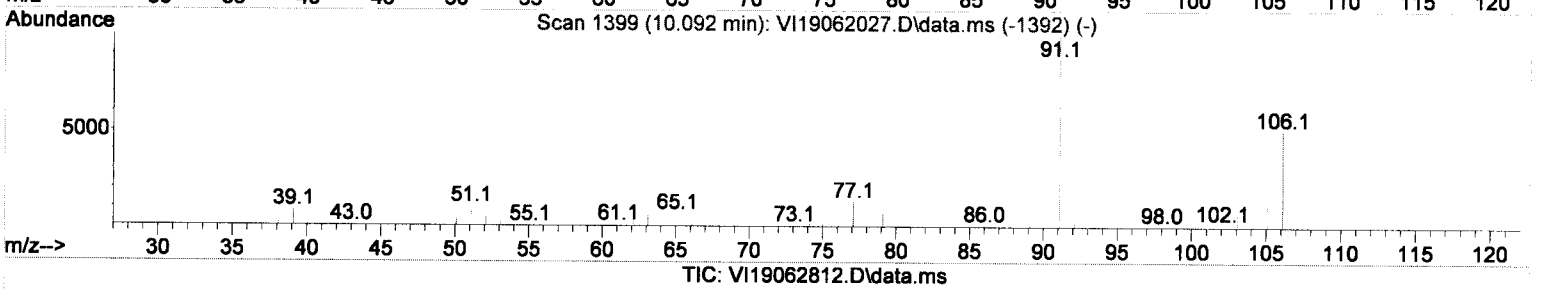
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(61) m,p-Xylenes (2)

10.092min (0.000) 6.70 ug/L

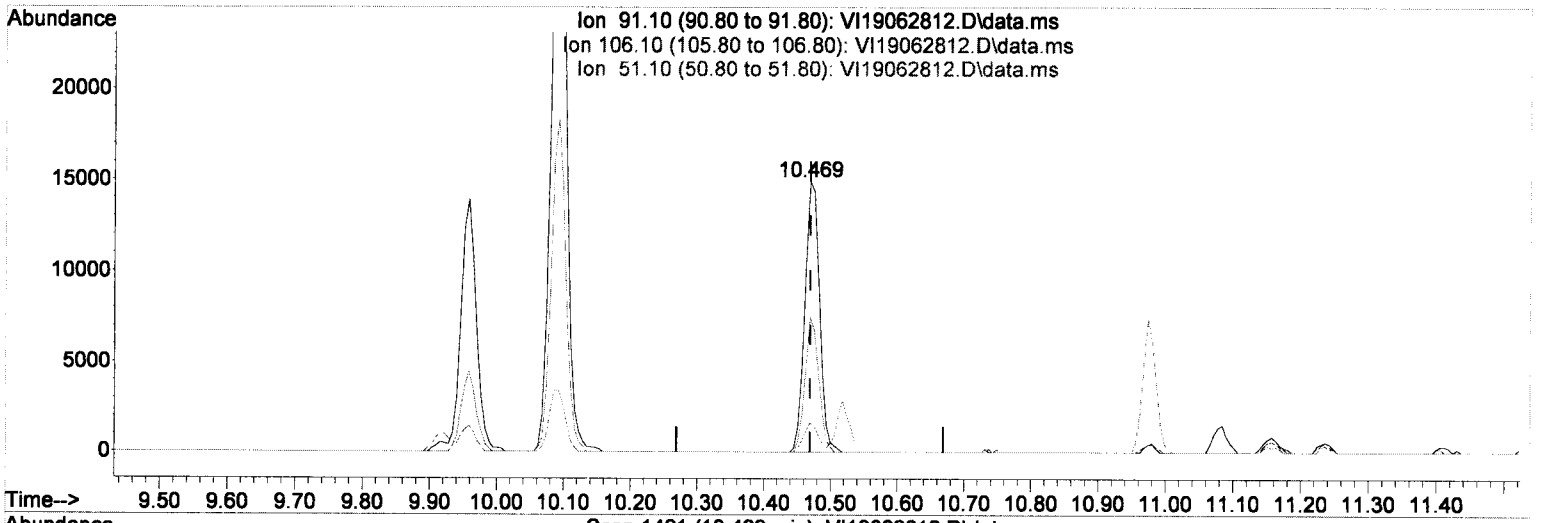
response 56999

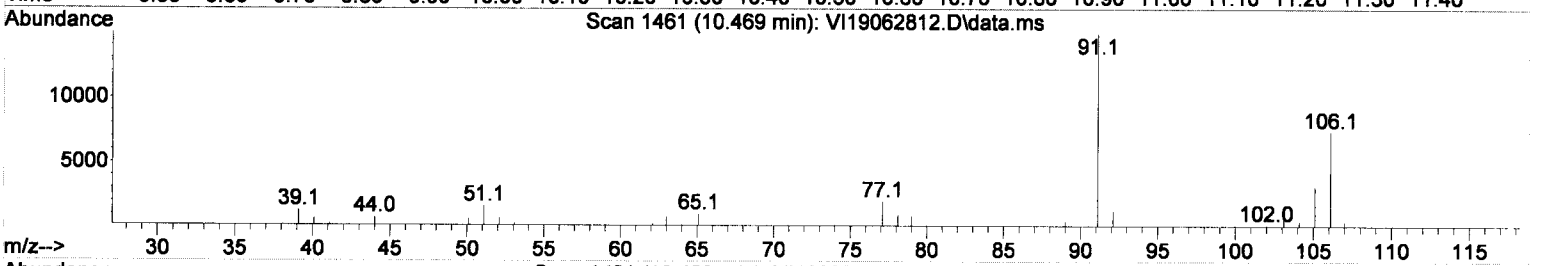
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	49.24
51.10	9.80	9.28
0.00	0.00	0.00

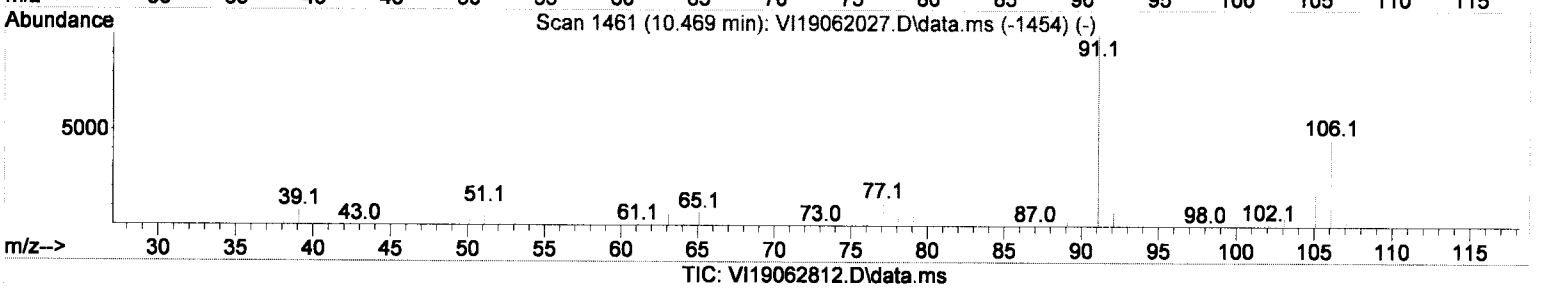
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(62) o-Xylene

10.469min (+ 0.000) 2.65 ug/L

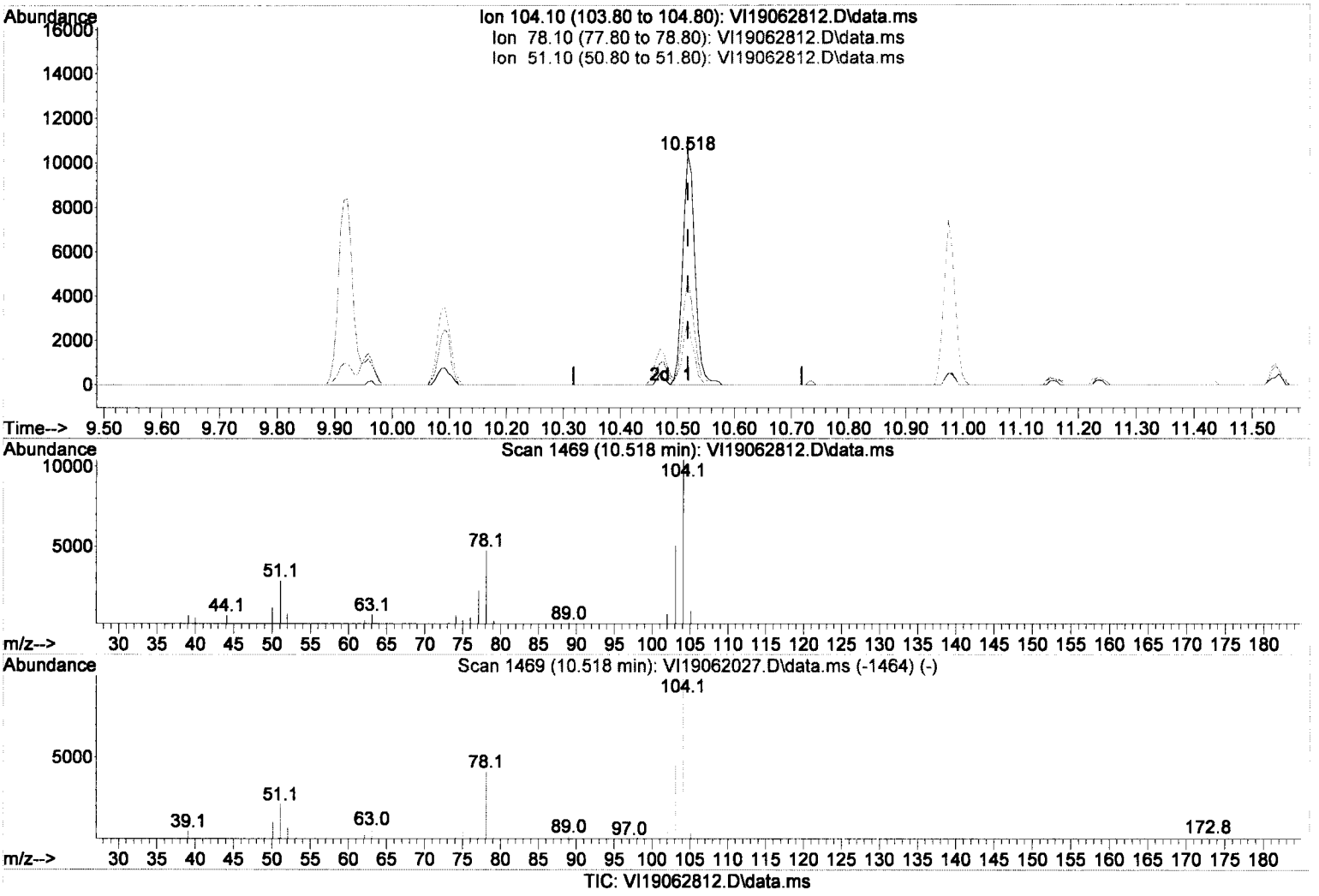
response 22949

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	49.94
51.10	10.20	10.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(63) Styrene

10.518min (-0.000) 2.37 ug/L

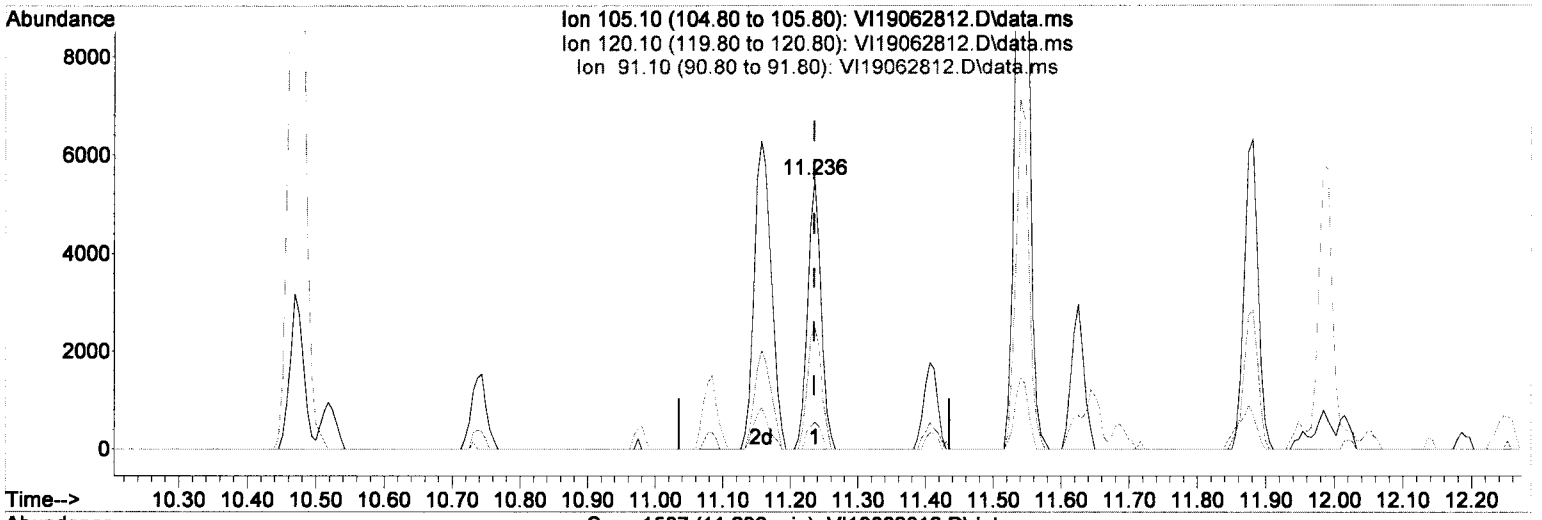
response 15678

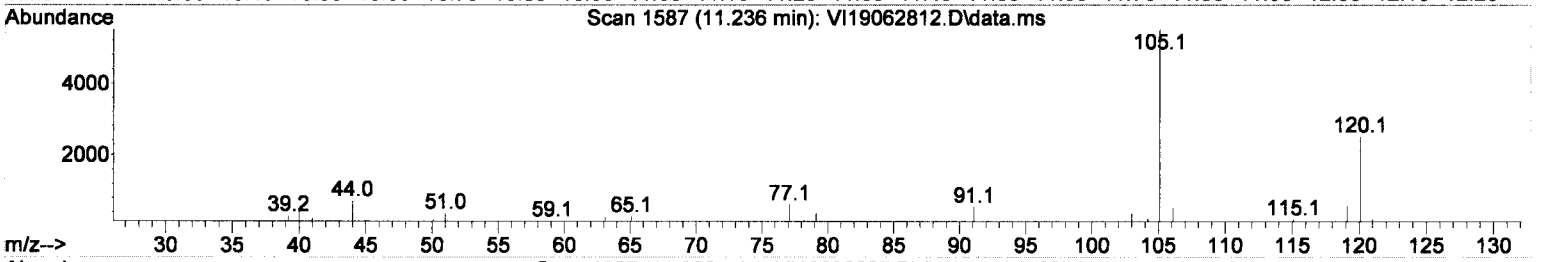
Ion	Exp%	Act%
104.10	100.00	100.00
78.10	39.40	45.70
51.10	22.20	27.43
0.00	0.00	0.00

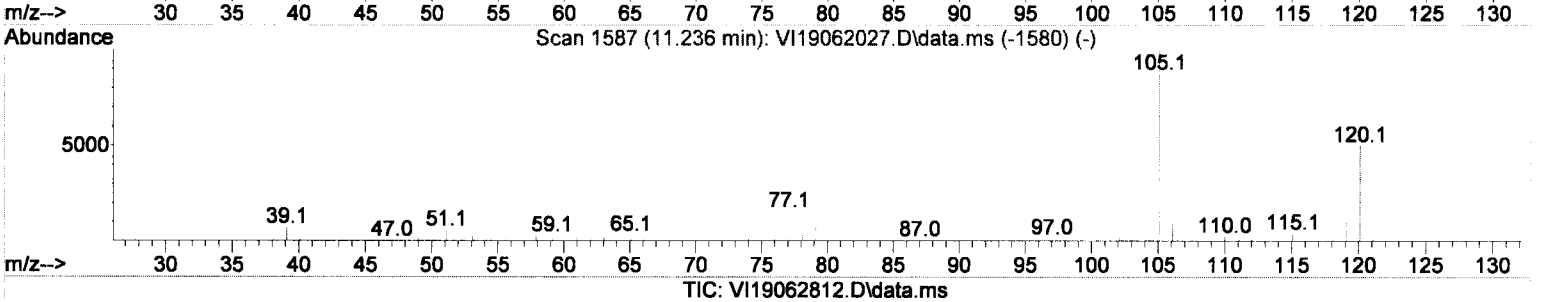
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(72) 1,3,5-Trimethylbenzene

11.236min (+ 0.001) 0.92 ug/L

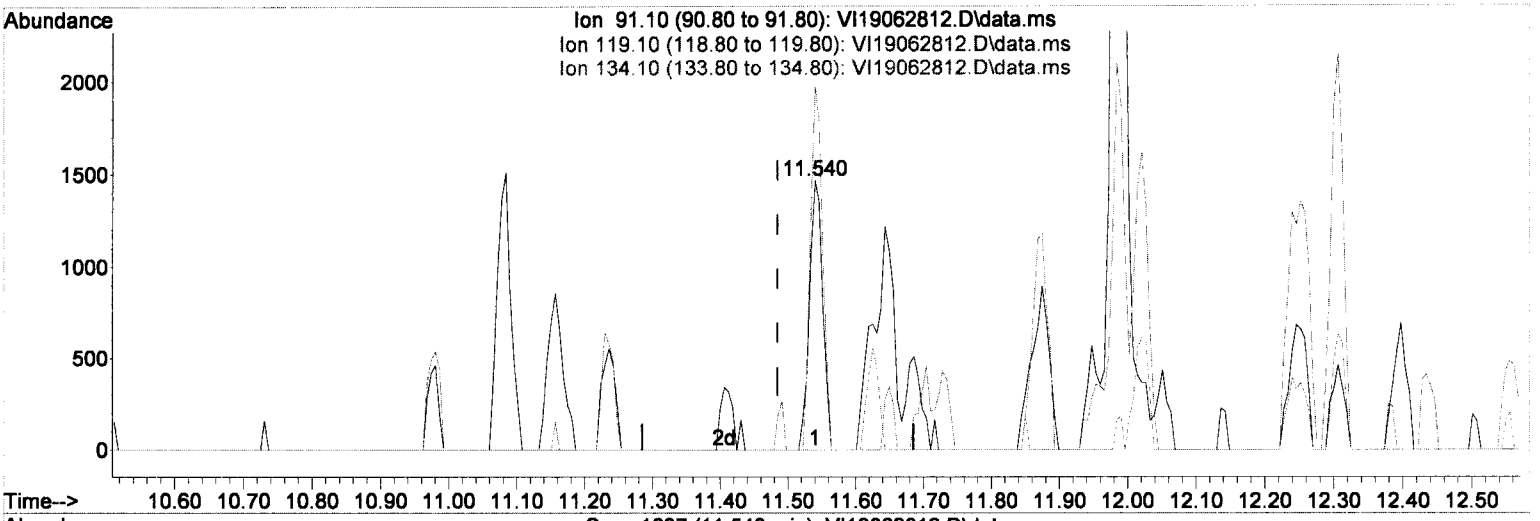
response 7526

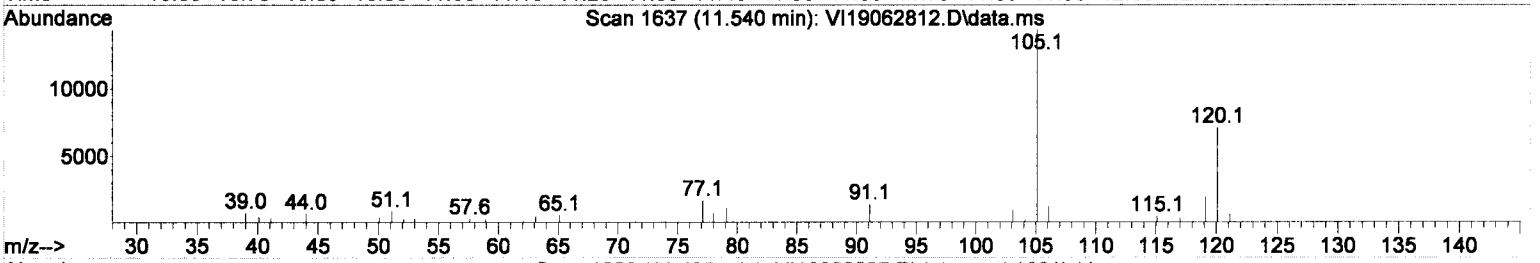
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.90	45.54
91.10	10.40	10.06
0.00	0.00	0.00

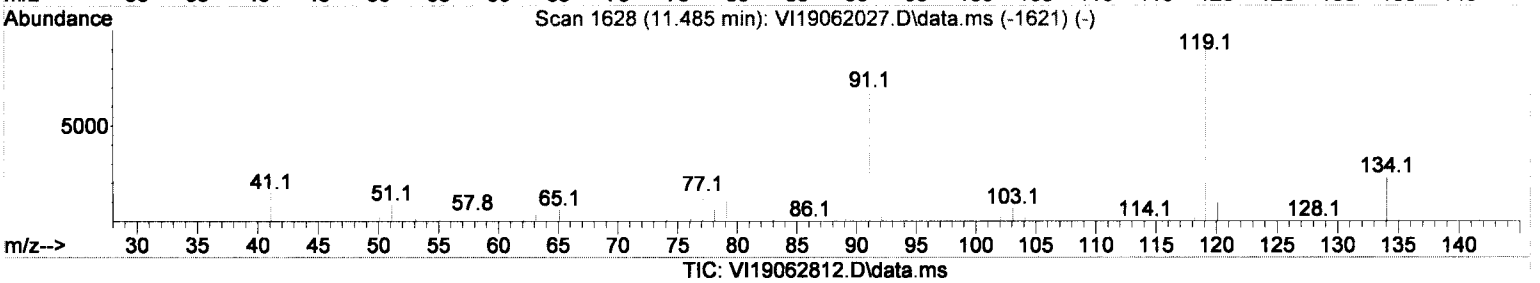
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(76) tert-Butylbenzene

11.540min (+ 0.055) 0.43 ug/L

response 2022

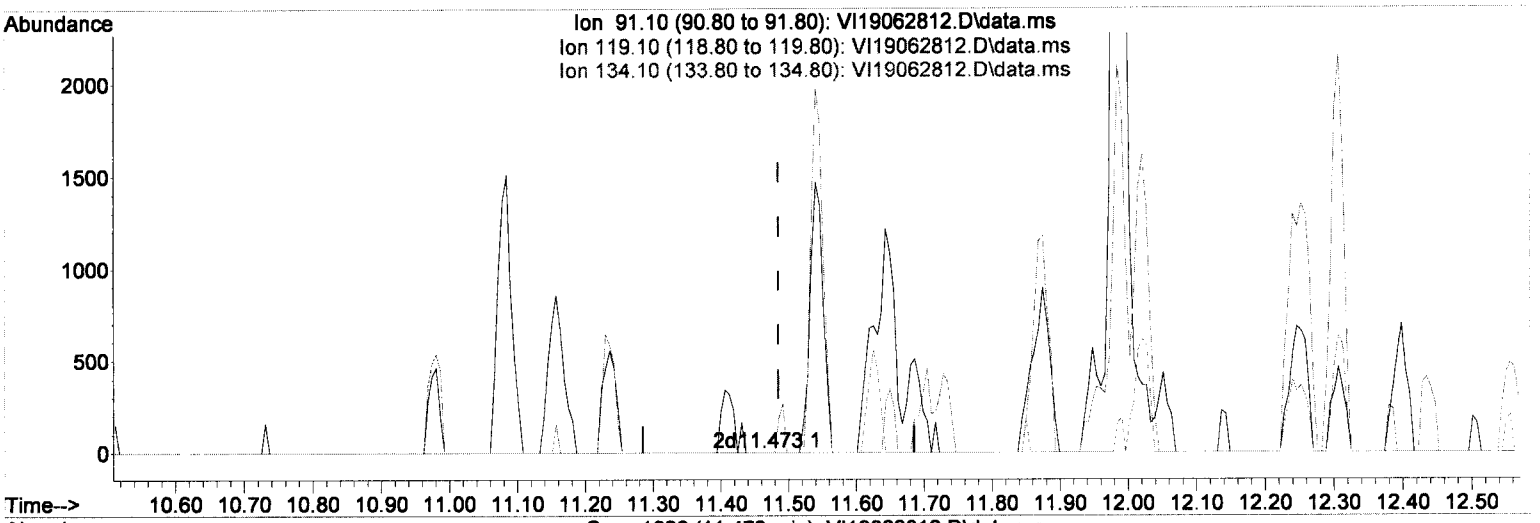
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	134.56
134.10	38.80	0.00#
0.00	0.00	0.00

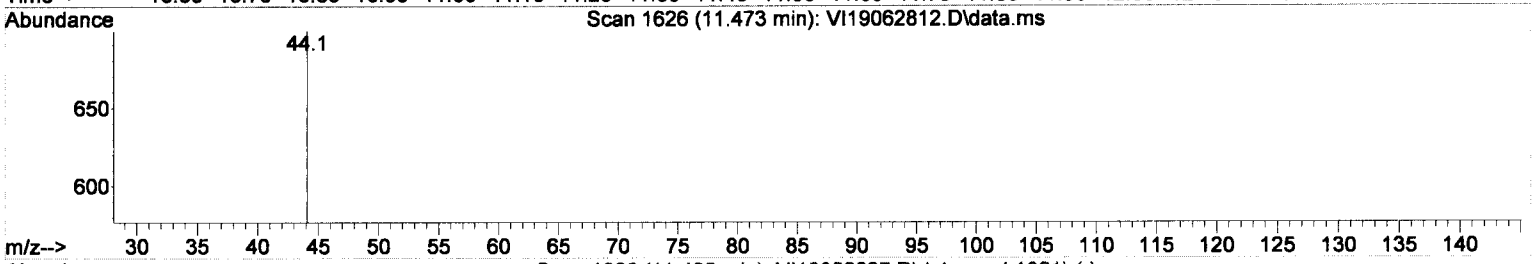
MC 6/28/19

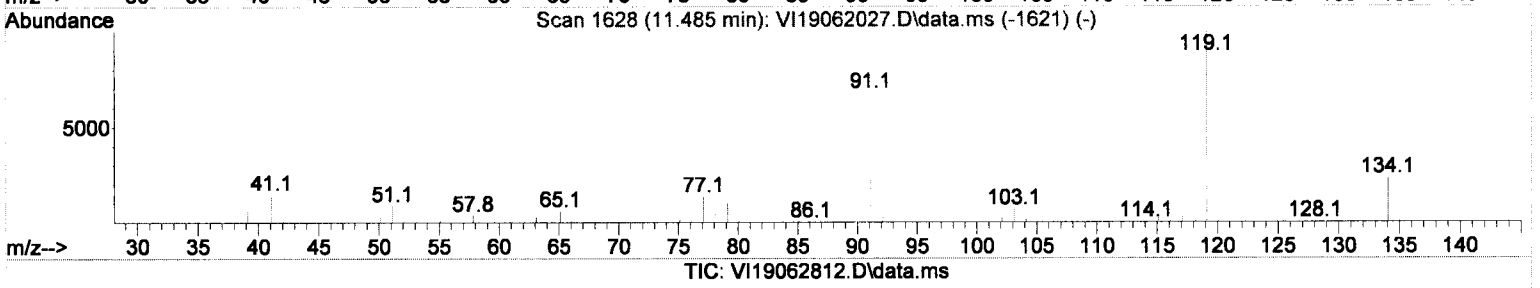
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







(76) tert-Butylbenzene

11.473min (-0.012) 0.00 ug/L m

response 0

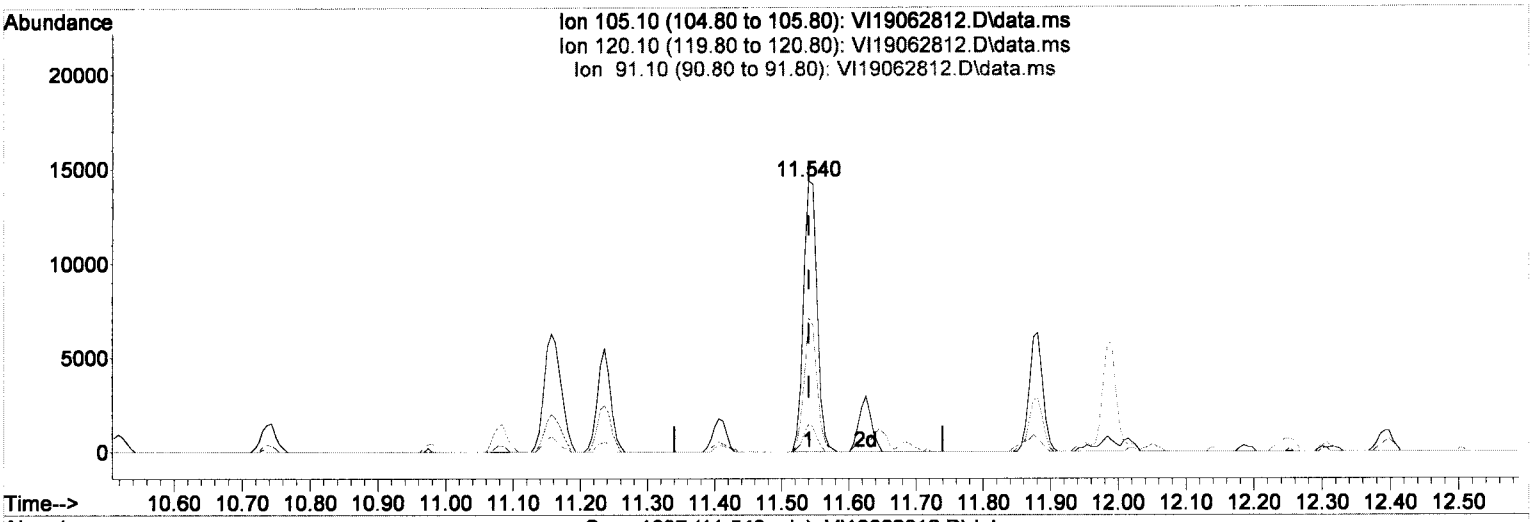
Ion	Exp%	Act%
91.10	100.00	0.00
119.10	156.60	0.00#
134.10	38.80	0.00#
0.00	0.00	0.00

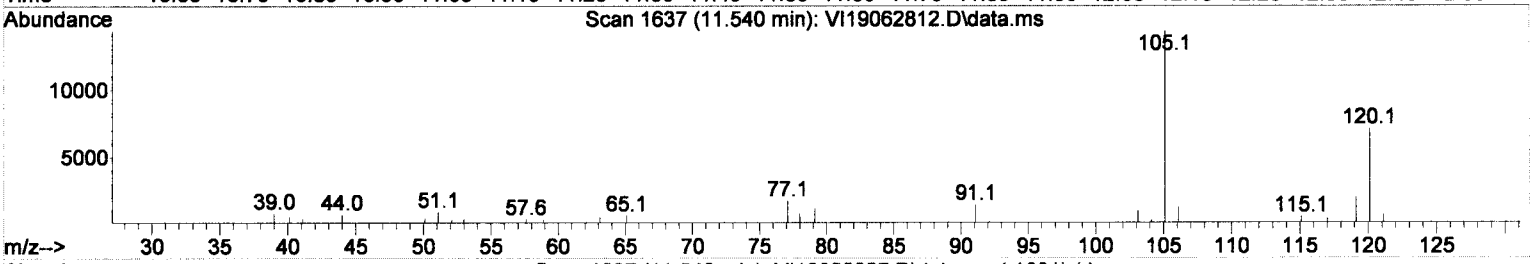
NP 6/28/19

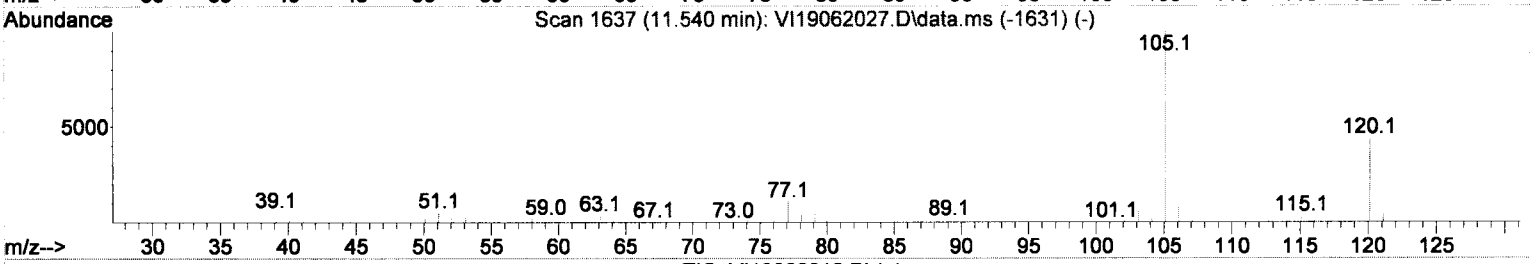
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (-0.000) 2.48 ug/L

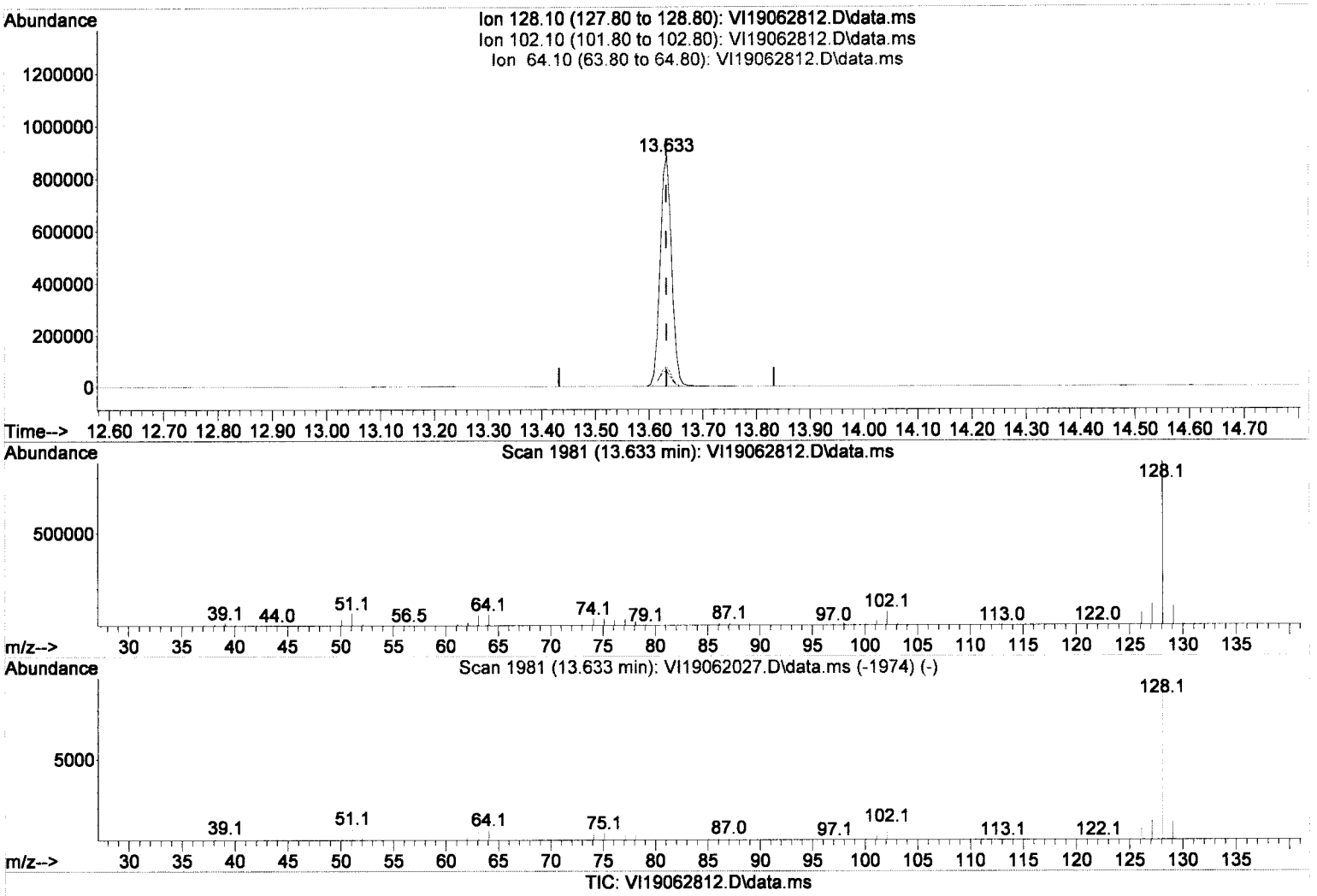
response 20375

Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	49.54
91.10	10.50	10.24
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(87) Naphthalene

13.633min (+ 0.001) 151.71 ug/L

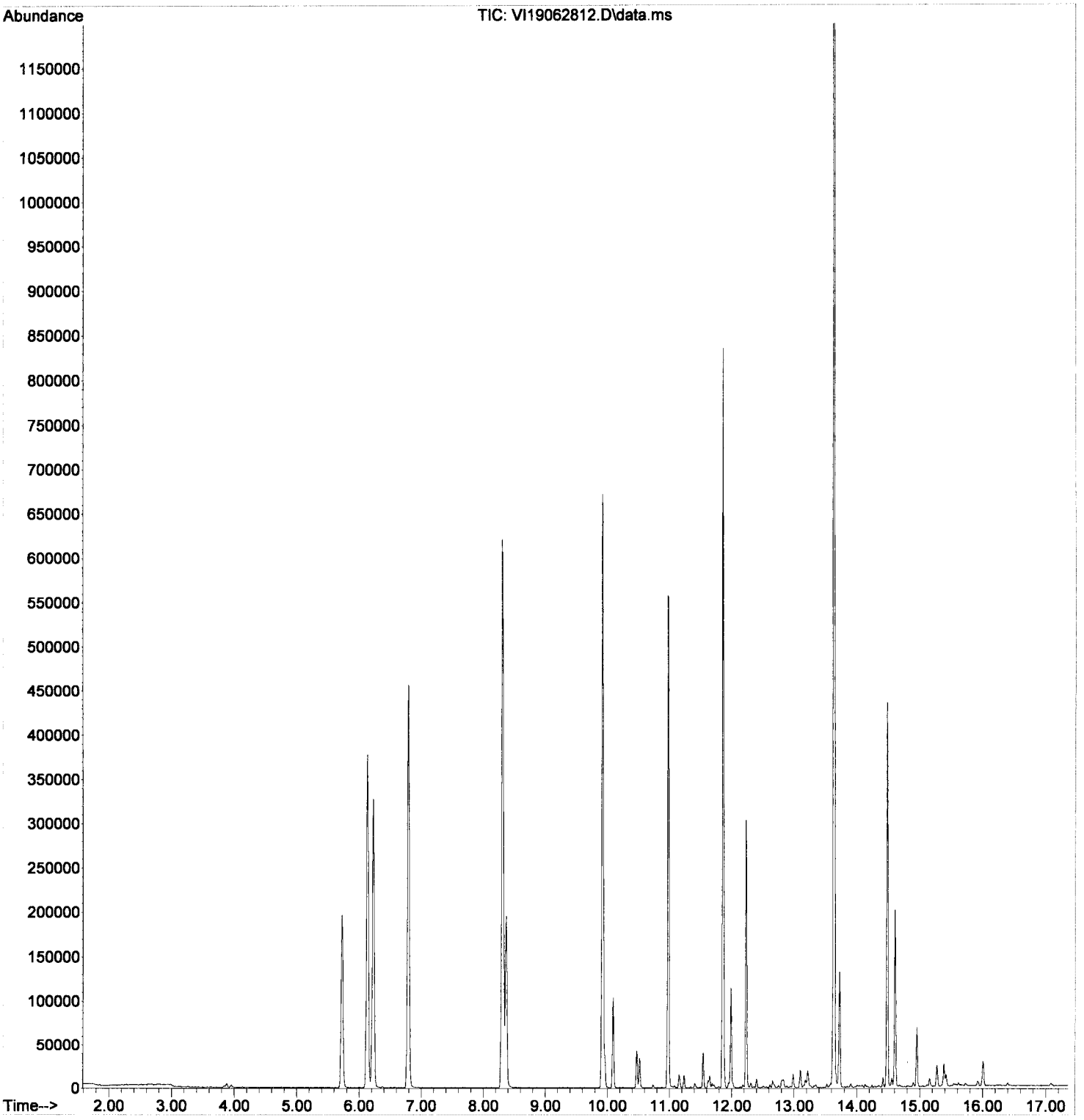
response 1322832

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	8.41
64.10	4.70	6.56
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.223	168	245881	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.789	114	408928	49.45 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	141392	49.19 ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	479446	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	365861	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	271409	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	5102661m	650.14 ug/L	
5) TPHg (C5-C9)	9.890	TIC	1935473m	163.29 ug/L	
6) TPHg (C6-C10)	9.890	TIC	1844925m	187.92 ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	2761758m	204.81 ug/L	

6/28/19 NR

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

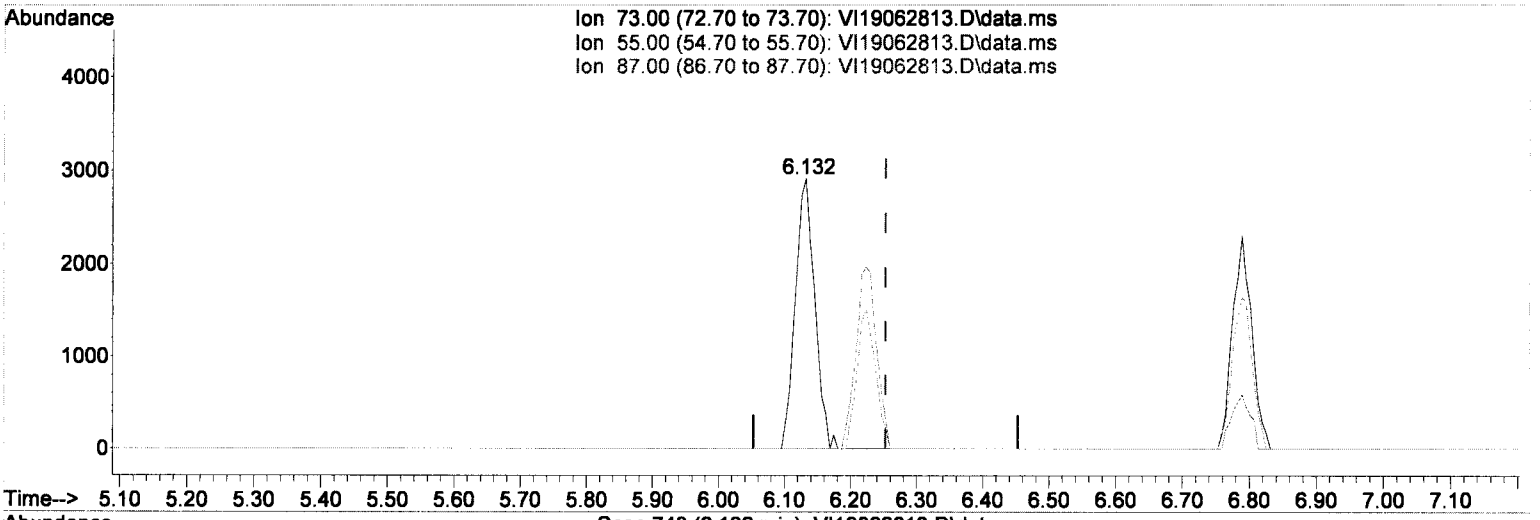
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	245881	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	365861	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	173757	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	132789	50.10 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	408928	49.97 ug/L	0.00
48) Toluene-d8 (S)	8.304	98	479447	50.16 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	141392	49.12 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.904	50	281	0.09 ug/L #	47
6) Chloroethane	2.488	64	506	0.49 ug/L #	36
10) Carbon Disulfide	3.260	76	681	0.11 ug/L	78
14) Methylene Chloride	3.887	84	2041	Below Cal	83
15) Acetone	3.954	43	3195	2.67 ug/L	95
35) Benzene	6.132	78	371249	36.19 ug/L	97
36) tert-Amyl methyl ether...	6.132	73	5952	0.77 ug/L #	46
49) Toluene	8.364	91	162771	15.60 ug/L	98
59) Ethylbenzene	9.958	91	21989	2.01 ug/L	98
61) m,p-Xylenes (2)	10.092	91	54762	6.65 ug/L	100
62) o-Xylene	10.469	91	22337	2.66 ug/L	99
63) Styrene	10.518	104	15613	2.43 ug/L	98
65) Isopropylbenzene	10.737	105	2259	0.23 ug/L	92
69) n-Propylbenzene	11.084	91	1892	0.16 ug/L	78
72) 1,3,5-Trimethylbenzene	11.236	105	7268	0.91 ug/L	94
74) t-1,4-Dichloro-2-butene	11.242	53	122	0.14 ug/L #	1
76) tert-Butylbenzene	11.540	91	2028	0.44 ug/L #	52
77) 1,2,4-Trimethylbenzene	11.540	105	19907	2.48 ug/L	93
78) sec-Butylbenzene	11.625	105	3759	0.38 ug/L	90
87) Naphthalene	13.633	128	1360947	160.25 ug/L	96

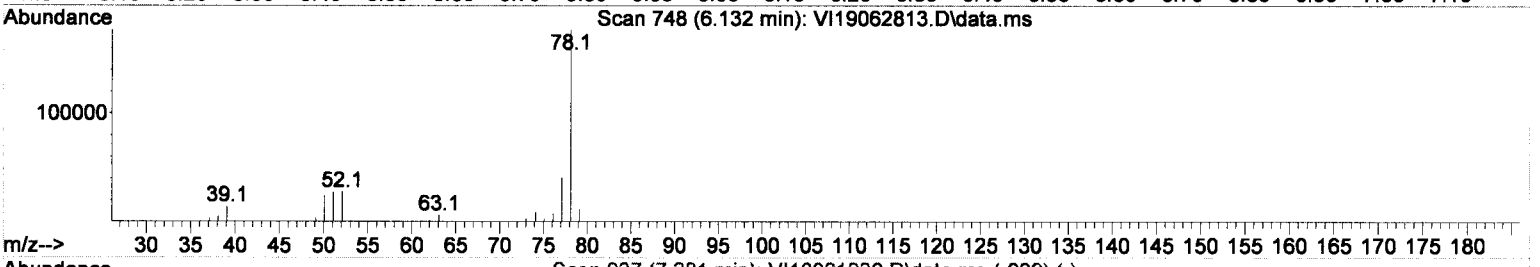
(#) = qualifier out of range (m) = manual integration (+) = signals summed

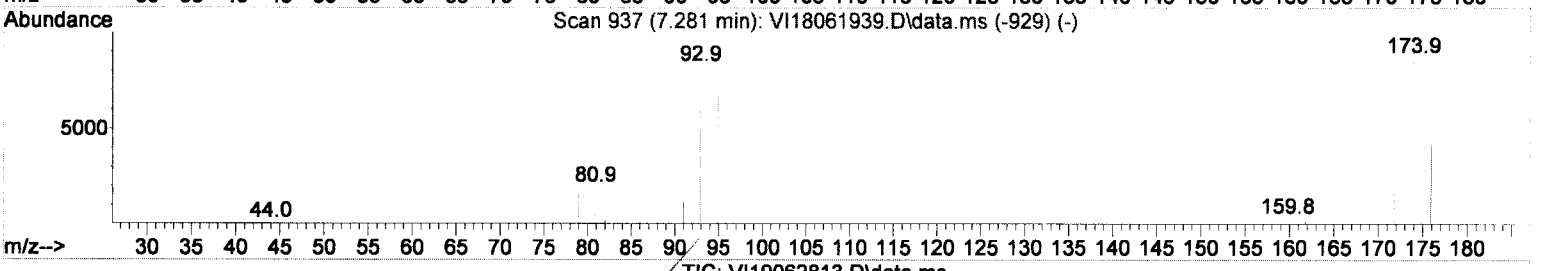
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:18:46 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.132min (-0.121) 0.77 ug/L

response 5952

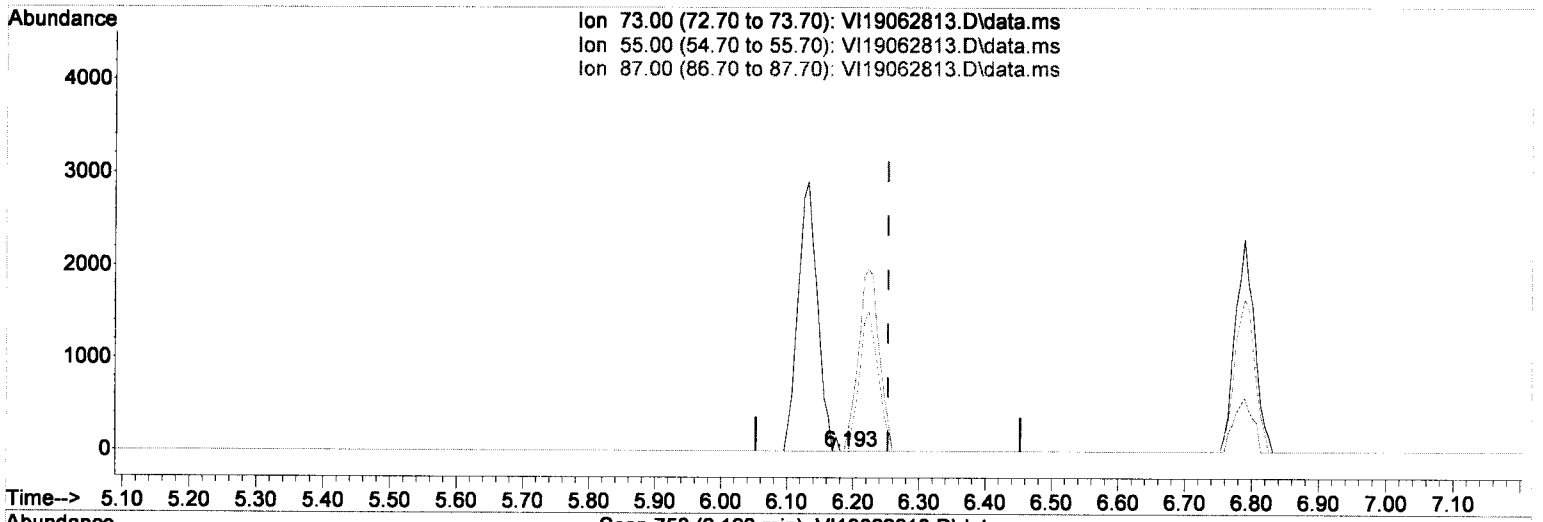
Ion	Exp%	Act%
73.00	100.00	100.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

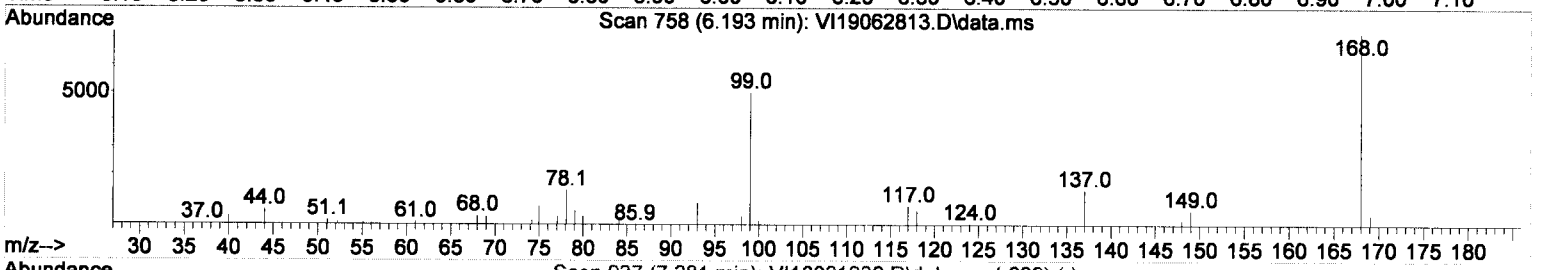
MLE 6/28/19

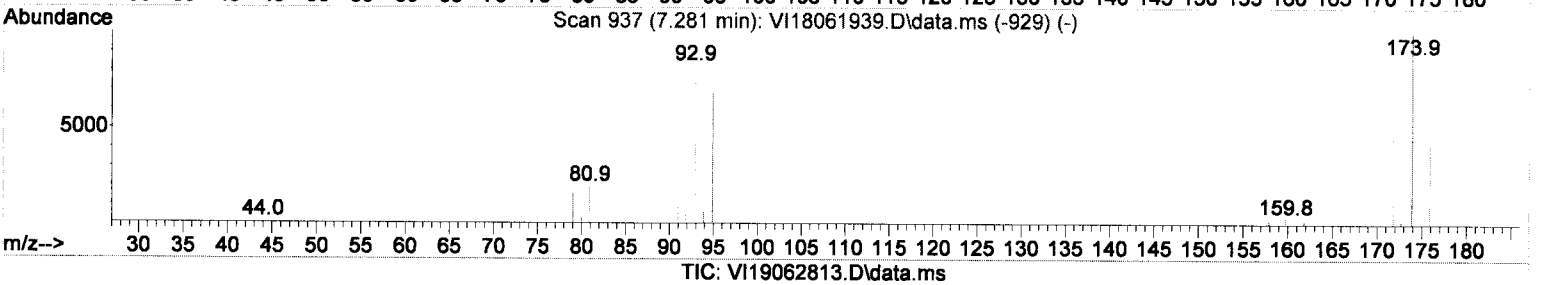
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:18:46 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.193min (-0.060) 0.00 ug/L m

response 0

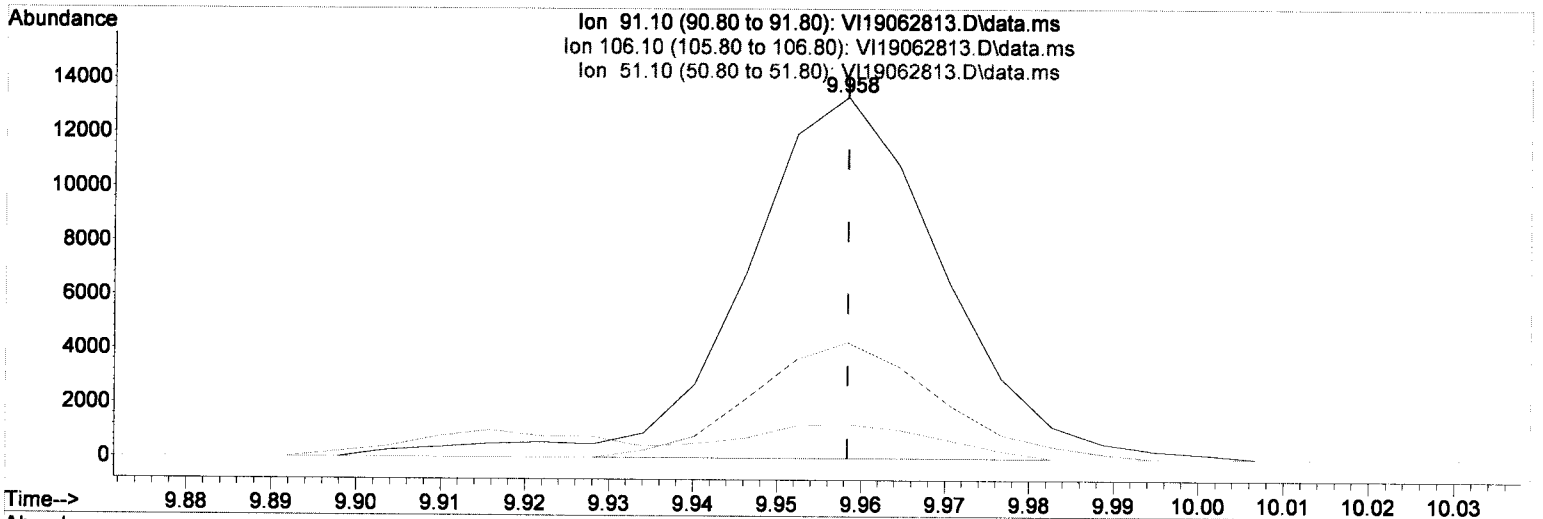
Ion	Exp%	Act%
73.00	100.00	0.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

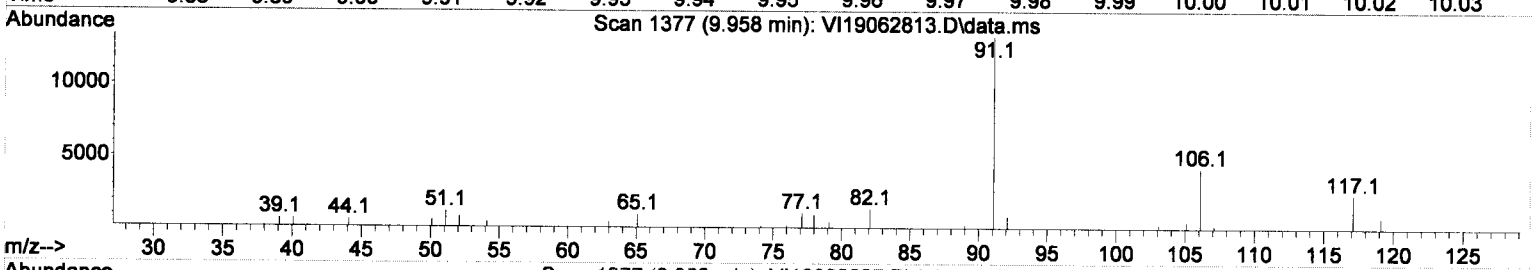
ND
6/28/19 mf

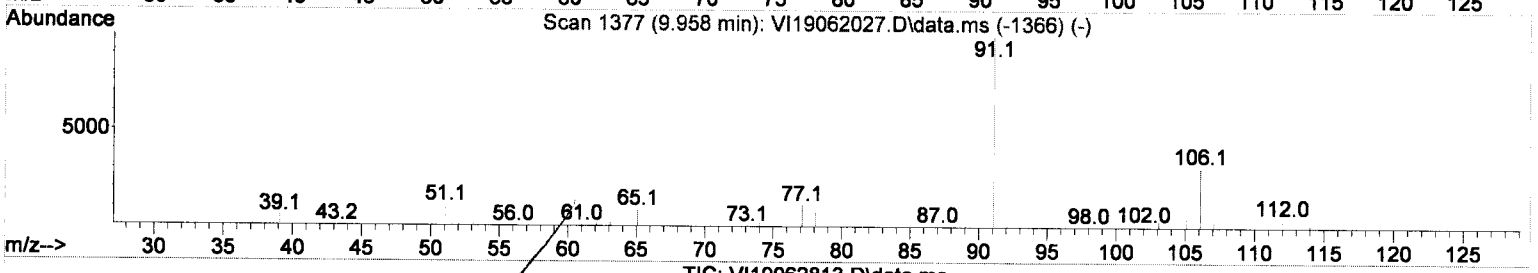
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(59) Ethylbenzene (C)

9.958min (0.000) 2.01 ug/L

response 21989

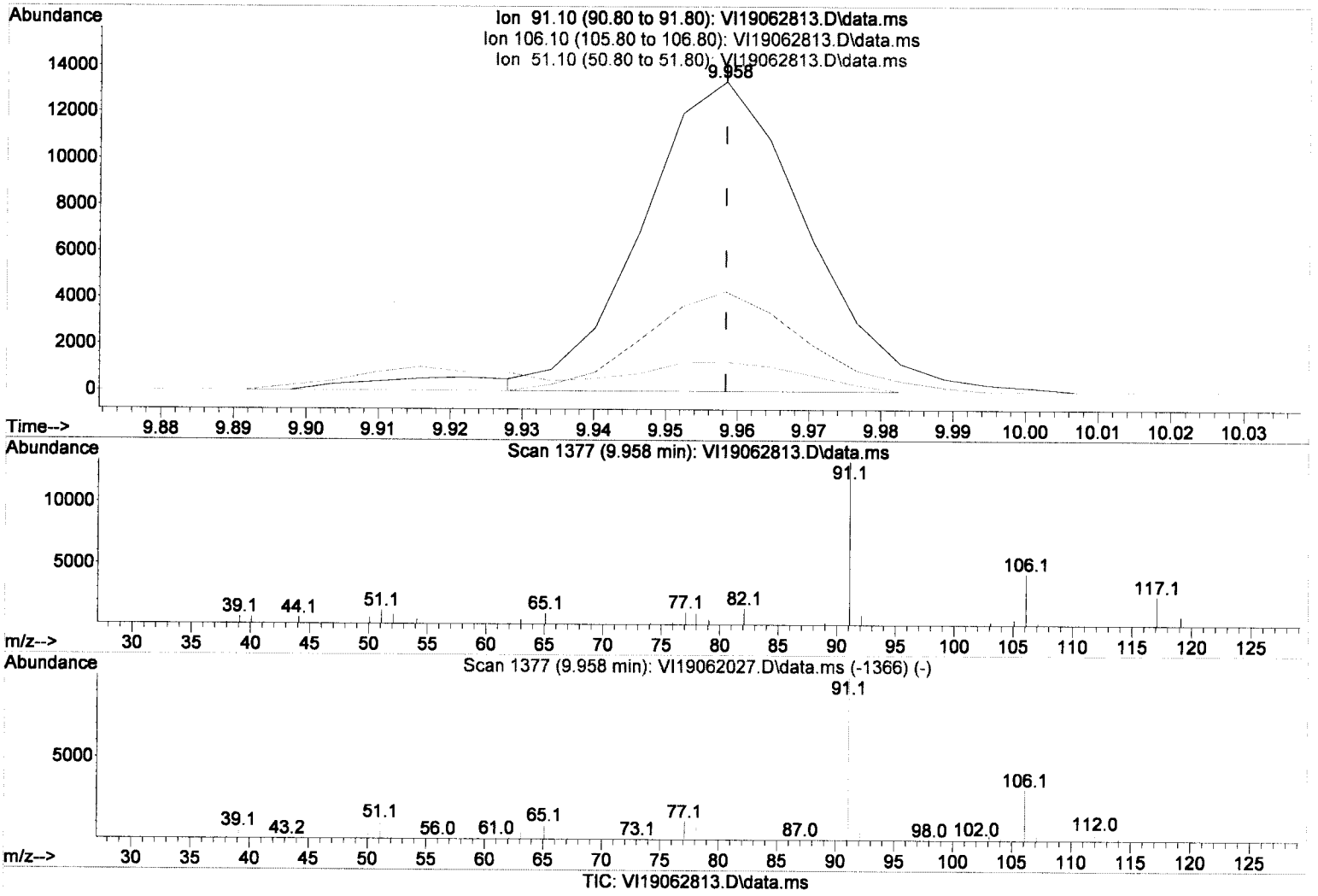
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.10
51.10	10.40	9.36
0.00	0.00	0.00

ML 6/28/19 mc

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062813.D\data.ms

(59) Ethylbenzene (C)

9.958min (0.000) 1.94 ug/L m

6/28/19 mi

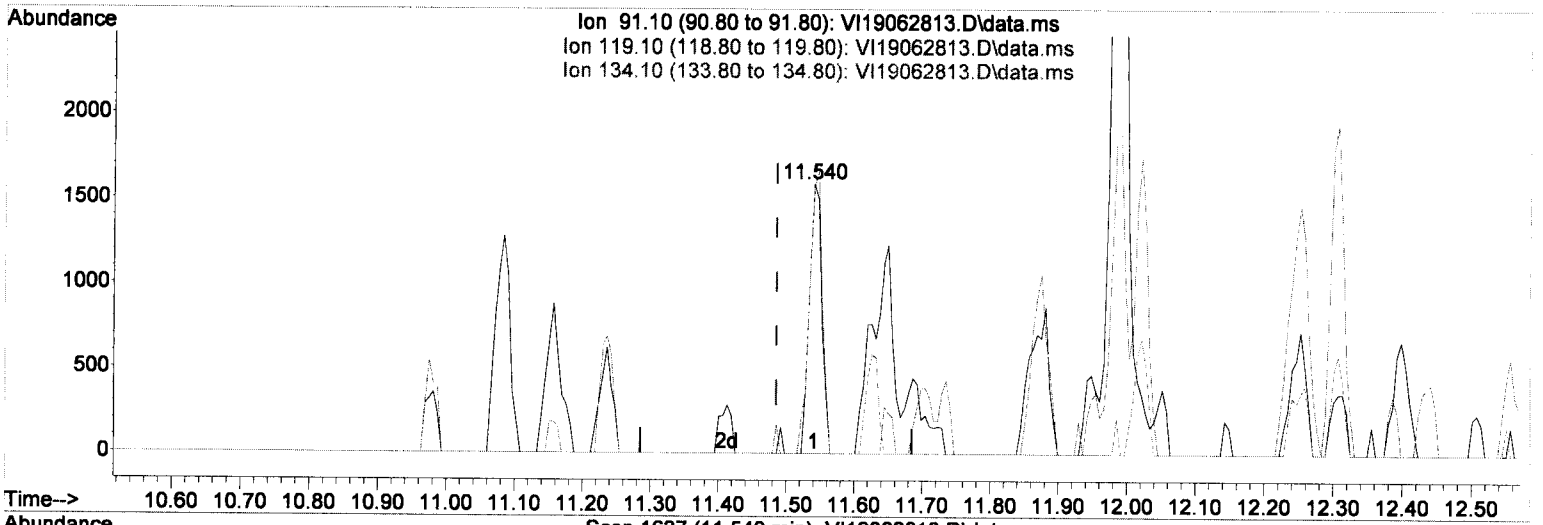
response 21189

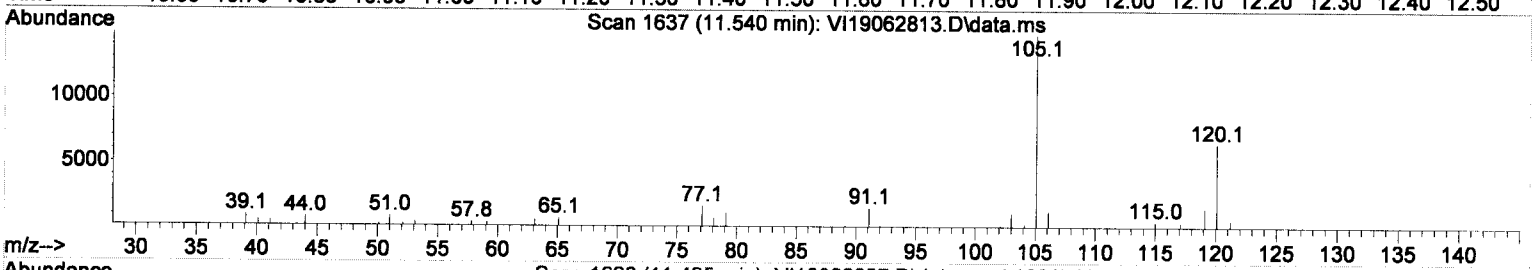
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.10
51.10	10.40	9.36
0.00	0.00	0.00

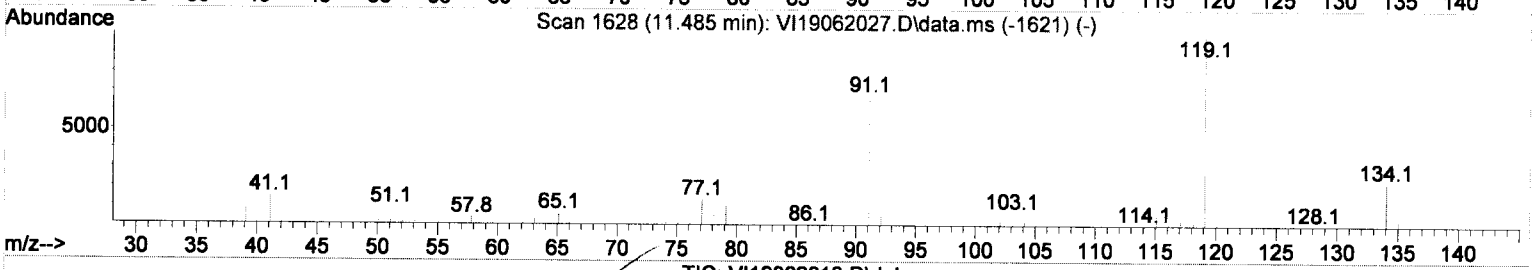
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(76) tert-Butylbenzene

11.540min (+ 0.055) 0.44 ug/L

response 2028

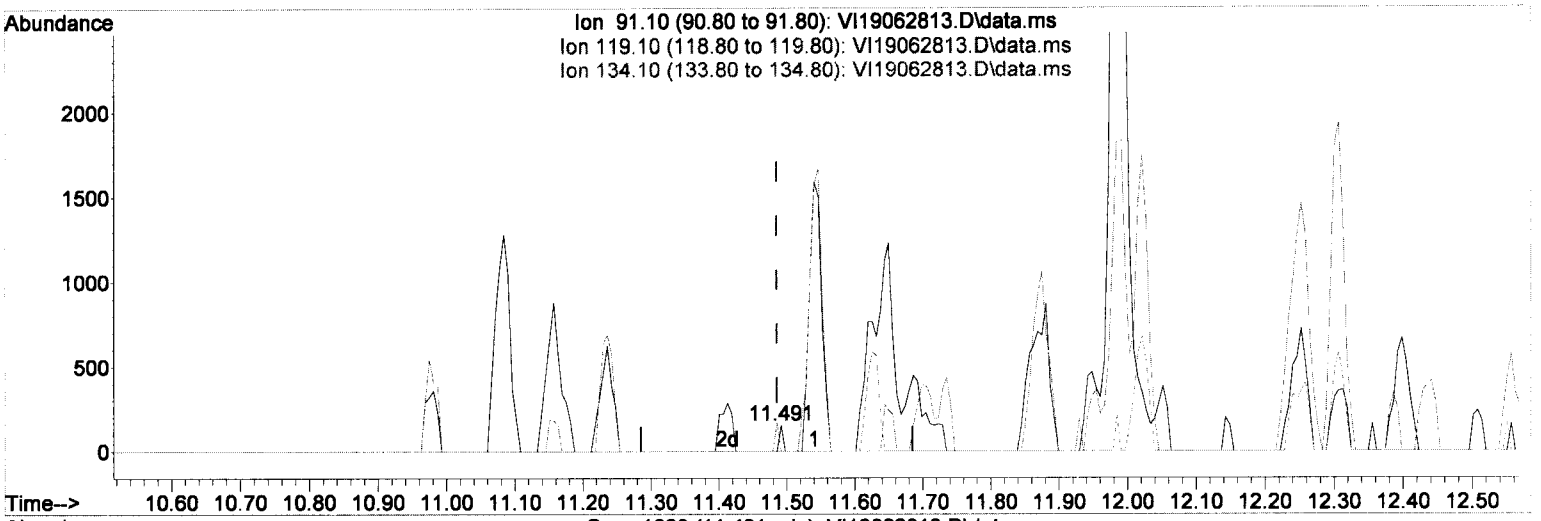
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	98.81#
134.10	38.80	0.00#
0.00	0.00	0.00

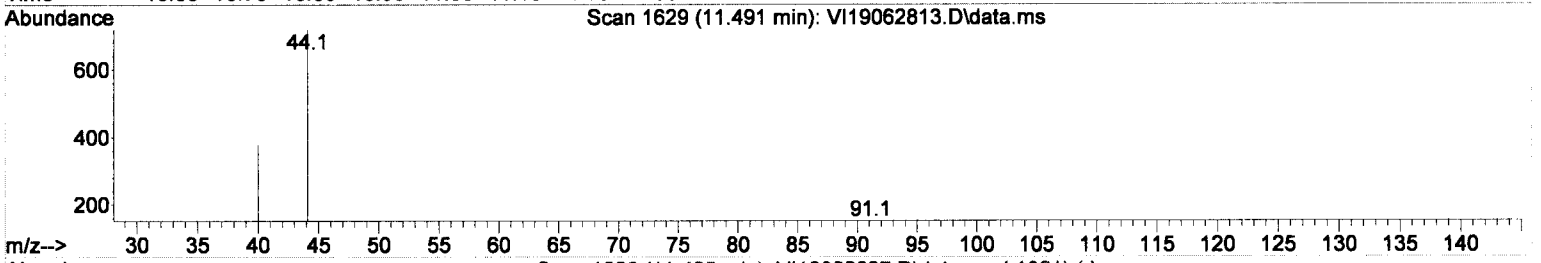
ME 6/28/19 AM

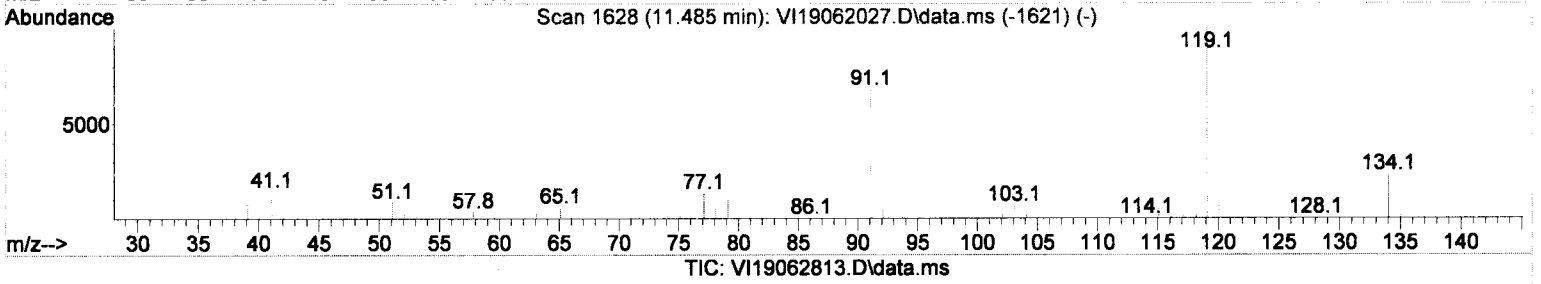
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(76) tert-Butylbenzene

11.491min (+ 0.006) 0.01 ug/L (m)

response 55

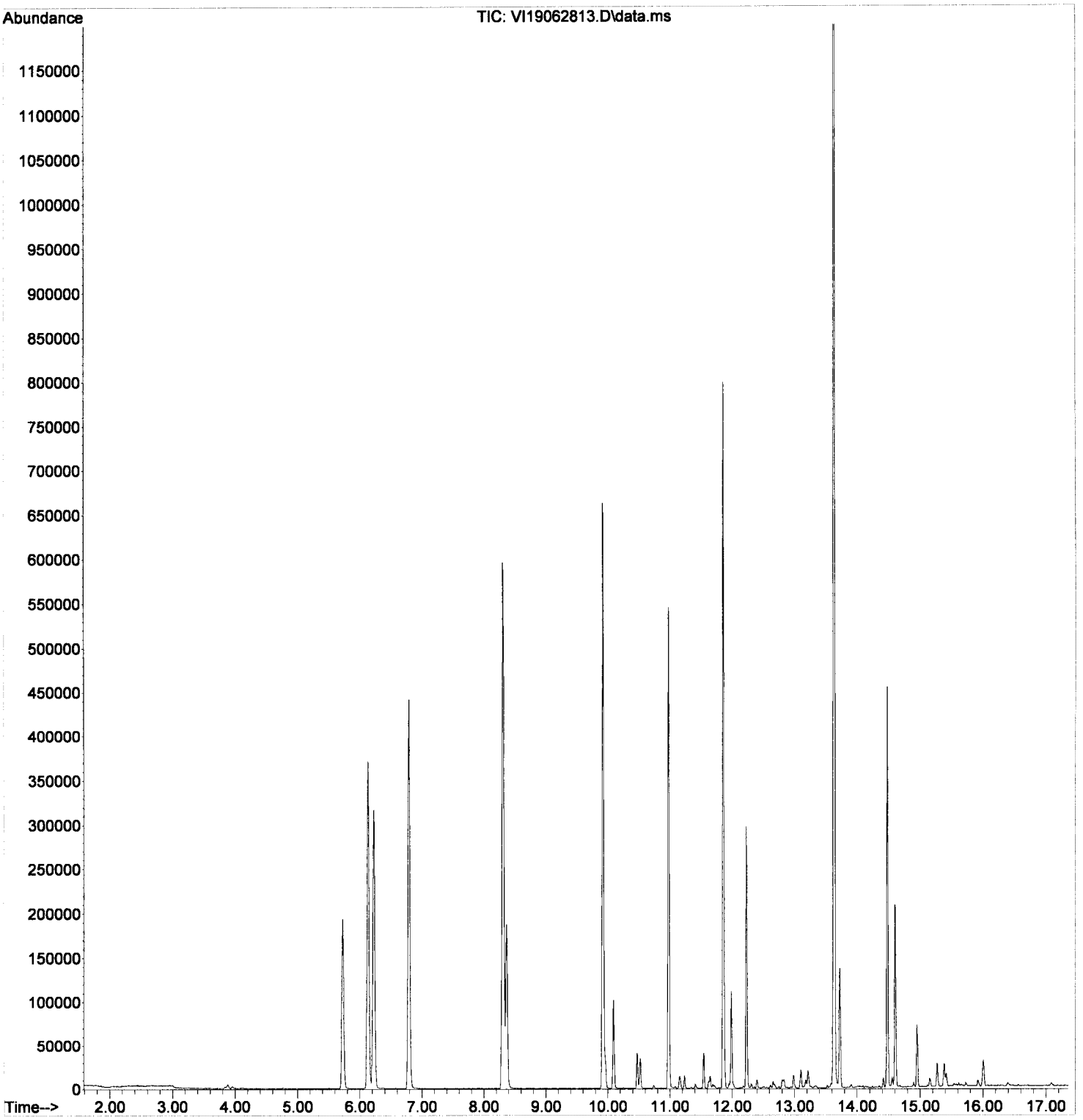
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	0.00#
134.10	38.80	0.00#
0.00	0.00	0.00

CMK 6/28/2019

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062814.D
Acq On : 28 Jun 2019 2:15 pm
Operator : TNL
Sample : 9061478-MS1@10
Misc : 10X 5mL/50mL A19F366 (A9F0860-02RE1)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

6/28/2019

Quant Time: Jun 28 14:36:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	251471	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	377902	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	181992	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	135869	50.12	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	418136	49.96	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	489734	49.60	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	147006	48.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.672	85	52654	20.19	ug/L		98
3) Chloromethane	1.891	50	60066	18.09	ug/L		97
4) Vinyl Chloride	1.995	62	63772	21.32	ug/L		97
5) Bromomethane	2.360	96	30973	20.06	ug/L		97
6) Chloroethane	2.494	64	22196	20.90	ug/L		84
7) Trichlorofluoromethane	2.658	101	72289	21.53	ug/L		97
8) Ethanol	3.236	45	75680	1229.79	ug/L		89
9) 1,1-Dichloroethene	3.230	61	75948	22.35	ug/L		96
10) Carbon Disulfide	3.248	76	126405	20.64	ug/L		99
11) Freon 113	3.285	101	48090	21.79	ug/L		96
12) Iodomethane	3.388	142	12176	11.74	ug/L		92
13) Acrolein	3.619	56	14206	20.75	ug/L		71
14) Methylene Chloride	3.875	84	52994	20.41	ug/L		92
15) Acetone	3.942	43	47332	38.65	ug/L		98
16) t-1,2-Dichloroethene	4.039	61	71153	21.44	ug/L		97
17) n-Hexane	4.124	86	11031	23.80	ug/L	#	82
18) Methyl-tert-butyl-ether	4.167	73	160656	19.77	ug/L		91
19) tert-Butanol (TBA)	4.294	59	670532	1226.04	ug/L		88
20) Diisopropyl ether (DIPE)	4.568	45	42361	4.99	ug/L		92
21) 1,1-Dichloroethane	4.684	63	94229	21.54	ug/L		96
22) Acrylonitrile	4.751	53	29367	21.11	ug/L		97
23) Ethyl-tert-butyl ether...	4.945	59	40446	4.92	ug/L		97
24) Vinyl Acetate	4.958	43	122180	22.07	ug/L		97
25) c-1,2-Dichloroethene	5.244	61	74433	21.01	ug/L		93
26) 2,2-Dichloropropane	5.353	77	68495	20.05	ug/L		97
27) Bromochloromethane	5.450	130	37263	22.82	ug/L		93
28) Chloroform	5.529	83	97257	21.54	ug/L		99
29) Carbon Tetrachloride	5.663	117	62871	22.77	ug/L		95
30) Tetrahydrofuran	5.706	42	26776	18.90	ug/L		88
31) 1,1,1-Trichloroethane	5.736	97	78526	21.82	ug/L		96
33) 1,1-Dichloropropene	5.864	75	74415	21.69	ug/L		96
34) 2-Butanone (MEK)	5.858	43	80949	39.69	ug/L		99
35) Benzene	6.126	78	587569	56.01	ug/L		97
36) tert-Amyl methyl ether...	6.253	73	37576	4.76	ug/L		97
37) 1,2-Dichloroethane (EDC)	6.345	62	71598	20.67	ug/L		91
38) iso-Butyl Alcohol	6.381	43	95439	458.59	ug/L		91
40) Trichloroethene (TCE)	6.746	130	55650	21.93	ug/L		94
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	30129	4.97	ug/L		90
42) Dibromomethane	7.202	93	36059	21.60	ug/L		91
43) 1,2-Dichloropropane	7.312	63	58497	21.77	ug/L		91
44) Bromodichloromethane	7.385	83	68700	22.16	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.097	63	334	0.16	ug/L		100
47) c-1,3-Dichloropropene	8.097	75	80977	20.86	ug/L		89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062814.D
Acq On : 28 Jun 2019 2:15 pm
Operator : TNL
Sample : 9061478-MS1@10
Misc : 10X 5mL/50mL A19F366 (A9F0860-02RE1)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:36:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

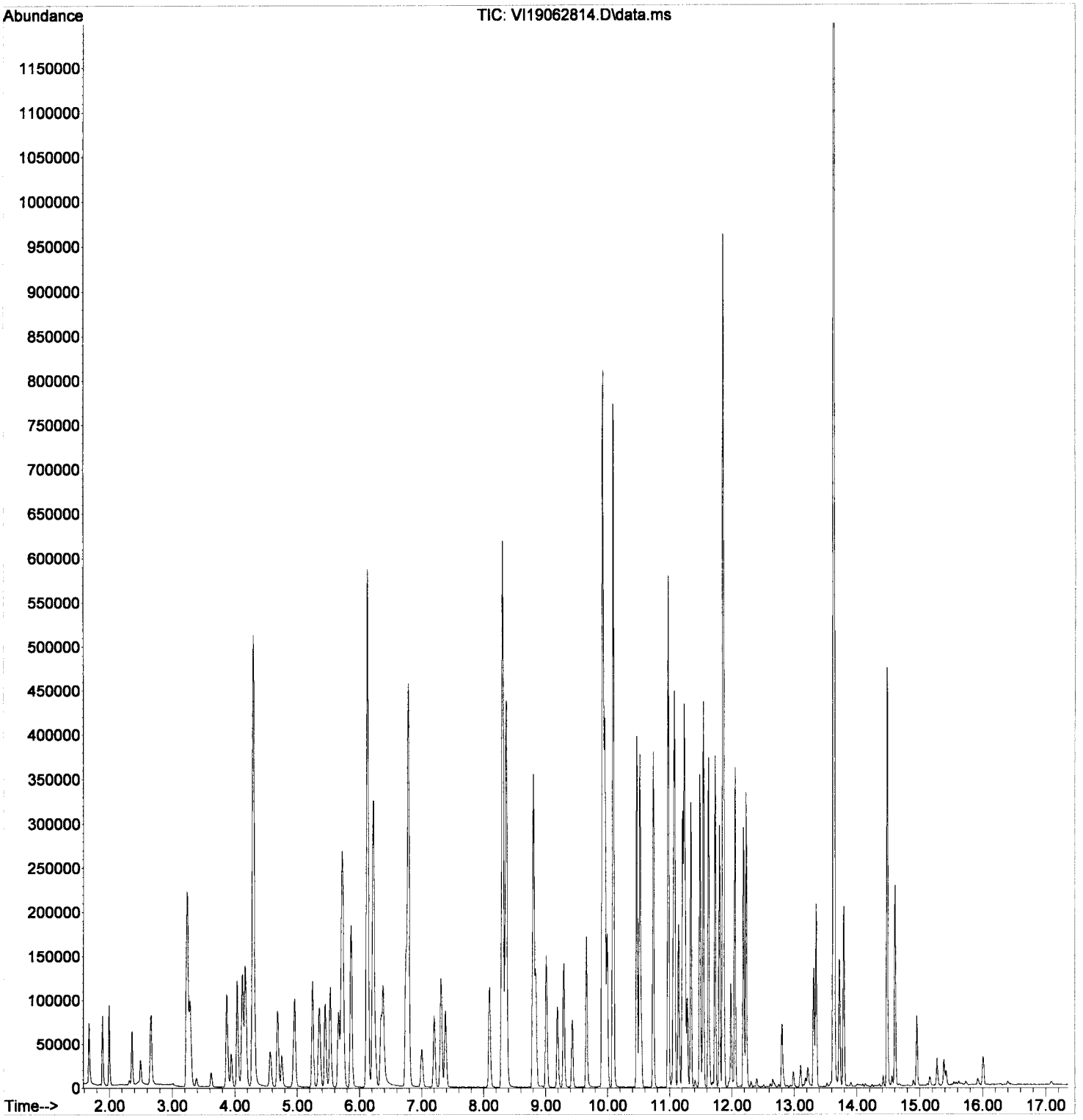
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	390573	36.23	ug/L		100
50) Tetrachloroethene (PCE)	8.802	166	54172	22.12	ug/L		91
51) 4-Methyl-2-Pentanone (...	8.802	43	154887	40.98	ug/L		99
52) t-1,3-Dichloropropene	8.839	75	74230	20.88	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	51581	21.69	ug/L		98
54) Dibromochloromethane	9.192	129	53033	23.78	ug/L		95
55) 1,3-Dichloropropane	9.295	76	90129	21.27	ug/L		94
56) 1,2-Dibromoethane (EDB)	9.429	107	55672	22.23	ug/L		96
57) 2-Hexanone	9.660	43	112263	40.34	ug/L		93
58) Chlorobenzene	9.934	112	142952	21.81	ug/L		96
59) Ethylbenzene	9.958	91	265937	23.55	ug/L		100
60) 1,1,1,2-Tetrachloroethane	9.995	131	46919	23.44	ug/L		92
61) m,p-Xylenes (2)	10.086	91	422240	49.64	ug/L		97
62) o-Xylene	10.469	91	211184	24.36	ug/L		98
63) Styrene	10.518	104	165129	24.93	ug/L		94
64) Bromoform	10.542	173	36309	24.51	ug/L		95
65) Isopropylbenzene	10.737	105	227833	22.19	ug/L		99
68) Bromobenzene	11.065	156	59126	21.20	ug/L		84
69) n-Propylbenzene	11.078	91	269005	21.72	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	50423	21.58	ug/L		92
71) 2-Chlorotoluene	11.211	126	53421	21.35	ug/L		98
72) 1,3,5-Trimethylbenzene	11.236	105	187200	22.36	ug/L		98
73) 1,2,3-Trichloropropane	11.254	110	23340	21.75	ug/L		91
74) t-1,4-Dichloro-2-butene	11.284	53	18818	20.78	ug/L	#	72
75) 4-Chlorotoluene	11.339	91	161308	20.79	ug/L		94
76) tert-Butylbenzene	11.485	91	101554	21.05	ug/L		93
77) 1,2,4-Trimethylbenzene	11.540	105	204426	24.35	ug/L		95
78) sec-Butylbenzene	11.625	105	227053	21.87	ug/L		98
79) 4-Isopropyltoluene	11.729	119	183585	22.40	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	104563	21.42	ug/L		98
81) 1,4-Dichlorobenzene	11.869	146	105812	21.00	ug/L		96
82) n-Butylbenzene	12.051	91	167773	22.32	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	100241	21.20	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	15769	21.37	ug/L		90
85) Hexachlorobutadiene	13.310	223	14852	21.79	ug/L		93
86) 1,2,4-Trichlorobenzene	13.347	180	59740	21.97	ug/L		97
87) Naphthalene	13.633	128	1663088	186.96	ug/L		97
88) 1,2,3-Trichlorobenzene	13.791	180	57439	21.76	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062814.D
Acq On : 28 Jun 2019 2:15 pm
Operator : TNL
Sample : 9061478-MS1@10
Misc : 10X 5mL/50mL A19F366 (A9F0860-02RE1)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:36:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Gasoline Range Hydrocarbons (Benzene though Naphthalene) by NWTPH-Gx

Calibration Data

Sequence 9F20044 (Cal ID A9F2102) VOA-GCMS9

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9F20044	Instrument:	VOA-GCMS9
Date:	06/20/19 16:38	Calibration:	A9F2102

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9F20044-IBL1	Water	QC	QC			A19C125	
2	9F20044-TUN1	Water	QC	QC			A19C125	
3	9F20044-ICB1	Water	QC	QC			A19C125	
4	9F20044-CAL1	Water	QC	QC			A19C125	A19F282
5	9F20044-CAL2	Water	QC	QC			A19C125	A19F283
6	9F20044-CAL3	Water	QC	QC			A19C125	A19F284
7	9F20044-CAL4	Water	QC	QC			A19C125	A19F285
8	9F20044-CAL5	Water	QC	QC			A19C125	A19F286
9	9F20044-CAL6	Water	QC	QC			A19C125	A19F287
10	9F20044-CAL7	Water	QC	QC			A19C125	A19F288
11	9F20044-CAL8	Water	QC	QC			A19C125	A19F289
12	9F20044-CAL9	Water	QC	QC			A19C125	A19F290
13	9F20044-IBL2	Water	QC	QC			A19C125	
14	9F20044-CALA	Water	QC	QC			A19C125	A19F291
15	9F20044-IBL3	Water	QC	QC			A19C125	
16	9F20044-CALB	Water	QC	QC			A19C125	A19F292
17	9F20044-IBL4	Water	QC	QC			A19C125	
18	9F20044-IBL5	Water	QC	QC			A19C125	
19	9F20044-ICV1	Water	QC	QC			A19C125	A19F293
20	9F20044-ICV2	Water	QC	QC			A19C125	A19E195
21	9F20044-IBL6	Water	QC	QC			A19C125	
22	9F20044-TUN2	Water	QC	QC			A19C125	
23	9F20044-ICB2	Water	QC	QC			A19E148	
24	9F20044-IBL7	Water	QC	QC			A19C125	
25	9F20044-CALC	Water	QC	QC			A19C125	A19F179
26	9F20044-CALD	Water	QC	QC			A19C125	A19F176
27	9F20044-CALE	Water	QC	QC			A19C125	A19F177
28	9F20044-CALF	Water	QC	QC			A19C125	A19F178
29	9F20044-CALG	Water	QC	QC			A19C125	A19F180
30	9F20044-CALH	Water	QC	QC			A19C125	A19F181
31	9F20044-CALI	Water	QC	QC			A19C125	A19F182
32	9F20044-CALJ	Water	QC	QC			A19C125	A19F183
33	9F20044-IBL8	Water	QC	QC			A19C125	
34	9F20044-IBL9	Water	QC	QC			A19C125	
35	9F20044-ICV3	Water	QC	QC			A19C125	A19B262
36	9F20044-IBLA	Water	QC	QC			A19C125	

+ Reactives
+ OXY

Data Entered By: 6/21/19

Data Reviewed By: 6/21/19

Comments:

Calibration Status Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	-1	50	C:\msdchem\1\data\2019-06\9F20044\VI19062020.D
2	0.2	0	50	C:\msdchem\1\data\2019-06\9F20044\VI19062021.D
3	0.5	0	50	C:\msdchem\1\data\2019-06\9F20044\VI19062022.D
4	1	1	50	C:\msdchem\1\data\2019-06\9F20044\VI19062023.D
5	2	2	50	C:\msdchem\1\data\2019-06\9F20044\VI19062024.D
6	5	5	50	C:\msdchem\1\data\2019-06\9F20044\VI19062025.D
7	10	10	50	C:\msdchem\1\data\2019-06\9F20044\VI19062026.D
8	20	20	50	C:\msdchem\1\data\2019-06\9F20044\VI19062027.D
9	50	50	50	C:\msdchem\1\data\2019-06\9F20044\VI19062028.D
10	100	100	50	C:\msdchem\1\data\2019-06\9F20044\VI19062030.D
11	200	200	50	C:\msdchem\1\data\2019-06\9F20044\VI19062032.D

#	ID	Update Time	Quant Time	Acquisition Time
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2	0.2	Jun 21 10:05 2019	Jun 21 09:52 2019	20 Jun 2019 6:43 pm
3	0.5	Jun 21 10:05 2019	Jun 21 09:55 2019	20 Jun 2019 7:10 pm
4	1	Jun 21 10:05 2019	Jun 21 09:56 2019	20 Jun 2019 7:37 pm
5	2	Jun 21 10:05 2019	Jun 21 09:58 2019	20 Jun 2019 8:04 pm
6	5	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 8:31 pm
7	10	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 8:58 pm
8	20	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 9:25 pm
9	50	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 9:52 pm
10	100	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 10:46 pm
11	200	Jun 21 10:05 2019	Jun 21 10:04 2019	20 Jun 2019 11:40 pm

VI190621W+.M Fri Jun 21 10:41:31 2019

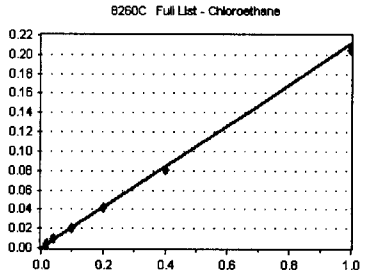
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Chloroethane

Curve Fit: **AVERAGE RF**

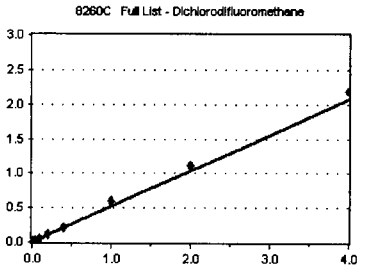


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	908	0.214	0.00
9F20044-CAL5	2	1914	0.231	0.00
9F20044-CAL6	5	4333	0.206	2.51
9F20044-CAL7	10	8771	0.210	2.51
9F20044-CAL8	20	17079	0.202	2.50
9F20044-CAL9	50	41565	0.204	2.50
~~9F20044-CALA~~	~~100~~	~~41076~~	~~9.548~~	~~2.51~~
~~9F20044-CALB~~	~~200~~	~~72831~~	~~8.917~~	~~2.49~~

AVE RF **0.211** RF RSD **5.05** AVE RT **1.67**

Dichlorodifluoromethane

Curve Fit: **AVERAGE RF**

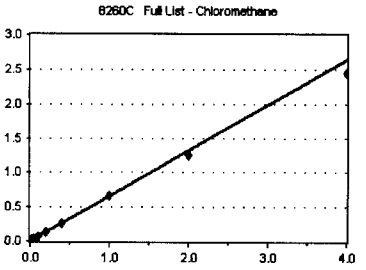


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	715	0.413	1.69
9F20044-CAL4	1	1914	0.451	1.69
9F20044-CAL5	2	4211	0.508	1.68
9F20044-CAL6	5	10727	0.510	1.69
9F20044-CAL7	10	22869	0.548	1.69
9F20044-CAL8	20	45341	0.535	1.68
9F20044-CAL9	50	120443	0.592	1.69
9F20044-CALA	100	242339	0.563	1.69
9F20044-CALB	200	445670	0.546	1.68

AVE RF **0.518** RF RSD **10.82** AVE RT **1.68**

Chloromethane

Curve Fit: **AVERAGE RF**

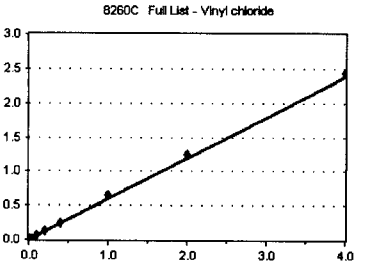


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~680~~	~~1.341~~	~~1.91~~
~~9F20044-CAL2~~	~~0.2~~	~~842~~	~~0.981~~	~~1.89~~
9F20044-CAL3	0.4	1399	0.808	1.90
9F20044-CAL4	1	2855	0.673	1.90
9F20044-CAL5	2	5408	0.653	1.90
9F20044-CAL6	5	12884	0.612	1.90
9F20044-CAL7	10	27212	0.652	1.90
9F20044-CAL8	20	53847	0.636	1.90
9F20044-CAL9	50	136445	0.671	1.90
9F20044-CALA	100	268247	0.624	1.90
9F20044-CALB	200	500665	0.613	1.90

AVE RF **0.660** RF RSD **9.10** AVE RT **1.90**

Vinyl chloride

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	502	0.585	2.00
9F20044-CAL3	0.4	1014	0.586	2.01
9F20044-CAL4	1	2289	0.539	2.00
9F20044-CAL5	2	4635	0.559	2.00
9F20044-CAL6	5	11994	0.570	2.00
9F20044-CAL7	10	25922	0.621	2.00
9F20044-CAL8	20	51551	0.608	2.00
9F20044-CAL9	50	131880	0.649	2.00
9F20044-CALA	100	267614	0.622	2.01
9F20044-CALB	200	495944	0.607	2.00

AVE RF **0.595** RF RSD **5.54** AVE RT **2.00**

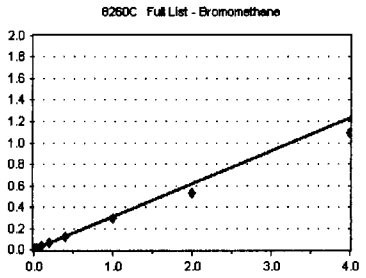
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Bromomethane

Curve Fit: **AVERAGE RF**

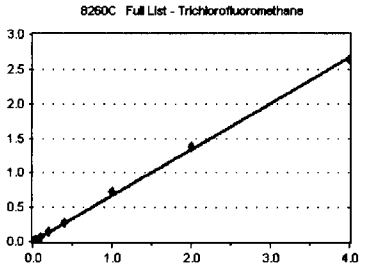


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	1674	0.394	2.37
9F20044-CAL5	2	2788	0.337	2.36
9F20044-CAL6	5	6144	0.292	2.37
9F20044-CAL7	10	12781	0.306	2.37
9F20044-CAL8	20	25381	0.300	2.37
9F20044-CAL9	50	58858	0.289	2.37
9F20044-CALA	100	114028	0.265	2.37
9F20044-CALB	200	223036	0.273	2.37

AVE RF **0.307** RF RSD **13.50** AVE RT **2.37**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

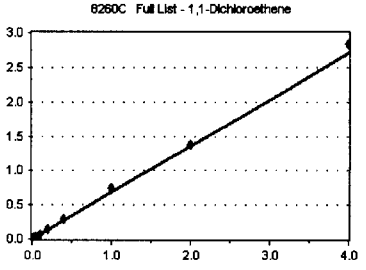


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	995	0.575	2.68
9F20044-CAL4	1	2781	0.655	2.67
9F20044-CAL5	2	5447	0.657	2.67
9F20044-CAL6	5	13723	0.652	2.67
9F20044-CAL7	10	29578	0.709	2.68
9F20044-CAL8	20	58229	0.687	2.66
9F20044-CAL9	50	147150	0.724	2.67
9F20044-CALA	100	296413	0.689	2.67
9F20044-CALB	200	538727	0.660	2.66

AVE RF **0.668** RF RSD **6.45** AVE RT **2.67**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

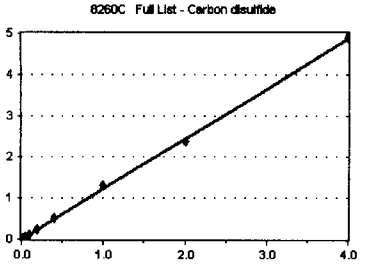


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	456	0.531	3.24
9F20044-CAL3	0.4	1077	0.622	3.24
9F20044-CAL4	1	2735	0.644	3.24
9F20044-CAL5	2	5714	0.690	3.24
9F20044-CAL6	5	14113	0.671	3.24
9F20044-CAL7	10	30179	0.723	3.24
9F20044-CAL8	20	60935	0.719	3.24
9F20044-CAL9	50	152871	0.752	3.24
9F20044-CALA	100	298169	0.693	3.24
9F20044-CALB	200	581132	0.711	3.24

AVE RF **0.676** RF RSD **9.41** AVE RT **3.24**

Carbon disulfide

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	2039	1.178	3.26
9F20044-CAL4	1	4926	1.161	3.25
9F20044-CAL5	2	9921	1.197	3.25
9F20044-CAL6	5	24895	1.183	3.25
9F20044-CAL7	10	53141	1.273	3.26
9F20044-CAL8	20	106077	1.252	3.25
9F20044-CAL9	50	265043	1.303	3.25
9F20044-CALA	100	511828	1.190	3.26
9F20044-CALB	200	996935	1.221	3.25

AVE RF **1.218** RF RSD **3.98** AVE RT **3.26**

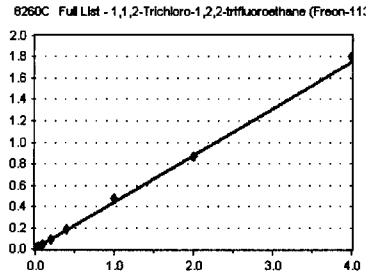
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,1,2-Trichloro-1,2,2-trifluoroetha

Curve Fit: **AVERAGE RF**

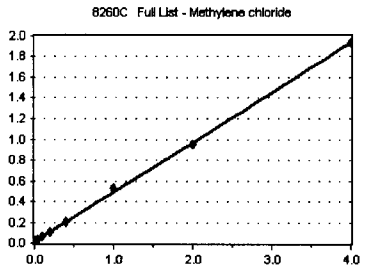


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	1682	0.396	3.29
9F20044-CAL5	2	3564	0.430	3.29
9F20044-CAL6	5	8855	0.421	3.29
9F20044-CAL7	10	19042	0.456	3.29
9F20044-CAL8	20	38212	0.451	3.29
9F20044-CAL9	50	96319	0.474	3.29
9F20044-CALA	100	185413	0.431	3.30
9F20044-CALB	200	369170	0.452	3.29

AVE RF **0.439** RF RSD **5.52** AVE RT **3.29**

Methylene chloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

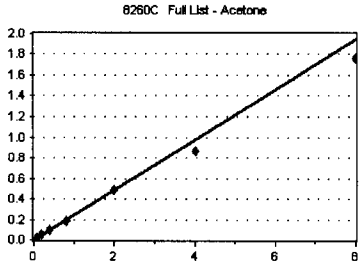


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.1	5025	11.618	3.88
9F20044-CAL2	0.2	3802	4.431	3.88
9F20044-CAL3	0.4	3778	2.183	3.88
9F20044-CAL4	1	5068	1.194	3.88
9F20044-CAL5	2	7259	0.876	3.88
9F20044-CAL6	5	12982	0.617	3.88
9F20044-CAL7	10	23309	0.559	3.88
9F20044-CAL8	20	43827	0.517	3.88
9F20044-CAL9	50	106690	0.525	3.88
9F20044-CALA	100	204285	0.475	3.88
9F20044-CALB	200	395740	0.484	3.88

AVE RF **2.135** RF RSD **157.60** AVE RT **3.88**

Acetone

Curve Fit: **AVERAGE RF**

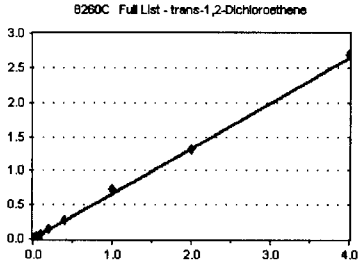


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL5	4	4813	0.290	3.95
9F20044-CAL6	10	10828	0.257	3.95
9F20044-CAL7	20	20886	0.250	3.95
9F20044-CAL8	40	38901	0.230	3.94
9F20044-CAL9	100	98222	0.241	3.95
9F20044-CALA	200	185269	0.215	3.95
9F20044-CALB	400	359555	0.220	3.94

AVE RF **0.243** RF RSD **10.58** AVE RT **3.95**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1032	0.596	4.05
9F20044-CAL4	1	2591	0.611	4.05
9F20044-CAL5	2	5449	0.658	4.05
9F20044-CAL6	5	13534	0.643	4.05
9F20044-CAL7	10	29093	0.697	4.05
9F20044-CAL8	20	57700	0.681	4.05
9F20044-CAL9	50	146773	0.722	4.05
9F20044-CALA	100	283049	0.658	4.05
9F20044-CALB	200	550967	0.675	4.04

AVE RF **0.660** RF RSD **6.02** AVE RT **4.05**

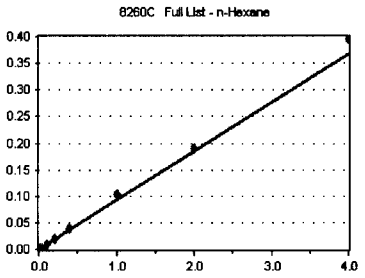
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

n-Hexane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	322	7.588	4.13
9F20044-CAL5	2	660	7.966	4.12
9F20044-CAL6	5	1835	8.718	4.13
9F20044-CAL7	10	4064	0.097	4.13
9F20044-CAL8	20	8288	9.782	4.12
9F20044-CAL9	50	21296	0.105	4.12
9F20044-CALA	100	41081	9.549	4.13
9F20044-CALB	200	80961	9.912	4.12

AVE RF **9.216** RF RSD **11.03** AVE RT **4.13**

Methyl tert-butyl ether (MTBE)

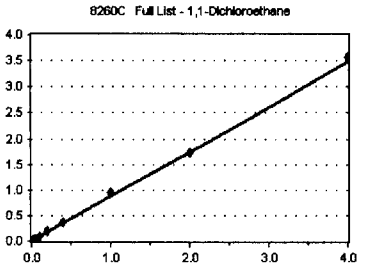
Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	2633	1.521	4.19
9F20044-CAL4	1	6733	1.587	4.17
9F20044-CAL5	2	12876	1.554	4.17
9F20044-CAL6	5	33795	1.606	4.18
9F20044-CAL7	10	68708	1.646	4.17
9F20044-CAL8	20	139596	1.648	4.17
9F20044-CAL9	50	355406	1.748	4.17
9F20044-CALA	100	687445	1.598	4.18
9F20044-CALB	200	1335564	1.635	4.17

AVE RF **1.616** RF RSD **4.02** AVE RT **4.18**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

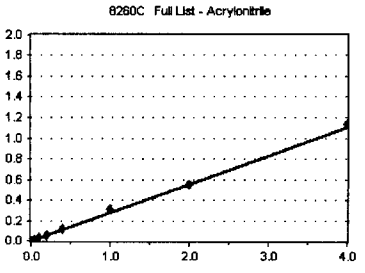


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1280	0.740	4.69
9F20044-CAL4	1	3536	0.833	4.68
9F20044-CAL5	2	7318	0.883	4.69
9F20044-CAL6	5	17942	0.852	4.69
9F20044-CAL7	10	38535	0.923	4.69
9F20044-CAL8	20	75912	0.896	4.69
9F20044-CAL9	50	192771	0.948	4.69
9F20044-CALA	100	370610	0.861	4.70
9F20044-CALB	200	726726	0.890	4.69

AVE RF **0.870** RF RSD **6.91** AVE RT **4.69**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	1079	0.254	4.76
9F20044-CAL5	2	2105	0.254	4.76
9F20044-CAL6	5	5714	0.271	4.76
9F20044-CAL7	10	11651	0.279	4.76
9F20044-CAL8	20	24079	0.284	4.76
9F20044-CAL9	50	62678	0.308	4.75
9F20044-CALA	100	119204	0.277	4.76
9F20044-CALB	200	232029	0.284	4.75

AVE RF **0.277** RF RSD **6.34** AVE RT **4.76**

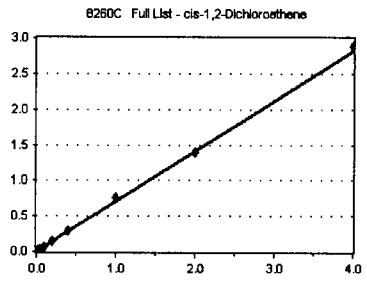
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

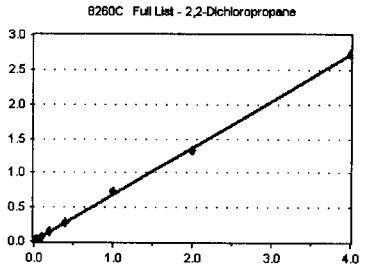


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1145	0.662	5.25
9F20044-CAL4	1	2829	0.667	5.26
9F20044-CAL5	2	5852	0.706	5.25
9F20044-CAL6	5	14214	0.675	5.25
9F20044-CAL7	10	30222	0.724	5.25
9F20044-CAL8	20	61245	0.723	5.25
9F20044-CAL9	50	155174	0.763	5.25
9F20044-CALA	100	300456	0.698	5.25
9F20044-CALB	200	588700	0.721	5.25

AVE RF **0.704** RF RSD **4.65** AVE RT **5.25**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

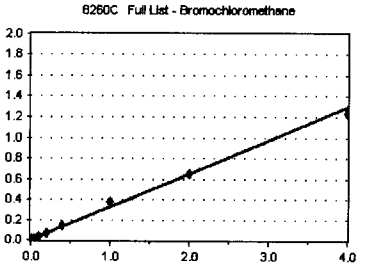


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	2775	0.654	5.36
9F20044-CAL5	2	5539	0.669	5.36
9F20044-CAL6	5	13609	0.647	5.36
9F20044-CAL7	10	29277	0.702	5.36
9F20044-CAL8	20	58610	0.692	5.36
9F20044-CAL9	50	148380	0.730	5.36
9F20044-CALA	100	285471	0.664	5.36
9F20044-CALB	200	554747	0.679	5.36

AVE RF **0.679** RF RSD **4.04** AVE RT **5.36**

Bromochloromethane

Curve Fit: **AVERAGE RF**

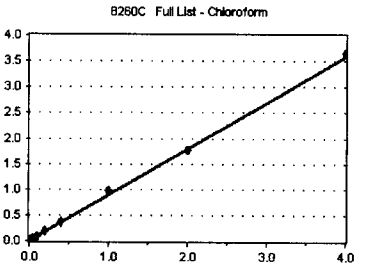


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	437	0.253	5.45
9F20044-CAL4	1	1297	0.306	5.45
9F20044-CAL5	2	2660	0.321	5.45
9F20044-CAL6	5	7111	0.338	5.46
9F20044-CAL7	10	14538	0.348	5.45
9F20044-CAL8	20	29415	0.347	5.45
9F20044-CAL9	50	76222	0.375	5.45
9F20044-CALA	100	140204	0.326	5.46
9F20044-CALB	200	252303	0.309	5.45

AVE RF **0.325** RF RSD **10.66** AVE RT **5.45**

Chloroform

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1469	0.849	5.54
9F20044-CAL4	1	3614	0.852	5.53
9F20044-CAL5	2	7377	0.890	5.53
9F20044-CAL6	5	18377	0.873	5.54
9F20044-CAL7	10	38632	0.926	5.54
9F20044-CAL8	20	77689	0.917	5.53
9F20044-CAL9	50	197721	0.972	5.54
9F20044-CALA	100	381891	0.888	5.54
9F20044-CALB	200	746862	0.914	5.53

AVE RF **0.898** RF RSD **4.36** AVE RT **5.53**

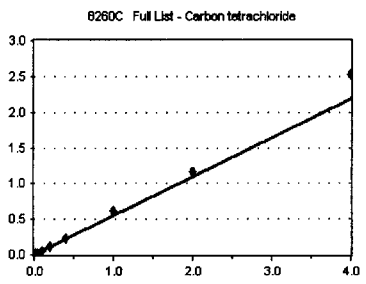
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Carbon tetrachloride

Curve Fit: **AVERAGE RF**

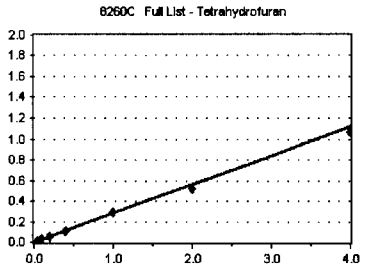


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~643~~	~~0.372~~	~~5.67~~
9F20044-CAL4	1	2061	0.486	5.66
9F20044-CAL5	2	4035	0.487	5.67
9F20044-CAL6	5	10336	0.491	5.67
9F20044-CAL7	10	22754	0.545	5.67
9F20044-CAL8	20	46960	0.554	5.66
9F20044-CAL9	50	124688	0.613	5.67
9F20044-CALA	100	251247	0.584	5.67
9F20044-CALB	200	516185	0.632	5.66

AVE RF **0.549** RF RSD **10.55** AVE RT **5.67**

Tetrahydrofuran

Curve Fit: **AVERAGE RF**

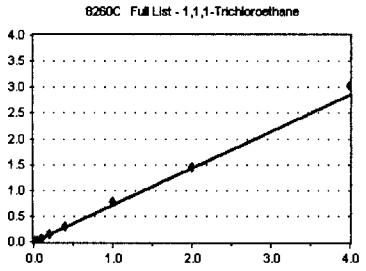


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL5	2	2546	0.307	5.71
9F20044-CAL6	5	6018	0.286	5.71
9F20044-CAL7	10	11859	0.284	5.71
9F20044-CAL8	20	22966	0.271	5.71
9F20044-CAL9	50	59864	0.294	5.70
9F20044-CALA	100	112665	0.262	5.71
9F20044-CALB	200	218470	0.267	5.70

AVE RF **0.282** RF RSD **5.70** AVE RT **5.71**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**

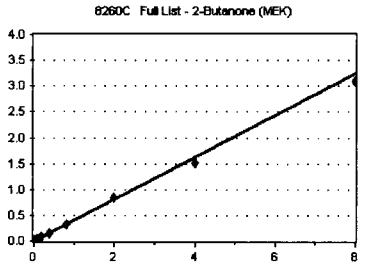


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1087	0.628	5.74
9F20044-CAL4	1	3002	0.707	5.74
9F20044-CAL5	2	5613	0.678	5.74
9F20044-CAL6	5	14420	0.685	5.74
9F20044-CAL7	10	30675	0.735	5.74
9F20044-CAL8	20	62914	0.743	5.74
9F20044-CAL9	50	159643	0.785	5.74
9F20044-CALA	100	311653	0.724	5.74
9F20044-CALB	200	617180	0.756	5.74

AVE RF **0.716** RF RSD **6.57** AVE RT **5.74**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	2	3724	0.439	5.87
9F20044-CAL5	4	7000	0.422	5.87
9F20044-CAL6	10	16551	0.393	5.86
9F20044-CAL7	20	33398	0.400	5.86
9F20044-CAL8	40	68176	0.402	5.86
9F20044-CAL9	100	172204	0.423	5.86
9F20044-CALA	200	323609	0.376	5.86
9F20044-CALB	400	633397	0.388	5.86

AVE RF **0.406** RF RSD **5.18** AVE RT **5.86**

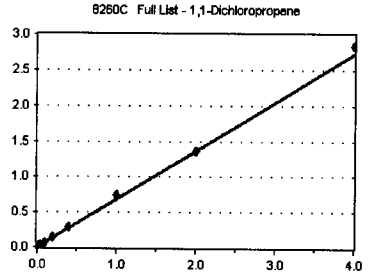
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

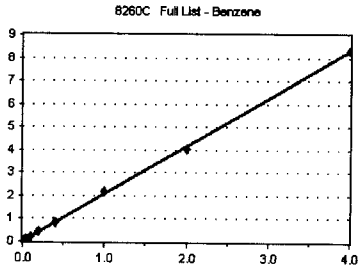


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1102	0.637	5.87
9F20044-CAL4	1	2702	0.637	5.88
9F20044-CAL5	2	5432	0.656	5.86
9F20044-CAL6	5	13797	0.655	5.87
9F20044-CAL7	10	29419	0.705	5.87
9F20044-CAL8	20	60592	0.715	5.86
9F20044-CAL9	50	151196	0.743	5.87
9F20044-CALA	100	293441	0.682	5.87
9F20044-CALB	200	579299	0.709	5.86

AVE RF **0.682** RF RSD **5.59** AVE RT **5.87**

Benzene

Curve Fit: **AVERAGE RF**

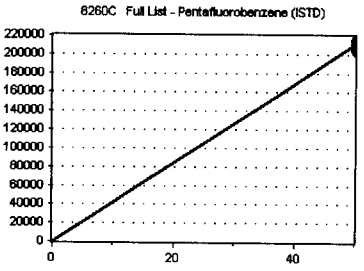


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1868	2.177	6.13
9F20044-CAL3	0.4	3614	2.088	6.13
9F20044-CAL4	1	8486	2.000	6.13
9F20044-CAL5	2	16870	2.036	6.13
9F20044-CAL6	5	42655	2.027	6.13
9F20044-CAL7	10	89017	2.133	6.13
9F20044-CAL8	20	177855	2.099	6.13
9F20044-CAL9	50	445865	2.193	6.13
9F20044-CALA	100	869915	2.022	6.13
9F20044-CALB	200	1701439	2.083	6.13

AVE RF **2.086** RF RSD **3.18** AVE RT **6.13**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

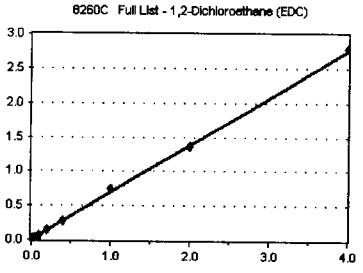


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	216252	4325.040	6.22
9F20044-CAL2	50	214495	4289.900	6.22
9F20044-CAL3	50	216322	4326.440	6.22
9F20044-CAL4	50	212184	4243.680	6.22
9F20044-CAL5	50	207120	4142.400	6.22
9F20044-CAL6	50	210483	4209.660	6.22
9F20044-CAL7	50	208672	4173.440	6.22
9F20044-CAL8	50	211811	4236.220	6.22
9F20044-CAL9	50	203359	4067.180	6.22
9F20044-CALA	50	215096	4301.920	6.22
9F20044-CALB	50	204201	4084.020	6.22

AVE RF **4218.173** RF RSD **2.18** AVE RT **6.22**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1039	0.600	6.35
9F20044-CAL4	1	2943	0.694	6.35
9F20044-CAL5	2	5701	0.688	6.35
9F20044-CAL6	5	14313	0.680	6.35
9F20044-CAL7	10	29731	0.712	6.35
9F20044-CAL8	20	59444	0.702	6.35
9F20044-CAL9	50	151724	0.746	6.35
9F20044-CALA	100	291619	0.678	6.35
9F20044-CALB	200	569728	0.698	6.34

AVE RF **0.689** RF RSD **5.65** AVE RT **6.35**

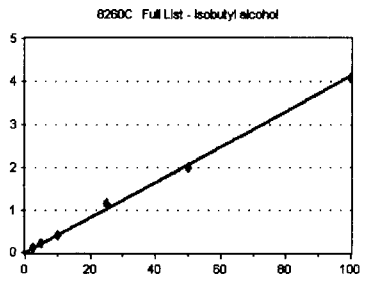
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Isobutyl alcohol

Curve Fit: **AVERAGE RF**

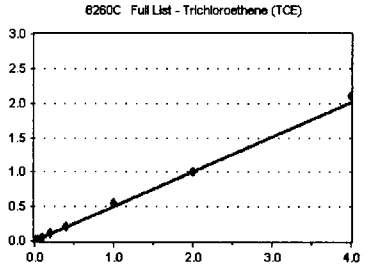


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~2.5~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~5~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~25~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL5~~	~~50~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL6	125	20716	0.039	6.38
9F20044-CAL7	250	42610	4.084	6.38
9F20044-CAL8	500	87748	0.041	6.38
9F20044-CAL9	1250	234023	0.046	6.38
9F20044-CALA	2500	428089	3.980	6.38
9F20044-CALB	5000	833289	4.081	6.38

AVE RF **4.138** RF RSD **5.80** AVE RT **6.38**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**

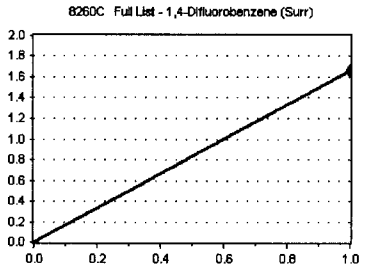


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	770	0.445	6.75
9F20044-CAL4	1	2094	0.493	6.75
9F20044-CAL5	2	3971	0.479	6.75
9F20044-CAL6	5	10321	0.490	6.75
9F20044-CAL7	10	22223	0.532	6.75
9F20044-CAL8	20	44514	0.525	6.75
9F20044-CAL9	50	110584	0.544	6.75
9F20044-CALA	100	217794	0.506	6.75
9F20044-CALB	200	429061	0.525	6.75

AVE RF **0.505** RF RSD **6.15** AVE RT **6.75**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

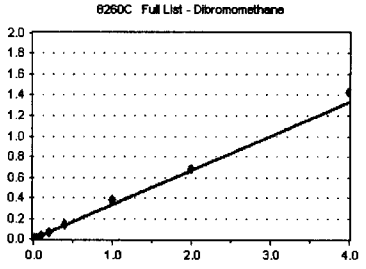


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	358207	1.656	6.79
9F20044-CAL2	50	352562	1.644	6.78
9F20044-CAL3	50	354384	1.638	6.79
9F20044-CAL4	50	356332	1.679	6.79
9F20044-CAL5	50	346645	1.674	6.79
9F20044-CAL6	50	351357	1.669	6.79
9F20044-CAL7	50	346503	1.661	6.79
9F20044-CAL8	50	352468	1.664	6.79
9F20044-CAL9	50	340921	1.676	6.79
9F20044-CALA	50	358617	1.667	6.79
9F20044-CALB	50	342426	1.677	6.79

AVE RF **1.664** RF RSD **0.81** AVE RT **6.79**

Dibromomethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	433	0.250	7.21
9F20044-CAL4	1	1305	0.308	7.20
9F20044-CAL5	2	2728	0.329	7.20
9F20044-CAL6	5	6909	0.328	7.21
9F20044-CAL7	10	14550	0.349	7.20
9F20044-CAL8	20	29571	0.349	7.20
9F20044-CAL9	50	76074	0.374	7.20
9F20044-CALA	100	147484	0.343	7.21
9F20044-CALB	200	291580	0.357	7.20

AVE RF **0.332** RF RSD **10.86** AVE RT **7.20**

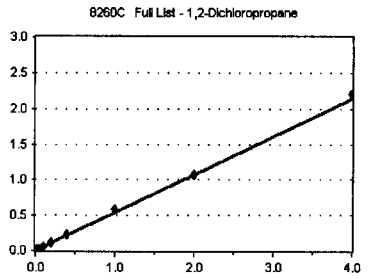
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

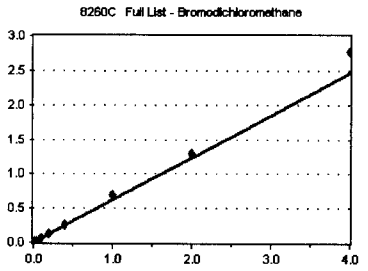


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	812	0.469	7.31
9F20044-CAL4	1	2194	0.517	7.31
9F20044-CAL5	2	4334	0.523	7.32
9F20044-CAL6	5	11150	0.530	7.32
9F20044-CAL7	10	23246	0.557	7.32
9F20044-CAL8	20	46799	0.552	7.32
9F20044-CAL9	50	117196	0.576	7.31
9F20044-CALA	100	229097	0.533	7.32
9F20044-CALB	200	449560	0.550	7.31

AVE RF **0.534** RF RSD **5.75** AVE RT **7.32**

Bromodichloromethane

Curve Fit: **AVERAGE RF**

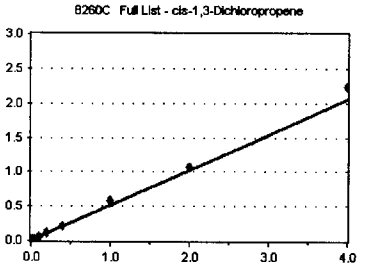


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	949	0.548	7.39
9F20044-CAL4	1	2265	0.534	7.39
9F20044-CAL5	2	4841	0.584	7.39
9F20044-CAL6	5	12311	0.585	7.39
9F20044-CAL7	10	26103	0.625	7.39
9F20044-CAL8	20	53614	0.633	7.39
9F20044-CAL9	50	141449	0.696	7.39
9F20044-CALA	100	279539	0.650	7.39
9F20044-CALB	200	565142	0.692	7.39

AVE RF **0.616** RF RSD **9.41** AVE RT **7.39**

cis-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

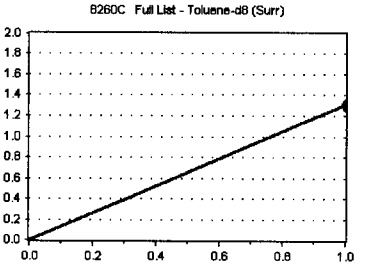


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1097	0.425	8.10
9F20044-CAL4	1	3024	0.471	8.10
9F20044-CAL5	2	6162	0.495	8.10
9F20044-CAL6	5	15503	0.488	8.10
9F20044-CAL7	10	33223	0.537	8.10
9F20044-CAL8	20	67880	0.528	8.10
9F20044-CAL9	50	179241	0.580	8.10
9F20044-CALA	100	350611	0.536	8.10
9F20044-CALB	200	697644	0.561	8.10

AVE RF **0.514** RF RSD **9.38** AVE RT **8.10**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	419867	1.314	8.30
9F20044-CAL2	50	416463	1.320	8.30
9F20044-CAL3	50	421971	1.309	8.30
9F20044-CAL4	50	417568	1.300	8.30
9F20044-CAL5	50	408908	1.314	8.30
9F20044-CAL6	50	413565	1.302	8.30
9F20044-CAL7	50	406176	1.314	8.30
9F20044-CAL8	50	416334	1.296	8.30
9F20044-CAL9	50	405204	1.312	8.30
9F20044-CALA	50	420397	1.286	8.30
9F20044-CALB	50	405261	1.304	8.30

AVE RF **1.306** RF RSD **0.76** AVE RT **8.30**

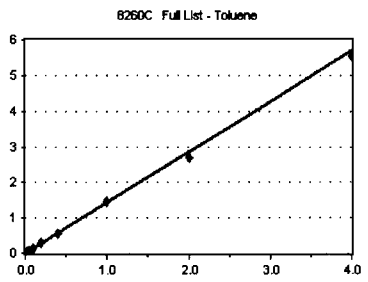
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Toluene

Curve Fit: **AVERAGE RF**

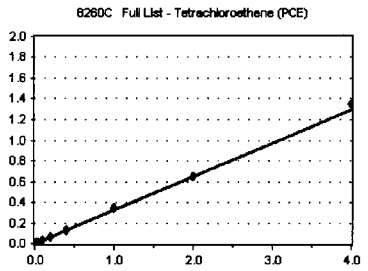


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.1	1033	1.616	8.36
9F20044-CAL2	0.2	1910	1.514	8.36
9F20044-CAL3	0.4	3651	1.416	8.36
9F20044-CAL4	1	8763	1.364	8.36
9F20044-CAL5	2	17144	1.377	8.36
9F20044-CAL6	5	42182	1.328	8.36
9F20044-CAL7	10	89825	1.453	8.36
9F20044-CAL8	20	182138	1.417	8.36
9F20044-CAL9	50	453767	1.469	8.36
9F20044-CALA	100	880744	1.347	8.36
9F20044-CALB	200	1725149	1.388	8.36

AVE RF **1.426** RF RSD **5.87** AVE RT **8.36**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

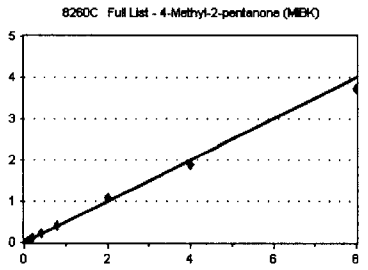


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	702	0.272	8.81
9F20044-CAL4	1	2059	0.321	8.80
9F20044-CAL5	2	3980	0.320	8.80
9F20044-CAL6	5	10061	0.317	8.80
9F20044-CAL7	10	21224	0.343	8.80
9F20044-CAL8	20	43326	0.337	8.80
9F20044-CAL9	50	106928	0.346	8.80
9F20044-CALA	100	211071	0.323	8.80
9F20044-CALB	200	419348	0.337	8.80

AVE RF **0.324** RF RSD **6.88** AVE RT **8.80**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**

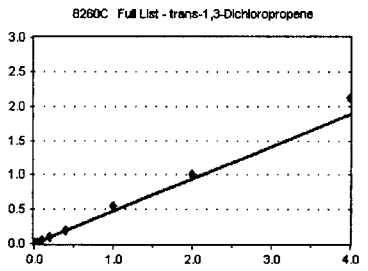


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.8~~	~~2659~~	~~0.516~~	~~8.82~~
~~9F20044-CAL4~~	~~2~~	~~6582~~	~~0.512~~	~~8.81~~
9F20044-CAL5	4	12326	0.495	8.81
9F20044-CAL6	10	31812	0.501	8.81
9F20044-CAL7	20	63594	0.514	8.80
9F20044-CAL8	40	131182	0.510	8.80
9F20044-CAL9	100	334688	0.542	8.80
9F20044-CALA	200	616521	0.471	8.80
9F20044-CALB	400	1160712	0.467	8.80

AVE RF **0.500** RF RSD **5.16** AVE RT **8.80**

trans-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1047	0.406	8.85
9F20044-CAL4	1	2700	0.420	8.85
9F20044-CAL5	2	5224	0.420	8.85
9F20044-CAL6	5	13846	0.436	8.85
9F20044-CAL7	10	29864	0.483	8.85
9F20044-CAL8	20	62988	0.490	8.84
9F20044-CAL9	50	168385	0.545	8.85
9F20044-CALA	100	328804	0.503	8.85
9F20044-CALB	200	658211	0.529	8.84

AVE RF **0.470** RF RSD **10.91** AVE RT **8.84**

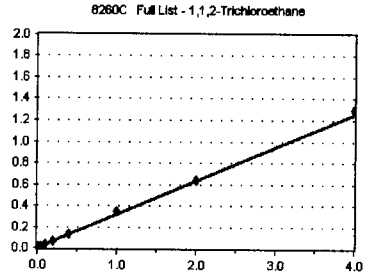
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**

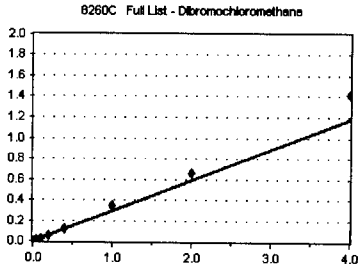


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	686	0.266	9.01
9F20044-CAL4	1	1850	0.288	9.02
9F20044-CAL5	2	3923	0.315	9.02
9F20044-CAL6	5	9783	0.308	9.01
9F20044-CAL7	10	20793	0.336	9.02
9F20044-CAL8	20	42325	0.329	9.01
9F20044-CAL9	50	107199	0.347	9.01
9F20044-CALA	100	208022	0.318	9.02
9F20044-CALB	200	402284	0.324	9.01

AVE RF **0.315** RF RSD **7.89** AVE RT **9.01**

Dibromochloromethane

Curve Fit: **AVERAGE RF**

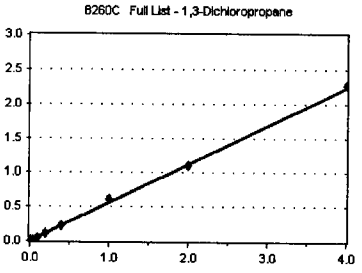


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~565~~	~~0.219~~	~~9.19~~
9F20044-CAL4	1	1527	0.238	9.20
9F20044-CAL5	2	3080	0.247	9.19
9F20044-CAL6	5	8356	0.263	9.19
9F20044-CAL7	10	17821	0.288	9.19
9F20044-CAL8	20	38368	0.299	9.19
9F20044-CAL9	50	105586	0.342	9.19
9F20044-CALA	100	215589	0.330	9.19
9F20044-CALB	200	439963	0.354	9.19

AVE RF **0.295** RF RSD **14.87** AVE RT **9.19**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

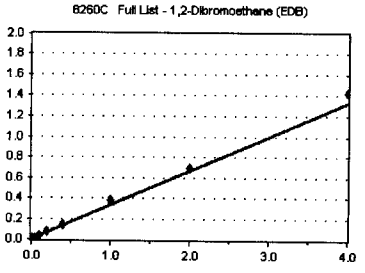


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1270	0.493	9.30
9F20044-CAL4	1	3534	0.550	9.30
9F20044-CAL5	2	6955	0.559	9.30
9F20044-CAL6	5	17813	0.561	9.30
9F20044-CAL7	10	36030	0.583	9.30
9F20044-CAL8	20	73700	0.573	9.30
9F20044-CAL9	50	188838	0.611	9.30
9F20044-CALA	100	360265	0.551	9.30
9F20044-CALB	200	703363	0.566	9.30

AVE RF **0.561** RF RSD **5.67** AVE RT **9.30**

1,2-Dibromoethane (EDB)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	297	0.235	9.44
9F20044-CAL3	0.4	766	0.297	9.44
9F20044-CAL4	1	2008	0.313	9.43
9F20044-CAL5	2	4093	0.329	9.44
9F20044-CAL6	5	10703	0.337	9.43
9F20044-CAL7	10	22272	0.360	9.43
9F20044-CAL8	20	45760	0.356	9.43
9F20044-CAL9	50	117678	0.381	9.43
9F20044-CALA	100	227284	0.348	9.43
9F20044-CALB	200	444681	0.358	9.43

AVE RF **0.331** RF RSD **12.58** AVE RT **9.43**

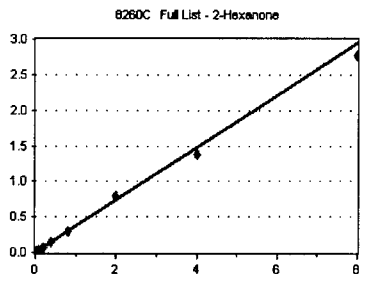
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

2-Hexanone

Curve Fit: **AVERAGE RF**

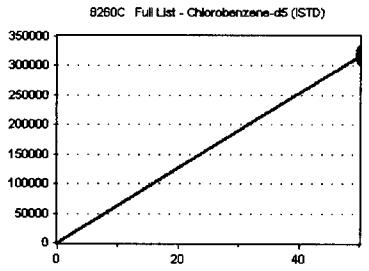


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.8	1999	0.388	9.67
9F20044-CAL4	2	4754	0.370	9.66
9F20044-CAL5	4	8923	0.358	9.66
9F20044-CAL6	10	22445	0.353	9.66
9F20044-CAL7	20	47165	0.381	9.66
9F20044-CAL8	40	95510	0.372	9.66
9F20044-CAL9	100	246411	0.399	9.66
9F20044-CALA	200	451887	0.346	9.66
9F20044-CALB	400	863303	0.347	9.66

AVE RF **0.368** RF RSD **5.06** AVE RT **9.66**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

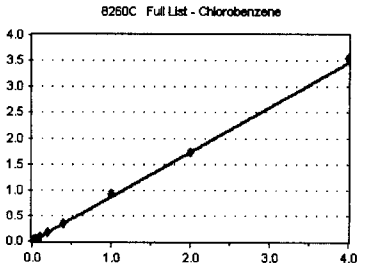


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	319588	6391.760	9.92
9F20044-CAL2	50	315477	6309.540	9.92
9F20044-CAL3	50	322309	6446.180	9.92
9F20044-CAL4	50	321130	6422.600	9.92
9F20044-CAL5	50	311234	6224.680	9.92
9F20044-CAL6	50	317560	6351.200	9.92
9F20044-CAL7	50	309194	6183.880	9.92
9F20044-CAL8	50	321290	6425.800	9.92
9F20044-CAL9	50	308920	6178.400	9.92
9F20044-CALA	50	326979	6539.580	9.92
9F20044-CALB	50	310773	6215.460	9.92

AVE RF **6335.371** RF RSD **1.92** AVE RT **9.92**

Chlorobenzene

Curve Fit: **AVERAGE RF**

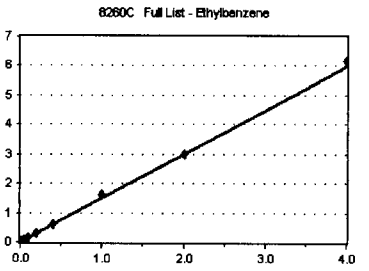


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1008	0.799	9.93
9F20044-CAL3	0.4	2135	0.828	9.93
9F20044-CAL4	1	5419	0.844	9.93
9F20044-CAL5	2	10769	0.865	9.93
9F20044-CAL6	5	27201	0.857	9.93
9F20044-CAL7	10	56373	0.912	9.93
9F20044-CAL8	20	114554	0.891	9.93
9F20044-CAL9	50	287748	0.931	9.93
9F20044-CALA	100	563709	0.862	9.93
9F20044-CALB	200	1098798	0.884	9.93

AVE RF **0.867** RF RSD **4.53** AVE RT **9.93**

Ethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.1	867	1.356	9.96
9F20044-CAL2	0.2	1959	1.552	9.96
9F20044-CAL3	0.4	3623	1.405	9.96
9F20044-CAL4	1	9234	1.438	9.96
9F20044-CAL5	2	17924	1.440	9.96
9F20044-CAL6	5	46640	1.469	9.96
9F20044-CAL7	10	97148	1.571	9.96
9F20044-CAL8	20	199043	1.549	9.96
9F20044-CAL9	50	500499	1.620	9.96
9F20044-CALA	100	976571	1.493	9.96
9F20044-CALB	200	1912618	1.539	9.96

AVE RF **1.494** RF RSD **5.35** AVE RT **9.96**

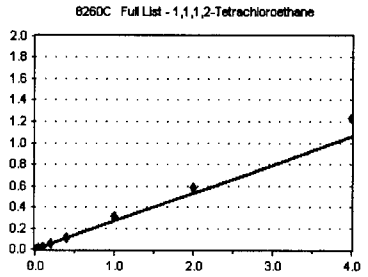
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,1,1,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

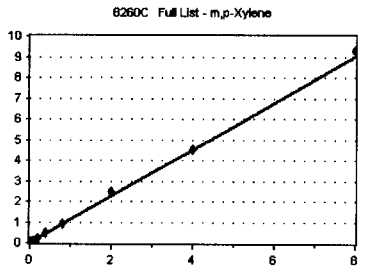


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~225~~	~~0.178~~	~~10.00~~
9F20044-CAL3	0.4	526	0.204	10.00
9F20044-CAL4	1	1352	0.211	9.99
9F20044-CAL5	2	3145	0.253	10.00
9F20044-CAL6	5	7859	0.247	10.00
9F20044-CAL7	10	17145	0.277	10.00
9F20044-CAL8	20	36071	0.281	10.00
9F20044-CAL9	50	95349	0.309	10.00
9F20044-CALA	100	191370	0.293	10.00
9F20044-CALB	200	384611	0.309	10.00

AVE RF **0.265** RF RSD **14.74** AVE RT **9.99**

m,p-Xylene

Curve Fit: **AVERAGE RF**

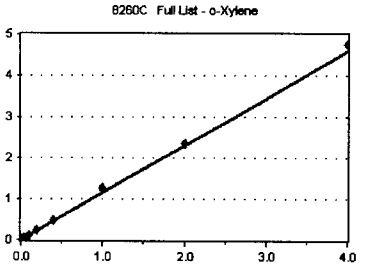


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.2	1349	1.055	10.09
9F20044-CAL2	0.4	2948	1.168	10.09
9F20044-CAL3	0.8	5389	1.045	10.09
9F20044-CAL4	2	13780	1.073	10.09
9F20044-CAL5	4	26844	1.078	10.09
9F20044-CAL6	10	69099	1.088	10.09
9F20044-CAL7	20	146011	1.181	10.09
9F20044-CAL8	40	297370	1.157	10.09
9F20044-CAL9	100	761093	1.232	10.09
9F20044-CALA	200	1487683	1.137	10.09
9F20044-CALB	400	2895454	1.165	10.09

AVE RF **1.125** RF RSD **5.38** AVE RT **10.09**

o-Xylene

Curve Fit: **AVERAGE RF**

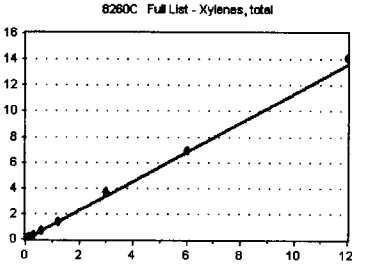


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.1	703	1.100	10.48
9F20044-CAL2	0.2	1371	1.086	10.48
9F20044-CAL3	0.4	2671	1.036	10.48
9F20044-CAL4	1	6999	1.090	10.47
9F20044-CAL5	2	14152	1.137	10.47
9F20044-CAL6	5	35226	1.109	10.47
9F20044-CAL7	10	75737	1.225	10.47
9F20044-CAL8	20	154063	1.199	10.47
9F20044-CAL9	50	393871	1.275	10.47
9F20044-CALA	100	764933	1.170	10.47
9F20044-CALB	200	1481357	1.192	10.47

AVE RF **1.147** RF RSD **6.21** AVE RT **10.47**

Xylenes, total

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.3	2052	1.070	10.48
9F20044-CAL2	0.6	4319	1.141	10.48
9F20044-CAL3	1.2	8060	1.042	10.48
9F20044-CAL4	3	20779	1.078	10.47
9F20044-CAL5	6	40996	1.098	10.47
9F20044-CAL6	15	104325	1.095	10.47
9F20044-CAL7	30	221748	1.195	10.47
9F20044-CAL8	60	451433	1.171	10.47
9F20044-CAL9	150	1154964	1.246	10.47
9F20044-CALA	300	2252616	1.148	10.47
9F20044-CALB	600	4376811	1.174	10.47

AVE RF **1.133** RF RSD **5.44** AVE RT **10.47**

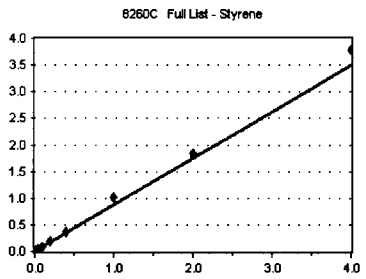
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Styrene

Curve Fit: **AVERAGE RF**

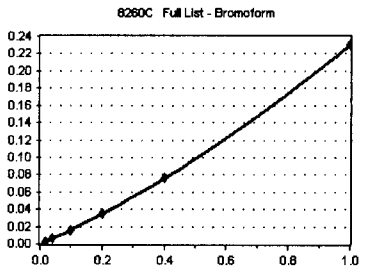


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	998	0.791	10.52
9F20044-CAL3	0.4	1902	0.738	10.52
9F20044-CAL4	1	5129	0.799	10.52
9F20044-CAL5	2	10275	0.825	10.52
9F20044-CAL6	5	26982	0.850	10.52
9F20044-CAL7	10	58587	0.947	10.52
9F20044-CAL8	20	120508	0.938	10.52
9F20044-CAL9	50	310680	1.006	10.52
9F20044-CALA	100	603050	0.922	10.52
9F20044-CALB	200	1179064	0.948	10.52

AVE RF **0.876** RF RSD **9.97** AVE RT **10.52**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

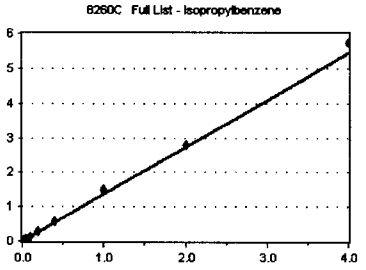


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	864	0.135	10.55
9F20044-CAL5	2	1903	0.153	10.54
9F20044-CAL6	5	5086	0.160	10.54
9F20044-CAL7	10	10720	0.173	10.54
9F20044-CAL8	20	24635	0.192	10.54
9F20044-CAL9	50	71192	0.230	10.54
~~9F20044-CALA~~	~~100~~	~~146715~~	~~0.224~~	~~10.54~~
~~9F20044-CALB~~	~~200~~	~~304762~~	~~0.245~~	~~10.54~~

AVE RF **0.174** RF RSD **19.42** AVE RT **10.54**

Isopropylbenzene

Curve Fit: **AVERAGE RF**

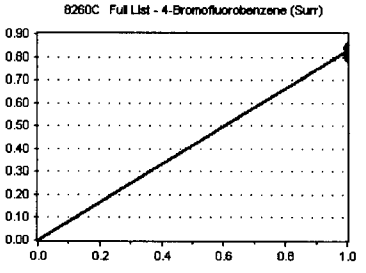


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1594	1.263	10.74
9F20044-CAL3	0.4	3170	1.229	10.74
9F20044-CAL4	1	8025	1.249	10.74
9F20044-CAL5	2	16331	1.312	10.74
9F20044-CAL6	5	41584	1.309	10.74
9F20044-CAL7	10	90064	1.456	10.74
9F20044-CAL8	20	183642	1.429	10.74
9F20044-CAL9	50	464969	1.505	10.74
9F20044-CALA	100	915044	1.399	10.74
9F20044-CALB	200	1780791	1.433	10.74

AVE RF **1.359** RF RSD **7.17** AVE RT **10.74**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	122172	0.846	10.98
9F20044-CAL2	50	119949	0.839	10.98
9F20044-CAL3	50	123411	0.838	10.98
9F20044-CAL4	50	121837	0.836	10.98
9F20044-CAL5	50	118488	0.834	10.98
9F20044-CAL6	50	122376	0.833	10.98
9F20044-CAL7	50	120665	0.839	10.98
9F20044-CAL8	50	126396	0.824	10.98
9F20044-CAL9	50	122539	0.813	10.98
9F20044-CALA	50	127873	0.809	10.98
9F20044-CALB	50	118374	0.800	10.98

AVE RF **0.828** RF RSD **1.79** AVE RT **10.98**

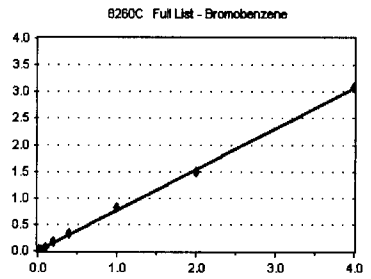
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Bromobenzene

Curve Fit: **AVERAGE RF**

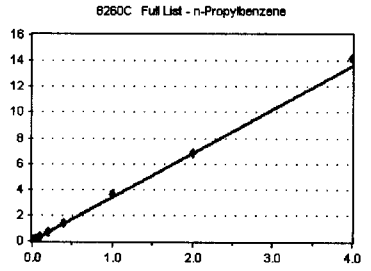


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	406	0.710	11.06
9F20044-CAL3	0.4	864	0.734	11.07
9F20044-CAL4	1	2205	0.757	11.06
9F20044-CAL5	2	4450	0.783	11.07
9F20044-CAL6	5	10912	0.743	11.07
9F20044-CAL7	10	23575	0.820	11.07
9F20044-CAL8	20	48339	0.788	11.07
9F20044-CAL9	50	122510	0.813	11.07
9F20044-CALA	100	235375	0.744	11.07
9F20044-CALB	200	457253	0.773	11.06

AVE RF **0.766** RF RSD **4.61** AVE RT **11.06**

n-Propylbenzene

Curve Fit: **AVERAGE RF**

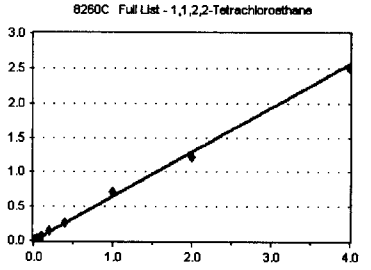


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1849	3.231	11.08
9F20044-CAL3	0.4	3601	3.058	11.08
9F20044-CAL4	1	9689	3.326	11.08
9F20044-CAL5	2	18778	3.305	11.08
9F20044-CAL6	5	48510	3.303	11.08
9F20044-CAL7	10	105162	3.657	11.08
9F20044-CAL8	20	216830	3.533	11.08
9F20044-CAL9	50	552123	3.664	11.08
9F20044-CALA	100	1076928	3.406	11.08
9F20044-CALB	200	2100401	3.549	11.08

AVE RF **3.403** RF RSD **5.76** AVE RT **11.08**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

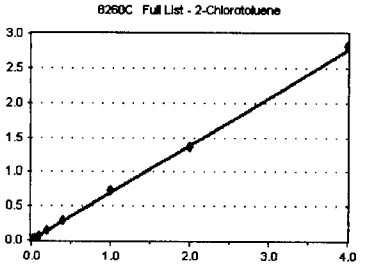


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	327	0.571	11.15
9F20044-CAL3	0.4	707	0.600	11.15
9F20044-CAL4	1	1857	0.637	11.15
9F20044-CAL5	2	3674	0.647	11.15
9F20044-CAL6	5	9734	0.663	11.15
9F20044-CAL7	10	20049	0.697	11.15
9F20044-CAL8	20	40959	0.667	11.15
9F20044-CAL9	50	106308	0.706	11.15
9F20044-CALA	100	191420	0.605	11.15
9F20044-CALB	200	370226	0.626	11.14

AVE RF **0.642** RF RSD **6.68** AVE RT **11.14**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	771	0.655	11.21
9F20044-CAL4	1	1852	0.636	11.21
9F20044-CAL5	2	3795	0.668	11.21
9F20044-CAL6	5	9766	0.665	11.21
9F20044-CAL7	10	21062	0.732	11.21
9F20044-CAL8	20	43622	0.711	11.21
9F20044-CAL9	50	110540	0.734	11.21
9F20044-CALA	100	215672	0.682	11.21
9F20044-CALB	200	417067	0.705	11.21

AVE RF **0.687** RF RSD **5.06** AVE RT **11.21**

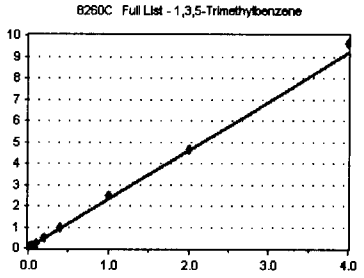
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**

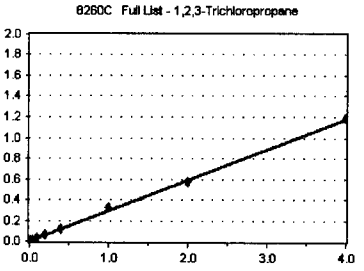


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1280	2.237	11.24
9F20044-CAL3	0.4	2531	2.149	11.24
9F20044-CAL4	1	6421	2.204	11.24
9F20044-CAL5	2	12170	2.142	11.24
9F20044-CAL6	5	32548	2.216	11.24
9F20044-CAL7	10	70618	2.456	11.24
9F20044-CAL8	20	146061	2.380	11.24
9F20044-CAL9	50	374460	2.485	11.24
9F20044-CALA	100	734923	2.325	11.24
9F20044-CALB	200	1425435	2.408	11.24

AVE RF **2.300** RF RSD **5.52** AVE RT **11.24**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**

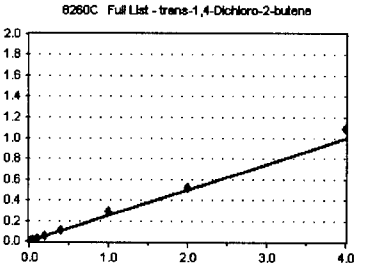


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	243	0.206	11.25
9F20044-CAL4	1	858	0.294	11.25
9F20044-CAL5	2	1731	0.305	11.25
9F20044-CAL6	5	4458	0.304	11.25
9F20044-CAL7	10	9348	0.325	11.25
9F20044-CAL8	20	19069	0.311	11.25
9F20044-CAL9	50	48655	0.323	11.25
9F20044-CALA	100	91426	0.289	11.25
9F20044-CALB	200	175270	0.296	11.25

AVE RF **0.295** RF RSD **11.99** AVE RT **11.25**

trans-1,4-Dichloro-2-butene

Curve Fit: **AVERAGE RF**

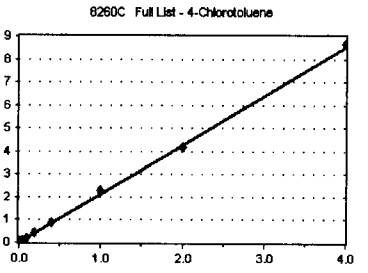


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	218	0.185	11.29
9F20044-CAL4	1	668	0.229	11.28
9F20044-CAL5	2	1245	0.219	11.29
9F20044-CAL6	5	3644	0.248	11.28
9F20044-CAL7	10	7647	0.266	11.29
9F20044-CAL8	20	16429	0.268	11.29
9F20044-CAL9	50	44053	0.292	11.29
9F20044-CALA	100	81928	0.259	11.29
9F20044-CALB	200	161119	0.272	11.28

AVE RF **0.249** RF RSD **13.12** AVE RT **11.28**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1252	2.188	11.35
9F20044-CAL3	0.4	2288	1.943	11.35
9F20044-CAL4	1	6153	2.112	11.34
9F20044-CAL5	2	11633	2.048	11.34
9F20044-CAL6	5	30340	2.066	11.34
9F20044-CAL7	10	64861	2.256	11.34
9F20044-CAL8	20	134477	2.191	11.34
9F20044-CAL9	50	342004	2.270	11.34
9F20044-CALA	100	657809	2.081	11.34
9F20044-CALB	200	1277794	2.159	11.34

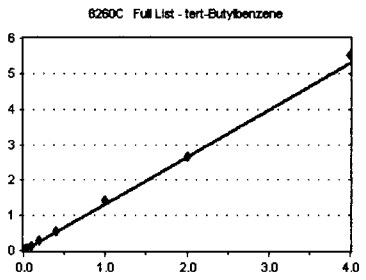
AVE RF **2.131** RF RSD **4.75** AVE RT **11.34**

Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

tert-Butylbenzene

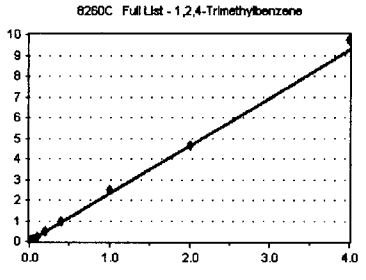


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	742	1.297	11.49
9F20044-CAL3	0.4	1379	1.171	11.49
9F20044-CAL4	1	3735	1.282	11.49
9F20044-CAL5	2	7529	1.325	11.49
9F20044-CAL6	5	18913	1.288	11.49
9F20044-CAL7	10	40180	1.397	11.49
9F20044-CAL8	20	83942	1.368	11.49
9F20044-CAL9	50	215295	1.429	11.49
9F20044-CALA	100	418585	1.324	11.49
9F20044-CALB	200	813927	1.375	11.49

AVE RF **1.326** RF RSD **5.52** AVE RT **11.49**

1,2,4-Trimethylbenzene

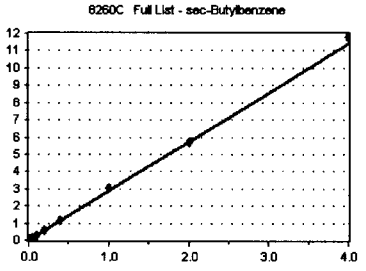


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1259	2.200	11.54
9F20044-CAL3	0.4	2364	2.007	11.54
9F20044-CAL4	1	6535	2.243	11.54
9F20044-CAL5	2	12644	2.226	11.54
9F20044-CAL6	5	32738	2.229	11.54
9F20044-CAL7	10	71009	2.470	11.54
9F20044-CAL8	20	147716	2.407	11.54
9F20044-CAL9	50	378562	2.512	11.54
9F20044-CALA	100	737015	2.331	11.54
9F20044-CALB	200	1441707	2.436	11.54

AVE RF **2.306** RF RSD **6.68** AVE RT **11.54**

sec-Butylbenzene

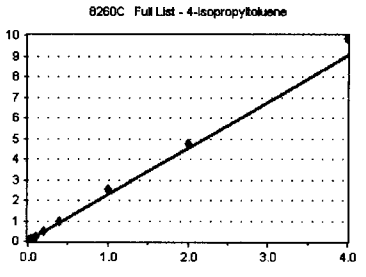


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1695	2.962	11.63
9F20044-CAL3	0.4	3002	2.549	11.63
9F20044-CAL4	1	8087	2.776	11.63
9F20044-CAL5	2	15209	2.677	11.63
9F20044-CAL6	5	39995	2.723	11.63
9F20044-CAL7	10	86944	3.024	11.63
9F20044-CAL8	20	180863	2.947	11.63
9F20044-CAL9	50	462445	3.069	11.63
9F20044-CALA	100	901848	2.853	11.63
9F20044-CALB	200	1744647	2.948	11.63

AVE RF **2.853** RF RSD **5.86** AVE RT **11.63**

4-Isopropyltoluene



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1137	1.987	11.73
9F20044-CAL3	0.4	2328	1.977	11.73
9F20044-CAL4	1	6051	2.077	11.73
9F20044-CAL5	2	12207	2.149	11.73
9F20044-CAL6	5	32047	2.182	11.73
9F20044-CAL7	10	69238	2.408	11.73
9F20044-CAL8	20	145889	2.377	11.73
9F20044-CAL9	50	381484	2.532	11.73
9F20044-CALA	100	747978	2.366	11.73
9F20044-CALB	200	1456273	2.460	11.73

AVE RF **2.251** RF RSD **8.97** AVE RT **11.73**

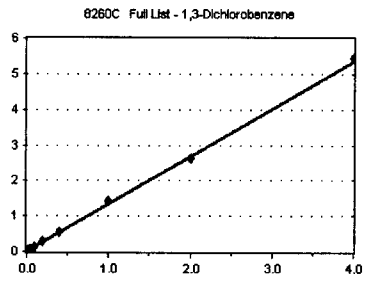
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

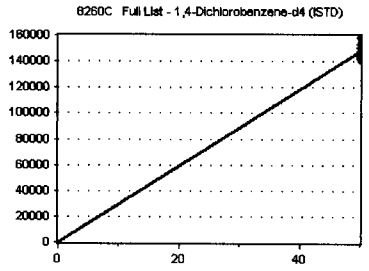


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	722	1.262	11.80
9F20044-CAL3	0.4	1483	1.259	11.80
9F20044-CAL4	1	3906	1.341	11.80
9F20044-CAL5	2	7534	1.326	11.80
9F20044-CAL6	5	19276	1.312	11.80
9F20044-CAL7	10	40809	1.419	11.80
9F20044-CAL8	20	84752	1.381	11.80
9F20044-CAL9	50	214935	1.426	11.80
9F20044-CALA	100	416625	1.318	11.80
9F20044-CALB	200	808417	1.366	11.80

AVE RF **1.341** RF RSD **4.32** AVE RT **11.80**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**

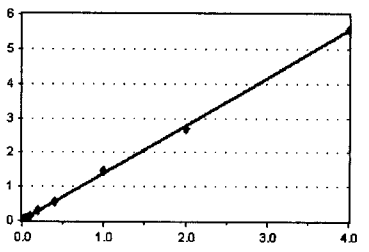


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	144355	2887.100	11.86
9F20044-CAL2	50	143049	2860.980	11.86
9F20044-CAL3	50	147216	2944.320	11.86
9F20044-CAL4	50	145672	2913.440	11.86
9F20044-CAL5	50	142034	2840.680	11.86
9F20044-CAL6	50	146868	2937.360	11.86
9F20044-CAL7	50	143770	2875.400	11.86
9F20044-CAL8	50	153422	3068.440	11.86
9F20044-CAL9	50	150676	3013.520	11.86
9F20044-CALA	50	158080	3161.600	11.86
9F20044-CALB	50	147969	2959.380	11.86

AVE RF **2951.111** RF RSD **3.28** AVE RT **11.86**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

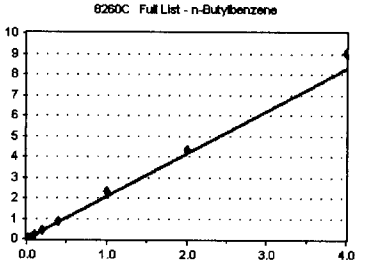


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	760	1.328	11.87
9F20044-CAL3	0.4	1589	1.349	11.87
9F20044-CAL4	1	4031	1.384	11.87
9F20044-CAL5	2	7885	1.388	11.87
9F20044-CAL6	5	20166	1.373	11.87
9F20044-CAL7	10	41265	1.435	11.87
9F20044-CAL8	20	86143	1.404	11.87
9F20044-CAL9	50	219818	1.459	11.87
9F20044-CALA	100	424379	1.342	11.87
9F20044-CALB	200	818316	1.383	11.87

AVE RF **1.384** RF RSD **2.93** AVE RT **11.87**

n-Butylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1025	1.791	12.05
9F20044-CAL3	0.4	2284	1.939	12.05
9F20044-CAL4	1	5420	1.860	12.05
9F20044-CAL5	2	10983	1.933	12.05
9F20044-CAL6	5	29388	2.001	12.05
9F20044-CAL7	10	63502	2.208	12.05
9F20044-CAL8	20	134600	2.193	12.05
9F20044-CAL9	50	347856	2.309	12.05
9F20044-CALA	100	684028	2.164	12.05
9F20044-CALB	200	1332336	2.251	12.05

AVE RF **2.065** RF RSD **8.76** AVE RT **12.05**

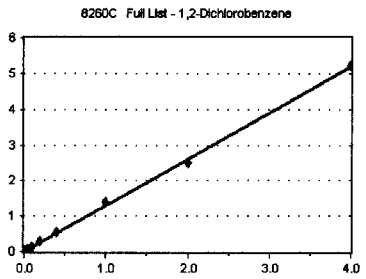
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

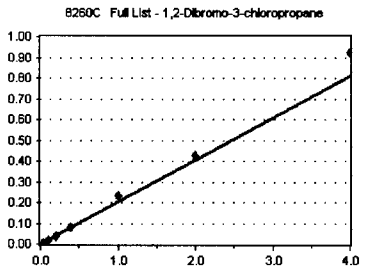


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	689	1.204	12.19
9F20044-CAL3	0.4	1424	1.209	12.19
9F20044-CAL4	1	3854	1.323	12.19
9F20044-CAL5	2	7242	1.275	12.19
9F20044-CAL6	5	18834	1.282	12.19
9F20044-CAL7	10	39721	1.381	12.19
9F20044-CAL8	20	82461	1.344	12.19
9F20044-CAL9	50	212354	1.409	12.19
9F20044-CALA	100	396257	1.253	12.19
9F20044-CALB	200	774584	1.309	12.19

AVE RF **1.299** RF RSD **5.24** AVE RT **12.19**

1,2-Dibromo-3-chloropropane

Curve Fit: **AVERAGE RF**

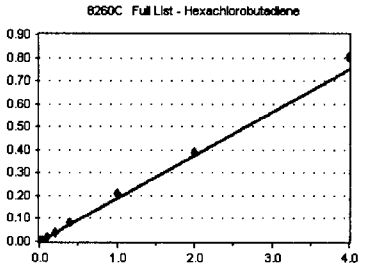


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~1~~	~~404~~	~~0.139~~	~~12.81~~
9F20044-CAL5	2	981	0.173	12.81
9F20044-CAL6	5	2495	0.170	12.81
9F20044-CAL7	10	5649	0.196	12.81
9F20044-CAL8	20	12521	0.204	12.81
9F20044-CAL9	50	35049	0.233	12.81
9F20044-CALA	100	67160	0.212	12.81
9F20044-CALB	200	136786	0.231	12.81

AVE RF **0.203** RF RSD **12.44** AVE RT **12.81**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

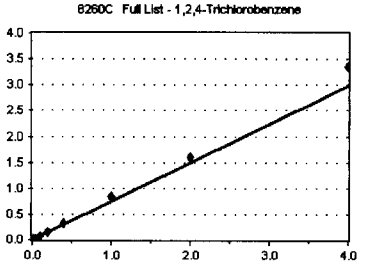


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	435	0.149	13.31
9F20044-CAL5	2	934	0.164	13.32
9F20044-CAL6	5	2508	0.171	13.31
9F20044-CAL7	10	5826	0.203	13.31
9F20044-CAL8	20	12574	0.205	13.31
9F20044-CAL9	50	31871	0.212	13.31
9F20044-CALA	100	61323	0.194	13.31
9F20044-CALB	200	118721	0.201	13.31

AVE RF **0.187** RF RSD **12.10** AVE RT **13.31**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	646	0.549	13.36
9F20044-CAL4	1	1991	0.683	13.35
9F20044-CAL5	2	3993	0.703	13.35
9F20044-CAL6	5	10341	0.704	13.35
9F20044-CAL7	10	22943	0.798	13.35
9F20044-CAL8	20	49011	0.799	13.35
9F20044-CAL9	50	128307	0.852	13.35
9F20044-CALA	100	252382	0.798	13.35
9F20044-CALB	200	496669	0.839	13.35

AVE RF **0.747** RF RSD **12.92** AVE RT **13.35**

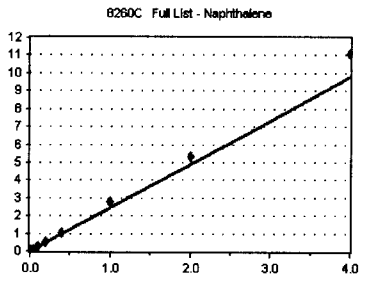
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Naphthalene

Curve Fit: **AVERAGE RF**

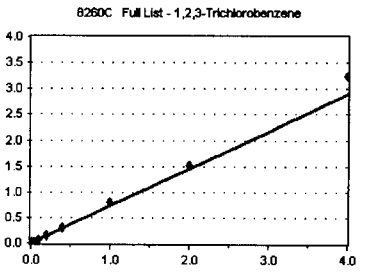


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	2544	2.160	13.63
9F20044-CAL4	1	6018	2.066	13.63
9F20044-CAL5	2	12353	2.174	13.63
9F20044-CAL6	5	33574	2.286	13.63
9F20044-CAL7	10	72663	2.527	13.63
9F20044-CAL8	20	157738	2.570	13.63
9F20044-CAL9	50	419902	2.787	13.63
9F20044-CALA	100	840999	2.660	13.63
9F20044-CALB	200	1636463	2.765	13.63

AVE RF **2.444** RF RSD **11.31** AVE RT **13.63**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	669	0.568	13.79
9F20044-CAL4	1	1982	0.680	13.79
9F20044-CAL5	2	3953	0.696	13.79
9F20044-CAL6	5	10056	0.685	13.79
9F20044-CAL7	10	21767	0.757	13.79
9F20044-CAL8	20	46693	0.761	13.79
9F20044-CAL9	50	121910	0.809	13.79
9F20044-CALA	100	240292	0.760	13.79
9F20044-CALB	200	480782	0.812	13.79

AVE RF **0.725** RF RSD **10.61** AVE RT **13.79**

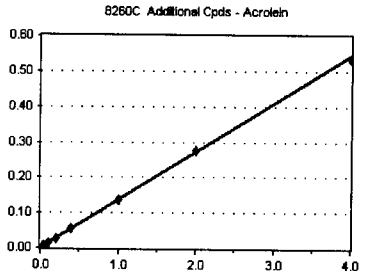
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Acrolein

Curve Fit: **AVERAGE RF**

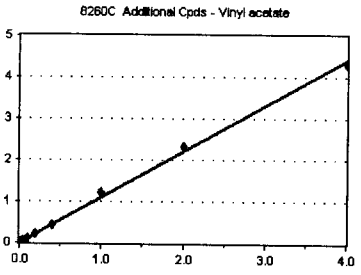


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL5	2	1243	0.150	3.63
9F20044-CAL6	5	2633	0.125	3.63
9F20044-CAL7	10	5612	0.134	3.63
9F20044-CAL8	20	11354	0.134	3.63
9F20044-CAL9	50	27909	0.137	3.63
9F20044-CALA	100	59402	0.138	3.63
9F20044-CALB	200	109382	0.134	3.63

AVE RF **0.136** RF RSD **5.47** AVE RT **3.63**

Vinyl acetate

Curve Fit: **AVERAGE RF**

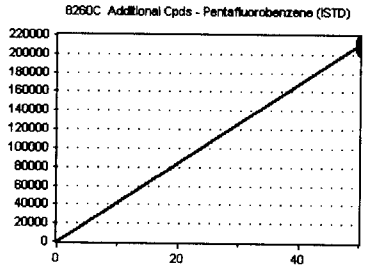


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	4452	1.049	4.98
9F20044-CAL5	2	9168	1.107	4.96
9F20044-CAL6	5	23059	1.096	4.96
9F20044-CAL7	10	42948	1.029	4.96
9F20044-CAL8	20	90782	1.071	4.96
9F20044-CAL9	50	245025	1.205	4.96
9F20044-CALA	100	502043	1.167	4.96
9F20044-CALB	200	884370	1.083	4.96

AVE RF **1.101** RF RSD **5.35** AVE RT **4.96**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

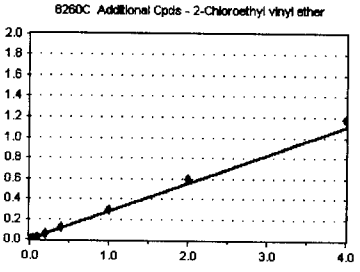


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	216252	4325.040	6.22
9F20044-CAL2	50	214495	4289.900	6.22
9F20044-CAL3	50	216322	4326.440	6.22
9F20044-CAL4	50	212184	4243.680	6.22
9F20044-CAL5	50	207120	4142.400	6.22
9F20044-CAL6	50	210483	4209.660	6.22
9F20044-CAL7	50	208672	4173.440	6.22
9F20044-CAL8	50	211811	4236.220	6.22
9F20044-CAL9	50	203359	4067.180	6.22
9F20044-CALA	50	215096	4301.920	6.22
9F20044-CALB	50	204201	4084.020	6.22

AVE RF **4218.173** RF RSD **2.18** AVE RT **6.22**

2-Chloroethyl vinyl ether

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	1514	0.236	8.03
9F20044-CAL5	2	3031	0.243	8.03
9F20044-CAL6	5	8448	0.266	8.03
9F20044-CAL7	10	17440	0.282	8.03
9F20044-CAL8	20	36879	0.287	8.03
9F20044-CAL9	50	90290	0.292	8.03
9F20044-CALA	100	194477	0.297	8.03
9F20044-CALB	200	365213	0.294	8.03

AVE RF **0.275** RF RSD **8.66** AVE RT **8.03**

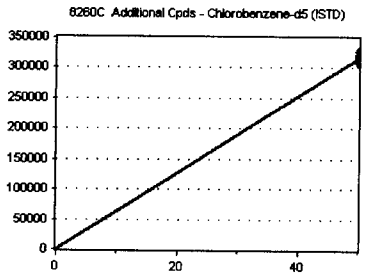
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	319588	6391.760	9.92
9F20044-CAL2	50	315477	6309.540	9.92
9F20044-CAL3	50	322309	6446.180	9.92
9F20044-CAL4	50	321130	6422.600	9.92
9F20044-CAL5	50	311234	6224.680	9.92
9F20044-CAL6	50	317560	6351.200	9.92
9F20044-CAL7	50	309194	6183.880	9.92
9F20044-CAL8	50	321290	6425.800	9.92
9F20044-CAL9	50	308920	6178.400	9.92
9F20044-CALA	50	326979	6539.580	9.92
9F20044-CALB	50	310773	6215.460	9.92

AVE RF **6335.371** RF RSD **1.92** AVE RT **9.92**

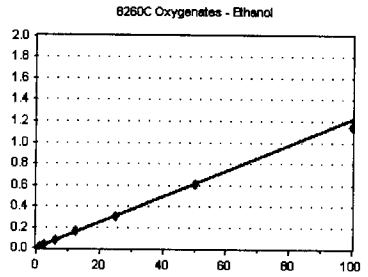
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Ethanol

Curve Fit: **AVERAGE RF**

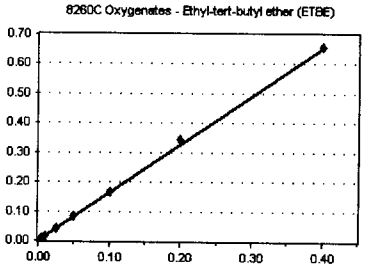


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~6.25~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~12.5~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~25~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	62.5	3359	1.266	0.00
9F20044-CAL5	125	6404	1.237	0.00
9F20044-CAL6	312	16135	1.228	0.00
9F20044-CAL7	625	32934	1.263	0.00
9F20044-CAL8	1250	64932	1.226	0.00
9F20044-CAL9	2500	122303	1.203	0.00
9F20044-CALA	5000	245570	1.142	0.00

AVE RF **1.224** RF RSD **3.45** AVE RT **0.00**

Ethyl-tert-butyl ether (ETBE)

Curve Fit: **AVERAGE RF**

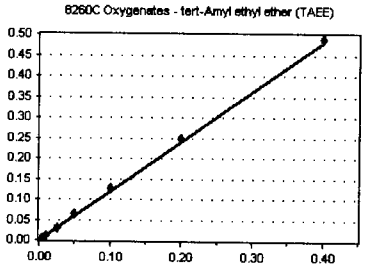


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	0.25	1607	1.515	0.00
9F20044-CAL5	0.5	3218	1.554	0.00
9F20044-CAL6	1.25	8642	1.642	0.00
9F20044-CAL7	2.5	17677	1.694	0.00
9F20044-CAL8	5	35210	1.662	0.00
9F20044-CAL9	10	70328	1.729	0.00
9F20044-CALA	20	141315	1.642	0.00

AVE RF **1.634** RF RSD **4.63** AVE RT **0.00**

tert-Amyl ethyl ether (TAEE)

Curve Fit: **AVERAGE RF**

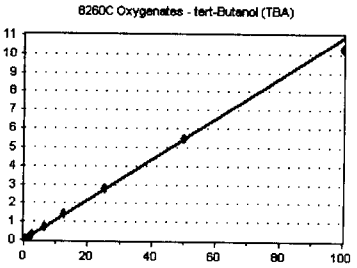


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	0.25	1175	1.108	0.00
9F20044-CAL5	0.5	2362	1.140	0.00
9F20044-CAL6	1.25	6227	1.183	0.00
9F20044-CAL7	2.5	13457	1.290	0.00
9F20044-CAL8	5	26731	1.262	0.00
9F20044-CAL9	10	50305	1.237	0.00
9F20044-CALA	20	105118	1.222	0.00

AVE RF **1.206** RF RSD **5.44** AVE RT **0.00**

tert-Butanol (TBA)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~6.25~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	12.5	5907	0.110	0.00
9F20044-CAL3	25	11068	0.102	0.00
9F20044-CAL4	62.5	28689	0.108	0.00
9F20044-CAL5	125	56818	0.110	0.00
9F20044-CAL6	312	145017	0.110	0.00
9F20044-CAL7	625	295406	0.113	0.00
9F20044-CAL8	1250	596009	0.113	0.00
9F20044-CAL9	2500	1112985	0.109	0.00
9F20044-CALA	5000	2207246	0.103	0.00

AVE RF **0.109** RF RSD **3.56** AVE RT **0.00**

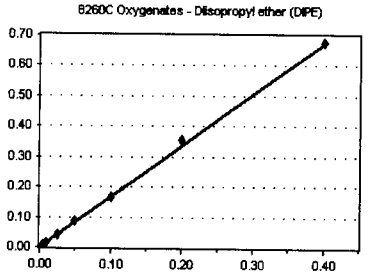
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Diisopropyl ether (DIPE)

Curve Fit: **AVERAGE RF**

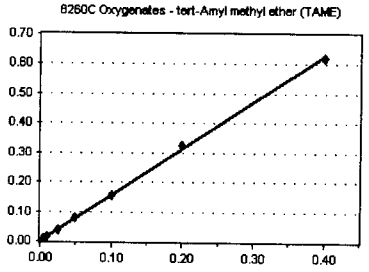


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	0.25	1806	1.702	0.00
9F20044-CAL5	0.5	3461	1.671	0.00
9F20044-CAL6	1.25	8488	1.613	0.00
9F20044-CAL7	2.5	17804	1.706	0.00
9F20044-CAL8	5	34910	1.648	4.57
9F20044-CAL9	10	72280	1.777	0.00
9F20044-CALA	20	145556	1.692	0.00

AVE RF **1.687** RF RSD **3.06** AVE RT **0.65**

tert-Amyl methyl ether (TAME)

Curve Fit: **AVERAGE RF**

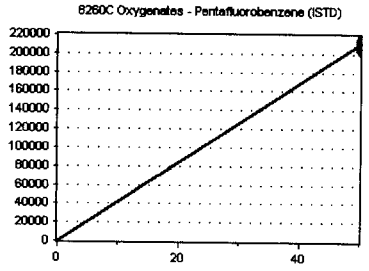


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	0.25	1716	1.617	0.00
9F20044-CAL5	0.5	3075	1.485	0.00
9F20044-CAL6	1.25	8135	1.546	0.00
9F20044-CAL7	2.5	16510	1.582	0.00
9F20044-CAL8	5	33066	1.561	6.25
9F20044-CAL9	10	66498	1.635	0.00
9F20044-CALA	20	133827	1.555	0.00

AVE RF **1.569** RF RSD **3.16** AVE RT **0.89**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

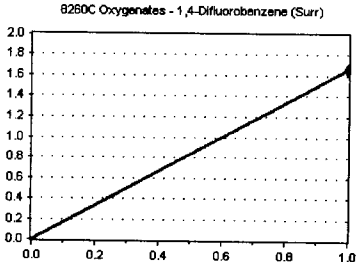


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	216252	4325.040	6.22
9F20044-CAL2	50	214495	4289.900	6.22
9F20044-CAL3	50	216322	4326.440	6.22
9F20044-CAL4	50	212184	4243.680	6.22
9F20044-CAL5	50	207120	4142.400	6.22
9F20044-CAL6	50	210483	4209.660	6.22
9F20044-CAL7	50	208672	4173.440	6.22
9F20044-CAL8	50	211811	4236.220	6.22
9F20044-CAL9	50	203359	4067.180	6.22
9F20044-CALA	50	215096	4301.920	6.22
9F20044-CALB	50	204201	4084.020	6.22

AVE RF **4218.173** RF RSD **2.18** AVE RT **6.22**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	358207	1.656	6.79
9F20044-CAL2	50	352562	1.644	6.78
9F20044-CAL3	50	354384	1.638	6.79
9F20044-CAL4	50	356332	1.679	6.79
9F20044-CAL5	50	346645	1.674	6.79
9F20044-CAL6	50	351357	1.669	6.79
9F20044-CAL7	50	346503	1.661	6.79
9F20044-CAL8	50	352468	1.664	6.79
9F20044-CAL9	50	340921	1.676	6.79
9F20044-CALA	50	358617	1.667	6.79
9F20044-CALB	50	342426	1.677	6.79

AVE RF **1.664** RF RSD **0.81** AVE RT **6.79**

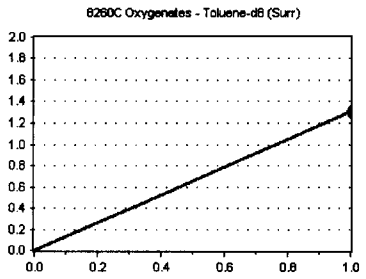
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

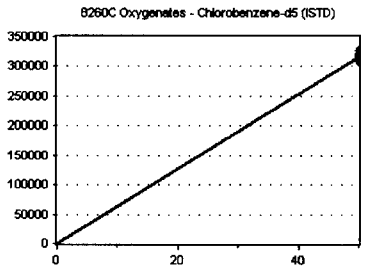


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	419867	1.314	8.30
9F20044-CAL2	50	416463	1.320	8.30
9F20044-CAL3	50	421971	1.309	8.30
9F20044-CAL4	50	417568	1.300	8.30
9F20044-CAL5	50	408908	1.314	8.30
9F20044-CAL6	50	413565	1.302	8.30
9F20044-CAL7	50	406176	1.314	8.30
9F20044-CAL8	50	416334	1.296	8.30
9F20044-CAL9	50	405204	1.312	8.30
9F20044-CALA	50	420397	1.286	8.30
9F20044-CALB	50	405261	1.304	8.30

AVE RF **1.306** RF RSD **0.76** AVE RT **8.30**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

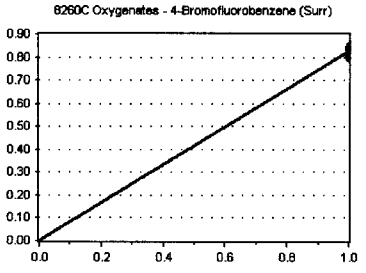


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	319588	6391.760	9.92
9F20044-CAL2	50	315477	6309.540	9.92
9F20044-CAL3	50	322309	6446.180	9.92
9F20044-CAL4	50	321130	6422.600	9.92
9F20044-CAL5	50	311234	6224.680	9.92
9F20044-CAL6	50	317560	6351.200	9.92
9F20044-CAL7	50	309194	6183.880	9.92
9F20044-CAL8	50	321290	6425.800	9.92
9F20044-CAL9	50	308920	6178.400	9.92
9F20044-CALA	50	326979	6539.580	9.92
9F20044-CALB	50	310773	6215.460	9.92

AVE RF **6335.371** RF RSD **1.92** AVE RT **9.92**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

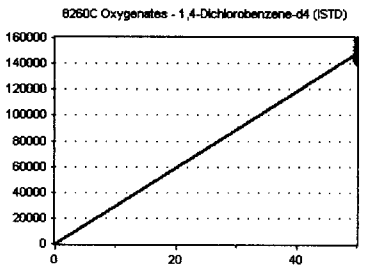


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	122172	0.846	10.98
9F20044-CAL2	50	119949	0.839	10.98
9F20044-CAL3	50	123411	0.838	10.98
9F20044-CAL4	50	121837	0.836	10.98
9F20044-CAL5	50	118488	0.834	10.98
9F20044-CAL6	50	122376	0.833	10.98
9F20044-CAL7	50	120665	0.839	10.98
9F20044-CAL8	50	126396	0.824	10.98
9F20044-CAL9	50	122539	0.813	10.98
9F20044-CALA	50	127873	0.809	10.98
9F20044-CALB	50	118374	0.800	10.98

AVE RF **0.828** RF RSD **1.79** AVE RT **10.98**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	144355	2887.100	11.86
9F20044-CAL2	50	143049	2860.980	11.86
9F20044-CAL3	50	147216	2944.320	11.86
9F20044-CAL4	50	145672	2913.440	11.86
9F20044-CAL5	50	142034	2840.680	11.86
9F20044-CAL6	50	146868	2937.360	11.86
9F20044-CAL7	50	143770	2875.400	11.86
9F20044-CAL8	50	153422	3068.440	11.86
9F20044-CAL9	50	150676	3013.520	11.86
9F20044-CALA	50	158080	3161.600	11.86
9F20044-CALB	50	147969	2959.380	11.86

AVE RF **2951.111** RF RSD **3.28** AVE RT **11.86**

Response Factor Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019
Response Via : Initial Calibration

Calibration Files
0.1 =VI19062020.D 0.2 =VI19062021.D 0.5 =VI19062022.D 1 =VI19062023.D 2 =VI19062024.D 5 =VI19062025.D
10 =VI19062026.D 20 =VI19062027.D 50 =VI19062028.D 100 =VI19062030.D 200 =VI19062032.D

		Compound	0.1	0.2	0.5	1	2	5	10	20	50	100	200	Avg		%RSD
1)	I	Pentafluorobenzene...	ISTD													
2)		Dichlorodifluo...			0.413	0.451	0.508	0.510	0.548	0.535	0.592	0.563	0.546	0.518		10.82
3)	P	Chloromethane			0.808	0.673	0.653	0.612	0.652	0.636	0.671	0.624	0.613	0.660		9.10
4)	C	Vinyl Chloride		0.585	0.586	0.539	0.559	0.570	0.621	0.608	0.649	0.622	0.607	0.595		5.54
5)		Bromomethane				0.394	0.337	0.292	0.306	0.300	0.289	0.265	0.273	0.307		13.50
6)		Chloroethane				0.214	0.231	0.206	0.210	0.202	0.204			0.211		5.05
7)		Trichlorofluor...			0.575	0.655	0.657	0.652	0.709	0.687	0.724	0.689	0.660	0.668		6.45
8)		Ethanol				0.013	0.012	0.012	0.013	0.012	0.012	0.011		0.012		3.45
9)	C	1,1-Dichloroet...		0.531	0.622	0.644	0.690	0.671	0.723	0.719	0.752	0.693	0.711	0.676		9.41
10)		Carbon Disulfide			1.178	1.161	1.197	1.183	1.273	1.252	1.303	1.190	1.221	1.218		3.98
11)		Freon 113				0.396	0.430	0.421	0.456	0.451	0.474	0.431	0.452	0.439		5.52
12)		Iodomethane					0.072	0.078	0.113	0.170	0.295	0.330	0.364	0.203		61.14
13)		Acrolein					0.150	0.125	0.134	0.134	0.137	0.138	0.134	0.136		5.47
14)		Methylene Chlo...	1.162	0.443	0.218	0.119	0.088	0.062	0.056	0.052	0.052	0.047	0.048	0.213	E1	157.60
15)		Acetone					0.290	0.257	0.250	0.230	0.241	0.215	0.220	0.243		10.58
16)		t-1,2-Dichloro...			0.596	0.611	0.658	0.643	0.697	0.681	0.722	0.658	0.675	0.660		6.02
17)		n-Hexane				0.076	0.080	0.087	0.097	0.098	0.105	0.095	0.099	0.092		11.03
18)		Methyl-tert-bu...			1.521	1.587	1.554	1.606	1.646	1.648	1.748	1.598	1.635	1.616		4.02
19)		tert-Butanol ...		0.110	0.102	0.108	0.110	0.110	0.113	0.113	0.109	0.103		0.109		3.56
20)		Diisopropyl et...				1.702	1.671	1.613	1.706	1.648	1.777	1.692		1.687		3.06
21)	P	1,1-Dichloroet...			0.740	0.833	0.883	0.852	0.923	0.896	0.948	0.861	0.890	0.870		6.91
22)		Acrylonitrile				0.254	0.254	0.271	0.279	0.284	0.308	0.277	0.284	0.277		6.34
23)		Ethyl-tert-but...				1.515	1.554	1.642	1.694	1.662	1.729	1.642		1.634		4.63
24)		Vinyl Acetate				1.049	1.107	1.096	1.029	1.071	1.205	1.167	1.083	1.101		5.35
25)		c-1,2-Dichloro...			0.662	0.667	0.706	0.675	0.724	0.723	0.763	0.698	0.721	0.704		4.65
26)		2,2-Dichloropr...				0.654	0.669	0.647	0.702	0.692	0.730	0.664	0.679	0.679		4.04
27)		Bromochloromet...			0.253	0.306	0.321	0.338	0.348	0.347	0.375	0.326	0.309	0.325		10.66
28)	C	Chloroform			0.849	0.852	0.890	0.873	0.926	0.917	0.972	0.888	0.914	0.898		4.36
29)		Carbon Tetrach...				0.486	0.487	0.491	0.545	0.554	0.613	0.584	0.632	0.549		10.55
30)		Tetrahydrofuran					0.307	0.286	0.284	0.271	0.294	0.262	0.267	0.282		5.70
31)		1,1,1-Trichlor...			0.628	0.707	0.678	0.685	0.735	0.743	0.785	0.724	0.756	0.716		6.57
32)	S	Dibromofluorom...	0.537	0.531	0.528	0.536	0.536	0.538	0.541	0.538	0.549	0.543	0.552	0.539		1.33
33)		1,1-Dichloropr...			0.637	0.637	0.656	0.655	0.705	0.715	0.743	0.682	0.709	0.682		5.59
34)		2-Butanone (MEK)				0.439	0.422	0.393	0.400	0.402	0.423	0.376	0.388	0.406		5.18
35)		Benzene		2.177	2.088	2.000	2.036	2.027	2.133	2.099	2.193	2.022	2.083	2.086		3.18
36)		tert-Amyl meth...				1.617	1.485	1.546	1.582	1.561	1.635	1.555		1.569		3.16
37)		1,2-Dichloroet...			0.600	0.694	0.688	0.680	0.712	0.702	0.746	0.678	0.698	0.689		5.65
38)		iso-Butyl Alcohol						0.039	0.041	0.041	0.046	0.040	0.041	0.041		5.80
39)	S	1,4-Difluorobe...	1.656	1.644	1.638	1.679	1.674	1.669	1.661	1.664	1.676	1.667	1.677	1.664		0.81
40)		Trichloroethen...			0.445	0.493	0.479	0.490	0.532	0.525	0.544	0.506	0.525	0.505		6.15
41)		Tert-Amyl-Ethy...				1.108	1.140	1.183	1.290	1.262	1.237	1.222		1.206		5.44

Method Path : C:\msdchem\1\methods\
Method File : VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds

42)		Dibromomethane			0.250	0.308	0.329	0.328	0.349	0.349	0.374	0.343	0.357	0.332	10.86
43)	C	1,2-Dichloropr...			0.469	0.517	0.523	0.530	0.557	0.552	0.576	0.533	0.550	0.534	5.75
44)		Bromodichlorom...			0.548	0.534	0.584	0.585	0.625	0.633	0.696	0.650	0.692	0.616	9.41
45)		Chlorobenzene-d5 (I)	----------	ISTD	----------										
46)		2-Chloroethyl ...				0.236	0.243	0.266	0.282	0.287	0.292	0.297	0.294	0.275	8.66
47)		c-1,3-Dichloro...			0.425	0.471	0.495	0.488	0.537	0.528	0.580	0.536	0.561	0.514	9.38
48)	S	Toluene-d8 (S)	1.314	1.320	1.309	1.300	1.314	1.302	1.314	1.296	1.312	1.286	1.304	1.306	0.76
49)	C	Toluene	1.616	1.514	1.416	1.364	1.377	1.328	1.453	1.417	1.469	1.347	1.388	1.426	5.87
50)		Tetrachloroeth...			0.272	0.321	0.320	0.317	0.343	0.337	0.346	0.323	0.337	0.324	6.88
51)		4-Methyl-2-Pen...					0.495	0.501	0.514	0.510	0.542	0.471	0.467	0.500	5.16
52)		t-1,3-Dichloro...			0.406	0.420	0.420	0.436	0.483	0.490	0.545	0.503	0.529	0.470	10.91
53)		1,1,2-Trichlor...			0.266	0.288	0.315	0.308	0.336	0.329	0.347	0.318	0.324	0.315	7.89
54)		Dibromochlorom...				0.238	0.247	0.263	0.288	0.299	0.342	0.330	0.354	0.295	14.87
55)		1,3-Dichloropr...			0.493	0.550	0.559	0.561	0.583	0.573	0.611	0.551	0.566	0.561	5.67
56)		1,2-Dibromoeth...		0.235	0.297	0.313	0.329	0.337	0.360	0.356	0.381	0.348	0.358	0.331	12.58
57)		2-Hexanone			0.388	0.370	0.358	0.353	0.381	0.372	0.399	0.346	0.347	0.368	5.06
58)	P	Chlorobenzene		0.799	0.828	0.844	0.865	0.857	0.912	0.891	0.931	0.862	0.884	0.867	4.53
59)	C	Ethylbenzene	1.356	1.552	1.405	1.438	1.440	1.469	1.571	1.549	1.620	1.493	1.539	1.494	5.35
60)		1,1,1,2-Tetrac...			0.204	0.211	0.253	0.247	0.277	0.281	0.309	0.293	0.309	0.265	14.74
61)		m,p-Xylenes (2)	1.055	1.168	1.045	1.073	1.078	1.088	1.181	1.157	1.232	1.137	1.165	1.125	5.38
62)		o-Xylene	1.100	1.086	1.036	1.090	1.137	1.109	1.225	1.199	1.275	1.170	1.192	1.147	6.21
63)		Styrene		0.791	0.738	0.799	0.825	0.850	0.947	0.938	1.006	0.922	0.948	0.876	9.97
64)	P	Bromoform				0.135	0.153	0.160	0.173	0.192	0.230			0.174	19.42
65)		Isopropylbenzene		1.263	1.229	1.249	1.312	1.309	1.456	1.429	1.505	1.399	1.433	1.359	7.17
66)	I	1,4-Dichlorobenzen...	----------	ISTD	----------										
67)	S	4-Bromofluorob...	0.846	0.839	0.838	0.836	0.834	0.833	0.839	0.824	0.813	0.809	0.800	0.828	1.79
68)		Bromobenzene		0.710	0.734	0.757	0.783	0.743	0.820	0.788	0.813	0.744	0.773	0.766	4.61
69)		n-Propylbenzene		3.231	3.058	3.326	3.305	3.303	3.657	3.533	3.664	3.406	3.549	3.403	5.76
70)	P	1,1,2,2-Tetrac...		0.571	0.600	0.637	0.647	0.663	0.697	0.667	0.706	0.605	0.626	0.642	6.68
71)		2-Chlorotoluene			0.655	0.636	0.668	0.665	0.732	0.711	0.734	0.682	0.705	0.687	5.06
72)		1,3,5-Trimethy...		2.237	2.149	2.204	2.142	2.216	2.456	2.380	2.485	2.325	2.408	2.300	5.52
73)		1,2,3-Trichlor...			0.206	0.294	0.305	0.304	0.325	0.311	0.323	0.289	0.296	0.295	11.99
74)		t-1,4-Dichloro...			0.185	0.229	0.219	0.248	0.266	0.268	0.292	0.259	0.272	0.249	13.12
75)		4-Chlorotoluene		2.188	1.943	2.112	2.048	2.066	2.256	2.191	2.270	2.081	2.159	2.131	4.75
76)		tert-Butylbenzene		1.297	1.171	1.282	1.325	1.288	1.397	1.368	1.429	1.324	1.375	1.326	5.52
77)		1,2,4-Trimethy...		2.200	2.007	2.243	2.226	2.229	2.470	2.407	2.512	2.331	2.436	2.306	6.68
78)		sec-Butylbenzene		2.962	2.549	2.776	2.677	2.723	3.024	2.947	3.069	2.853	2.948	2.853	5.86
79)		4-Isopropyltol...		1.987	1.977	2.077	2.149	2.182	2.408	2.377	2.532	2.366	2.460	2.251	8.97
80)		1,3-Dichlorobe...		1.262	1.259	1.341	1.326	1.312	1.419	1.381	1.426	1.318	1.366	1.341	4.32
81)		1,4-Dichlorobe...		1.328	1.349	1.384	1.388	1.373	1.435	1.404	1.459	1.342	1.383	1.384	2.93
82)		n-Butylbenzene		1.791	1.939	1.860	1.933	2.001	2.208	2.193	2.309	2.164	2.251	2.065	8.76
83)		1,2-Dichlorobe...		1.204	1.209	1.323	1.275	1.282	1.381	1.344	1.409	1.253	1.309	1.299	5.24
84)		1,2-Dibromo-3-...					0.173	0.170	0.196	0.204	0.233	0.212	0.231	0.203	12.44
85)		Hexachlorobuta...				0.149	0.164	0.171	0.203	0.205	0.212	0.194	0.201	0.187	12.10
86)		1,2,4-Trichlor...			0.549	0.683	0.703	0.704	0.798	0.799	0.852	0.798	0.839	0.747	12.92
87)		Naphthalene			2.160	2.066	2.174	2.286	2.527	2.570	2.787	2.660	2.765	2.444	11.31
88)		1,2,3-Trichlor...			0.568	0.680	0.696	0.685	0.757	0.761	0.809	0.760	0.812	0.725	10.61

(#) = Out of Range

Compound List Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019
Response Via : Initial Calibration

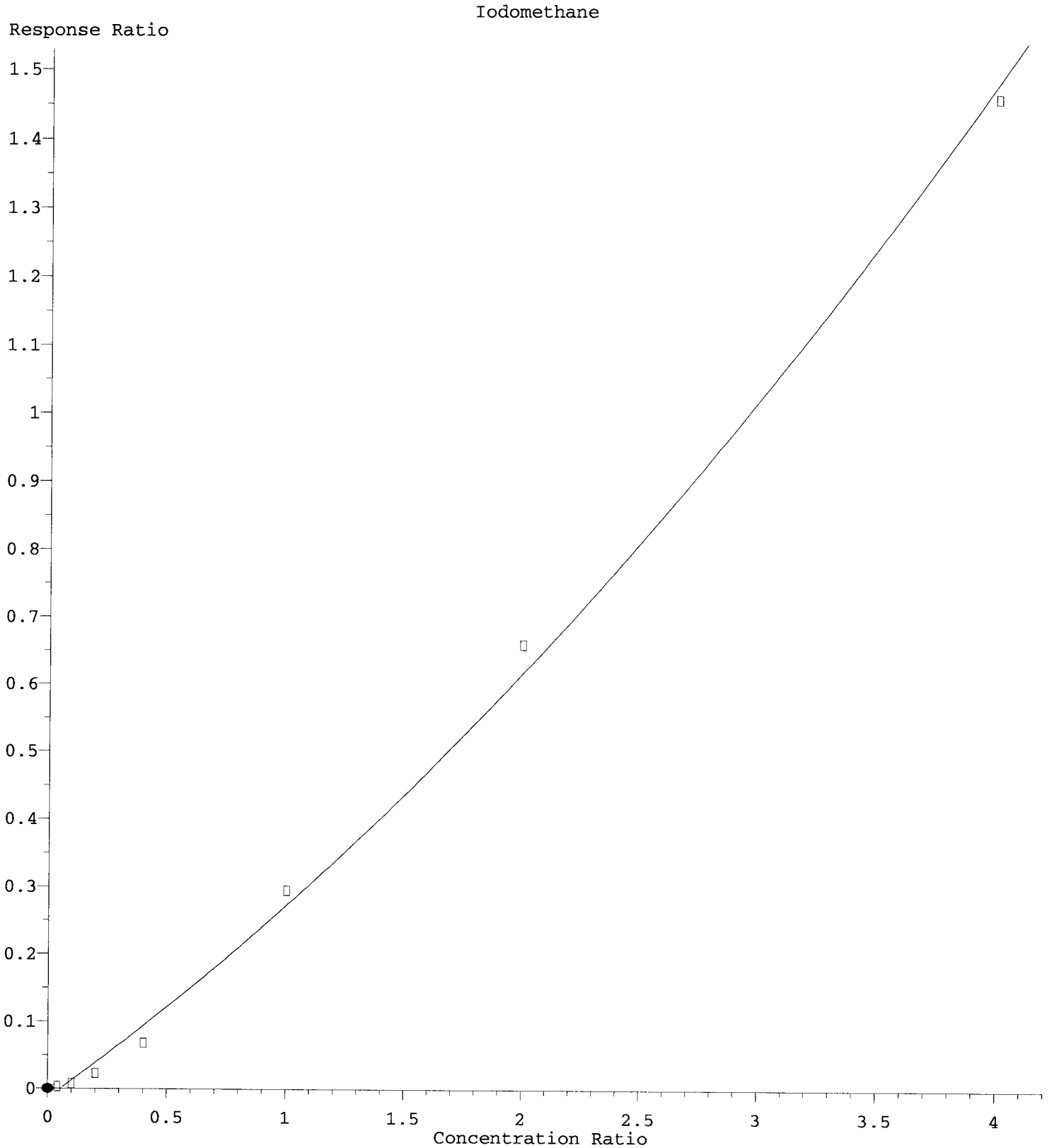
Total Cpnds : 88

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (I)	168	6.223	1.000	A	2	A	R
2		Dichlorodifluoromethane	85	1.679	0.270	A	2	A	R
3	P	Chloromethane	50	1.897	0.305	A	2	A	R
4	C	Vinyl Chloride	62	2.001	0.322	A	2	A	R
5		Bromomethane	96	2.366	0.380	A	2	A	R
6		Chloroethane	64	2.499	0.402	A	2	A	R
7		Trichlorofluoromethane	101	2.664	0.428	A	2	A	R
8		Ethanol	45	3.236	0.520	A	1	A	R
9	C	1,1-Dichloroethene	61	3.236	0.520	A	2	A	R
10		Carbon Disulfide	76	3.254	0.523	A	2	A	R
11		Freon 113	101	3.291	0.529	A	2	A	R
12		Iodomethane	142	3.394	0.545	Q	2	A	R
13		Acrolein	56	3.625	0.583	A	2	A	R
14		Methylene Chloride	84	3.874	0.623	Q	2	A	R
15		Acetone	43	3.942	0.633	A	1	A	R
16		t-1,2-Dichloroethene	61	4.045	0.650	A	2	A	R
17		n-Hexane	86	4.124	0.663	A	3	A	R
18		Methyl-tert-butyl-ether	73	4.172	0.670	A	3	A	R
19		tert-Butanol (TBA)	59	4.294	0.690	A	1	A	R
20		Diisopropyl ether (DIPE)	45	4.568	0.734	A	2	A	R
21	P	1,1-Dichloroethane	63	4.690	0.754	A	2	A	R
22		Acrylonitrile	53	4.757	0.764	A	2	A	R
23		Ethyl-tert-butyl ether (ETBE)	59	4.945	0.795	A	2	A	R
24		Vinyl Acetate	43	4.963	0.798	A	2	A	R
25		c-1,2-Dichloroethene	61	5.250	0.844	A	2	A	R
26		2,2-Dichloropropane	77	5.359	0.861	A	2	A	R
27		Bromochloromethane	130	5.450	0.876	A	2	A	R
28	C	Chloroform	83	5.530	0.889	A	2	A	R
29		Carbon Tetrachloride	117	5.663	0.910	A	2	A	R
30		Tetrahydrofuran	42	5.705	0.917	A	2	A	R
31		1,1,1-Trichloroethane	97	5.736	0.922	A	2	A	R
32	S	Dibromofluoromethane (S)	111	5.718	0.919	A	2	A	R
33		1,1-Dichloropropene	75	5.864	0.942	A	2	A	R
34		2-Butanone (MEK)	43	5.858	0.941	A	2	A	R
35		Benzene	78	6.126	0.984	A	2	A	R
36		tert-Amyl methyl ether (TAME)	73	6.253	1.005	A	2	A	R
37		1,2-Dichloroethane (EDC)	62	6.345	1.020	A	2	A	R
38		iso-Butyl Alcohol	43	6.375	1.024	A	2	A	R
39	S	1,4-Difluorobenzene (S)	114	6.789	1.091	A	2	A	R
40		Trichloroethene (TCE)	130	6.746	1.084	A	2	A	R
41		Tert-Amyl-Ethyl-Ether (TAEE)	59	7.001	1.125	A	2	A	R
42		Dibromomethane	93	7.203	1.157	A	2	A	R
43	C	1,2-Dichloropropane	63	7.318	1.176	A	2	A	R
44		Bromodichloromethane	83	7.385	1.187	A	2	A	R
45	I	Chlorobenzene-d5 (I)	117	9.916	1.000	A	2	A	R
46		2-Chloroethyl Vinyl Ether	63	8.029	0.810	A	2	A	R
47		c-1,3-Dichloropropene	75	8.096	0.816	A	2	A	R
48	S	Toluene-d8 (S)	98	8.304	0.837	A	2	A	R
49	C	Toluene	91	8.364	0.844	A	2	A	R
50		Tetrachloroethene (PCE)	166	8.803	0.888	A	2	A	R
51		4-Methyl-2-Pentanone (MIBK)	43	8.802	0.888	A	2	A	R
52		t-1,3-Dichloropropene	75	8.839	0.891	A	2	A	R
53		1,1,2-Trichloroethane	97	9.009	0.909	A	2	A	R
54		Dibromochloromethane	129	9.191	0.927	A	2	A	R
55		1,3-Dichloropropane	76	9.295	0.937	A	2	A	R

56		1,2-Dibromoethane (EDB)	107	9.429	0.951	A		2	A	R
57		2-Hexanone	43	9.660	0.974	A		2	A	R
58	P	Chlorobenzene	112	9.934	1.002	A		2	A	R
59	C	Ethylbenzene	91	9.958	1.004	A		2	A	R
60		1,1,1,2-Tetrachloroethane	131	9.994	1.008	A		2	A	R
61		m,p-Xylenes (2)	91	10.092	1.018	A		2	A	R
62		o-Xylene	91	10.469	1.056	A		2	A	R
63		Styrene	104	10.518	1.061	A		2	A	R
64	P	Bromoform	173	10.542	1.063	Q	V4	2	A	R
65		Isopropylbenzene	105	10.737	1.083	A		2	A	R
66	I	1,4-Dichlorobenzene-d4 (I)	152	11.856	1.000	A		2	A	R
67	S	4-Bromofluorobenzene (S)	174	10.980	0.926	A		2	A	R
68		Bromobenzene	156	11.066	0.933	A		2	A	R
69		n-Propylbenzene	91	11.077	0.934	A		2	A	R
70	P	1,1,2,2-Tetrachloroethane	85	11.145	0.940	A		2	A	R
71		2-Chlorotoluene	126	11.211	0.946	A		2	A	R
72		1,3,5-Trimethylbenzene	105	11.235	0.948	A		2	A	R
73		1,2,3-Trichloropropane	110	11.254	0.949	A		2	A	R
74		t-1,4-Dichloro-2-butene	53	11.284	0.952	A		3	A	R
75		4-Chlorotoluene	91	11.339	0.956	A		2	A	R
76		tert-Butylbenzene	91	11.485	0.969	A		2	A	R
77		1,2,4-Trimethylbenzene	105	11.540	0.973	A		2	A	R
78		sec-Butylbenzene	105	11.625	0.980	A		2	A	R
79		4-Isopropyltoluene	119	11.728	0.989	A		2	A	R
80		1,3-Dichlorobenzene	146	11.802	0.995	A		2	A	R
81		1,4-Dichlorobenzene	146	11.869	1.001	A		2	A	R
82		n-Butylbenzene	91	12.051	1.016	A		2	A	R
83		1,2-Dichlorobenzene	146	12.185	1.028	A		2	A	R
84		1,2-Dibromo-3-Chloropropane	157	12.805	1.080	A		2	A	R
85		Hexachlorobutadiene	223	13.310	1.123	A		3	A	R
86		1,2,4-Trichlorobenzene	180	13.353	1.126	A		2	A	R
87		Naphthalene	128	13.632	1.150	A		2	A	R
88		1,2,3-Trichlorobenzene	180	13.791	1.163	A		2	A	R

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VI190621W+.M Fri Jun 21 10:41:26 2019

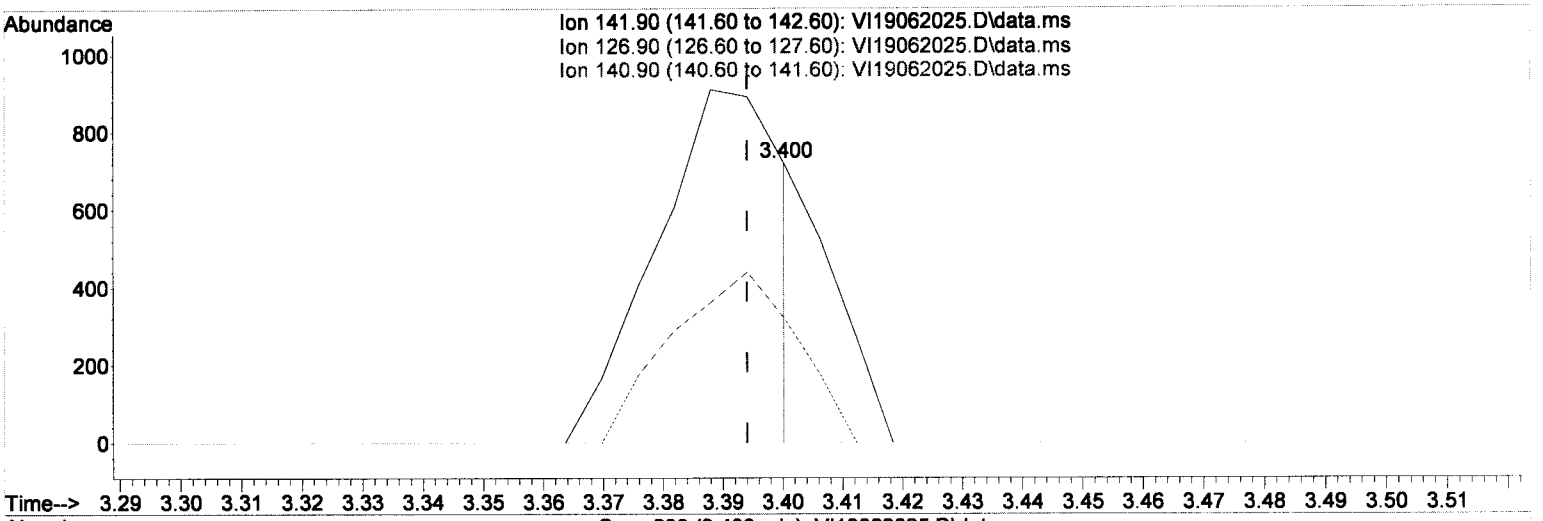


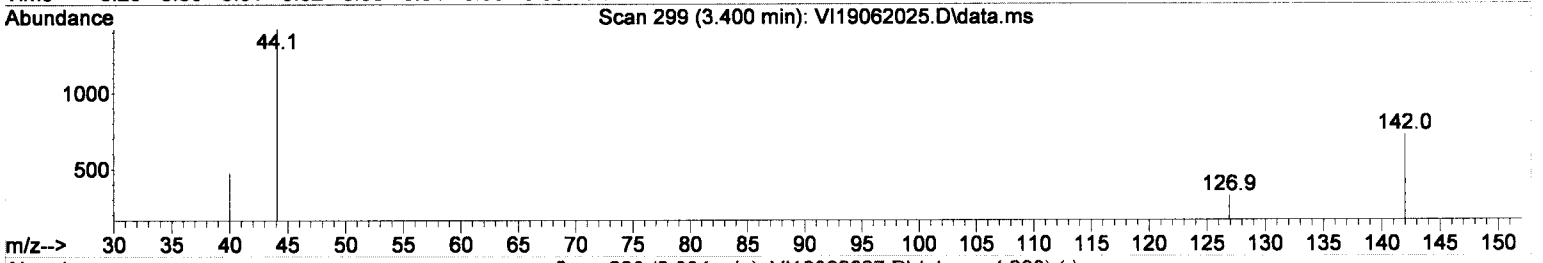
R = 2.89e-002 A*A + 2.58e-001 A - 1.37e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V119062W4.M
Calibration Table Last Updated: Fri Jun 21 10:15:13 2019

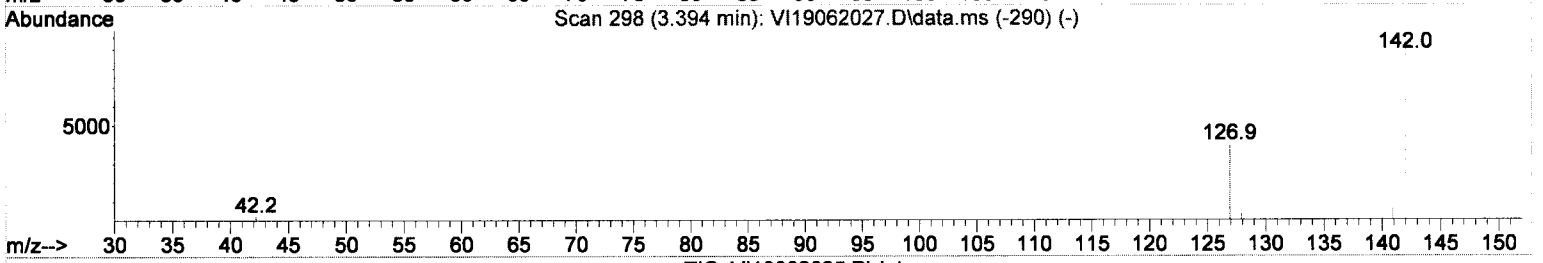
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:27:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







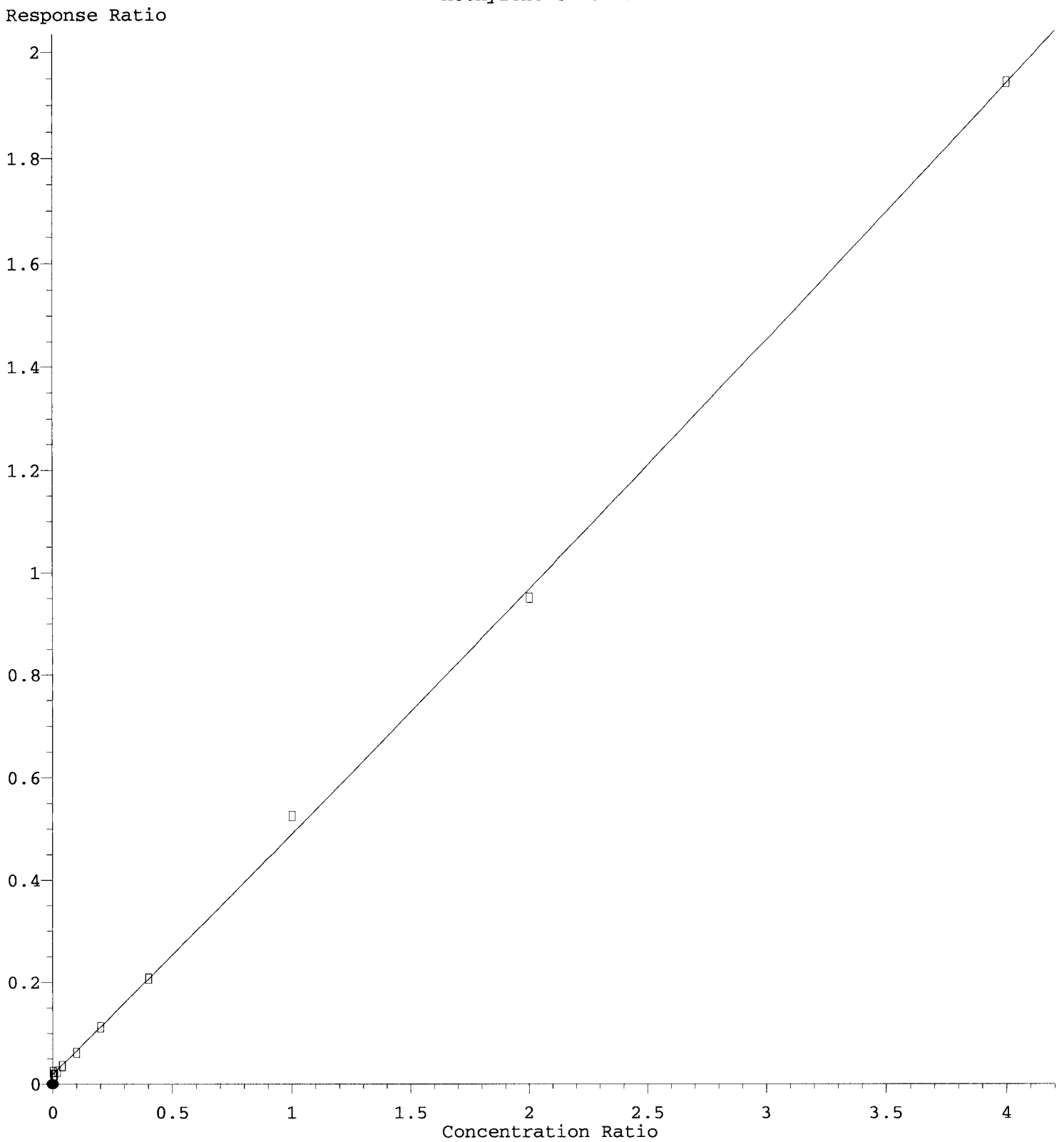
TIC: VI19062025.D\data.ms

(12) Iodomethane

3.400min (+ 0.006) 2.91 ug/L m

response 291

Ion	Exp%	Act%
141.90	100.00	100.00
126.90	34.80	44.66
140.90	15.30	0.00#
0.00	0.00	0.00

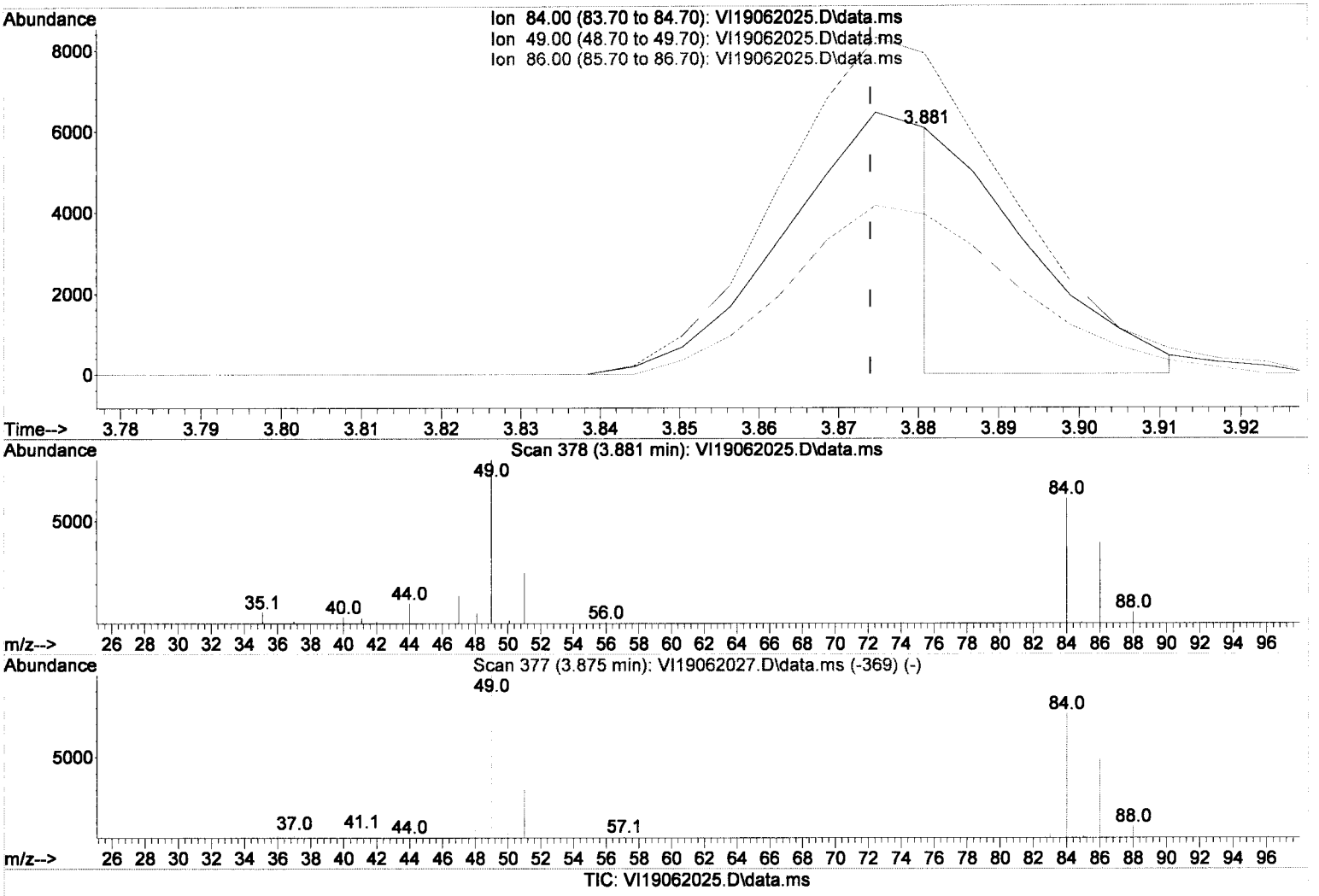


R = 2.67e-003 A*A + 4.69e-001 A + 1.89e-002
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V1190621w+.M
Calibration Table Last Updated: Fri Jun 21 10:15:55 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:27:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



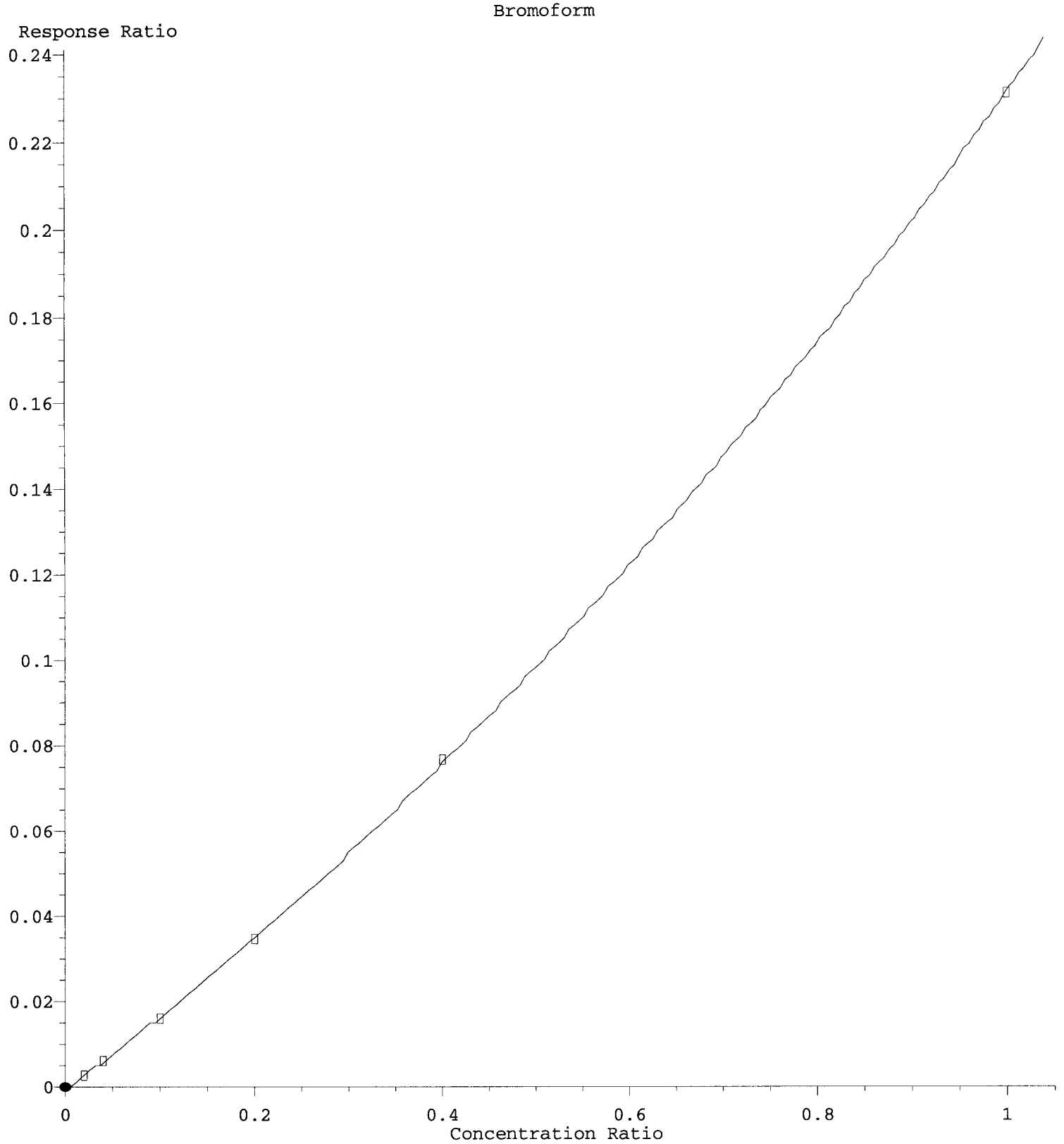
TIC: VI19062025.D\data.ms

(14) Methylene Chloride

3.881min (+ 0.007) 0.17 ug/L m

response 4307

Ion	Exp%	Act%
84.00	100.00	100.00
49.00	134.70	130.45
86.00	61.50	64.88
0.00	0.00	0.00

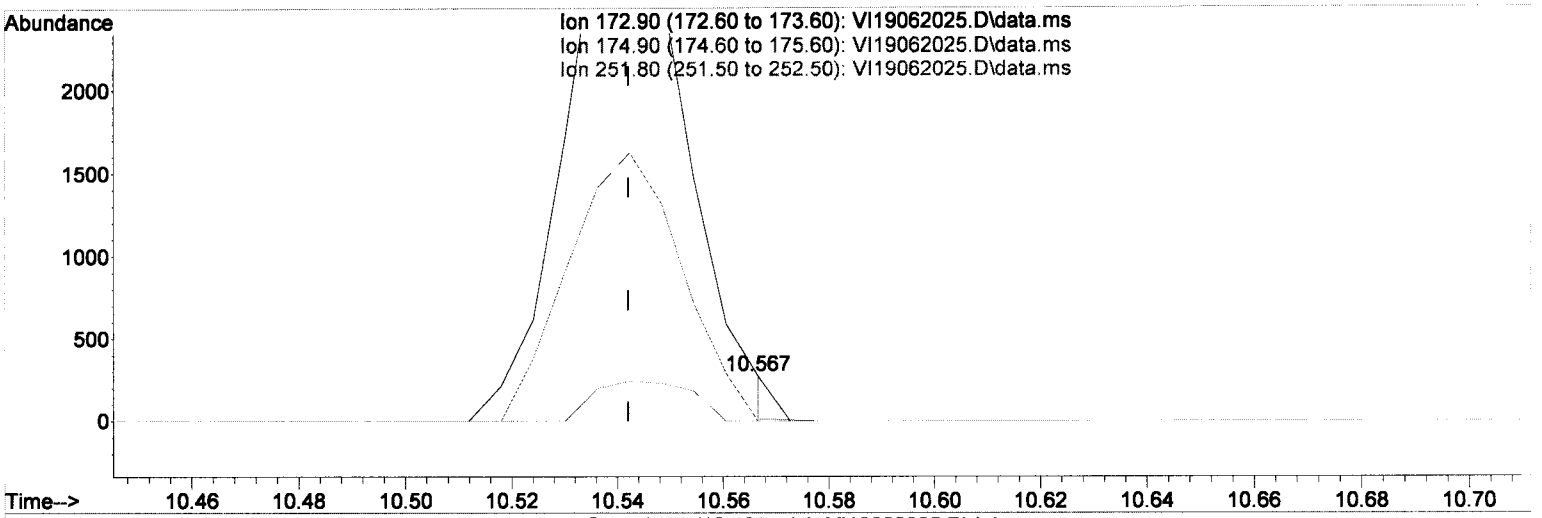


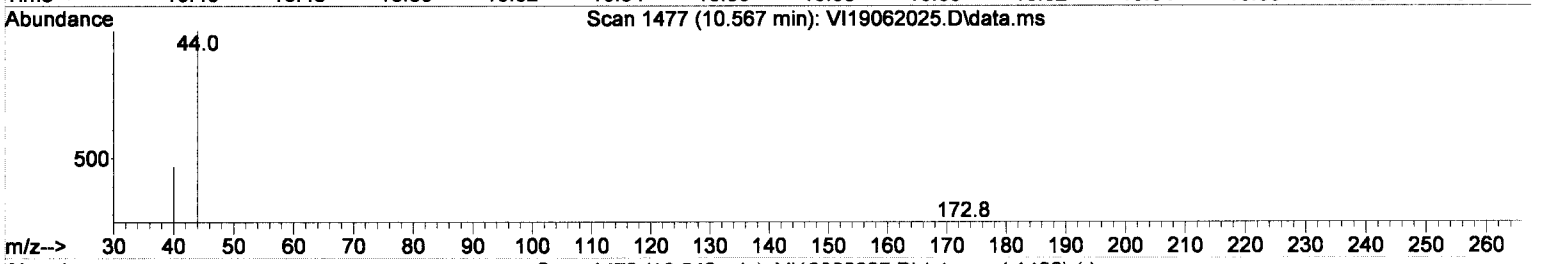
R = 6.67e-002 A*A + 1.65e-001 A - 6.64e-004
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V1190621w+.M
Calibration Table Last Updated: Fri Jun 21 10:35:40 2019

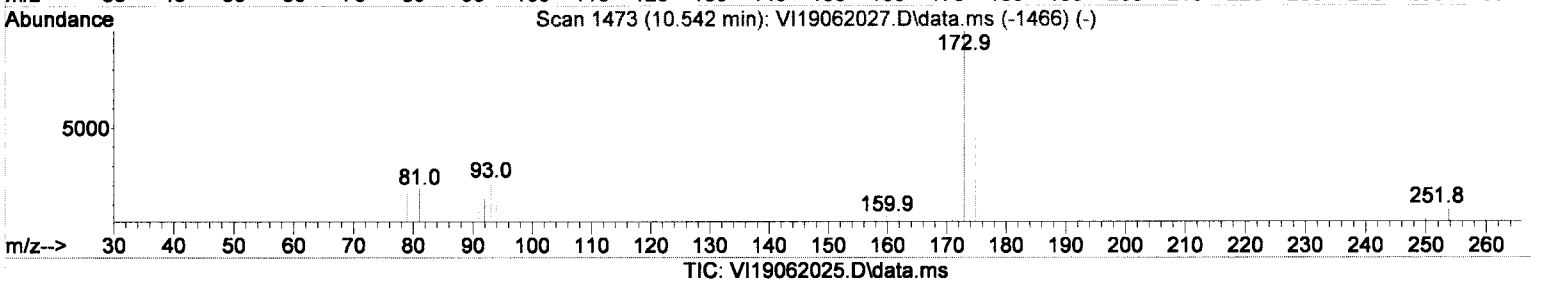
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:35:44 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







(64) Bromoform (P)

10.567min (+ 0.025) 0.20 ug/L m

response -5

Ion	Exp%	Act%
172.90	100.00	100.00
174.90	49.20	0.00#
251.80	13.30	0.00
0.00	0.00	-0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9F20044

Analysis Included
8260C Full List
8260C Additional Cpds
8260C Oxygenates

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed
9F20044-TUN1	MS Tune	Water		A19C125	6/20/2019 5:22:00PM
9F20044-ICB1	Initial Cal Blank	Water		A19C125	6/20/2019 5:49:00PM
9F20044-CAL1	Cal Standard	Water	A19F282	"	6/20/2019 6:16:00PM
9F20044-CAL2	Cal Standard	Water	A19F283	"	6/20/2019 6:43:00PM
9F20044-CAL3	Cal Standard	Water	A19F284	"	6/20/2019 7:10:00PM
9F20044-CAL4	Cal Standard	Water	A19F285	"	6/20/2019 7:37:00PM
9F20044-CAL5	Cal Standard	Water	A19F286	"	6/20/2019 8:04:00PM
9F20044-CAL6	Cal Standard	Water	A19F287	"	6/20/2019 8:31:00PM
9F20044-CAL7	Cal Standard	Water	A19F288	"	6/20/2019 8:58:00PM
9F20044-CAL8	Cal Standard	Water	A19F289	"	6/20/2019 9:25:00PM
9F20044-CAL9	Cal Standard	Water	A19F290	"	6/20/2019 9:52:00PM
9F20044-CALA	Cal Standard	Water	A19F291	"	6/20/2019 10:46:00PM
9F20044-CALB	Cal Standard	Water	A19F292	"	6/20/2019 11:40:00PM
9F20044-ICV1	Initial Cal Check	Water	A19F293	"	6/21/2019 1:01:00AM
9F20044-ICV2	Initial Cal Check	Water	A19E195	"	6/21/2019 1:28:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: A9F2102 Instrument: VOA-GCMS9

8260C Full List Sequence: 9F20044 Matrix: Water

9F20044-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CALB	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9F20044

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: **A9F2102** Instrument: **VOA-GCMS9**

8260C Full List Sequence: **9F20044** Matrix: **Water**

9F20044-ICV1	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**
9F20044-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\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

MM 6/21/19

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	100	0.00
2		Dichlorodifluoromethane	20.000	22.655	-13.3	110	0.01
3	P	Chloromethane	20.000	20.431	-2.2	106	0.00
4	C	Vinyl Chloride	20.000	20.188	-0.9	99	0.00
5		Bromomethane	20.000	19.281	3.6	99	0.00
6		Chloroethane	20.000	19.256	3.7	101	0.00
7		Trichlorofluoromethane	20.000	19.778	1.1	96	0.00
8		~~Ethanol~~	~~1250.000~~	~~28.841~~	~~97.7#~~	~~2~~	~~0.02~~
9	C	1,1-Dichloroethene	20.000	21.016	-5.1	99	0.00
10		Carbon Disulfide	20.000	22.077	-10.4	107	0.00
11		Freon 113	20.000	20.460	-2.3	99	0.01
12		Iodomethane	20.000	18.120	9.4	123	0.00
13		Acrolein	20.000	19.485	2.6	99	0.00
14		Methylene Chloride	20.000	20.532	-2.7	102	0.00
15		Acetone	40.000	38.984	2.5	103	0.01
16		t-1,2-Dichloroethene	20.000	21.653	-8.3	105	0.00
17		n-Hexane	20.000	20.430	-2.1	96	0.00
18		Methyl-tert-butyl-ether	20.000	20.303	-1.5	99	0.00
19		~~tert-Butanol (TBA)~~	~~1250.000~~	~~15.938~~	~~98.7#~~	~~1~~	~~0.01~~
20		~~Diisopropyl ether (DIPE)~~	~~5.000~~	~~0.081~~	~~98.4#~~	~~2~~	~~0.00~~
21	P	1,1-Dichloroethane	20.000	21.972	-9.9	107	0.00
22		Acrylonitrile	20.000	20.501	-2.5	100	0.00
23		~~Ethyl-tert-butyl ether (ET~~	~~5.000~~	~~0.074~~	~~98.5#~~	~~2~~	~~0.00~~
24		Vinyl Acetate	20.000	19.354	3.2	99	0.00
25		c-1,2-Dichloroethene	20.000	20.741	-3.7	101	0.00
26		2,2-Dichloropropane	20.000	18.952	5.2	93	0.00
27		Bromochloromethane	20.000	21.990	-9.9	103	0.00
28	C	Chloroform	20.000	20.737	-3.7	101	0.00
29		Carbon Tetrachloride	20.000	20.656	-3.3	102	0.00
30		Tetrahydrofuran	20.000	19.878	0.6	103	0.00
31		1,1,1-Trichloroethane	20.000	21.347	-6.7	103	0.00
32	S	Dibromofluoromethane (S)	50.000	49.709	0.6	99	0.00
33		1,1-Dichloropropene	20.000	20.704	-3.5	99	0.00
34		2-Butanone (MEK)	40.000	39.531	1.2	99	0.00
35		Benzene	20.000	20.383	-1.9	101	0.00
36		~~tert-Amyl methyl ether (TA~~	~~5.000~~	~~0.120~~	~~97.6#~~	~~3~~	~~0.00~~
37		1,2-Dichloroethane (EDC)	20.000	21.213	-6.1	104	0.00
38		iso-Butyl Alcohol	500.000	543.917	-8.8	109	0.00
39	S	1,4-Difluorobenzene (S)	50.000	50.377	-0.8	101	0.00
40		Trichloroethene (TCE)	20.000	20.973	-4.9	101	0.00
41		~~Tert-Amyl-Ethyl-Ether (TAEE~~	~~5.000~~	~~0.065~~	~~98.7#~~	~~1~~	~~0.00~~
42		Dibromomethane	20.000	21.205	-6.0	101	0.00
43	C	1,2-Dichloropropane	20.000	20.979	-4.9	101	0.00
44		Bromodichloromethane	20.000	21.276	-6.4	103	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	99	0.00
46		2-Chloroethyl Vinyl Ether	20.000	21.136	-5.7	101	0.00
47		c-1,3-Dichloropropene	20.000	20.950	-4.7	101	0.00
48	S	Toluene-d8 (S)	50.000	49.736	0.5	100	0.00
49	C	Toluene	20.000	19.771	1.1	99	0.00
50		Tetrachloroethene (PCE)	20.000	20.835	-4.2	100	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	40.908	-2.3	100	0.00
52		t-1,3-Dichloropropene	20.000	21.671	-8.4	103	0.00
53		1,1,2-Trichloroethane	20.000	21.459	-7.3	102	0.00
54		Dibromochloromethane	20.000	21.192	-6.0	104	0.00
55		1,3-Dichloropropane	20.000	20.707	-3.5	101	0.00
56		1,2-Dibromoethane (EDB)	20.000	21.529	-7.6	100	0.00
57		2-Hexanone	40.000	40.738	-1.8	100	0.00
58	P	Chlorobenzene	20.000	21.135	-5.7	102	0.00
59	C	Ethylbenzene	20.000	20.865	-4.3	100	0.00
60		1,1,1,2-Tetrachloroethane	20.000	21.640	-8.2	102	0.00
61		m,p-Xylenes (2)	40.000	41.951	-4.9	101	0.00
62		o-Xylene	20.000	21.033	-5.2	100	0.00
63		Styrene	20.000	21.416	-7.1	100	0.00
64	P	Bromoform	20.000	21.073	-5.4	105	0.00
65		Isopropylbenzene	20.000	20.876	-4.4	99	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	99	0.00
67	S	4-Bromofluorobenzene (S)	50.000	49.161	1.7	98	0.00
68		Bromobenzene	20.000	20.733	-3.7	100	0.00
69		n-Propylbenzene	20.000	20.613	-3.1	99	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.497	-2.5	98	0.00
71		2-Chlorotoluene	20.000	20.857	-4.3	100	0.00
72		1,3,5-Trimethylbenzene	20.000	20.749	-3.7	100	0.00
73		1,2,3-Trichloropropane	20.000	21.392	-7.0	101	0.00
74		t-1,4-Dichloro-2-butene	20.000	18.623	6.9	86	0.00
75		4-Chlorotoluene	20.000	20.810	-4.0	101	0.00
76		tert-Butylbenzene	20.000	20.656	-3.3	100	0.00
77		1,2,4-Trimethylbenzene	20.000	20.840	-4.2	99	0.00
78		sec-Butylbenzene	20.000	20.715	-3.6	100	0.00
79		4-Isopropyltoluene	20.000	21.320	-6.6	100	0.00
80		1,3-Dichlorobenzene	20.000	21.184	-5.9	102	0.00
81		1,4-Dichlorobenzene	20.000	20.576	-2.9	101	0.00
82		n-Butylbenzene	20.000	21.081	-5.4	99	0.00
83		1,2-Dichlorobenzene	20.000	20.994	-5.0	101	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	20.985	-4.9	104	0.00
85		Hexachlorobutadiene	20.000	21.409	-7.0	97	0.00
86		1,2,4-Trichlorobenzene	20.000	21.203	-6.0	99	0.00
87		Naphthalene	20.000	21.172	-5.9	100	0.00
88		1,2,3-Trichlorobenzene	20.000	21.100	-5.5	100	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	98	0.00
2		Dichlorodifluoromethane	20.000	0.151	99.2#	1	0.00
3	P	Chloromethane	20.000	0.439	97.8#	2	0.00
4	C	Vinyl Chloride	20.000	0.160	99.2#	1	0.00
5		Bromomethane	20.000	0.584	97.1#	3	0.00
6		Chloroethane	20.000	0.438	97.8#	2	0.02
7		Trichlorofluoromethane	20.000	0.089	99.6#	0	0.01
8		Ethanol	1250.000	1332.917	-6.6	99	0.00
9	C	1,1-Dichloroethene	20.000	0.146	99.3#	1	0.00
10		Carbon Disulfide	20.000	0.505	97.5#	2	0.00
11		Freon 113	20.000	0.000	100.0#	0	-3.29#
12		Iodomethane	20.000	2.975	85.1#	2	0.00
13		Acrolein	20.000	0.000	100.0#	0	-3.63#
14		Methylene Chloride	20.000	-1.000	105.0#	7	0.00
15		Acetone	40.000	0.849	97.9#	2	0.02
16		t-1,2-Dichloroethene	20.000	0.285	98.6#	1	0.00
17		n-Hexane	20.000	0.000	100.0#	0	-4.12#
18		Methyl-tert-butyl-ether	20.000	0.069	99.7#	0	0.00
19		tert-Butanol (TBA)	1250.000	1346.739	-7.7	98	0.00
20		Diisopropyl ether (DIPE)	5.000	4.510	9.8	101	0.00
21	P	1,1-Dichloroethane	20.000	0.226	98.9#	1	0.00
22		Acrylonitrile	20.000	0.000	100.0#	0	-4.76#
23		Ethyl-tert-butyl ether (ET	5.000	4.600	8.0	98	0.00
24		Vinyl Acetate	20.000	0.859	95.7#	4	-0.02
25		c-1,2-Dichloroethene	20.000	0.214	98.9#	1	0.00
26		2,2-Dichloropropane	20.000	0.086	99.6#	0	0.00
27		Bromochloromethane	20.000	0.000	100.0#	0	-5.45#
28	C	Chloroform	20.000	0.239	98.8#	1	0.00
29		Carbon Tetrachloride	20.000	0.000	100.0#	0	-5.66#
30		Tetrahydrofuran	20.000	0.000	100.0#	0	-5.71#
31		1,1,1-Trichloroethane	20.000	0.091	99.5#	0	0.01
32	S	Dibromofluoromethane (S)	50.000	49.499	1.0	98	0.00
33		1,1-Dichloropropene	20.000	0.189	99.1#	1	0.00
34		2-Butanone (MEK)	40.000	0.000	100.0#	0	-5.86#
35		Benzene	20.000	0.224	98.9#	1	0.01
36		tert-Amyl methyl ether (TA	5.000	4.459	10.8	98	0.00
37		1,2-Dichloroethane (EDC)	20.000	0.126	99.4#	1	0.00
38		iso-Butyl Alcohol	500.000	63.312	87.3#	12	-0.12
39	S	1,4-Difluorobenzene (S)	50.000	50.206	-0.4	99	0.00
40		Trichloroethene (TCE)	20.000	0.233	98.8#	1	0.00
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	4.485	10.3	93	0.00
42		Dibromomethane	20.000	0.000	100.0#	0	-7.20#
43	C	1,2-Dichloropropane	20.000	0.158	99.2#	1	0.00
44		Bromodichloromethane	20.000	0.127	99.4#	1	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	96	0.00
46		2-Chloroethyl Vinyl Ether	20.000	0.000	100.0#	0	-8.03#
47		c-1,3-Dichloropropene	20.000	0.141	99.3#	1	0.00
48	S	Toluene-d8 (S)	50.000	49.809	0.4	97	0.00
49	C	Toluene	20.000	0.240	98.8#	1	0.00
50		Tetrachloroethene (PCE)	20.000	0.220	98.9#	1	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	0.000	100.0#	0	-8.80#
52		t-1,3-Dichloropropene	20.000	0.114	99.4#	1	0.01
53		1,1,2-Trichloroethane	20.000	0.000	100.0#	0	-9.01#
54		Dibromochloromethane	20.000	0.000	100.0#	0	-9.19#
55		1,3-Dichloropropane	20.000	0.102	99.5#	0	0.00
56		1,2-Dibromoethane (EDB)	20.000	0.000	100.0#	0	-9.43#
57		2-Hexanone	40.000	0.080	99.8#	0	0.00
58	P	Chlorobenzene	20.000	0.287	98.6#	1	0.00
59	C	Ethylbenzene	20.000	0.239	98.8#	1	0.00
60		1,1,1,2-Tetrachloroethane	20.000	0.127	99.4#	1	0.00
61		m,p-Xylenes (2)	40.000	0.503	98.7#	1	0.00
62		o-Xylene	20.000	0.225	98.9#	1	0.00
63		Styrene	20.000	0.237	98.8#	1	0.00
64	P	Bromoform	20.000	0.000	100.0#	0	-10.54#
65		Isopropylbenzene	20.000	0.196	99.0#	1	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	91	0.00
67	S	4-Bromofluorobenzene (S)	50.000	51.306	-2.6	93	0.00
68		Bromobenzene	20.000	0.264	98.7#	1	0.00
69		n-Propylbenzene	20.000	0.264	98.7#	1	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	0.000	100.0#	0	-11.14#
71		2-Chlorotoluene	20.000	0.174	99.1#	1	0.00
72		1,3,5-Trimethylbenzene	20.000	0.256	98.7#	1	0.00
73		1,2,3-Trichloropropane	20.000	0.000	100.0#	0	-11.25#
74		t-1,4-Dichloro-2-butene	20.000	0.000	100.0#	0	-11.28#
75		4-Chlorotoluene	20.000	0.325	98.4#	1	0.00
76		tert-Butylbenzene	20.000	0.226	98.9#	1	0.00
77		1,2,4-Trimethylbenzene	20.000	0.288	98.6#	1	0.00
78		sec-Butylbenzene	20.000	0.239	98.8#	1	0.00
79		4-Isopropyltoluene	20.000	0.288	98.6#	1	0.00
80		1,3-Dichlorobenzene	20.000	0.348	98.3#	2	0.00
81		1,4-Dichlorobenzene	20.000	0.358	98.2#	2	0.00
82		n-Butylbenzene	20.000	0.368	98.2#	2	0.00
83		1,2-Dichlorobenzene	20.000	0.290	98.6#	1	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	0.000	100.0#	0	-12.81#
85		Hexachlorobutadiene	20.000	0.746	96.3#	3	0.00
86		1,2,4-Trichlorobenzene	20.000	0.592	97.0#	3	0.00
87		Naphthalene	20.000	0.392	98.0#	2	0.00
88		1,2,3-Trichlorobenzene	20.000	0.528	97.4#	2	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Calibration Status Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI190621G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Jun 21 11:04:13 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	50	50	50	C:\msdchem\1\data\2019-06\9F20044\VI19062042.D
2	100	100	50	C:\msdchem\1\data\2019-06\9F20044\VI19062043.D
3	250	250	50	C:\msdchem\1\data\2019-06\9F20044\VI19062044.D
4	500	500	50	C:\msdchem\1\data\2019-06\9F20044\VI19062045.D
5	1000	1000	50	C:\msdchem\1\data\2019-06\9F20044\VI19062046.D
6	2500	2500	50	C:\msdchem\1\data\2019-06\9F20044\VI19062047.D
7	5000	5000	50	C:\msdchem\1\data\2019-06\9F20044\VI19062048.D
8	10K	10000	50	C:\msdchem\1\data\2019-06\9F20044\VI19062049.D

#	ID	Update Time	Quant Time	Acquisition Time
1	50	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 4:10 am
2	100	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 4:37 am
3	250	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 5:04 am
4	500	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 5:31 am
5	1000	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 5:58 am
6	2500	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 6:25 am
7	5000	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 6:52 am
8	10K	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 7:19 am

VI190621G.M Fri Jun 21 11:10:06 2019

Method Path : C:\msdchem\1\methods\
Method File : VI190621G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Jun 21 11:04:13 2019
Response Via : Initial Calibration

Calibration Files
50 =VI19062042.D 100 =VI19062043.D 250 =VI19062044.D 500 =VI19062045.D 1000=VI19062046.D 2500=VI19062047.D
5000=VI19062048.D 10K =VI19062049.D

		Compound	50	100	250	500	1000	2500	5000	10K	Avg	%RSD
1)	I	Pentafluorobenzene...	----------	----------	----------	ISTD	----------	----------	----------	----------		
2)	S	1,4-Difluorobe...	1.674	1.679	1.674	1.666	1.685	1.668	1.694	1.713	1.682	0.93
3)	S	4-Bromofluorob...	0.566	0.572	0.568	0.582	0.586	0.593	0.604	0.606	0.585	2.64
4)	H	NWTPH-Gx (TPH)	0.868	1.298	1.446	1.577	1.545	1.638	1.731	1.724	1.478	19.30
5)	H	TPHg (C5-C9)	3.161	2.665	2.296	2.197	2.072	2.099	2.132	2.116	2.342	16.33
6)	H	TPHg (C6-C10)	2.644	2.253	1.930	1.868	1.761	1.775	1.804	1.803	1.980	15.77
7)	H	CA-LUFT (C5-C12)	3.557	3.029	2.649	2.602	2.468	2.537	2.603	2.593	2.755	13.25
8)		Benzene (NR)									0.000	-1.00
9)	S	Toluene-d8 (NR)									0.000	-1.00
10)		Toluene (NR)									0.000	-1.00
11)	S	Chlorobenzene-...									0.000	-1.00
12)	S	1,4-Dichlorobe...									0.000	-1.00
13)		Naphthalene (NR)									0.000	-1.00

(#) = Out of Range

Compound List Report VOA-GCMS9

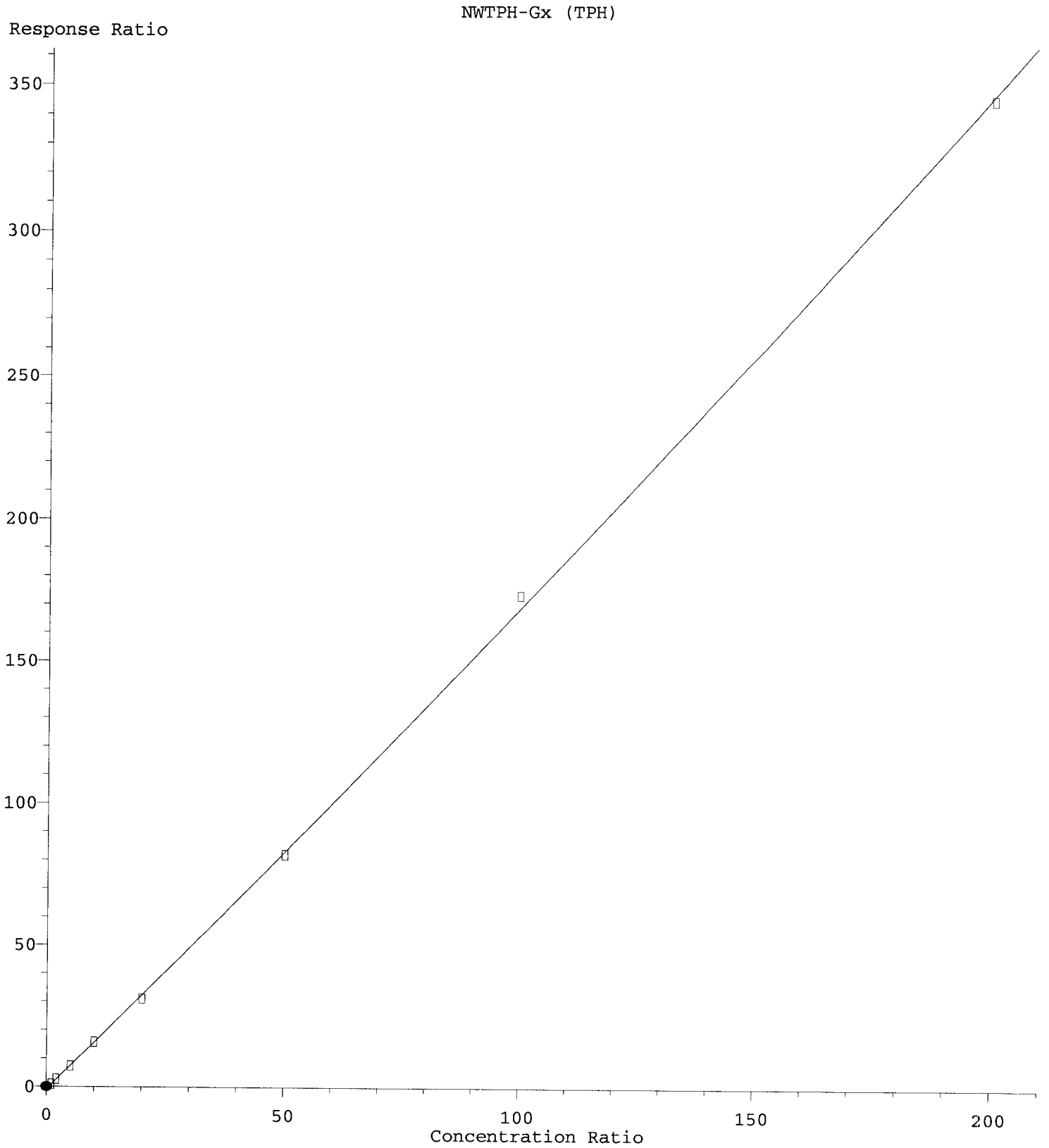
Method Path : C:\msdchem\1\methods\
Method File : VI190621G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Jun 21 11:04:13 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.223	1.000	A	2	A	B
2	S	1,4-Difluorobenzene (Sur)	114	6.789	1.091	A	2	A	B
3	S	4-Bromofluorobenzene (Sur)	174	10.980	1.764	A	2	A	B
4	H	NWTPH-Gx (TPH)	TIC	9.890	1.589	Q	0	A	B
5	H	TPHg (C5-C9)	TIC	9.890	1.589	Q	0	A	B
6	H	TPHg (C6-C10)	TIC	9.890	1.589	Q	0	A	B
7	H	CA-LUFT (C5-C12)	TIC	9.890	1.589	Q	0	A	B
8		Benzene (NR)	78	6.132	0.985	A	2	A	B
9	S	Toluene-d8 (NR)	98	8.304	1.334	A	2	A	B
10		Toluene (NR)	91	8.364	1.344	A	2	A	B
11	S	Chlorobenzene-d5 (NR)	117	9.916	1.593	A	2	A	B
12	S	1,4-Dichlorobenzene-d4 (NR)	150	11.856	1.905	A	2	A	B
13		Naphthalene (NR)	128	13.633	2.191	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

VI190621G.M Fri Jun 21 11:10:00 2019

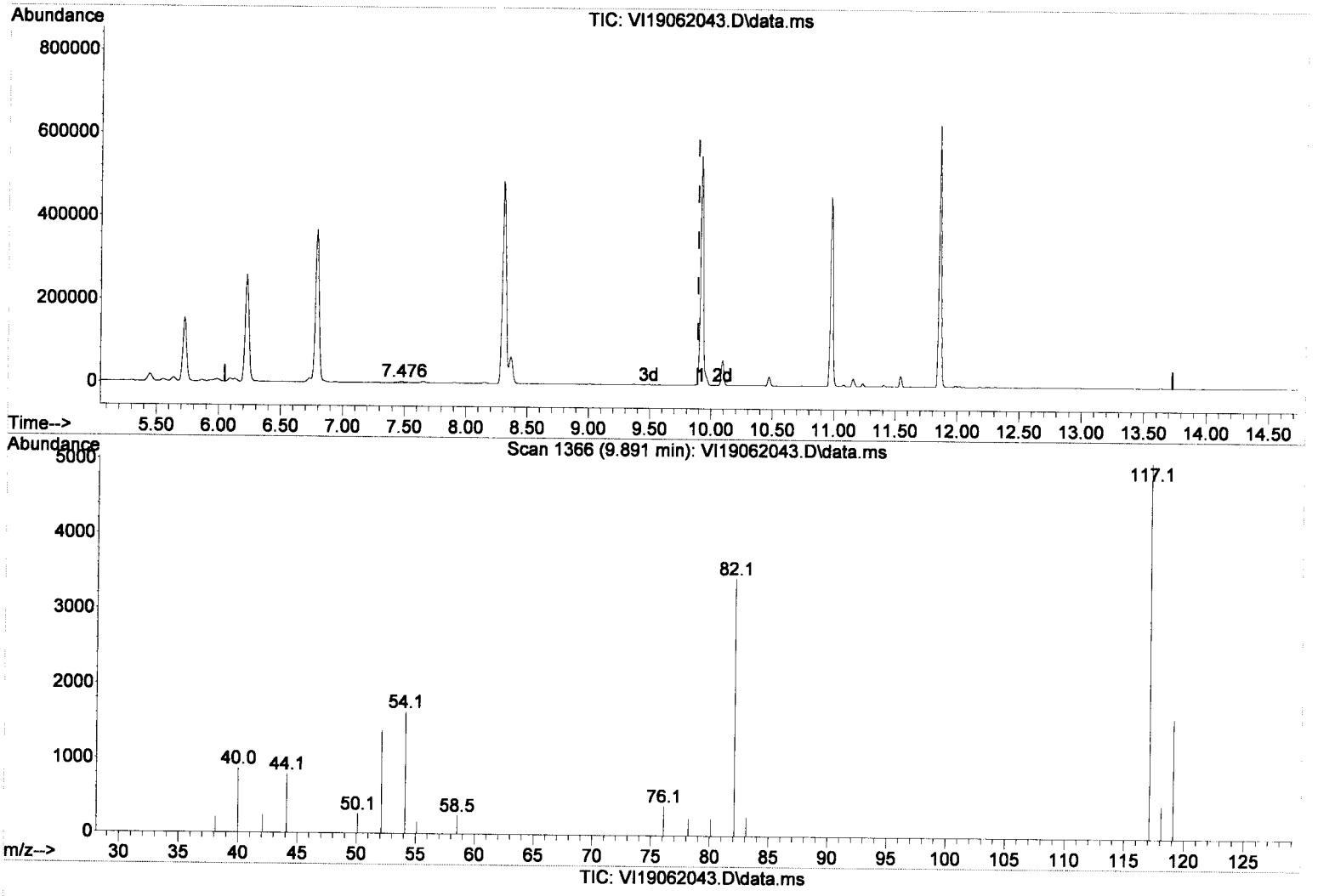


R = 4.10e-004 A*A + 1.65e+000 A - 8.33e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI190621G.M
Calibration Table Last Updated: Fri Jun 21 11:04:13 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:06:13 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

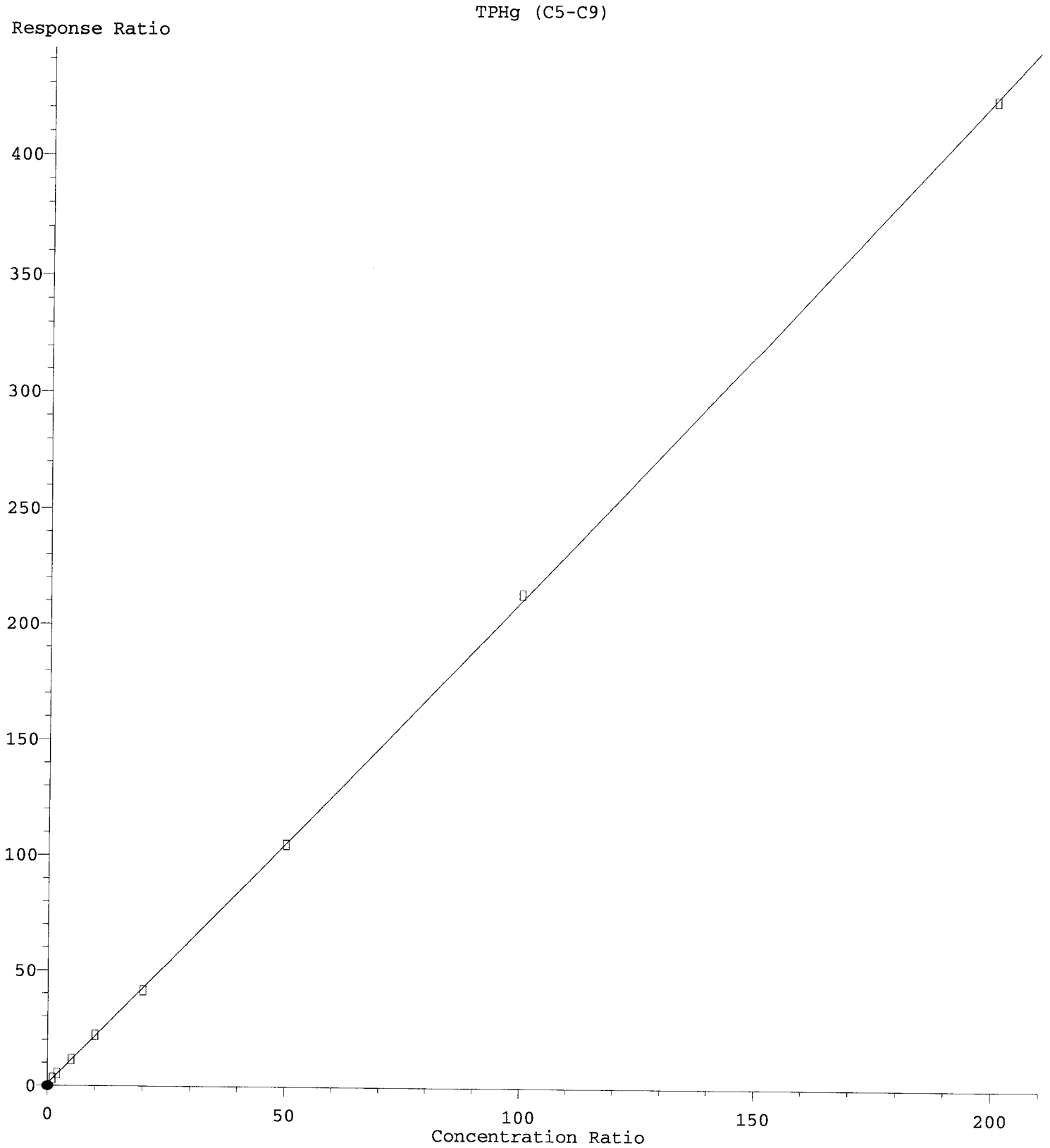


(4) NWTPH-Gx (TPH) (H)

9.890min (0.000) 29.43 ug/L m

response 27765

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.92#
0.00	0.00	1.53#
0.00	0.00	0.00

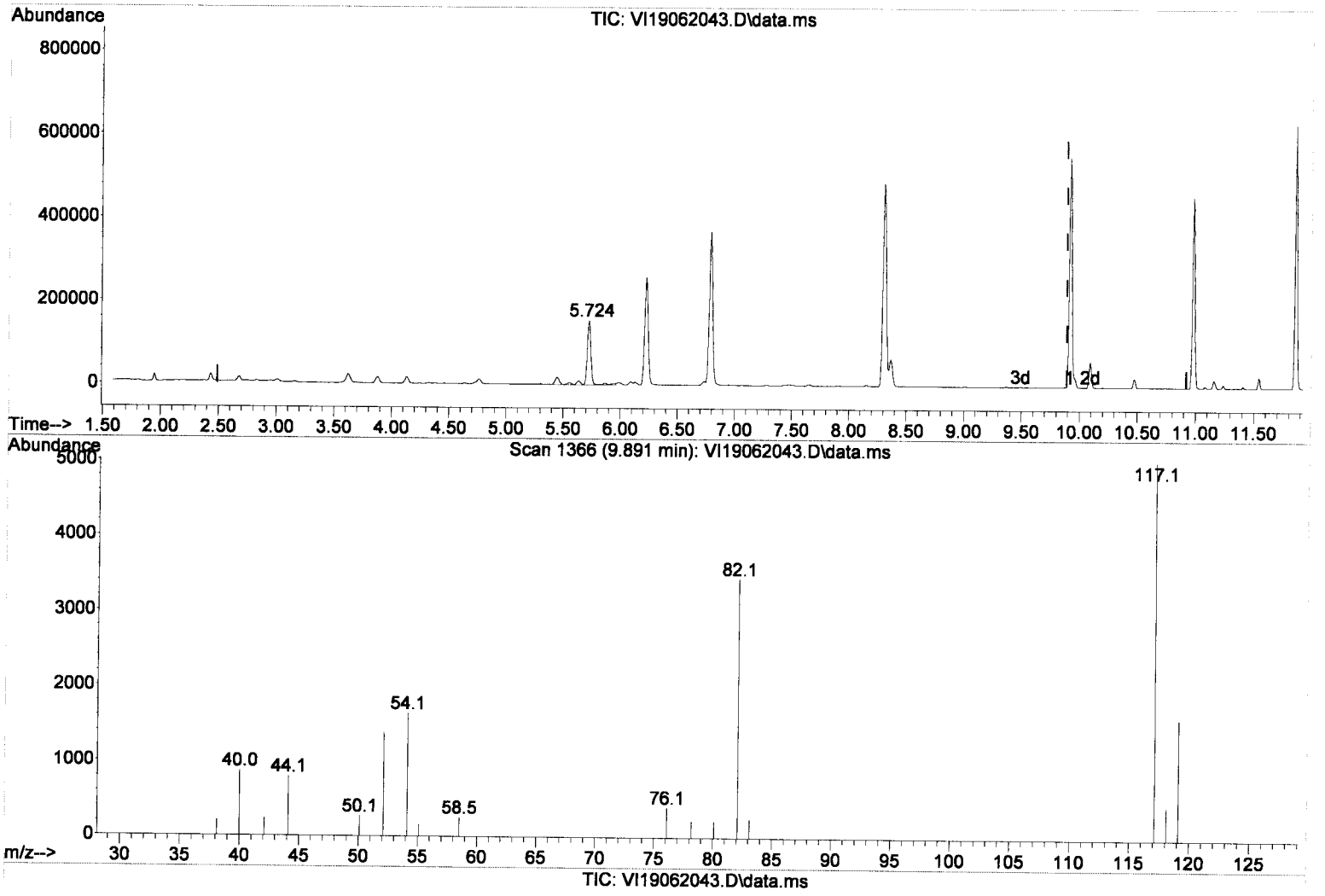


R = 1.98e-004 A*A + 2.08e+000 A + 1.09e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V119062IG.M
Calibration Table Last Updated: Fri Jun 21 11:04:40 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:06:13 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

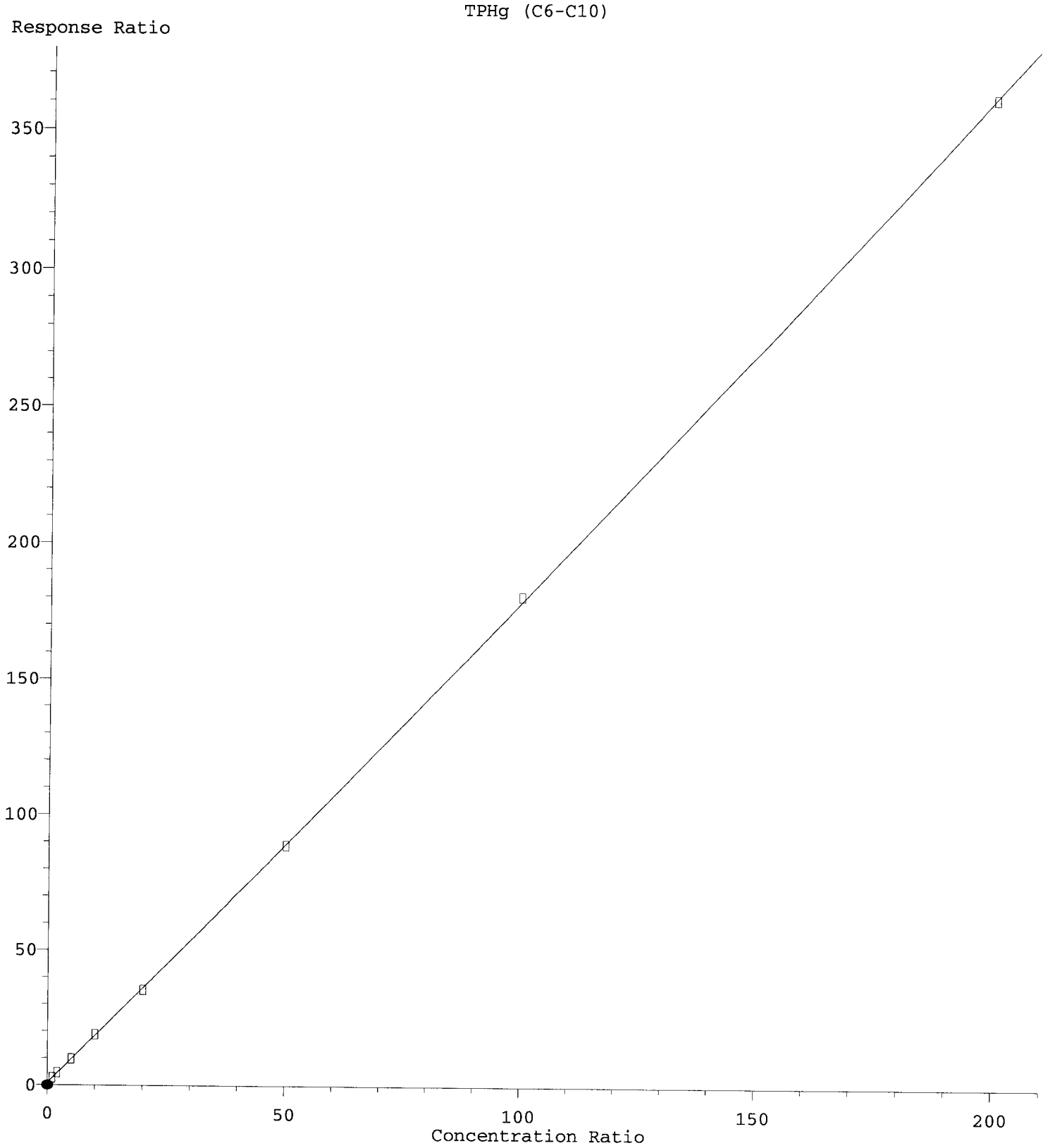


(5) TPHg (C5-C9) (H)

9.890min (0.000) 27.57 ug/L m

response 439094

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.12#
0.00	0.00	0.10#
0.00	0.00	0.00

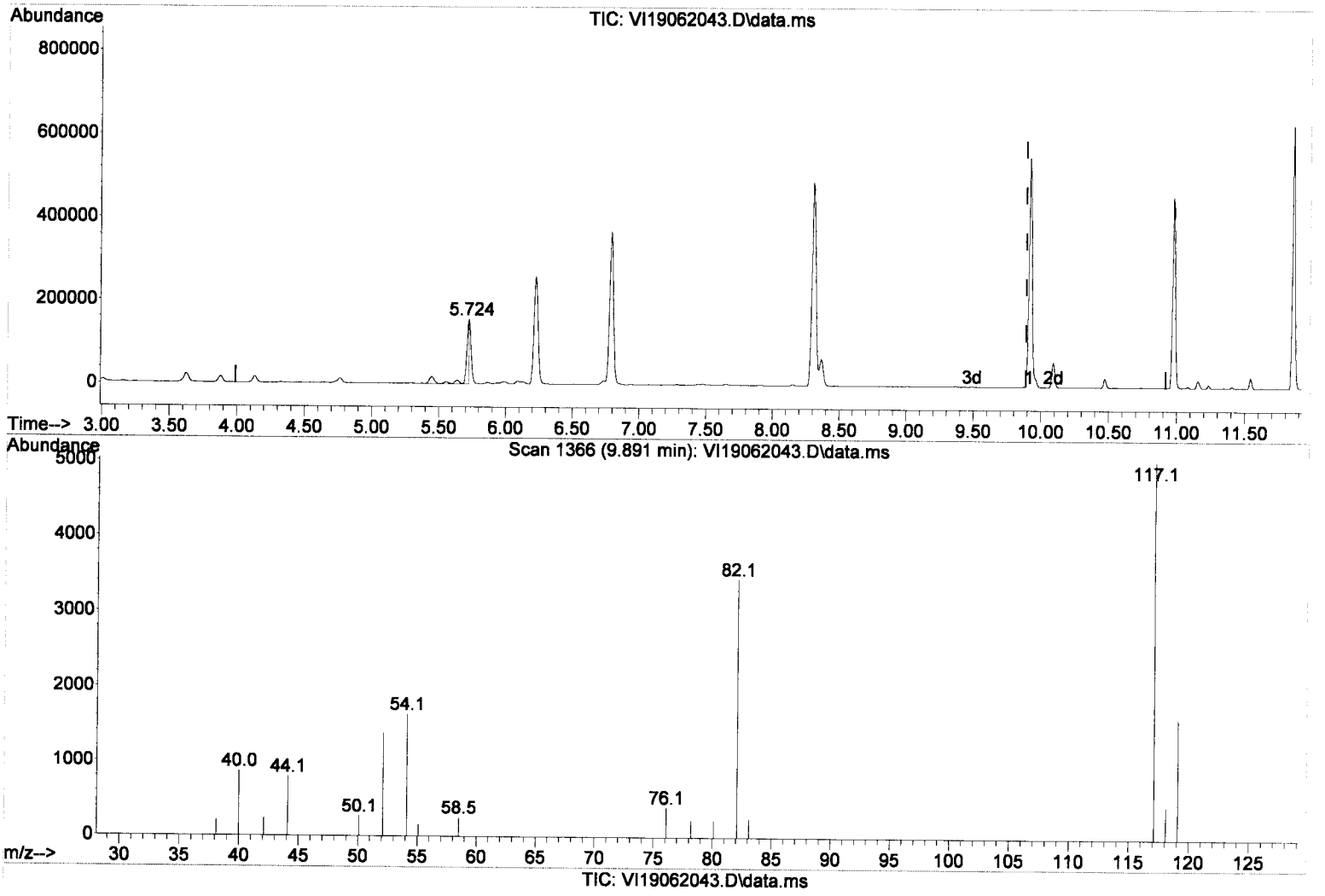


R = 2.42e-004 A*A + 1.75e+000 A + 9.10e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V119062IG.M
Calibration Table Last Updated: Fri Jun 21 11:04:48 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:06:13 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

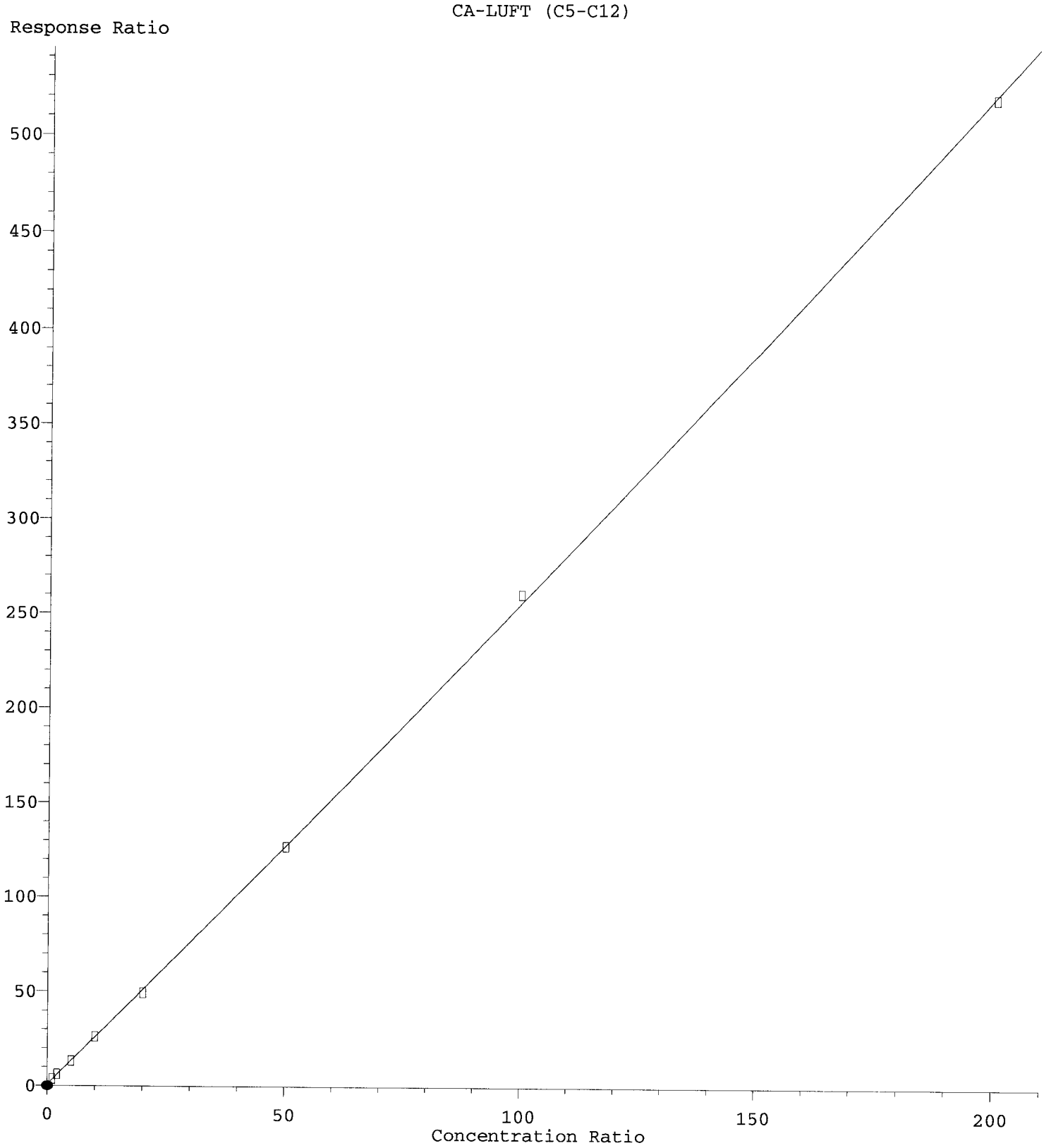


(6) TPHg (C6-C10) (H)

9.890min (0.000) 13.48 ug/L m

response 271802

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.20#
0.00	0.00	0.16#
0.00	0.00	0.00

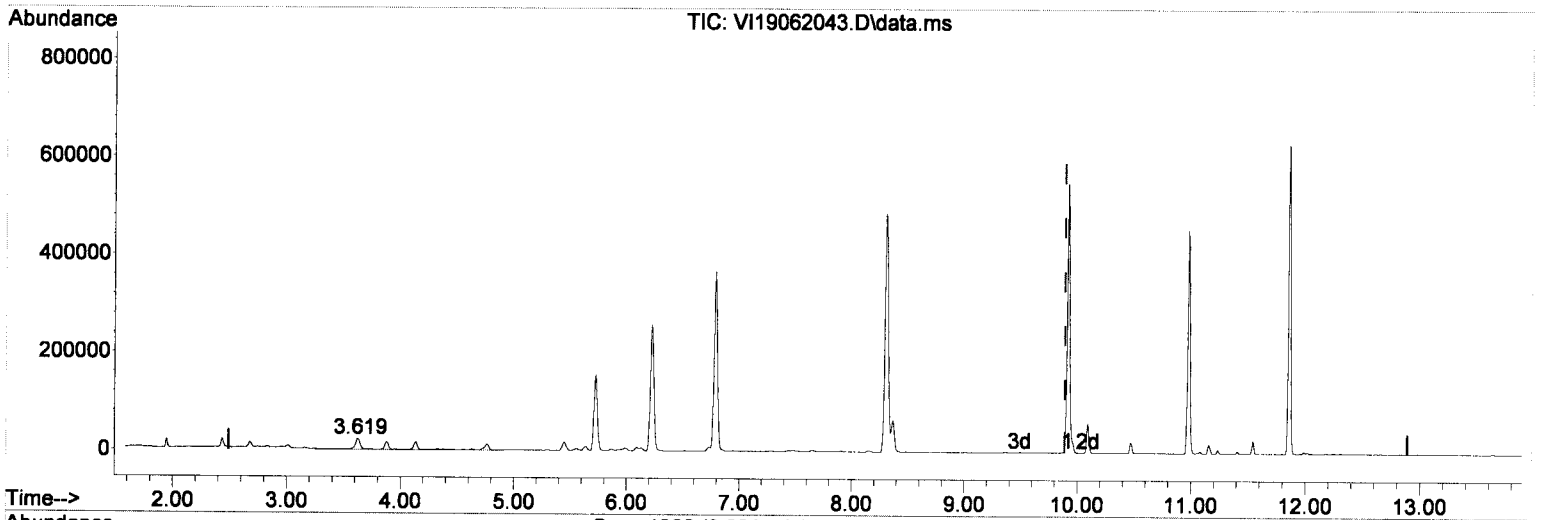


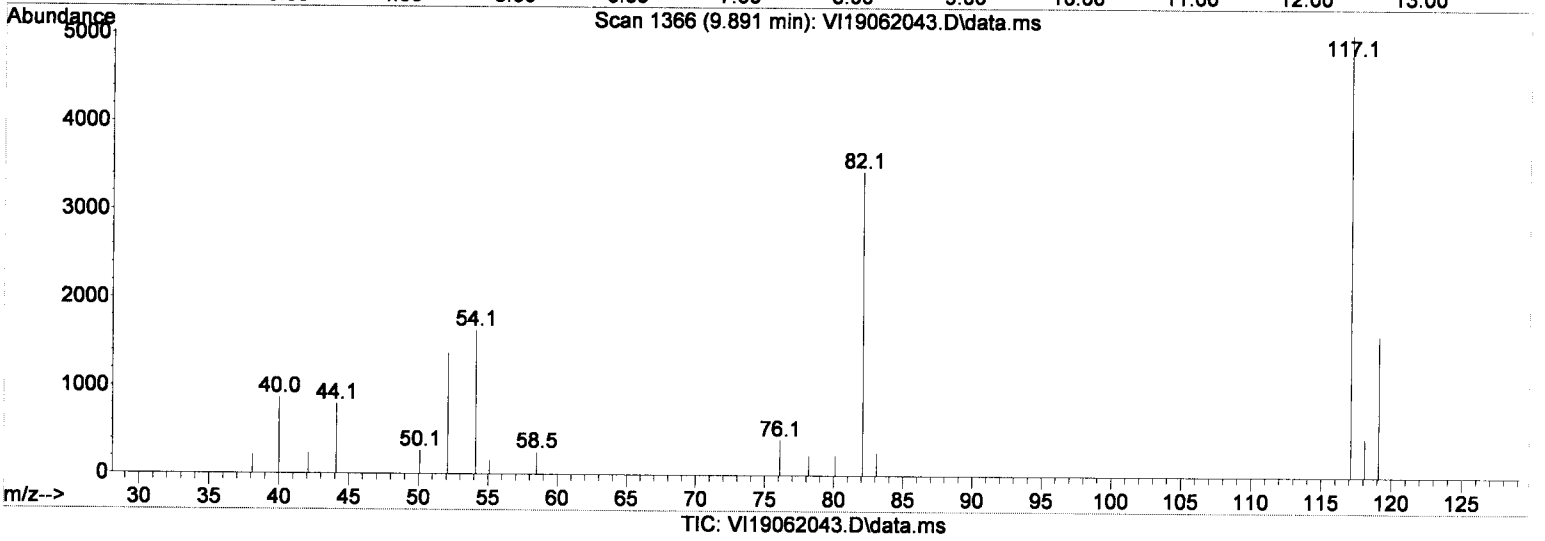
R = 4.71e-004 A*A + 2.50e+000 A + 9.71e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V1190621G.M
Calibration Table Last Updated: Fri Jun 21 11:04:48 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:06:13 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





(7) CA-LUFT (C5-C12) (H)

9.890min (0.000) 4.29 ug/L m

response 233055

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.23#
0.00	0.00	0.18#
0.00	0.00	0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9F20044

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	
9F20044-TUN2	MS Tune	Water		A19C125	6/21/2019	2:22:00AM
9F20044-ICB2	Initial Cal Blank	Water		A19E148	6/21/2019	3:43:00AM
9F20044-CALC	Cal Standard	Water	A19F179	"	6/21/2019	4:10:00AM
9F20044-CALD	Cal Standard	Water	A19F176	"	6/21/2019	4:37:00AM
9F20044-CALE	Cal Standard	Water	A19F177	"	6/21/2019	5:04:00AM
9F20044-CALF	Cal Standard	Water	A19F178	"	6/21/2019	5:31:00AM
9F20044-CALG	Cal Standard	Water	A19F180	"	6/21/2019	5:58:00AM
9F20044-CALH	Cal Standard	Water	A19F181	"	6/21/2019	6:25:00AM
9F20044-CALI	Cal Standard	Water	A19F182	"	6/21/2019	6:52:00AM
9F20044-CALJ	Cal Standard	Water	A19F183	"	6/21/2019	7:19:00AM
9F20044-ICV3	Initial Cal Check	Water	A19B262	"	6/21/2019	8:40:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9F2102** Instrument: **VOA-GCMS9**

8015D-Mod Gasoline (C6-C10 Sequence: **9F20044** Matrix: **Water**

9F20044-CALC	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALD	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALE	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALF	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALG	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALH	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALI	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-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: 9F20044

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: **A9F2102** Instrument: **VOA-GCMS9**

NWTPH-Gx Sequence: **9F20044** Matrix: **Water**

9F20044-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\2019-06\9F20044\
Data File : VI19062052.D
Acq On : 21 Jun 2019 8:40 am
Operator : MM
Sample : 9F20044-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:25 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	108	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	49.936	0.1	109	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.723	0.6	108	0.00
4	H	NWTPH-Gx (TPH)	500.000	491.693	1.7	106	0.00
5	H	TPHg (C5-C9)	500.000	469.246	6.2	101	0.00
6	H	TPHg (C6-C10)	500.000	488.486	2.3	104	0.00
7	H	CA-LUFT (C5-C12)	500.000	468.941	6.2	101	0.00
8		Benzene (NR)	-1.000	0.000	0.0	106	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	107	0.00
10		Toluene (NR)	-1.000	0.000	0.0	108	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	108	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	107	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	125	0.00

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

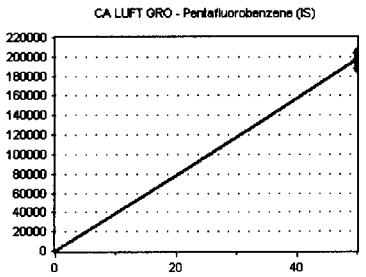
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

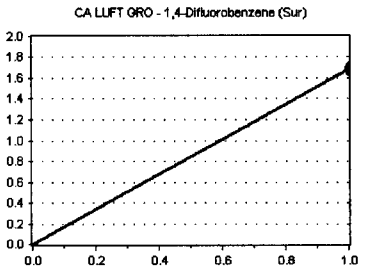


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	203678	4073.560	6.22
9F20044-CALD	50	196555	3931.100	6.22
9F20044-CALE	50	194307	3886.140	6.22
9F20044-CALF	50	193440	3868.800	6.22
9F20044-CALG	50	188214	3764.280	6.22
9F20044-CALH	50	197104	3942.080	6.22
9F20044-CALI	50	197272	3945.440	6.22
9F20044-CALJ	50	203972	4079.440	6.22

AVE RF **3936.355** RF RSD **2.65** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

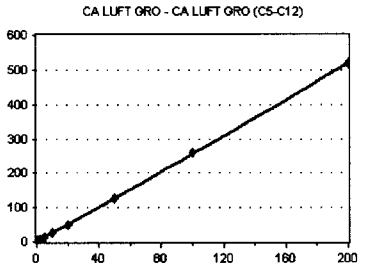


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	341047	1.674	6.79
9F20044-CALD	50	330061	1.679	6.79
9F20044-CALE	50	325280	1.674	6.79
9F20044-CALF	50	322266	1.666	6.79
9F20044-CALG	50	317178	1.685	6.79
9F20044-CALH	50	328682	1.668	6.79
9F20044-CALI	50	334265	1.694	6.79
9F20044-CALJ	50	349364	1.713	6.78

AVE RF **1.682** RF RSD **0.93** AVE RT **6.79**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

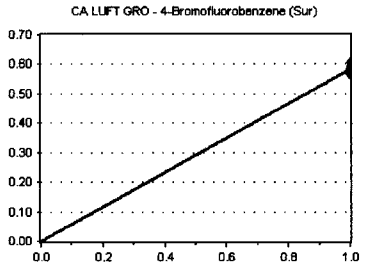


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	724537	3.557	9.89
9F20044-CALD	100	1190862	3.029	9.89
9F20044-CALE	250	2573247	2.649	9.89
9F20044-CALF	500	5033567	2.602	9.89
9F20044-CALG	1000	9289018	2.468	9.89
9F20044-CALH	2500	2.500336E+07	2.537	9.89
9F20044-CALI	5000	5.134156E+07	2.603	9.89
9F20044-CALJ	10000	1.0578E+08	2.593	9.89

AVE RF **2.755** RF RSD **13.25** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	115213	0.566	10.98
9F20044-CALD	50	112452	0.572	10.98
9F20044-CALE	50	110399	0.568	10.98
9F20044-CALF	50	112659	0.582	10.98
9F20044-CALG	50	110284	0.586	10.98
9F20044-CALH	50	116804	0.593	10.98
9F20044-CALI	50	119127	0.604	10.98
9F20044-CALJ	50	123534	0.606	10.98

AVE RF **0.585** RF RSD **2.64** AVE RT **10.98**

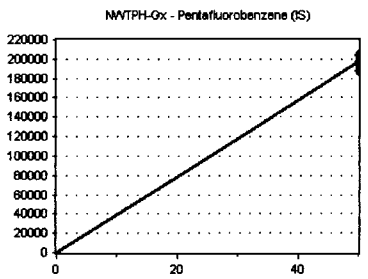
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

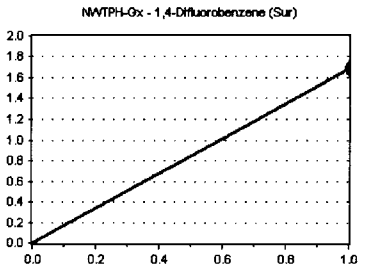


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	203678	4073.560	6.22
9F20044-CALD	50	196555	3931.100	6.22
9F20044-CALE	50	194307	3886.140	6.22
9F20044-CALF	50	193440	3868.800	6.22
9F20044-CALG	50	188214	3764.280	6.22
9F20044-CALH	50	197104	3942.080	6.22
9F20044-CALI	50	197272	3945.440	6.22
9F20044-CALJ	50	203972	4079.440	6.22

AVE RF **3936.355** RF RSD **2.65** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

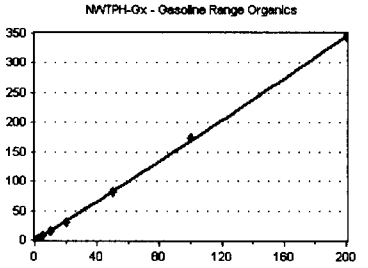


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	341047	1.674	6.79
9F20044-CALD	50	330061	1.679	6.79
9F20044-CALE	50	325280	1.674	6.79
9F20044-CALF	50	322266	1.666	6.79
9F20044-CALG	50	317178	1.685	6.79
9F20044-CALH	50	328682	1.668	6.79
9F20044-CALI	50	334265	1.694	6.79
9F20044-CALJ	50	349364	1.713	6.78

AVE RF **1.682** RF RSD **0.93** AVE RT **6.79**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

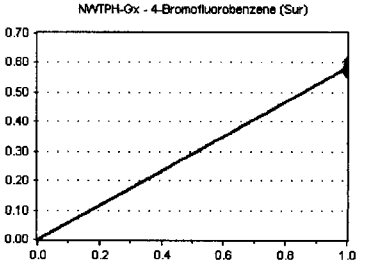


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	176842	0.868	9.89
9F20044-CALD	100	510164	1.298	9.89
9F20044-CALE	250	1404577	1.446	9.89
9F20044-CALF	500	3050984	1.577	9.89
9F20044-CALG	1000	5817074	1.545	9.89
9F20044-CALH	2500	1.613806E+07	1.638	9.89
9F20044-CALI	5000	3.415482E+07	1.731	9.89
9F20044-CALJ	10000	7.031796E+07	1.724	9.89

AVE RF **1.478** RF RSD **19.30** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	115213	0.566	10.98
9F20044-CALD	50	112452	0.572	10.98
9F20044-CALE	50	110399	0.568	10.98
9F20044-CALF	50	112659	0.582	10.98
9F20044-CALG	50	110284	0.586	10.98
9F20044-CALH	50	116804	0.593	10.98
9F20044-CALI	50	119127	0.604	10.98
9F20044-CALJ	50	123534	0.606	10.98

AVE RF **0.585** RF RSD **2.64** AVE RT **10.98**

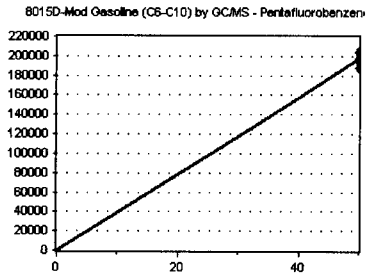
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

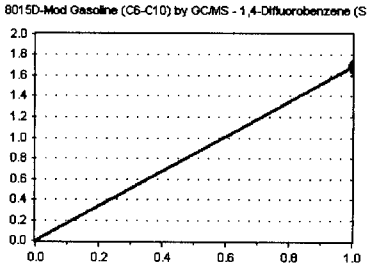


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	203678	4073.560	6.22
9F20044-CALD	50	196555	3931.100	6.22
9F20044-CALE	50	194307	3886.140	6.22
9F20044-CALF	50	193440	3868.800	6.22
9F20044-CALG	50	188214	3764.280	6.22
9F20044-CALH	50	197104	3942.080	6.22
9F20044-CALI	50	197272	3945.440	6.22
9F20044-CALJ	50	203972	4079.440	6.22

AVE RF **3936.355** RF RSD **2.65** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

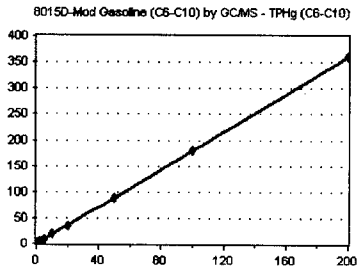


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	341047	1.674	6.79
9F20044-CALD	50	330061	1.679	6.79
9F20044-CALE	50	325280	1.674	6.79
9F20044-CALF	50	322266	1.666	6.79
9F20044-CALG	50	317178	1.685	6.79
9F20044-CALH	50	328682	1.668	6.79
9F20044-CALI	50	334265	1.694	6.79
9F20044-CALJ	50	349364	1.713	6.78

AVE RF **1.682** RF RSD **0.93** AVE RT **6.79**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

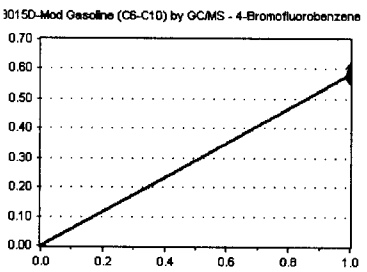


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	538437	2.644	9.89
9F20044-CALD	100	885590	2.253	9.89
9F20044-CALE	250	1874608	1.930	9.89
9F20044-CALF	500	3614041	1.868	9.89
9F20044-CALG	1000	6627134	1.761	9.89
9F20044-CALH	2500	1.749223E+07	1.775	9.89
9F20044-CALI	5000	3.558933E+07	1.804	9.89
9F20044-CALJ	10000	7.354986E+07	1.803	9.89

AVE RF **1.980** RF RSD **15.77** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	115213	0.566	10.98
9F20044-CALD	50	112452	0.572	10.98
9F20044-CALE	50	110399	0.568	10.98
9F20044-CALF	50	112659	0.582	10.98
9F20044-CALG	50	110284	0.586	10.98
9F20044-CALH	50	116804	0.593	10.98
9F20044-CALI	50	119127	0.604	10.98
9F20044-CALJ	50	123534	0.606	10.98

AVE RF **0.585** RF RSD **2.64** AVE RT **10.98**

Injection Log

Directory: v:\data\2019-06\9F20044

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	Vi19062017.d	1.	9F20044-IBL1	1X 5mL DI	20 Jun 2019 16:55
2	2	Vi19062018.d	1.	9F20044-TUN1	A19C125 5mL BFB...	20 Jun 2019 17:22
3	3	Vi19062019.d	1.	9F20044-ICB1	1X 5mL DI	20 Jun 2019 17:49
4	4	Vi19062020.d	1.	9F20044-CAL1	1X 5mL 0.1/0.2P...	20 Jun 2019 18:16
5	5	Vi19062021.d	1.	9F20044-CAL2	1X 5mL 0.2/0.4P...	20 Jun 2019 18:43
6	6	Vi19062022.d	1.	9F20044-CAL3	1X 5mL 0.4/0.8P...	20 Jun 2019 19:10
7	7	Vi19062023.d	1.	9F20044-CAL4	1X 5mL 1/2PPB V...	20 Jun 2019 19:37
8	8	Vi19062024.d	1.	9F20044-CAL5	1X 5mL 2/4PPB V...	20 Jun 2019 20:04
9	9	Vi19062025.d	1.	9F20044-CAL6	1X 5mL 5/10PPB ...	20 Jun 2019 20:31
10	10	Vi19062026.d	1.	9F20044-CAL7	1X 5mL 10/20PPB...	20 Jun 2019 20:58
11	11	Vi19062027.d	1.	9F20044-CAL8	1X 5mL 20/40PPB...	20 Jun 2019 21:25
12	12	Vi19062028.d	1.	9F20044-CAL9	1X 5mL 50/100PP...	20 Jun 2019 21:52
13	13	Vi19062029.d	1.	9F20044-IBL2	1X 5mL DI	20 Jun 2019 22:19
14	14	Vi19062030.d	1.	9F20044-CALA	1X 5mL 100/200P...	20 Jun 2019 22:46
15	15	Vi19062031.d	1.	9F20044-IBL3	1X 5mL DI	20 Jun 2019 23:13
16	16	Vi19062032.d	1.	9F20044-CALB	1X 5mL 200/400P...	20 Jun 2019 23:40
17	17	Vi19062033.d	1.	9F20044-IBL4	1X 5mL DI	21 Jun 2019 00:07
18	18	Vi19062034.d	1.	9F20044-IBL5	1X 5mL DI	21 Jun 2019 00:34
19	19	Vi19062035.d	1.	9F20044-ICV1	1X 5mL 20/40PPB...	21 Jun 2019 01:01
20	20	Vi19062036.d	1.	9F20044-ICV2	1X 5mL 5/1250PP...	21 Jun 2019 01:28
21	21	Vi19062037.d	1.	9F20044-IBL6	1X 5mL DI	21 Jun 2019 01:55
22	22	Vi19062038.d	1.	9F20044-TUN2	A19C125 5mL BFB...	21 Jun 2019 02:22
23	23	Vi19062039.d	1.	9F20044-RT1	A1A167 VPH RT STD	21 Jun 2019 02:49
24	24	Vi19062040.d	1.	9F20044-IBL7	1X 5mL DI	21 Jun 2019 03:16
25	25	Vi19062041.d	1.	9F20044-ICB1	1X 5mL DI	21 Jun 2019 03:43
26	26	Vi19062042.d	1.	9F20044-CALC	1X 5mL 50PPB GX	21 Jun 2019 04:10
27	27	Vi19062043.d	1.	9F20044-CALD	1X 5mL 100PPB GX	21 Jun 2019 04:37
28	28	Vi19062044.d	1.	9F20044-CALE	1X 5mL 250PPB GX	21 Jun 2019 05:04
29	29	Vi19062045.d	1.	9F20044-CALF	1X 5mL 500PPB GX	21 Jun 2019 05:31
30	30	Vi19062046.d	1.	9F20044-CALG	1X 5mL 1000PPB GX	21 Jun 2019 05:58
31	31	Vi19062047.d	1.	9F20044-CALH	1X 5mL 2500PPB GX	21 Jun 2019 06:25
32	32	Vi19062048.d	1.	9F20044-CALI	1X 5mL 5000PPB GX	21 Jun 2019 06:52
33	33	Vi19062049.d	1.	9F20044-CALJ	1X 5mL 10000PPB GX	21 Jun 2019 07:19
34	34	Vi19062050.d	1.	9F20044-IBL8	1X 5mL DI	21 Jun 2019 07:46
35	35	Vi19062051.d	1.	9F20044-IBL9	1X 5mL DI	21 Jun 2019 08:13
36	36	Vi19062052.d	1.	9F20044-ICV3	1X 5mL 500PPB GX	21 Jun 2019 08:40
37	37	Vi19062053.d	1.	9F20044-IBLA	1X 5mL DI	21 Jun 2019 09:08

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062017.D
Acq On : 20 Jun 2019 4:55 pm
Operator : MM
Sample : 9F20044-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

MR

Quant Time: Jun 21 10:39:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

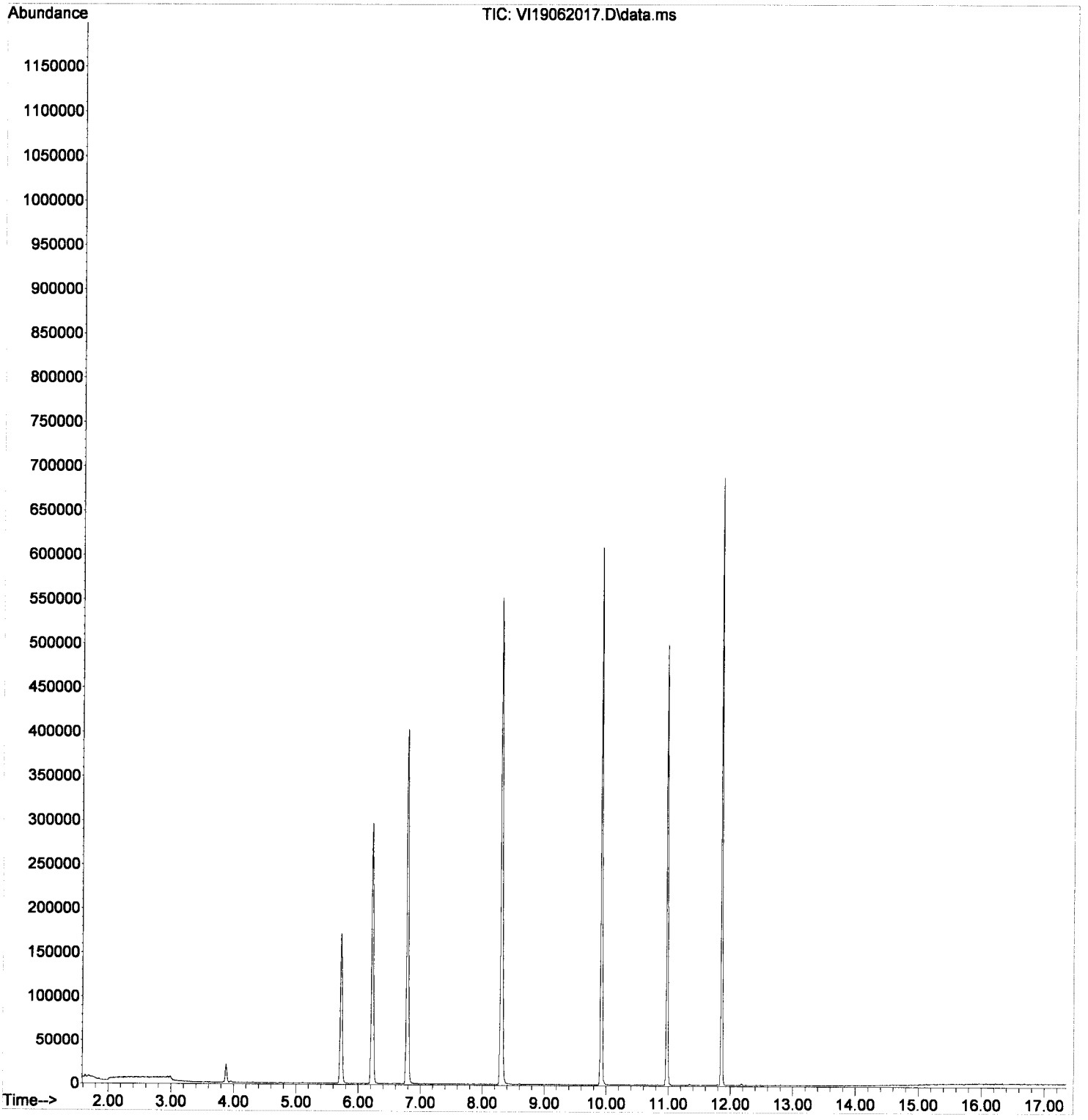
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	227353	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	333976	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	152208	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	120663	49.23	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	376223	49.72	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	439226	50.33	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	126337	50.10	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.904	50	487	0.16	ug/L	#	47
5) Bromomethane	2.372	96	269	0.19	ug/L		83
6) Chloroethane	2.585	64	129	0.13	ug/L	#	36
14) Methylene Chloride	3.881	84	9353	2.37	ug/L		94
15) Acetone	3.960	43	2747	2.48	ug/L		94
19) tert-Butanol (TBA)	4.301	59	370	0.78	ug/L		46

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062017.D
Acq On : 20 Jun 2019 4:55 pm
Operator : MM
Sample : 9F20044-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:39:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

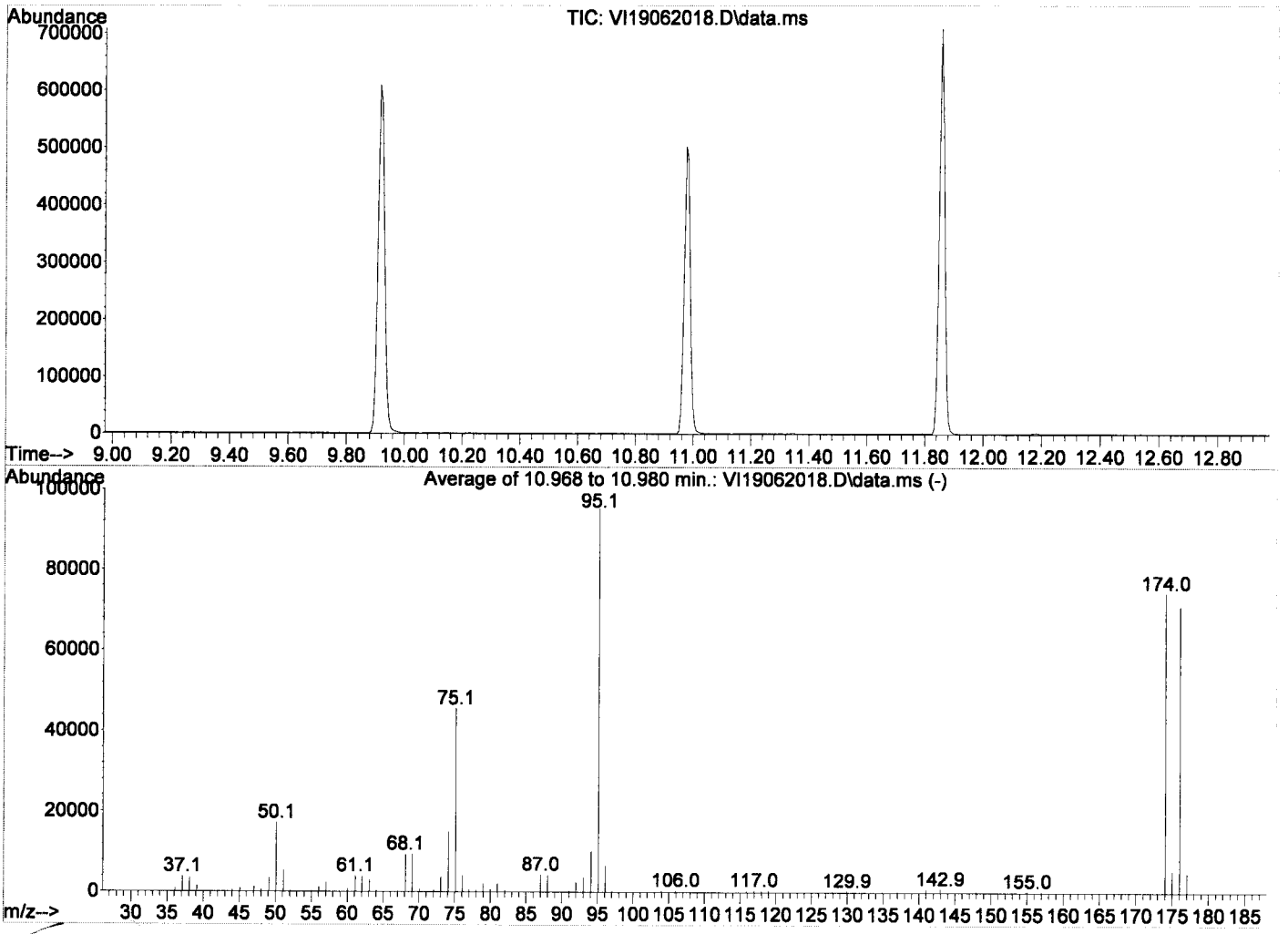


BFB

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062018.D
Acq On : 20 Jun 2019 5:22 pm
Operator : MM
Sample : 9F20044-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019



AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1537

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	18.1	17224	PASS
75	95	30	60	47.9	45648	PASS
95	95	100	100	100.0	95269	PASS
96	95	5	9	6.9	6574	PASS
173	174	0.00	2	0.1	83	PASS
174	95	50	200	78.1	74403	PASS
175	174	5	9	7.3	5400	PASS
176	174	95	101	95.7	71181	PASS
177	176	5	9	6.8	4820	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062018.D
Acq On : 20 Jun 2019 5:22 pm
Operator : MM
Sample : 9F20044-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

M 6/21/19

Quant Time: Jun 21 10:39:51 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

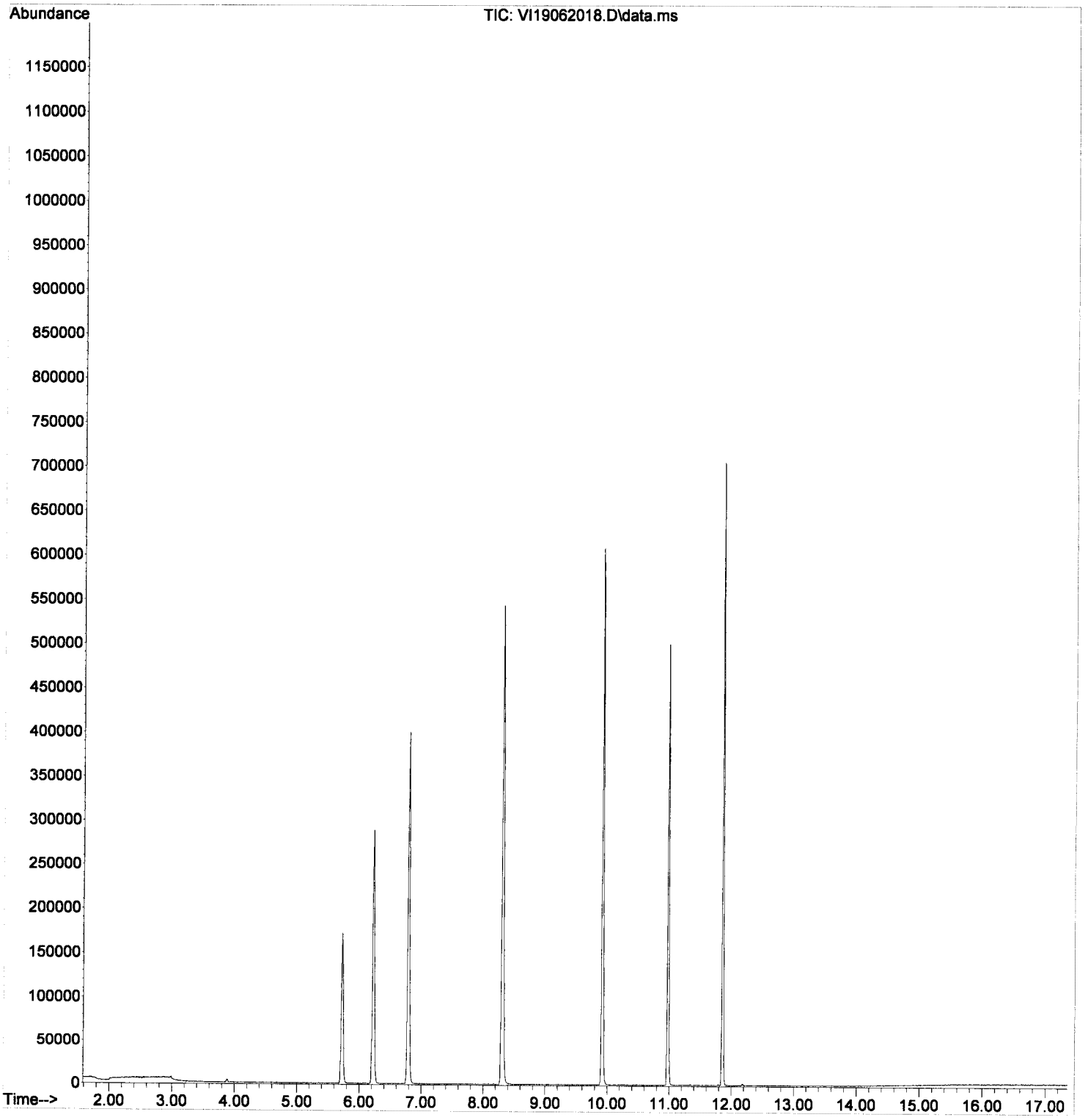
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	223382	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	332022	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	150946	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	118076	49.03 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	364407	49.01 ug/L	0.00
48) Toluene-d8 (S)	8.303	98	434245	50.06 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	126784	50.70 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.904	50	333	0.11 ug/L #	47
5) Bromomethane	2.372	96	268	0.20 ug/L #	47
14) Methylene Chloride	3.881	84	1446	Below Cal	90
15) Acetone	3.948	43	832	0.76 ug/L #	44

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062018.D
Acq On : 20 Jun 2019 5:22 pm
Operator : MM
Sample : 9F20044-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:39:51 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062019.D
Acq On : 20 Jun 2019 5:49 pm
Operator : MM
Sample : 9F20044-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:16 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

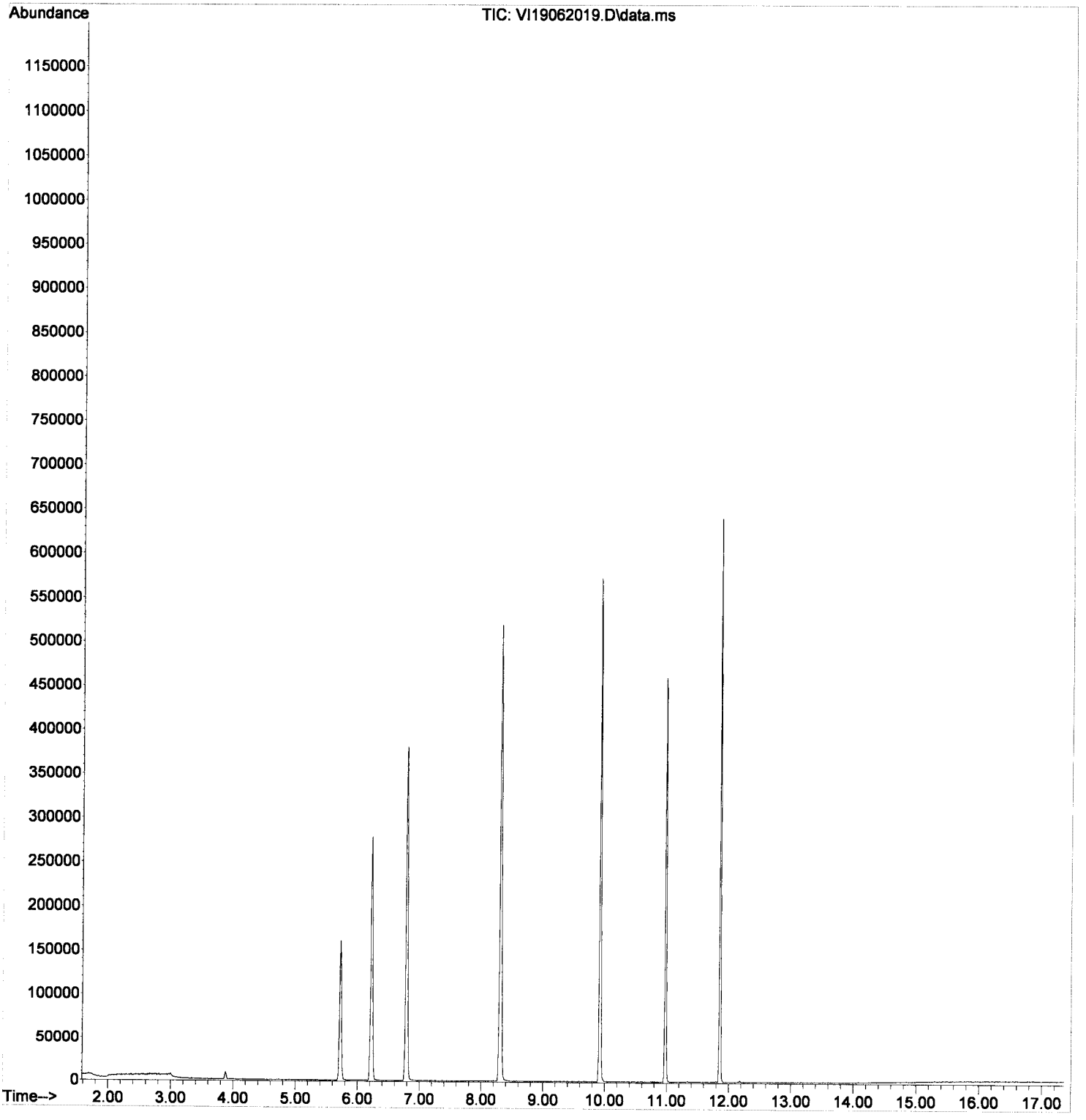
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	213213	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	313537	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138389	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	113446	49.36 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	353458	49.81 ug/L	0.00
48) Toluene-d8 (S)	8.304	98	411974	50.29 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	118495	51.68 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.904	50	326	0.12 ug/L #	47
5) Bromomethane	2.372	96	346	0.26 ug/L	89
14) Methylene Chloride	3.881	84	3908	Below Cal	87
15) Acetone	3.960	43	1239	1.19 ug/L #	44

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062019.D
Acq On : 20 Jun 2019 5:49 pm
Operator : MM
Sample : 9F20044-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:16 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:50:21 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	216252	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	319588	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	144355	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.724	111	116055	45.58	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	358207	46.21	ug/L	0.00
48) Toluene-d8 (S)	8.303	98	419867	49.50	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	122172	55.41	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d	
3) Chloromethane	1.910	50	580	0.16	ug/L	88
4) Vinyl Chloride	0.000		0	N.D.	d	
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Ethanol	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.	d	
10) Carbon Disulfide	0.000		0	N.D.	d	
11) Freon 113	0.000		0	N.D.		
12) Iodomethane	0.000		0	N.D.		
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	3.881	84	5025	1.84	ug/L	97
15) Acetone	0.000		0	N.D.	d	
16) t-1,2-Dichloroethene	0.000		0	N.D.		
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.	d	
19) tert-Butanol (TBA)	0.000		0	N.D.	d	
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.	d	
22) Acrylonitrile	0.000		0	N.D.		
23) Ethyl-tert-butyl ether...	0.000		0	N.D.		
24) Vinyl Acetate	0.000		0	N.D.	d	
25) c-1,2-Dichloroethene	0.000		0	N.D.		
26) 2,2-Dichloropropane	0.000		0	N.D.		
27) Bromochloromethane	0.000		0	N.D.		
28) Chloroform	0.000		0	N.D.	d	
29) Carbon Tetrachloride	0.000		0	N.D.		
30) Tetrahydrofuran	0.000		0	N.D.		
31) 1,1,1-Trichloroethane	0.000		0	N.D.		
33) 1,1-Dichloropropene	0.000		0	N.D.		
34) 2-Butanone (MEK)	0.000		0	N.D.	d	
35) Benzene	0.000		0	N.D.	d	
36) tert-Amyl methyl ether...	0.000		0	N.D.		
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.		
38) iso-Butyl Alcohol	0.000		0	N.D.	d	
40) Trichloroethene (TCE)	0.000		0	N.D.		
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.		
42) Dibromomethane	0.000		0	N.D.		
43) 1,2-Dichloropropane	0.000		0	N.D.		
44) Bromodichloromethane	0.000		0	N.D.		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:50:21 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.364	91	1033	0.11	ug/L	94
50) Tetrachloroethene (PCE)	0.000		0	N.D.		
51) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	d	
52) t-1,3-Dichloropropene	0.000		0	N.D.		
53) 1,1,2-Trichloroethane	0.000		0	N.D.		
54) Dibromochloromethane	0.000		0	N.D.		
55) 1,3-Dichloropropane	0.000		0	N.D.	d	
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
57) 2-Hexanone	0.000		0	N.D.	d	
58) Chlorobenzene	0.000		0	N.D.	d	
59) Ethylbenzene	9.958	91	867	0.09	ug/L	92
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
61) m,p-Xylenes (2)	10.092	91	1349	0.41	ug/L	90
62) o-Xylene	10.475	91	703	0.25	ug/L	92
63) Styrene	0.000		0	N.D.	d	
64) Bromoform	0.000		0	N.D.		
65) Isopropylbenzene	0.000		0	N.D.	d	
68) Bromobenzene	0.000		0	N.D.		
69) n-Propylbenzene	0.000		0	N.D.	d	
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71) 2-Chlorotoluene	0.000		0	N.D.		
72) 1,3,5-Trimethylbenzene	0.000		0	N.D.	d	
73) 1,2,3-Trichloropropane	0.000		0	N.D.		
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
75) 4-Chlorotoluene	0.000		0	N.D.	d	
76) tert-Butylbenzene	0.000		0	N.D.	d	
77) 1,2,4-Trimethylbenzene	0.000		0	N.D.	d	
78) sec-Butylbenzene	0.000		0	N.D.	d	
79) 4-Isopropyltoluene	0.000		0	N.D.	d	
80) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
81) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
82) n-Butylbenzene	0.000		0	N.D.	d	
83) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
85) Hexachlorobutadiene	0.000		0	N.D.		
86) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
87) Naphthalene	0.000		0	N.D.	d	
88) 1,2,3-Trichlorobenzene	0.000		0	N.D.		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:42 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	216252	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	319588	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	144355	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	116055	45.58	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	358207	46.21	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	419867	49.50	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	122172	55.41	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	147	0.06	ug/L	#	49
3) Chloromethane	1.910	50	580	0.16	ug/L		88
4) Vinyl Chloride	2.007	62	208	0.07	ug/L	#	50
5) Bromomethane	2.372	96	318	0.19	ug/L	#	47
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.242	45	289	No Calib		#	
9) 1,1-Dichloroethene	3.242	61	114	0.04	ug/L	#	28
10) Carbon Disulfide	3.260	76	568	0.11	ug/L		78
11) Freon 113	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	0.000		0	N.D.			
14) Methylene Chloride	3.881	84	5025	1.84	ug/L		97
15) Acetone	3.960	43	930	0.72	ug/L	#	44
16) t-1,2-Dichloroethene	0.000		0	N.D.			
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.185	73	515	0.10	ug/L		63
19) tert-Butanol (TBA)	4.307	59	2749	No Calib			
20) Diisopropyl ether (DIPE)	0.000		0	N.D.			
21) 1,1-Dichloroethane	4.702	63	203	0.05	ug/L	#	48
22) Acrylonitrile	0.000		0	N.D.			
23) Ethyl-tert-butyl ether...	0.000		0	N.D.			
24) Vinyl Acetate	4.988	43	684	2.83	ug/L		74
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	5.542	83	285	0.07	ug/L	#	28
29) Carbon Tetrachloride	0.000		0	N.D.			
30) Tetrahydrofuran	0.000		0	N.D.			
31) 1,1,1-Trichloroethane	0.000		0	N.D.			
33) 1,1-Dichloropropene	0.000		0	N.D.			
34) 2-Butanone (MEK)	5.882	43	561	0.31	ug/L		52
35) Benzene	6.126	78	912	0.10	ug/L		55
36) tert-Amyl methyl ether...	0.000		0	N.D.			
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.			
38) iso-Butyl Alcohol	6.405	43	402	1.92	ug/L		77
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	8.097	75	126	0.23	ug/L	#	53

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:42 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

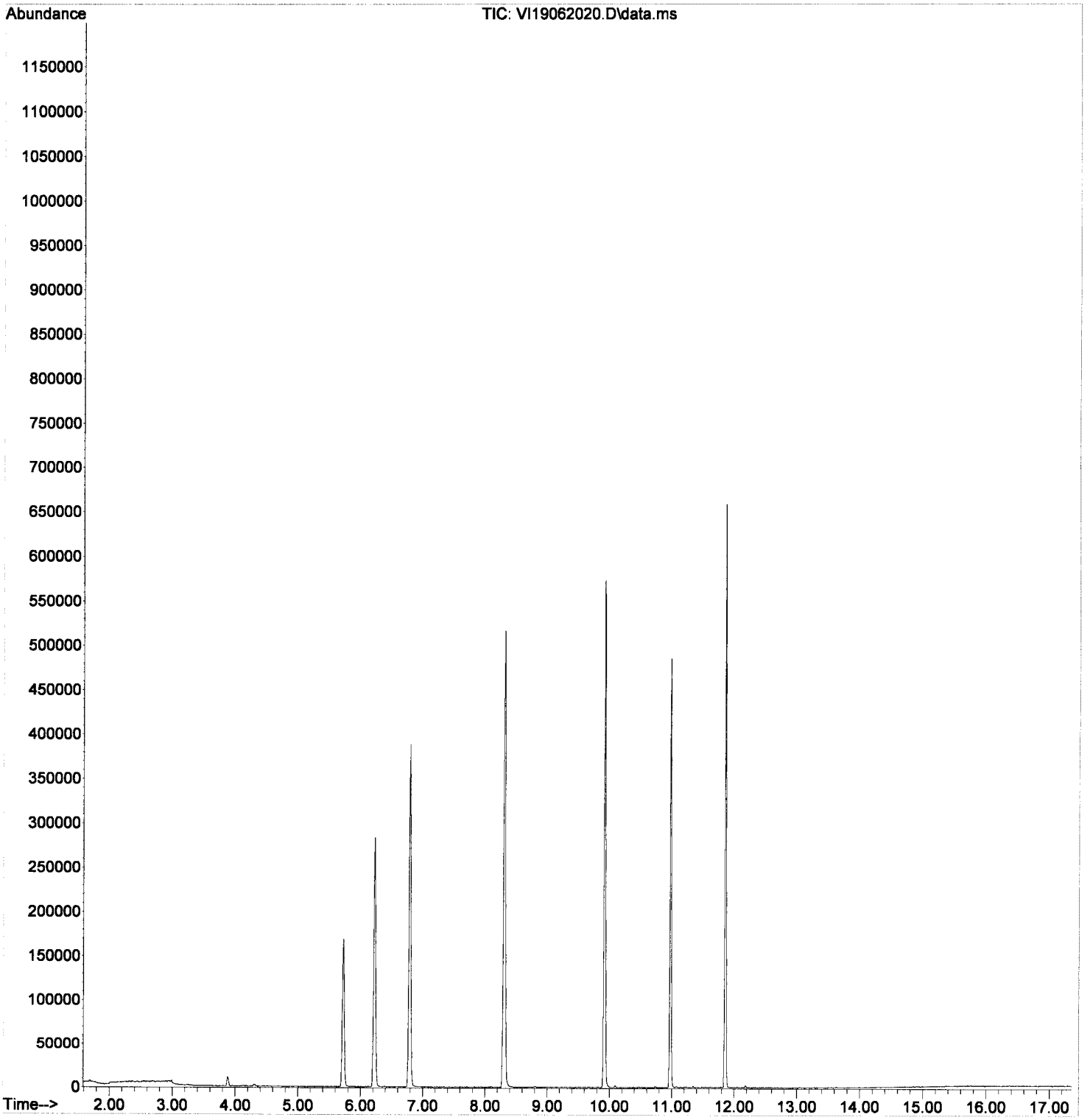
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	1033	0.11	ug/L		94
50) Tetrachloroethene (PCE)	0.000		0	N.D.			
51) 4-Methyl-2-Pentanone (...	8.808	43	934	0.30	ug/L		84
52) t-1,3-Dichloropropene	0.000		0	N.D.			
53) 1,1,2-Trichloroethane	0.000		0	N.D.			
54) Dibromochloromethane	0.000		0	N.D.			
55) 1,3-Dichloropropane	9.301	76	204	0.06	ug/L	#	58
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.			
57) 2-Hexanone	9.666	43	545	1.96	ug/L		86
58) Chlorobenzene	9.928	112	523	0.09	ug/L	#	1
59) Ethylbenzene	9.958	91	867	0.09	ug/L		92
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
61) m,p-Xylenes (2)	10.092	91	1349	0.41	ug/L		90
62) o-Xylene	10.475	91	703	0.25	ug/L		92
63) Styrene	10.518	104	391	0.35	ug/L	#	42
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.737	105	802	0.53	ug/L		85
68) Bromobenzene	0.000		0	N.D			
69) n-Propylbenzene	11.078	91	975	0.11	ug/L		84
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.			
71) 2-Chlorotoluene	0.000		0	N.D.			
72) 1,3,5-Trimethylbenzene	11.236	105	604	0.47	ug/L		94
73) 1,2,3-Trichloropropane	0.000		0	N.D.			
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
75) 4-Chlorotoluene	11.339	91	551	0.10	ug/L	#	45
76) tert-Butylbenzene	11.485	91	267	0.44	ug/L	#	79
77) 1,2,4-Trimethylbenzene	11.540	105	654	0.37	ug/L		88
78) sec-Butylbenzene	11.625	105	749	0.33	ug/L		75
79) 4-Isopropyltoluene	11.729	119	490	0.36	ug/L		51
80) 1,3-Dichlorobenzene	11.802	146	301	0.08	ug/L	#	72
81) 1,4-Dichlorobenzene	11.868	146	392	0.09	ug/L	#	2
82) n-Butylbenzene	12.051	91	522	0.34	ug/L		68
83) 1,2-Dichlorobenzene	12.191	146	286	0.08	ug/L	#	70
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	0.000		0	N.D.			
87) Naphthalene	13.633	128	790	0.75	ug/L		81
88) 1,2,3-Trichlorobenzene	0.000		0	N.D.			

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:42 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:52:55 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	214495	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	315477	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	143049	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	113958	45.12 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	352562	45.85 ug/L	0.00
48) Toluene-d8 (S)	8.304	98	416463	49.74 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	119949	54.89 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D. d	
3) Chloromethane	1.892	50	842	0.23 ug/L	90
4) Vinyl Chloride	1.995	62	502	0.16 ug/L #	50
5) Bromomethane	0.000		0	N.D. d	
6) Chloroethane	0.000		0	N.D. d	
7) Trichlorofluoromethane	0.000		0	N.D. d	
8) Ethanol	0.000		0	N.D. d	
9) 1,1-Dichloroethene	3.242	61	456	0.15 ug/L	89
10) Carbon Disulfide	0.000		0	N.D. d	
11) Freon 113	0.000		0	N.D. d	
12) Iodomethane	0.000		0	N.D.	
13) Acrolein	0.000		0	N.D. d	
14) Methylene Chloride	3.875	84	3802	1.40 ug/L	95
15) Acetone	0.000		0	N.D. d	
16) t-1,2-Dichloroethene	0.000		0	N.D. d	
17) n-Hexane	0.000		0	N.D.	
18) Methyl-tert-butyl-ether	0.000		0	N.D. d	
19) tert-Butanol (TBA)	4.301	59	5907	No Calib	
20) Diisopropyl ether (DIPE)	0.000		0	N.D. d	
21) 1,1-Dichloroethane	0.000		0	N.D. d	
22) Acrylonitrile	0.000		0	N.D.	
23) Ethyl-tert-butyl ether...	0.000		0	N.D. d	
24) Vinyl Acetate	0.000		0	N.D. d	
25) c-1,2-Dichloroethene	0.000		0	N.D. d	
26) 2,2-Dichloropropane	0.000		0	N.D. d	
27) Bromochloromethane	0.000		0	N.D.	
28) Chloroform	0.000		0	N.D. d	
29) Carbon Tetrachloride	0.000		0	N.D. d	
30) Tetrahydrofuran	0.000		0	N.D. d	
31) 1,1,1-Trichloroethane	0.000		0	N.D. d	
33) 1,1-Dichloropropene	0.000		0	N.D. d	
34) 2-Butanone (MEK)	0.000		0	N.D. d	
35) Benzene	6.126	78	1868	0.21 ug/L	95
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	0.000		0	N.D. d	
40) Trichloroethene (TCE)	0.000		0	N.D. 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. d	
44) Bromodichloromethane	0.000		0	N.D. d	
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D. d	
47) c-1,3-Dichloropropene	0.000		0	N.D. d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:52:55 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	1910	0.21	ug/L		94
50) Tetrachloroethene (PCE)	0.000		0	N.D.	d		
51) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	d		
52) t-1,3-Dichloropropene	0.000		0	N.D.	d		
53) 1,1,2-Trichloroethane	0.000		0	N.D.	d		
54) Dibromochloromethane	0.000		0	N.D.	d		
55) 1,3-Dichloropropane	0.000		0	N.D.	d		
56) 1,2-Dibromoethane (EDB)	9.435	107	297	0.15	ug/L		95
57) 2-Hexanone	0.000		0	N.D.	d		
58) Chlorobenzene	9.934	112	1008	0.17	ug/L	#	49
59) Ethylbenzene	9.958	91	1959	0.22	ug/L		90
60) 1,1,1,2-Tetrachloroethane	9.995	131	225	0.13	ug/L	#	82
61) m,p-Xylenes (2)	10.092	91	2948	0.63	ug/L		96
62) o-Xylene	10.475	91	1371	0.35	ug/L		85
63) Styrene	10.524	104	998	0.46	ug/L		95
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.737	105	1594	0.62	ug/L		91
68) Bromobenzene	11.059	156	406	0.19	ug/L	#	82
69) n-Propylbenzene	11.078	91	1849	0.20	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	327	0.18	ug/L		92
71) 2-Chlorotoluene	0.000		0	N.D.	d		
72) 1,3,5-Trimethylbenzene	11.236	105	1280	0.57	ug/L		94
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	11.345	91	1252	0.22	ug/L		87
76) tert-Butylbenzene	11.485	91	742	0.57	ug/L		81
77) 1,2,4-Trimethylbenzene	11.540	105	1259	0.46	ug/L		91
78) sec-Butylbenzene	11.625	105	1695	0.45	ug/L		94
79) 4-Isopropyltoluene	11.729	119	1137	0.47	ug/L		95
80) 1,3-Dichlorobenzene	11.802	146	722	0.20	ug/L		90
81) 1,4-Dichlorobenzene	11.869	146	760	0.18	ug/L	#	25
82) n-Butylbenzene	12.051	91	1025	0.43	ug/L		94
83) 1,2-Dichlorobenzene	12.191	146	689	0.20	ug/L		89
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d		
87) Naphthalene	0.000		0	N.D.	d		
88) 1,2,3-Trichlorobenzene	0.000		0	N.D.	d		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:47 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	214495	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	315477	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	143049	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113958	45.12	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	352562	45.85	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	416463	49.74	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	119949	54.89	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	423	0.17	ug/L	#	49
3) Chloromethane	1.892	50	842	0.23	ug/L		90
4) Vinyl Chloride	1.995	62	502	0.16	ug/L	#	50
5) Bromomethane	2.354	96	543	0.34	ug/L		73
6) Chloroethane	2.506	64	126	Below Cal		#	36
7) Trichlorofluoromethane	2.664	101	476	0.13	ug/L		91
8) Ethanol	3.242	45	737	No Calib		#	
9) 1,1-Dichloroethene	3.242	61	456	0.15	ug/L		89
10) Carbon Disulfide	3.254	76	1009	0.19	ug/L		78
11) Freon 113	3.291	101	185	0.09	ug/L	#	63
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	3.625	56	183	0.31	ug/L	#	44
14) Methylene Chloride	3.875	84	3802	1.40	ug/L		95
15) Acetone	3.942	43	1401	1.10	ug/L	#	44
16) t-1,2-Dichloroethene	4.039	61	556	0.19	ug/L	#	73
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.167	73	1383	0.23	ug/L		88
19) tert-Butanol (TBA)	4.301	59	5907	No Calib			
20) Diisopropyl ether (DIPE)	4.556	45	316	No Calib			
21) 1,1-Dichloroethane	4.690	63	614	0.16	ug/L	#	48
22) Acrylonitrile	0.000		0	N.D.			
23) Ethyl-tert-butyl ether...	4.933	59	123	No Calib		#	
24) Vinyl Acetate	4.970	43	869	2.93	ug/L		74
25) c-1,2-Dichloroethene	5.237	61	484	0.17	ug/L	#	20
26) 2,2-Dichloropropane	5.347	77	463	0.27	ug/L		79
27) Bromochloromethane	0.000		0	N.D.			
28) Chloroform	5.529	83	742	0.18	ug/L		80
29) Carbon Tetrachloride	5.663	117	212	0.09	ug/L	#	14
30) Tetrahydrofuran	5.712	42	307	0.26	ug/L	#	62
31) 1,1,1-Trichloroethane	5.742	97	508	0.17	ug/L	#	69
33) 1,1-Dichloropropene	5.876	75	448	0.17	ug/L	#	43
34) 2-Butanone (MEK)	5.876	43	947	0.53	ug/L		52
35) Benzene	6.126	78	1868	0.21	ug/L		95
36) tert-Amyl methyl ether...	6.223	73	122	No Calib		#	
37) 1,2-Dichloroethane (EDC)	6.345	62	519	0.17	ug/L		54
38) iso-Butyl Alcohol	6.387	43	894	4.30	ug/L		90
40) Trichloroethene (TCE)	6.752	130	237	0.10	ug/L		76
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.			
42) Dibromomethane	0.000		0	N.D.			
43) 1,2-Dichloropropane	7.318	63	403	0.17	ug/L	#	35
44) Bromodichloromethane	7.379	83	383	0.14	ug/L	#	27
46) 2-Chloroethyl Vinyl Ether	8.036	63	193	2.24	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	477	0.39	ug/L	#	58

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:47 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

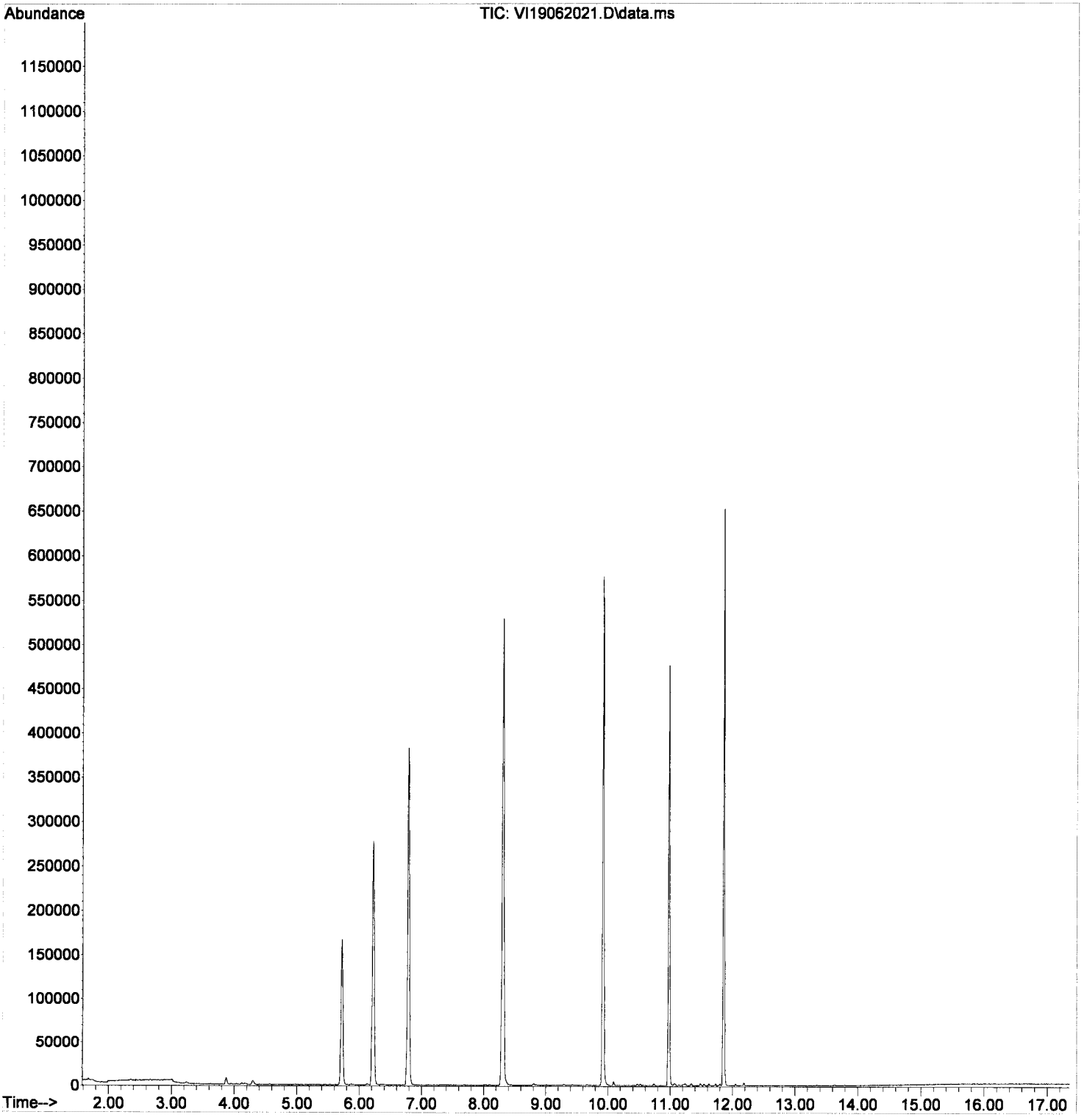
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	1910	0.21	ug/L		94
50) Tetrachloroethene (PCE)	8.802	166	308	0.15	ug/L	#	71
51) 4-Methyl-2-Pentanone (...	8.809	43	1390	0.45	ug/L		85
52) t-1,3-Dichloropropene	8.839	75	376	0.47	ug/L		54
53) 1,1,2-Trichloroethane	9.009	97	217	0.10	ug/L		84
54) Dibromochloromethane	9.192	129	199	0.10	ug/L	#	17
55) 1,3-Dichloropropane	9.295	76	680	0.20	ug/L	#	58
56) 1,2-Dibromoethane (EDB)	9.435	107	297	0.15	ug/L		95
57) 2-Hexanone	9.660	43	977	2.13	ug/L		83
58) Chlorobenzene	9.934	112	1008	0.17	ug/L	#	49
59) Ethylbenzene	9.958	91	1959	0.22	ug/L		90
60) 1,1,1,2-Tetrachloroethane	9.995	131	225	0.13	ug/L	#	82
61) m,p-Xylenes (2)	10.092	91	2948	0.63	ug/L		96
62) o-Xylene	10.475	91	1371	0.35	ug/L		85
63) Styrene	10.524	104	998	0.46	ug/L		95
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.737	105	1594	0.62	ug/L		91
68) Bromobenzene	11.059	156	406	0.19	ug/L	#	82
69) n-Propylbenzene	11.078	91	1849	0.20	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	327	0.18	ug/L		92
71) 2-Chlorotoluene	11.212	126	268	0.14	ug/L	#	80
72) 1,3,5-Trimethylbenzene	11.236	105	1280	0.57	ug/L		94
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	11.345	91	1252	0.22	ug/L		87
76) tert-Butylbenzene	11.485	91	742	0.57	ug/L		81
77) 1,2,4-Trimethylbenzene	11.540	105	1259	0.46	ug/L		91
78) sec-Butylbenzene	11.625	105	1695	0.45	ug/L		94
79) 4-Isopropyltoluene	11.729	119	1137	0.47	ug/L		95
80) 1,3-Dichlorobenzene	11.802	146	722	0.20	ug/L		90
81) 1,4-Dichlorobenzene	11.869	146	760	0.18	ug/L	#	25
82) n-Butylbenzene	12.051	91	1025	0.43	ug/L		94
83) 1,2-Dichlorobenzene	12.191	146	689	0.20	ug/L		89
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.353	180	356	0.85	ug/L		87
87) Naphthalene	13.633	128	1415	0.86	ug/L		81
88) 1,2,3-Trichlorobenzene	13.791	180	328	0.83	ug/L		82

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:47 2019
Quant Method : C:\msdchem\1\methods\VI~~190621W+~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:55:23 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	216322	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	322309	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	147216	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	114168	44.82	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	354384	45.70	ug/L	0.00
48) Toluene-d8 (S)	8.304	98	421971	49.33	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	123411	54.88	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.685	85	715	0.29	ug/L	79
3) Chloromethane	1.904	50	1399	0.38	ug/L	80
4) Vinyl Chloride	2.007	62	1014	0.32	ug/L	81
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	2.676	101	995	0.27	ug/L	86
8) Ethanol	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	3.242	61	1077	0.34	ug/L	93
10) Carbon Disulfide	3.260	76	2039	0.38	ug/L	89
11) Freon 113	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.		
13) Acrolein	0.000		0	N.D.	d	
14) Methylene Chloride	3.881	84	3778	1.38	ug/L	95
15) Acetone	0.000		0	N.D.	d	
16) t-1,2-Dichloroethene	4.051	61	1032	0.35	ug/L	98
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	4.185	73	2633	0.52	ug/L	81
19) tert-Butanol (TBA)	4.307	59	11068	No Calib		
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	d	
21) 1,1-Dichloroethane	4.690	63	1280	0.32	ug/L	89
22) Acrylonitrile	0.000		0	N.D.	d	
23) Ethyl-tert-butyl ether...	0.000		0	N.D.	d	
24) Vinyl Acetate	0.000		0	N.D.	d	
25) c-1,2-Dichloroethene	5.250	61	1145	0.39	ug/L	95
26) 2,2-Dichloropropane	0.000		0	N.D.	d	
27) Bromochloromethane	5.450	130	437	0.29	ug/L	94
28) Chloroform	5.542	83	1469	0.35	ug/L	87
29) Carbon Tetrachloride	5.669	117	643	0.26	ug/L	80
30) Tetrahydrofuran	0.000		0	N.D.	d	
31) 1,1,1-Trichloroethane	5.742	97	1087	0.37	ug/L	93
33) 1,1-Dichloropropene	5.870	75	1102	0.41	ug/L	95
34) 2-Butanone (MEK)	0.000		0	N.D.	d	
35) Benzene	6.132	78	3614	0.41	ug/L	96
36) tert-Amyl methyl ether...	0.000		0	N.D.	d	
37) 1,2-Dichloroethane (EDC)	6.351	62	1039	0.34	ug/L	87
38) iso-Butyl Alcohol	0.000		0	N.D.	d	
40) Trichloroethene (TCE)	6.752	130	770	0.32	ug/L	88
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.	d	
42) Dibromomethane	7.209	93	433	0.28	ug/L	84
43) 1,2-Dichloropropane	7.312	63	812	0.33	ug/L	82
44) Bromodichloromethane	7.391	83	949	0.34	ug/L	92
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	d	
47) c-1,3-Dichloropropene	8.097	75	1097	0.66	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:55:23 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	3651	0.40	ug/L		94
50) Tetrachloroethene (PCE)	8.809	166	702	0.34	ug/L		87
51) 4-Methyl-2-Pentanone (...	8.815	43	2659	0.85	ug/L		98
52) t-1,3-Dichloropropene	8.845	75	1047	0.77	ug/L		87
53) 1,1,2-Trichloroethane	9.009	97	686	0.32	ug/L		96
54) Dibromochloromethane	9.192	129	565	0.29	ug/L		96
55) 1,3-Dichloropropane	9.295	76	1270	0.37	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.441	107	766	0.37	ug/L		94
57) 2-Hexanone	9.666	43	1999	2.51	ug/L		88
58) Chlorobenzene	9.934	112	2135	0.35	ug/L	#	72
59) Ethylbenzene	9.958	91	3623	0.39	ug/L		94
60) 1,1,1,2-Tetrachloroethane	9.995	131	526	0.29	ug/L		83
61) m,p-Xylenes (2)	10.092	91	5389	0.94	ug/L		99
62) o-Xylene	10.475	91	2671	0.53	ug/L		97
63) Styrene	10.524	104	1902	0.61	ug/L		91
64) Bromoform	0.000		0	N.D.	d		
65) Isopropylbenzene	10.737	105	3170	0.80	ug/L		98
68) Bromobenzene	11.066	156	864	0.40	ug/L		85
69) n-Propylbenzene	11.078	91	3601	0.39	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	707	0.37	ug/L		86
71) 2-Chlorotoluene	11.212	126	771	0.40	ug/L	#	80
72) 1,3,5-Trimethylbenzene	11.236	105	2531	0.75	ug/L		96
73) 1,2,3-Trichloropropane	11.254	110	243	0.25	ug/L	#	81
74) t-1,4-Dichloro-2-butene	11.285	53	218	0.35	ug/L	#	65
75) 4-Chlorotoluene	11.345	91	2288	0.40	ug/L		87
76) tert-Butylbenzene	11.485	91	1379	0.74	ug/L		91
77) 1,2,4-Trimethylbenzene	11.540	105	2364	0.63	ug/L		88
78) sec-Butylbenzene	11.625	105	3002	0.60	ug/L		98
79) 4-Isopropyltoluene	11.729	119	2328	0.65	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	1483	0.41	ug/L		87
81) 1,4-Dichlorobenzene	11.869	146	1589	0.37	ug/L	#	72
82) n-Butylbenzene	12.051	91	2284	0.65	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	1424	0.41	ug/L		89
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	d		
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.359	180	646	1.00	ug/L		82
87) Naphthalene	13.633	128	2544	1.05	ug/L		81
88) 1,2,3-Trichlorobenzene	13.791	180	669	1.00	ug/L		92

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:50 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	216322	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	322309	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	147216	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	114168	44.82	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	354384	45.70	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	421971	49.38	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	123411	54.88	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	715	0.29	ug/L		79
3) Chloromethane	1.904	50	1399	0.38	ug/L		80
4) Vinyl Chloride	2.007	62	1014	0.32	ug/L		81
5) Bromomethane	2.372	96	806	0.49	ug/L		86
6) Chloroethane	2.518	64	476	Below Cal		#	52
7) Trichlorofluoromethane	2.676	101	995	0.27	ug/L		86
8) Ethanol	3.242	45	1544	No Calib			
9) 1,1-Dichloroethene	3.242	61	1077	0.34	ug/L		93
10) Carbon Disulfide	3.260	76	2039	0.38	ug/L		89
11) Freon 113	3.303	101	595	0.27	ug/L		91
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	3.625	56	343	0.57	ug/L	#	57
14) Methylene Chloride	3.881	84	3778	1.38	ug/L		95
15) Acetone	3.954	43	1672	1.30	ug/L		92
16) t-1,2-Dichloroethene	4.051	61	1032	0.35	ug/L		98
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.185	73	2633	0.52	ug/L		81
19) tert-Butanol (TBA)	4.307	59	11068	No Calib			
20) Diisopropyl ether (DIPE)	4.587	45	673	No Calib			
21) 1,1-Dichloroethane	4.690	63	1280	0.32	ug/L		89
22) Acrylonitrile	4.757	53	286	0.21	ug/L	#	15
23) Ethyl-tert-butyl ether...	4.952	59	566	No Calib		#	
24) Vinyl Acetate	4.982	43	1760	3.38	ug/L		74
25) c-1,2-Dichloroethene	5.250	61	1145	0.39	ug/L		95
26) 2,2-Dichloropropane	5.365	77	1213	0.71	ug/L		85
27) Bromochloromethane	5.450	130	437	0.29	ug/L		94
28) Chloroform	5.542	83	1469	0.35	ug/L		87
29) Carbon Tetrachloride	5.669	117	643	0.26	ug/L		80
30) Tetrahydrofuran	5.706	42	583	0.48	ug/L	#	72
31) 1,1,1-Trichloroethane	5.742	97	1087	0.37	ug/L		93
33) 1,1-Dichloropropene	5.870	75	1102	0.41	ug/L		95
34) 2-Butanone (MEK)	5.870	43	1723	0.95	ug/L		92
35) Benzene	6.132	78	3614	0.41	ug/L		96
36) tert-Amyl methyl ether...	6.247	73	657	No Calib		#	
37) 1,2-Dichloroethane (EDC)	6.351	62	1039	0.34	ug/L		87
38) iso-Butyl Alcohol	6.387	43	1712	8.17	ug/L		82
40) Trichloroethene (TCE)	6.752	130	770	0.32	ug/L		88
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	316	No Calib		#	
42) Dibromomethane	7.209	93	433	0.28	ug/L		84
43) 1,2-Dichloropropane	7.312	63	812	0.33	ug/L		82
44) Bromodichloromethane	7.391	83	949	0.34	ug/L		92
46) 2-Chloroethyl Vinyl Ether	8.030	63	479	2.54	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	1097	0.66	ug/L		92

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:50 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

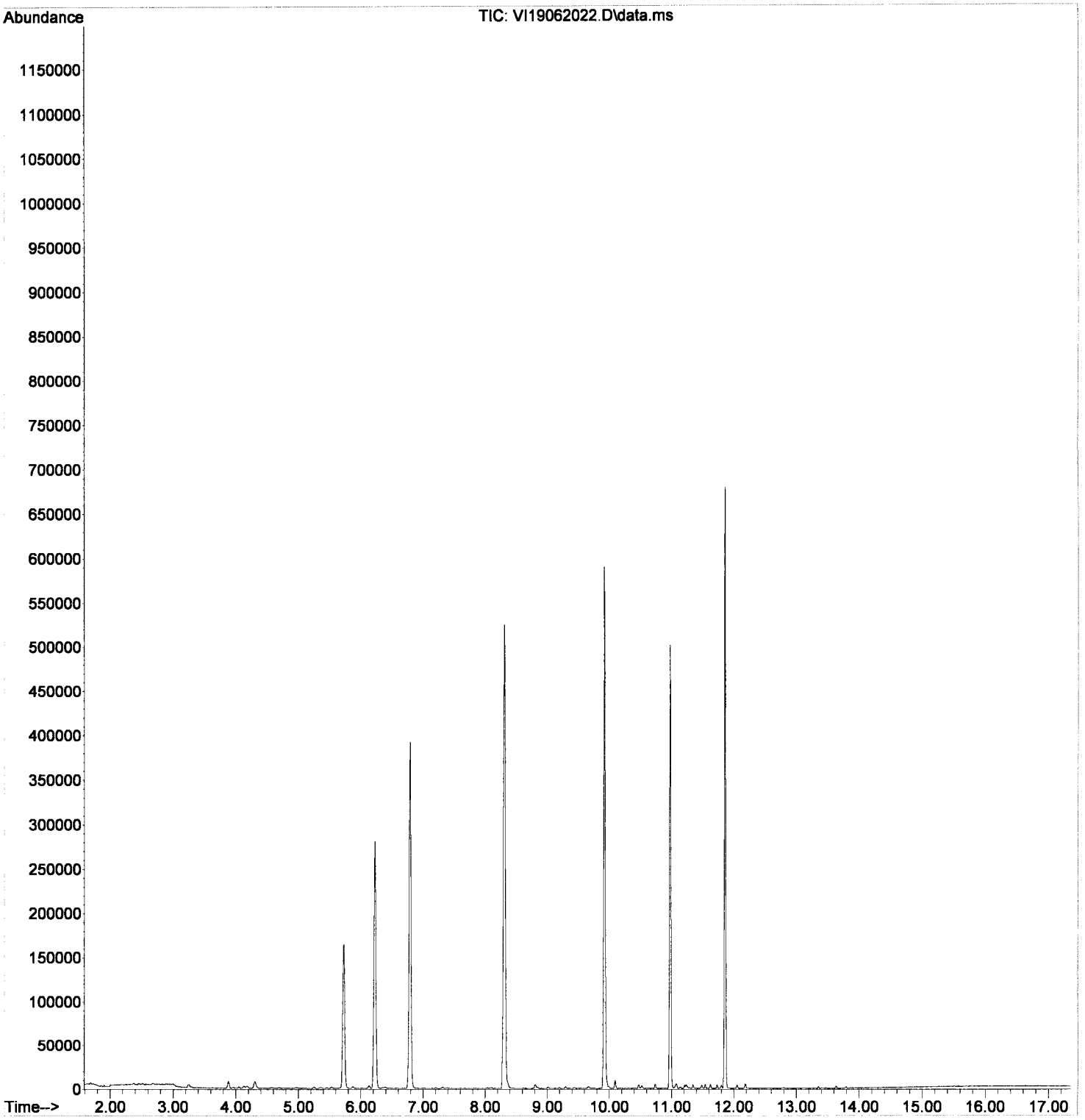
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	3651	0.40	ug/L		94
50) Tetrachloroethene (PCE)	8.809	166	702	0.34	ug/L		87
51) 4-Methyl-2-Pentanone (...	8.815	43	2659	0.85	ug/L		98
52) t-1,3-Dichloropropene	8.845	75	1047	0.77	ug/L		87
53) 1,1,2-Trichloroethane	9.009	97	686	0.32	ug/L		96
54) Dibromochloromethane	9.192	129	565	0.29	ug/L		96
55) 1,3-Dichloropropane	9.295	76	1270	0.37	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.441	107	766	0.37	ug/L		94
57) 2-Hexanone	9.666	43	1999	2.51	ug/L		88
58) Chlorobenzene	9.934	112	2135	0.35	ug/L	#	72
59) Ethylbenzene	9.958	91	3623	0.39	ug/L		94
60) 1,1,1,2-Tetrachloroethane	9.995	131	526	0.29	ug/L		83
61) m,p-Xylenes (2)	10.092	91	5389	0.94	ug/L		99
62) o-Xylene	10.475	91	2671	0.53	ug/L		97
63) Styrene	10.524	104	1902	0.61	ug/L		91
64) Bromoform	10.536	173	234	0.26	ug/L	#	36
65) Isopropylbenzene	10.737	105	3170	0.80	ug/L		98
68) Bromobenzene	11.066	156	864	0.40	ug/L		85
69) n-Propylbenzene	11.078	91	3601	0.39	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	707	0.37	ug/L		86
71) 2-Chlorotoluene	11.212	126	771	0.40	ug/L	#	80
72) 1,3,5-Trimethylbenzene	11.236	105	2531	0.75	ug/L		96
73) 1,2,3-Trichloropropane	11.254	110	243	0.25	ug/L	#	81
74) t-1,4-Dichloro-2-butene	11.285	53	218	0.35	ug/L	#	65
75) 4-Chlorotoluene	11.345	91	2288	0.40	ug/L		87
76) tert-Butylbenzene	11.485	91	1379	0.74	ug/L		91
77) 1,2,4-Trimethylbenzene	11.540	105	2364	0.63	ug/L		88
78) sec-Butylbenzene	11.625	105	3002	0.60	ug/L		98
79) 4-Isopropyltoluene	11.729	119	2328	0.65	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	1483	0.41	ug/L		87
81) 1,4-Dichlorobenzene	11.869	146	1589	0.37	ug/L	#	72
82) n-Butylbenzene	12.051	91	2284	0.65	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	1424	0.41	ug/L		89
84) 1,2-Dibromo-3-Chloropr...	12.805	157	116	0.76	ug/L	#	52
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.359	180	646	1.00	ug/L		82
87) Naphthalene	13.633	128	2544	1.05	ug/L		81
88) 1,2,3-Trichlorobenzene	13.791	180	669	1.00	ug/L		92

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:50 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:56:42 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	212184	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	321130	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	145672	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113642	45.49	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	356332	46.85	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	417568	48.99	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	121837	54.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	1914	0.79	ug/L		99
3) Chloromethane	1.898	50	2855	0.79	ug/L		92
4) Vinyl Chloride	2.001	62	2289	0.74	ug/L		91
5) Bromomethane	2.366	96	1674	1.05	ug/L		85
6) Chloroethane	2.506	64	908	Below Cal			86
7) Trichlorofluoromethane	2.670	101	2781	0.78	ug/L		99
8) Ethanol	3.242	45	3359	No Calib			
9) 1,1-Dichloroethene	3.242	61	2735	0.89	ug/L		96
10) Carbon Disulfide	3.254	76	4926	0.94	ug/L		92
11) Freon 113	3.291	101	1682	0.78	ug/L		95
12) Iodomethane	0.000		0	N.D.	d		
13) Acrolein	0.000		0	N.D.	d		
14) Methylene Chloride	3.881	84	5068	1.89	ug/L		95
15) Acetone	0.000		0	N.D.	d		
16) t-1,2-Dichloroethene	4.045	61	2591	0.90	ug/L		98
17) n-Hexane	4.130	86	322	2.29	ug/L	#	86
18) Methyl-tert-butyl-ether	4.173	73	6733	1.35	ug/L		91
19) tert-Butanol (TBA)	4.301	59	28689	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	1806	No Calib			
21) 1,1-Dichloroethane	4.684	63	3536	0.91	ug/L		89
22) Acrylonitrile	4.763	53	1079	0.80	ug/L		92
23) Ethyl-tert-butyl ether...	4.945	59	1607	No Calib			
24) Vinyl Acetate	4.976	43	4452	4.80	ug/L		87
25) c-1,2-Dichloroethene	5.256	61	2829	0.99	ug/L		94
26) 2,2-Dichloropropane	5.359	77	2775	1.65	ug/L		96
27) Bromochloromethane	5.450	130	1297	0.88	ug/L		87
28) Chloroform	5.529	83	3614	0.88	ug/L		93
29) Carbon Tetrachloride	5.663	117	2061	0.85	ug/L		86
30) Tetrahydrofuran	0.000		0	N.D.	d		
31) 1,1,1-Trichloroethane	5.736	97	3002	1.03	ug/L		97
33) 1,1-Dichloropropene	5.876	75	2702	1.03	ug/L		96
34) 2-Butanone (MEK)	5.870	43	3724	2.09	ug/L		95
35) Benzene	6.126	78	8486	0.98	ug/L		94
36) tert-Amyl methyl ether...	6.266	73	1716	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	2943	0.97	ug/L		90
38) iso-Butyl Alcohol	0.000		0	N.D.	d		
40) Trichloroethene (TCE)	6.746	130	2094	0.89	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	1175	No Calib			
42) Dibromomethane	7.202	93	1305	0.86	ug/L		82
43) 1,2-Dichloropropane	7.312	63	2194	0.92	ug/L		86
44) Bromodichloromethane	7.391	83	2265	0.83	ug/L		87
46) 2-Chloroethyl Vinyl Ether	8.030	63	1514	3.68	ug/L	#	100
47) c-1,3-Dichloropropene	8.103	75	3024	1.51	ug/L		87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:56:42 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	8763	0.96	ug/L		96
50) Tetrachloroethene (PCE)	8.802	166	2059	1.00	ug/L		82
51) 4-Methyl-2-Pentanone (...	8.808	43	6582	2.11	ug/L		92
52) t-1,3-Dichloropropene	8.845	75	2700	1.53	ug/L		92
53) 1,1,2-Trichloroethane	9.015	97	1850	0.86	ug/L		97
54) Dibromochloromethane	9.198	129	1527	0.78	ug/L		93
55) 1,3-Dichloropropane	9.301	76	3534	1.04	ug/L		93
56) 1,2-Dibromoethane (EDB)	9.429	107	2008	0.99	ug/L		98
57) 2-Hexanone	9.660	43	4754	3.56	ug/L		96
58) Chlorobenzene	9.934	112	5419	0.89	ug/L		84
59) Ethylbenzene	9.958	91	9234	1.00	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.989	131	1352	0.75	ug/L		75
61) m,p-Xylenes (2)	10.092	91	13780	2.06	ug/L		98
62) o-Xylene	10.469	91	6999	1.14	ug/L		97
63) Styrene	10.518	104	5129	1.16	ug/L		90
64) Bromoform	10.548	173	864	0.81	ug/L		89
65) Isopropylbenzene	10.737	105	8025	1.37	ug/L		98
68) Bromobenzene	11.059	156	2205	1.03	ug/L		87
69) n-Propylbenzene	11.078	91	9689	1.05	ug/L		95
70) 1,1,2,2-Tetrachloroethane	11.145	85	1857	0.98	ug/L		93
71) 2-Chlorotoluene	11.211	126	1852	0.98	ug/L	#	79
72) 1,3,5-Trimethylbenzene	11.236	105	6421	1.34	ug/L		95
73) 1,2,3-Trichloropropane	11.254	110	858	0.91	ug/L		90
74) t-1,4-Dichloro-2-butene	11.284	53	668	1.07	ug/L	#	65
75) 4-Chlorotoluene	11.339	91	6153	1.08	ug/L		91
76) tert-Butylbenzene	11.485	91	3735	1.41	ug/L		95
77) 1,2,4-Trimethylbenzene	11.540	105	6535	1.28	ug/L		94
78) sec-Butylbenzene	11.625	105	8087	1.23	ug/L		99
79) 4-Isopropyltoluene	11.729	119	6051	1.26	ug/L		97
80) 1,3-Dichlorobenzene	11.802	146	3906	1.08	ug/L		96
81) 1,4-Dichlorobenzene	11.868	146	4031	0.95	ug/L		82
82) n-Butylbenzene	12.051	91	5420	1.22	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	3854	1.12	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	404	1.22	ug/L	#	69
85) Hexachlorobutadiene	13.310	223	435	1.00	ug/L		89
86) 1,2,4-Trichlorobenzene	13.347	180	1991	1.74	ug/L		88
87) Naphthalene	13.633	128	6018	1.64	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	1982	1.71	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:54 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	212184	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	321130	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	145672	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113642	45.49	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	356332	46.85	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	417568	48.99	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	121837	54.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	1914	0.79	ug/L		99
3) Chloromethane	1.898	50	2855	0.79	ug/L		92
4) Vinyl Chloride	2.001	62	2289	0.74	ug/L		91
5) Bromomethane	2.366	96	1674	1.05	ug/L		85
6) Chloroethane	2.506	64	908	Below Cal			86
7) Trichlorofluoromethane	2.670	101	2781	0.78	ug/L		99
8) Ethanol	3.242	45	3359	No Calib			
9) 1,1-Dichloroethene	3.242	61	2735	0.89	ug/L		96
10) Carbon Disulfide	3.254	76	4926	0.94	ug/L		92
11) Freon 113	3.291	101	1682	0.78	ug/L		95
12) Iodomethane	3.394	142	318	6.03	ug/L	#	47
13) Acrolein	3.631	56	618	1.04	ug/L	#	36
14) Methylene Chloride	3.881	84	5068	1.89	ug/L		95
15) Acetone	3.954	43	2969	2.35	ug/L		100
16) t-1,2-Dichloroethene	4.045	61	2591	0.90	ug/L		98
17) n-Hexane	4.130	86	322	2.29	ug/L	#	86
18) Methyl-tert-butyl-ether	4.173	73	6733	1.35	ug/L		91
19) tert-Butanol (TBA)	4.301	59	28689	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	1806	No Calib			
21) 1,1-Dichloroethane	4.684	63	3536	0.91	ug/L		89
22) Acrylonitrile	4.763	53	1079	0.80	ug/L		92
23) Ethyl-tert-butyl ether...	4.945	59	1607	No Calib			
24) Vinyl Acetate	4.976	43	4452	4.80	ug/L		87
25) c-1,2-Dichloroethene	5.256	61	2829	0.99	ug/L		94
26) 2,2-Dichloropropane	5.359	77	2775	1.65	ug/L		96
27) Bromochloromethane	5.450	130	1297	0.88	ug/L		87
28) Chloroform	5.529	83	3614	0.88	ug/L		93
29) Carbon Tetrachloride	5.663	117	2061	0.85	ug/L		86
30) Tetrahydrofuran	5.712	42	1144	0.96	ug/L		92
31) 1,1,1-Trichloroethane	5.736	97	3002	1.03	ug/L		97
33) 1,1-Dichloropropene	5.876	75	2702	1.03	ug/L		96
34) 2-Butanone (MEK)	5.870	43	3724	2.09	ug/L		95
35) Benzene	6.126	78	8486	0.98	ug/L		94
36) tert-Amyl methyl ether...	6.266	73	1716	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	2943	0.97	ug/L		90
38) iso-Butyl Alcohol	6.387	43	4246	20.67	ug/L		87
40) Trichloroethene (TCE)	6.746	130	2094	0.89	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	1175	No Calib			
42) Dibromomethane	7.202	93	1305	0.86	ug/L		82
43) 1,2-Dichloropropane	7.312	63	2194	0.92	ug/L		86
44) Bromodichloromethane	7.391	83	2265	0.83	ug/L		87
46) 2-Chloroethyl Vinyl Ether	8.030	63	1514	3.68	ug/L	#	100
47) c-1,3-Dichloropropene	8.103	75	3024	1.51	ug/L		87

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:54 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

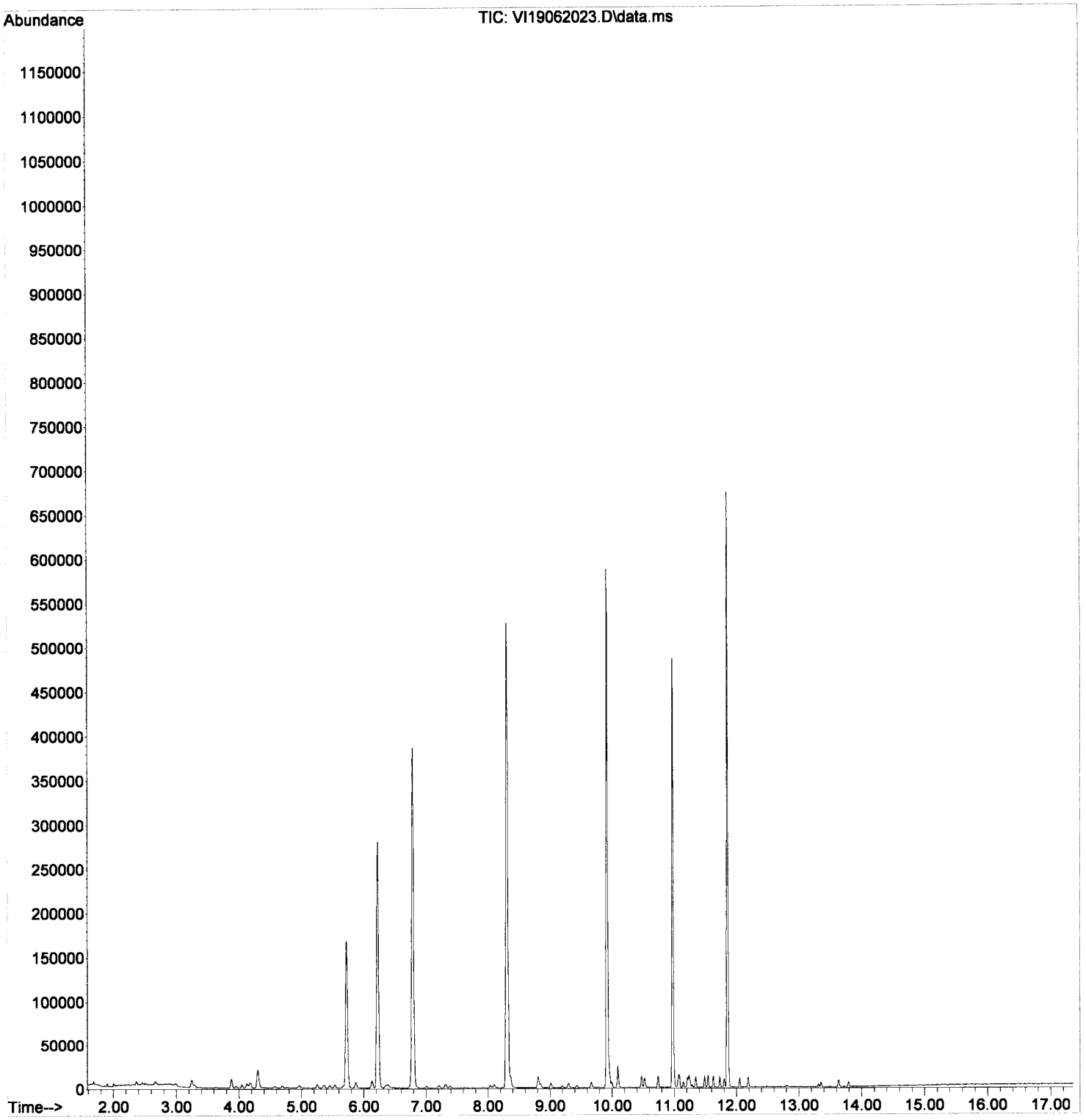
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	8763	0.96	ug/L		96
50) Tetrachloroethene (PCE)	8.802	166	2059	1.00	ug/L		82
51) 4-Methyl-2-Pentanone (...	8.808	43	6582	2.11	ug/L		92
52) t-1,3-Dichloropropene	8.845	75	2700	1.53	ug/L		92
53) 1,1,2-Trichloroethane	9.015	97	1850	0.86	ug/L		97
54) Dibromochloromethane	9.198	129	1527	0.78	ug/L		93
55) 1,3-Dichloropropane	9.301	76	3534	1.04	ug/L		93
56) 1,2-Dibromoethane (EDB)	9.429	107	2008	0.99	ug/L		98
57) 2-Hexanone	9.660	43	4754	3.56	ug/L		96
58) Chlorobenzene	9.934	112	5419	0.89	ug/L		84
59) Ethylbenzene	9.958	91	9234	1.00	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.989	131	1352	0.75	ug/L		75
61) m,p-Xylenes (2)	10.092	91	13780	2.06	ug/L		98
62) o-Xylene	10.469	91	6999	1.14	ug/L		97
63) Styrene	10.518	104	5129	1.16	ug/L		90
64) Bromoform	10.548	173	864	0.81	ug/L		89
65) Isopropylbenzene	10.737	105	8025	1.37	ug/L		98
68) Bromobenzene	11.059	156	2205	1.03	ug/L		87
69) n-Propylbenzene	11.078	91	9689	1.05	ug/L		95
70) 1,1,2,2-Tetrachloroethane	11.145	85	1857	0.98	ug/L		93
71) 2-Chlorotoluene	11.211	126	1852	0.98	ug/L	#	79
72) 1,3,5-Trimethylbenzene	11.236	105	6421	1.34	ug/L		95
73) 1,2,3-Trichloropropane	11.254	110	858	0.91	ug/L		90
74) t-1,4-Dichloro-2-butene	11.284	53	668	1.07	ug/L	#	65
75) 4-Chlorotoluene	11.339	91	6153	1.08	ug/L		91
76) tert-Butylbenzene	11.485	91	3735	1.41	ug/L		95
77) 1,2,4-Trimethylbenzene	11.540	105	6535	1.28	ug/L		94
78) sec-Butylbenzene	11.625	105	8087	1.23	ug/L		99
79) 4-Isopropyltoluene	11.729	119	6051	1.26	ug/L		97
80) 1,3-Dichlorobenzene	11.802	146	3906	1.08	ug/L		96
81) 1,4-Dichlorobenzene	11.868	146	4031	0.95	ug/L		82
82) n-Butylbenzene	12.051	91	5420	1.22	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	3854	1.12	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	404	1.22	ug/L	#	69
85) Hexachlorobutadiene	13.310	223	435	1.00	ug/L		89
86) 1,2,4-Trichlorobenzene	13.347	180	1991	1.74	ug/L		88
87) Naphthalene	13.633	128	6018	1.64	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	1982	1.71	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:54 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	207120	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	311234	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	142034	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	111003	45.52 ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	346645	46.69 ug/L		0.00
48) Toluene-d8 (S)	8.304	98	408908	49.50 ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	118488	54.61 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.679	85	4211	1.77 ug/L		93
3) Chloromethane	1.898	50	5408	1.52 ug/L		95
4) Vinyl Chloride	1.995	62	4635	1.54 ug/L		91
5) Bromomethane	2.360	96	2788	1.78 ug/L		97
6) Chloroethane	2.512	64	1914	Below Cal		82
7) Trichlorofluoromethane	2.670	101	5447	1.56 ug/L		96
8) Ethanol	3.236	45	6404	No Calib		
9) 1,1-Dichloroethene	3.236	61	5714	1.91 ug/L		97
10) Carbon Disulfide	3.254	76	9921	1.93 ug/L		97
11) Freon 113	3.291	101	3564	1.70 ug/L		94
12) Iodomethane	3.394	142	593	6.39 ug/L	#	70
13) Acrolein	3.625	56	1243	2.15 ug/L		60
14) Methylene Chloride	3.875	84	7259	2.77 ug/L		96
15) Acetone	3.948	43	4813	3.90 ug/L		99
16) t-1,2-Dichloroethene	4.045	61	5449	1.94 ug/L		92
17) n-Hexane	4.118	86	660	3.15 ug/L	#	82
18) Methyl-tert-butyl-ether	4.173	73	12876	2.65 ug/L		91
19) tert-Butanol (TBA)	4.295	59	56818	No Calib		
20) Diisopropyl ether (DIPE)	4.574	45	3461	No Calib		
21) 1,1-Dichloroethane	4.690	63	7318	1.94 ug/L		92
22) Acrylonitrile	4.757	53	2105	1.60 ug/L		85
23) Ethyl-tert-butyl ether...	4.946	59	3218	No Calib		
24) Vinyl Acetate	4.964	43	9168	7.36 ug/L		97
25) c-1,2-Dichloroethene	5.250	61	5852	2.10 ug/L		95
26) 2,2-Dichloropropane	5.359	77	5539	3.37 ug/L		98
27) Bromochloromethane	5.450	130	2660	1.85 ug/L		97
28) Chloroform	5.530	83	7377	1.85 ug/L		95
29) Carbon Tetrachloride	5.669	117	4035	1.70 ug/L		96
30) Tetrahydrofuran	5.712	42	2546	2.20 ug/L		87
31) 1,1,1-Trichloroethane	5.742	97	5613	1.98 ug/L		92
33) 1,1-Dichloropropene	5.864	75	5432	2.12 ug/L		98
34) 2-Butanone (MEK)	5.870	43	7000	4.03 ug/L		98
35) Benzene	6.126	78	16870	1.99 ug/L		96
36) tert-Amyl methyl ether...	6.266	73	3075	No Calib		
37) 1,2-Dichloroethane (EDC)	6.351	62	5701	1.93 ug/L		90
38) iso-Butyl Alcohol	6.381	43	7793	38.86 ug/L		90
40) Trichloroethene (TCE)	6.746	130	3971	1.72 ug/L		92
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	2362	No Calib		
42) Dibromomethane	7.203	93	2728	1.85 ug/L		89
43) 1,2-Dichloropropane	7.318	63	4334	1.86 ug/L		90
44) Bromodichloromethane	7.385	83	4841	1.81 ug/L		90
46) 2-Chloroethyl Vinyl Ether	8.030	63	3031	5.45 ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	6162	2.96 ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

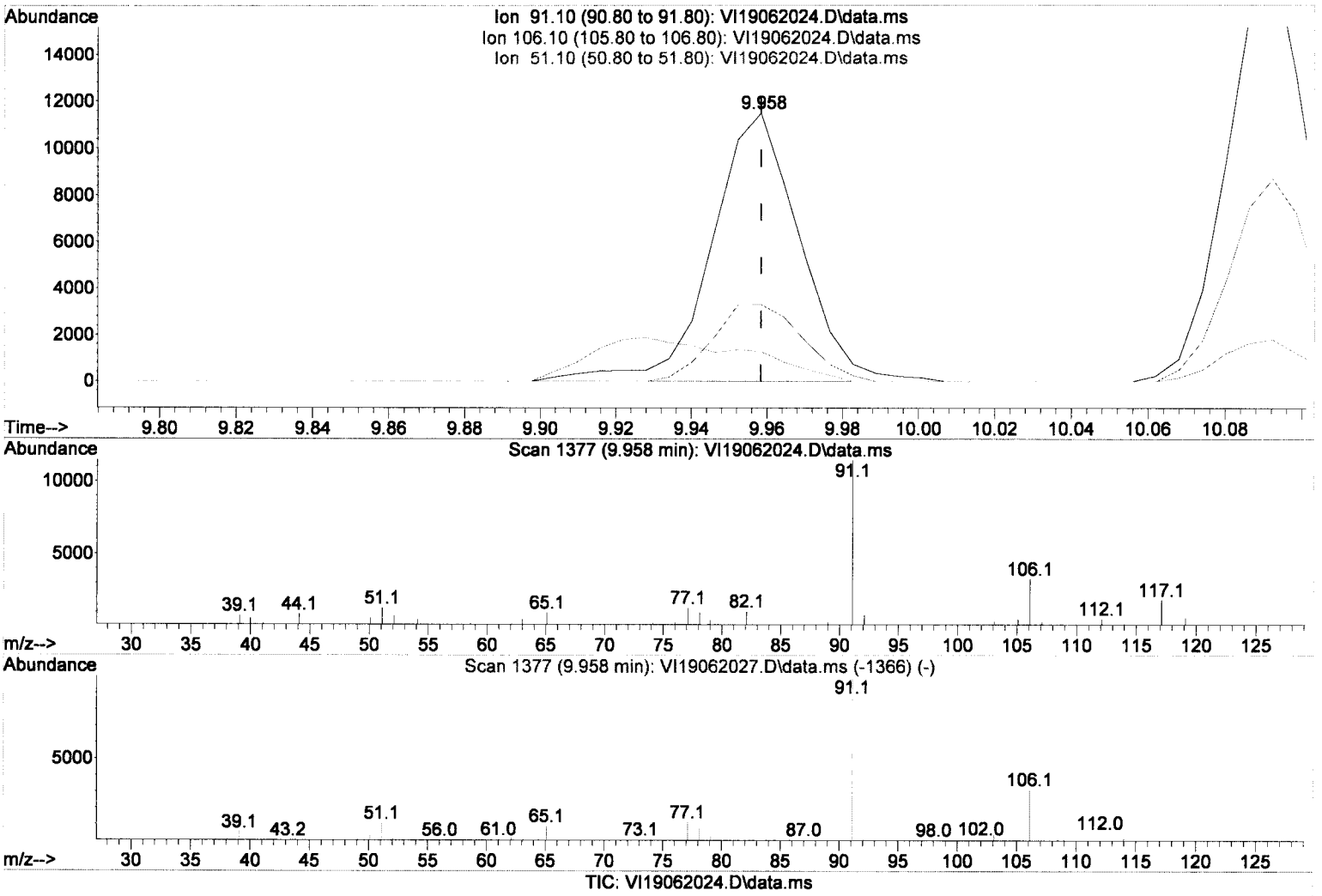
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	17144	1.94	ug/L		98
50) Tetrachloroethene (PCE)	8.803	166	3980	1.98	ug/L		96
51) 4-Methyl-2-Pentanone (...	8.809	43	12326	4.08	ug/L		96
52) t-1,3-Dichloropropene	8.845	75	5224	2.75	ug/L		95
53) 1,1,2-Trichloroethane	9.015	97	3923	1.88	ug/L		92
54) Dibromochloromethane	9.192	129	3080	1.62	ug/L		98
55) 1,3-Dichloropropane	9.295	76	6955	2.11	ug/L		96
56) 1,2-Dibromoethane (EDB)	9.435	107	4093	2.07	ug/L		94
57) 2-Hexanone	9.660	43	8923	5.26	ug/L		96
58) Chlorobenzene	9.934	112	10769	1.83	ug/L		93
59) Ethylbenzene	9.958	91	18616	2.08	ug/L		97
60) 1,1,1,2-Tetrachloroethane	9.995	131	3145	1.80	ug/L		91
61) m,p-Xylenes (2)	10.092	91	26844	3.89	ug/L		95
62) o-Xylene	10.469	91	14152	2.22	ug/L		97
63) Styrene	10.518	104	10275	2.09	ug/L		88
64) Bromoform	10.542	173	1903	1.74	ug/L		90
65) Isopropylbenzene	10.737	105	16331	2.39	ug/L		97
68) Bromobenzene	11.066	156	4450	2.12	ug/L		84
69) n-Propylbenzene	11.078	91	18778	2.08	ug/L		96
70) 1,1,2,2-Tetrachloroethane	11.145	85	3674	1.99	ug/L		97
71) 2-Chlorotoluene	11.212	126	3795	2.06	ug/L		96
72) 1,3,5-Trimethylbenzene	11.236	105	12170	2.25	ug/L		98
73) 1,2,3-Trichloropropane	11.254	110	1731	1.87	ug/L		90
74) t-1,4-Dichloro-2-butene	11.285	53	1245	2.05	ug/L	#	75
75) 4-Chlorotoluene	11.339	91	11633	2.10	ug/L		95
76) tert-Butylbenzene	11.485	91	7529	2.52	ug/L		89
77) 1,2,4-Trimethylbenzene	11.540	105	12644	2.27	ug/L		94
78) sec-Butylbenzene	11.625	105	15209	2.15	ug/L		97
79) 4-Isopropyltoluene	11.729	119	12207	2.30	ug/L		95
80) 1,3-Dichlorobenzene	11.802	146	7534	2.14	ug/L		95
81) 1,4-Dichlorobenzene	11.869	146	7885	1.90	ug/L		89
82) n-Butylbenzene	12.051	91	10983	2.26	ug/L		95
83) 1,2-Dichlorobenzene	12.185	146	7242	2.15	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.806	157	981	2.18	ug/L	#	76
85) Hexachlorobutadiene	13.317	223	934	2.21	ug/L		94
86) 1,2,4-Trichlorobenzene	13.347	180	3993	2.90	ug/L		92
87) Naphthalene	13.633	128	12353	2.77	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	3953	2.81	ug/L		88

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



TIC: VI19062024.D\data.ms

(59) Ethylbenzene (C)

9.958min (0.000) 2.08 ug/L

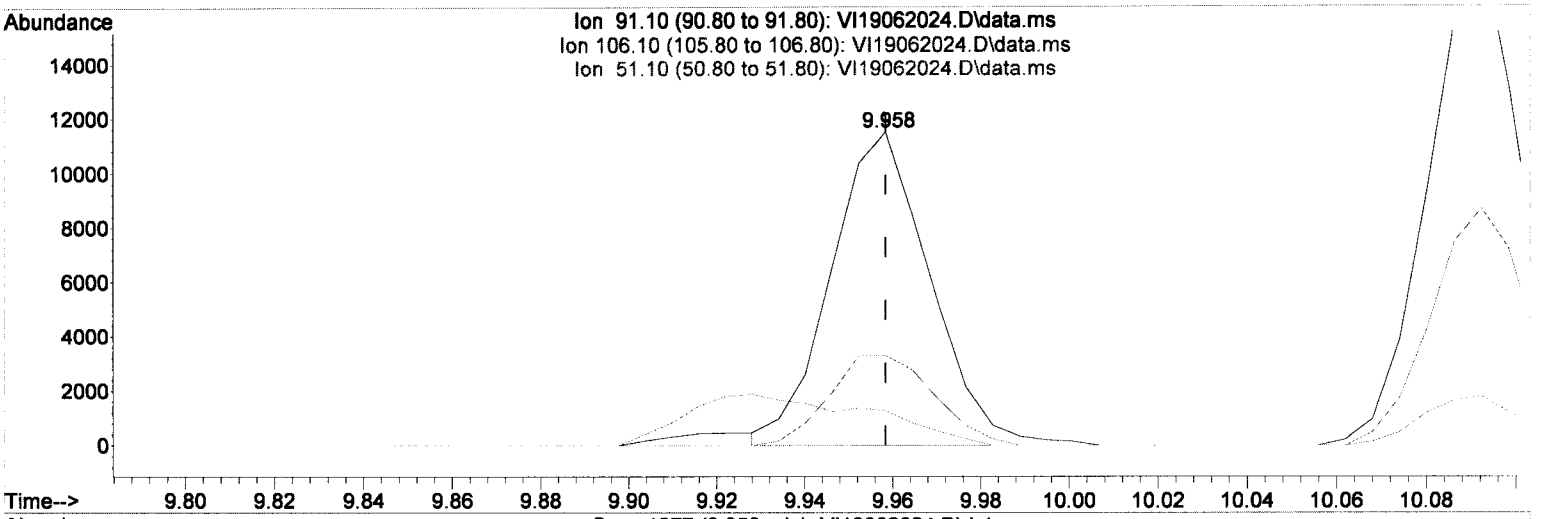
response 18616

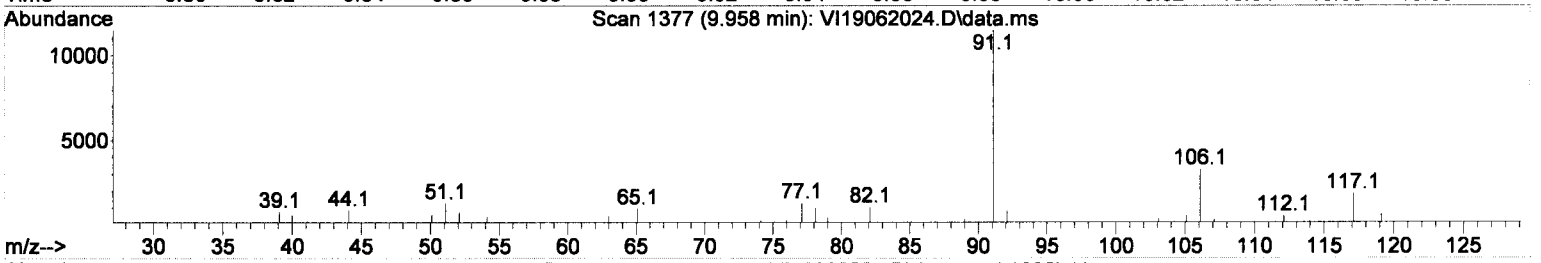
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	28.69
51.10	10.40	11.18
0.00	0.00	0.00

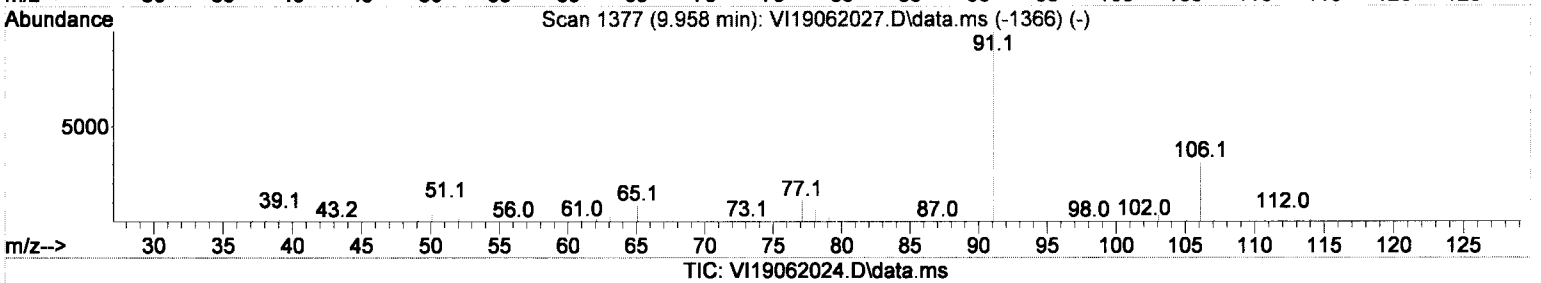
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration







TIC: VI19062024.D\data.ms

(59) Ethylbenzene (C)

9.958min (0.000) 2.00 ug/L m

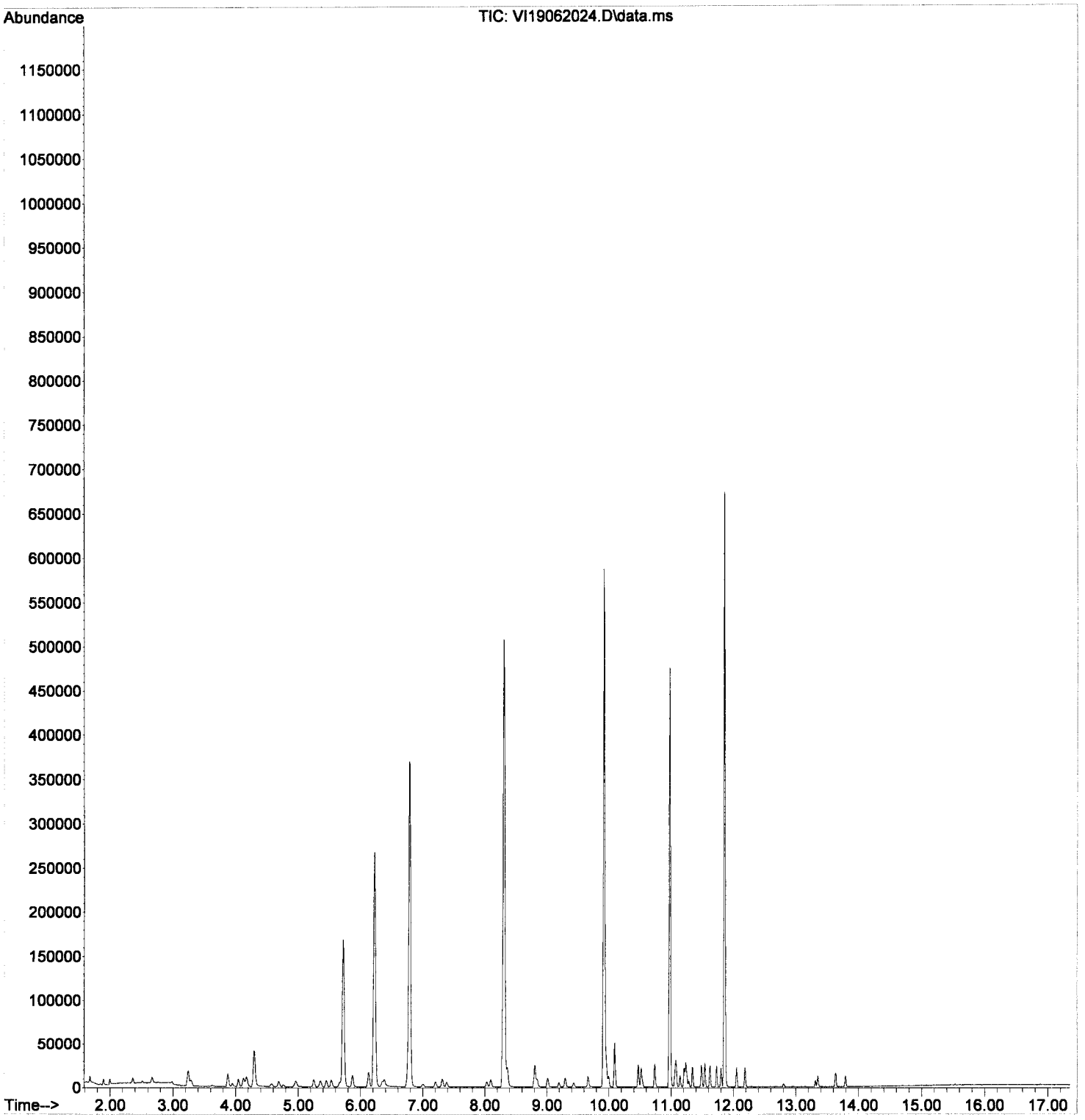
response 17924

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	28.69
51.10	10.40	11.18
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:00 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	210483	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	317560	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	146868	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113201	45.68	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	351357	46.57	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	413565	49.07	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	122376	54.55	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	10727	4.44	ug/L		100
3) Chloromethane	1.897	50	12884	3.57	ug/L		96
4) Vinyl Chloride	2.001	62	11994	3.91	ug/L		95
5) Bromomethane	2.366	96	6144	3.87	ug/L		96
6) Chloroethane	2.512	64	4333	3.38	ug/L		84
7) Trichlorofluoromethane	2.670	101	13723	3.87	ug/L		96
8) Ethanol	3.242	45	16135	No Calib			
9) 1,1-Dichloroethene	3.236	61	14113	4.64	ug/L		99
10) Carbon Disulfide	3.254	76	24895	4.78	ug/L		99
11) Freon 113	3.291	101	8855	4.16	ug/L		99
12) Iodomethane	3.388	142	1639	7.68	ug/L	#	83
13) Acrolein	3.631	56	2633	4.48	ug/L		80
14) Methylene Chloride	3.875	84	12982	4.88	ug/L		95
15) Acetone	3.948	43	10828	8.63	ug/L		94
16) t-1,2-Dichloroethene	4.045	61	13534	4.75	ug/L		97
17) n-Hexane	4.130	86	1835	5.99	ug/L	#	87
18) Methyl-tert-butyl-ether	4.179	73	33795	6.85	ug/L		94
19) tert-Butanol (TBA)	4.294	59	145017	No Calib			
20) Diisopropyl ether (DIPE)	4.568	45	8488	No Calib			
21) 1,1-Dichloroethane	4.690	63	17942	4.67	ug/L		95
22) Acrylonitrile	4.757	53	5714	4.26	ug/L		99
23) Ethyl-tert-butyl ether...	4.951	59	8642	No Calib			
24) Vinyl Acetate	4.964	43	23059	14.45	ug/L		99
25) c-1,2-Dichloroethene	5.250	61	14214	5.01	ug/L		94
26) 2,2-Dichloropropane	5.359	77	13609	8.15	ug/L		98
27) Bromochloromethane	5.456	130	7111	4.86	ug/L		91
28) Chloroform	5.535	83	18377	4.53	ug/L		97
29) Carbon Tetrachloride	5.669	117	10336	4.28	ug/L		98
30) Tetrahydrofuran	5.706	42	6018	5.11	ug/L		86
31) 1,1,1-Trichloroethane	5.742	97	14420	5.00	ug/L		97
33) 1,1-Dichloropropene	5.870	75	13797	5.30	ug/L		96
34) 2-Butanone (MEK)	5.864	43	16551	9.38	ug/L		96
35) Benzene	6.126	78	42655	4.94	ug/L		98
36) tert-Amyl methyl ether...	6.253	73	8135	No Calib			
37) 1,2-Dichloroethane (EDC)	6.351	62	14313	4.77	ug/L		93
38) iso-Butyl Alcohol	6.381	43	20716	101.64	ug/L		93
40) Trichloroethene (TCE)	6.746	130	10321	4.40	ug/L		98
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	6227	No Calib			
42) Dibromomethane	7.208	93	6909	4.61	ug/L		95
43) 1,2-Dichloropropane	7.318	63	11150	4.72	ug/L		91
44) Bromodichloromethane	7.385	83	12311	4.53	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.030	63	8448	11.33	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	15503	6.84	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:00 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

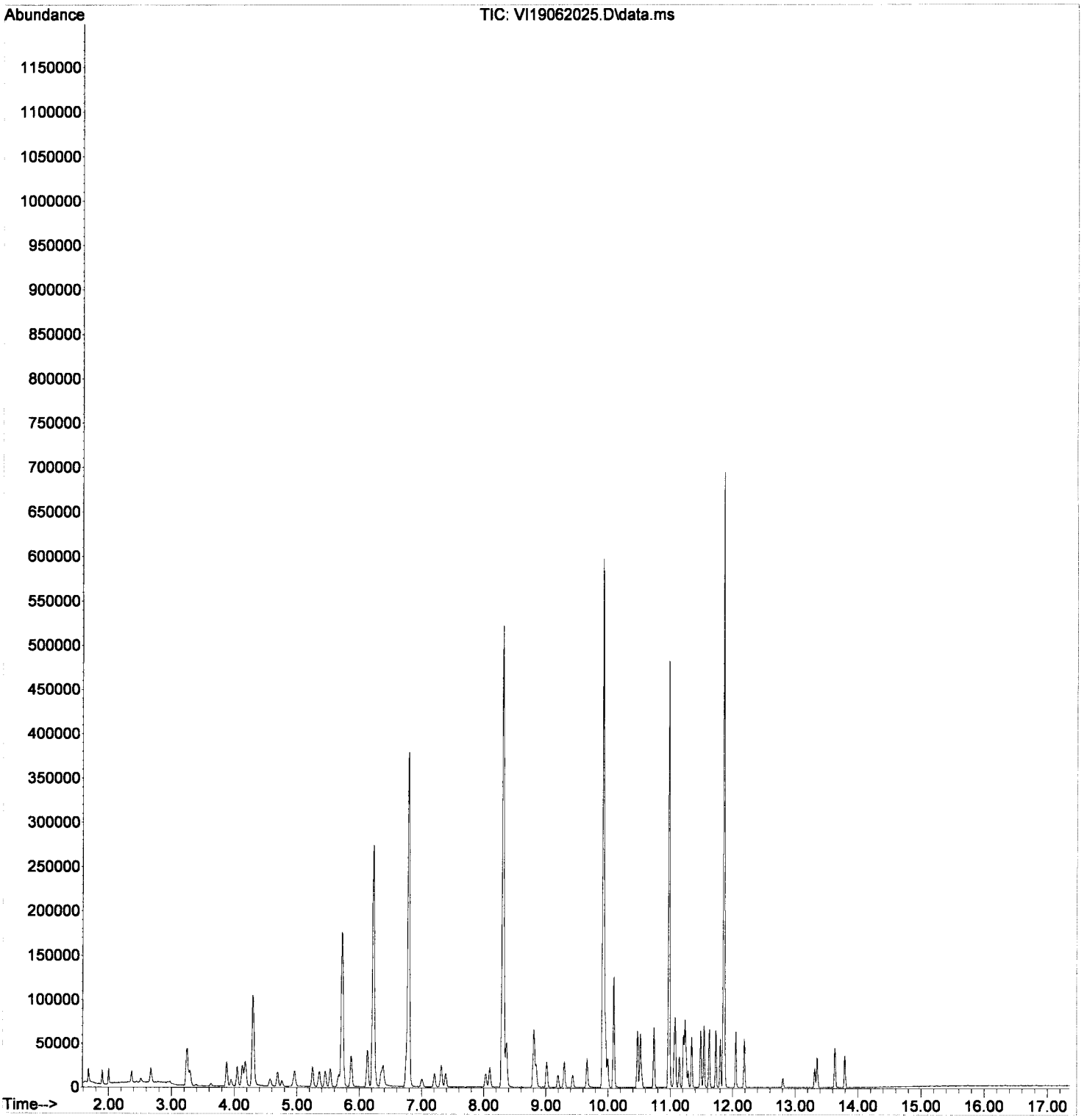
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	42182	4.68	ug/L		99
50) Tetrachloroethene (PCE)	8.802	166	10061	4.92	ug/L		92
51) 4-Methyl-2-Pentanone (...	8.808	43	31812	10.32	ug/L		98
52) t-1,3-Dichloropropene	8.845	75	13846	6.55	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	9783	4.61	ug/L		96
54) Dibromochloromethane	9.192	129	8356	4.32	ug/L		99
55) 1,3-Dichloropropane	9.295	76	17813	5.28	ug/L		98
56) 1,2-Dibromoethane (EDB)	9.429	107	10703	5.31	ug/L		92
57) 2-Hexanone	9.660	43	22445	10.40	ug/L		96
58) Chlorobenzene	9.934	112	27201	4.52	ug/L		92
59) Ethylbenzene	9.958	91	46640	5.11	ug/L		98
60) 1,1,1,2-Tetrachloroethane	9.995	131	7859	4.40	ug/L		93
61) m,p-Xylenes (2)	10.092	91	69099	9.46	ug/L		98
62) o-Xylene	10.469	91	35226	5.19	ug/L		97
63) Styrene	10.518	104	26982	4.92	ug/L		93
64) Bromoform	10.542	173	5086	4.37	ug/L		95
65) Isopropylbenzene	10.737	105	41584	5.29	ug/L		99
68) Bromobenzene	11.065	156	10912	5.04	ug/L	#	81
69) n-Propylbenzene	11.078	91	48510	5.21	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	9734	5.09	ug/L		99
71) 2-Chlorotoluene	11.211	126	9766	5.12	ug/L		92
72) 1,3,5-Trimethylbenzene	11.236	105	32548	5.22	ug/L		98
73) 1,2,3-Trichloropropane	11.254	110	4458	4.67	ug/L		94
74) t-1,4-Dichloro-2-butene	11.284	53	3644	5.80	ug/L	#	71
75) 4-Chlorotoluene	11.339	91	30340	5.31	ug/L		94
76) tert-Butylbenzene	11.485	91	18913	5.60	ug/L		93
77) 1,2,4-Trimethylbenzene	11.540	105	32738	5.29	ug/L		96
78) sec-Butylbenzene	11.625	105	39995	5.10	ug/L		99
79) 4-Isopropyltoluene	11.729	119	32047	5.39	ug/L		98
80) 1,3-Dichlorobenzene	11.802	146	19276	5.30	ug/L		98
81) 1,4-Dichlorobenzene	11.868	146	20166	4.71	ug/L		94
82) n-Butylbenzene	12.051	91	29388	5.46	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	18834	5.41	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.805	157	2495	4.51	ug/L		72
85) Hexachlorobutadiene	13.310	223	2508	5.74	ug/L		93
86) 1,2,4-Trichlorobenzene	13.353	180	10341	6.26	ug/L		93
87) Naphthalene	13.633	128	33574	6.25	ug/L		98
88) 1,2,3-Trichlorobenzene	13.791	180	10056	5.94	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:00 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062026.D
Acq On : 20 Jun 2019 8:58 pm
Operator : MM
Sample : 9F20044-CAL7
Misc : 1X 5mL 10/20PPB VOCR+OXY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:03 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	208672	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	309194	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	143770	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	112974	45.98	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	346503	46.32	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	406176	49.50	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	120665	54.95	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	22869	9.55	ug/L		99
3) Chloromethane	1.904	50	27212	7.61	ug/L		95
4) Vinyl Chloride	2.001	62	25922	8.52	ug/L		96
5) Bromomethane	2.366	96	12781	8.11	ug/L		96
6) Chloroethane	2.512	64	8771	9.25	ug/L		84
7) Trichlorofluoromethane	2.676	101	29578	8.41	ug/L		98
8) Ethanol	3.242	45	32934	No Calib			
9) 1,1-Dichloroethene	3.242	61	30179	10.00	ug/L		97
10) Carbon Disulfide	3.260	76	53141	10.28	ug/L		99
11) Freon 113	3.291	101	19042	9.03	ug/L		96
12) Iodomethane	3.400	142	4730	11.52	ug/L		94
13) Acrolein	3.631	56	5612	9.64	ug/L		65
14) Methylene Chloride	3.881	84	23309	8.83	ug/L		95
15) Acetone	3.948	43	20886	16.78	ug/L		98
16) t-1,2-Dichloroethene	4.045	61	29093	10.31	ug/L		100
17) n-Hexane	4.130	86	4064	11.50	ug/L	#	78
18) Methyl-tert-butyl-ether	4.173	73	68708	14.05	ug/L		91
19) tert-Butanol (TBA)	4.294	59	295406	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	17804	No Calib			
21) 1,1-Dichloroethane	4.690	63	38535	10.12	ug/L		98
22) Acrylonitrile	4.757	53	11651	8.77	ug/L		97
23) Ethyl-tert-butyl ether...	4.952	59	17677	No Calib			
24) Vinyl Acetate	4.964	43	42948	24.69	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	30222	10.75	ug/L		94
26) 2,2-Dichloropropane	5.359	77	29277	17.68	ug/L		98
27) Bromochloromethane	5.450	130	14538	10.03	ug/L		83
28) Chloroform	5.536	83	38632	9.60	ug/L		98
29) Carbon Tetrachloride	5.669	117	22754	9.51	ug/L		91
30) Tetrahydrofuran	5.706	42	11859	10.16	ug/L		88
31) 1,1,1-Trichloroethane	5.742	97	30675	10.74	ug/L		95
33) 1,1-Dichloropropene	5.870	75	29419	11.39	ug/L		92
34) 2-Butanone (MEK)	5.864	43	33398	19.09	ug/L		95
35) Benzene	6.132	78	89017	10.40	ug/L		95
36) tert-Amyl methyl ether...	6.259	73	16510	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	29731	9.99	ug/L		93
38) iso-Butyl Alcohol	6.381	43	42610	210.87	ug/L		91
40) Trichloroethene (TCE)	6.752	130	22223	9.57	ug/L		97
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	13457	No Calib			
42) Dibromomethane	7.202	93	14550	9.80	ug/L		90
43) 1,2-Dichloropropane	7.318	63	23246	9.92	ug/L		94
44) Bromodichloromethane	7.385	83	26103	9.68	ug/L		92
46) 2-Chloroethyl Vinyl Ether	8.030	63	17440	21.53	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	33223	14.11	ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062026.D
Acq On : 20 Jun 2019 8:58 pm
Operator : MM
Sample : 9F20044-CAL7
Misc : 1X 5mL 10/20PPB VOCR+OXY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:03 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

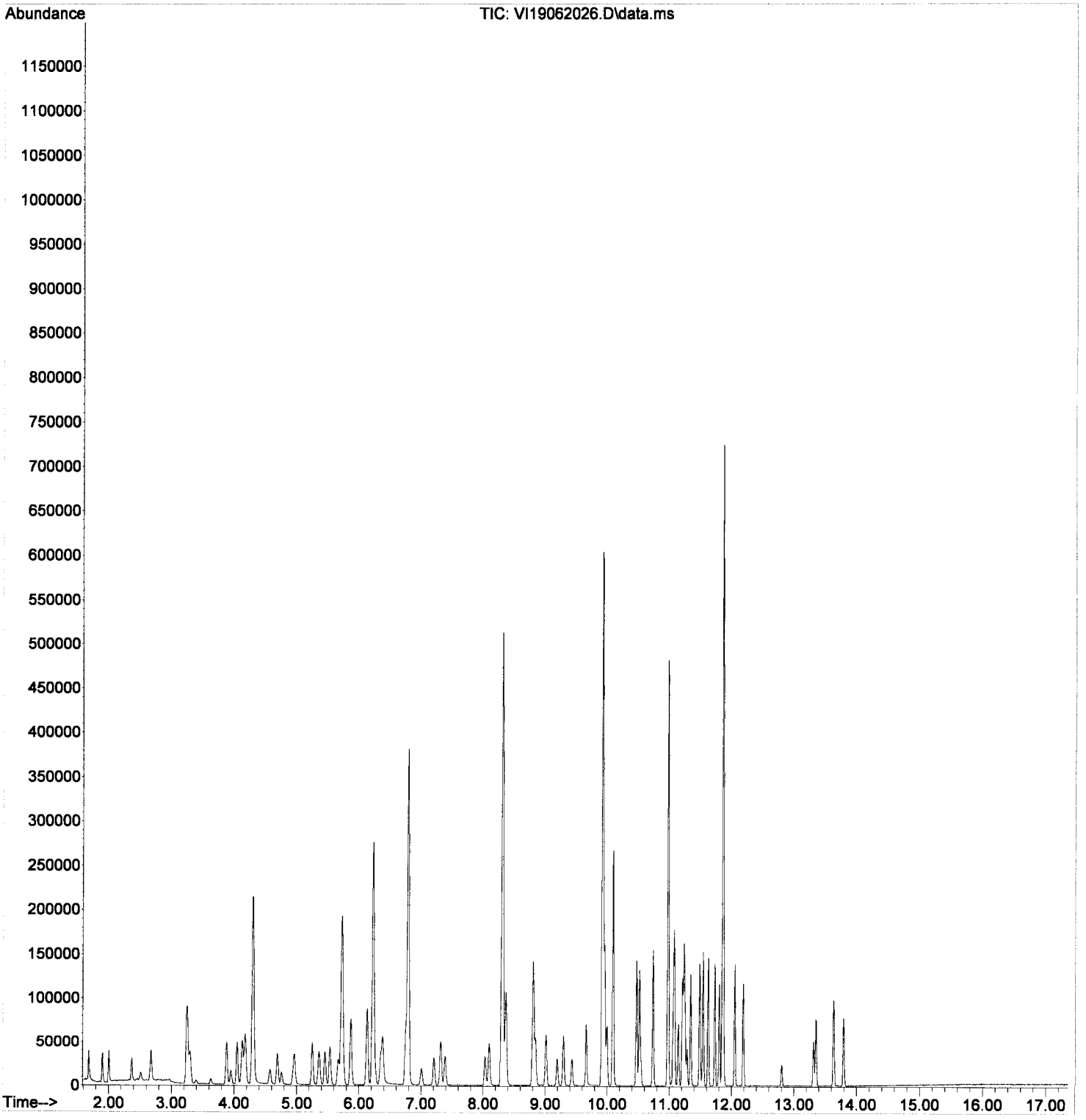
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	89825	10.24	ug/L		99
50) Tetrachloroethene (PCE)	8.802	166	21224	10.65	ug/L		85
51) 4-Methyl-2-Pentanone (...	8.802	43	63594	21.18	ug/L		99
52) t-1,3-Dichloropropene	8.845	75	29864	13.60	ug/L		96
53) 1,1,2-Trichloroethane	9.015	97	20793	10.05	ug/L		95
54) Dibromochloromethane	9.192	129	17821	9.46	ug/L		97
55) 1,3-Dichloropropane	9.295	76	36030	10.98	ug/L		97
56) 1,2-Dibromoethane (EDB)	9.429	107	22272	11.36	ug/L		93
57) 2-Hexanone	9.660	43	47165	20.45	ug/L		94
58) Chlorobenzene	9.934	112	56373	9.63	ug/L		94
59) Ethylbenzene	9.958	91	97148	10.93	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.995	131	17145	9.87	ug/L		95
61) m,p-Xylenes (2)	10.092	91	146011	20.20	ug/L		99
62) o-Xylene	10.469	91	75737	11.23	ug/L		96
63) Styrene	10.518	104	58587	10.58	ug/L		93
64) Bromoform	10.542	173	10720	9.03	ug/L		95
65) Isopropylbenzene	10.737	105	90064	11.20	ug/L		100
68) Bromobenzene	11.066	156	23575	11.11	ug/L	#	81
69) n-Propylbenzene	11.078	91	105162	11.53	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.145	85	20049	10.70	ug/L		91
71) 2-Chlorotoluene	11.211	126	21062	11.27	ug/L		88
72) 1,3,5-Trimethylbenzene	11.236	105	70618	11.08	ug/L		97
73) 1,2,3-Trichloropropane	11.254	110	9348	9.99	ug/L		95
74) t-1,4-Dichloro-2-butene	11.285	53	7647	12.44	ug/L	#	73
75) 4-Chlorotoluene	11.339	91	64861	11.59	ug/L		93
76) tert-Butylbenzene	11.485	91	40180	11.70	ug/L		90
77) 1,2,4-Trimethylbenzene	11.540	105	71009	11.35	ug/L		94
78) sec-Butylbenzene	11.625	105	86944	11.01	ug/L		99
79) 4-Isopropyltoluene	11.729	119	69238	11.50	ug/L		98
80) 1,3-Dichlorobenzene	11.802	146	40809	11.45	ug/L		97
81) 1,4-Dichlorobenzene	11.869	146	41265	9.85	ug/L		93
82) n-Butylbenzene	12.051	91	63502	11.68	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	39721	11.67	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.805	157	5649	9.66	ug/L		81
85) Hexachlorobutadiene	13.310	223	5826	13.61	ug/L		92
86) 1,2,4-Trichlorobenzene	13.353	180	22943	13.26	ug/L		97
87) Naphthalene	13.633	128	72663	12.93	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	21767	12.28	ug/L		94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062026.D
Acq On : 20 Jun 2019 8:58 pm
Operator : MM
Sample : 9F20044-CAL7
Misc : 1X 5mL 10/20PPB VOCR+OXY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:03 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062027.D
Acq On : 20 Jun 2019 9:25 pm
Operator : MM
Sample : 9F20044-CAL8
Misc : 1X 5mL 20/40PPB VOCR+OXY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:06 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	211811	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	321290	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	153422	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	114050	45.73	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	352468	46.42	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	416334	48.82	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	126396	53.93	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	45341	18.66	ug/L		98
3) Chloromethane	1.898	50	53847	14.84	ug/L		96
4) Vinyl Chloride	2.001	62	51551	16.70	ug/L		96
5) Bromomethane	2.366	96	25381	15.87	ug/L		100
6) Chloroethane	2.500	64	17079	18.35	ug/L		84
7) Trichlorofluoromethane	2.664	101	58229	16.32	ug/L		97
8) Ethanol	3.236	45	64932	No Calib			
9) 1,1-Dichloroethene	3.236	61	60935	19.90	ug/L		98
10) Carbon Disulfide	3.254	76	106077	20.22	ug/L		98
11) Freon 113	3.291	101	38212	17.85	ug/L		99
12) Iodomethane	3.394	142	14419	22.58	ug/L		93
13) Acrolein	3.625	56	11354	19.22	ug/L		75
14) Methylene Chloride	3.875	84	43827	16.37	ug/L		97
15) Acetone	3.942	43	38901	30.80	ug/L		97
16) t-1,2-Dichloroethene	4.045	61	57700	20.14	ug/L		98
17) n-Hexane	4.124	86	8288	21.48	ug/L	#	78
18) Methyl-tert-butyl-ether	4.173	73	139596	28.12	ug/L		92
19) tert-Butanol (TBA)	4.295	59	596009	No Calib			
20) Diisopropyl ether (DIPE)	4.568	45	34910	No Calib			
21) 1,1-Dichloroethane	4.690	63	75912	19.65	ug/L		97
22) Acrylonitrile	4.757	53	24079	17.86	ug/L		97
23) Ethyl-tert-butyl ether...	4.946	59	35210	No Calib			
24) Vinyl Acetate	4.964	43	90782	47.54	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	61245	21.46	ug/L		97
26) 2,2-Dichloropropane	5.359	77	58610	34.87	ug/L		91
27) Bromochloromethane	5.450	130	29415	19.99	ug/L		87
28) Chloroform	5.530	83	77689	19.02	ug/L		97
29) Carbon Tetrachloride	5.663	117	46960	19.33	ug/L		93
30) Tetrahydrofuran	5.706	42	22966	19.38	ug/L		89
31) 1,1,1-Trichloroethane	5.736	97	62914	21.69	ug/L		96
33) 1,1-Dichloropropene	5.864	75	60592	23.11	ug/L		96
34) 2-Butanone (MEK)	5.858	43	68176	38.39	ug/L		96
35) Benzene	6.126	78	177855	20.48	ug/L		99
36) tert-Amyl methyl ether...	6.253	73	33066	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	59444	19.69	ug/L		92
38) iso-Butyl Alcohol	6.375	43	87748	427.82	ug/L		91
40) Trichloroethene (TCE)	6.746	130	44514	18.88	ug/L		97
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	26731	No Calib			
42) Dibromomethane	7.203	93	29571	19.62	ug/L		94
43) 1,2-Dichloropropane	7.318	63	46799	19.68	ug/L		93
44) Bromodichloromethane	7.385	83	53614	19.60	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.030	63	36879	40.91	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	67880	25.60	ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062027.D
Acq On : 20 Jun 2019 9:25 pm
Operator : MM
Sample : 9F20044-CAL8
Misc : 1X 5mL 20/40PPB VOCR+OXY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:06 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

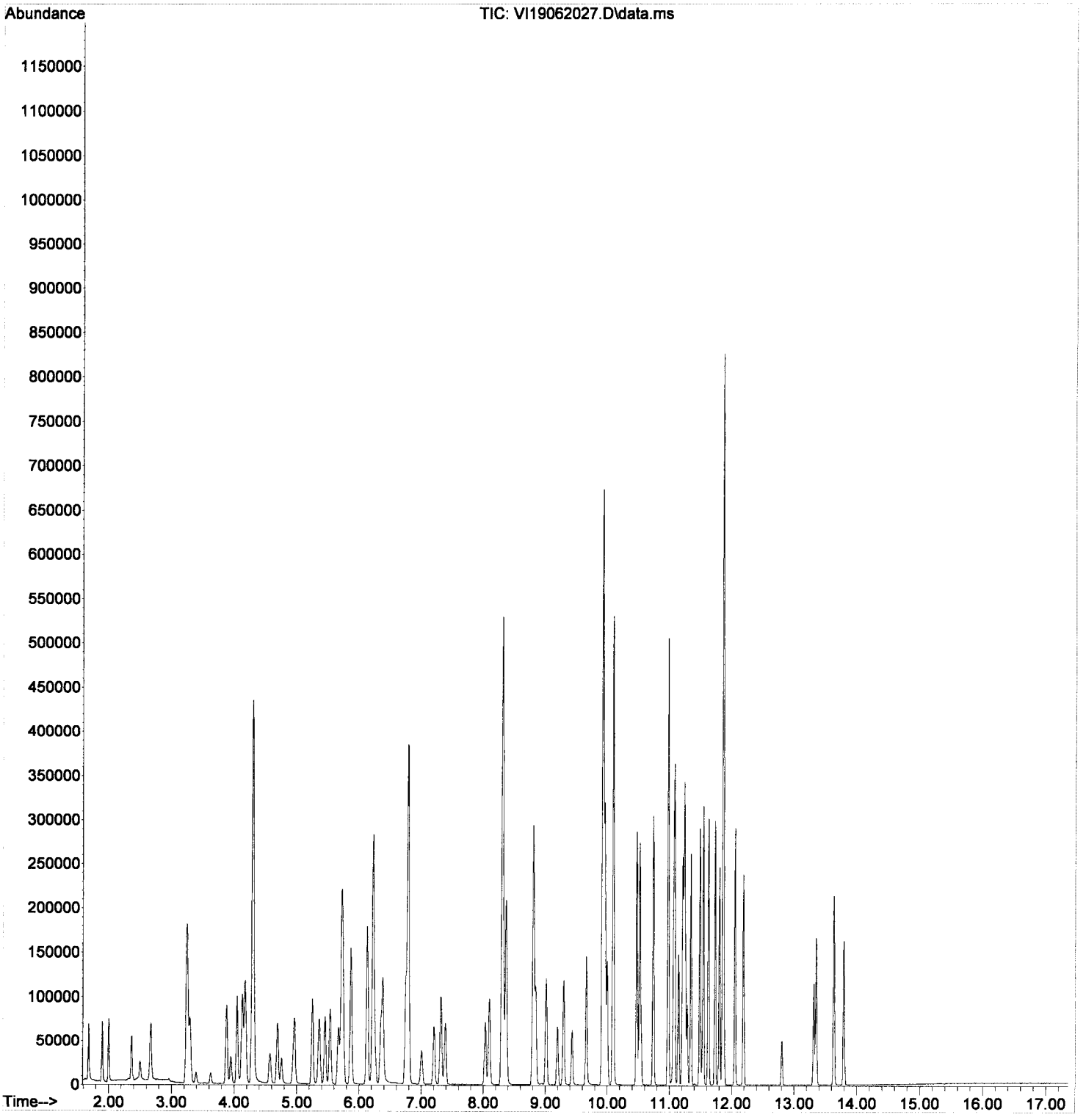
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.364	91	182138	19.97	ug/L	99
50) Tetrachloroethene (PCE)	8.803	166	43326	20.93	ug/L	92
51) 4-Methyl-2-Pentanone (...	8.803	43	131182	42.05	ug/L	100
52) t-1,3-Dichloropropene	8.839	75	62988	25.61	ug/L	95
53) 1,1,2-Trichloroethane	9.009	97	42325	19.69	ug/L	96
54) Dibromochloromethane	9.192	129	38368	19.60	ug/L	99
55) 1,3-Dichloropropane	9.295	76	73700	21.61	ug/L	94
56) 1,2-Dibromoethane (EDB)	9.429	107	45760	22.46	ug/L	96
57) 2-Hexanone	9.660	43	95510	38.33	ug/L	93
58) Chlorobenzene	9.934	112	114554	18.82	ug/L	96
59) Ethylbenzene	9.958	91	199043	21.55	ug/L	99
60) 1,1,1,2-Tetrachloroethane	9.995	131	36071	19.98	ug/L	97
61) m,p-Xylenes (2)	10.092	91	297370	39.23	ug/L	99
62) o-Xylene	10.469	91	154063	21.67	ug/L	97
63) Styrene	10.518	104	120508	20.54	ug/L	96
64) Bromoform	10.542	173	24635	18.47	ug/L	92
65) Isopropylbenzene	10.737	105	183642	21.40	ug/L	100
68) Bromobenzene	11.066	156	48339	21.35	ug/L	85
69) n-Propylbenzene	11.078	91	216830	22.29	ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.145	85	40959	20.49	ug/L	93
71) 2-Chlorotoluene	11.212	126	43622	21.88	ug/L	95
72) 1,3,5-Trimethylbenzene	11.236	105	146061	21.02	ug/L	99
73) 1,2,3-Trichloropropane	11.254	110	19069	19.10	ug/L	98
74) t-1,4-Dichloro-2-butene	11.285	53	16429	25.05	ug/L	81
75) 4-Chlorotoluene	11.339	91	134477	22.51	ug/L	93
76) tert-Butylbenzene	11.485	91	83942	22.43	ug/L	93
77) 1,2,4-Trimethylbenzene	11.540	105	147716	21.71	ug/L	95
78) sec-Butylbenzene	11.625	105	180863	21.14	ug/L	99
79) 4-Isopropyltoluene	11.729	119	145889	22.22	ug/L	99
80) 1,3-Dichlorobenzene	11.802	146	84752	22.29	ug/L	98
81) 1,4-Dichlorobenzene	11.869	146	86143	19.26	ug/L	97
82) n-Butylbenzene	12.051	91	134600	22.74	ug/L	98
83) 1,2-Dichlorobenzene	12.185	146	82461	22.70	ug/L	97
84) 1,2-Dibromo-3-Chloropr...	12.805	157	12521	19.32	ug/L	87
85) Hexachlorobutadiene	13.310	223	12574	27.53	ug/L	94
86) 1,2,4-Trichlorobenzene	13.353	180	49011	25.56	ug/L	97
87) Naphthalene	13.633	128	157738	25.13	ug/L	96
88) 1,2,3-Trichlorobenzene	13.791	180	46693	23.80	ug/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062027.D
Acq On : 20 Jun 2019 9:25 pm
Operator : MM
Sample : 9F20044-CAL8
Misc : 1X 5mL 20/40PPB VOCR+OXY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:06 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062028.D
Acq On : 20 Jun 2019 9:52 pm
Operator : MM
Sample : 9F20044-CAL9
Misc : 1X 5mL 50/100PPB VOCR+OXY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:09 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	203359	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	308920	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	150676	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	111616	46.61	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	340921	46.77	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	405204	49.42	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	122539	53.24	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	120443	51.62	ug/L		99
3) Chloromethane	1.898	50	136445	39.16	ug/L		96
4) Vinyl Chloride	2.001	62	131880	44.49	ug/L		96
5) Bromomethane	2.366	96	58858	38.34	ug/L		97
6) Chloroethane	2.500	64	41565	40.89	ug/L		83
7) Trichlorofluoromethane	2.670	101	147150	42.96	ug/L		97
8) Ethanol	3.236	45	122303	No Calib			
9) 1,1-Dichloroethene	3.242	61	152871	51.99	ug/L		96
10) Carbon Disulfide	3.254	76	265043	52.63	ug/L		99
11) Freon 113	3.291	101	96319	46.86	ug/L		99
12) Iodomethane	3.394	142	59951	68.22	ug/L		90
13) Acrolein	3.625	56	27909	49.20	ug/L		74
14) Methylene Chloride	3.881	84	106690	41.50	ug/L		95
15) Acetone	3.948	43	98222	80.99	ug/L		98
16) t-1,2-Dichloroethene	4.045	61	146773	53.35	ug/L		97
17) n-Hexane	4.124	86	21296	54.03	ug/L	#	75
18) Methyl-tert-butyl-ether	4.173	73	355406	74.56	ug/L		91
19) tert-Butanol (TBA)	4.295	59	1112985	No Calib			
20) Diisopropyl ether (DIPE)	4.568	45	72280	No Calib			
21) 1,1-Dichloroethane	4.690	63	192771	51.96	ug/L		96
22) Acrylonitrile	4.751	53	62678	48.42	ug/L		98
23) Ethyl-tert-butyl ether...	4.946	59	70328	No Calib			
24) Vinyl Acetate	4.964	43	245025	119.65	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	155174	56.63	ug/L		96
26) 2,2-Dichloropropane	5.359	77	148380	91.94	ug/L		94
27) Bromochloromethane	5.450	130	76222	53.96	ug/L		86
28) Chloroform	5.536	83	197721	50.42	ug/L		98
29) Carbon Tetrachloride	5.669	117	124688	53.46	ug/L		94
30) Tetrahydrofuran	5.700	42	59864	52.62	ug/L		88
31) 1,1,1-Trichloroethane	5.736	97	159643	57.33	ug/L		98
33) 1,1-Dichloropropene	5.870	75	151196	60.08	ug/L		96
34) 2-Butanone (MEK)	5.858	43	172204	101.00	ug/L		98
35) Benzene	6.126	78	445865	53.47	ug/L		98
36) tert-Amyl methyl ether...	6.253	73	66498	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	151724	52.33	ug/L		94
38) iso-Butyl Alcohol	6.375	43	234023	1188.42	ug/L		91
40) Trichloroethene (TCE)	6.746	130	110584	48.84	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	50305	No Calib			
42) Dibromomethane	7.203	93	76074	52.57	ug/L		91
43) 1,2-Dichloropropane	7.312	63	117196	51.32	ug/L		91
44) Bromodichloromethane	7.385	83	141449	53.85	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.030	63	90290	95.59	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	179241	58.16	ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062028.D
Acq On : 20 Jun 2019 9:52 pm
Operator : MM
Sample : 9F20044-CAL9
Misc : 1X 5mL 50/100PPB VOCR+OXY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:09 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

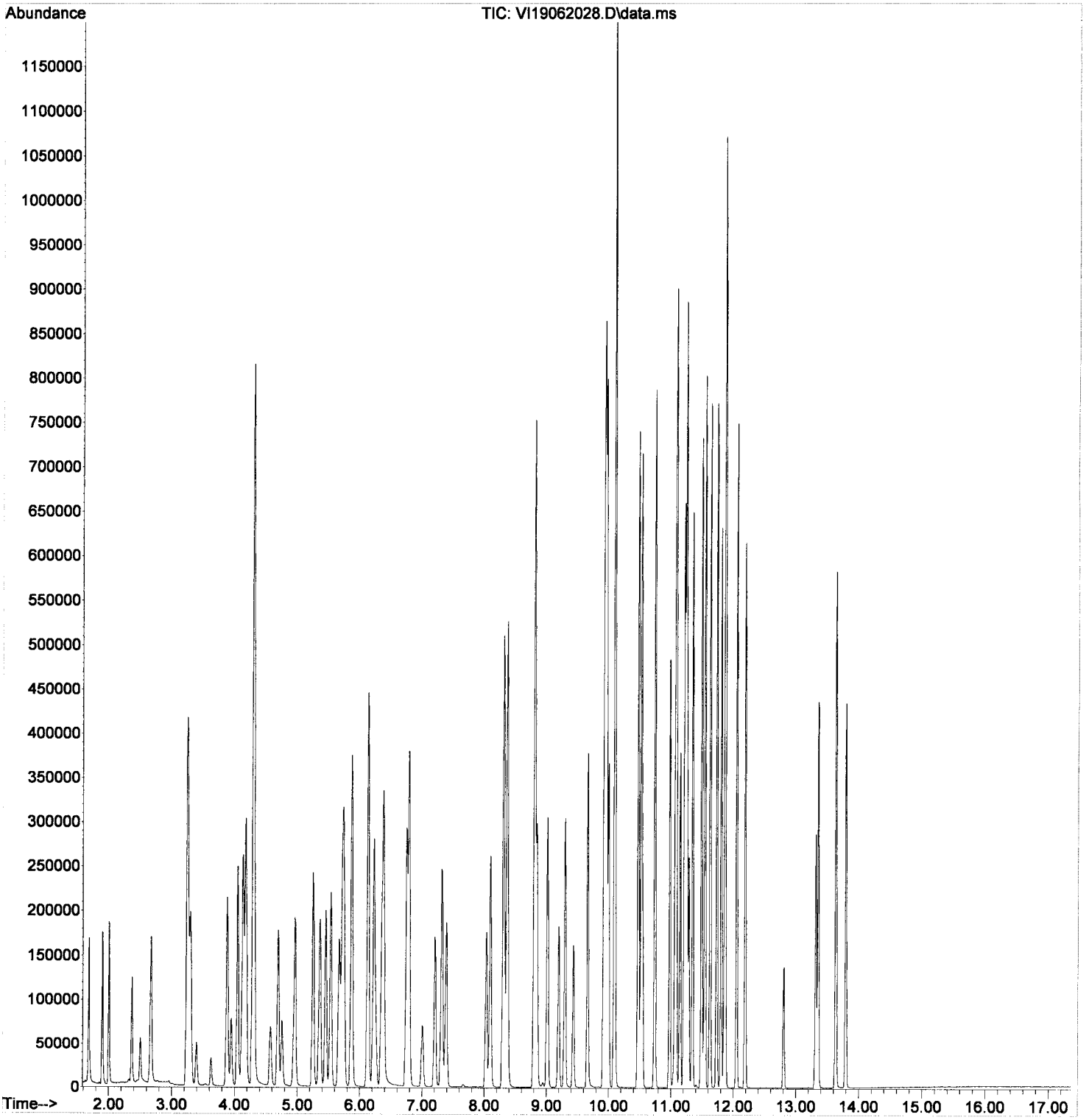
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.364	91	453767	51.75	ug/L	99
50) Tetrachloroethene (PCE)	8.802	166	106928	53.72	ug/L	89
51) 4-Methyl-2-Pentanone (...	8.802	43	334688	111.58	ug/L	99
52) t-1,3-Dichloropropene	8.845	75	168385	59.97	ug/L	97
53) 1,1,2-Trichloroethane	9.009	97	107199	51.87	ug/L	97
54) Dibromochloromethane	9.192	129	105586	56.11	ug/L	97
55) 1,3-Dichloropropane	9.295	76	188838	57.58	ug/L	97
56) 1,2-Dibromoethane (EDB)	9.429	107	117678	60.07	ug/L	97
57) 2-Hexanone	9.660	43	246411	101.13	ug/L	93
58) Chlorobenzene	9.934	112	287748	49.18	ug/L	95
59) Ethylbenzene	9.958	91	500499	56.36	ug/L	99
60) 1,1,1,2-Tetrachloroethane	9.995	131	95349	54.92	ug/L	97
61) m,p-Xylenes (2)	10.092	91	761093	102.80	ug/L	98
62) o-Xylene	10.469	91	393871	55.95	ug/L	98
63) Styrene	10.518	104	310680	53.57	ug/L	94
64) Bromoform	10.542	173	71192	45.80	ug/L	97
65) Isopropylbenzene	10.737	105	464969	54.41	ug/L	100
68) Bromobenzene	11.066	156	122510	55.10	ug/L	85
69) n-Propylbenzene	11.078	91	552123	57.78	ug/L	98
70) 1,1,2,2-Tetrachloroethane	11.145	85	106308	54.14	ug/L	94
71) 2-Chlorotoluene	11.212	126	110540	56.45	ug/L	97
72) 1,3,5-Trimethylbenzene	11.236	105	374460	53.34	ug/L	99
73) 1,2,3-Trichloropropane	11.254	110	48655	49.63	ug/L	98
74) t-1,4-Dichloro-2-butene	11.285	53	44053	68.38	ug/L	82
75) 4-Chlorotoluene	11.339	91	342004	58.30	ug/L	93
76) tert-Butylbenzene	11.485	91	215295	56.88	ug/L	90
77) 1,2,4-Trimethylbenzene	11.540	105	378562	54.99	ug/L	95
78) sec-Butylbenzene	11.625	105	462445	53.81	ug/L	98
79) 4-Isopropyltoluene	11.729	119	381484	56.92	ug/L	99
80) 1,3-Dichlorobenzene	11.802	146	214935	57.55	ug/L	98
81) 1,4-Dichlorobenzene	11.869	146	219818	50.04	ug/L	96
82) n-Butylbenzene	12.051	91	347856	57.63	ug/L	97
83) 1,2-Dichlorobenzene	12.185	146	212354	59.51	ug/L	98
84) 1,2-Dibromo-3-Chloropr...	12.805	157	35049	52.88	ug/L	88
85) Hexachlorobutadiene	13.310	223	31871	71.05	ug/L	95
86) 1,2,4-Trichlorobenzene	13.353	180	128307	64.38	ug/L	96
87) Naphthalene	13.633	128	419902	62.94	ug/L	96
88) 1,2,3-Trichlorobenzene	13.791	180	121910	60.36	ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062028.D
Acq On : 20 Jun 2019 9:52 pm
Operator : MM
Sample : 9F20044-CAL9
Misc : 1X 5mL 50/100PPB VOCR+OXY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:09 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062029.D
Acq On : 20 Jun 2019 10:19 pm
Operator : MM
Sample : 9F20044-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:19 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

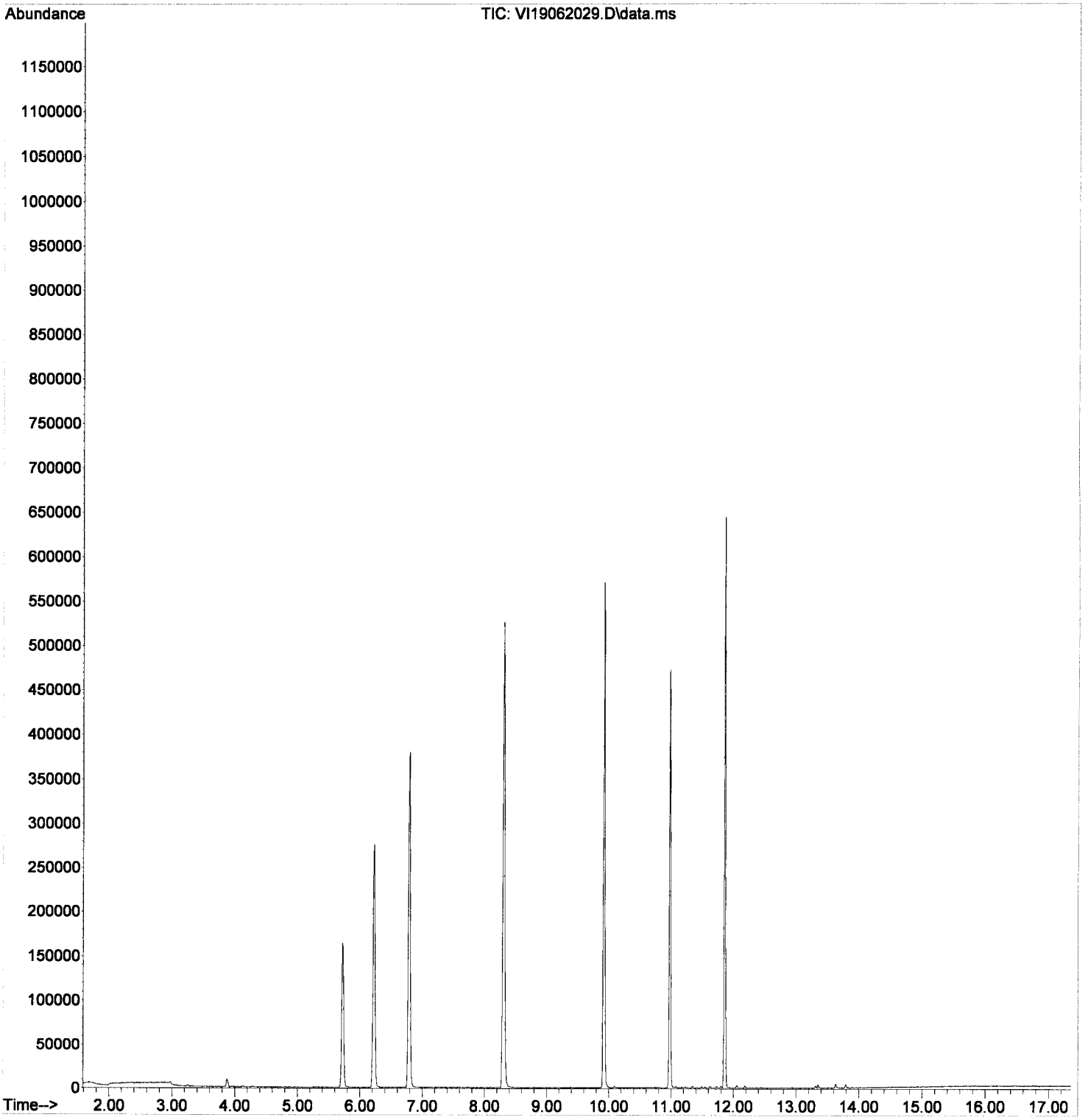
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	216079	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	318201	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	140956	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113957	48.92	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	358531	49.85	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	417933	50.27	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	120696	51.68	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	241	0.11	ug/L	#	49
3) Chloromethane	1.891	50	540	0.19	ug/L	#	47
5) Bromomethane	2.366	96	393	0.30	ug/L		71
10) Carbon Disulfide	3.254	76	2053	0.39	ug/L		91
14) Methylene Chloride	3.875	84	4452	0.18	ug/L		96
15) Acetone	3.960	43	974	0.93	ug/L	#	44
16) t-1,2-Dichloroethene	4.045	61	289	0.10	ug/L	#	55
19) tert-Butanol (TBA)	4.301	59	353	0.79	ug/L	#	16
50) Tetrachloroethene (PCE)	8.808	166	228	0.11	ug/L	#	25
58) Chlorobenzene	9.934	112	442	0.08	ug/L	#	1
59) Ethylbenzene	9.958	91	823	0.09	ug/L		89
61) m,p-Xylenes (2)	10.098	91	1374	0.19	ug/L		95
65) Isopropylbenzene	10.743	105	718	0.08	ug/L		82
69) n-Propylbenzene	11.078	91	1498	0.16	ug/L		91
72) 1,3,5-Trimethylbenzene	11.236	105	742	0.11	ug/L		94
75) 4-Chlorotoluene	11.345	91	814	0.14	ug/L		89
76) tert-Butylbenzene	11.485	91	422	0.11	ug/L		97
77) 1,2,4-Trimethylbenzene	11.546	105	886	0.14	ug/L		93
78) sec-Butylbenzene	11.625	105	1404	0.17	ug/L		94
79) 4-Isopropyltoluene	11.729	119	1296	0.20	ug/L		85
80) 1,3-Dichlorobenzene	11.802	146	711	0.19	ug/L		95
81) 1,4-Dichlorobenzene	11.868	146	849	0.22	ug/L	#	18
82) n-Butylbenzene	12.051	91	1592	0.27	ug/L		96
83) 1,2-Dichlorobenzene	12.191	146	443	0.12	ug/L		96
85) Hexachlorobutadiene	13.316	223	457	0.87	ug/L	#	80
86) 1,2,4-Trichlorobenzene	13.353	180	1295	0.61	ug/L		96
87) Naphthalene	13.633	128	4300	0.62	ug/L		97
88) 1,2,3-Trichlorobenzene	13.791	180	1494	0.73	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062029.D
Acq On : 20 Jun 2019 10:19 pm
Operator : MM
Sample : 9F20044-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:19 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062030.D
Acq On : 20 Jun 2019 10:46 pm
Operator : MM
Sample : 9F20044-CALA
Misc : 1X 5mL 100/200PPB VOCR+OXY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:12 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	215096	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	326979	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	158080	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	116734	46.09	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	358617	46.51	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	420397	48.44	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	127873	52.96	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	242339	98.19	ug/L		99
3) Chloromethane	1.904	50	268247	72.79	ug/L		95
4) Vinyl Chloride	2.007	62	267614	85.36	ug/L		97
5) Bromomethane	2.372	96	114028	70.22	ug/L		97
6) Chloroethane	2.506	64	41076	38.76	ug/L		87
7) Trichlorofluoromethane	2.670	101	296413	81.81	ug/L		96
8) Ethanol	3.248	45	245570	No Calib			
9) 1,1-Dichloroethene	3.242	61	298169	95.88	ug/L		97
10) Carbon Disulfide	3.260	76	511828	96.09	ug/L		99
11) Freon 113	3.297	101	185413	85.28	ug/L		99
12) Iodomethane	3.400	142	141825	124.21	ug/L		89
13) Acrolein	3.631	56	59402	99.01	ug/L		71
14) Methylene Chloride	3.881	84	204285	75.12	ug/L		95
15) Acetone	3.954	43	185269	144.43	ug/L		96
16) t-1,2-Dichloroethene	4.051	61	283049	97.27	ug/L		96
17) n-Hexane	4.130	86	41081	95.20	ug/L	#	72
18) Methyl-tert-butyl-ether	4.179	73	687445	136.36	ug/L		93
19) tert-Butanol (TBA)	4.301	59	2207246	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	145556	No Calib			
21) 1,1-Dichloroethane	4.696	63	370610	94.45	ug/L		96
22) Acrylonitrile	4.757	53	119204	87.06	ug/L		98
23) Ethyl-tert-butyl ether...	4.945	59	141315	No Calib			
24) Vinyl Acetate	4.964	43	502043	209.94	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	300456	103.66	ug/L		97
26) 2,2-Dichloropropane	5.359	77	285471	167.24	ug/L		92
27) Bromochloromethane	5.456	130	140204	93.83	ug/L		91
28) Chloroform	5.536	83	381891	92.07	ug/L		97
29) Carbon Tetrachloride	5.669	117	251247	101.85	ug/L		95
30) Tetrahydrofuran	5.706	42	112665	93.63	ug/L		88
31) 1,1,1-Trichloroethane	5.742	97	311653	105.81	ug/L		96
33) 1,1-Dichloropropene	5.870	75	293441	110.23	ug/L		97
34) 2-Butanone (MEK)	5.864	43	323609	179.44	ug/L		100
35) Benzene	6.132	78	869915	98.63	ug/L		98
36) tert-Amyl methyl ether...	6.260	73	133827	No Calib			
37) 1,2-Dichloroethane (EDC)	6.351	62	291619	95.10	ug/L		93
38) iso-Butyl Alcohol	6.381	43	428089	2055.31	ug/L		91
40) Trichloroethene (TCE)	6.752	130	217794	90.95	ug/L		97
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	105118	No Calib			
42) Dibromomethane	7.209	93	147484	96.36	ug/L		94
43) 1,2-Dichloropropane	7.318	63	229097	94.85	ug/L		91
44) Bromodichloromethane	7.385	83	279539	100.61	ug/L		95
46) 2-Chloroethyl Vinyl Ether	8.030	63	194477	177.87	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	350611	91.47	ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062030.D
Acq On : 20 Jun 2019 10:46 pm
Operator : MM
Sample : 9F20044-CALA
Misc : 1X 5mL 100/200PPB VOCR+OXY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:12 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

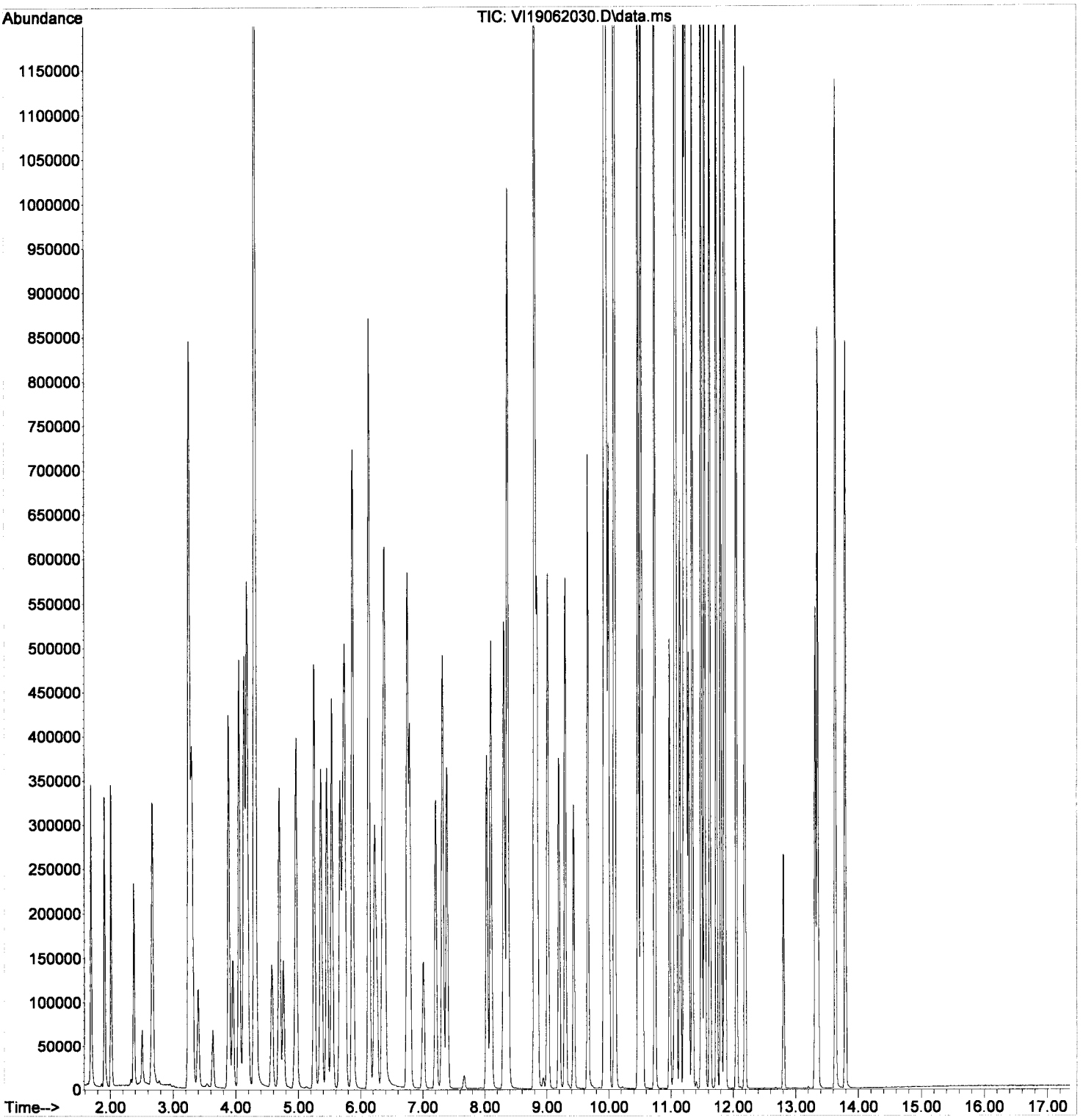
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.364	91	880744	94.91	ug/L	99
50) Tetrachloroethene (PCE)	8.802	166	211071	100.18	ug/L	88
51) 4-Methyl-2-Pentanone (...	8.802	43	616521	194.19	ug/L	98
52) t-1,3-Dichloropropene	8.845	75	328804	95.48	ug/L	98
53) 1,1,2-Trichloroethane	9.015	97	208022	95.10	ug/L	94
54) Dibromochloromethane	9.192	129	215589	108.24	ug/L	98
55) 1,3-Dichloropropane	9.295	76	360265	103.79	ug/L	96
56) 1,2-Dibromoethane (EDB)	9.429	107	227284	109.61	ug/L	95
57) 2-Hexanone	9.660	43	451887	176.58	ug/L	93
58) Chlorobenzene	9.934	112	563709	91.02	ug/L	95
59) Ethylbenzene	9.958	91	976571	103.89	ug/L	99
60) 1,1,1,2-Tetrachloroethane	9.995	131	191370	104.13	ug/L	96
61) m,p-Xylenes (2)	10.092	91	1487683	186.69	ug/L	99
62) o-Xylene	10.469	91	764933	99.43	ug/L	98
63) Styrene	10.518	104	603050	95.73	ug/L	95
64) Bromoform	10.542	173	146715	75.14	ug/L	97
65) Isopropylbenzene	10.737	105	915044	97.94	ug/L	100
68) Bromobenzene	11.066	156	235375	100.90	ug/L	86
69) n-Propylbenzene	11.078	91	1076928	107.43	ug/L	98
70) 1,1,2,2-Tetrachloroethane	11.145	85	191420	92.93	ug/L	97
71) 2-Chlorotoluene	11.212	126	215672	104.98	ug/L	97
72) 1,3,5-Trimethylbenzene	11.236	105	734923	97.24	ug/L	99
73) 1,2,3-Trichloropropane	11.254	110	91426	88.90	ug/L	93
74) t-1,4-Dichloro-2-butene	11.285	53	81928	121.22	ug/L	89
75) 4-Chlorotoluene	11.339	91	657809	106.88	ug/L	93
76) tert-Butylbenzene	11.485	91	418585	102.51	ug/L	92
77) 1,2,4-Trimethylbenzene	11.540	105	737015	98.90	ug/L	96
78) sec-Butylbenzene	11.625	105	901848	97.74	ug/L	99
79) 4-Isopropyltoluene	11.729	119	747978	102.10	ug/L	99
80) 1,3-Dichlorobenzene	11.802	146	416625	106.33	ug/L	99
81) 1,4-Dichlorobenzene	11.869	146	424379	92.09	ug/L	97
82) n-Butylbenzene	12.051	91	684028	103.64	ug/L	97
83) 1,2-Dichlorobenzene	12.185	146	396257	105.85	ug/L	97
84) 1,2-Dibromo-3-Chloropr...	12.805	157	67160	93.72	ug/L	89
85) Hexachlorobutadiene	13.310	223	61323	130.30	ug/L	95
86) 1,2,4-Trichlorobenzene	13.347	180	252382	114.27	ug/L	95
87) Naphthalene	13.633	128	840999	110.90	ug/L	97
88) 1,2,3-Trichlorobenzene	13.791	180	240292	108.60	ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062030.D
Acq On : 20 Jun 2019 10:46 pm
Operator : MM
Sample : 9F20044-CALA
Misc : 1X 5mL 100/200PPB VOCR+OXY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:12 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062031.D
Acq On : 20 Jun 2019 11:13 pm
Operator : MM
Sample : 9F20044-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	206174	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	306015	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138257	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	110229	49.60	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	343935	50.12	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	398633	49.86	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	117487	51.29	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	474	0.22	ug/L		88
3) Chloromethane	1.904	50	777	0.29	ug/L		84
4) Vinyl Chloride	2.001	62	315	0.13	ug/L	#	50
5) Bromomethane	2.366	96	411	0.32	ug/L	#	63
7) Trichlorofluoromethane	2.676	101	330	0.12	ug/L	#	27
9) 1,1-Dichloroethene	3.242	61	364	0.13	ug/L	#	74
10) Carbon Disulfide	3.260	76	3549	0.71	ug/L		94
11) Freon 113	3.303	101	239	0.13	ug/L	#	67
12) Iodomethane	3.394	142	276	2.90	ug/L	#	47
14) Methylene Chloride	3.887	84	4069	0.09	ug/L		90
15) Acetone	3.954	43	1077	1.07	ug/L	#	44
16) t-1,2-Dichloroethene	4.045	61	759	0.28	ug/L		87
19) tert-Butanol (TBA)	4.307	59	401	0.93	ug/L	#	40
33) 1,1-Dichloropropene	5.876	75	502	0.18	ug/L	#	43
40) Trichloroethene (TCE)	6.752	130	278	0.13	ug/L	#	70
49) Toluene	8.364	91	856	0.10	ug/L		86
50) Tetrachloroethene (PCE)	8.796	166	567	0.29	ug/L		92
57) 2-Hexanone	9.666	43	189	0.08	ug/L	#	35
58) Chlorobenzene	9.934	112	838	0.16	ug/L	#	22
59) Ethylbenzene	9.958	91	1286	0.14	ug/L		90
61) m,p-Xylenes (2)	10.092	91	2389	0.35	ug/L		94
62) o-Xylene	10.475	91	715	0.10	ug/L		88
63) Styrene	10.518	104	579	0.11	ug/L		74
65) Isopropylbenzene	10.737	105	1290	0.16	ug/L		93
68) Bromobenzene	11.066	156	273	0.13	ug/L	#	75
69) n-Propylbenzene	11.084	91	2573	0.27	ug/L		98
71) 2-Chlorotoluene	11.212	126	319	0.17	ug/L	#	74
72) 1,3,5-Trimethylbenzene	11.236	105	1446	0.23	ug/L		93
75) 4-Chlorotoluene	11.339	91	1667	0.28	ug/L		77
76) tert-Butylbenzene	11.485	91	725	0.20	ug/L		85
77) 1,2,4-Trimethylbenzene	11.546	105	1538	0.24	ug/L		79
78) sec-Butylbenzene	11.625	105	2528	0.32	ug/L		97
79) 4-Isopropyltoluene	11.729	119	1962	0.32	ug/L		98
80) 1,3-Dichlorobenzene	11.802	146	1227	0.33	ug/L		94
81) 1,4-Dichlorobenzene	11.869	146	1446	0.38	ug/L	#	48
82) n-Butylbenzene	12.051	91	2867	0.50	ug/L		91
83) 1,2-Dichlorobenzene	12.185	146	897	0.25	ug/L		82
85) Hexachlorobutadiene	13.310	223	768	1.48	ug/L		83
86) 1,2,4-Trichlorobenzene	13.353	180	2437	1.18	ug/L		87
87) Naphthalene	13.633	128	7063	1.05	ug/L		97
88) 1,2,3-Trichlorobenzene	13.791	180	2822	1.41	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062031.D
Acq On : 20 Jun 2019 11:13 pm
Operator : MM
Sample : 9F20044-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

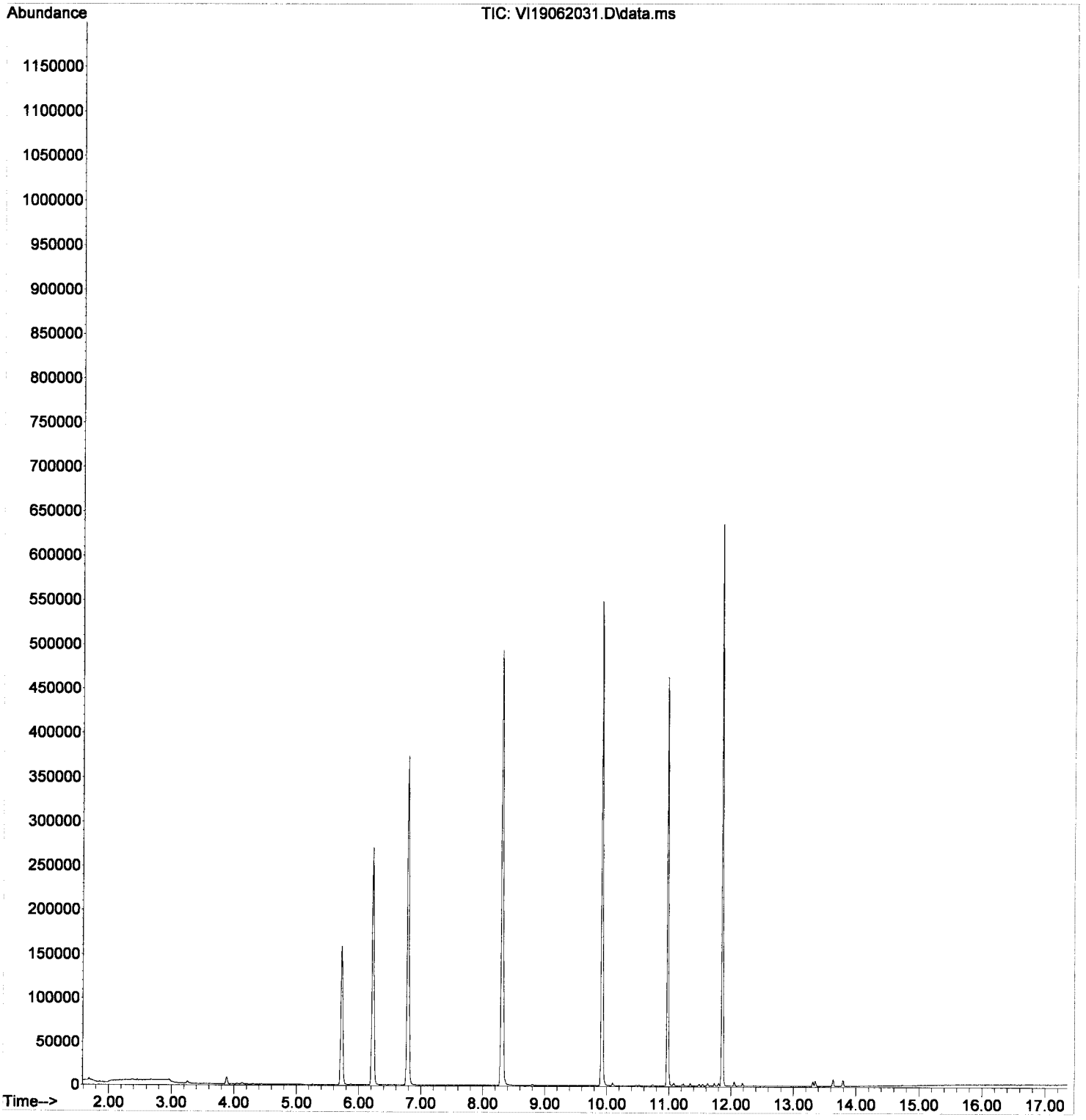
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062031.D
Acq On : 20 Jun 2019 11:13 pm
Operator : MM
Sample : 9F20044-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062032.D
Acq On : 20 Jun 2019 11:40 pm
Operator : MM
Sample : 9F20044-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:15 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	204201	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	310773	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	147969	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	112820	46.92	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	342426	46.78	ug/L	0.00
48) Toluene-d8 (S)	8.303	98	405261	49.13	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	118374	52.37	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.678	85	445670	190.22	ug/L	99
3) Chloromethane	1.897	50	500665	143.11	ug/L	96
4) Vinyl Chloride	2.001	62	495944	166.63	ug/L	96
5) Bromomethane	2.366	96	223036	144.68	ug/L	98
6) Chloroethane	2.494	64	72831	62.00	ug/L	86
7) Trichlorofluoromethane	2.658	101	538727	156.62	ug/L	97
8) Ethanol	~~3.248~~	~~45~~	~~3998~~	~~No Calib~~	#	
9) 1,1-Dichloroethene	3.236	61	581132	196.84	ug/L	96
10) Carbon Disulfide	3.254	76	996935	197.14	ug/L	99
11) Freon 113	3.291	101	369170	178.85	ug/L	99
12) Iodomethane	3.388	142	297535	215.41	ug/L	88
13) Acrolein	3.625	56	109382	192.03	ug/L	73
14) Methylene Chloride	3.875	84	395740	153.28	ug/L	93
15) Acetone	3.941	43	359555	295.26	ug/L	97
16) t-1,2-Dichloroethene	4.039	61	550967	199.43	ug/L	98
17) n-Hexane	4.124	86	80961	186.99	ug/L #	80
18) Methyl-tert-butyl-ether	4.173	73	1335564	279.05	ug/L	93
19) tert-Butanol (TBA)	~~4.306~~	~~59~~	~~1660~~	~~No Calib~~	#	
20) Diisopropyl ether (DIPE)	~~4.568~~	~~45~~	~~1323~~	~~No Calib~~		
21) 1,1-Dichloroethane	4.690	63	726726	195.08	ug/L	97
22) Acrylonitrile	4.751	53	232029	178.51	ug/L	99
23) Ethyl-tert-butyl ether...	~~4.945~~	~~59~~	~~1030~~	~~No Calib~~	#	
24) Vinyl Acetate	4.957	43	884370	343.89	ug/L	97
25) c-1,2-Dichloroethene	5.249	61	588700	213.95	ug/L	95
26) 2,2-Dichloropropane	5.359	77	554747	342.33	ug/L	92
27) Bromochloromethane	5.450	130	252303	177.86	ug/L	89
28) Chloroform	5.529	83	746862	189.66	ug/L	98
29) Carbon Tetrachloride	5.663	117	516185	220.42	ug/L	95
30) Tetrahydrofuran	5.700	42	218470	191.25	ug/L	87
31) 1,1,1-Trichloroethane	5.736	97	617180	220.73	ug/L	96
33) 1,1-Dichloropropene	5.864	75	579299	229.23	ug/L	97
34) 2-Butanone (MEK)	5.858	43	633397	369.95	ug/L	99
35) Benzene	6.125	78	1701439	203.20	ug/L	98
36) tert-Amyl methyl ether...	~~6.253~~	~~73~~	~~785~~	~~No Calib~~	#	
37) 1,2-Dichloroethane (EDC)	6.344	62	569728	195.71	ug/L	93
38) iso-Butyl Alcohol	6.381	43	833289	4214.19	ug/L	90
40) Trichloroethene (TCE)	6.746	130	429061	188.73	ug/L	95
41) Tert-Amyl-Ethyl-Ether ...	~~7.008~~	~~59~~	~~785~~	~~No Calib~~		
42) Dibromomethane	7.202	93	291580	200.66	ug/L	93
43) 1,2-Dichloropropane	7.312	63	449560	196.05	ug/L	92
44) Bromodichloromethane	7.385	83	565142	214.26	ug/L	94
46) 2-Chloroethyl Vinyl Ether	8.030	63	365213	311.17	ug/L #	100
47) c-1,3-Dichloropropene	8.097	75	697644	151.22	ug/L	90

Quantitation Report (Not Reviewed)

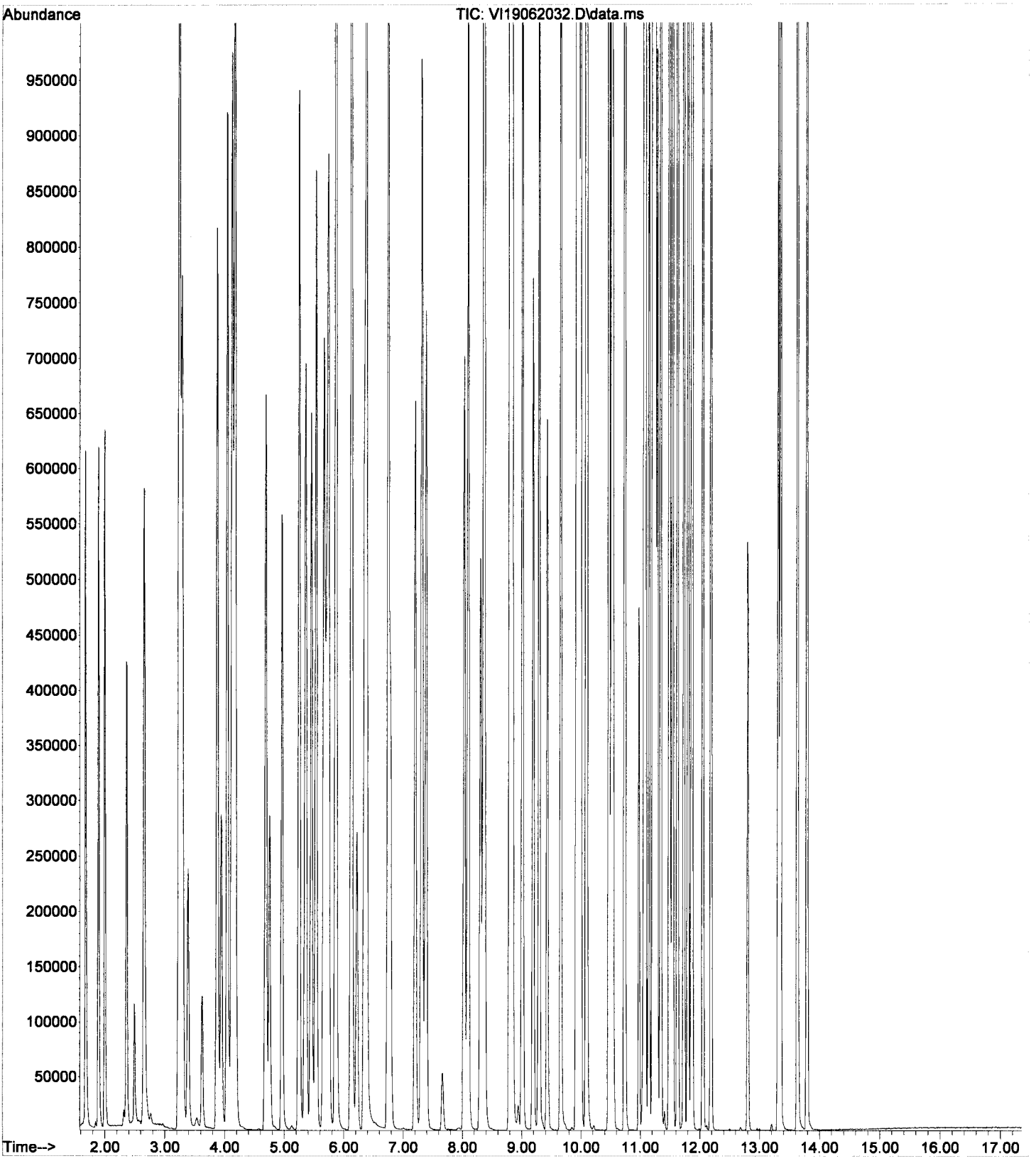
Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062032.D
Acq On : 20 Jun 2019 11:40 pm
Operator : MM
Sample : 9F20044-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:15 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	1725149	195.59	ug/L		99
50) Tetrachloroethene (PCE)	8.802	166	419348	209.41	ug/L		88
51) 4-Methyl-2-Pentanone (...	8.802	43	1160712	384.66	ug/L		96
52) t-1,3-Dichloropropene	8.839	75	658211	160.64	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	402284	193.50	ug/L		96
54) Dibromochloromethane	9.192	129	439963	232.40	ug/L		97
55) 1,3-Dichloropropane	9.295	76	703363	213.20	ug/L		96
56) 1,2-Dibromoethane (EDB)	9.429	107	444681	225.63	ug/L		95
57) 2-Hexanone	9.660	43	863303	367.45	ug/L		92
58) Chlorobenzene	9.934	112	1098798	186.66	ug/L		96
59) Ethylbenzene	9.958	91	1912618	214.08	ug/L		98
60) 1,1,1,2-Tetrachloroethane	9.995	131	384611	220.19	ug/L		96
61) m,p-Xylenes (2)	10.092	91	2895454	369.53	ug/L		99
62) o-Xylene	10.469	91	1481357	190.36	ug/L		99
63) Styrene	10.518	104	1179064	187.17	ug/L		95
64) Bromoform	10.542	173	304762	128.00	ug/L		97
65) Isopropylbenzene	10.737	105	1780791	188.88	ug/L		99
68) Bromobenzene	11.059	156	457253	209.42	ug/L	#	79
69) n-Propylbenzene	11.078	91	2100401	223.84	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.144	85	370226	192.01	ug/L		95
71) 2-Chlorotoluene	11.211	126	417067	216.88	ug/L		98
72) 1,3,5-Trimethylbenzene	11.236	105	1425435	191.81	ug/L		99
73) 1,2,3-Trichloropropane	11.254	110	175270	182.07	ug/L		91
74) t-1,4-Dichloro-2-butene	11.284	53	161119	254.68	ug/L		92
75) 4-Chlorotoluene	11.339	91	1277794	221.80	ug/L		94
76) tert-Butylbenzene	11.485	91	813927	201.72	ug/L		92
77) 1,2,4-Trimethylbenzene	11.540	105	1441707	194.31	ug/L		96
78) sec-Butylbenzene	11.625	105	1744647	193.03	ug/L		100
79) 4-Isopropyltoluene	11.728	119	1456273	196.47	ug/L		98
80) 1,3-Dichlorobenzene	11.801	146	808417	220.42	ug/L		98
81) 1,4-Dichlorobenzene	11.868	146	818316	189.70	ug/L		96
82) n-Butylbenzene	12.051	91	1332336	199.36	ug/L		99
83) 1,2-Dichlorobenzene	12.185	146	774584	221.04	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.805	157	136786	191.80	ug/L		91
85) Hexachlorobutadiene	13.310	223	118721	269.50	ug/L		94
86) 1,2,4-Trichlorobenzene	13.347	180	496669	217.50	ug/L		95
87) Naphthalene	13.633	128	1636463	201.95	ug/L		97
88) 1,2,3-Trichlorobenzene	13.791	180	480782	213.84	ug/L		96

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

File :C:\msdchem\1\data\2019-06\9F20044\VI19062032.D
Operator : MM
Acquired : 20 Jun 2019 11:40 pm using AcqMethod VI1611RUN.M
Instrument : VOA-GCMS9
Sample Name: 9F20044-CALB
Misc Info : 1X 5mL 200/400PPB VOCR
Vial Number: 16



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062033.D
Acq On : 21 Jun 2019 12:07 am
Operator : MM
Sample : 9F20044-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	207143	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	304398	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	135827	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	110641	49.55	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	344343	49.95	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	401688	50.51	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	115198	51.19	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	934	0.43	ug/L		88
3) Chloromethane	1.904	50	791	0.29	ug/L		91
4) Vinyl Chloride	2.001	62	463	0.19	ug/L		83
5) Bromomethane	2.366	96	544	0.43	ug/L	#	48
6) Chloroethane	2.506	64	262	0.30	ug/L	#	36
7) Trichlorofluoromethane	2.670	101	766	0.28	ug/L		88
9) 1,1-Dichloroethene	3.236	61	733	0.26	ug/L		89
10) Carbon Disulfide	3.254	76	7000	1.39	ug/L		96
11) Freon 113	3.291	101	903	0.50	ug/L		89
12) Iodomethane	3.394	142	257	2.88	ug/L	#	47
14) Methylene Chloride	3.875	84	10579	3.43	ug/L		92
15) Acetone	3.954	43	3084	3.06	ug/L		99
16) t-1,2-Dichloroethene	4.045	61	1409	0.52	ug/L		94
25) c-1,2-Dichloroethene	5.250	61	557	0.19	ug/L		94
33) 1,1-Dichloropropene	5.870	75	1087	0.38	ug/L		86
34) 2-Butanone (MEK)	5.870	43	584	0.35	ug/L		52
35) Benzene	6.126	78	979	0.11	ug/L		83
38) iso-Butyl Alcohol	6.381	43	213	1.24	ug/L	#	18
40) Trichloroethene (TCE)	6.746	130	650	0.31	ug/L		94
47) c-1,3-Dichloropropene	8.097	75	302	0.10	ug/L	#	63
49) Toluene	8.364	91	1847	0.21	ug/L		96
50) Tetrachloroethene (PCE)	8.803	166	1037	0.53	ug/L		85
51) 4-Methyl-2-Pentanone (...	8.821	43	558	0.18	ug/L	#	43
52) t-1,3-Dichloropropene	8.839	75	546	0.19	ug/L	#	45
56) 1,2-Dibromoethane (EDB)	9.435	107	264	0.13	ug/L	#	8
57) 2-Hexanone	9.672	43	323	0.14	ug/L	#	35
58) Chlorobenzene	9.934	112	1373	0.26	ug/L	#	53
59) Ethylbenzene	9.952	91	2378	0.26	ug/L		97
61) m,p-Xylenes (2)	10.092	91	4252	0.62	ug/L		98
62) o-Xylene	10.469	91	1297	0.19	ug/L		90
63) Styrene	10.524	104	1219	0.23	ug/L		93
65) Isopropylbenzene	10.737	105	2610	0.32	ug/L		92
68) Bromobenzene	11.060	156	577	0.28	ug/L		89
69) n-Propylbenzene	11.078	91	4874	0.53	ug/L		94
71) 2-Chlorotoluene	11.212	126	621	0.33	ug/L		96
72) 1,3,5-Trimethylbenzene	11.236	105	2721	0.44	ug/L		95
74) t-1,4-Dichloro-2-butene	11.291	53	130	0.19	ug/L	#	1
75) 4-Chlorotoluene	11.345	91	3011	0.52	ug/L		95
76) tert-Butylbenzene	11.485	91	1544	0.43	ug/L		89
77) 1,2,4-Trimethylbenzene	11.540	105	2951	0.47	ug/L		97
78) sec-Butylbenzene	11.625	105	4731	0.61	ug/L		97
79) 4-Isopropyltoluene	11.729	119	4121	0.67	ug/L		95
80) 1,3-Dichlorobenzene	11.802	146	2503	0.69	ug/L		92

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062033.D
Acq On : 21 Jun 2019 12:07 am
Operator : MM
Sample : 9F20044-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

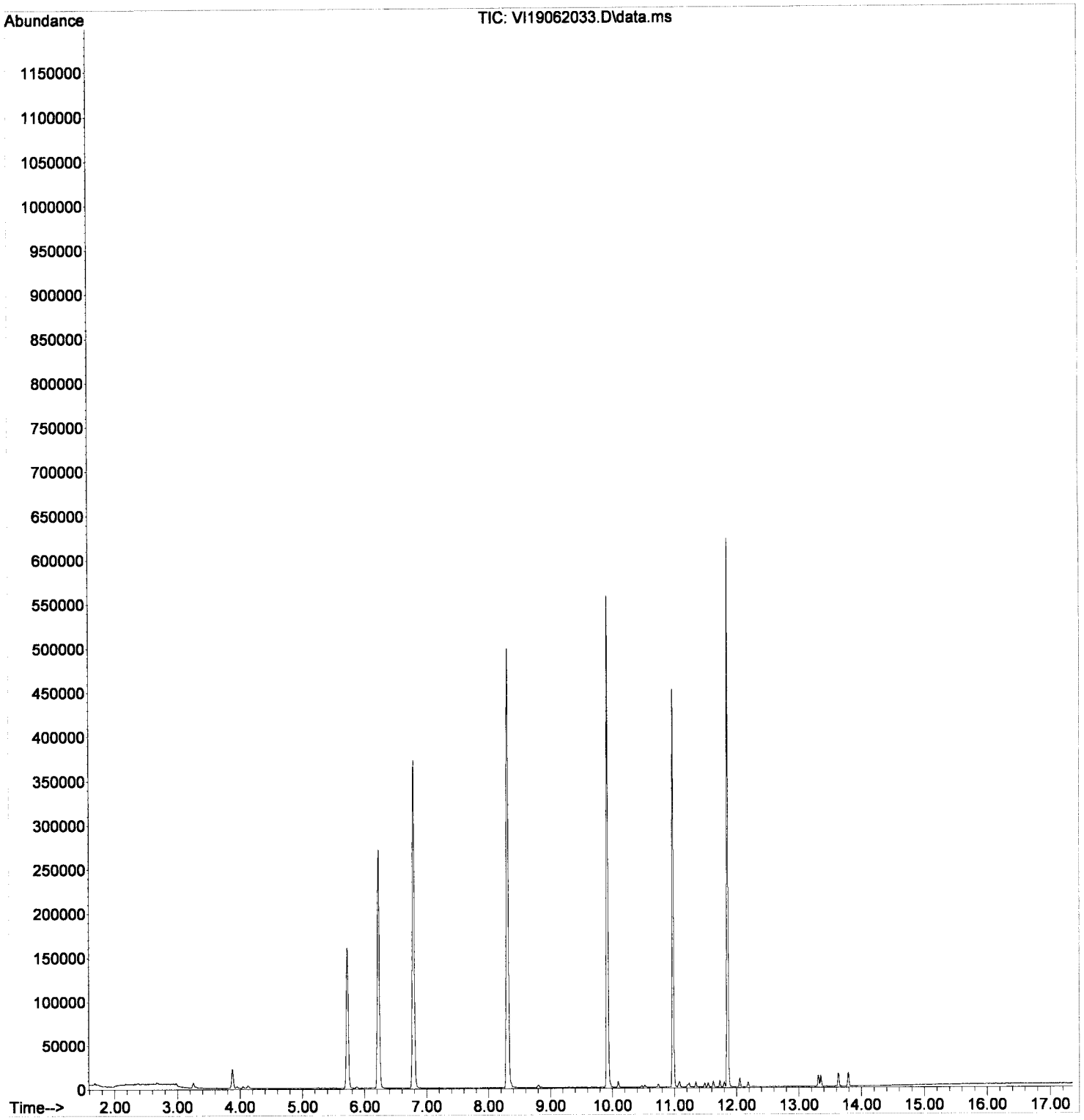
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
81) 1,4-Dichlorobenzene	11.869	146	2728	0.73	ug/L	77
82) n-Butylbenzene	12.051	91	5278	0.94	ug/L	99
83) 1,2-Dichlorobenzene	12.185	146	1650	0.47	ug/L	93
85) Hexachlorobutadiene	13.310	223	1654	3.25	ug/L	94
86) 1,2,4-Trichlorobenzene	13.347	180	4546	2.24	ug/L	96
87) Naphthalene	13.633	128	13737	2.07	ug/L	98
88) 1,2,3-Trichlorobenzene	13.791	180	5560	2.82	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062033.D
Acq On : 21 Jun 2019 12:07 am
Operator : MM
Sample : 9F20044-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062034.D
Acq On : 21 Jun 2019 12:34 am
Operator : MM
Sample : 9F20044-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:28 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

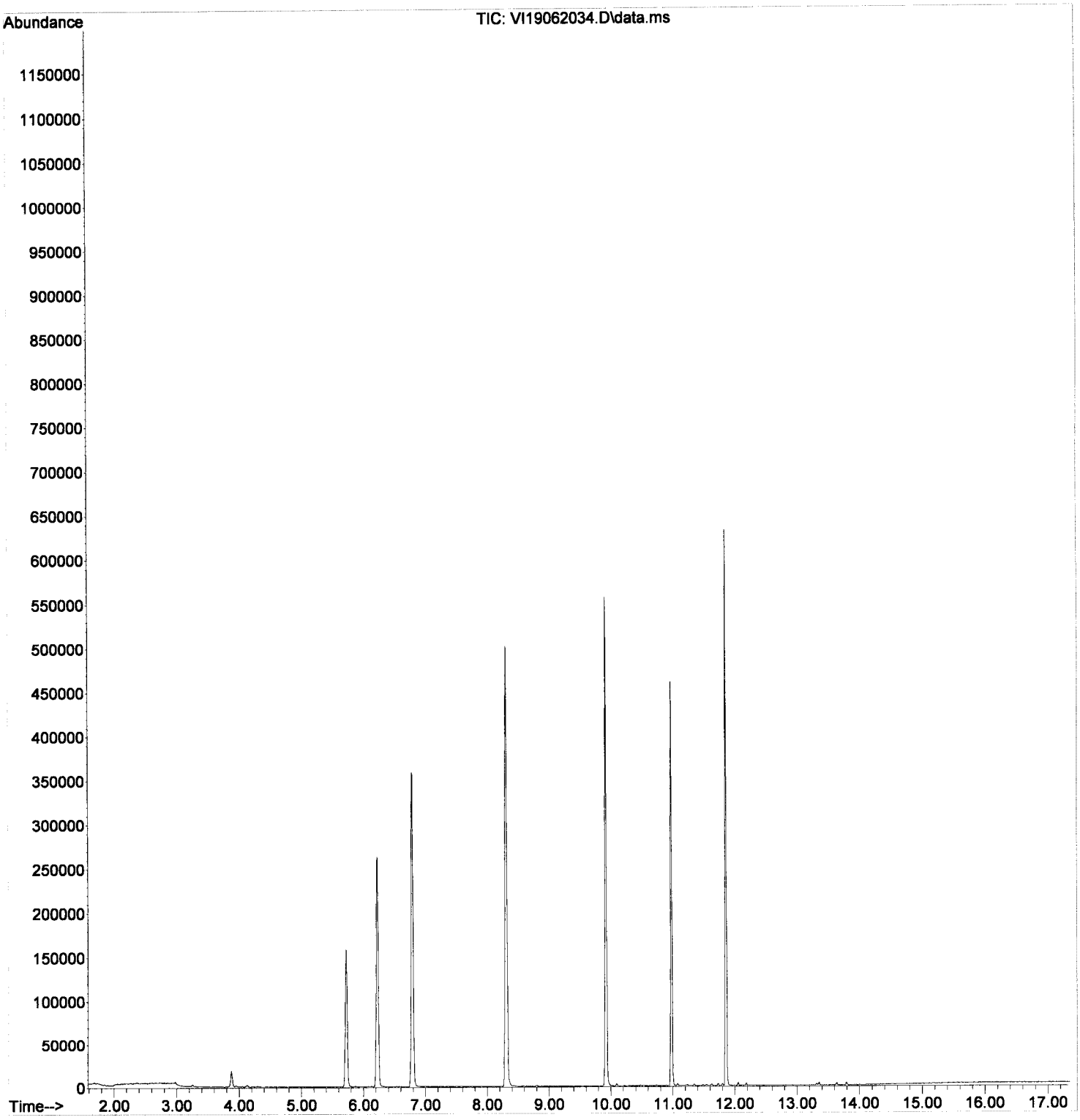
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	204332	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	304031	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138269	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	108599	49.30	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	336843	49.53	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	396397	49.90	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	117696	51.38	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	350	0.17	ug/L	#	49
3) Chloromethane	1.898	50	449	0.17	ug/L		88
5) Bromomethane	2.366	96	399	0.32	ug/L		80
6) Chloroethane	2.573	64	118	0.14	ug/L	#	36
7) Trichlorofluoromethane	2.664	101	322	0.12	ug/L		86
10) Carbon Disulfide	3.254	76	2804	0.56	ug/L		92
11) Freon 113	3.278	101	341	0.19	ug/L	#	19
14) Methylene Chloride	3.875	84	8734	2.54	ug/L		91
15) Acetone	3.954	43	2327	2.34	ug/L		99
16) t-1,2-Dichloroethene	4.045	61	445	0.16	ug/L	#	73
19) tert-Butanol (TBA)	4.301	59	476	1.12	ug/L	#	19
33) 1,1-Dichloropropene	5.870	75	534	0.19	ug/L	#	43
49) Toluene	8.352	91	764	0.09	ug/L		80
50) Tetrachloroethene (PCE)	8.802	166	423	0.21	ug/L	#	71
58) Chlorobenzene	9.934	112	554	0.11	ug/L	#	1
59) Ethylbenzene	9.958	91	1086	0.12	ug/L		91
61) m,p-Xylenes (2)	10.092	91	1807	0.26	ug/L		88
63) Styrene	10.524	104	478	0.09	ug/L	#	42
65) Isopropylbenzene	10.737	105	954	0.12	ug/L		80
69) n-Propylbenzene	11.084	91	1963	0.21	ug/L		86
71) 2-Chlorotoluene	11.211	126	191	0.10	ug/L	#	69
72) 1,3,5-Trimethylbenzene	11.236	105	952	0.15	ug/L		92
75) 4-Chlorotoluene	11.345	91	1154	0.20	ug/L		89
76) tert-Butylbenzene	11.485	91	470	0.13	ug/L	#	87
77) 1,2,4-Trimethylbenzene	11.546	105	1165	0.18	ug/L		84
78) sec-Butylbenzene	11.625	105	1608	0.20	ug/L		81
79) 4-Isopropyltoluene	11.729	119	1612	0.26	ug/L		93
80) 1,3-Dichlorobenzene	11.808	146	891	0.24	ug/L		96
81) 1,4-Dichlorobenzene	11.868	146	1013	0.26	ug/L	#	54
82) n-Butylbenzene	12.051	91	2016	0.35	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	554	0.15	ug/L		86
85) Hexachlorobutadiene	13.310	223	251	0.48	ug/L		90
86) 1,2,4-Trichlorobenzene	13.353	180	1273	0.62	ug/L		99
87) Naphthalene	13.633	128	2801	0.41	ug/L		87
88) 1,2,3-Trichlorobenzene	13.791	180	1093	0.54	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062034.D
Acq On : 21 Jun 2019 12:34 am
Operator : MM
Sample : 9F20044-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:28 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	211553	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	319542	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	152532	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	113363	49.71	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	354716	50.38	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	415243	49.74	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	124236	49.16	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	49699	22.65	ug/L		98
3) Chloromethane	1.904	50	57063	20.43	ug/L		95
4) Vinyl Chloride	2.007	62	50798	20.19	ug/L		97
5) Bromomethane	2.372	96	25047	19.28	ug/L		98
6) Chloroethane	2.506	64	17204	19.26	ug/L		84
7) Trichlorofluoromethane	2.670	101	55861	19.78	ug/L		97
8) Ethanol	3.260	45	1411	28.84	ug/L	#	51
9) 1,1-Dichloroethene	3.242	61	60084	21.02	ug/L		99
10) Carbon Disulfide	3.260	76	113731	22.08	ug/L		100
11) Freon 113	3.303	101	37994	20.46	ug/L		96
12) Iodomethane	3.400	142	17671	18.12	ug/L		89
13) Acrolein	3.631	56	11222	19.48	ug/L		72
14) Methylene Chloride	3.881	84	44830	20.53	ug/L		95
15) Acetone	3.954	43	40162	38.98	ug/L		97
16) t-1,2-Dichloroethene	4.051	61	60467	21.65	ug/L		97
17) n-Hexane	4.130	86	7966	20.43	ug/L	#	77
18) Methyl-tert-butyl-ether	4.179	73	138803	20.30	ug/L		91
19) tert-Butanol (TBA)	4.307	59	7014	15.94	ug/L		99
20) Diisopropyl ether (DIPE)	4.574	45	638	0.08	ug/L		80
21) 1,1-Dichloroethane	4.696	63	80850	21.97	ug/L		95
22) Acrylonitrile	4.757	53	23990	20.50	ug/L		99
24) Vinyl Acetate	4.964	43	90143	19.35	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	61811	20.74	ug/L		98
26) 2,2-Dichloropropane	5.359	77	54474	18.95	ug/L		96
27) Bromochloromethane	5.457	130	30210	21.99	ug/L		93
28) Chloroform	5.536	83	78780	20.74	ug/L		98
29) Carbon Tetrachloride	5.669	117	47986	20.66	ug/L		95
30) Tetrahydrofuran	5.706	42	23696	19.88	ug/L		89
31) 1,1,1-Trichloroethane	5.742	97	64636	21.35	ug/L		96
33) 1,1-Dichloropropene	5.870	75	59757	20.70	ug/L		96
34) 2-Butanone (MEK)	5.864	43	67826	39.53	ug/L		98
35) Benzene	6.132	78	179880	20.38	ug/L		97
36) tert-Amyl methyl ether...	6.260	73	881	0.12	ug/L	#	33
37) 1,2-Dichloroethane (EDC)	6.345	62	61806	21.21	ug/L		93
38) iso-Butyl Alcohol	6.381	43	95229	543.92	ug/L		91
40) Trichloroethene (TCE)	6.752	130	44775	20.97	ug/L		96
42) Dibromomethane	7.209	93	29775	21.21	ug/L		95
43) 1,2-Dichloropropane	7.318	63	47417	20.98	ug/L		91
44) Bromodichloromethane	7.385	83	55480	21.28	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.030	63	37106	21.14	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	68767	20.95	ug/L		91
49) Toluene	8.364	91	180214	19.77	ug/L		98
50) Tetrachloroethene (PCE)	8.802	166	43140	20.83	ug/L		87

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

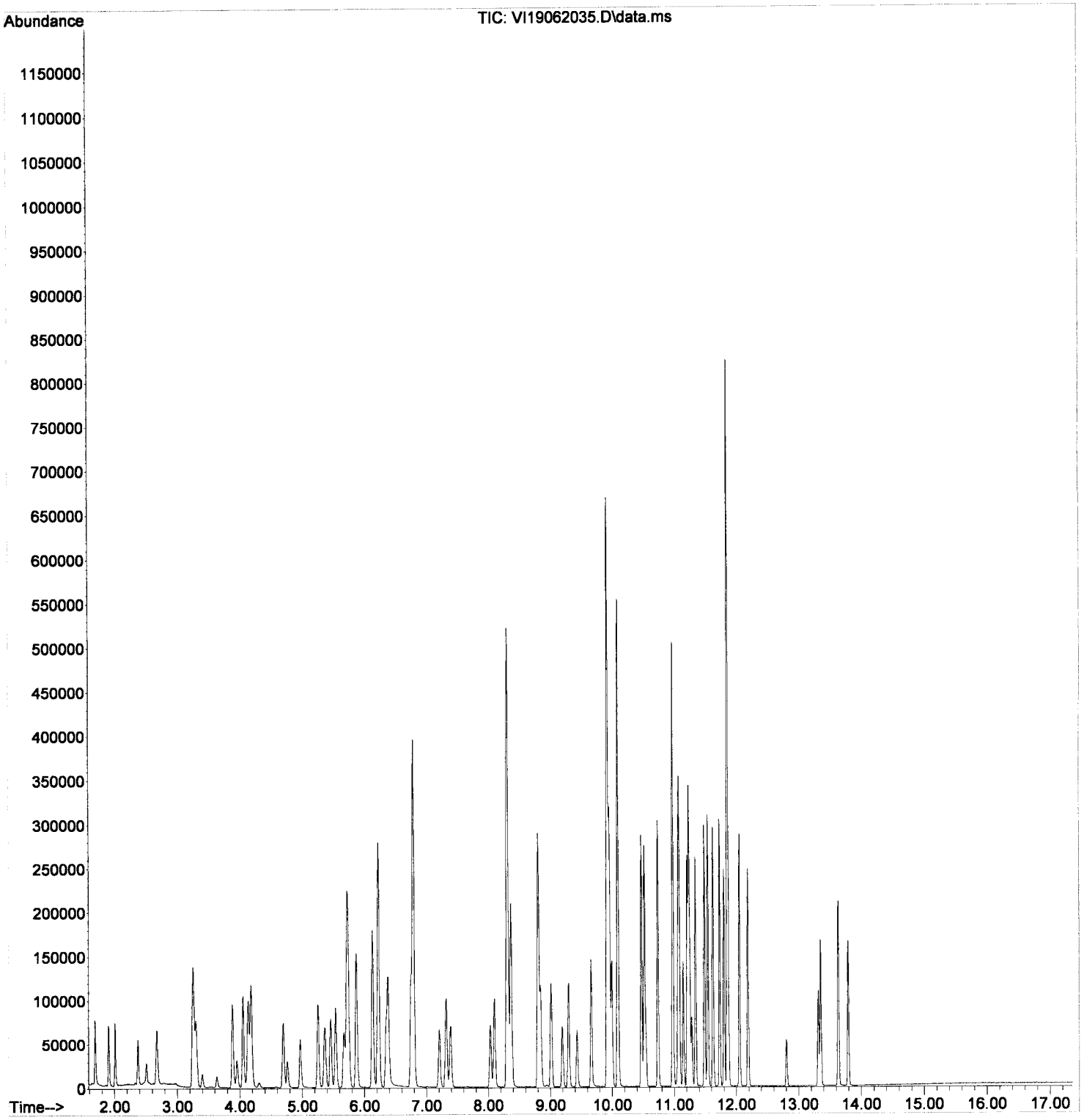
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
51) 4-Methyl-2-Pentanone (...	8.802	43	130735	40.91 ug/L	99
52) t-1,3-Dichloropropene	8.845	75	65130	21.67 ug/L	97
53) 1,1,2-Trichloroethane	9.015	97	43148	21.46 ug/L	93
54) Dibromochloromethane	9.192	129	39960	21.19 ug/L	99
55) 1,3-Dichloropropane	9.295	76	74203	20.71 ug/L	97
56) 1,2-Dibromoethane (EDB)	9.429	107	45587	21.53 ug/L	97
57) 2-Hexanone	9.660	43	95867	40.74 ug/L	93
58) Chlorobenzene	9.934	112	117137	21.13 ug/L	96
59) Ethylbenzene	9.958	91	199191	20.86 ug/L	99
60) 1,1,1,2-Tetrachloroethane	9.995	131	36621	21.64 ug/L	96
61) m,p-Xylenes (2)	10.092	91	301706	41.95 ug/L	99
62) o-Xylene	10.469	91	154185	21.03 ug/L	99
63) Styrene	10.518	104	119942	21.42 ug/L	94
64) Bromoform	10.542	173	25745	21.07 ug/L	98
65) Isopropylbenzene	10.737	105	181250	20.88 ug/L	100
68) Bromobenzene	11.059	156	48474	20.73 ug/L #	76
69) n-Propylbenzene	11.078	91	214005	20.61 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.145	85	40143	20.50 ug/L	96
71) 2-Chlorotoluene	11.212	126	43741	20.86 ug/L	96
72) 1,3,5-Trimethylbenzene	11.236	105	145599	20.75 ug/L	99
73) 1,2,3-Trichloropropane	11.254	110	19238	21.39 ug/L	95
74) t-1,4-Dichloro-2-butene	11.285	53	14134	18.62 ug/L	80
75) 4-Chlorotoluene	11.339	91	135297	20.81 ug/L	94
76) tert-Butylbenzene	11.485	91	83531	20.66 ug/L	92
77) 1,2,4-Trimethylbenzene	11.540	105	146609	20.84 ug/L	94
78) sec-Butylbenzene	11.625	105	180274	20.71 ug/L	98
79) 4-Isopropyltoluene	11.729	119	146435	21.32 ug/L	99
80) 1,3-Dichlorobenzene	11.802	146	86665	21.18 ug/L	99
81) 1,4-Dichlorobenzene	11.869	146	86900	20.58 ug/L	96
82) n-Butylbenzene	12.051	91	132800	21.08 ug/L	98
83) 1,2-Dichlorobenzene	12.185	146	83194	20.99 ug/L	99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	12979	20.99 ug/L	92
85) Hexachlorobutadiene	13.310	223	12230	21.41 ug/L	93
86) 1,2,4-Trichlorobenzene	13.347	180	48327	21.20 ug/L	95
87) Naphthalene	13.633	128	157847	21.17 ug/L	96
88) 1,2,3-Trichlorobenzene	13.791	180	46690	21.10 ug/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:34 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	208504	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.915	117	309465	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138921	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	111258	49.50 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	348415	50.21 ug/L	0.00
48) Toluene-d8 (S)	8.303	98	402744	49.81 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	118086	51.31 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.684	85	326	0.15 ug/L #	49
3) Chloromethane	1.903	50	1208	0.44 ug/L	91
4) Vinyl Chloride	2.007	62	397	0.16 ug/L #	50
5) Bromomethane	2.366	96	748	0.58 ug/L	91
6) Chloroethane	2.524	64	386	0.44 ug/L #	36
7) Trichlorofluoromethane	2.676	101	248	0.09 ug/L #	27
8) Ethanol	3.242	45	64272	1332.92 ug/L	86
9) 1,1-Dichloroethene	3.242	61	412	0.15 ug/L #	64
10) Carbon Disulfide	3.254	76	2563	0.50 ug/L	93
12) Iodomethane	3.394	142	360	2.97 ug/L #	47
14) Methylene Chloride	3.881	84	3140	Below Cal	90
15) Acetone	3.960	43	862	0.85 ug/L #	44
16) t-1,2-Dichloroethene	4.051	61	785	0.29 ug/L	69
19) tert-Butanol (TBA)	4.300	59	584118	1346.74 ug/L	85
20) Diisopropyl ether (DIPE)	4.574	45	35105	4.51 ug/L	92
21) 1,1-Dichloroethane	4.696	63	819	0.23 ug/L	85
23) Ethyl-tert-butyl ether...	4.951	59	34670	4.60 ug/L	97
24) Vinyl Acetate	4.945	43	3943	0.86 ug/L	56
25) c-1,2-Dichloroethene	5.255	61	628	0.21 ug/L	99
26) 2,2-Dichloropropane	5.365	77	243	0.09 ug/L #	30
28) Chloroform	5.535	83	894	0.24 ug/L	80
31) 1,1,1-Trichloroethane	5.748	97	273	0.09 ug/L #	25
33) 1,1-Dichloropropene	5.870	75	539	0.19 ug/L #	43
35) Benzene	6.138	78	1949	0.22 ug/L	85
36) tert-Amyl methyl ether...	6.253	73	32321	4.46 ug/L	94
37) 1,2-Dichloroethane (EDC)	6.351	62	361	0.13 ug/L	54
38) iso-Butyl Alcohol	6.253	43	10925	63.31 ug/L #	55
40) Trichloroethene (TCE)	6.746	130	490	0.23 ug/L #	71
41) Tert-Amyl-Ethyl-Ether ...	7.001	59	24945	4.48 ug/L	86
43) 1,2-Dichloropropane	7.318	63	353	0.16 ug/L #	35
44) Bromodichloromethane	7.391	83	326	0.13 ug/L	97
47) c-1,3-Dichloropropene	8.096	75	449	0.14 ug/L #	75
49) Toluene	8.364	91	2123	0.24 ug/L	72
50) Tetrachloroethene (PCE)	8.802	166	441	0.22 ug/L #	68
52) t-1,3-Dichloropropene	8.851	75	332	0.11 ug/L #	45
55) 1,3-Dichloropropane	9.295	76	355	0.10 ug/L #	47
58) Chlorobenzene	9.934	112	1542	0.29 ug/L #	36
59) Ethylbenzene	9.958	91	2213	0.24 ug/L	88
60) 1,1,1,2-Tetrachloroethane	9.995	131	208	0.13 ug/L	84
61) m,p-Xylenes (2)	10.092	91	3501	0.50 ug/L	90
62) o-Xylene	10.469	91	1599	0.23 ug/L	93
63) Styrene	10.518	104	1284	0.24 ug/L	89
65) Isopropylbenzene	10.737	105	1651	0.20 ug/L	90

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:34 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

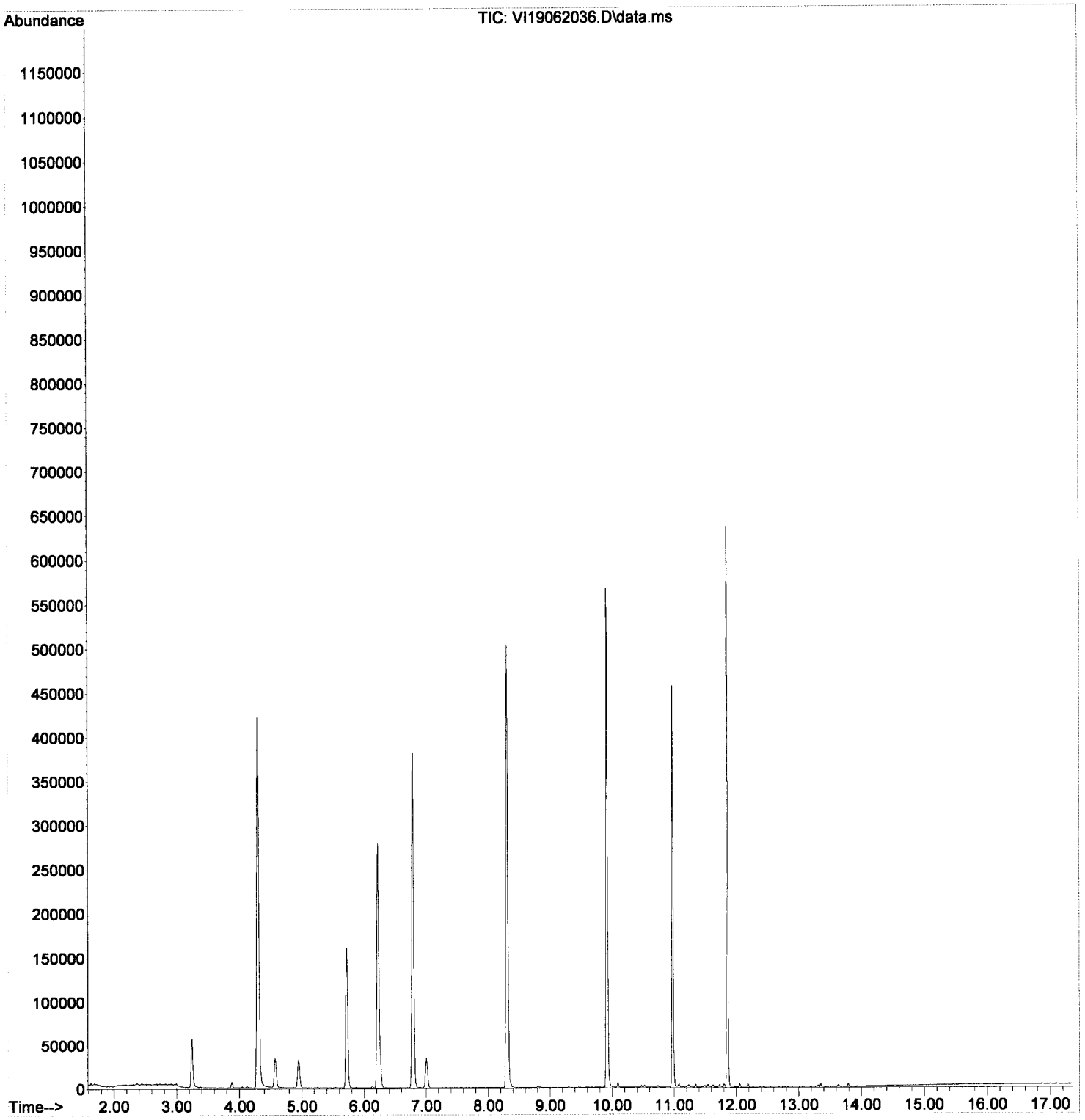
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) Bromobenzene	11.065	156	562	0.26	ug/L		92
69) n-Propylbenzene	11.077	91	2498	0.26	ug/L		96
71) 2-Chlorotoluene	11.211	126	333	0.17	ug/L	#	84
72) 1,3,5-Trimethylbenzene	11.236	105	1639	0.26	ug/L		89
75) 4-Chlorotoluene	11.345	91	1923	0.32	ug/L		91
76) tert-Butylbenzene	11.485	91	831	0.23	ug/L		89
77) 1,2,4-Trimethylbenzene	11.540	105	1848	0.29	ug/L		93
78) sec-Butylbenzene	11.625	105	1894	0.24	ug/L		99
79) 4-Isopropyltoluene	11.734	119	1801	0.29	ug/L		92
80) 1,3-Dichlorobenzene	11.807	146	1296	0.35	ug/L		98
81) 1,4-Dichlorobenzene	11.868	146	1379	0.36	ug/L	#	51
82) n-Butylbenzene	12.051	91	2110	0.37	ug/L		94
83) 1,2-Dichlorobenzene	12.191	146	1048	0.29	ug/L		96
85) Hexachlorobutadiene	13.310	223	388	0.75	ug/L		83
86) 1,2,4-Trichlorobenzene	13.353	180	1229	0.59	ug/L		93
87) Naphthalene	13.633	128	2660	0.39	ug/L		90
88) 1,2,3-Trichlorobenzene	13.791	180	1065	0.53	ug/L		94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:34 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062037.D
Acq On : 21 Jun 2019 1:55 am
Operator : MM
Sample : 9F20044-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:37 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

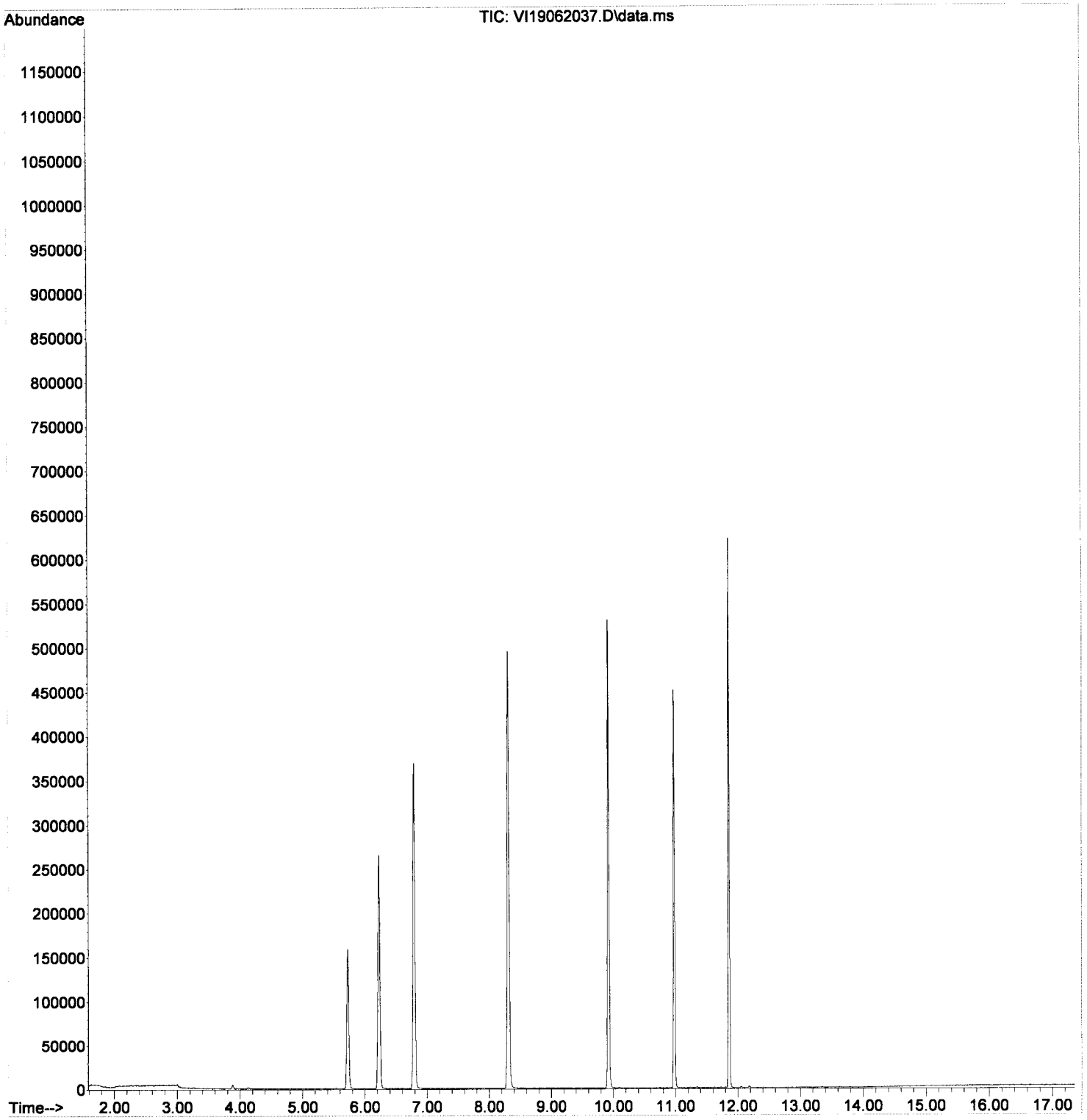
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	201188	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	295200	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	134710	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	108642	50.09	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	337743	50.44	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	393483	51.02	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	112738	50.51	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.904	50	412	0.16	ug/L	#	47
5) Bromomethane	2.378	96	218	0.18	ug/L		74
6) Chloroethane	2.591	64	117	0.14	ug/L	#	36
10) Carbon Disulfide	3.254	76	1104	0.23	ug/L		78
14) Methylene Chloride	3.881	84	2137	Below Cal			95
15) Acetone	3.966	43	565	0.58	ug/L	#	44
28) Chloroform	5.536	83	394	0.11	ug/L	#	28
61) m,p-Xylenes (2)	10.092	91	711	0.11	ug/L		85
75) 4-Chlorotoluene	11.345	91	516	0.09	ug/L	#	45
80) 1,3-Dichlorobenzene	11.802	146	381	0.11	ug/L	#	77
81) 1,4-Dichlorobenzene	11.869	146	419	0.11	ug/L	#	1
82) n-Butylbenzene	12.051	91	815	0.15	ug/L		90
86) 1,2,4-Trichlorobenzene	13.353	180	367	0.18	ug/L		88
87) Naphthalene	13.639	128	867	0.13	ug/L		81
88) 1,2,3-Trichlorobenzene	13.797	180	255	0.13	ug/L		78

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062037.D
Acq On : 21 Jun 2019 1:55 am
Operator : MM
Sample : 9F20044-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:37 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

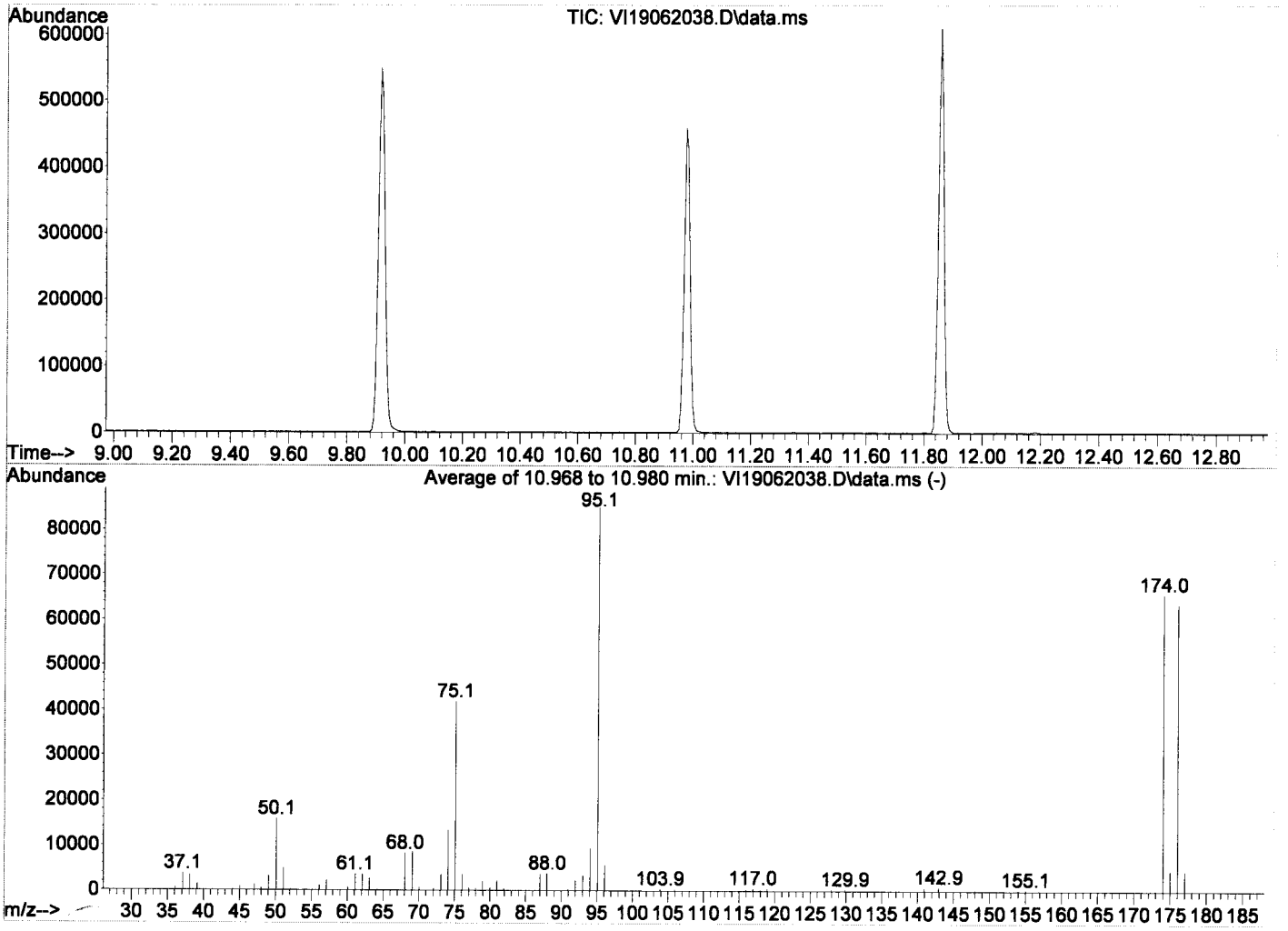


BFB

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062038.D
Acq On : 21 Jun 2019 2:22 am
Operator : MM
Sample : 9F20044-TUN2
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1

Integration File: APEXG.P

Method : C:\msdchem\1\methods\VI190621G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Jun 21 11:04:13 2019



AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1537

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	18.6	15805	PASS
75	95	30	60	49.3	41891	PASS
95	95	100	100	100.0	84939	PASS
96	95	5	9	6.7	5684	PASS
173	174	0.00	2	0.2	125	PASS
174	95	50	200	77.5	65805	PASS
175	174	5	9	7.0	4598	PASS
176	174	95	101	96.7	63611	PASS
177	176	5	9	6.7	4283	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062038.D
Acq On : 21 Jun 2019 2:22 am
Operator : MM
Sample : 9F20044-TUN2
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:07:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

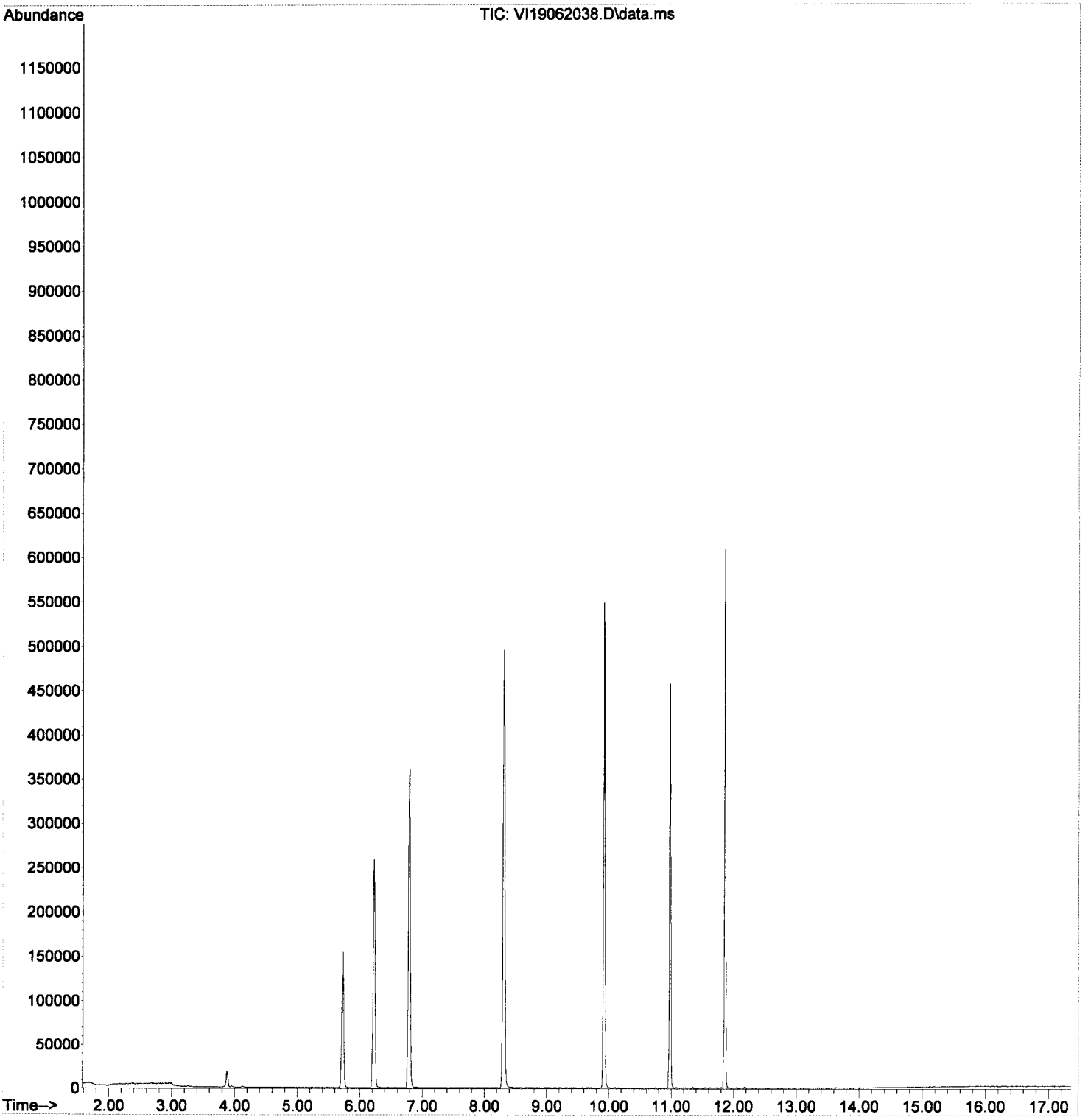
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.223	168	199857	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.789	114	335918	49.97 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	112478	48.14 ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	391051	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	298571	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	207818	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	29758m	29.66 ug/L	
5) TPHg (C5-C9)	9.890	TIC	392801m	21.11 ug/L	
6) TPHg (C6-C10)	9.890	TIC	328745m	20.95 ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	430664m	23.65 ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062038.D
Acq On : 21 Jun 2019 2:22 am
Operator : MM
Sample : 9F20044-TUN2
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

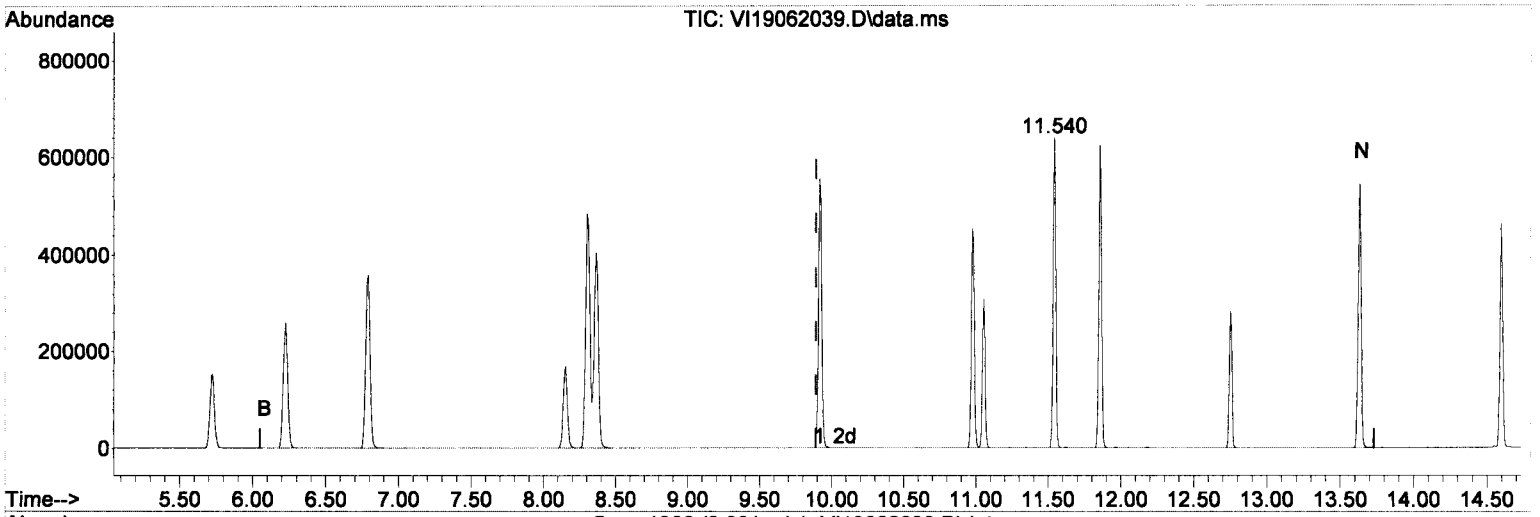
Quant Time: Jun 21 11:07:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

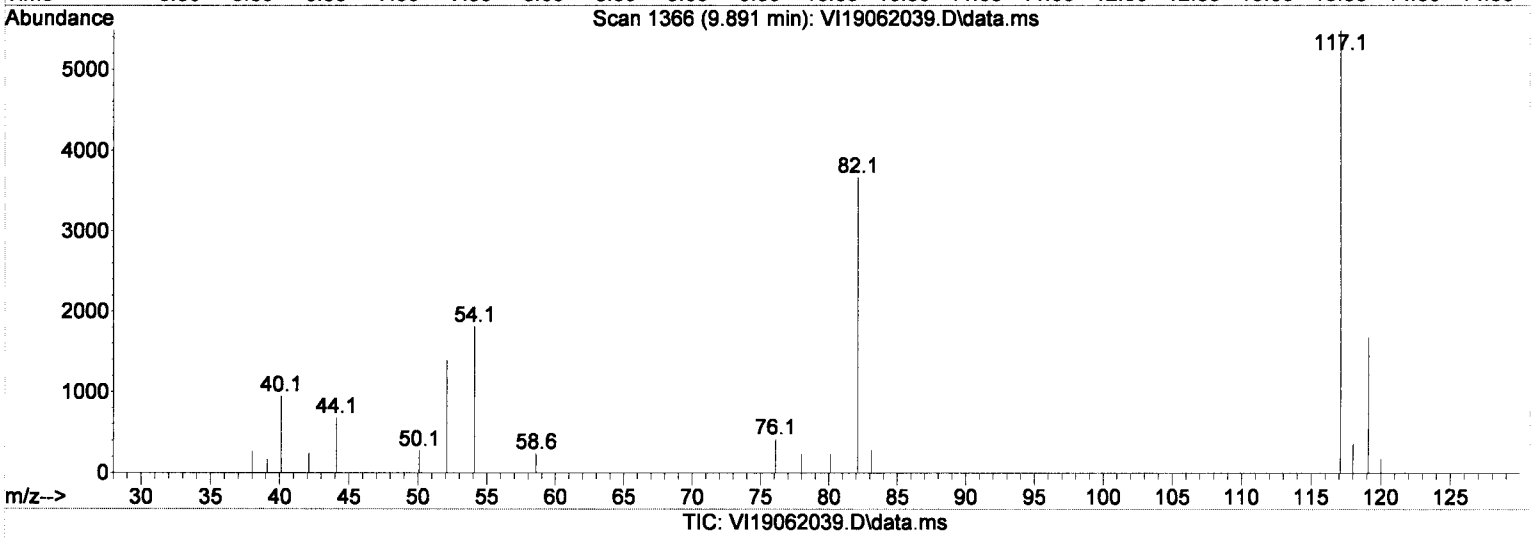


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





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

9.890min (0.000) 575.55 ug/L m

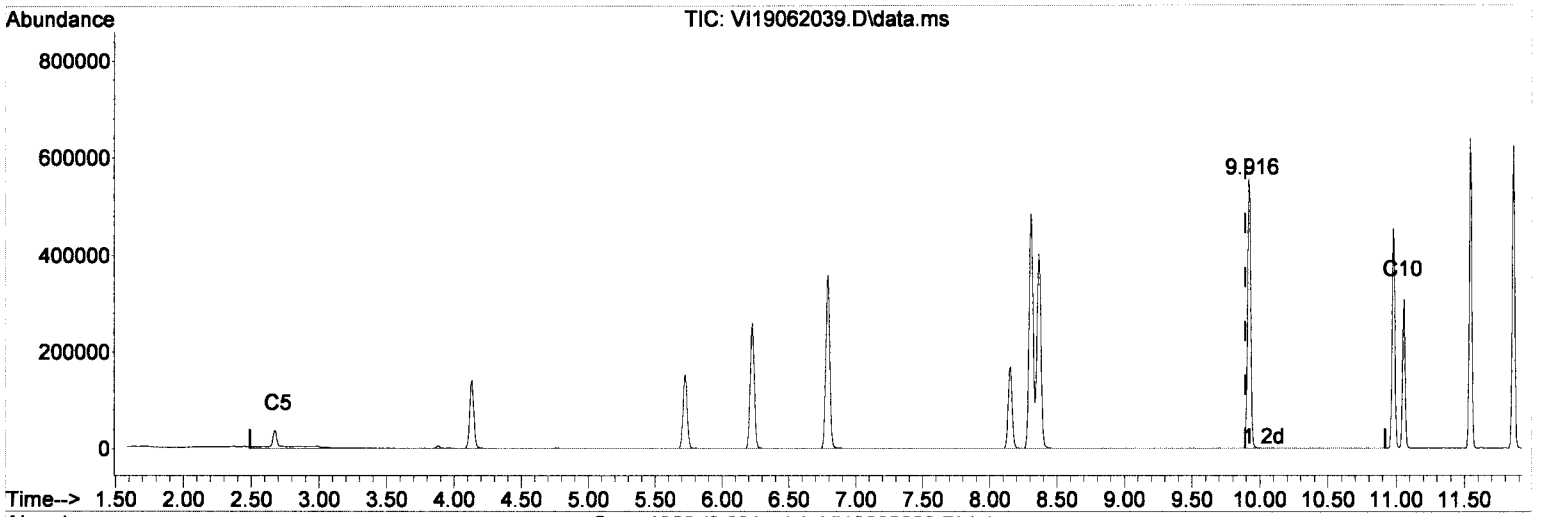
response 3545037

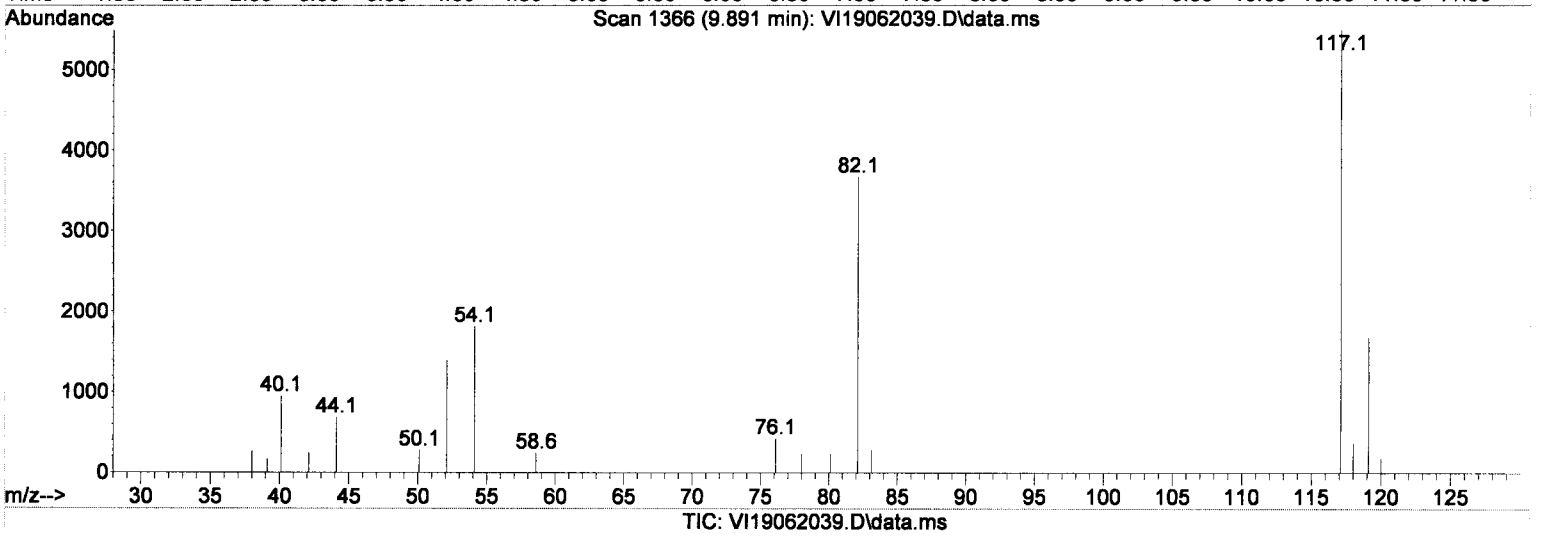
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.96#
0.00	0.00	0.74#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





TIC: VI19062039.D\data.ms

(5) TPHg (C5-C9) (H)

9.890min (0.000) 204.35 ug/L m

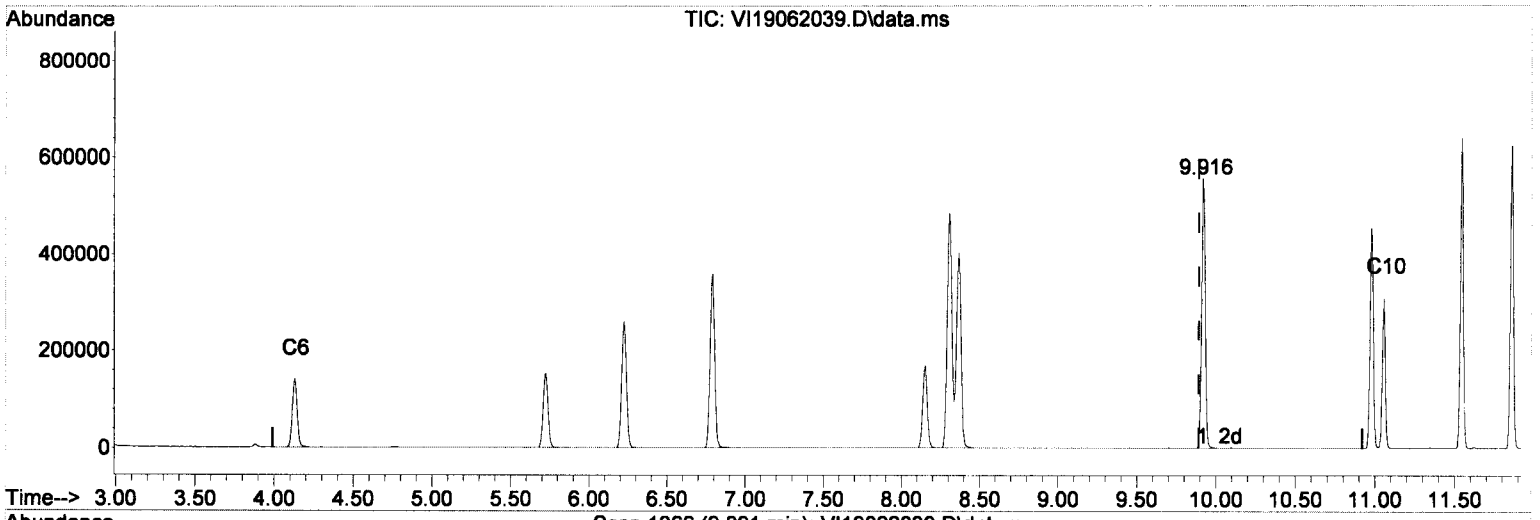
response 1858541

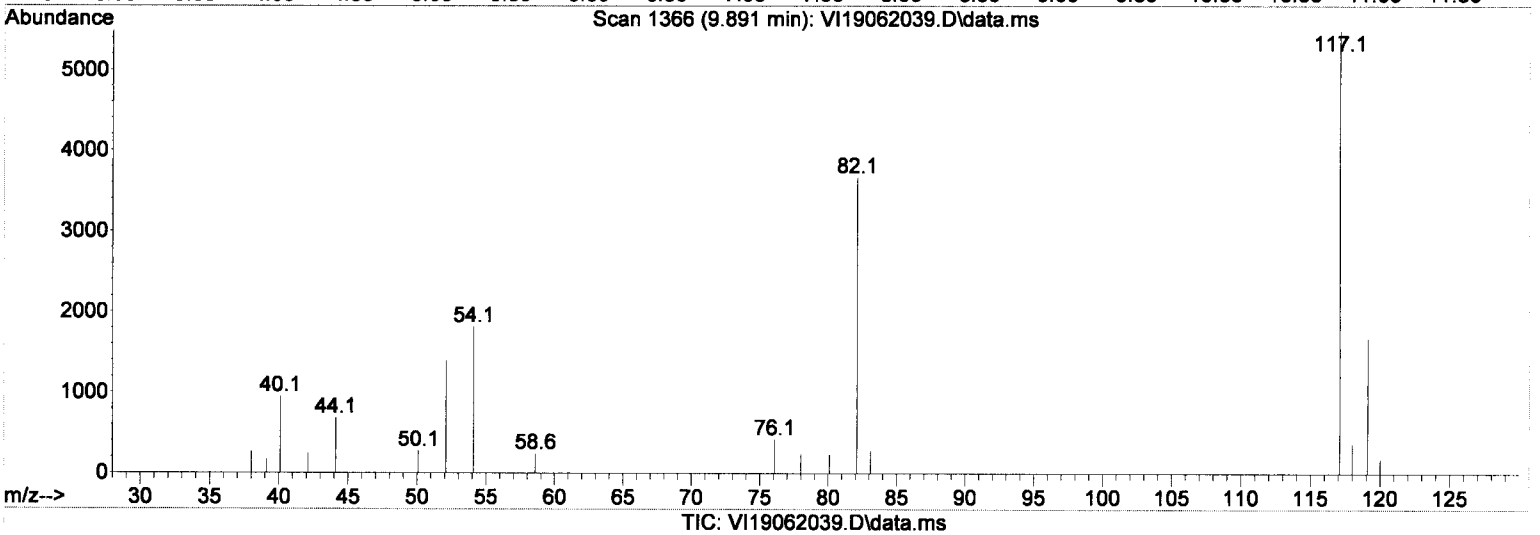
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.83#
0.00	0.00	1.41#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





TIC: VI19062039.D\data.ms

(6) TPHg (C6-C10) (H)

9.890min (0.000) 233.58 ug/L m

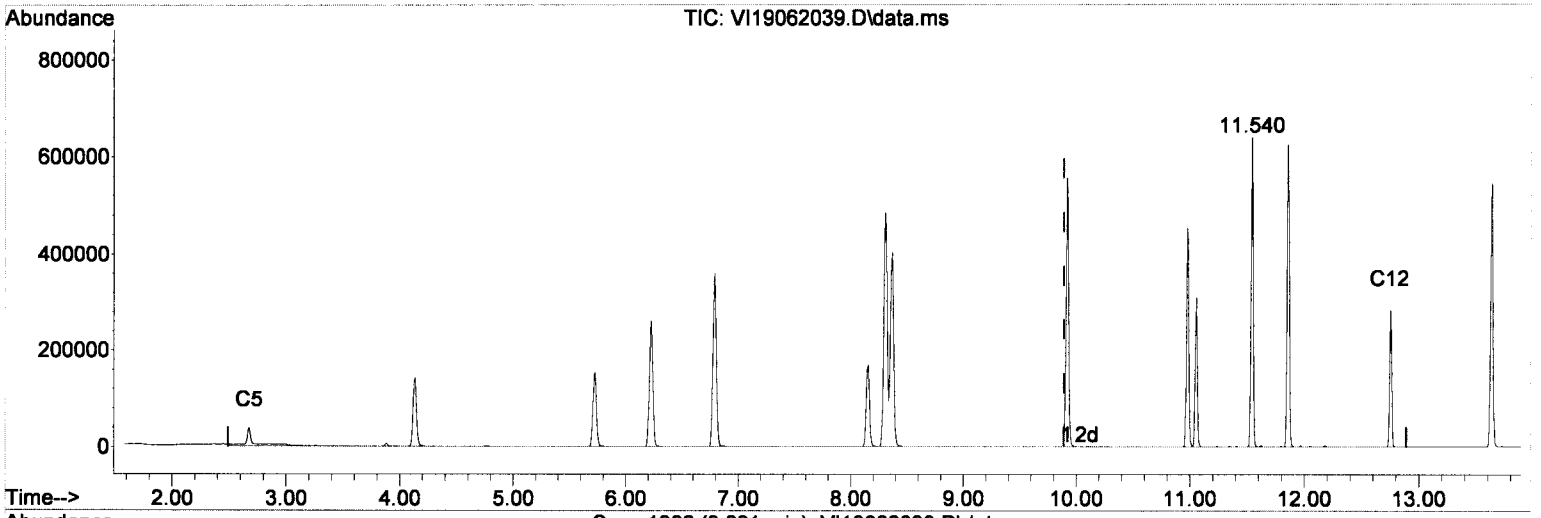
response 1767050

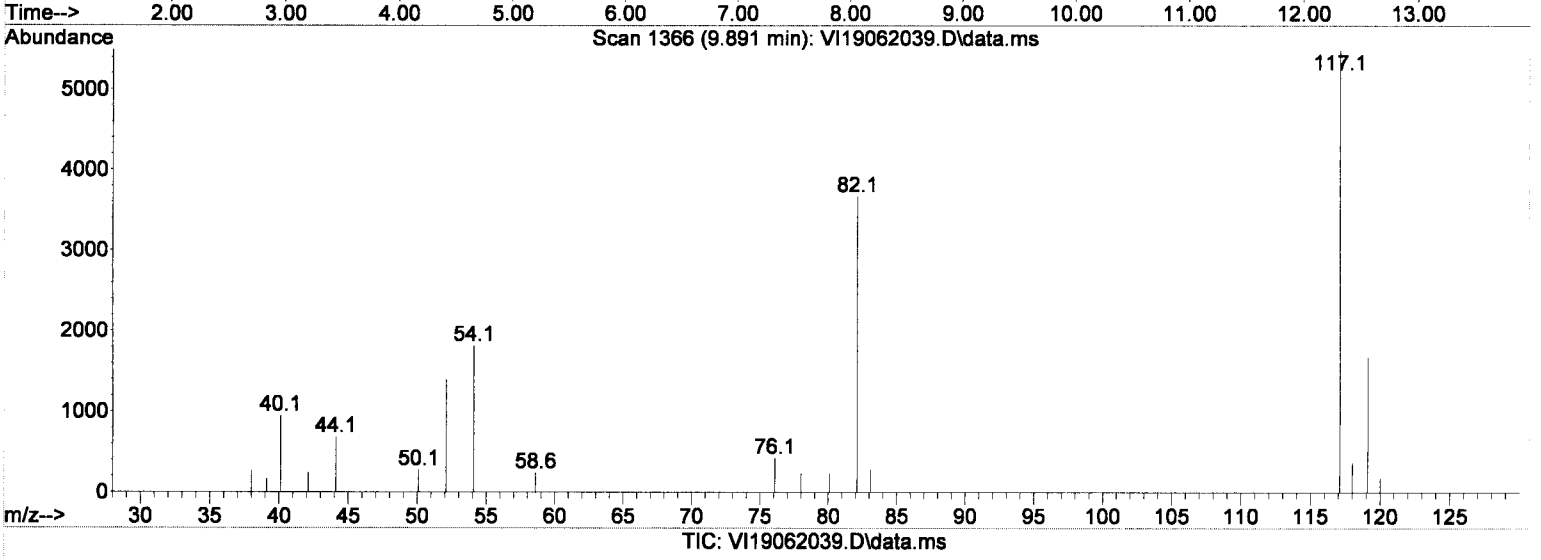
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.92#
0.00	0.00	1.49#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





TIC: VI19062039.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.890min (0.000) 337.37 ug/L m

response 3469895

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.98#
0.00	0.00	0.76#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

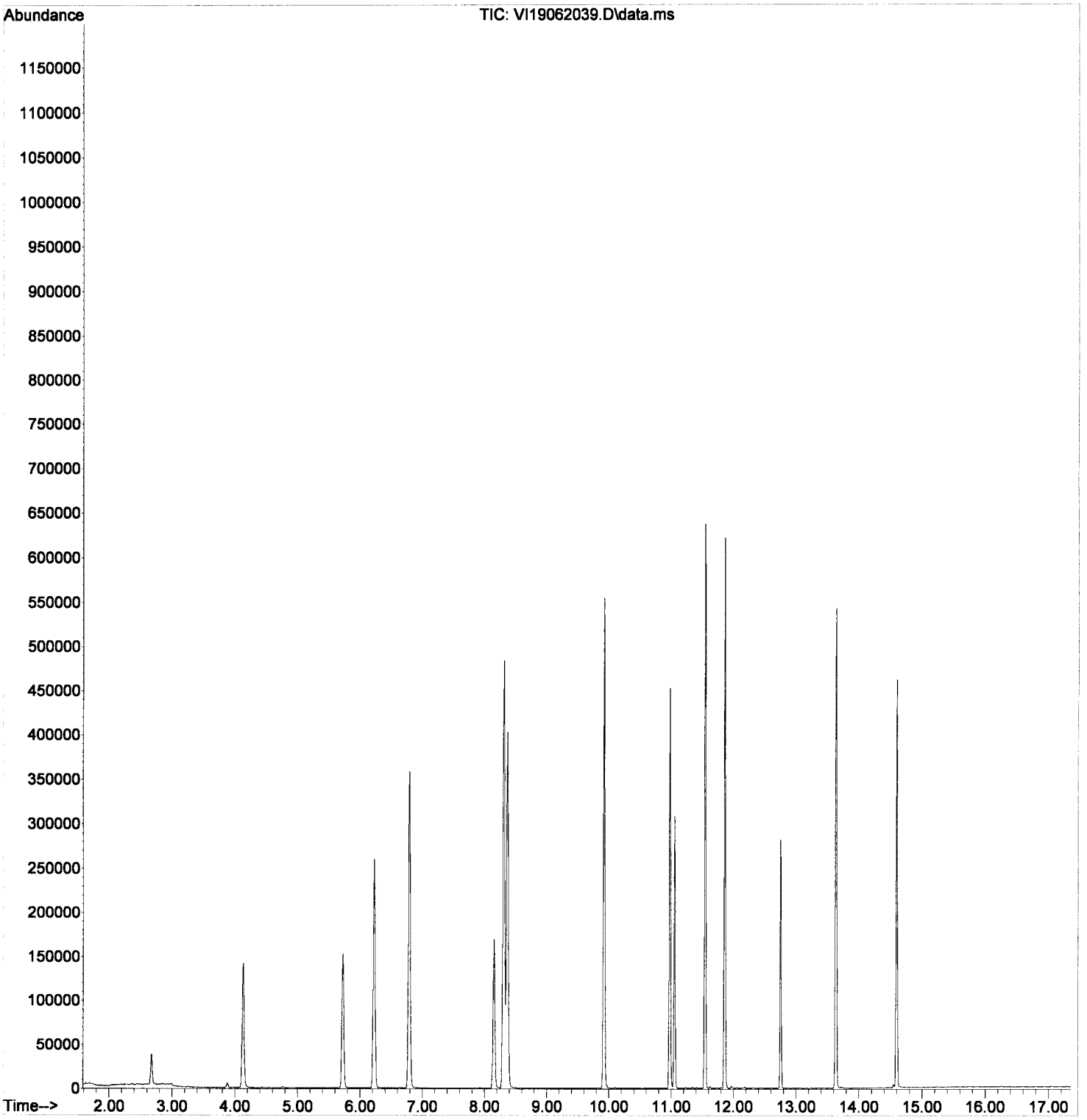
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	194046	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	326441	50.02	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	111816	49.29	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	383251	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	296736	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	213459	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3545037m	575.55	ug/L	
5) TPHg (C5-C9)	9.890	TIC	1858541m	204.35	ug/L	
6) TPHg (C6-C10)	9.890	TIC	1767050m	233.58	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	3469895m	337.37	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062040.D
Acq On : 21 Jun 2019 3:16 am
Operator : MM
Sample : 9F20044-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:03 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

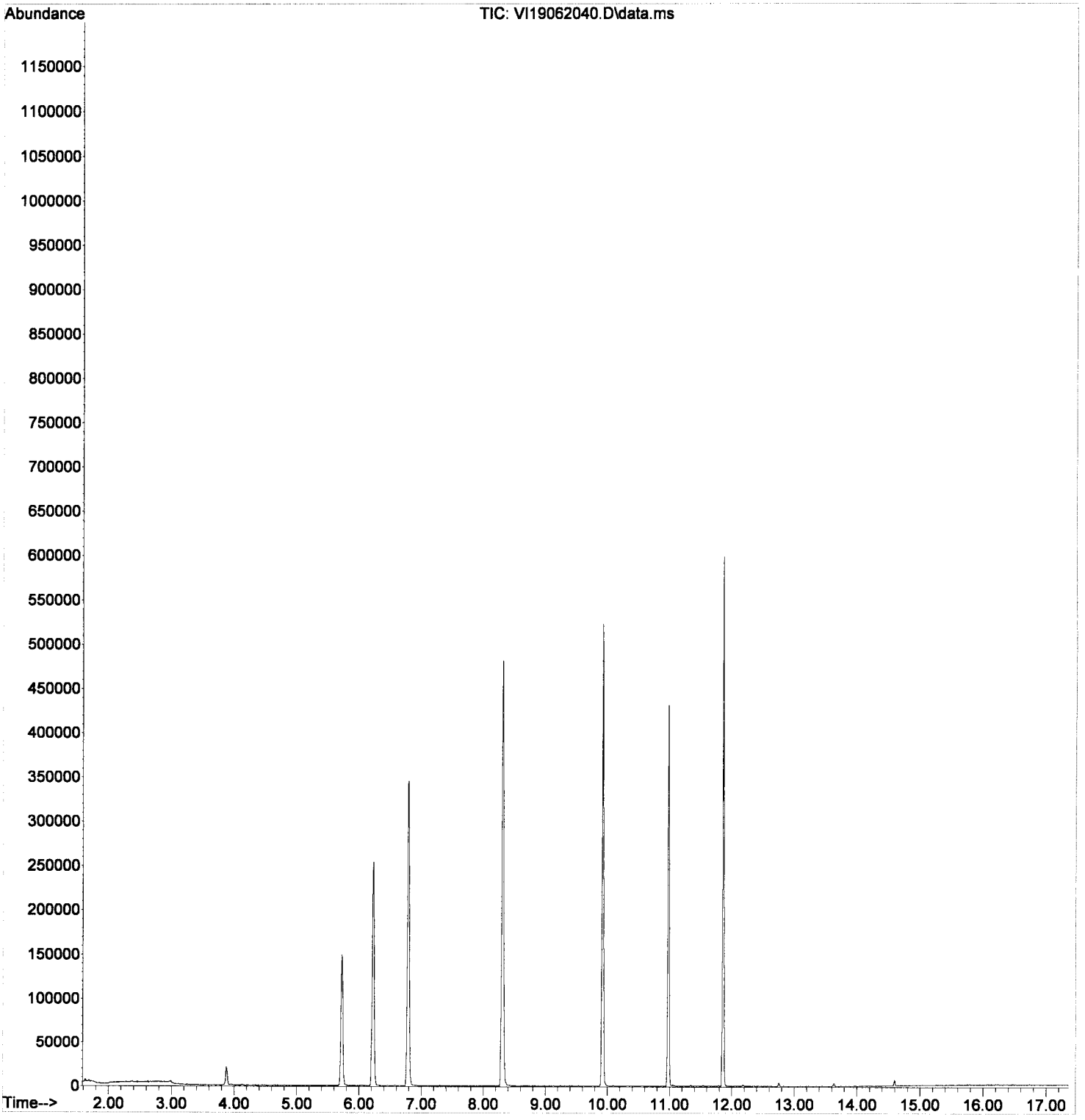
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	193860	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	324929	49.83	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	108973	48.08	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	377721	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	288051	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	201473	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	28123m	29.55	ug/L	
5) TPHg (C5-C9)	9.890	TIC	356658m	18.08	ug/L	
6) TPHg (C6-C10)	9.890	TIC	312995m	20.08	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	395196m	21.33	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062040.D
Acq On : 21 Jun 2019 3:16 am
Operator : MM
Sample : 9F20044-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:03 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062041.D
Acq On : 21 Jun 2019 3:43 am
Operator : MM
Sample : 9F20044-ICB1
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:08 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

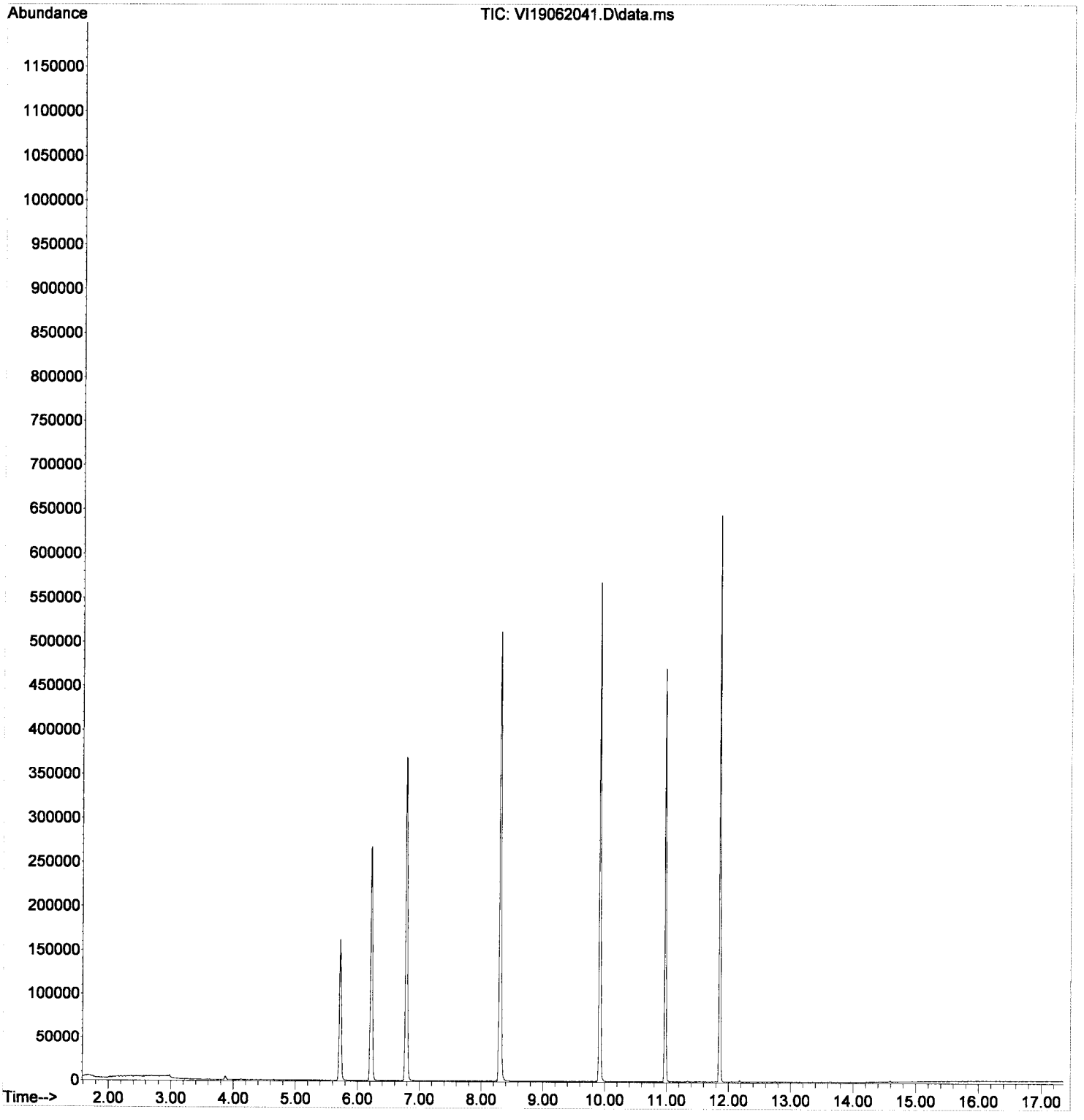
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	206455	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	345796	49.80	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	117310	48.60	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	403780	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	309053	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	217921	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	25801m	28.94	ug/L	
5) TPHg (C5-C9)	9.890	TIC	356995m	15.42	ug/L	
6) TPHg (C6-C10)	9.890	TIC	329511m	19.56	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	395646m	18.89	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062041.D
Acq On : 21 Jun 2019 3:43 am
Operator : MM
Sample : 9F20044-ICB1
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:08 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062042.D
Acq On : 21 Jun 2019 4:10 am
Operator : MM
Sample : 9F20044-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:08 2019
Quant Method : C:\msdchem\1\methods\~~VI190621G~~.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

MM 6/21/19

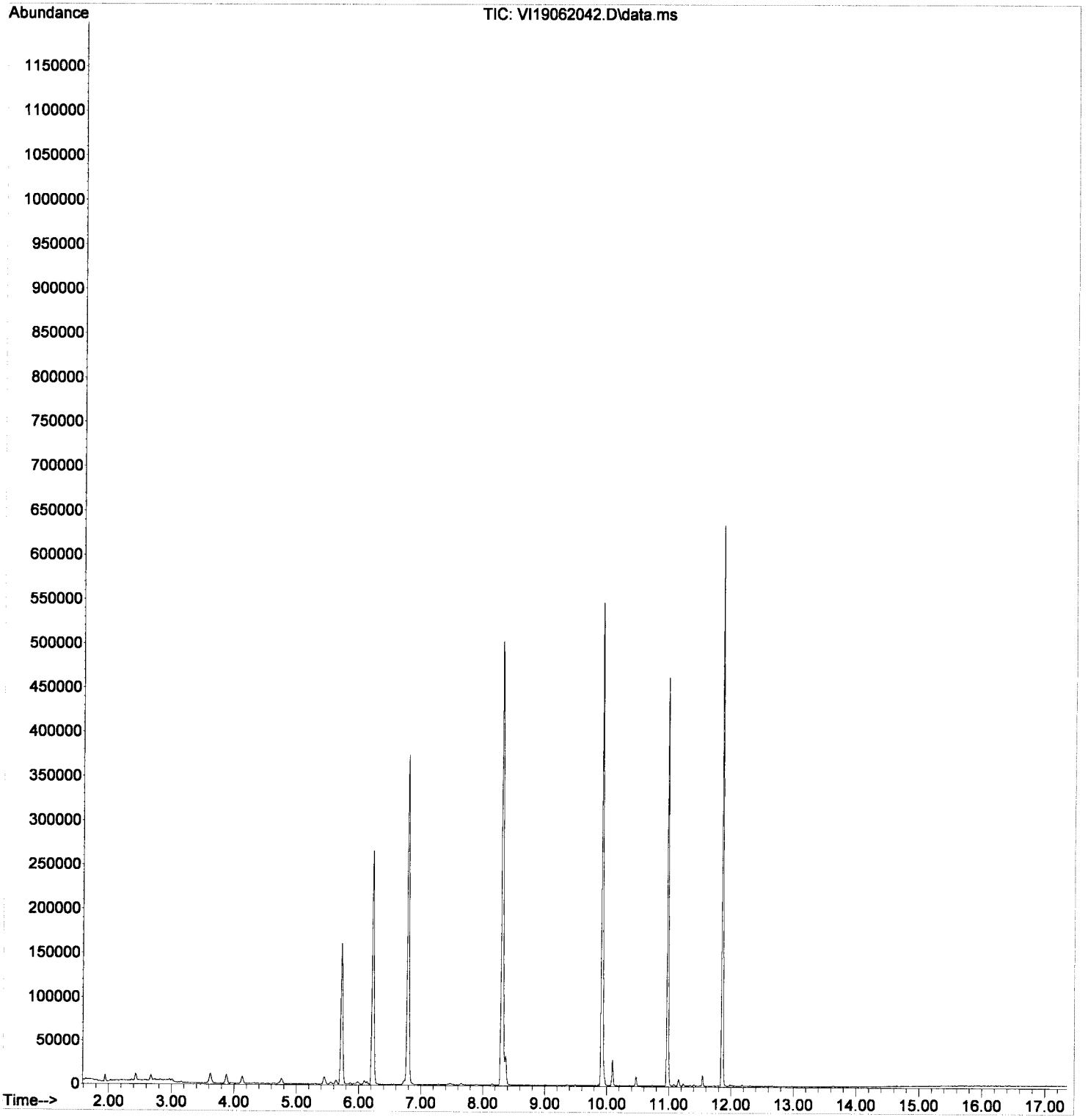
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	203678	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	341047	50.18	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	115213	53.16	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	399804	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	302490	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	214679	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	176842m	63.41	ug/L	
5) TPHg (C5-C9)	9.890	TIC	643841m	58.78	ug/L	
6) TPHg (C6-C10)	9.890	TIC	538437m	60.38	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	724537m	62.81	ug/L	
8) Benzene (NR)	6.132	78	3039	No Calib		
10) Toluene (NR)	8.364	91	26286	No Calib		
13) Naphthalene (NR)	13.633	128	1041	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062042.D
Acq On : 21 Jun 2019 4:10 am
Operator : MM
Sample : 9F20044-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:08 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:11 2019
Quant Method : C:\msdchem\1\methods\V~~I190621G~~.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

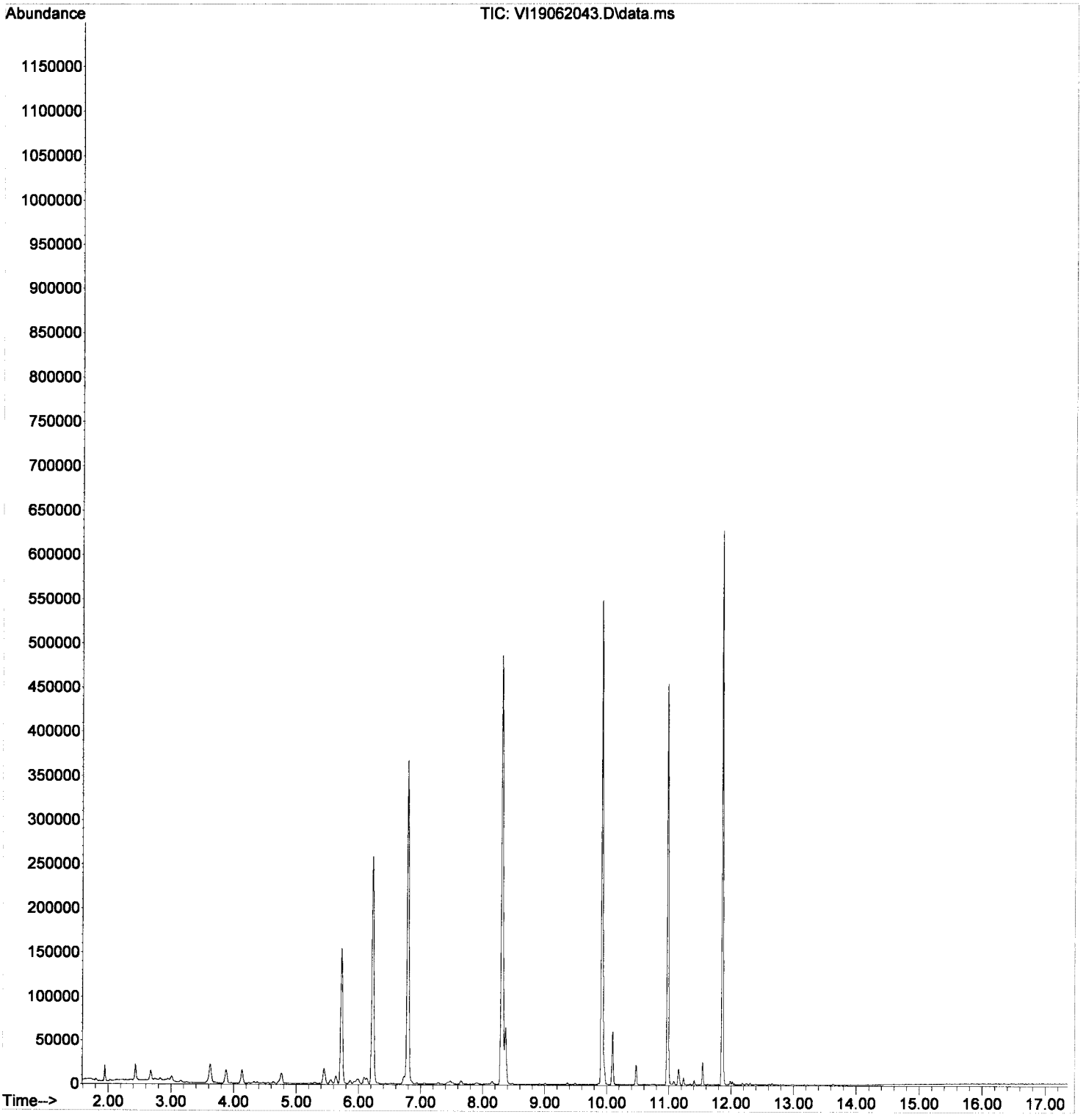
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	196555	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	330061	50.32	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	112452	53.77	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	386354	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	294827	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	209551	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	510164m	118.68	ug/L	
5) TPHg (C5-C9)	9.890	TIC	1047532m	112.79	ug/L	
6) TPHg (C6-C10)	9.890	TIC	885590m	115.27	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	1190862m	114.89	ug/L	
8) Benzene (NR)	6.132	78	6268	No Calib		
10) Toluene (NR)	8.364	91	54019	No Calib		
13) Naphthalene (NR)	13.633	128	1425	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:11 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062044.D
Acq On : 21 Jun 2019 5:04 am
Operator : MM
Sample : 9F20044-CALE
Misc : 1X 5mL 250PPB GX
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:14 2019
Quant Method : C:\msdchem\1\methods\~~VI190621G~~.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

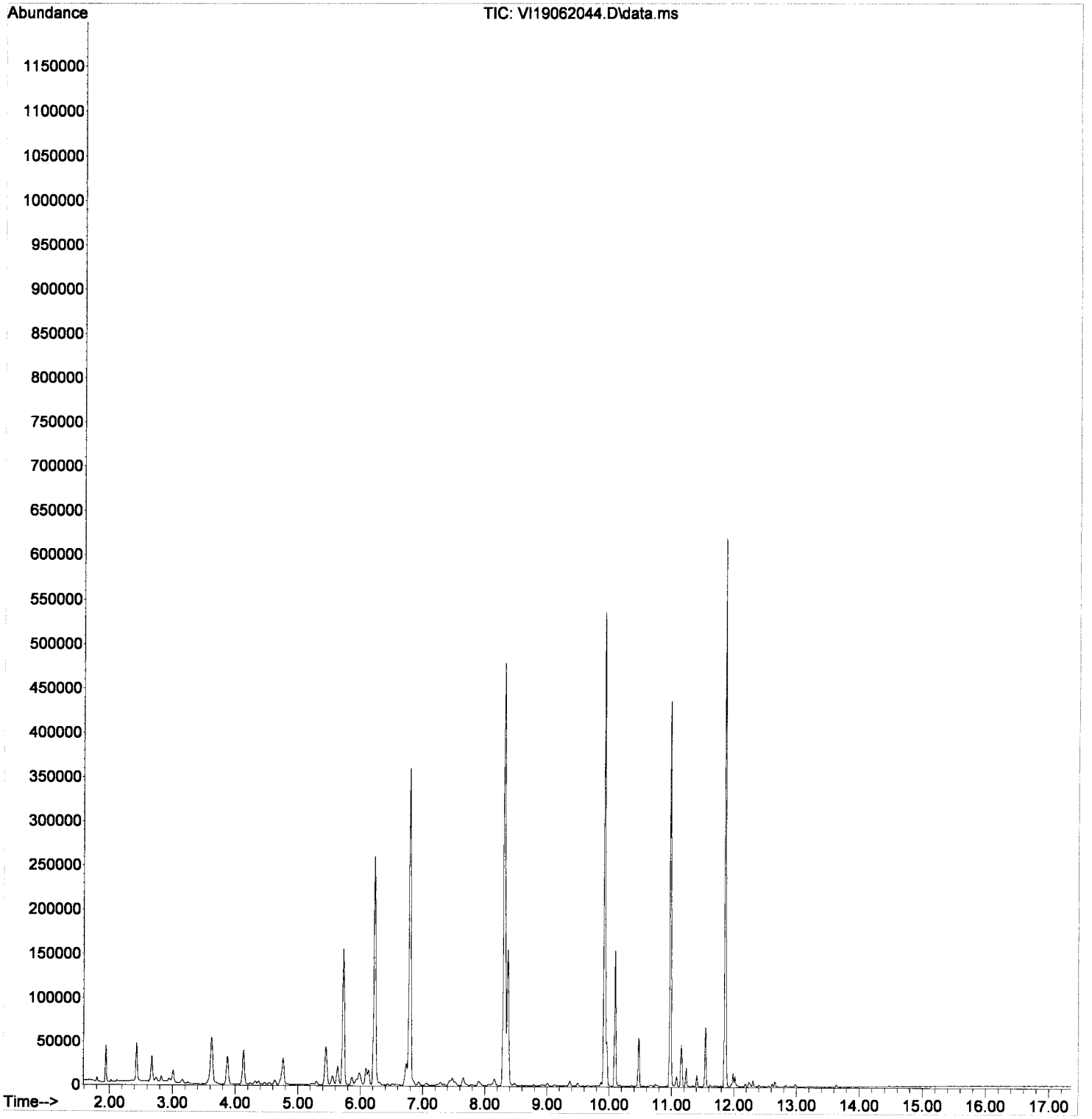
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	194307	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	325280	50.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	110399	53.40	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	382210	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.922	117	291147	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	208338	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	1404577m	266.52	ug/L	
5) TPHg (C5-C9)	9.890	TIC	2231124m	265.82	ug/L	
6) TPHg (C6-C10)	9.890	TIC	1874608m	266.61	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	2573247m	264.21	ug/L	
8) Benzene (NR)	6.132	78	15186	No Calib		
10) Toluene (NR)	8.364	91	131757	No Calib		
13) Naphthalene (NR)	13.633	128	2842	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062044.D
Acq On : 21 Jun 2019 5:04 am
Operator : MM
Sample : 9F20044-CALE
Misc : 1X 5mL 250PPB GX
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:14 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062045.D
Acq On : 21 Jun 2019 5:31 am
Operator : MM
Sample : 9F20044-CALF
Misc : 1X 5mL 500PPB GX
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:17 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

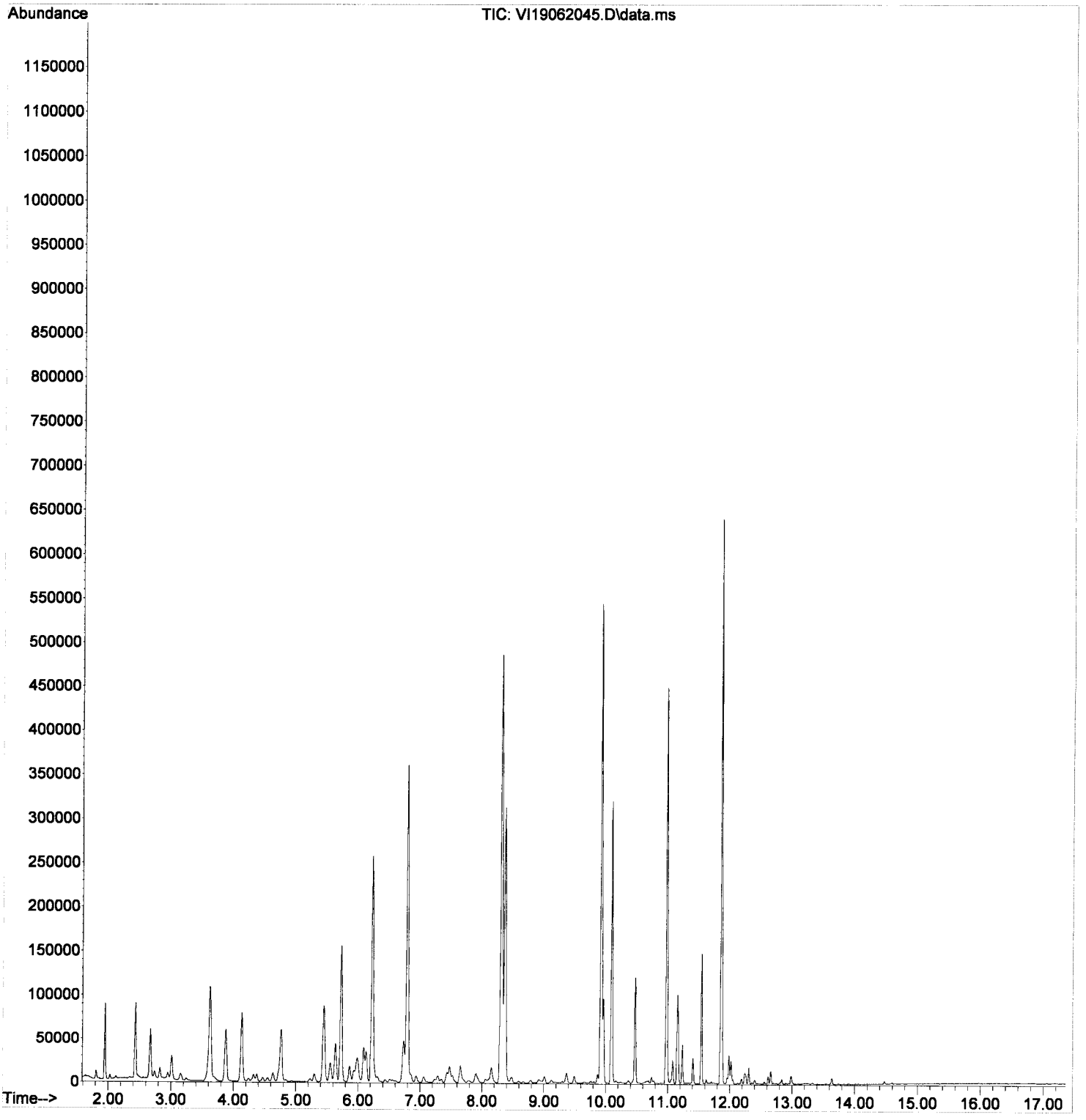
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	193440	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	322266	49.92	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	112659	54.74	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	383925	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	293849	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	214766	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3050984m	537.56	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4250064m	525.96	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3614041m	531.70	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	5033567m	528.74	ug/L	
8) Benzene (NR)	6.132	78	30256	No Calib		
10) Toluene (NR)	8.364	91	270787	No Calib		
13) Naphthalene (NR)	13.633	128	5779	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062045.D
Acq On : 21 Jun 2019 5:31 am
Operator : MM
Sample : 9F20044-CALF
Misc : 1X 5mL 500PPB GX
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:17 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062046.D
Acq On : 21 Jun 2019 5:58 am
Operator : MM
Sample : 9F20044-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:20 2019
Quant Method : C:\msdchem\1\methods\~~VI190621~~G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

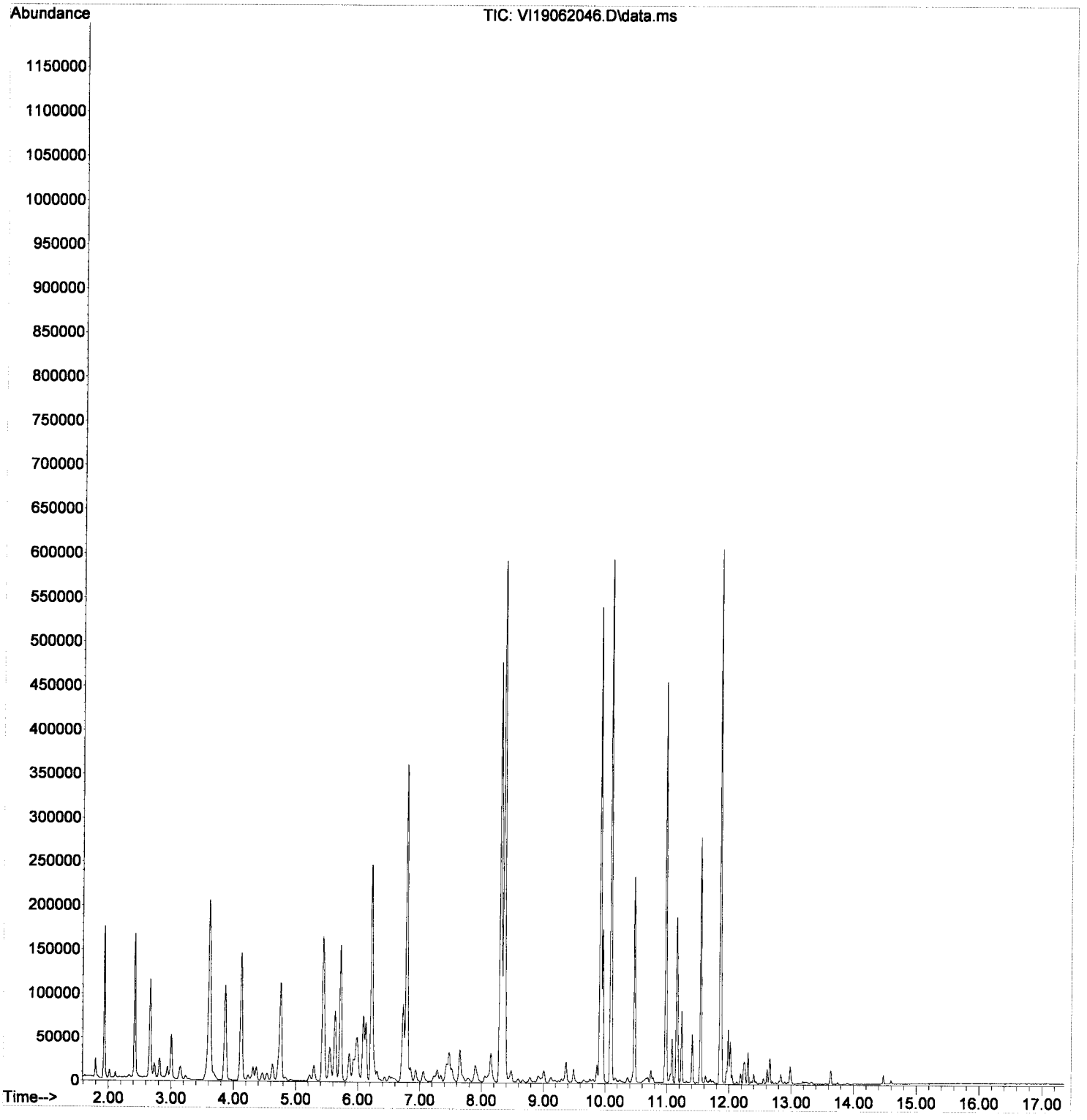
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	188214	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	317178	50.50	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	110284	55.07	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	373528	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	285367	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	207795	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	5817074m	1012.82	ug/L	
5) TPHg (C5-C9)	9.890	TIC	7801161m	1006.66	ug/L	
6) TPHg (C6-C10)	9.890	TIC	6627134m	1013.93	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	9289018m	1008.40	ug/L	
8) Benzene (NR)	6.126	78	59310	No Calib		
10) Toluene (NR)	8.364	91	517739	No Calib		
13) Naphthalene (NR)	13.633	128	12001	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062046.D
Acq On : 21 Jun 2019 5:58 am
Operator : MM
Sample : 9F20044-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:20 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062047.D
Acq On : 21 Jun 2019 6:25 am
Operator : MM
Sample : 9F20044-CALH
Misc : 1X 5mL 2500PPB GX
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:23 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

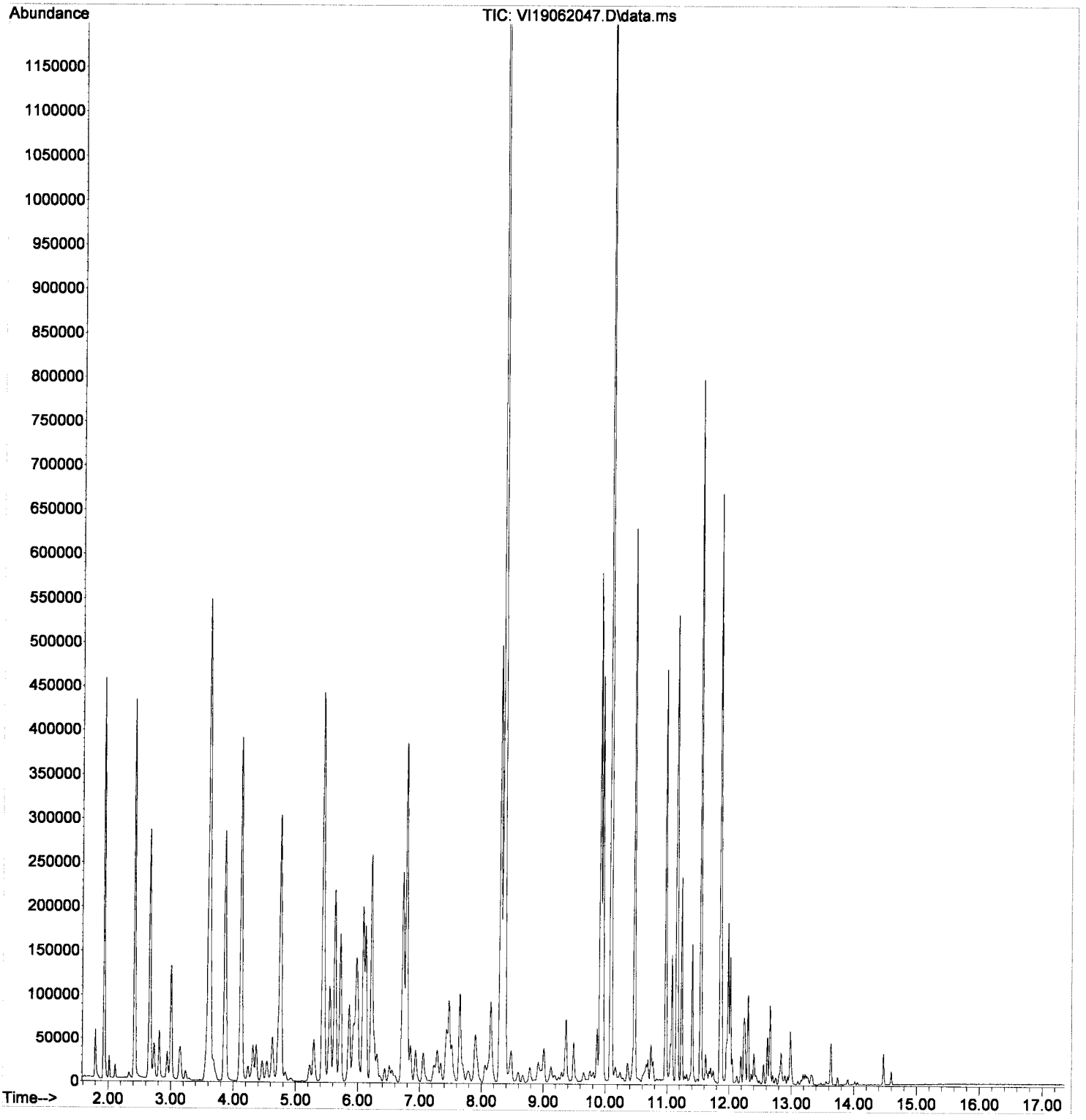
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	197104	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	328682	49.97	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	116804	55.70	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	388714	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	302739	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	224410	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	16138061m	2570.24	ug/L	
5) TPHg (C5-C9)	9.890	TIC	20687524m	2553.13	ug/L	
6) TPHg (C6-C10)	9.890	TIC	17492230m	2552.90	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	25003365m	2571.68	ug/L	
8) Benzene (NR)	6.126	78	153910	No Calib		
10) Toluene (NR)	8.364	91	1344333	No Calib		
13) Naphthalene (NR)	13.633	128	33340	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062047.D
Acq On : 21 Jun 2019 6:25 am
Operator : MM
Sample : 9F20044-CALH
Misc : 1X 5mL 2500PPB GX
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:23 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062048.D
Acq On : 21 Jun 2019 6:52 am
Operator : MM
Sample : 9F20044-CALI
Misc : 1X 5mL 5000PPB GX
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:26 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

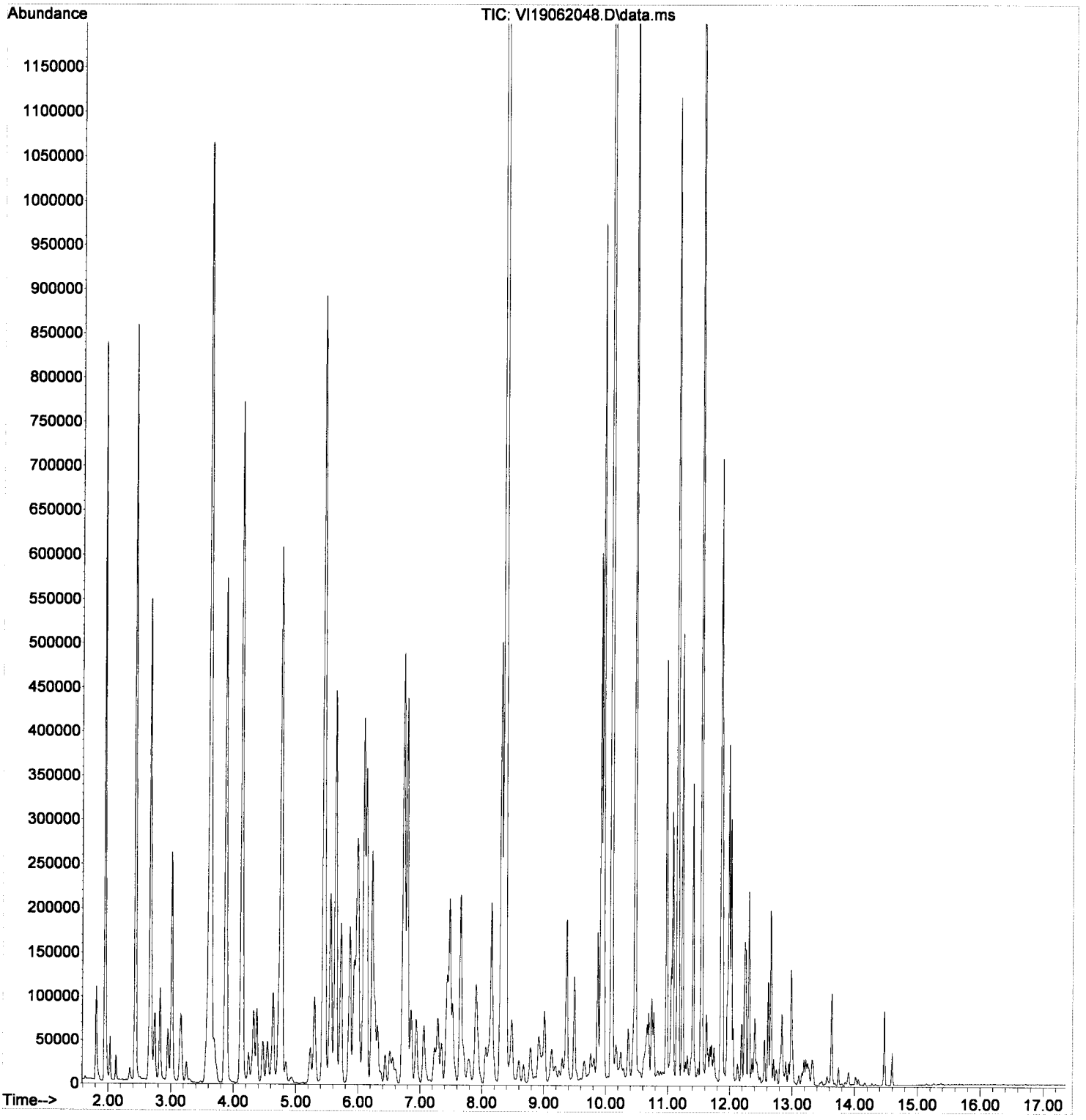
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	197272	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	334265	50.78	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	119127	56.75	ug/L	0.00
9) Toluene-d8 (NR)	8.310	98	393564	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	305618	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	227854	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	34154824m	5211.75	ug/L	
5) TPHg (C5-C9)	9.890	TIC	42062909m	5119.91	ug/L	
6) TPHg (C6-C10)	9.890	TIC	35589326m	5111.36	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	51341556m	5163.61	ug/L	
8) Benzene (NR)	6.132	78	315557	No Calib		
10) Toluene (NR)	8.364	91	2768205	No Calib		
13) Naphthalene (NR)	13.633	128	74373	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062048.D
Acq On : 21 Jun 2019 6:52 am
Operator : MM
Sample : 9F20044-CALI
Misc : 1X 5mL 5000PPB GX
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:26 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062049.D
Acq On : 21 Jun 2019 7:19 am
Operator : MM
Sample : 9F20044-CALJ
Misc : 1X 5mL 10000PPB GX
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:29 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

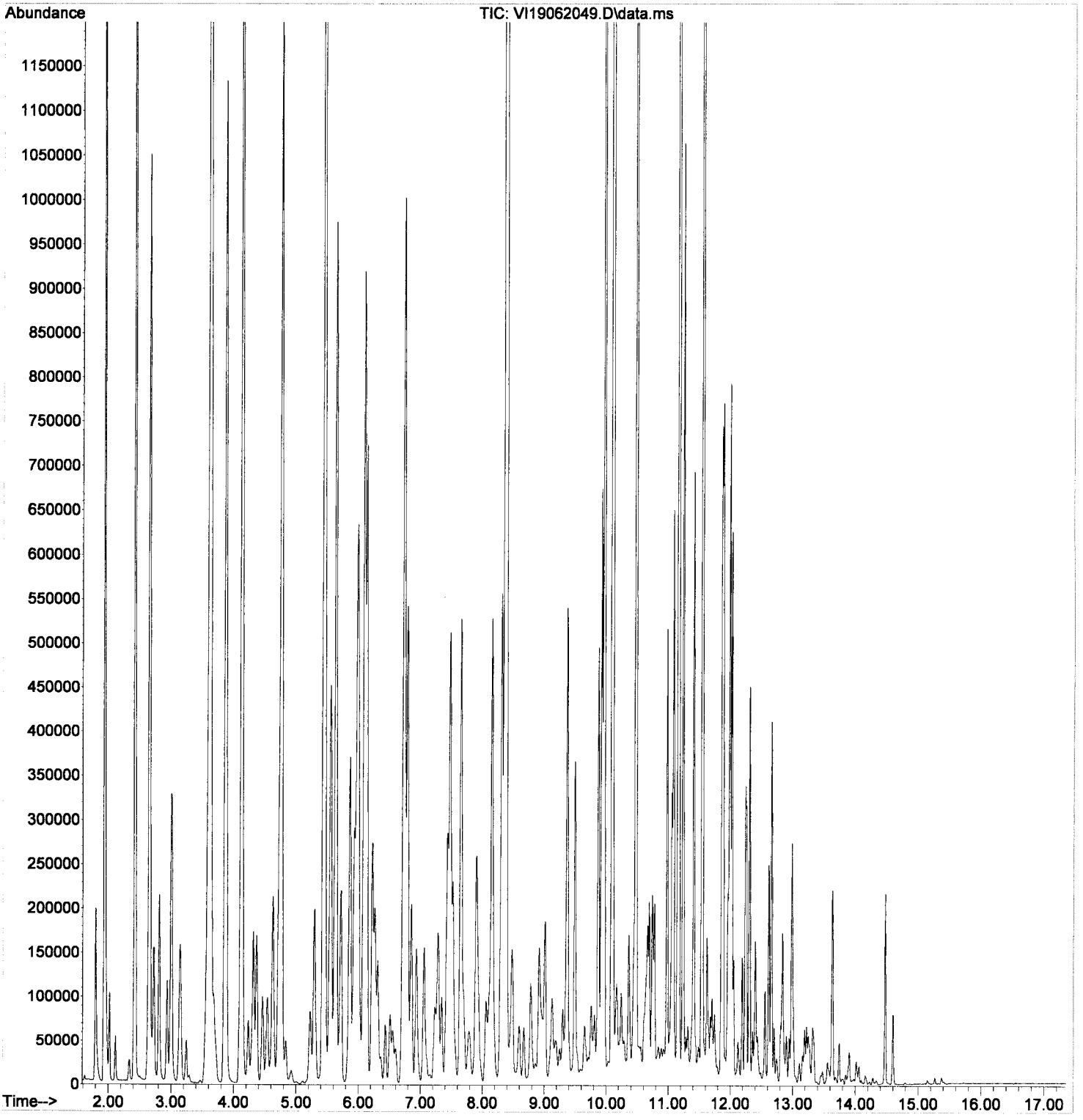
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	203972	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	349364	51.33	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	123534	56.92	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	412638	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	319888	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	236219	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	70317963m	9767.23	ug/L	
5) TPHg (C5-C9)	9.890	TIC	86326990m	9875.56	ug/L	
6) TPHg (C6-C10)	9.890	TIC	73549856m	9891.96	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	105779948m	9877.94	ug/L	
8) Benzene (NR)	6.126	78	624604	No Calib		
10) Toluene (NR)	8.364	91	5449592	No Calib		
13) Naphthalene (NR)	13.633	128	157135	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062049.D
Acq On : 21 Jun 2019 7:19 am
Operator : MM
Sample : 9F20044-CALJ
Misc : 1X 5mL 10000PPB GX
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:29 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062050.D
Acq On : 21 Jun 2019 7:46 am
Operator : MM
Sample : 9F20044-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:19 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

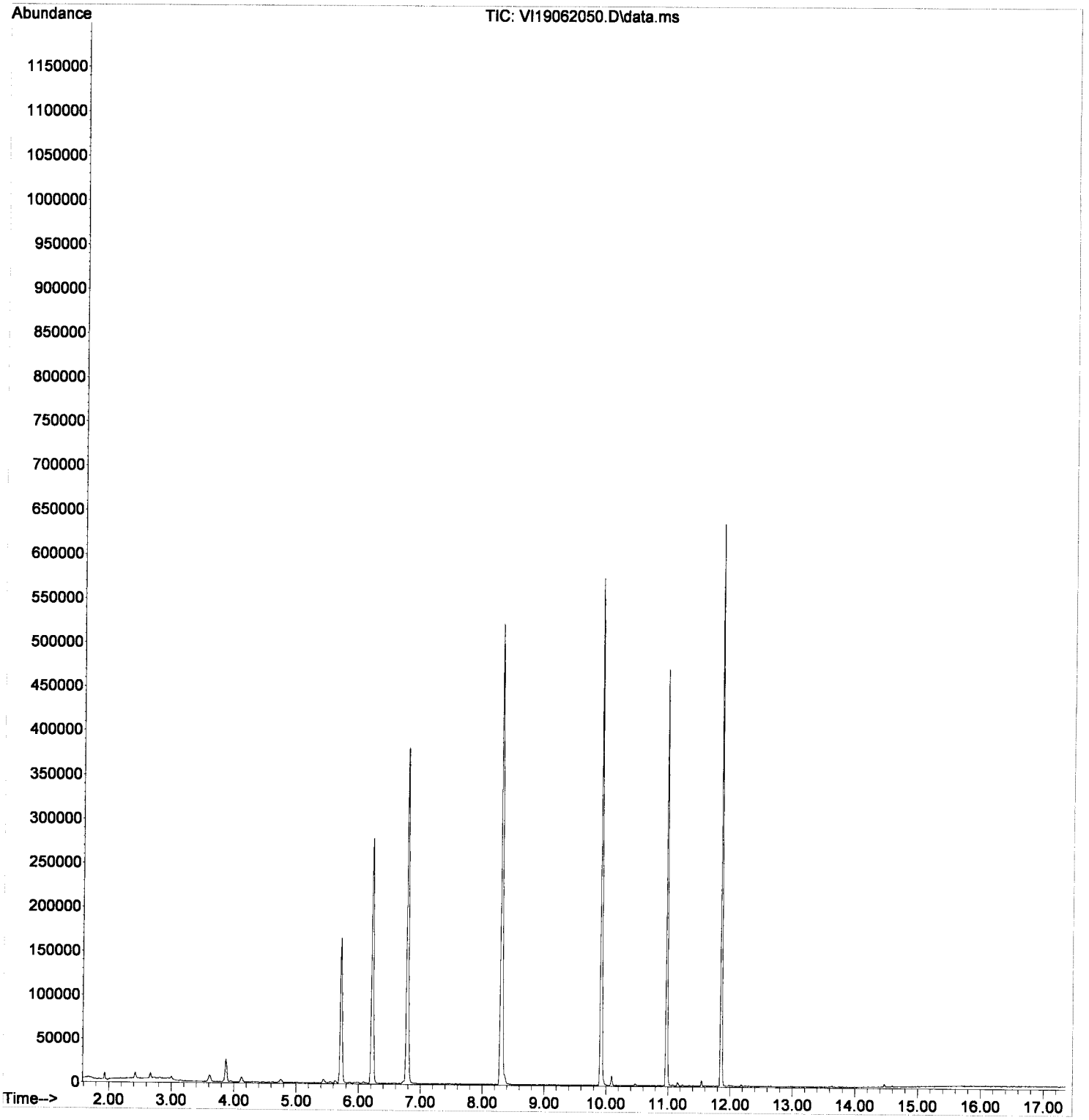
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	217202	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	362588	49.63	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	120633	47.51	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	418549	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.915	117	319447	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	223463	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	97363m	38.71	ug/L	
5) TPHg (C5-C9)	9.890	TIC	553329m	35.12	ug/L	
6) TPHg (C6-C10)	9.890	TIC	443327m	32.25	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	612105m	36.89	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062050.D
Acq On : 21 Jun 2019 7:46 am
Operator : MM
Sample : 9F20044-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:19 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062051.D
Acq On : 21 Jun 2019 8:13 am
Operator : MM
Sample : 9F20044-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:22 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

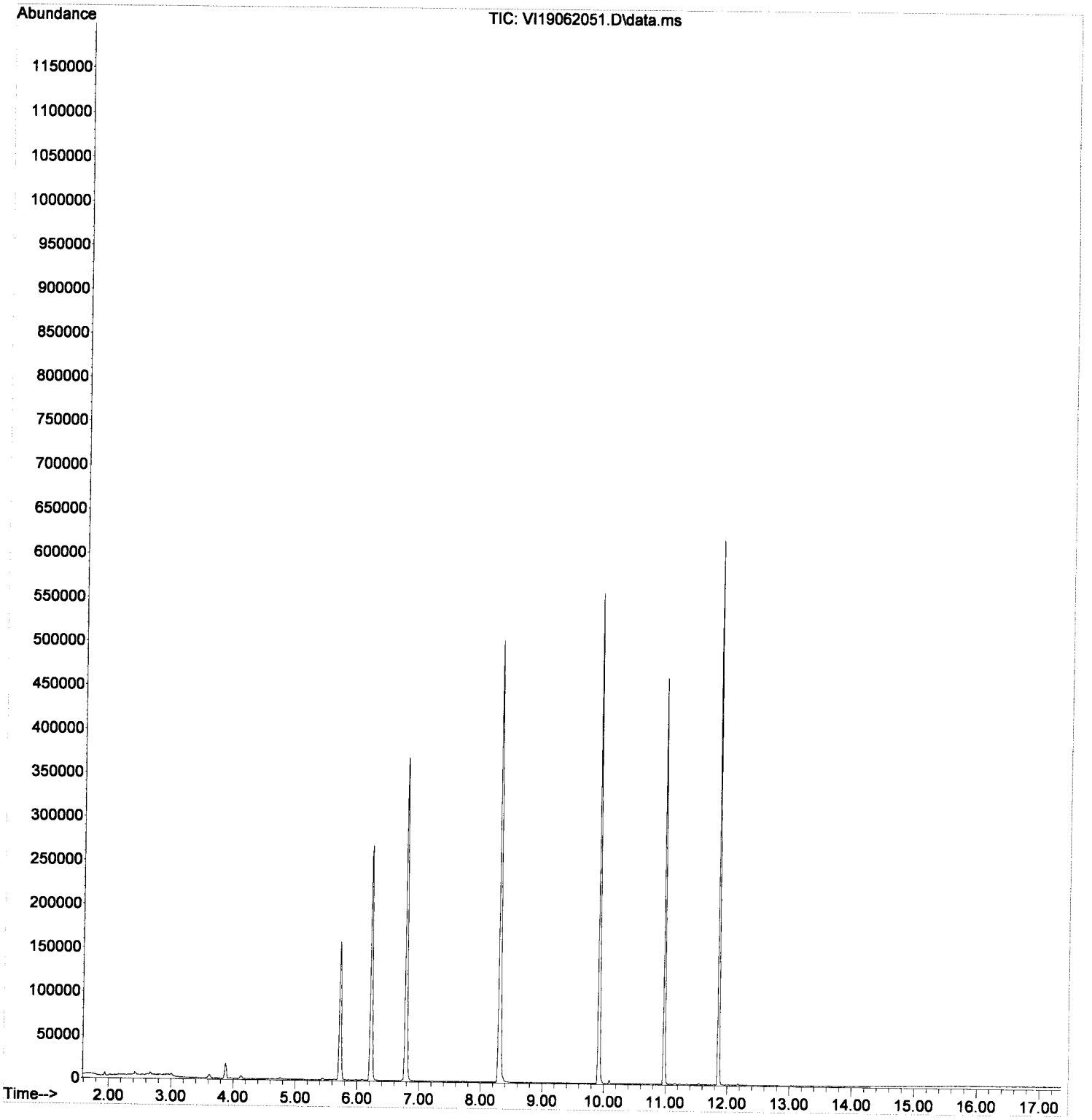
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	209371	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	347135	49.29	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	118433	48.38	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	405184	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	308837	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	217289	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	45758m	31.77	ug/L	
5) TPHg (C5-C9)	9.890	TIC	512154m	32.68	ug/L	
6) TPHg (C6-C10)	9.890	TIC	363119m	23.50	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	552083m	33.27	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062051.D
Acq On : 21 Jun 2019 8:13 am
Operator : MM
Sample : 9F20044-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:22 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062052.D
Acq On : 21 Jun 2019 8:40 am
Operator : MM
Sample : 9F20044-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:25 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

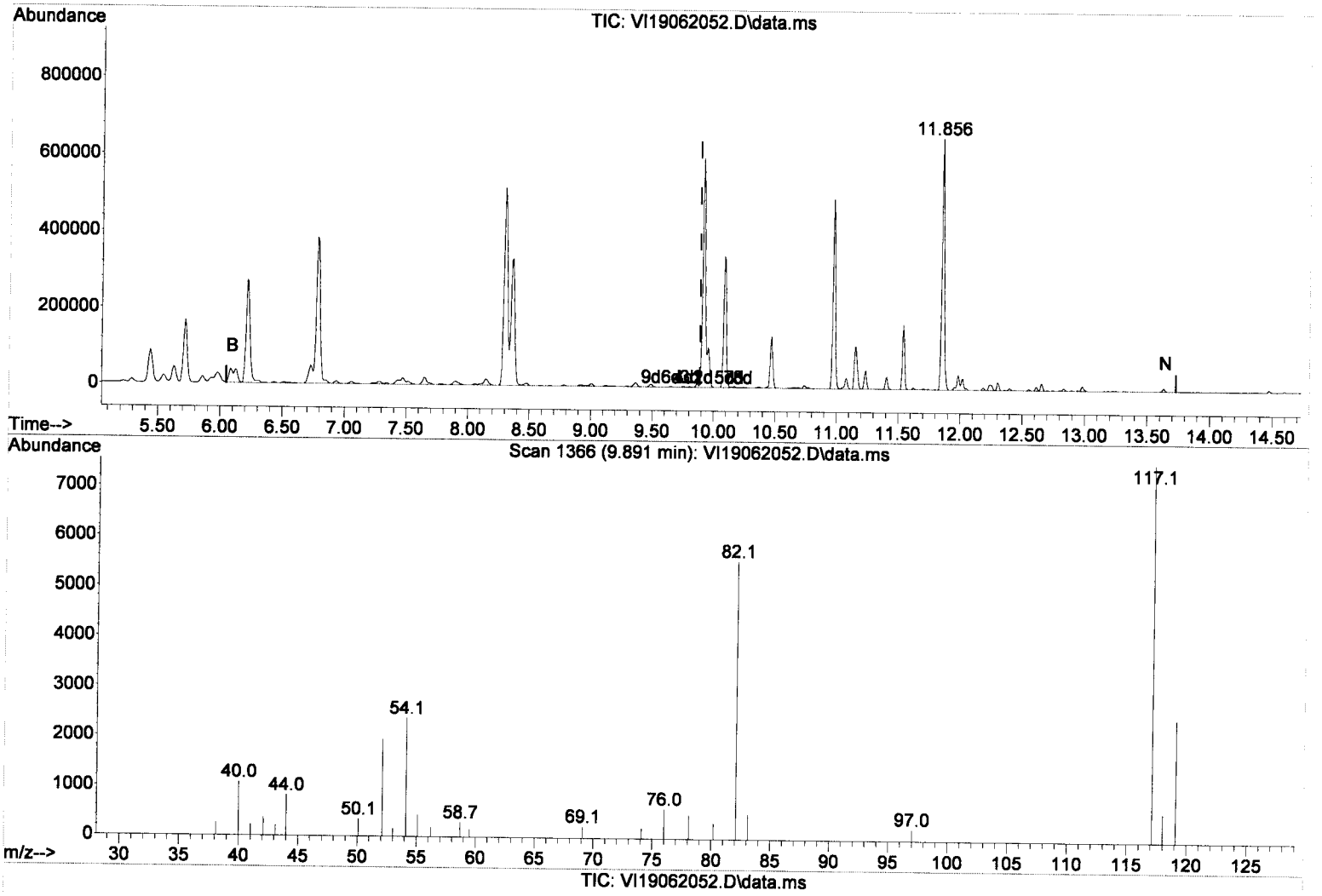
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	208499	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	350185	49.94	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	121204	49.72	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	408887	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	316434	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	229291	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3227397m	491.69	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4293325m	469.25	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3766154m	488.49	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	5105856m	468.94	ug/L	

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062052.D
Acq On : 21 Jun 2019 8:40 am
Operator : MM
Sample : 9F20044-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:25 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



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

9.890min (0.000) 491.69 ug/L m

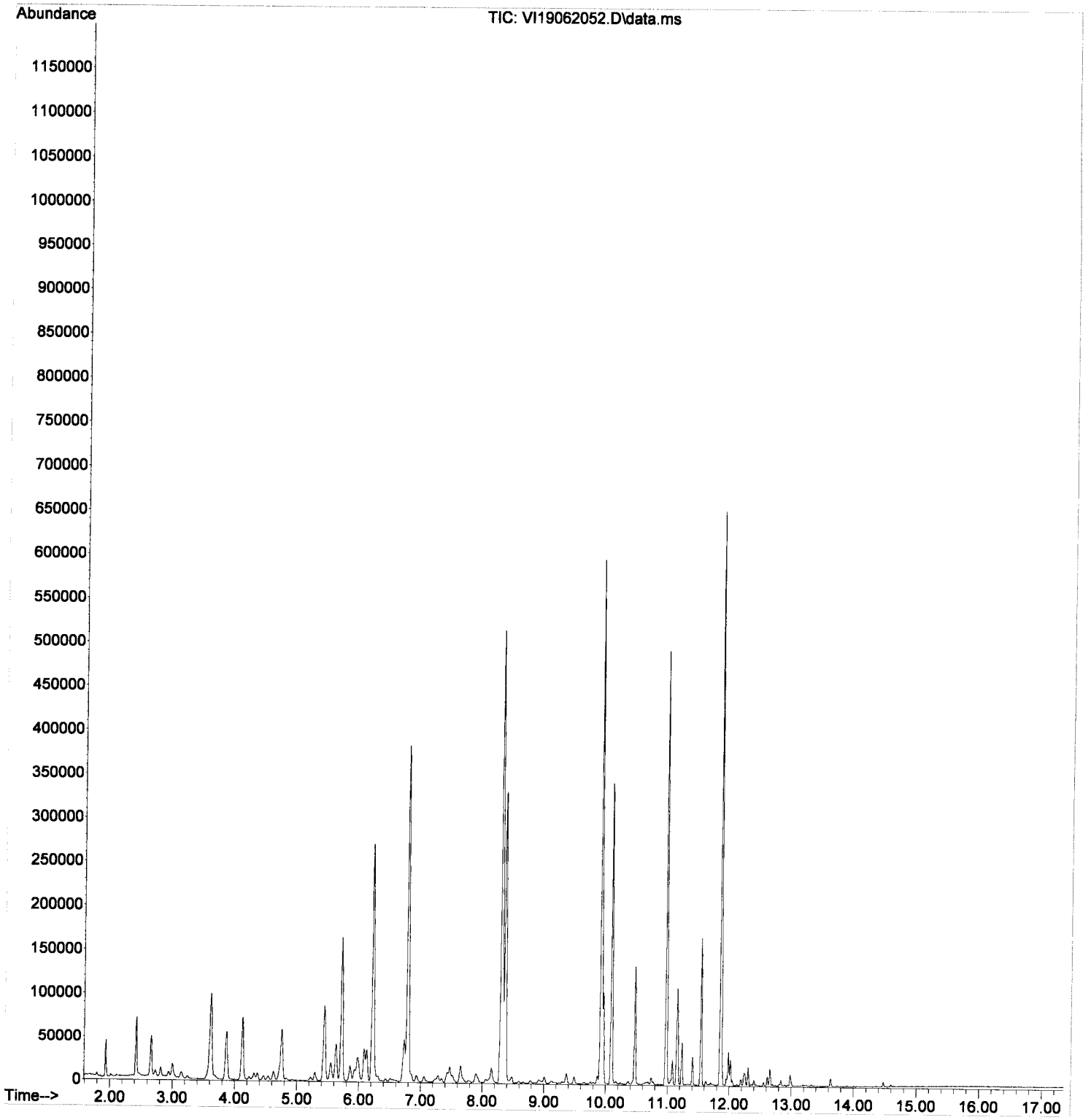
response 3227397

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\2019-06\9F20044\
Data File : VI19062052.D
Acq On : 21 Jun 2019 8:40 am
Operator : MM
Sample : 9F20044-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:25 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062053.D
Acq On : 21 Jun 2019 9:08 am
Operator : MM
Sample : 9F20044-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:28 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

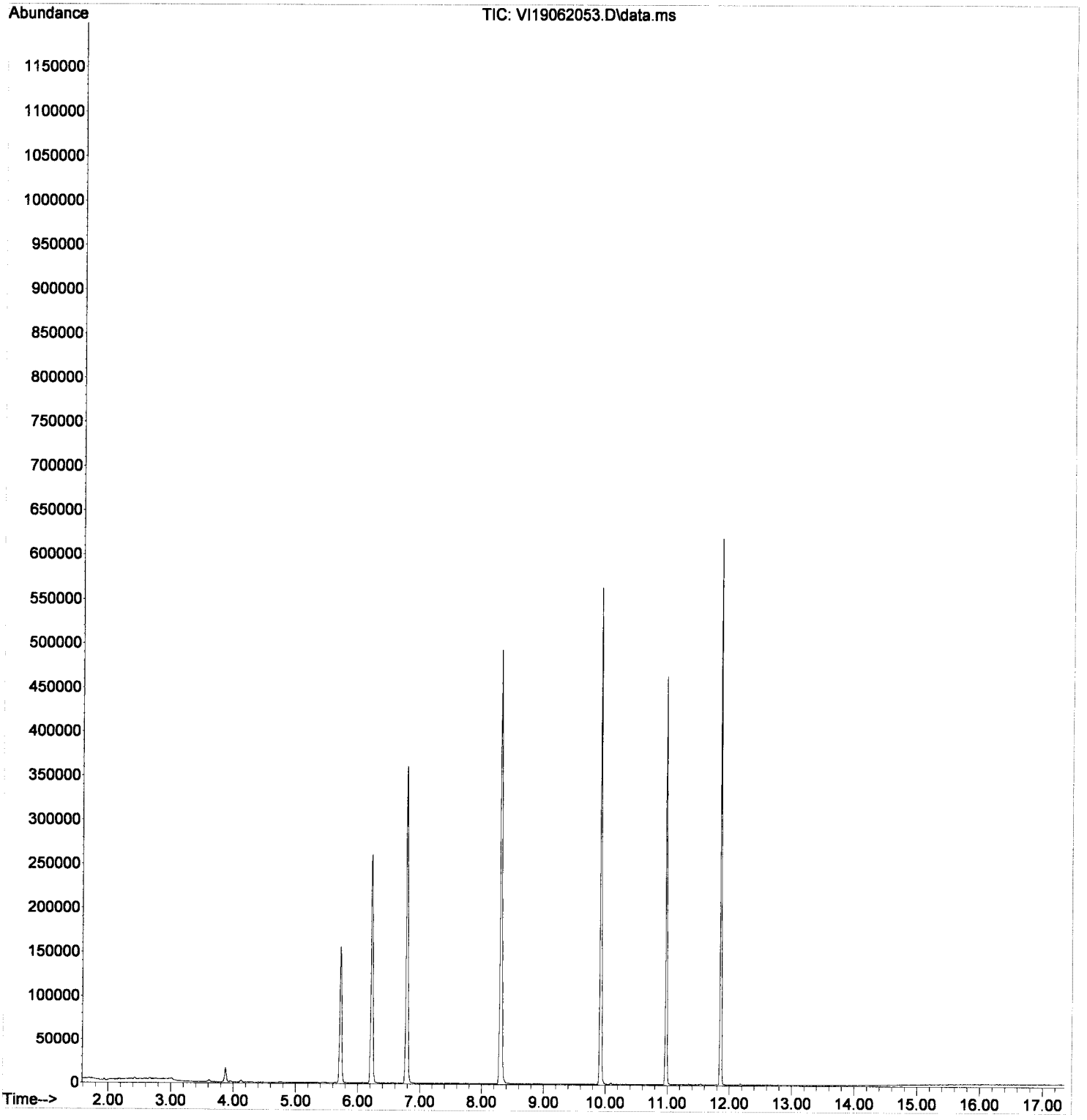
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	202087	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	337807	49.70	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	114849	48.61	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	395036	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	302127	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.857	150	211115	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	-15516m	22.85	ug/L	
5) TPHg (C5-C9)	9.890	TIC	477707m	30.70	ug/L	
6) TPHg (C6-C10)	9.890	TIC	342314m	22.35	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	459379m	26.01	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062053.D
Acq On : 21 Jun 2019 9:08 am
Operator : MM
Sample : 9F20044-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:28 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



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

Batch 9061358

Sequence 9F27033 (A9F0860-01)

PREPARATION BENCH SHEET

BATCH #: 9061358 (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*
9061358-BLK1		QC	06/27/19 11:30	5	5							
9061358-BS1		QC	06/27/19 11:30	5	5	A19F366		5				
9061358-BS2		QC	06/27/19 11:30	5	5	A19F151		5				
A9F0823-01	A	8260C Halogenated VOCs	06/27/19 13:37	5	5					MW-2		<2
A9F0835-01	A	8260C BTEX	06/27/19 13:37	5	5					Effluent		<2
A9F0835-01	A	NWTPH-Gx	06/27/19 13:37	5	5					Effluent		<2
A9F0844-02	A	8260C Full List	06/27/19 13:37	5	5					B-1-GW		<2
A9F0844-02	A	NWTPH-Gx	06/27/19 13:37	5	5					B-1-GW		<2
A9F0844-06	A	624 Volatiles	06/27/19 13:37	5	5					B-4-GW	Added for BatchQC in: 9061358	<2
A9F0844-06	A	8260C Full List	06/27/19 13:37	5	5					B-4-GW		<2
A9F0844-06	A	8260C BTEX	06/27/19 13:37	5	5					B-4-GW	Added for BatchQC in: 9061358	<2
A9F0844-06	A	8260C Halogenated VOCs	06/27/19 13:37	5	5					B-4-GW	Added for BatchQC in: 9061358	<2
A9F0844-06	A	NWTPH-Gx	06/27/19 13:37	5	5					B-4-GW		<2
9061358-DUP1		QC	06/27/19 13:37	5	5		A9F0844-06					<2
A9F0844-08	A	624 Volatiles	06/27/19 13:37	5	5					B-5-GW	Added for BatchQC in: 9061358	<2
A9F0844-08	A	8260C Full List	06/27/19 13:37	5	5					B-5-GW		<2
A9F0844-08	A	8260C BTEX	06/27/19 13:37	5	5					B-5-GW	Added for BatchQC in: 9061358	<2
A9F0844-08	A	8260C Halogenated VOCs	06/27/19 13:37	5	5					B-5-GW	Added for BatchQC in: 9061358	<2
A9F0844-08	A	NWTPH-Gx	06/27/19 13:37	5	5					B-5-GW		<2
9061358-MS1		QC	06/27/19 13:37	5	5	A19F366	A9F0844-08	5				<2
A9F0851-01	A	8260C BTEX	06/27/19 13:37	5	5					MW04		<2
A9F0851-01	A	NWTPH-Gx	06/27/19 13:37	5	5					MW04		<2

6/28/19 [illegible]
Prepared By: Date

[illegible] 6/28/19
Reviewed By: Date

PREPARATION BENCH SHEET

BATCH #: 9061358 (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*
A9F0854-01	A	624 Volatiles	06/27/19 13:37	5	5					#20	PCE TEMP	<2
A9F0860-01	A	8260C Full List	06/27/19 13:37	5	5					2708-190626-MULT802-TB		<2
A9F0860-02	A	8260C Full List	06/27/19 13:37	5	5					2708-190626-MULT802-109		<2
A9F0860-02	A	NWTPH-Gx	06/27/19 13:37	5	5					2708-190626-MULT802-109		<2
A9F0865-01	A	624 Volatiles	06/27/19 13:37	5	5					Sample Pt.#1-Oil Water	PCE	<2
A9F0874-01	A	8260C Full List	06/27/19 13:37	5	5					GWSW1-190627		<2

*pH <2 verified 6/28/19 hc

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description

Analyte Spike(s)

Std ID	Exp. Date	Description
A19F151	12/10/19	Prim NWTPH-Gx Spike (500 ug/mL)
A19F366	07/14/19	8260 Cal. Std. B VOCR+OXY Spike (20-40ug/r

Surrogate(s)

Std ID	Exp. Date	Description

GCMS9

Prepared By: Date

Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9F27033	Instrument:	VOA-GCMS9
Date:	06/27/19 11:22	Calibration:	A9F2102

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9F27033-IBL1	Water	QC	QC			A19C125	
2	9F27033-TUN1	Water	QC	QC			A19C125	
3	9F27033-CCV1	Water	QC	QC			A19C125	
4	9061358-BS1	Water	QC	QC		9061358	A19C125	
5	9F27033-CCV2	Water	QC	QC			A19C125	
6	9061358-BS2	Water	QC	QC		9061358	A19C125	
7	9061358-BLK1	Water	QC	QC		9061358	A19C125	
8	A9F0844-06	Water	8260C Full List		07/08/19	9061358	A19C125	
"	"	Water	NWTPH-Gx	"	07/08/19	9061358	A19C125	
"	"	Water	624 Volatiles	(QC Source)		9061358	A19C125	
"	"	Water	8260C BTEX	(QC Source)		9061358	A19C125	
"	"	Water	8260C Halogenated VOCs	(QC Source)		9061358	A19C125	
9	9061358-DUP1	Water	QC	QC		9061358	A19C125	
10	A9F0860-02	Water	8260C Full List		06/28/19	9061358	A19C125	
"	"	Water	NWTPH-Gx	"	07/05/19	9061358	A19C125	
11	A9F0844-08	Water	8260C Full List		07/08/19	9061358	A19C125	
"	"	Water	NWTPH-Gx	"	07/08/19	9061358	A19C125	
"	"	Water	624 Volatiles	(QC Source)		9061358	A19C125	
"	"	Water	8260C BTEX	(QC Source)		9061358	A19C125	
"	"	Water	8260C Halogenated VOCs	(QC Source)		9061358	A19C125	
12	9061358-MS1	Water	QC	QC		9061358	A19C125	
13	9F27033-IBL2	Water	QC	QC			A19C125	
14	A9F0860-01	Water	8260C Full List	Hahn and Associates	07/11/19	9061358	A19C125	
15	A9F0854-01	Water	624 Volatiles		07/11/19	9061358	A19C125	
16	A9F0851-01	Water	8260C BTEX		07/03/19	9061358	A19C125	
"	"	Water	NWTPH-Gx	"	07/03/19	9061358	A19C125	
17	A9F0835-01	Water	8260C BTEX		07/02/19	9061358	A19C125	
"	"	Water	NWTPH-Gx	"	07/02/19	9061358	A19C125	
18	A9F0844-02	Water	8260C Full List		07/08/19	9061358	A19C125	
"	"	Water	NWTPH-Gx	"	07/08/19	9061358	A19C125	
19	A9F0823-01	Water	8260C Halogenated VOCs		07/10/19	9061358	A19C125	
20	9F27033-IBL3	Water	QC	QC			A19C125	
21	9F27033-IBL4	Water	QC	QC			A19C125	
22	9F27033-IBL5	Water	QC	QC			A19C125	
23	A9F0874-01	Water	8260C Full List		07/11/19	9061358	A19C125	
24	A9F0865-01	Water	624 Volatiles		07/11/19	9061358	A19C125	
25	9F27033-IBL6	Water	QC	QC			A19C125	
26	9F27033-IBL7	Water	QC	QC			A19C125	
27	9F27033-IBL8	Water	QC	QC			A19C125	

Data Entered By: 6/28/19 pl

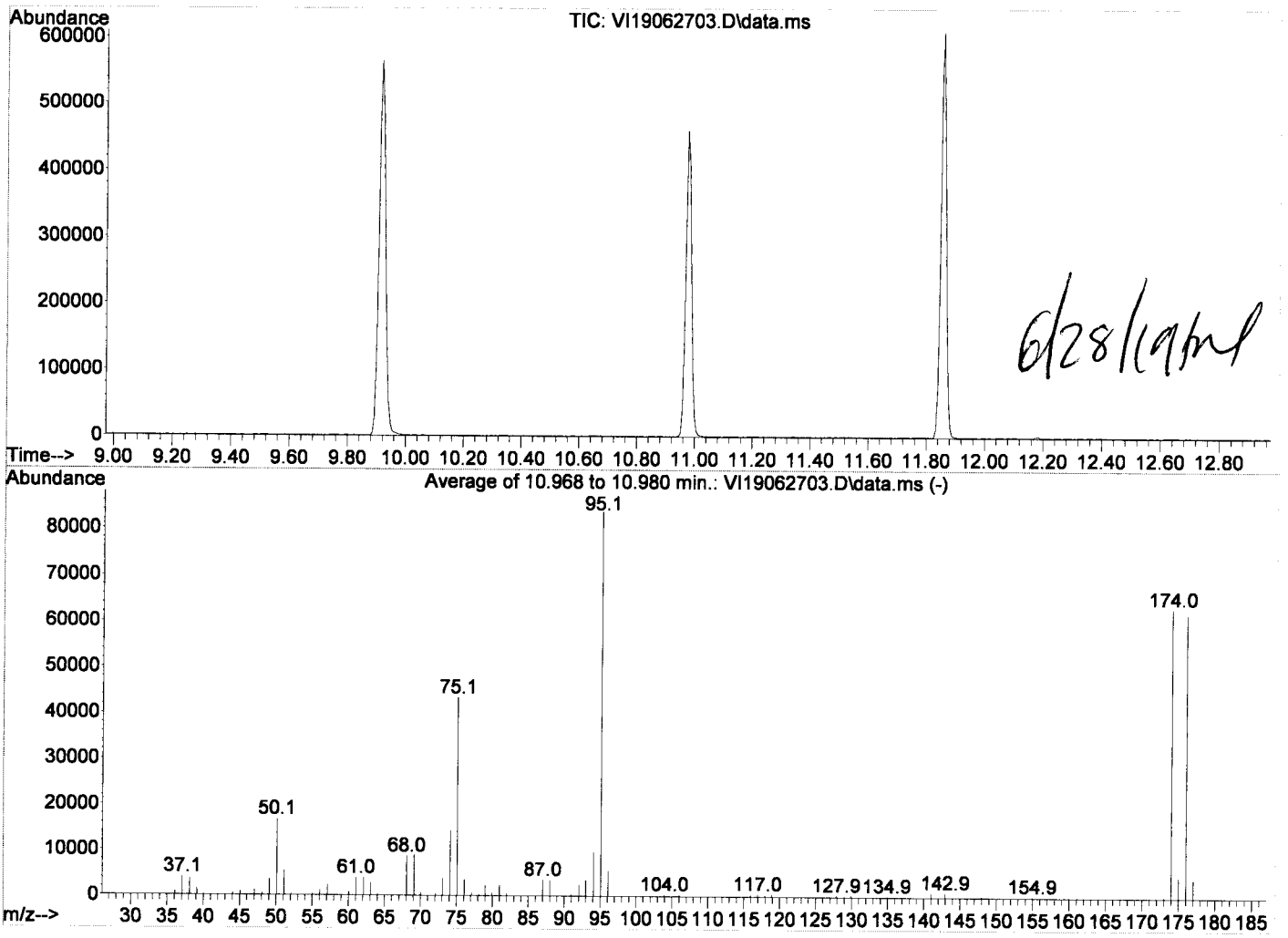
Data Reviewed By: 6/28/19

Comments: A9F0854-01, A9F0865-01] 624 PCE only

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062703.D
Acq On : 27 Jun 2019 12:38 pm
Operator : TNL
Sample : 9F27033-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019



6/28/19 MP

AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1537

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	20.0	16758	PASS
75	95	30	60	51.9	43421	PASS
95	95	100	100	100.0	83741	PASS
96	95	5	9	6.7	5596	PASS
173	174	0.00	2	0.4	265	PASS
174	95	50	200	75.3	63048	PASS
175	174	5	9	7.3	4587	PASS
176	174	95	101	98.0	61771	PASS
177	176	5	9	6.6	4073	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062703.D
Acq On : 27 Jun 2019 12:38 pm
Operator : TNL
Sample : 9F27033-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 14:29:13 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	192229	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	287516	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	126994	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	111735	53.92	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.783	114	323832	50.61	ug/L	0.00
48) Toluene-d8 (S)	8.304	98	382178	50.87	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	105156	49.98	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.892	50	283	0.11	ug/L #	47
5) Bromomethane	2.360	96	149	0.13	ug/L #	63
6) Chloroethane	2.512	64	600	0.74	ug/L #	36
14) Methylene Chloride	3.875	84	2387	Below Cal		95
15) Acetone	3.942	43	804	0.86	ug/L #	44

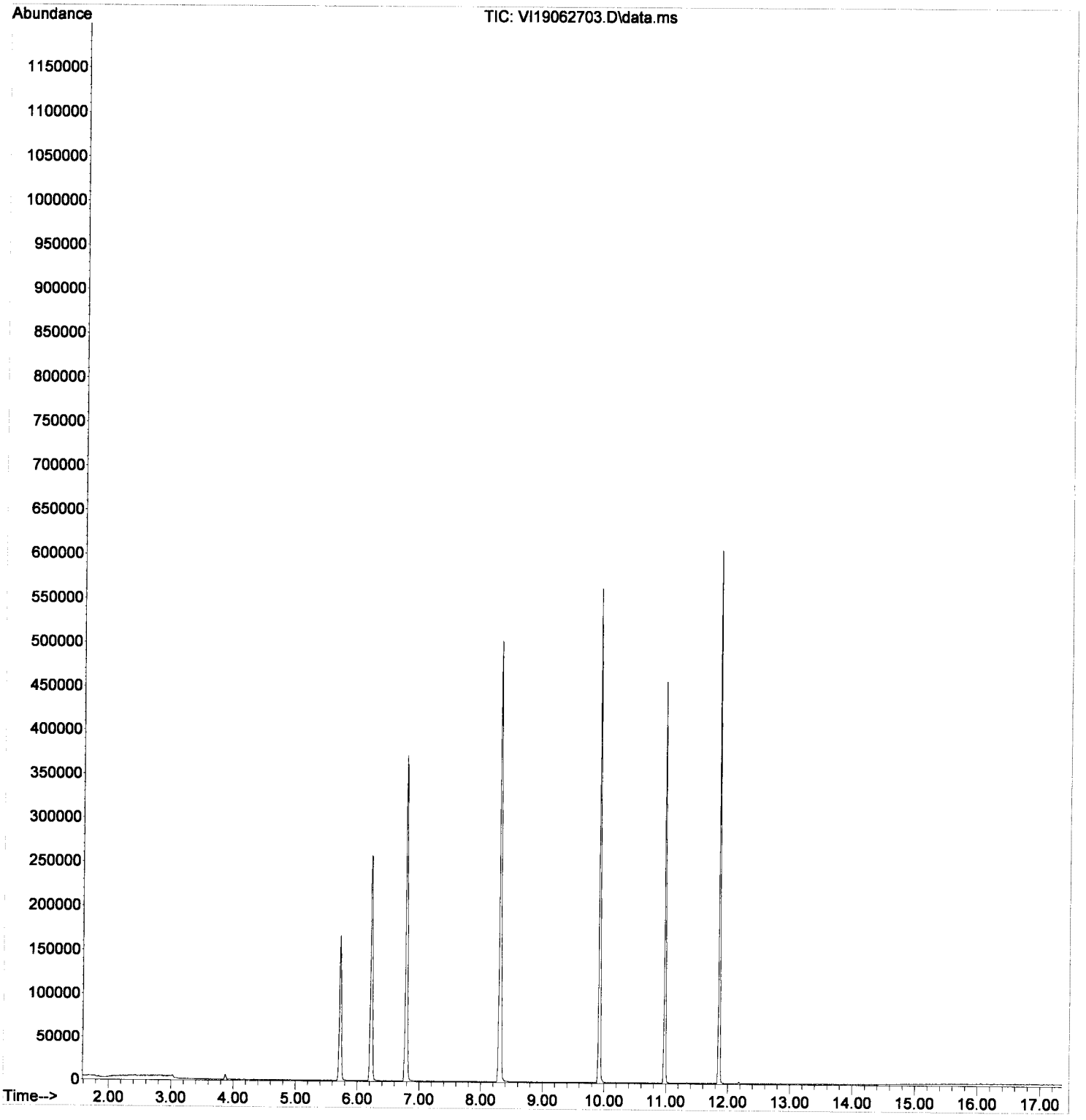
(#) = qualifier out of range (m) = manual integration (+) = signals summed

6/27/19 hrf

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062703.D
Acq On : 27 Jun 2019 12:38 pm
Operator : TNL
Sample : 9F27033-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 14:29:13 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062704.D
Acq On : 27 Jun 2019 1:05 pm
Operator : TNL
Sample : 9061358-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:10 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

6/28/19 MH

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	84	0.00	
2		Dichlorodifluoromethane	20.000	20.787	-3.9	85	0.00	
3	P	Chloromethane	20.000	18.561	7.2	81	0.00	
4	C	Vinyl Chloride	20.000	20.138	-0.7	83	0.00	
5		Bromomethane	20.000	19.338	3.3	83	-0.01	
6		Chloroethane	20.000	22.619	-13.1	100	0.00	
7		Trichlorofluoromethane	20.000	24.439	-22.2#	100	0.00	OSC
8		Ethanol	1250.000	1453.660	-16.3	98	0.00	
9	C	1,1-Dichloroethene	20.000	22.209	-11.0	88	0.00	
10		Carbon Disulfide	20.000	18.884	5.6	77	0.00	
11		Freon 113	20.000	20.434	-2.2	84	-0.01	
12		Iodomethane	20.000	9.002	55.0#	42	-0.01	NR
13		Acrolein	20.000	21.965	-9.8	94	0.00	
14		Methylene Chloride	20.000	19.527	2.4	82	0.00	
15		Acetone	40.000	46.919	-17.3	105	0.00	
16		t-1,2-Dichloroethene	20.000	21.531	-7.7	88	0.00	
17		n-Hexane	20.000	19.455	2.7	77	0.00	
18		Methyl-tert-butyl-ether	20.000	20.938	-4.7	86	0.00	
19		tert-Butanol (TBA)	1250.000	1417.831	-13.4	92	0.00	
20		Diisopropyl ether (DIPE)	5.000	5.241	-4.8	90	0.00	
21	P	1,1-Dichloroethane	20.000	22.095	-10.5	90	0.00	
22		Acrylonitrile	20.000	23.923	-19.6	98	0.00	
23		Ethyl-tert-butyl ether (ET	5.000	5.069	-1.4	84	0.00	
24		Vinyl Acetate	20.000	25.458	-27.3#	110	0.00	NR
25		c-1,2-Dichloroethene	20.000	21.853	-9.3	90	0.00	
26		2,2-Dichloropropane	20.000	20.813	-4.1	86	0.00	
27		Bromochloromethane	20.000	21.976	-9.9	86	0.00	
28	C	Chloroform	20.000	22.239	-11.2	92	0.00	
29		Carbon Tetrachloride	20.000	22.647	-13.2	94	0.00	
30		Tetrahydrofuran	20.000	22.978	-14.9	100	0.00	
31		1,1,1-Trichloroethane	20.000	21.975	-9.9	89	0.00	
32	S	Dibromofluoromethane (S)	50.000	55.504	-11.0	94	0.00	
33		1,1-Dichloropropene	20.000	20.555	-2.8	82	0.00	
34		2-Butanone (MEK)	40.000	49.058	-22.6#	104	0.00	OSC
35		Benzene	20.000	20.294	-1.5	85	0.00	
36		tert-Amyl methyl ether (TA	5.000	4.767	4.7	81	0.00	
37		1,2-Dichloroethane (EDC)	20.000	24.008	-20.0#	99	0.00	✓ 120%
38		iso-Butyl Alcohol	500.000	547.491	-9.5	92	0.00	
39	S	1,4-Difluorobenzene (S)	50.000	51.965	-3.9	87	0.00	
40		Trichloroethene (TCE)	20.000	19.744	1.3	80	0.00	
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	5.087	-1.7	82	0.00	
42		Dibromomethane	20.000	23.343	-16.7	93	0.00	
43	C	1,2-Dichloropropane	20.000	21.793	-9.0	89	0.00	
44		Bromodichloromethane	20.000	23.395	-17.0	96	0.00	
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	87	0.00	
46		2-Chloroethyl Vinyl Ether	20.000	19.506	2.5	81	0.00	
47		c-1,3-Dichloropropene	20.000	20.561	-2.8	87	0.00	
48	S	Toluene-d8 (S)	50.000	50.433	-0.9	89	0.00	
49	C	Toluene	20.000	18.366	8.2	81	0.00	
50		Tetrachloroethene (PCE)	20.000	18.488	7.6	78	0.00	

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062704.D
Acq On : 27 Jun 2019 1:05 pm
Operator : TNL
Sample : 9061358-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:10 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	46.978	-17.4	100	0.00
52		t-1,3-Dichloropropene	20.000	20.757	-3.8	87	0.00
53		1,1,2-Trichloroethane	20.000	21.306	-6.5	89	0.00
54		Dibromochloromethane	20.000	23.104	-15.5	100	0.00
55		1,3-Dichloropropane	20.000	21.283	-6.4	91	0.00
56		1,2-Dibromoethane (EDB)	20.000	21.097	-5.5	86	0.00
57		2-Hexanone	40.000	46.105	-15.3	100	0.00
58	P	Chlorobenzene	20.000	19.512	2.4	83	0.00
59	C	Ethylbenzene	20.000	19.669	1.7	83	0.00
60		1,1,1,2-Tetrachloroethane	20.000	22.003	-10.0	91	0.00
61		m,p-Xylenes (2)	40.000	39.055	2.4	83	0.00
62		o-Xylene	20.000	19.212	3.9	80	0.00
63		Styrene	20.000	19.581	2.1	80	0.00
64	P	Bromoform	20.000	23.392	-17.0	103	0.00
65		Isopropylbenzene	20.000	19.221	3.9	80	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	90	0.00
67	S	4-Bromofluorobenzene (S)	50.000	47.128	5.7	85	0.00
68		Bromobenzene	20.000	18.781	6.1	82	0.00
69		n-Propylbenzene	20.000	19.179	4.1	83	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	21.508	-7.5	93	0.00
71		2-Chlorotoluene	20.000	18.157	9.2	79	0.00
72		1,3,5-Trimethylbenzene	20.000	18.936	5.3	82	0.00
73		1,2,3-Trichloropropane	20.000	22.053	-10.3	94	0.00
74		t-1,4-Dichloro-2-butene	20.000	23.362	-16.8	97	0.00
75		4-Chlorotoluene	20.000	19.138	4.3	83	0.00
76		tert-Butylbenzene	20.000	19.231	3.8	83	0.00
77		1,2,4-Trimethylbenzene	20.000	19.604	2.0	84	0.00
78		sec-Butylbenzene	20.000	18.593	7.0	81	0.00
79		4-Isopropyltoluene	20.000	19.161	4.2	81	0.00
80		1,3-Dichlorobenzene	20.000	19.189	4.1	83	0.00
81		1,4-Dichlorobenzene	20.000	18.805	6.0	83	0.00
82		n-Butylbenzene	20.000	19.905	0.5	84	0.00
83		1,2-Dichlorobenzene	20.000	19.339	3.3	84	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	20.661	-3.3	92	0.00
85		Hexachlorobutadiene	20.000	18.889	5.6	77	0.00
86		1,2,4-Trichlorobenzene	20.000	18.738	6.3	78	0.00
87		Naphthalene	20.000	18.793	6.0	80	0.00
88		1,2,3-Trichlorobenzene	20.000	19.225	3.9	82	0.00

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062704.D
Acq On : 27 Jun 2019 1:05 pm
Operator : TNL
Sample : 9061358-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 14:29:16 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.217	168	178232	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	280301	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	137317	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	106641	55.50	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	308265	51.97	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	369360	50.43	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	107217	47.13	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.672	85	38419	20.79	ug/L		98
3) Chloromethane	1.891	50	43675	18.56	ug/L		95
4) Vinyl Chloride	1.995	62	42690	20.14	ug/L		98
5) Bromomethane	2.354	96	21165	19.34	ug/L		97
6) Chloroethane	2.494	64	17026	22.62	ug/L		83
7) Trichlorofluoromethane	2.658	101	58155	24.44	ug/L		97
8) Ethanol	3.236	45	63403	1453.66	ug/L		90
9) 1,1-Dichloroethene	3.230	61	53494	22.21	ug/L		94
10) Carbon Disulfide	3.248	76	81961	18.88	ug/L		99
11) Freon 113	3.278	101	31969	20.43	ug/L		94
12) Iodomethane	3.382	142	5997	9.00	ug/L	#	84
13) Acrolein	3.619	56	10658	21.97	ug/L		71
14) Methylene Chloride	3.869	84	36081	19.53	ug/L		94
15) Acetone	3.942	43	40723	46.92	ug/L		99
16) t-1,2-Dichloroethene	4.039	61	50655	21.53	ug/L		95
17) n-Hexane	4.118	86	6391	19.45	ug/L	#	48
18) Methyl-tert-butyl-ether	4.167	73	120599	20.94	ug/L		91
19) tert-Butanol (TBA)	4.294	59	549588	1417.83	ug/L		94
20) Diisopropyl ether (DIPE)	4.568	45	31520	5.24	ug/L		96
21) 1,1-Dichloroethane	4.684	63	68495	22.09	ug/L		96
22) Acrylonitrile	4.751	53	23585	23.92	ug/L		99
23) Ethyl-tert-butyl ether...	4.939	59	29525	5.07	ug/L		93
24) Vinyl Acetate	4.958	43	99895	25.46	ug/L		96
25) c-1,2-Dichloroethene	5.243	61	54868	21.85	ug/L		96
26) 2,2-Dichloropropane	5.353	77	50402	20.81	ug/L		90
27) Bromochloromethane	5.450	130	25435	21.98	ug/L		83
28) Chloroform	5.529	83	71179	22.24	ug/L		97
29) Carbon Tetrachloride	5.657	117	44324	22.65	ug/L		95
30) Tetrahydrofuran	5.706	42	23077	22.98	ug/L		89
31) 1,1,1-Trichloroethane	5.736	97	56058	21.97	ug/L		97
33) 1,1-Dichloropropene	5.864	75	49983	20.55	ug/L		98
34) 2-Butanone (MEK)	5.858	43	70914	49.06	ug/L		94
35) Benzene	6.126	78	150890	20.29	ug/L		98
36) tert-Amyl methyl ether...	6.247	73	26660	4.77	ug/L		97
37) 1,2-Dichloroethane (EDC)	6.345	62	58930	24.01	ug/L		92
38) iso-Butyl Alcohol	6.375	43	80757	547.49	ug/L		96
40) Trichloroethene (TCE)	6.746	130	35512	19.74	ug/L		91
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	21870	5.09	ug/L		91
42) Dibromomethane	7.196	93	27614	23.34	ug/L		84
43) 1,2-Dichloropropane	7.312	63	41497	21.79	ug/L		96
44) Bromodichloromethane	7.385	83	51397	23.39	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.030	63	30040	19.51	ug/L	#	100
47) c-1,3-Dichloropropene	8.091	75	59201	20.56	ug/L		97

6/27/19 tnl

QC

QC

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062704.D
Acq On : 27 Jun 2019 1:05 pm
Operator : TNL
Sample : 9061358-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 14:29:16 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

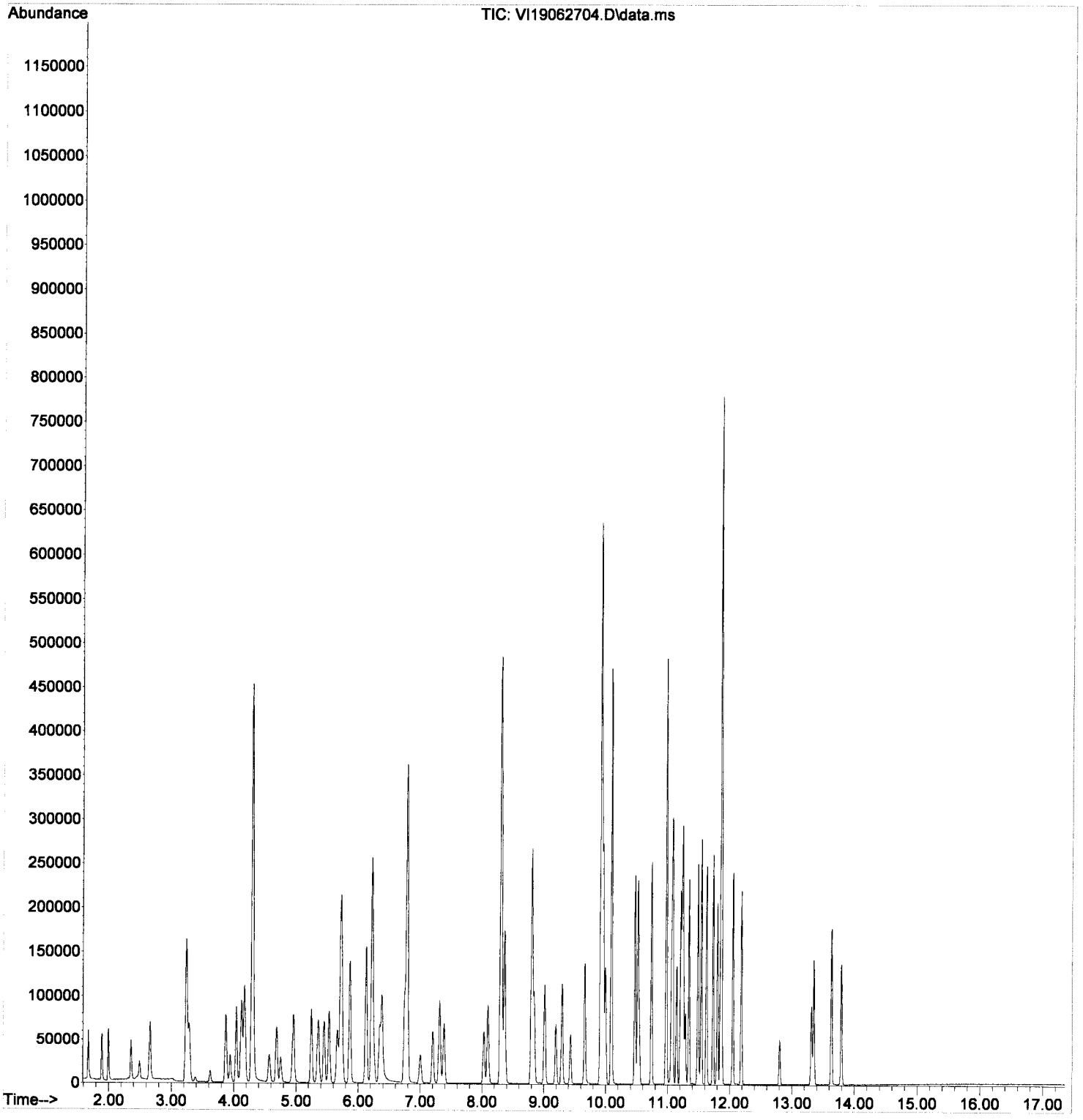
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.358	91	146846	18.37	ug/L		96
50) Tetrachloroethene (PCE)	8.796	166	33580	18.49	ug/L		80
51) 4-Methyl-2-Pentanone (...	8.802	43	131696	46.98	ug/L		95
52) t-1,3-Dichloropropene	8.839	75	54724	20.76	ug/L		95
53) 1,1,2-Trichloroethane	9.009	97	37579	21.31	ug/L		97
54) Dibromochloromethane	9.192	129	38216	23.10	ug/L		98
55) 1,3-Dichloropropane	9.289	76	66902	21.28	ug/L		93
56) 1,2-Dibromoethane (EDB)	9.429	107	39187	21.10	ug/L		98
57) 2-Hexanone	9.660	43	95174	46.11	ug/L		98
58) Chlorobenzene	9.934	112	94866	19.51	ug/L		92
59) Ethylbenzene	9.952	91	164716	19.67	ug/L		98
60) 1,1,1,2-Tetrachloroethane	9.989	131	32663	22.00	ug/L		98
61) m,p-Xylenes (2)	10.086	91	246382	39.05	ug/L		95
62) o-Xylene	10.469	91	123546	19.21	ug/L		97
63) Styrene	10.518	104	96200	19.58	ug/L		88
64) Bromoform	10.542	173	25495	23.39	ug/L		97
65) Isopropylbenzene	10.737	105	146391	19.22	ug/L		98
68) Bromobenzene	11.059	156	39530	18.78	ug/L	#	74
69) n-Propylbenzene	11.078	91	179253	19.18	ug/L		95
70) 1,1,2,2-Tetrachloroethane	11.145	85	37920	21.51	ug/L		94
71) 2-Chlorotoluene	11.205	126	34279	18.16	ug/L	#	77
72) 1,3,5-Trimethylbenzene	11.236	105	119625	18.94	ug/L		98
73) 1,2,3-Trichloropropane	11.254	110	17854	22.05	ug/L		98
74) t-1,4-Dichloro-2-butene	11.284	53	15962	23.36	ug/L	#	65
75) 4-Chlorotoluene	11.339	91	112014	19.14	ug/L		90
76) tert-Butylbenzene	11.485	91	70011	19.23	ug/L		87
77) 1,2,4-Trimethylbenzene	11.540	105	124160	19.60	ug/L		92
78) sec-Butylbenzene	11.625	105	145668	18.59	ug/L		98
79) 4-Isopropyltoluene	11.729	119	118479	19.16	ug/L		97
80) 1,3-Dichlorobenzene	11.802	146	70673	19.19	ug/L		99
81) 1,4-Dichlorobenzene	11.868	146	71499	18.80	ug/L		93
82) n-Butylbenzene	12.051	91	112885	19.90	ug/L		96
83) 1,2-Dichlorobenzene	12.185	146	68991	19.34	ug/L		97
84) 1,2-Dibromo-3-Chloropr...	12.799	157	11504	20.66	ug/L	#	55
85) Hexachlorobutadiene	13.310	223	9714	18.89	ug/L		92
86) 1,2,4-Trichlorobenzene	13.347	180	38448	18.74	ug/L		97
87) Naphthalene	13.633	128	126137	18.79	ug/L		95
88) 1,2,3-Trichlorobenzene	13.791	180	38298	19.23	ug/L		93

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062704.D
Acq On : 27 Jun 2019 1:05 pm
Operator : TNL
Sample : 9061358-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 14:29:16 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062705.D
Acq On : 27 Jun 2019 1:32 pm
Operator : TNL
Sample : 9061358-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:39:17 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	104	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	49.965	0.1	105	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.282	1.4	103	0.00
4	H	NWTPH-Gx (TPH)	500.000	485.337	2.9	100	0.00
5	H	TPHg (C5-C9)	500.000	506.828	-1.4	105	0.00
6	H	TPHg (C6-C10)	500.000	511.996	-2.4	105	0.00
7	H	CA-LUFT (C5-C12)	500.000	494.807	1.0	103	0.00
8		Benzene (NR)	-1.000	0.000	0.0	105	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	104	0.00
10		Toluene (NR)	-1.000	0.000	0.0	102	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	104	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	102	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	114	0.00

6/28/19 bmp

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062705.D
Acq On : 27 Jun 2019 1:32 pm
Operator : TNL
Sample : 9061358-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:39:17 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.217	168	200814	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	337478	49.97	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	115701	49.28	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	399633	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	304493	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	219930	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3065997m	485.34	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4449047m	506.83	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3793356m	512.00	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	5178645m	494.81	ug/L	

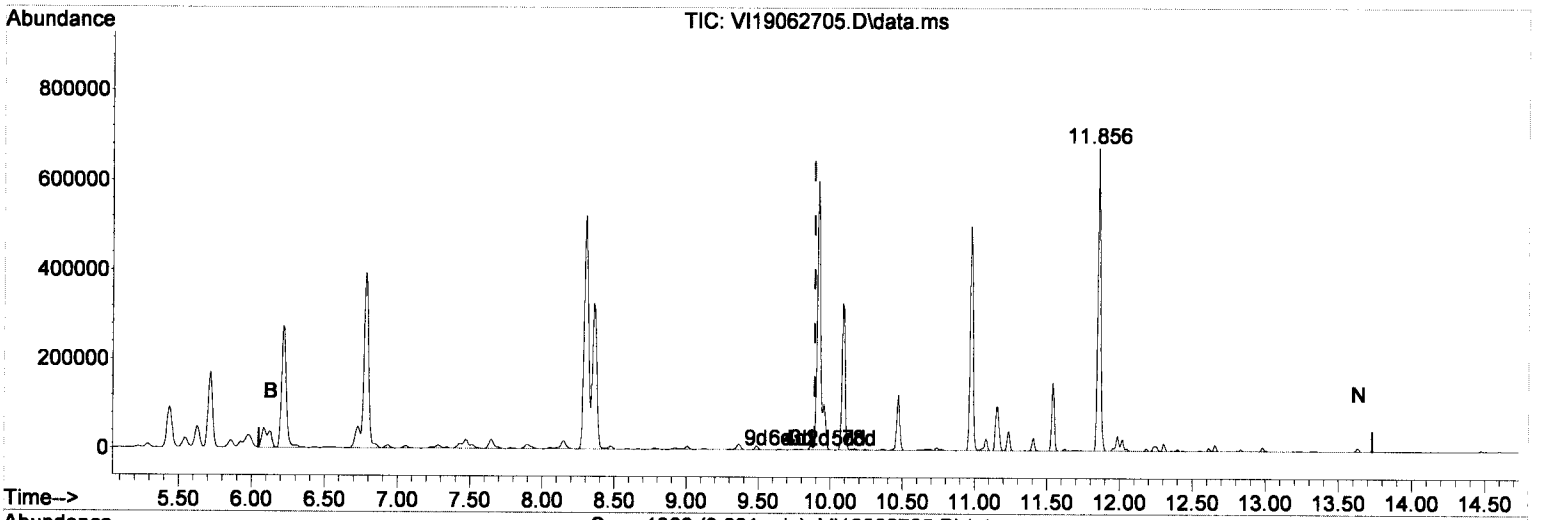
6/27/19 NR

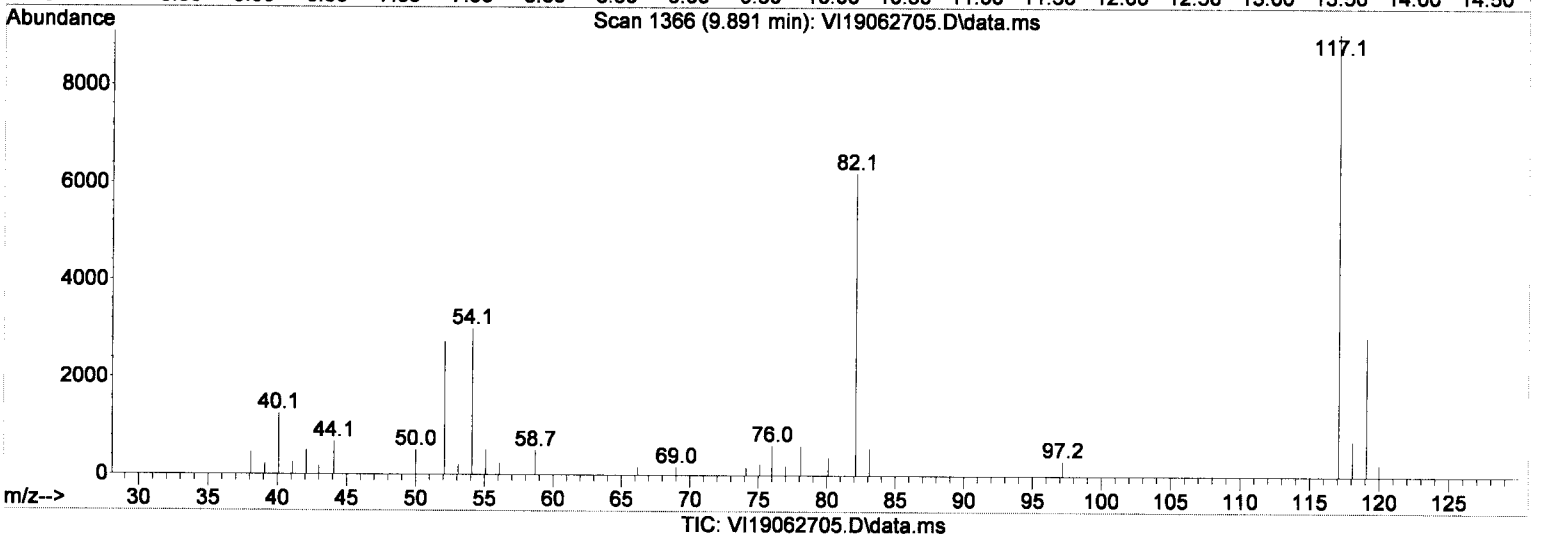
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062705.D
Acq On : 27 Jun 2019 1:32 pm
Operator : TNL
Sample : 9061358-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:39:17 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





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

9.890min (0.000) 485.34 ug/L m

response 3065997

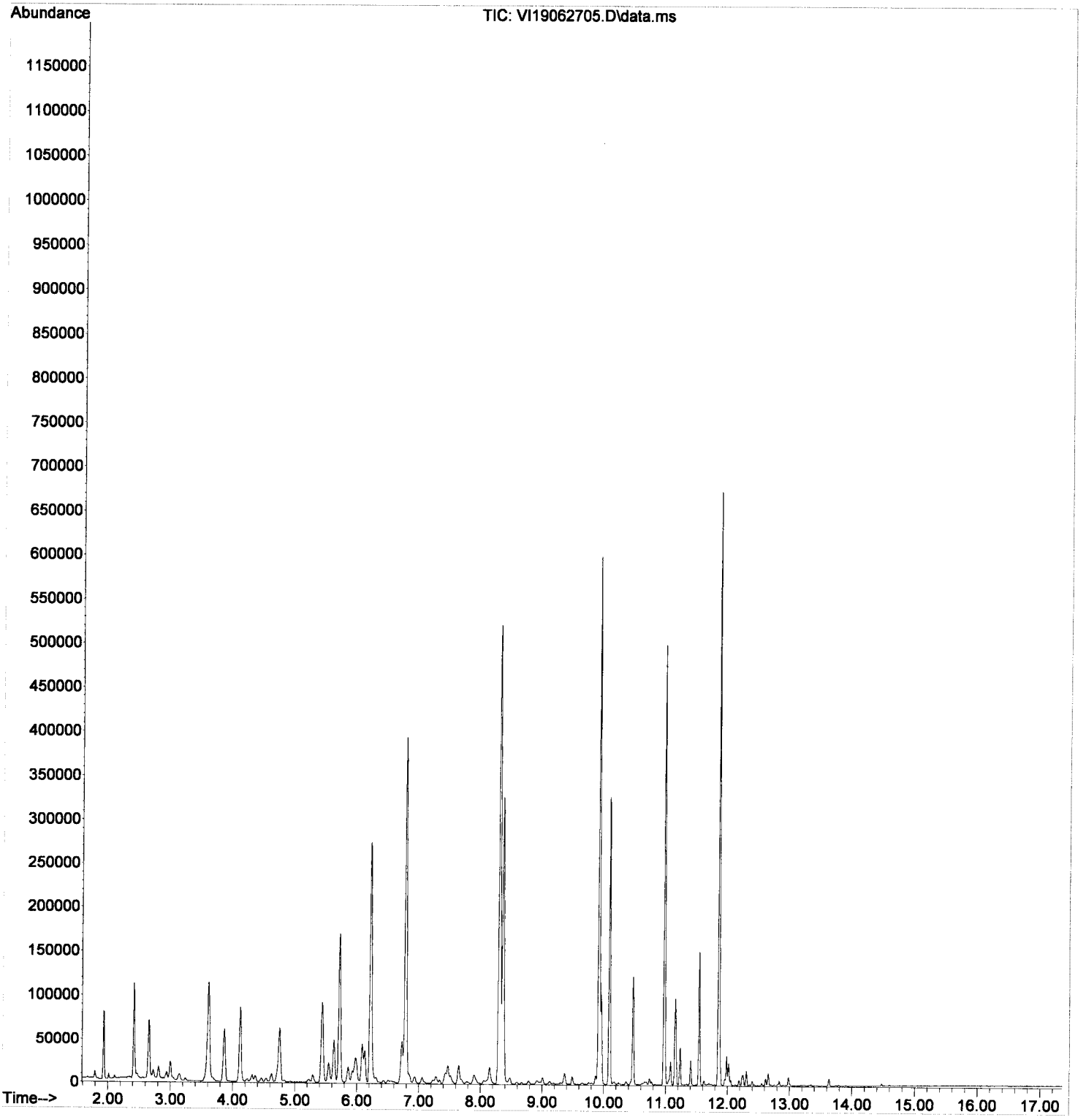
6/28/19 hv

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\2019-06\9F27033\
Data File : VI19062705.D
Acq On : 27 Jun 2019 1:32 pm
Operator : TNL
Sample : 9061358-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:39:17 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062706.D
Acq On : 27 Jun 2019 1:59 pm
Operator : TNL
Sample : 9061358-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:39:20 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	179619	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	307123	50.84	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	99339	47.31	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	367861	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	276992	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	189517	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	-45142m	17.57	ug/L	
5) TPHg (C5-C9)	9.890	TIC	365869m	22.83	ug/L	
6) TPHg (C6-C10)	9.890	TIC	318569m	24.62	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	340887m	18.52	ug/L	

6/27/1924

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062706.D
Acq On : 27 Jun 2019 1:59 pm
Operator : TNL
Sample : 9061358-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 14:29:19 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	179619	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	276992	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	121705	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.724	111	107285	55.41	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	307123	51.37	ug/L	0.00
48) Toluene-d8 (S)	8.304	98	367861	50.83	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.974	174	99339	49.27	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.910	50	382	0.16	ug/L #	47
5) Bromomethane	2.378	96	127	0.12	ug/L #	48
6) Chloroethane	2.488	64	404	0.53	ug/L #	36
14) Methylene Chloride	3.881	84	1721	Below Cal		94
15) Acetone	3.960	43	356	0.41	ug/L #	44

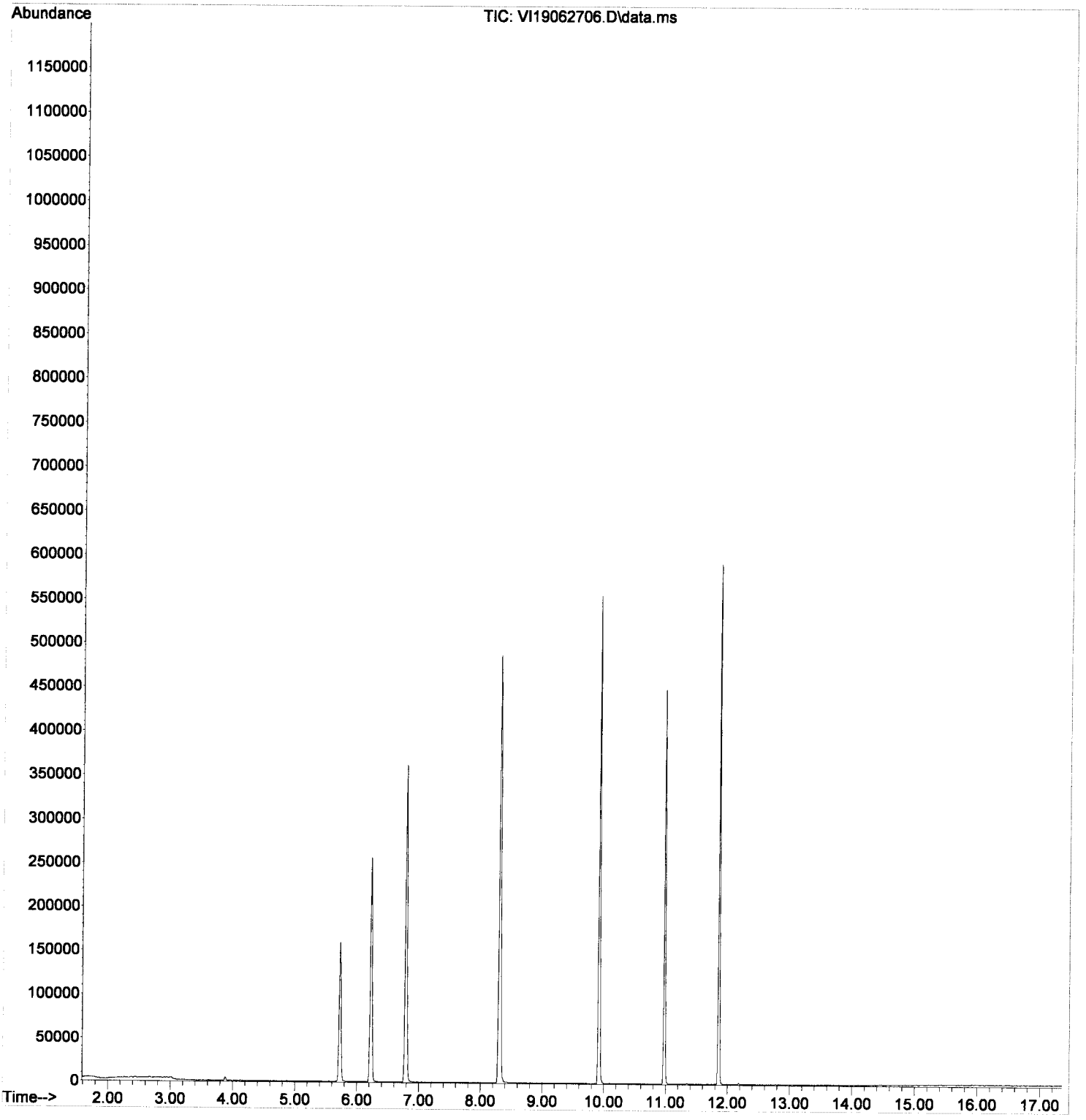
(#) = qualifier out of range (m) = manual integration (+) = signals summed

6/27/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062706.D
Acq On : 27 Jun 2019 1:59 pm
Operator : TNL
Sample : 9061358-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 14:29:19 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:39:29 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

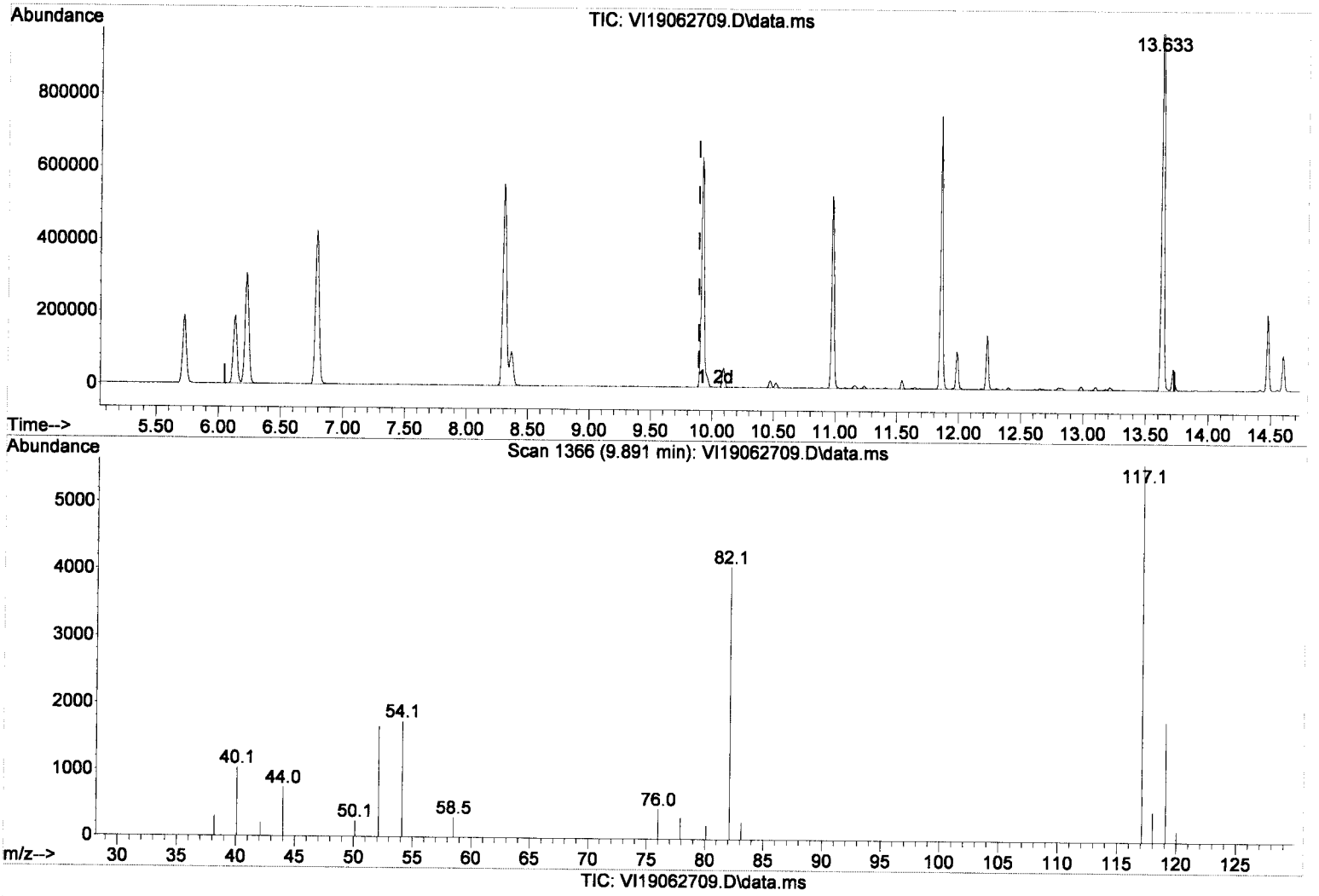
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	230868	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	379536	48.88	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	128409	47.58	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	438459	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	336528	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	244391	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	2870712m	400.10	ug/L	
5) TPHg (C5-C9)	9.890	TIC	1210963m	100.07	ug/L	
6) TPHg (C6-C10)	9.890	TIC	1114705m	111.70	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	1718422m	129.22	ug/L	

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:39:29 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



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

9.890min (0.000) 400.10 ug/L h

response 2870712

6/28/19 MJ

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.36#
0.00	0.00	1.84#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

RB03
10X

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	230868	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	336528	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	156086	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	126284	50.74 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	379536	49.39 ug/L	0.00
48) Toluene-d8 (S)	8.303	98	438459	49.87 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	128409	49.66 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.910	50	257	0.08 ug/L #	47
6) Chloroethane	2.488	64	241	0.25 ug/L #	36
14) Methylene Chloride	3.887	84	2003	Below Cal	97
15) Acetone	3.960	43	4806	4.27 ug/L	94
35) Benzene	6.132	78	186443	19.36 ug/L	98
36) tert-Amyl methyl ether...	6.132	73	3168	0.44 ug/L #R	46
49) Toluene	8.364	91	76901	8.01 ug/L	99
59) Ethylbenzene	9.958	91	18163	1.81 ug/L	96
61) m,p-Xylenes (2)	10.092	91	28478	3.76 ug/L	94
62) o-Xylene	10.469	91	11227	1.45 ug/L	99
63) Styrene	10.518	104	6547	1.11 ug/L	91
65) Isopropylbenzene	10.743	105	1505	0.16 ug/L	82
69) n-Propylbenzene	11.078	91	1984	0.19 ug/L	96
72) 1,3,5-Trimethylbenzene	11.236	105	4029	0.56 ug/L	96
76) tert-Butylbenzene	11.540	91	1135	0.27 ug/L #	64
77) 1,2,4-Trimethylbenzene	11.540	105	11247	1.56 ug/L	94
78) sec-Butylbenzene	11.625	105	1303	0.15 ug/L	85
87) Naphthalene	13.633	128	789354	103.47 ug/L	96

6/27/19 bh

ME ND

ME 1.73 ppb

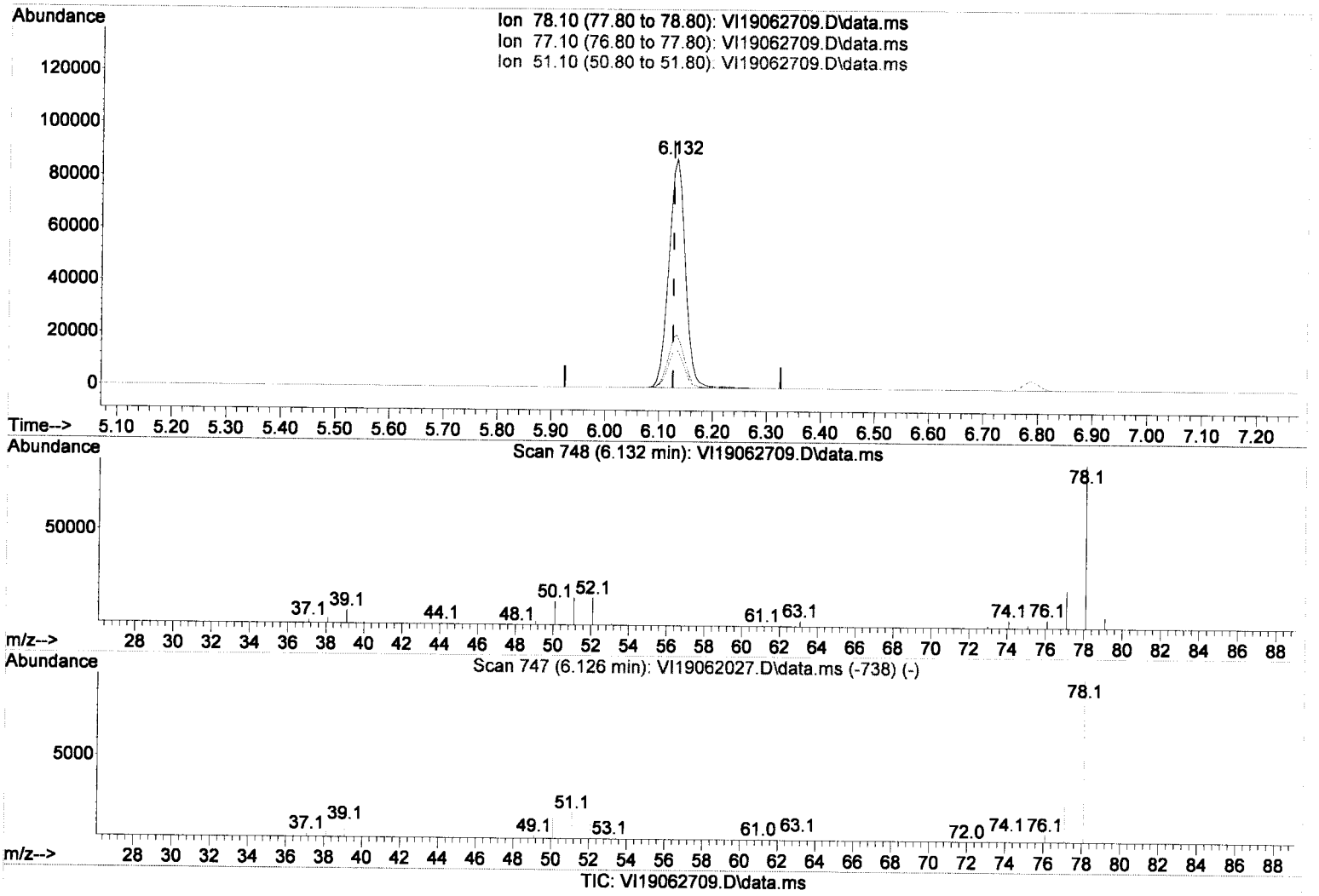
ME ND

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



(35) Benzene

6.132min (+ 0.006) 19.36 ug/L

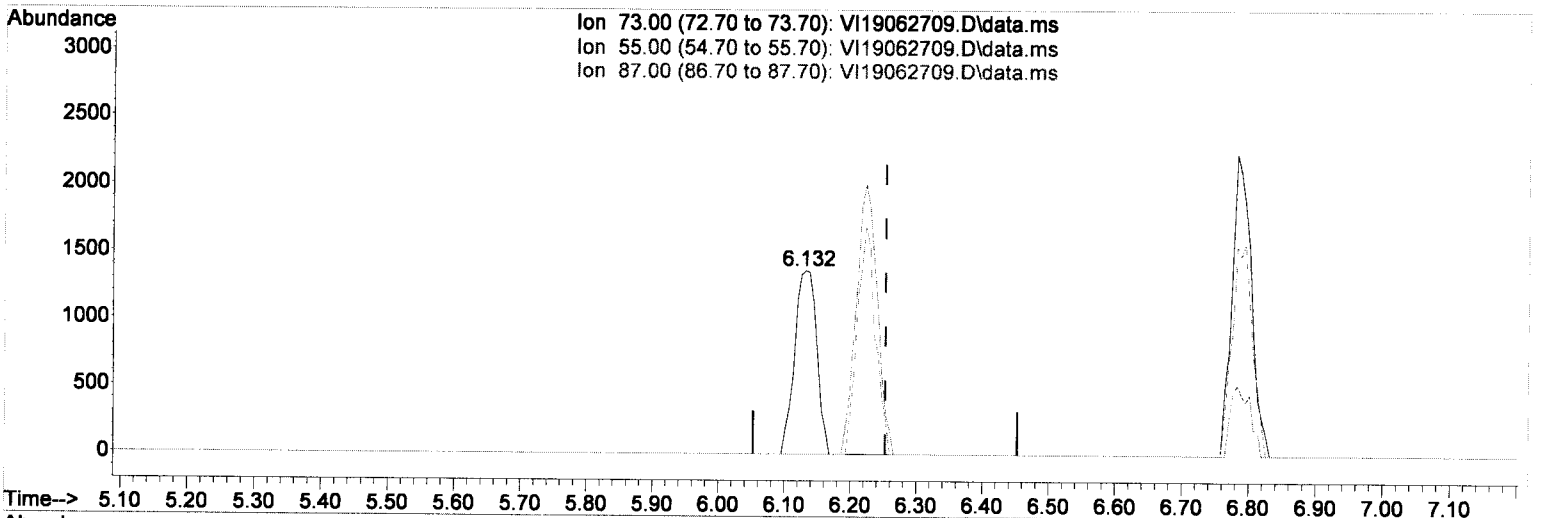
response 186443

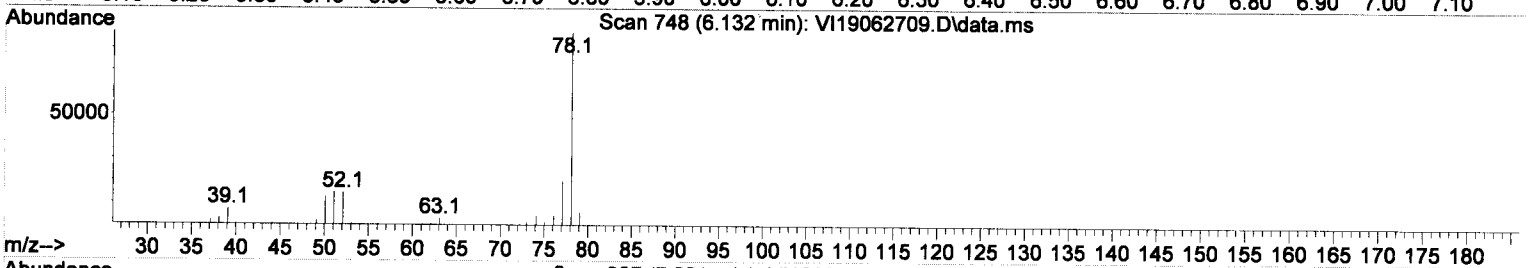
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	23.08
51.10	17.20	16.82
0.00	0.00	0.00

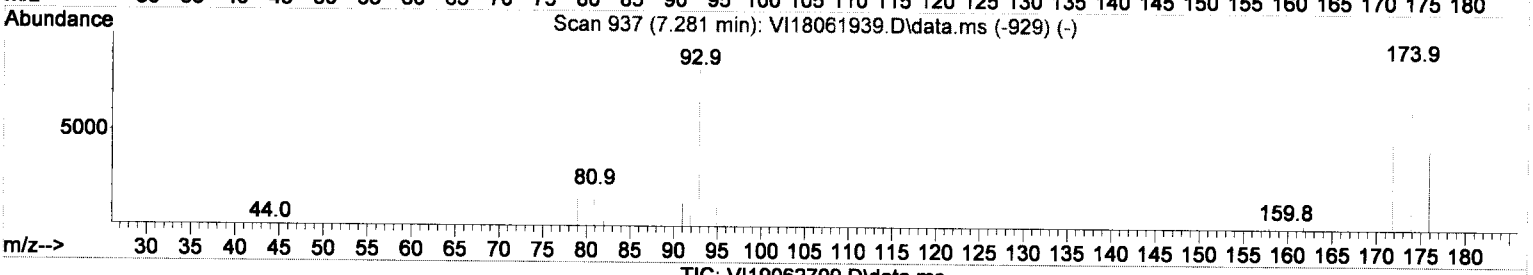
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062709.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.132min (-0.121) 0.44 ug/L

response 3168

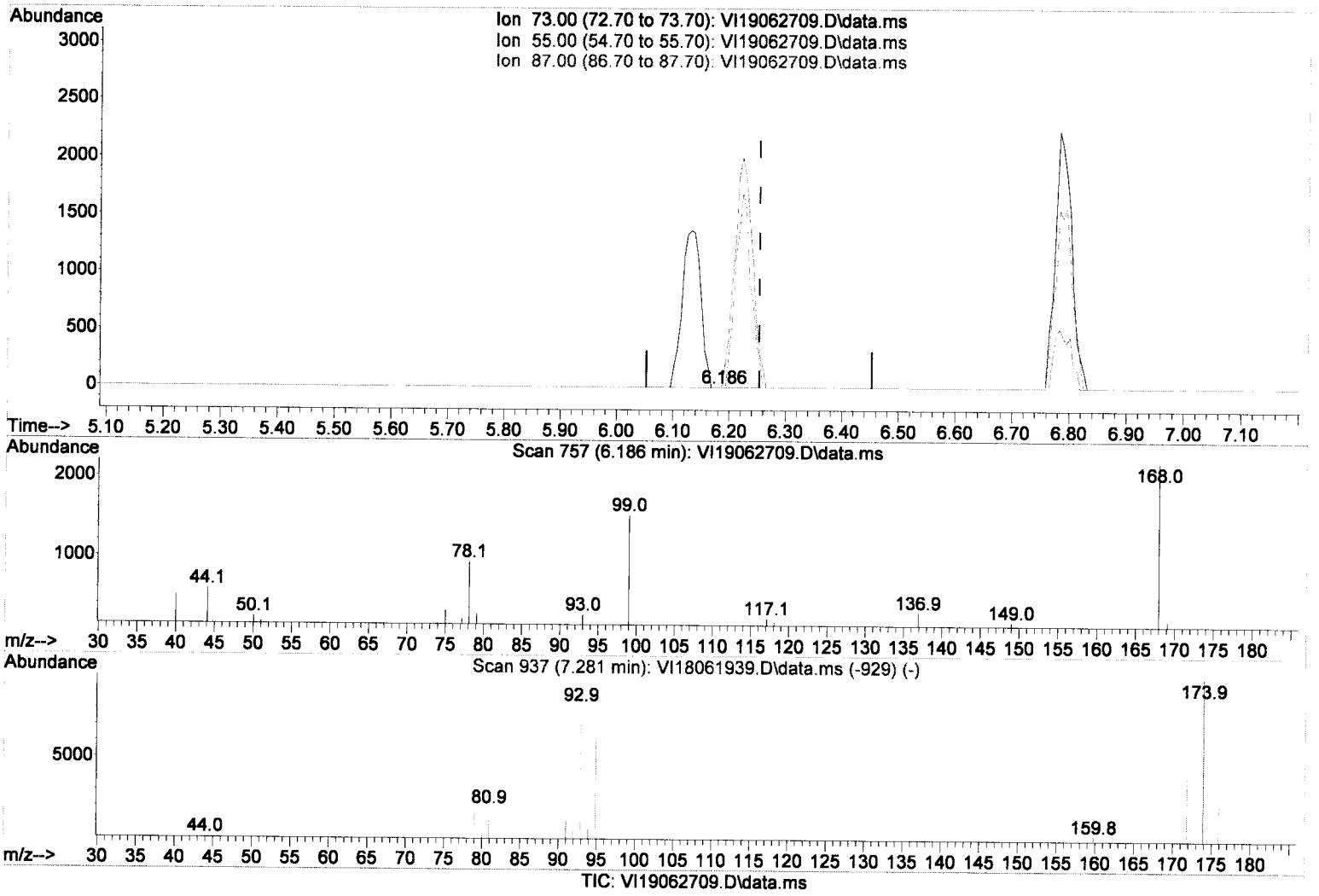
Ion	Exp%	Act%
73.00	100.00	100.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

(ME) 6/28/2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



(36) tert-Amyl methyl ether (TAME)

6.186min (-0.067) 0.00 ug/L m

0 ND 6/28/19 mf

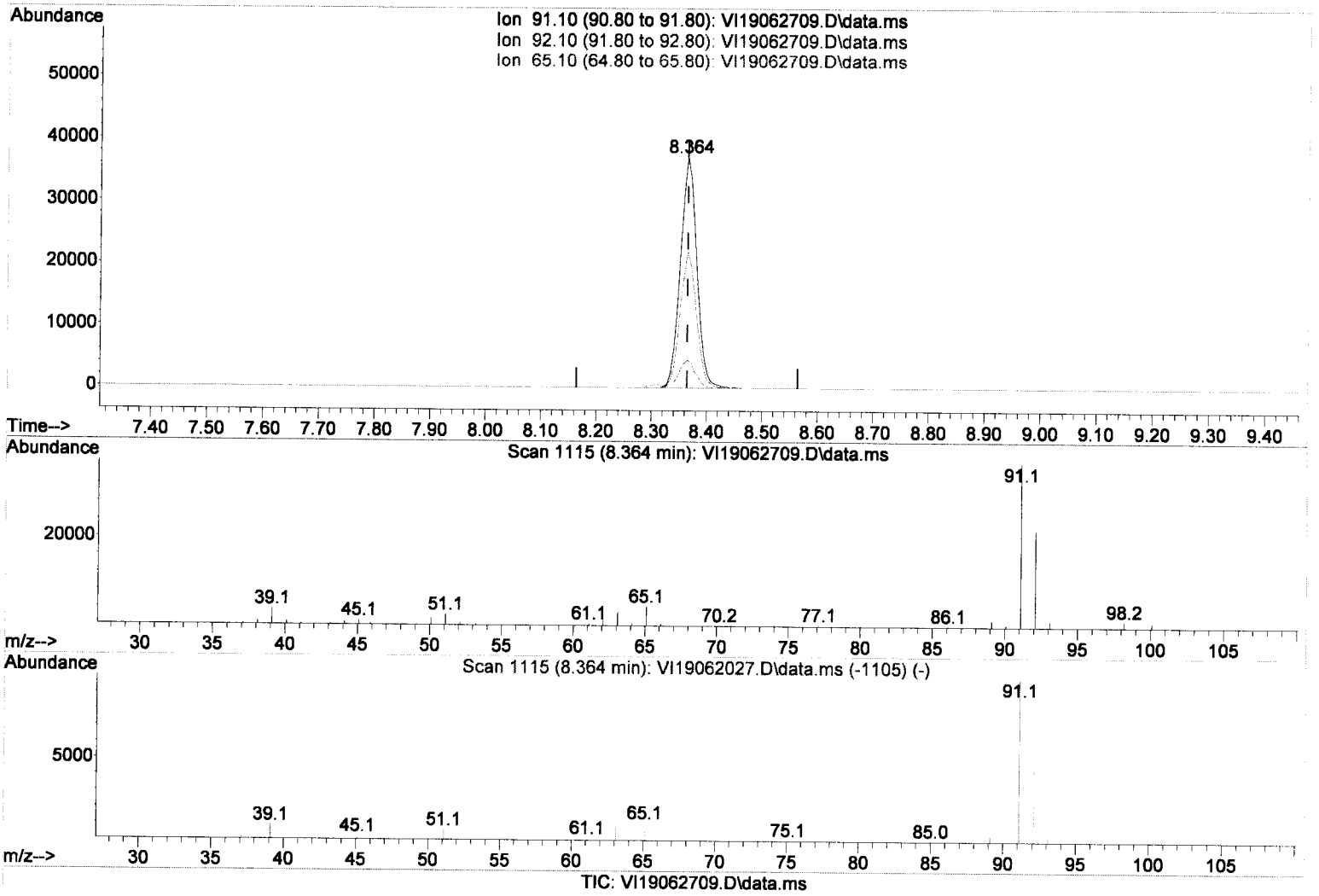
response 0

Ion	Exp%	Act%
73.00	100.00	0.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



(49) Toluene (C)

8.364min (-0.000) 8.01 ug/L

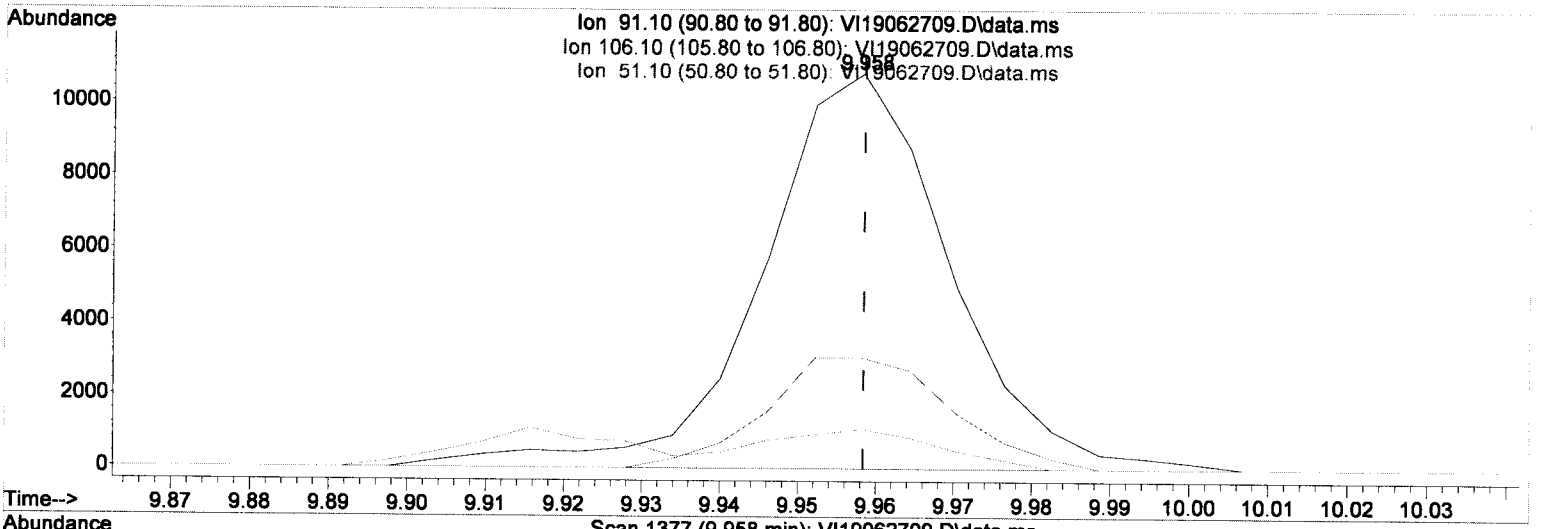
response 76901

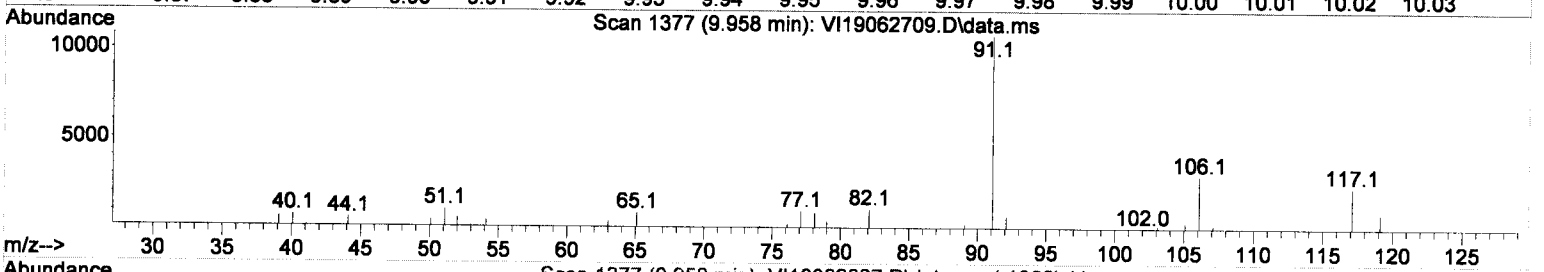
Ion	Exp%	Act%
91.10	100.00	100.00
92.10	59.80	59.28
65.10	10.30	12.08
0.00	0.00	0.00

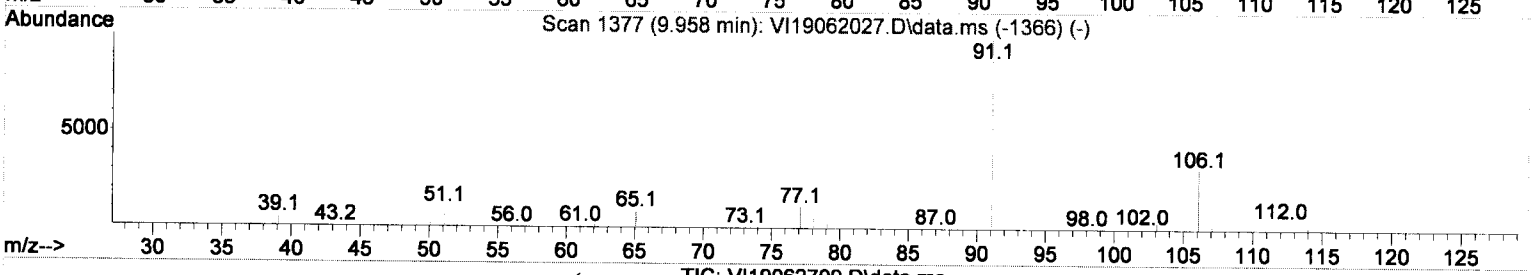
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062709.D\data.ms

(59) Ethylbenzene (C)

9.958min (-0.000) 1.81 ug/L

response 18163

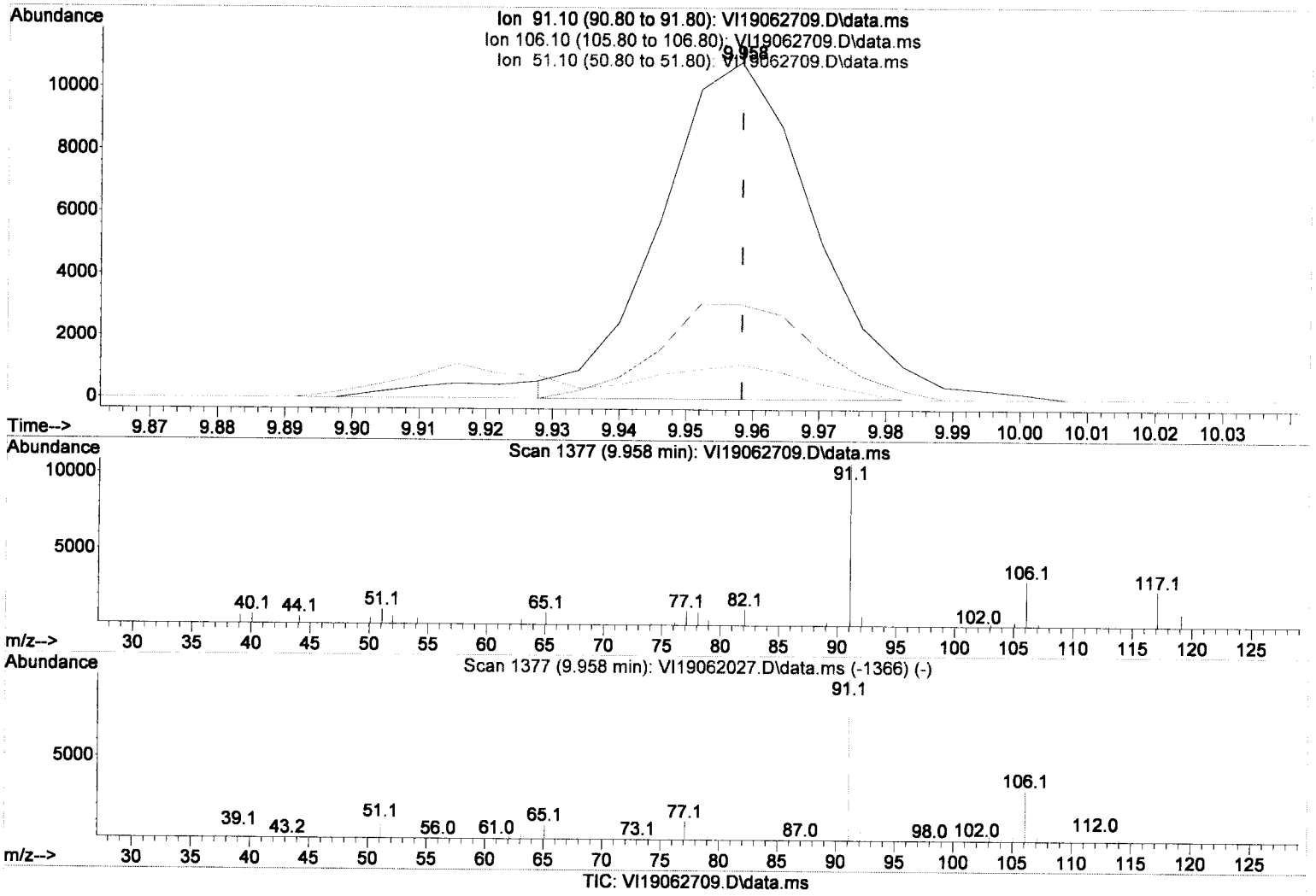
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	28.14
51.10	10.40	10.18
0.00	0.00	0.00

MC 6/28/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062709.D\data.ms

(59) Ethylbenzene (C)

9.958min (-0.000) 1.73 ug/L m 6/28/19

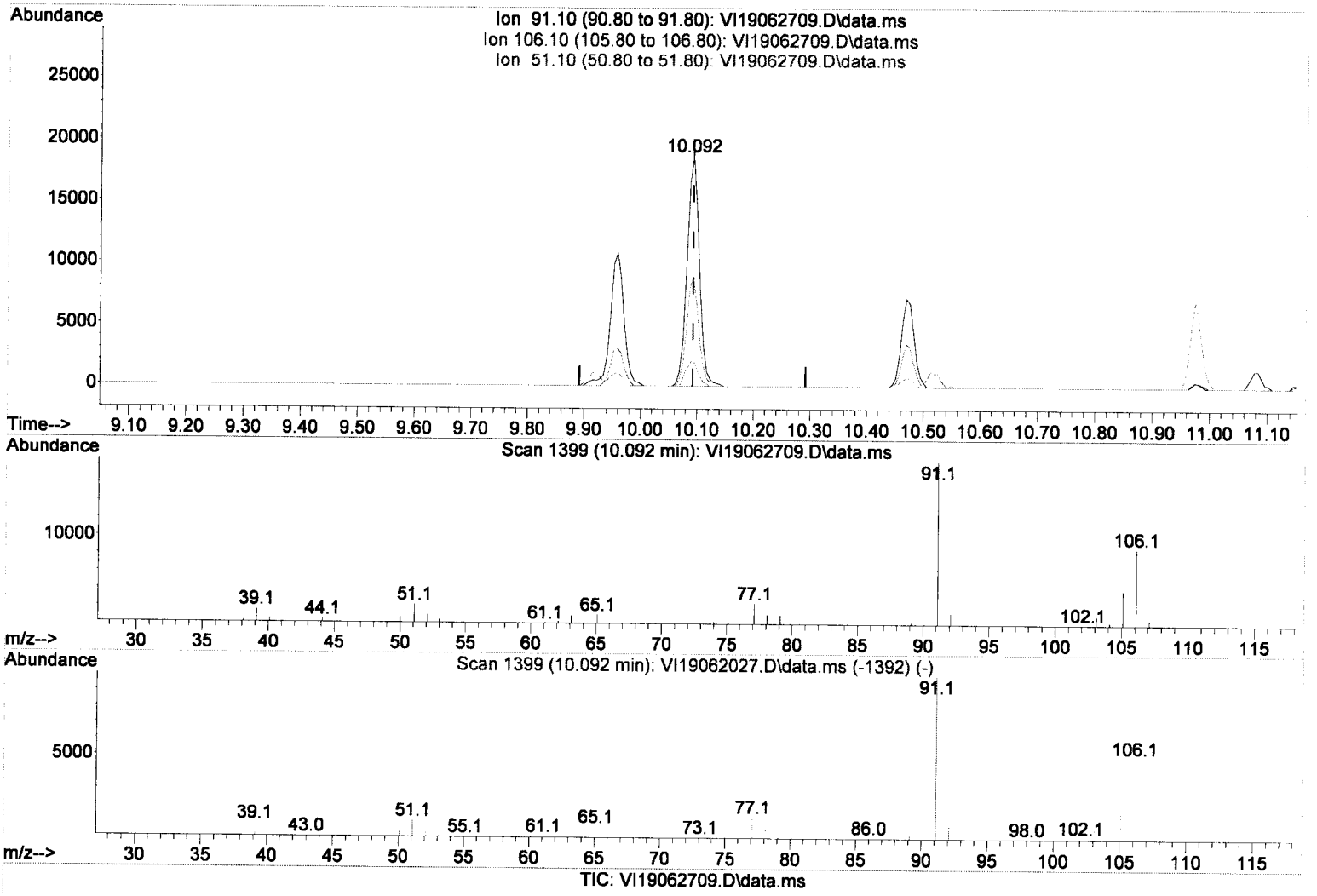
response 17437

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	28.14
51.10	10.40	10.18
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062709.D\data.ms

(61) m,p-Xylenes (2)

10.092min (+ 0.000) 3.76 ug/L

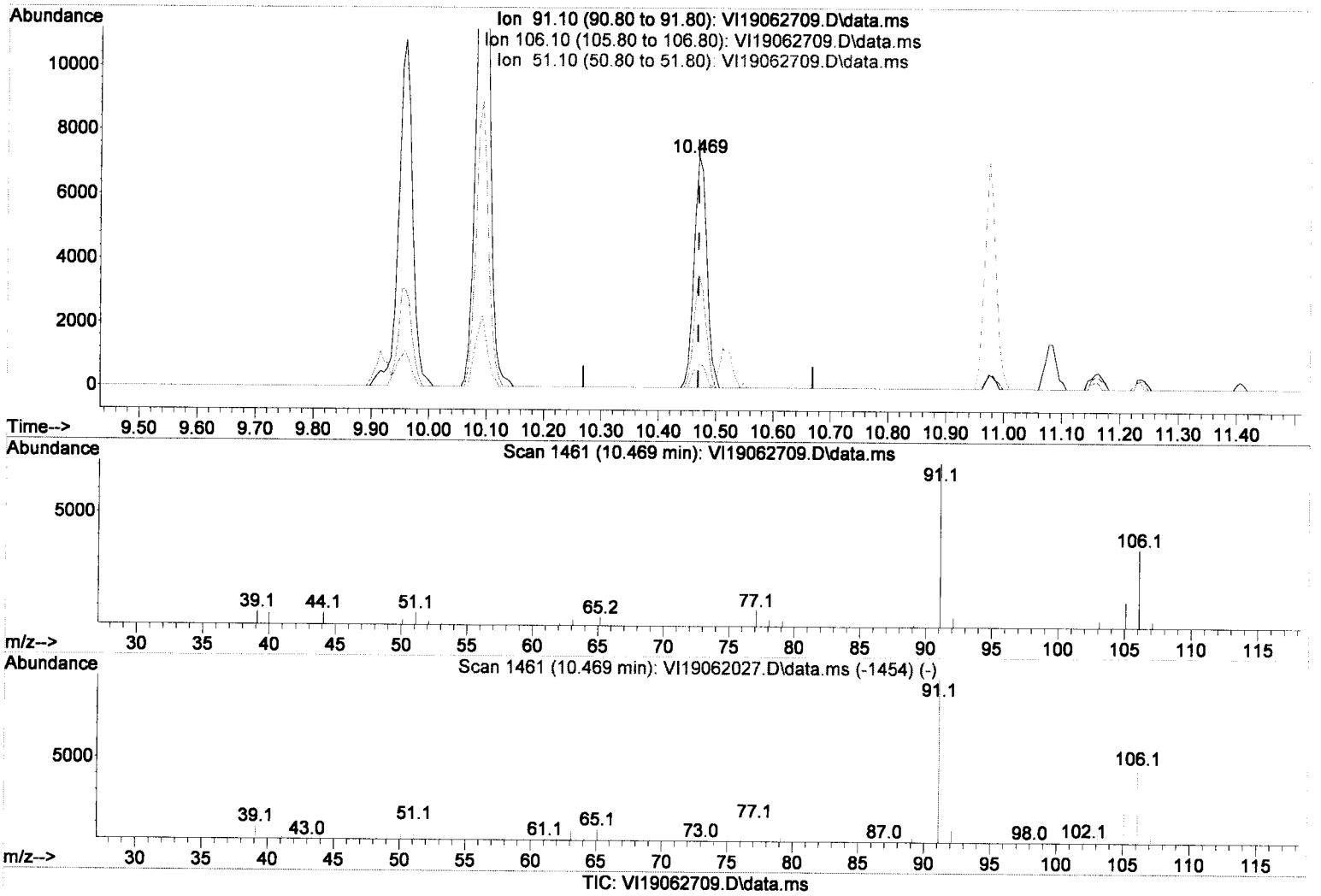
response 28478

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	47.37
51.10	9.80	11.86
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062709.D\data.ms

(62) o-Xylene

10.469min (+ 0.000) 1.45 ug/L

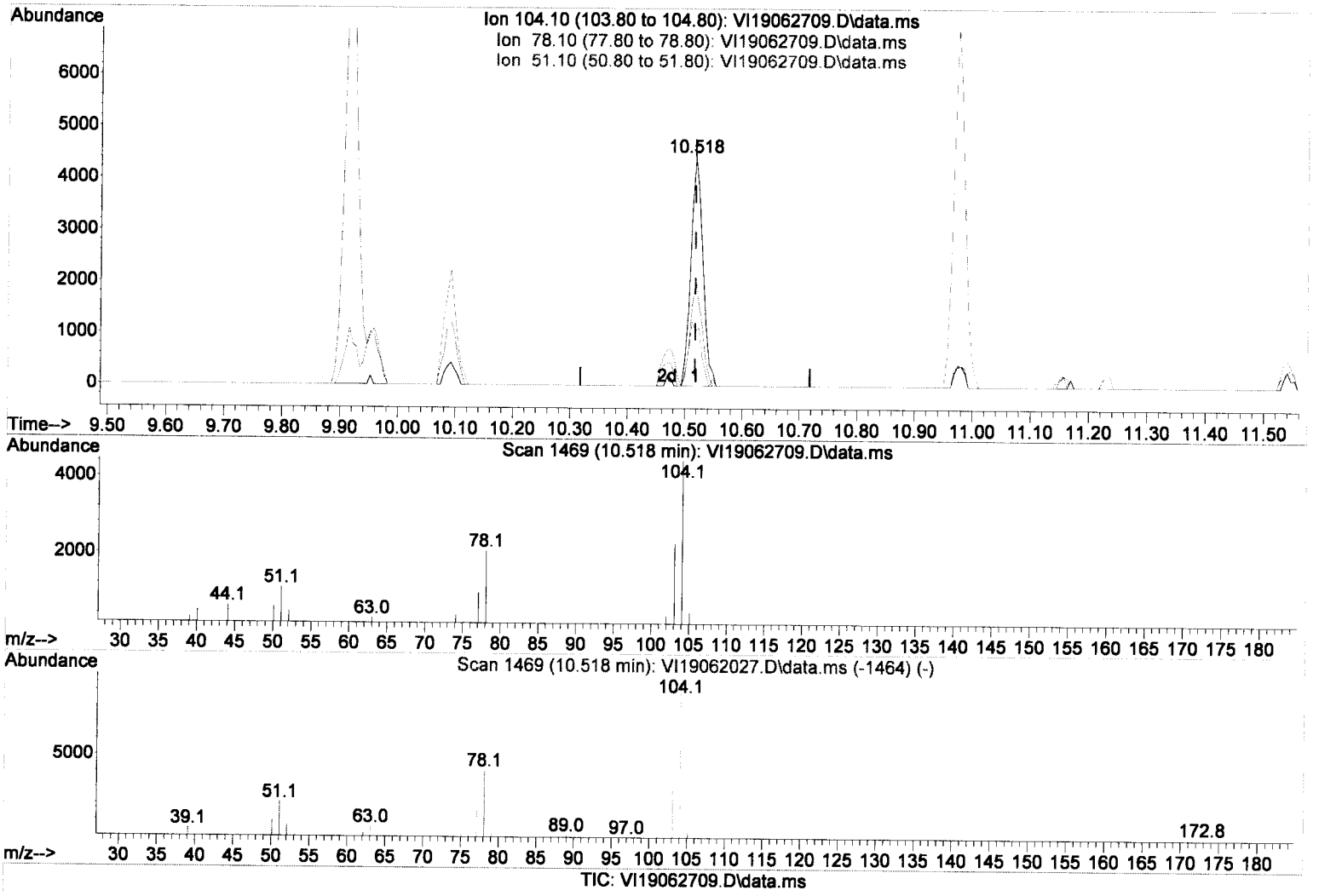
response 11227

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	49.04
51.10	10.20	9.76
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062709.D\data.ms

(63) Styrene

10.518min (-0.000) 1.11 ug/L

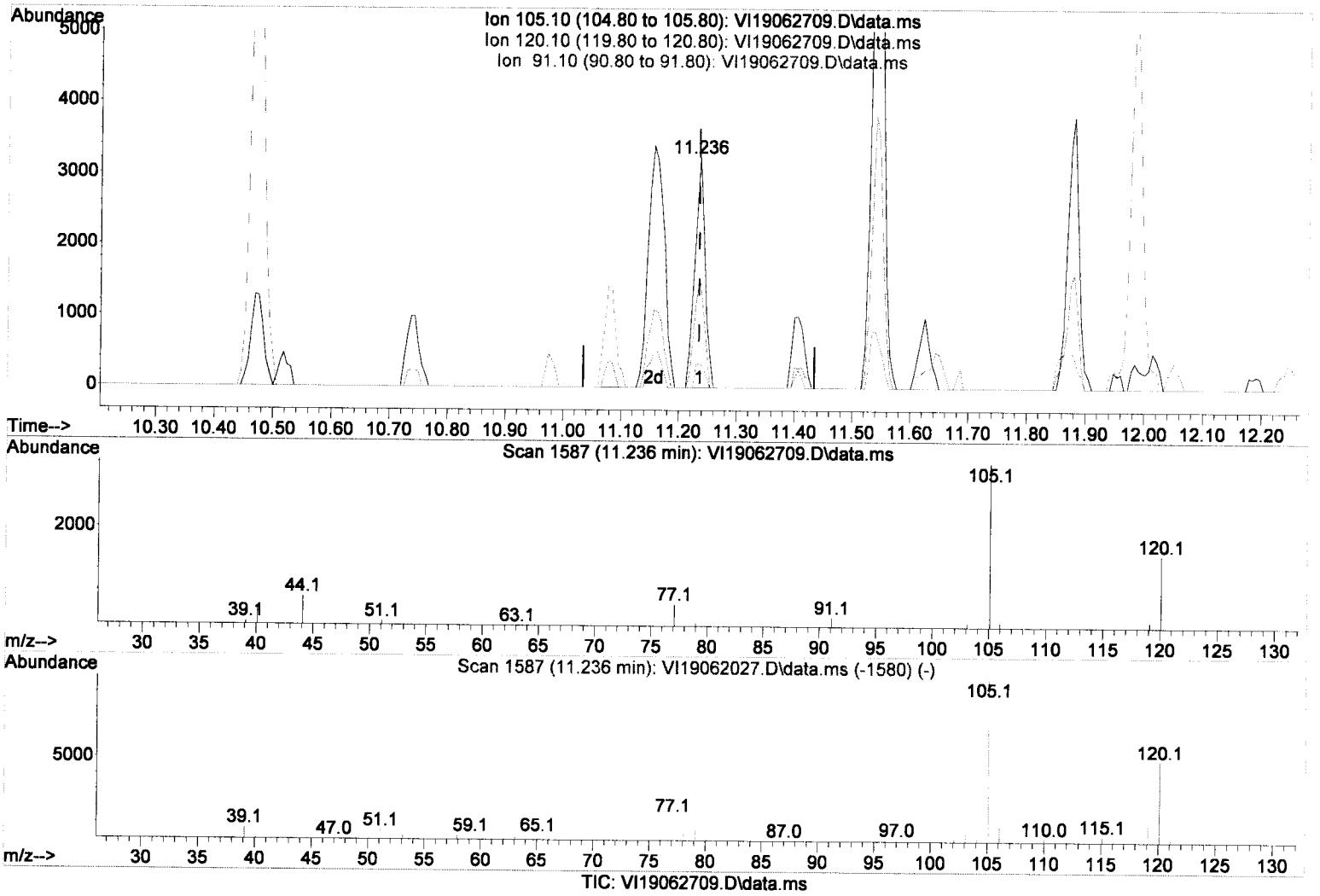
response 6547

Ion	Exp%	Act%
104.10	100.00	100.00
78.10	39.40	46.45
51.10	22.20	24.42
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



(72) 1,3,5-Trimethylbenzene

11.236min (+ 0.001) 0.56 ug/L

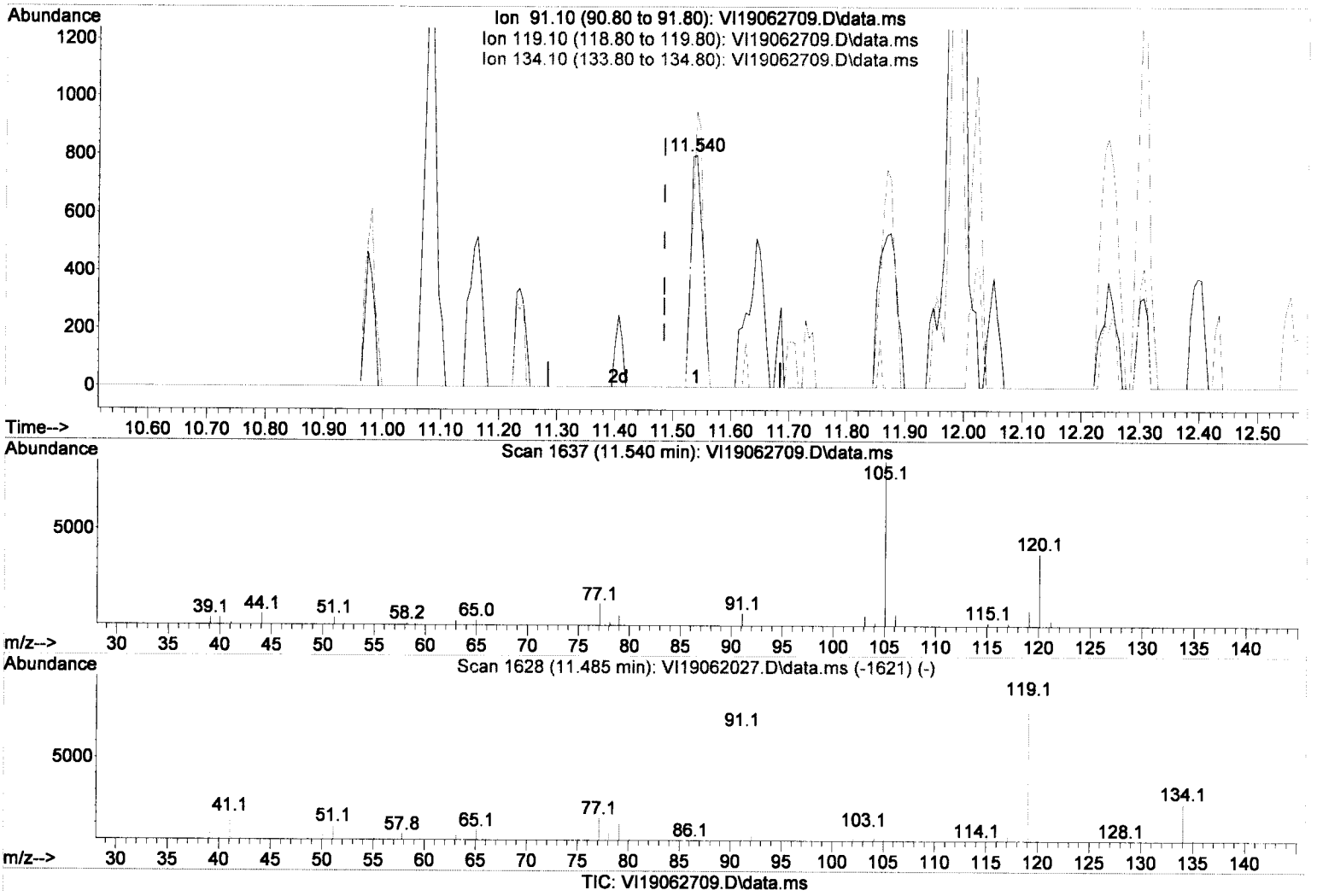
response 4029

Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.90	46.96
91.10	10.40	10.47
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062709.D\data.ms

(76) tert-Butylbenzene

11.540min (+ 0.055) 0.27 ug/L

response 1135

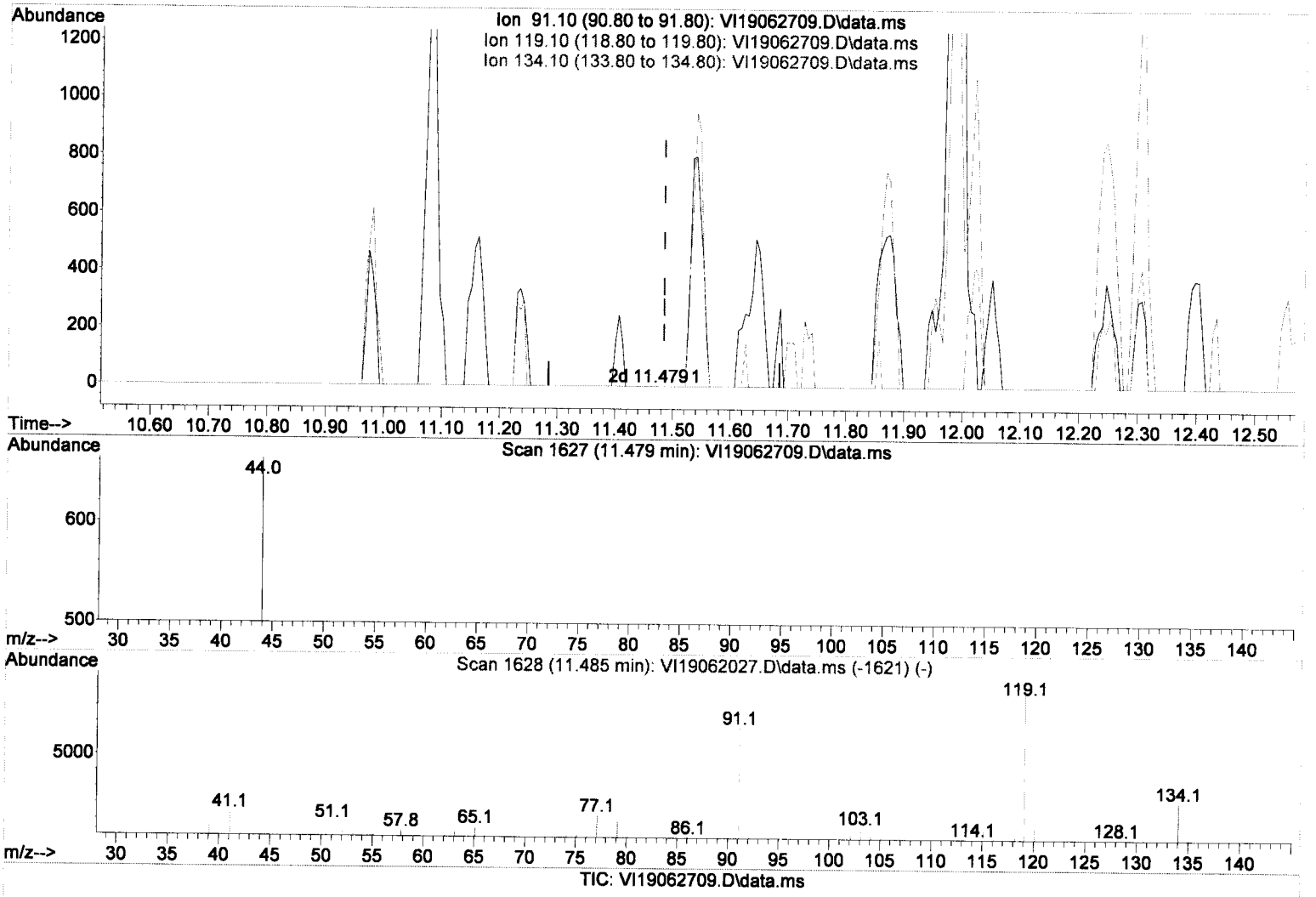
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	118.92#
134.10	38.80	0.00#
0.00	0.00	0.00

ME 6/28/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062709.D\data.ms

(76) tert-Butylbenzene

11.479min (-0.006) 0.00 ug/L m

response 0

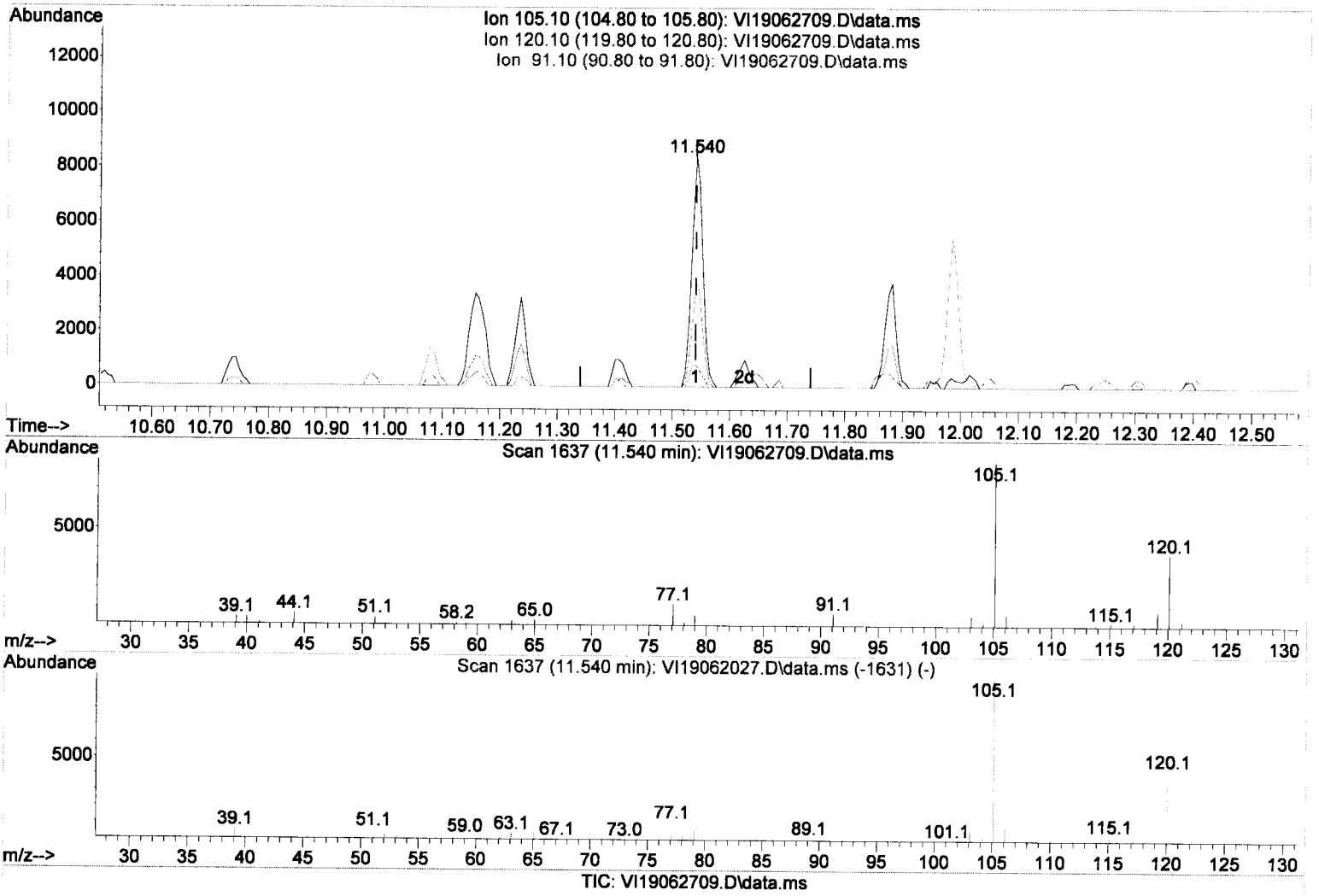
Ion	Exp%	Act%
91.10	100.00	0.00
119.10	156.60	0.00#
134.10	38.80	0.00#
0.00	0.00	0.00

NP 6/28/2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062709.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (-0.000) 1.56 ug/L

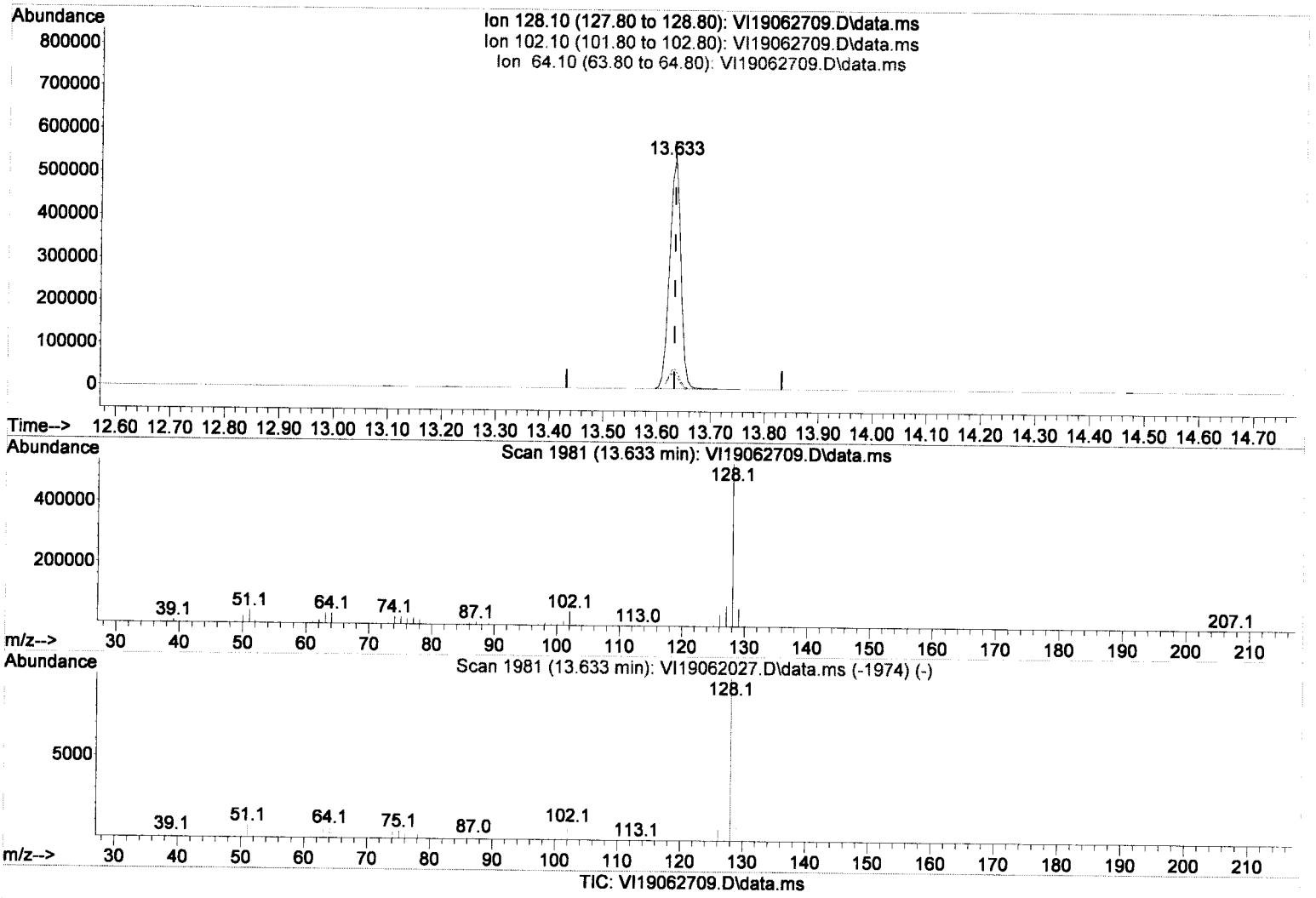
response 11247

Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	45.35
91.10	10.50	9.47
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062709.D\data.ms

(87) Naphthalene

13.633min (+ 0.001) 103.47 ug/L

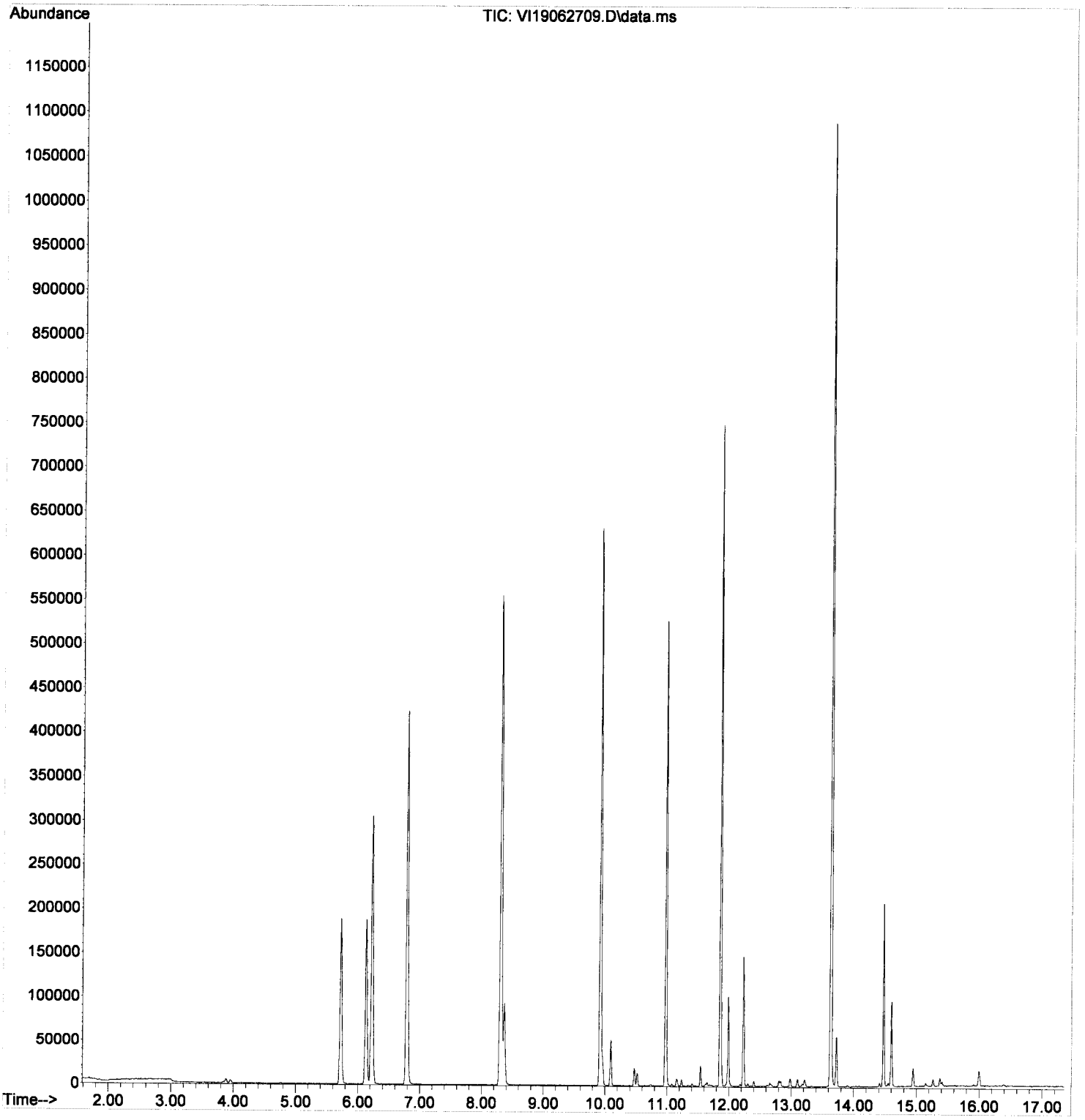
response 789354

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	8.54
64.10	4.70	6.45
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062709.D
Acq On : 27 Jun 2019 3:20 pm
Operator : TNL
Sample : A9F0860-02@10
Misc : 10X 5mL/50mL 8260C/GX
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062711.D
Acq On : 27 Jun 2019 4:14 pm
Operator : TNL
Sample : 9061358-MS1
Misc : 1X 5mL A19F366 (A9F0844-08)
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:28 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	180586	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	282657	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	136954	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	108323	55.64	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	311814	51.88	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	370123	50.12	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	106701	47.03	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	45936	24.53	ug/L		99
3) Chloromethane	1.904	50	57099	23.95	ug/L		95
4) Vinyl Chloride	2.007	62	52984	24.67	ug/L		93
5) Bromomethane	2.372	96	24753	22.32	ug/L		98
6) Chloroethane	2.506	64	23152	30.36	ug/L		77
7) Trichlorofluoromethane	2.670	101	67491	27.99	ug/L		96
8) Ethanol	3.248	45	68608	1552.49	ug/L		88
9) 1,1-Dichloroethene	3.242	61	64346	26.37	ug/L		96
10) Carbon Disulfide	3.260	76	102785	23.37	ug/L		98
11) Freon 113	3.297	101	38720	24.43	ug/L		98
12) Iodomethane	3.394	142	10699	13.72	ug/L		91
13) Acrolein	3.631	56	11918	24.24	ug/L		68
14) Methylene Chloride	3.881	84	40709	21.97	ug/L		94
15) Acetone	3.954	43	46788	53.20	ug/L		97
16) t-1,2-Dichloroethene	4.045	61	59790	25.08	ug/L		95
17) n-Hexane	4.130	86	7944	23.87	ug/L	#	64
18) Methyl-tert-butyl-ether	4.179	73	130498	22.36	ug/L		92
19) tert-Butanol (TBA)	4.301	59	594805	1514.48	ug/L		94
20) Diisopropyl ether (DIPE)	4.574	45	36139	5.93	ug/L		93
21) 1,1-Dichloroethane	4.696	63	78470	24.98	ug/L		96
22) Acrylonitrile	4.757	53	25369	25.40	ug/L		99
23) Ethyl-tert-butyl ether...	4.952	59	32869	5.57	ug/L		96
24) Vinyl Acetate	4.964	43	103300	25.98	ug/L		96
25) c-1,2-Dichloroethene	5.250	61	63453	24.94	ug/L		96
26) 2,2-Dichloropropane	5.359	77	57193	23.31	ug/L		95
27) Bromochloromethane	5.456	130	27951	23.83	ug/L	#	76
28) Chloroform	5.536	83	79487	24.51	ug/L		98
29) Carbon Tetrachloride	5.669	117	50886	25.66	ug/L		95
30) Tetrahydrofuran	5.706	42	24408	23.99	ug/L		93
31) 1,1,1-Trichloroethane	5.742	97	64362	24.90	ug/L		98
33) 1,1-Dichloropropene	5.870	75	60497	24.55	ug/L		98
34) 2-Butanone (MEK)	5.864	43	76555	52.27	ug/L		95
35) Benzene	6.132	78	173165	22.99	ug/L		98
36) tert-Amyl methyl ether...	6.253	73	29020	5.12	ug/L		97
37) 1,2-Dichloroethane (EDC)	6.345	62	64386	25.89	ug/L		90
38) iso-Butyl Alcohol	6.381	43	87318	584.25	ug/L		98
40) Trichloroethene (TCE)	6.752	130	40410	22.17	ug/L		93
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	23588	5.42	ug/L		91
42) Dibromomethane	7.202	93	29406	24.53	ug/L		87
43) 1,2-Dichloropropane	7.318	63	46934	24.33	ug/L		94
44) Bromodichloromethane	7.385	83	55910	25.12	ug/L		95
46) 2-Chloroethyl Vinyl Ether	7.920	63	126	0.08	ug/L		100
47) c-1,3-Dichloropropene	8.097	75	62562	21.55	ug/L		97

6/27/2019

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062711.D
Acq On : 27 Jun 2019 4:14 pm
Operator : TNL
Sample : 9061358-MS1
Misc : 1X 5mL A19F366 (A9F0844-08)
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:28 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

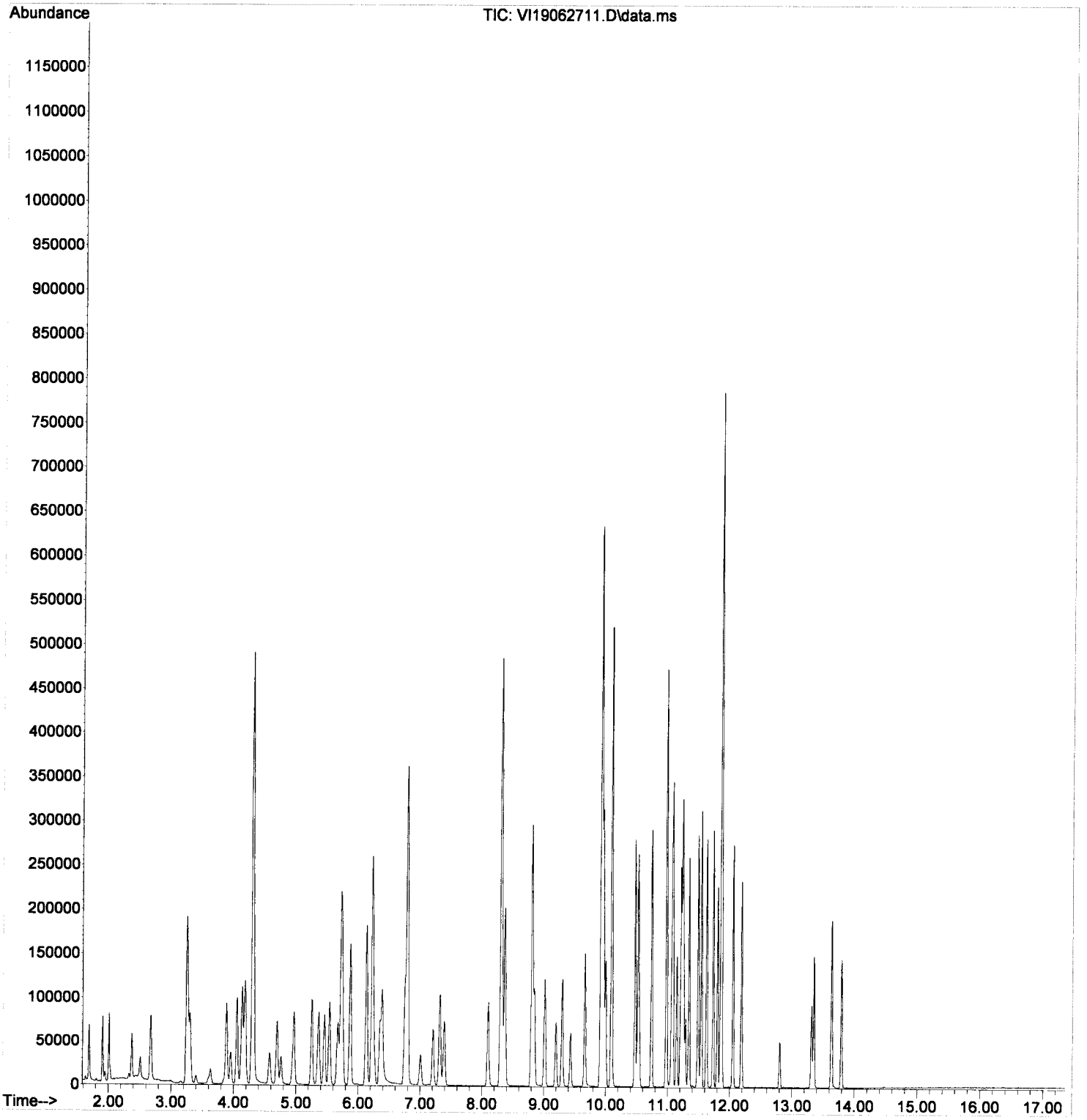
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	169992	21.08	ug/L		97
50) Tetrachloroethene (PCE)	8.802	166	38156	20.83	ug/L		82
51) 4-Methyl-2-Pentanone (...	8.802	43	140765	49.79	ug/L		94
52) t-1,3-Dichloropropene	8.845	75	58728	22.09	ug/L		93
53) 1,1,2-Trichloroethane	9.009	97	40282	22.65	ug/L		98
54) Dibromochloromethane	9.192	129	39435	23.64	ug/L		97
55) 1,3-Dichloropropane	9.295	76	72334	22.82	ug/L		98
56) 1,2-Dibromoethane (EDB)	9.429	107	42865	22.88	ug/L		92
57) 2-Hexanone	9.660	43	101911	48.96	ug/L		97
58) Chlorobenzene	9.934	112	106700	21.76	ug/L		93
59) Ethylbenzene	9.958	91	188957	22.38	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.995	131	35909	23.99	ug/L		98
61) m,p-Xylenes (2)	10.092	91	284862	44.78	ug/L		96
62) o-Xylene	10.469	91	142397	21.96	ug/L		95
63) Styrene	10.518	104	107085	21.62	ug/L		87
64) Bromoform	10.542	173	26202	23.78	ug/L		95
65) Isopropylbenzene	10.737	105	169025	22.01	ug/L		98
68) Bromobenzene	11.059	156	43552	20.75	ug/L	#	70
69) n-Propylbenzene	11.078	91	202864	21.76	ug/L		96
70) 1,1,2,2-Tetrachloroethane	11.145	85	42150	23.97	ug/L		93
71) 2-Chlorotoluene	11.212	126	39281	20.86	ug/L		89
72) 1,3,5-Trimethylbenzene	11.236	105	135162	21.45	ug/L		96
73) 1,2,3-Trichloropropane	11.254	110	18770	23.25	ug/L		95
74) t-1,4-Dichloro-2-butene	11.285	53	15274	22.41	ug/L	#	65
75) 4-Chlorotoluene	11.339	91	127765	21.89	ug/L		91
76) tert-Butylbenzene	11.485	91	80369	22.13	ug/L		85
77) 1,2,4-Trimethylbenzene	11.540	105	139900	22.15	ug/L		93
78) sec-Butylbenzene	11.625	105	165913	21.23	ug/L		99
79) 4-Isopropyltoluene	11.729	119	134287	21.78	ug/L		97
80) 1,3-Dichlorobenzene	11.802	146	77556	21.11	ug/L		97
81) 1,4-Dichlorobenzene	11.869	146	77296	20.38	ug/L		96
82) n-Butylbenzene	12.051	91	125696	22.22	ug/L		95
83) 1,2-Dichlorobenzene	12.185	146	74746	21.01	ug/L		97
84) 1,2-Dibromo-3-Chloropr...	12.805	157	11880	21.39	ug/L		77
85) Hexachlorobutadiene	13.310	223	10114	19.72	ug/L		94
86) 1,2,4-Trichlorobenzene	13.347	180	40850	19.96	ug/L		95
87) Naphthalene	13.633	128	135643	20.26	ug/L		95
88) 1,2,3-Trichlorobenzene	13.791	180	39176	19.72	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062711.D
Acq On : 27 Jun 2019 4:14 pm
Operator : TNL
Sample : 9061358-MS1
Misc : 1X 5mL A19F366 (A9F0844-08)
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:28 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062713.D
Acq On : 27 Jun 2019 5:08 pm
Operator : TNL
Sample : A9F0860-01
Misc : 1X 5mL 8260C/GX TB
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:39:41 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	173138	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	302974	52.03	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	97801	48.32	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	358041	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	267351	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	181851	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	6550m	26.31	ug/L	
5) TPHg (C5-C9)	9.890	TIC	335772m	20.48	ug/L	
6) TPHg (C6-C10)	9.890	TIC	312240m	25.47	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	360853m	22.24	ug/L	

6/27/19 KM

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062713.D
Acq On : 27 Jun 2019 5:08 pm
Operator : TNL
Sample : A9F0860-01
Misc : 1X 5mL 8260C/GX TB
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:34 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	173138	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	267351	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	117086	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	104866	56.19 ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	302974	52.58 ug/L		0.00
48) Toluene-d8 (S)	8.303	98	357283	51.15 ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	97801	50.42 ug/L		0.00
Target Compounds						Qvalue
3) Chloromethane	1.897	50	297	0.13 ug/L	#	47
5) Bromomethane	2.366	96	138	0.13 ug/L		88
6) Chloroethane	2.512	64	692	0.95 ug/L	#	36
14) Methylene Chloride	3.881	84	1529	Below Cal		93
15) Acetone	3.948	43	767	0.91 ug/L	#	44
87) Naphthalene	13.633	128	647	0.11 ug/L		81

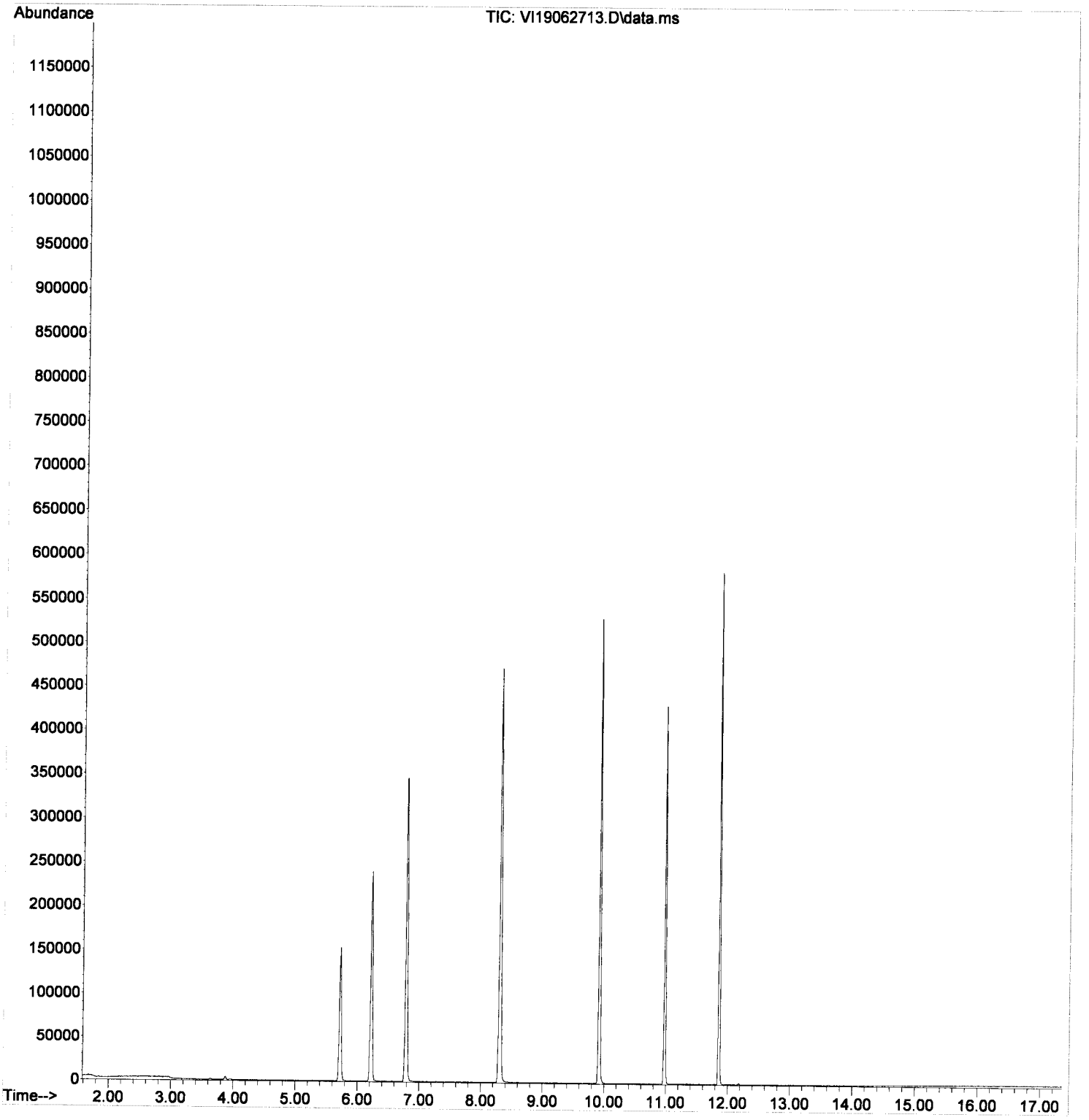
(#) = qualifier out of range (m) = manual integration (+) = signals summed

6/27/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F27033\
Data File : VI19062713.D
Acq On : 27 Jun 2019 5:08 pm
Operator : TNL
Sample : A9F0860-01
Misc : 1X 5mL 8260C/GX TB
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 27 22:38:34 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



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

Batch 9061478

Sequence 9F28013 (A9F0860-02RE1)

PREPARATION BENCH SHEET

BATCH #: 9061478 (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*
9061478-BLK1		QC	06/28/19 09:17	5	5							
9061478-BS1		QC	06/28/19 09:17	5	5	A19F366		5				
9061478-BS2		QC	06/28/19 09:17	5	5	A19F151		5				
A9F0384-05RE2	D	8260C Full List	06/28/19 10:51	5	5					GS-061219-05	500X (CONFIRM) Out of hold	<2
A9F0820-01RE1	B	624 Volatiles	06/28/19 10:51	5	5					Wastewater 7/2/19	1X RR-01 OK 7/2	<2
A9F0844-02RE1	B	8260C Full List	06/28/19 10:51	5	5					B-1-GW	1X RR-01	<2
A9F0844-02RE1	B	NWTPH-Gx	06/28/19 10:51	5	5					B-1-GW	1X RR-01	<2
A9F0860-02RE1	B	624 Volatiles	06/28/19 10:51	5	5					2708-190626-MULT802-109	Added for BatchQC in: 9061478	<2
A9F0860-02RE1	B	8260C Full List	06/28/19 10:51	5	5					2708-190626-MULT802-109	10X (RR03)	<2
A9F0860-02RE1	B	NWTPH-Gx	06/28/19 10:51	5	5					2708-190626-MULT802-109	10X (RR03)	<2
9061478-DUP1		QC	06/28/19 10:51	5	5		A9F0860-02RE1					<2
9061478-MS1		QC	06/28/19 10:51	5	5	A19F366	A9F0860-02RE1	50			@10X	<2
A9F0900-03	A	624 Volatiles	06/28/19 13:00	5	5					Sandburg upstairs women's restr	STUDY	<2
A9F0900-03RE1	B	624 Volatiles	06/28/19 13:00	5	5					Sandburg upstairs women's restr	STUDY HS	<2
A9F0900-03RE2	C	624 Volatiles	06/28/19 13:00	5	5					Sandburg upstairs women's restr	STUDY	<2

*pH <2 verified MH 7/2/19

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description

Analyte Spike(s)

Std ID	Exp. Date	Description
A19F151	12/10/19	Prim NWTPH-Gx Spike (500 ug/mL)
A19F366	07/14/19	8260 Cal. Std. B VOCR+OXY Spike (20-40ug/r

Surrogate(s)

Std ID	Exp. Date	Description

GCMS9

Add on A9F0384-05RE2 Confirmation only

7/2/19 hri
Prepared By: Date

MH 7/2/19
Reviewed By: Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9F28013	Instrument:	VOA-GCMS9
Date:	06/28/19 07:13	Calibration:	A9F2102

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9F28013-IBL1	Water	QC	QC			A19C125	
2	9F28013-TUN1	Water	QC	QC			A19C125	
3	9F28013-CCV1	Water	QC	QC			A19C125	
4	9061478-BS1	Water	QC	QC		9061478	A19C125	
5	9F28013-CCV2	Water	QC	QC			A19C125	
6	9061478-BS2	Water	QC	QC		9061478	A19C125	
7	9061478-BLK1	Water	QC	QC		9061478	A19C125	
8	A9F0820-01RE1	Water	624 Volatiles		07/10/19	9061478	A19C125	
9	A9F0844-02RE1	Water	8260C Full List		07/08/19	9061478	A19C125	
"	"	Water	NWTPH-Gx	"	07/08/19	9061478	A19C125	
10	9F28013-IBL2	Water	QC	QC			A19C125	
11	9F28013-IBL3	Water	QC	QC			A19C125	
12	9F28013-IBL4	Water	QC	QC			A19C125	
13	A9F0860-02RE1	Water	8260C Full List	Hahn and Associates	06/28/19	9061478	A19C125	
"	"	Water	NWTPH-Gx	"	07/05/19	9061478	A19C125	
"	"	Water	624 Volatiles	(QC Source)		9061478	A19C125	
14	9061478-DUP1	Water	QC	QC		9061478	A19C125	
15	9061478-MS1	Water	QC	QC		9061478	A19C125	
16	9F28013-IBL5	Water	QC	QC			A19C125	
17	A9F0900-03	Water	624 Volatiles		07/12/19	9061478	A19C125	
18	A9F0900-03RE1	Water	624 Volatiles		07/12/19	9061478	A19C125	
19	A9F0900-03RE2	Water	624 Volatiles		07/12/19	9061478	A19C125	
20	A9F0384-05RE2	Water	8260C Full List		06/25/19	9061478	A19C125	
21	9F28013-IBL6	Water	QC	QC			A19C125	
22	9F28013-IBL7	Water	QC	QC			A19C125	
23	9F28013-IBL8	Water	QC	QC			A19C125	

Add on A9F0384-05RE2 (Confirmation)

Data Entered By: [signature] 7/02/19

Comments:

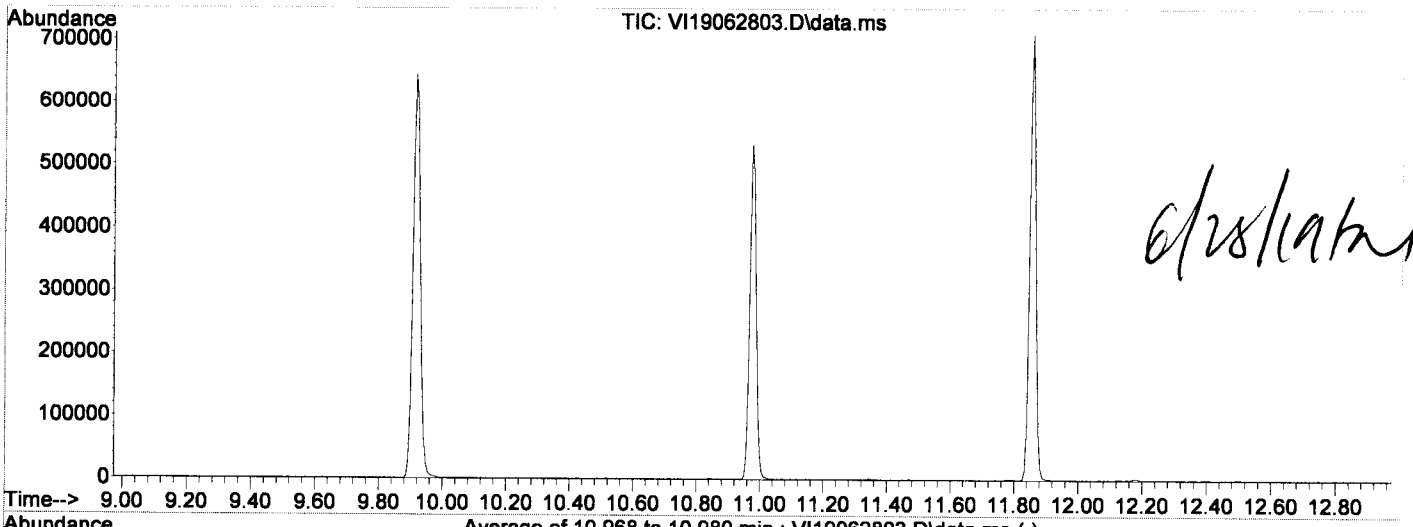
Data Reviewed By: [signature] 7/2/19

BFB

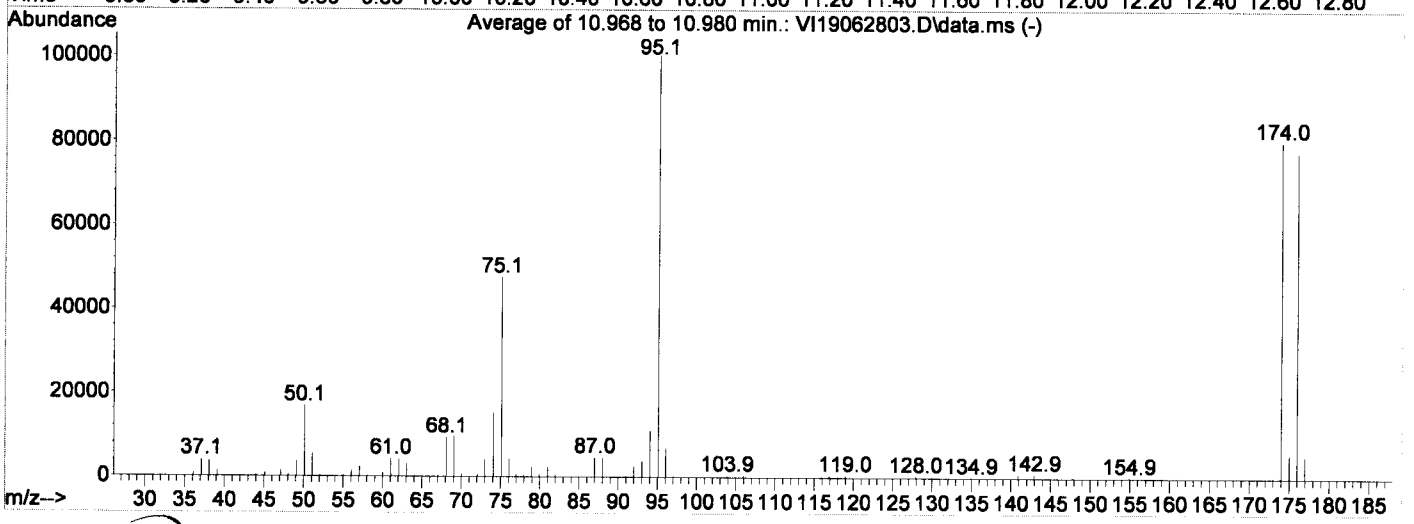
Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062803.D
Acq On : 28 Jun 2019 9:17 am
Operator : TNL
Sample : 9F28013-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019



6/28/2019



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

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	16.8	16830	PASS
75	95	30	60	47.4	47555	PASS
95	95	100	100	100.0	100245	PASS
96	95	5	9	6.8	6815	PASS
173	174	0.00	2	0.4	286	PASS
174	95	50	200	80.0	80160	PASS
175	174	5	9	7.1	5689	PASS
176	174	95	101	96.8	77573	PASS
177	176	5	9	6.6	5131	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062803.D
Acq On : 28 Jun 2019 9:17 am
Operator : TNL
Sample : 9F28013-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:15 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	244373	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	357808	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	159085	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.718	111	134695	51.13 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	407619	50.12 ug/L	0.00
48) Toluene-d8 (S)	8.304	98	478730	51.21 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	134593	51.07 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.898	50	322	0.10 ug/L	71
5) Bromomethane	2.360	96	303	0.20 ug/L #	32
6) Chloroethane	2.500	64	380	0.37 ug/L #	36
14) Methylene Chloride	3.875	84	3491	Below Cal	87
15) Acetone	3.948	43	976	0.82 ug/L	98

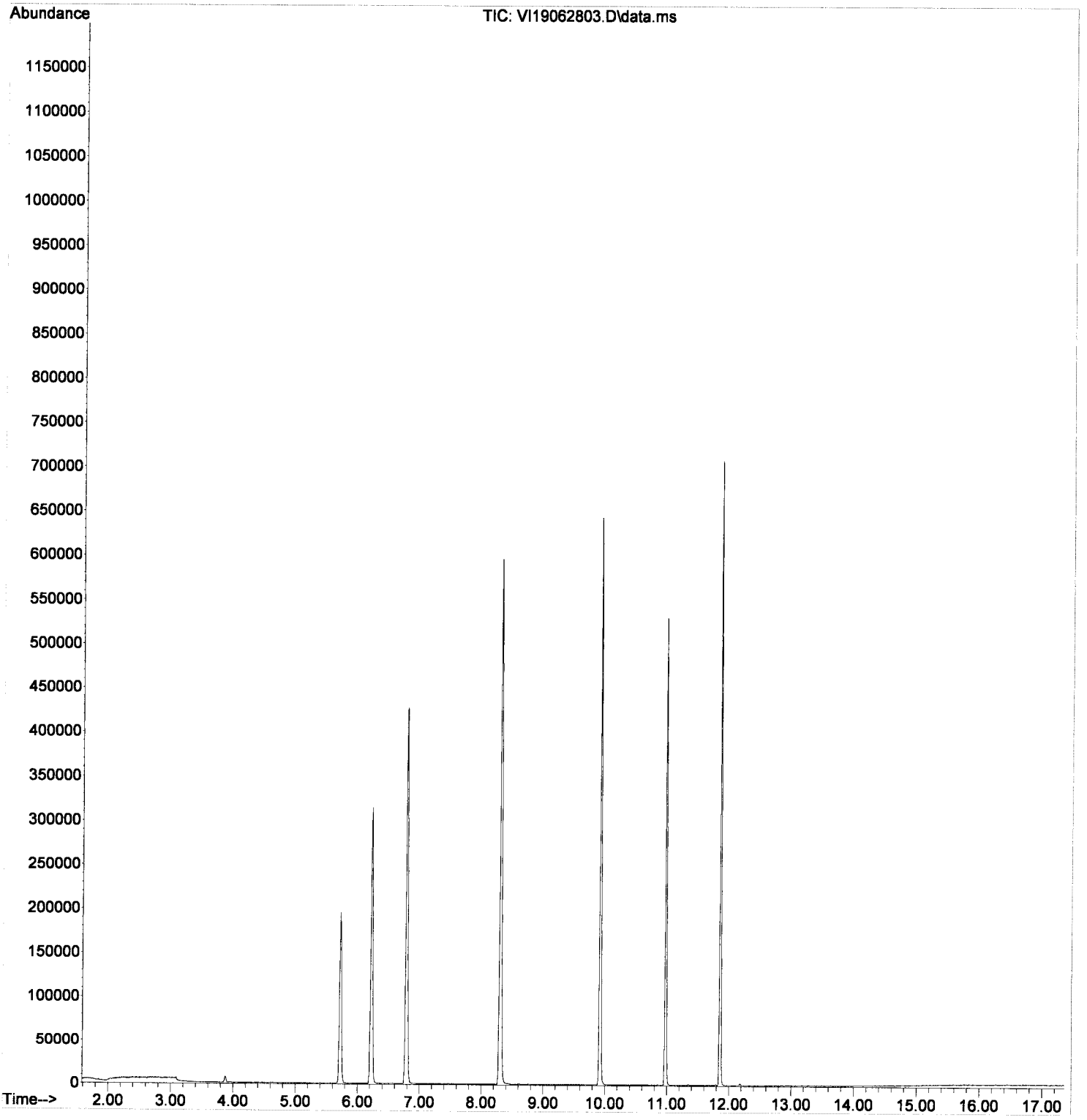
(#) = qualifier out of range (m) = manual integration (+) = signals summed

6/28/19 PM

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062803.D
Acq On : 28 Jun 2019 9:17 am
Operator : TNL
Sample : 9F28013-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:15 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

6/28/19 tml

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	116	0.00
2		Dichlorodifluoromethane	20.000	17.149	14.3	97	0.00
3	P	Chloromethane	20.000	15.082	24.6#	91	0.00
4	C	Vinyl Chloride	20.000	18.230	8.8	104	0.00
5		Bromomethane	20.000	17.437	12.8	104	0.00
6		Chloroethane	20.000	20.073	-0.4	122	0.00
7		Trichlorofluoromethane	20.000	19.010	4.9	107	0.00
8		Ethanol	1250.000	1221.226	2.3	113	0.00
9	C	1,1-Dichloroethene	20.000	19.253	3.7	105	0.00
10		Carbon Disulfide	20.000	17.786	11.1	101	0.00
11		Freon 113	20.000	18.911	5.4	107	0.00
12		Iodomethane	20.000	9.929	50.4#	66	0.00
13		Acrolein	20.000	21.083	-5.4	125	0.00
14		Methylene Chloride	20.000	18.498	7.5	108	0.00
15		Acetone	40.000	36.372	9.1	112	0.00
16		t-1,2-Dichloroethene	20.000	18.901	5.5	107	0.00
17		n-Hexane	20.000	18.447	7.8	101	0.00
18		Methyl-tert-butyl-ether	20.000	18.913	5.4	108	0.00
19		tert-Butanol (TBA)	1250.000	1244.872	0.4	112	0.00
20		Diisopropyl ether (DIPE)	5.000	4.517	9.7	108	0.00
21	P	1,1-Dichloroethane	20.000	19.297	3.5	109	0.00
22		Acrylonitrile	20.000	20.820	-4.1	118	0.00
23		Ethyl-tert-butyl ether (ET	5.000	4.593	8.1	105	0.00
24		Vinyl Acetate	20.000	21.236	-6.2	127	0.00
25		c-1,2-Dichloroethene	20.000	19.177	4.1	109	0.00
26		2,2-Dichloropropane	20.000	17.125	14.4	98	0.00
27		Bromochloromethane	20.000	21.592	-8.0	117	0.00
28	C	Chloroform	20.000	19.104	4.5	109	0.00
29		Carbon Tetrachloride	20.000	19.994	0.0	115	0.00
30		Tetrahydrofuran	20.000	18.569	7.2	112	0.00
31		1,1,1-Trichloroethane	20.000	18.795	6.0	105	0.00
32	S	Dibromofluoromethane (S)	50.000	51.195	-2.4	119	0.00
33		1,1-Dichloropropene	20.000	18.920	5.4	105	0.00
34		2-Butanone (MEK)	40.000	39.231	1.9	115	0.00
35		Benzene	20.000	18.886	5.6	109	0.00
36		tert-Amyl methyl ether (TA	5.000	4.533	9.3	106	0.00
37		1,2-Dichloroethane (EDC)	20.000	18.960	5.2	108	0.00
38		iso-Butyl Alcohol	500.000	463.085	7.4	108	0.00
39	S	1,4-Difluorobenzene (S)	50.000	50.437	-0.9	117	0.00
40		Trichloroethene (TCE)	20.000	19.205	4.0	107	0.00
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	4.536	9.3	101	0.00
42		Dibromomethane	20.000	20.414	-2.1	113	0.00
43	C	1,2-Dichloropropane	20.000	19.746	1.3	111	0.00
44		Bromodichloromethane	20.000	20.653	-3.3	117	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	115	0.00
46		2-Chloroethyl Vinyl Ether	20.000	18.553	7.2	102	0.00
47		c-1,3-Dichloropropene	20.000	19.609	2.0	110	0.00
48	S	Toluene-d8 (S)	50.000	50.752	-1.5	118	0.00
49	C	Toluene	20.000	18.466	7.7	107	0.00
50		Tetrachloroethene (PCE)	20.000	18.865	5.7	104	0.00

NR

055

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	39.532	1.2	111	0.00
52		t-1,3-Dichloropropene	20.000	19.340	3.3	107	0.00
53		1,1,2-Trichloroethane	20.000	20.384	-1.9	112	0.00
54		Dibromochloromethane	20.000	22.410	-12.1	127	0.00
55		1,3-Dichloropropane	20.000	20.091	-0.5	113	0.00
56		1,2-Dibromoethane (EDB)	20.000	20.825	-4.1	112	0.00
57		2-Hexanone	40.000	38.982	2.5	111	0.00
58	P	Chlorobenzene	20.000	19.545	2.3	109	0.00
59	C	Ethylbenzene	20.000	18.903	5.5	105	0.00
60		1,1,1,2-Tetrachloroethane	20.000	22.036	-10.2	120	0.00
61		m,p-Xylenes (2)	40.000	37.414	6.5	105	0.00
62		o-Xylene	20.000	19.077	4.6	105	0.00
63		Styrene	20.000	19.634	1.8	106	0.00
64	P	Bromoform	20.000	23.560	-17.8	138	0.00
65		Isopropylbenzene	20.000	19.051	4.7	104	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	117	0.00
67	S	4-Bromofluorobenzene (S)	50.000	48.712	2.6	114	0.00
68		Bromobenzene	20.000	18.938	5.3	108	0.00
69		n-Propylbenzene	20.000	18.349	8.3	103	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.597	-3.0	116	0.00
71		2-Chlorotoluene	20.000	18.569	7.2	105	0.00
72		1,3,5-Trimethylbenzene	20.000	18.531	7.3	105	0.00
73		1,2,3-Trichloropropane	20.000	20.817	-4.1	115	0.00
74		t-1,4-Dichloro-2-butene	20.000	19.107	4.5	104	0.00
75		4-Chlorotoluene	20.000	18.385	8.1	104	0.00
76		tert-Butylbenzene	20.000	17.918	10.4	101	0.00
77		1,2,4-Trimethylbenzene	20.000	18.836	5.8	105	0.00
78		sec-Butylbenzene	20.000	18.112	9.4	102	0.00
79		4-Isopropyltoluene	20.000	18.916	5.4	105	0.00
80		1,3-Dichlorobenzene	20.000	18.823	5.9	107	0.00
81		1,4-Dichlorobenzene	20.000	18.552	7.2	107	0.00
82		n-Butylbenzene	20.000	18.758	6.2	103	0.00
83		1,2-Dichlorobenzene	20.000	18.898	5.5	107	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	21.150	-5.7	123	0.00
85		Hexachlorobutadiene	20.000	18.051	9.7	96	0.00
86		1,2,4-Trichlorobenzene	20.000	19.281	3.6	105	0.00
87		Naphthalene	20.000	18.891	5.5	105	0.00
88		1,2,3-Trichlorobenzene	20.000	19.054	4.7	106	0.00

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

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	246439	50.00 ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	369799	50.00 ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	179307	50.00 ug/L		0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	136004	51.19 ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	413697	50.44 ug/L		0.00
48) Toluene-d8 (S)	8.304	98	490369	50.75 ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	144710	48.71 ug/L		0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.685	85	43826	17.15 ug/L		98
3) Chloromethane	1.898	50	49072	15.08 ug/L		96
4) Vinyl Chloride	2.001	62	53436	18.23 ug/L		96
5) Bromomethane	2.366	96	26388	17.44 ug/L		92
6) Chloroethane	2.500	64	20892	20.07 ug/L		84
7) Trichlorofluoromethane	2.664	101	62545	19.01 ug/L		98
8) Ethanol	3.242	45	73649	1221.23 ug/L		88
9) 1,1-Dichloroethene	3.236	61	64121	19.25 ug/L		95
10) Carbon Disulfide	3.254	76	106736	17.79 ug/L		99
11) Freon 113	3.291	101	40908	18.91 ug/L		99
12) Iodomethane	3.394	142	9520	9.93 ug/L		91
13) Acrolein	3.625	56	14145	21.08 ug/L		77
14) Methylene Chloride	3.875	84	47499	18.50 ug/L		92
15) Acetone	3.948	43	43650	36.37 ug/L		94
16) t-1,2-Dichloroethene	4.045	61	61486	18.90 ug/L		98
17) n-Hexane	4.124	86	8379	18.45 ug/L	#	80
18) Methyl-tert-butyl-ether	4.173	73	150622	18.91 ug/L		94
19) tert-Butanol (TBA)	4.301	59	667208	1244.87 ug/L		86
20) Diisopropyl ether (DIPE)	4.574	45	37561	4.52 ug/L		93
21) 1,1-Dichloroethane	4.690	63	82714	19.30 ug/L		96
22) Acrylonitrile	4.757	53	28381	20.82 ug/L		98
23) Ethyl-tert-butyl ether...	4.945	59	36996	4.59 ug/L		94
24) Vinyl Acetate	4.964	43	115219	21.24 ug/L		96
25) c-1,2-Dichloroethene	5.250	61	66575	19.18 ug/L		97
26) 2,2-Dichloropropane	5.359	77	57339	17.12 ug/L		96
27) Bromochloromethane	5.450	130	34554	21.59 ug/L		89
28) Chloroform	5.536	83	84543	19.10 ug/L		98
29) Carbon Tetrachloride	5.663	117	54107	19.99 ug/L		94
30) Tetrahydrofuran	5.706	42	25785	18.57 ug/L		88
31) 1,1,1-Trichloroethane	5.736	97	66295	18.80 ug/L		96
33) 1,1-Dichloropropene	5.870	75	63616	18.92 ug/L		97
34) 2-Butanone (MEK)	5.864	43	78410	39.23 ug/L		99
35) Benzene	6.126	78	194156	18.89 ug/L		98
36) tert-Amyl methyl ether...	6.253	73	35055	4.53 ug/L		95
37) 1,2-Dichloroethane (EDC)	6.345	62	64352	18.96 ug/L		92
38) iso-Butyl Alcohol	6.381	43	94447	463.09 ug/L		92
40) Trichloroethene (TCE)	6.746	130	47762	19.20 ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	26959	4.54 ug/L		87
42) Dibromomethane	7.202	93	33391	20.41 ug/L		93
43) 1,2-Dichloropropane	7.318	63	51990	19.75 ug/L		86
44) Bromodichloromethane	7.385	83	62736	20.65 ug/L		95
46) 2-Chloroethyl Vinyl Ether	8.030	63	37695	18.55 ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	74488	19.61 ug/L		89

6/28/19 bnl Q55

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

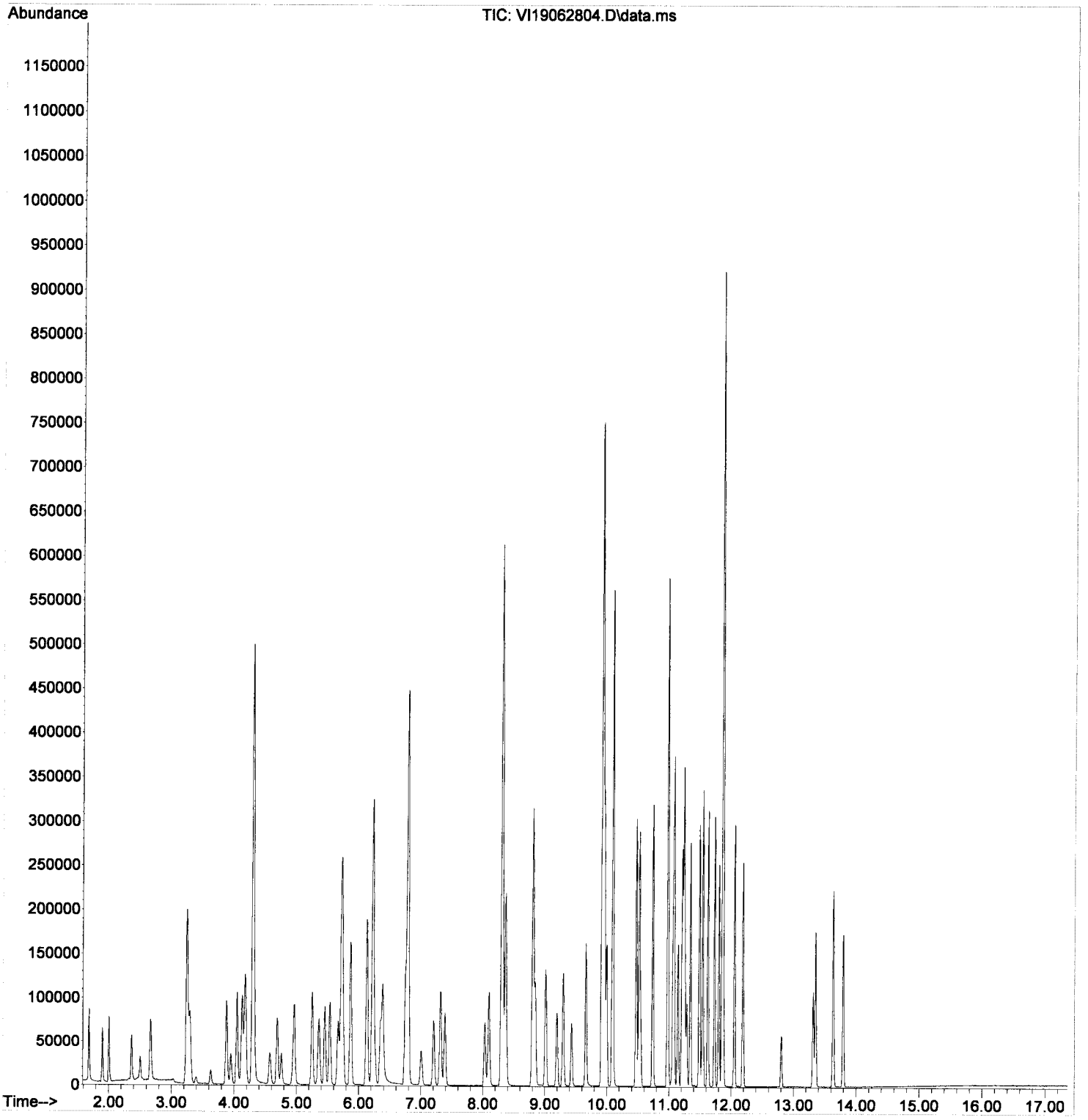
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	194786	18.47	ug/L		98
50) Tetrachloroethene (PCE)	8.802	166	45205	18.86	ug/L		90
51) 4-Methyl-2-Pentanone (...	8.802	43	146208	39.53	ug/L		99
52) t-1,3-Dichloropropene	8.845	75	67268	19.34	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	47433	20.38	ug/L		96
54) Dibromochloromethane	9.192	129	48903	22.41	ug/L		98
55) 1,3-Dichloropropane	9.295	76	83319	20.09	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.429	107	51032	20.82	ug/L		93
57) 2-Hexanone	9.660	43	106162	38.98	ug/L		91
58) Chlorobenzene	9.934	112	125362	19.54	ug/L		95
59) Ethylbenzene	9.958	91	208842	18.90	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.995	131	43156	22.04	ug/L		96
61) m,p-Xylenes (2)	10.092	91	311398	37.41	ug/L		97
62) o-Xylene	10.469	91	161845	19.08	ug/L		98
63) Styrene	10.518	104	127256	19.63	ug/L		96
64) Bromoform	10.542	173	33918	23.56	ug/L		97
65) Isopropylbenzene	10.737	105	191419	19.05	ug/L		100
68) Bromobenzene	11.059	156	52048	18.94	ug/L	#	78
69) n-Propylbenzene	11.078	91	223936	18.35	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	47419	20.60	ug/L		94
71) 2-Chlorotoluene	11.211	126	45778	18.57	ug/L		94
72) 1,3,5-Trimethylbenzene	11.236	105	152862	18.53	ug/L		99
73) 1,2,3-Trichloropropane	11.254	110	22007	20.82	ug/L		96
74) t-1,4-Dichloro-2-butene	11.284	53	17046	19.11	ug/L		79
75) 4-Chlorotoluene	11.339	91	140515	18.38	ug/L		94
76) tert-Butylbenzene	11.485	91	85178	17.92	ug/L		93
77) 1,2,4-Trimethylbenzene	11.540	105	155775	18.84	ug/L		95
78) sec-Butylbenzene	11.625	105	185289	18.11	ug/L		98
79) 4-Isopropyltoluene	11.729	119	152729	18.92	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	90524	18.82	ug/L		98
81) 1,4-Dichlorobenzene	11.869	146	92106	18.55	ug/L		97
82) n-Butylbenzene	12.051	91	138909	18.76	ug/L		96
83) 1,2-Dichlorobenzene	12.185	146	88031	18.90	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	15377	21.15	ug/L		88
85) Hexachlorobutadiene	13.310	223	12122	18.05	ug/L		94
86) 1,2,4-Trichlorobenzene	13.347	180	51660	19.28	ug/L		94
87) Naphthalene	13.633	128	165563	18.89	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	49563	19.05	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062804.D
Acq On : 28 Jun 2019 9:44 am
Operator : TNL
Sample : 9061478-BS1
Misc : 1X 5mL 20/40PPB VOCR+O A19F366
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:18 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062805.D
Acq On : 28 Jun 2019 10:12 am
Operator : TNL
Sample : 9061478-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	125	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	50.068	-0.1	127	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.859	0.3	125	0.00
4	H	NWTPH-Gx (TPH)	500.000	466.458	6.7	116	0.00
5	H	TPHg (C5-C9)	500.000	463.374	7.3	116	0.00
6	H	TPHg (C6-C10)	500.000	470.998	5.8	117	0.00
7	H	CA-LUFT (C5-C12)	500.000	460.638	7.9	116	0.00
8		Benzene (NR)	-1.000	0.000	0.0	124	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	125	0.00
10		Toluene (NR)	-1.000	0.000	0.0	120	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	126	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	126	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	147	0.00

6/28/19 MJ

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062805.D
Acq On : 28 Jun 2019 10:12 am
Operator : TNL
Sample : 9061478-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.223	168	242334	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.789	114	408092	50.07 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	141257	49.86 ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	479254	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	370224	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	271250	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3547787m	466.46 ug/L	
5) TPHg (C5-C9)	9.890	TIC	4930842m	463.37 ug/L	
6) TPHg (C6-C10)	9.890	TIC	4228316m	471.00 ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	5833348m	460.64 ug/L	

6/28/19 mL

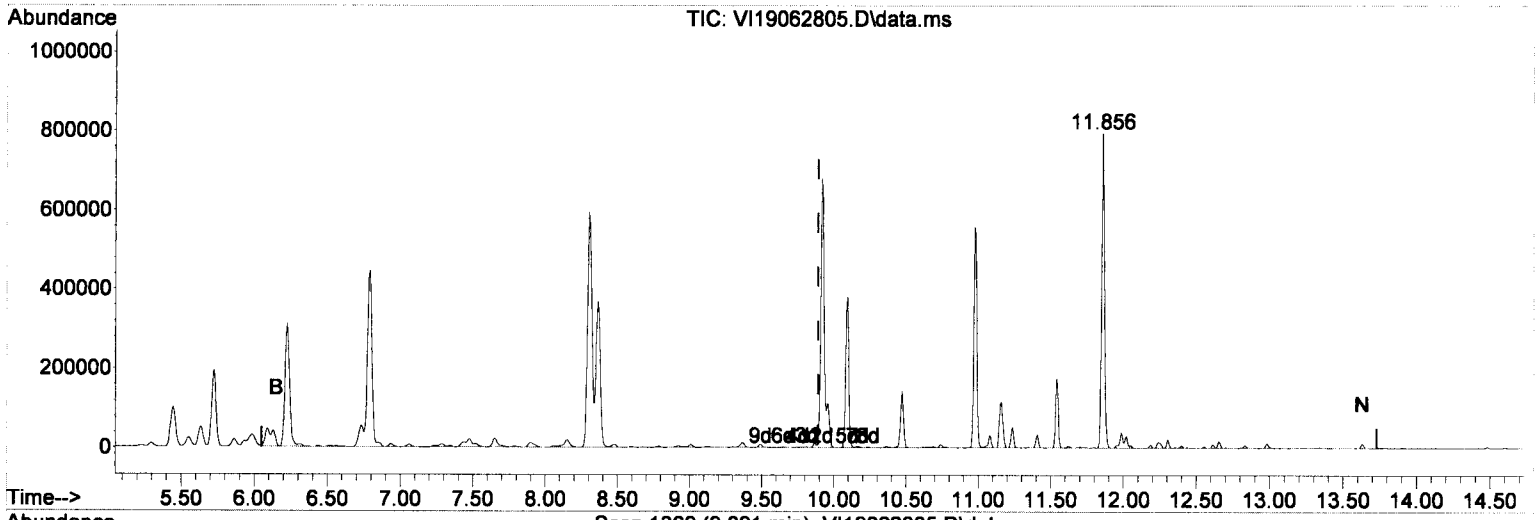
NR

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062805.D
Acq On : 28 Jun 2019 10:12 am
Operator : TNL
Sample : 9061478-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



TIC: VI19062805.D\data.ms

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

9.890min (0.000) 466.46 ug/L m

response 3547787

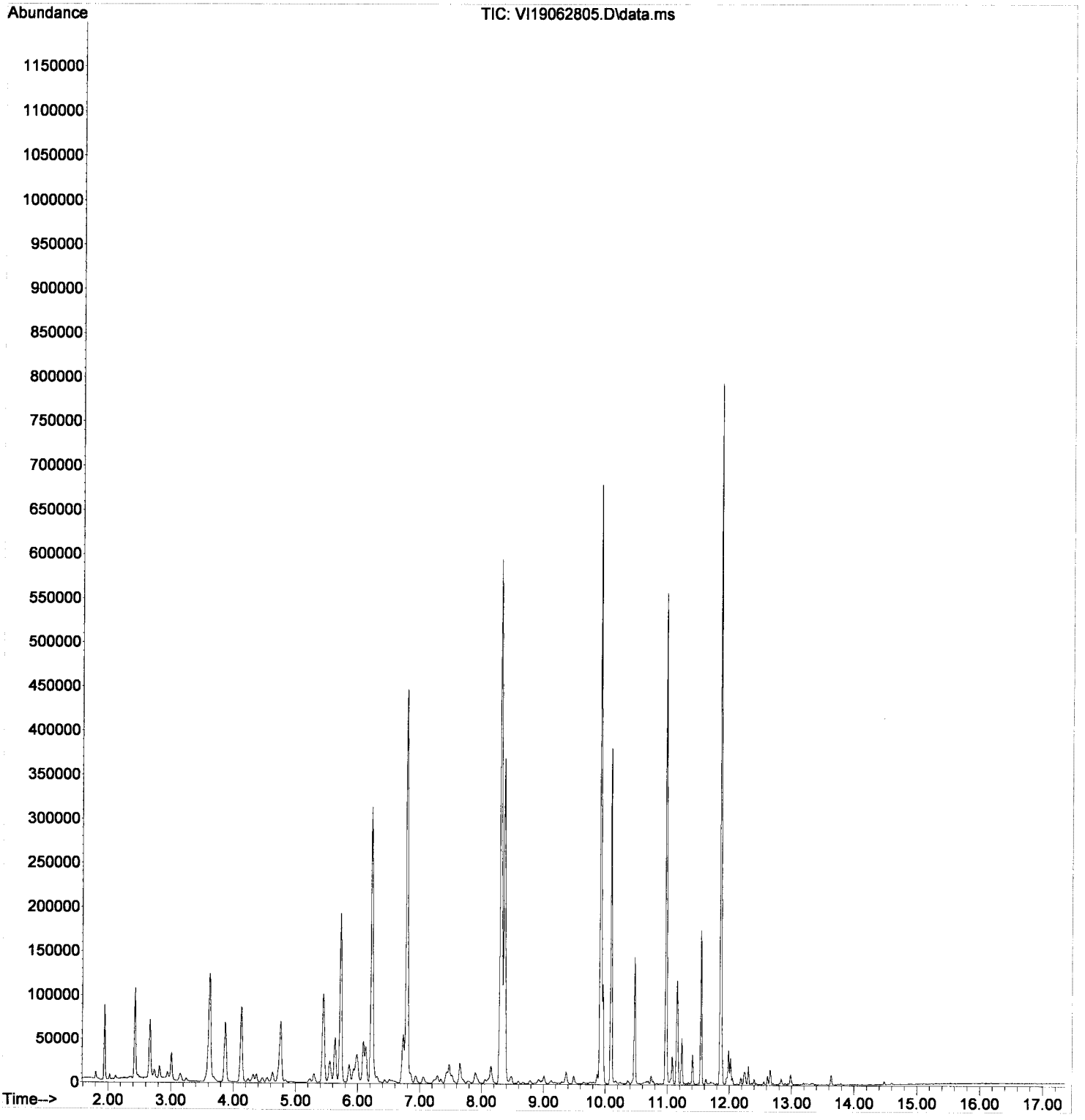
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.02#
0.00	0.00	0.01#
0.00	0.00	0.00

6/28/19 mt

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062805.D
Acq On : 28 Jun 2019 10:12 am
Operator : TNL
Sample : 9061478-BS2
Misc : 1X 5mL 500PPB GX A19F151
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062806.D
Acq On : 28 Jun 2019 10:39 am
Operator : TNL
Sample : 9061478-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:57:10 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.225	168	228577	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.785	114	386441	50.27 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.977	174	124030	46.41 ug/L	0.00
9) Toluene-d8 (NR)	8.306	98	451431	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.918	117	336167	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.859	150	229372	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	9896m	26.47 ug/L	
5) TPHg (C5-C9)	9.890	TIC	396672m	15.57 ug/L	
6) TPHg (C6-C10)	9.890	TIC	384247m	21.98 ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	415282m	16.90 ug/L	

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

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062806.D
Acq On : 28 Jun 2019 10:39 am
Operator : TNL
Sample : 9061478-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.225	168	228577	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.918	117	336167	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.859	152	145684	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.720	111	126802	51.46 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.785	114	385666	50.69 ug/L	0.00
48) Toluene-d8 (S)	8.306	98	451431	51.40 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.977	174	124030	51.39 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.900	50	325	0.11 ug/L #	47
5) Bromomethane	2.362	96	227	0.16 ug/L	92
6) Chloroethane	2.466	64	325	0.34 ug/L #	36
14) Methylene Chloride	3.877	84	1980	Below Cal	88
15) Acetone	3.950	43	338	0.30 ug/L #	44

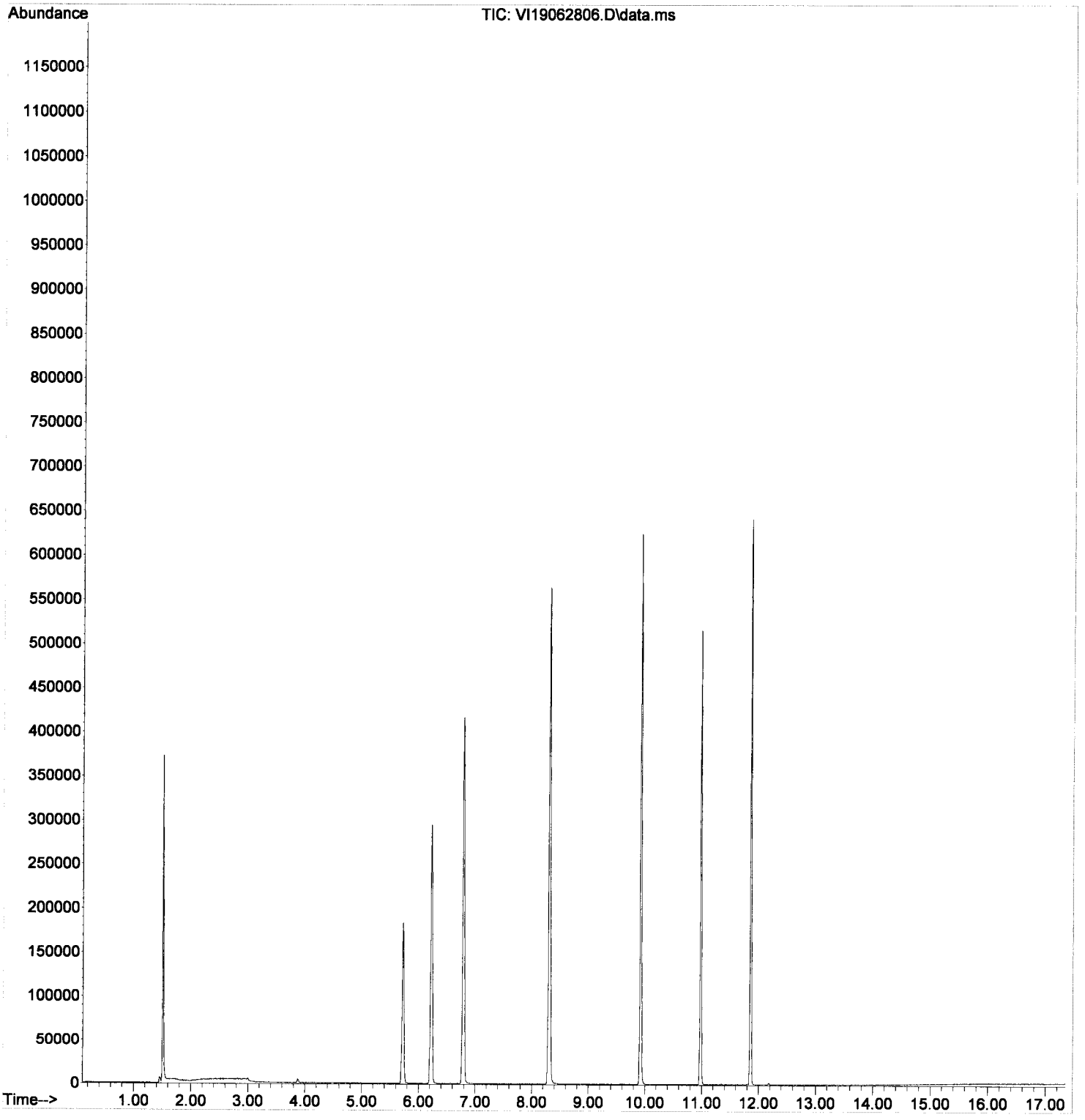
6/28/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062806.D
Acq On : 28 Jun 2019 10:39 am
Operator : TNL
Sample : 9061478-BLK1
Misc : 1X 5mL DI
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:54:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (IS)	6.223	168	251043	50.00 ug/L	0.00
System Monitoring Compounds					
2) 1,4-Difluorobenzene (Sur)	6.789	114	419564	49.69 ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	145133	49.45 ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	491650	0.00 ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.922	117	378036	0.00 ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	279385	0.00 ug/L	0.00
Target Compounds					Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	5163545m	644.61 ug/L	
5) TPHg (C5-C9)	9.890	TIC	1988657m	164.49 ug/L	
6) TPHg (C6-C10)	9.890	TIC	1952540m	195.73 ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	2845982m	206.90 ug/L	

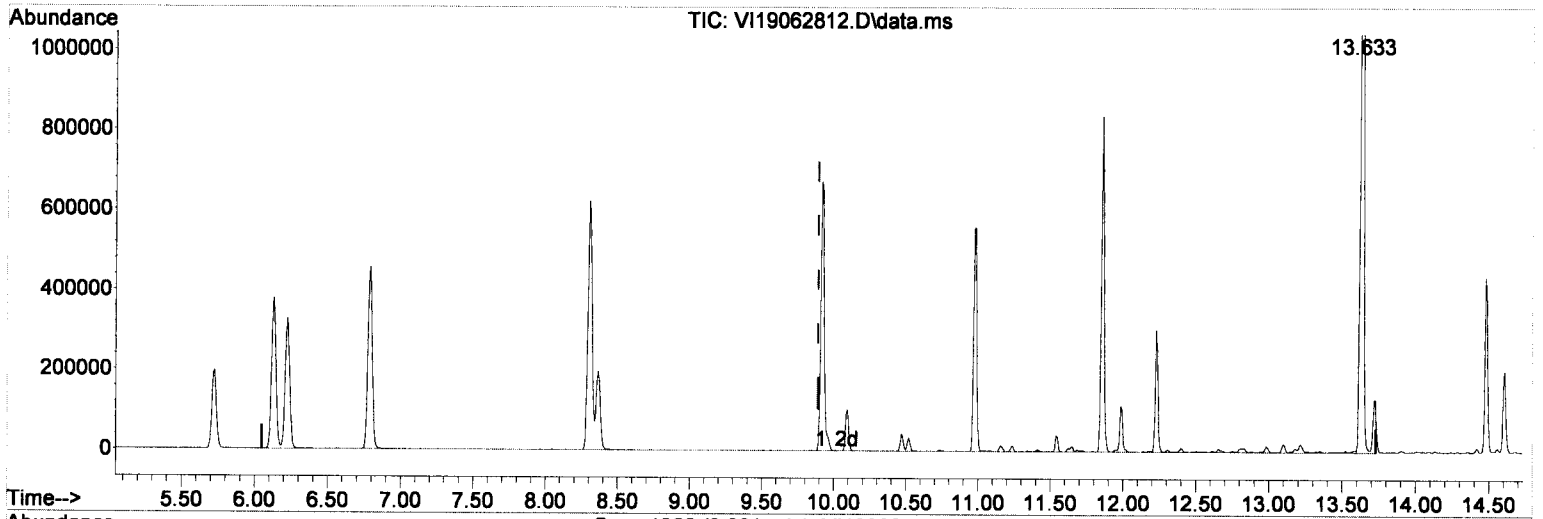
(#) = qualifier out of range (m) = manual integration (+) = signals summed

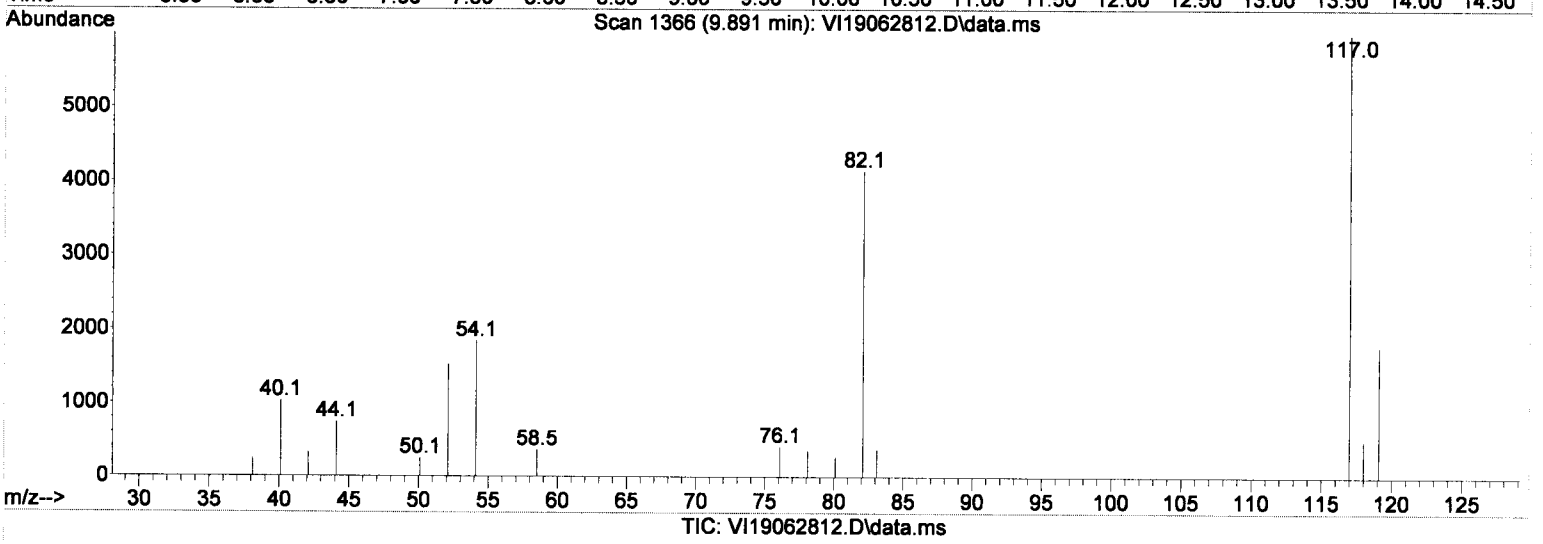
6/28/19 MR

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:54:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





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

9.890min (0.000) 644.61 ug/L m

6/28/19 bnl

response 5163545

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	2.15#
0.00	0.00	1.72#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	251043	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.922	117	378036	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	178394	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	136190	50.32 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	418856	50.13 ug/L	0.00
48) Toluene-d8 (S)	8.303	98	491651	49.78 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	145133	49.10 ug/L	0.00
Target Compounds					Qvalue
5) Bromomethane	2.366	96	138	0.09 ug/L	66
6) Chloroethane	2.494	64	147	0.14 ug/L #	36
10) Carbon Disulfide	3.260	76	876	0.14 ug/L	78
14) Methylene Chloride	3.881	84	1967	Below Cal #	76
15) Acetone	3.954	43	3548	2.90 ug/L	100
19) tert-Butanol (TBA)	4.294	59	180	0.33 ug/L	46
35) Benzene	6.132	78	381968	36.47 ug/L	98
36) tert-Amyl methyl ether...	6.132	73	5928	0.75 ug/L #	46
49) Toluene	8.364	91	168550	15.63 ug/L	99
59) Ethylbenzene	9.958	91	22850	2.02 ug/L	98
61) m,p-Xylenes (2)	10.092	91	56999	6.70 ug/L	97
62) o-Xylene	10.469	91	22949	2.65 ug/L	98
63) Styrene	10.518	104	15678	2.37 ug/L	89
65) Isopropylbenzene	10.743	105	2354	0.23 ug/L	96
69) n-Propylbenzene	11.084	91	2139	0.18 ug/L	97
72) 1,3,5-Trimethylbenzene	11.236	105	7526	0.92 ug/L	95
76) tert-Butylbenzene	11.540	91	2022	0.43 ug/L #	74
77) 1,2,4-Trimethylbenzene	11.540	105	20375	2.48 ug/L	100
78) sec-Butylbenzene	11.625	105	3832	0.38 ug/L	91
87) Naphthalene	13.633	128	1322832	151.71 ug/L	96

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

6/28/19 MS

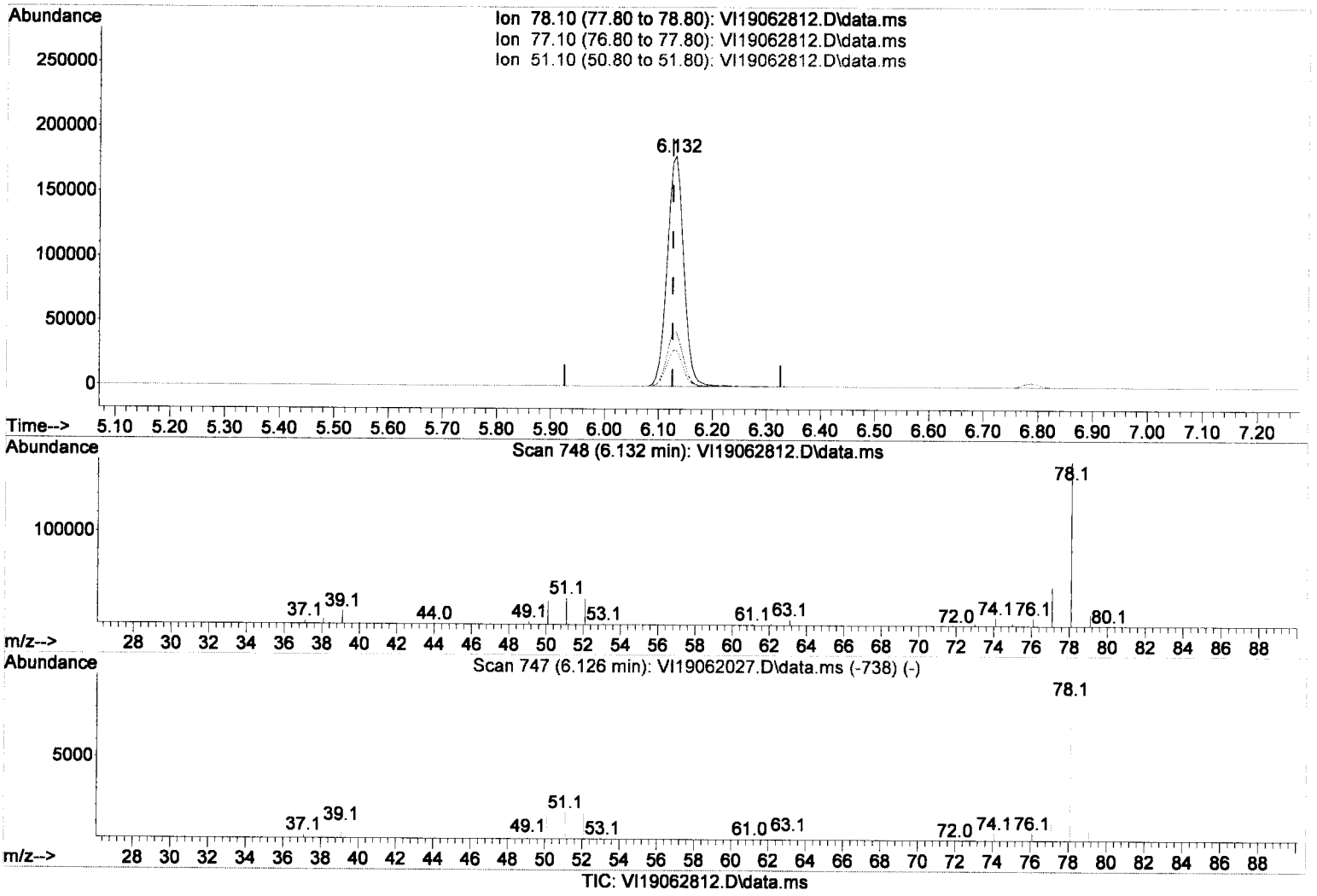
ME ND

ME ND 1.96 ppb

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(35) Benzene

6.132min (+ 0.006) 36.47 ug/L

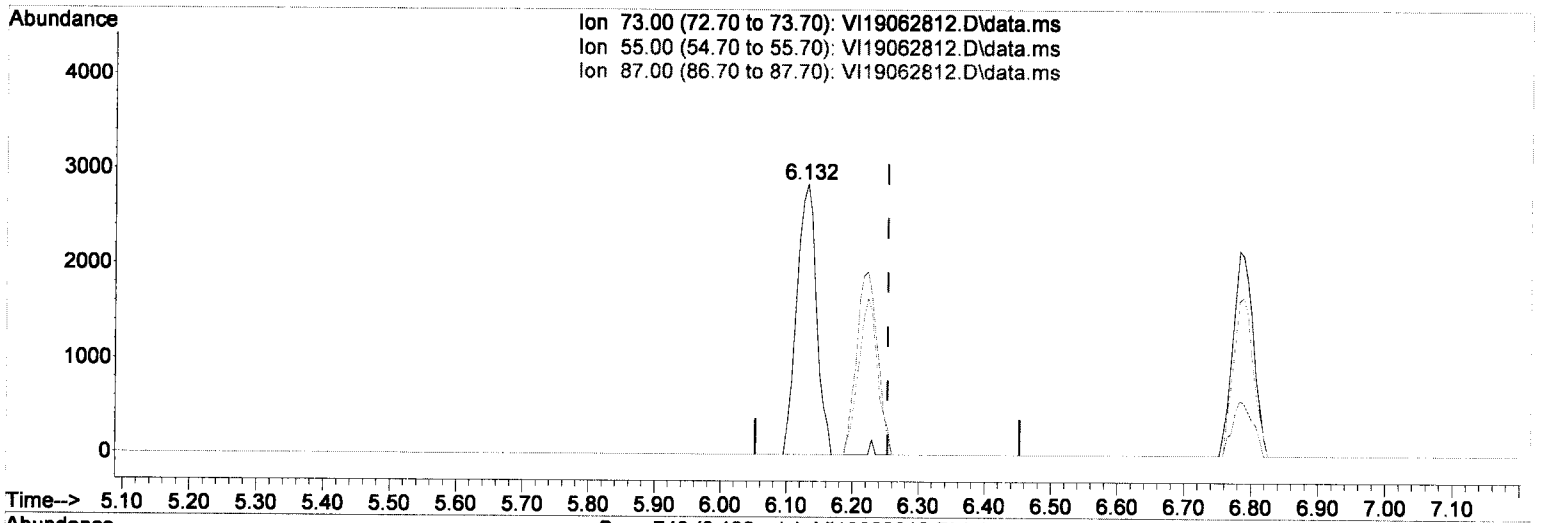
response 381968

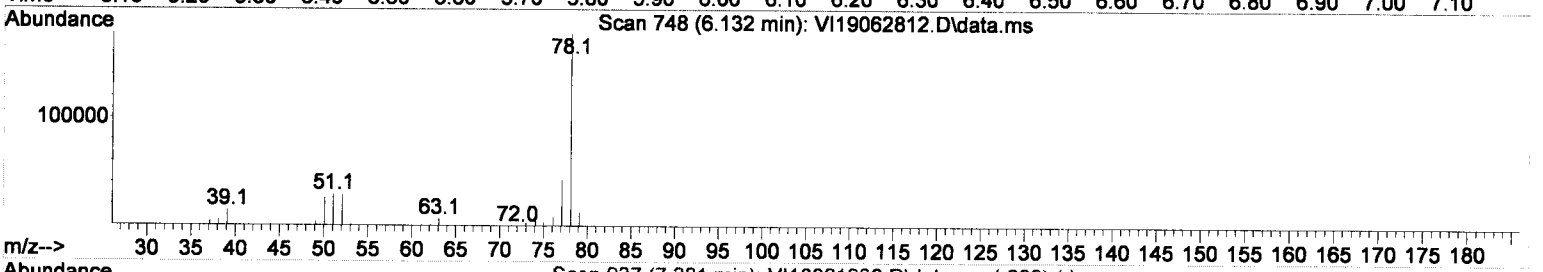
Ion	Exp%	Act%
78.10	100.00	100.00
77.10	24.70	23.79
51.10	17.20	16.21
0.00	0.00	0.00

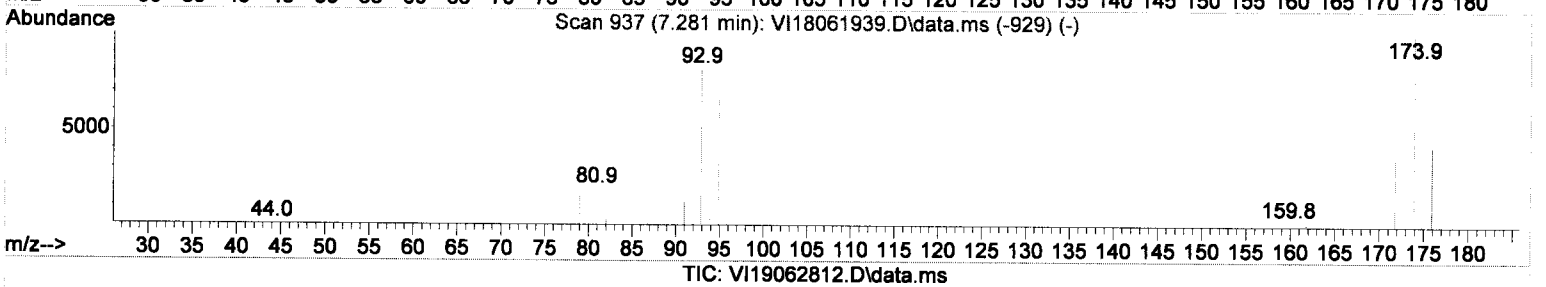
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.132min (-0.121) 0.75 ug/L

response 5928

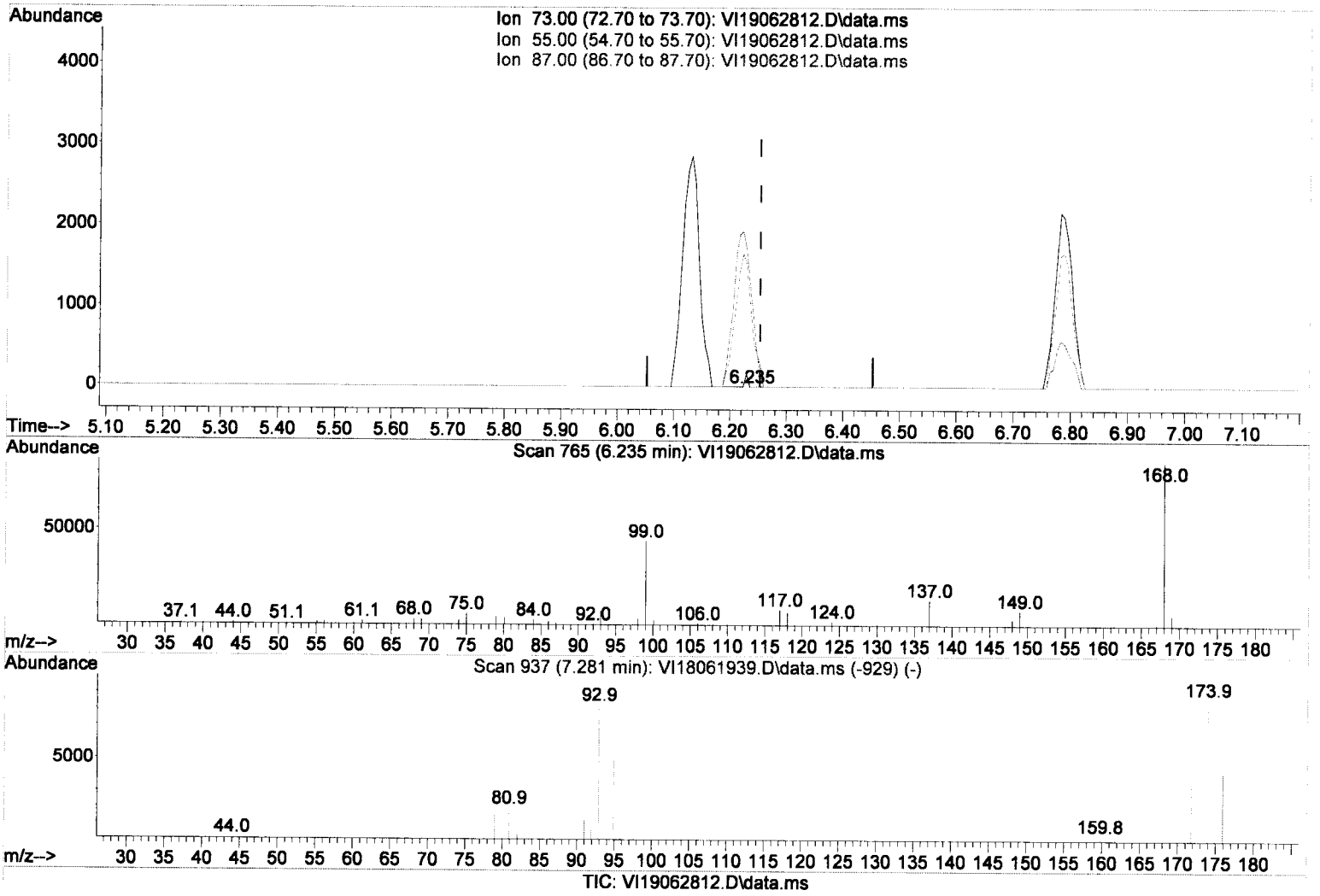
Ion	Exp%	Act%
73.00	100.00	100.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

ME 6/28/19 AM

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.235min (-0.018) 0.00 ug/L m

response 0

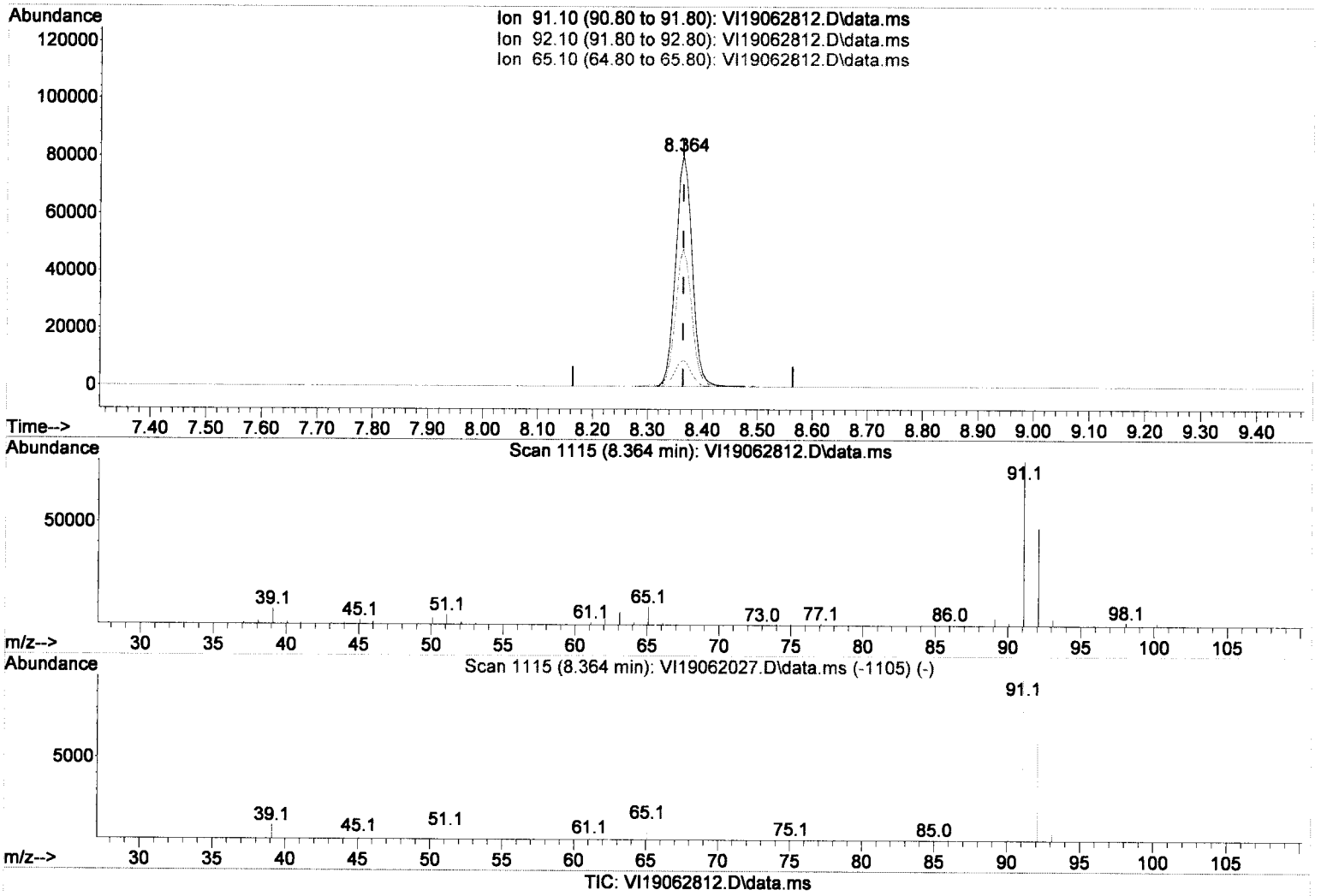
Ion	Exp%	Act%
73.00	100.00	0.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

ND
6/20/19 AM

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(49) Toluene (C)

8.364min (-0.000) 15.63 ug/L

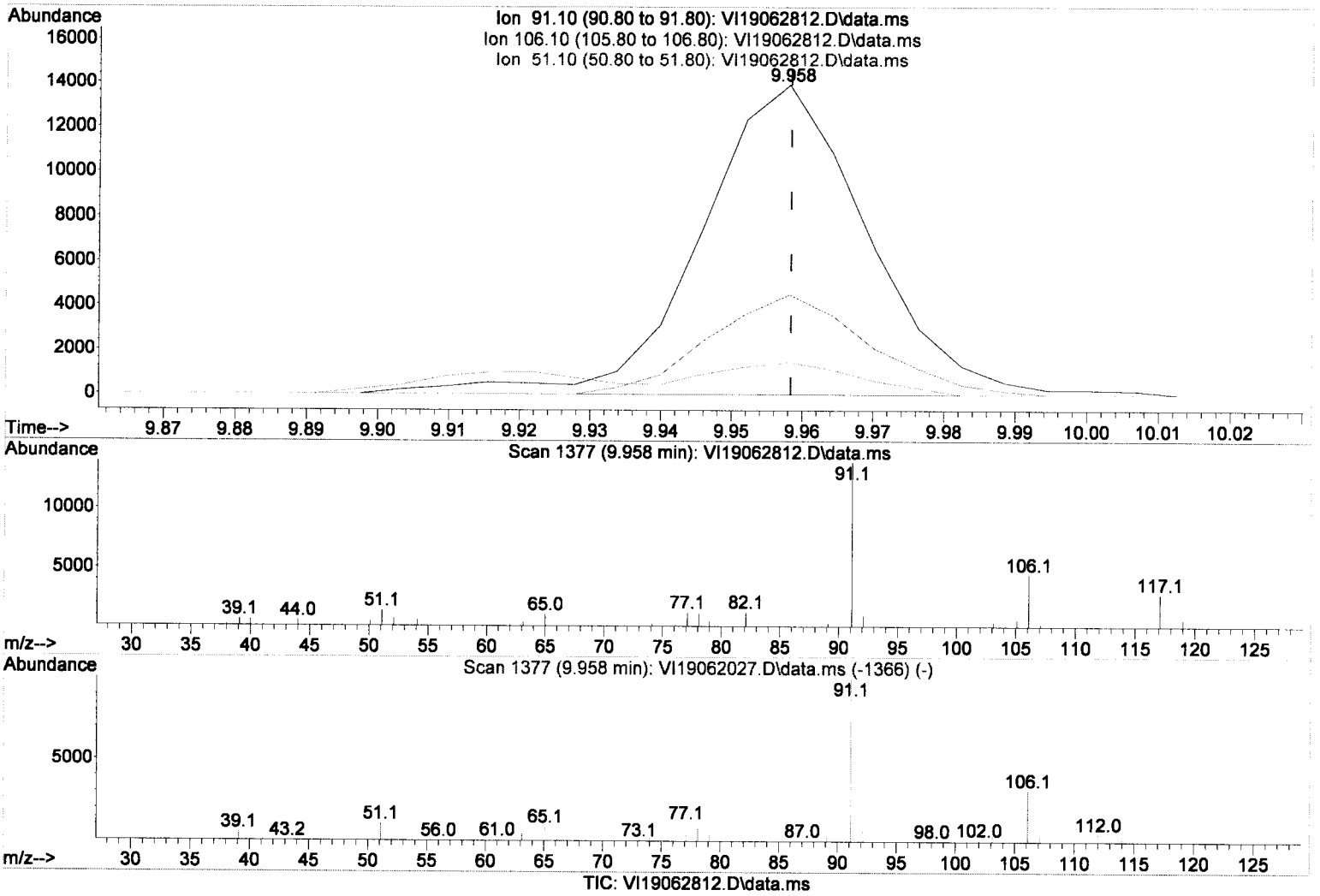
response 168550

Ion	Exp%	Act%
91.10	100.00	100.00
92.10	59.80	59.59
65.10	10.30	11.10
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(59) Ethylbenzene (C)

9.958min (-0.000) 2.02 ug/L

response 22850

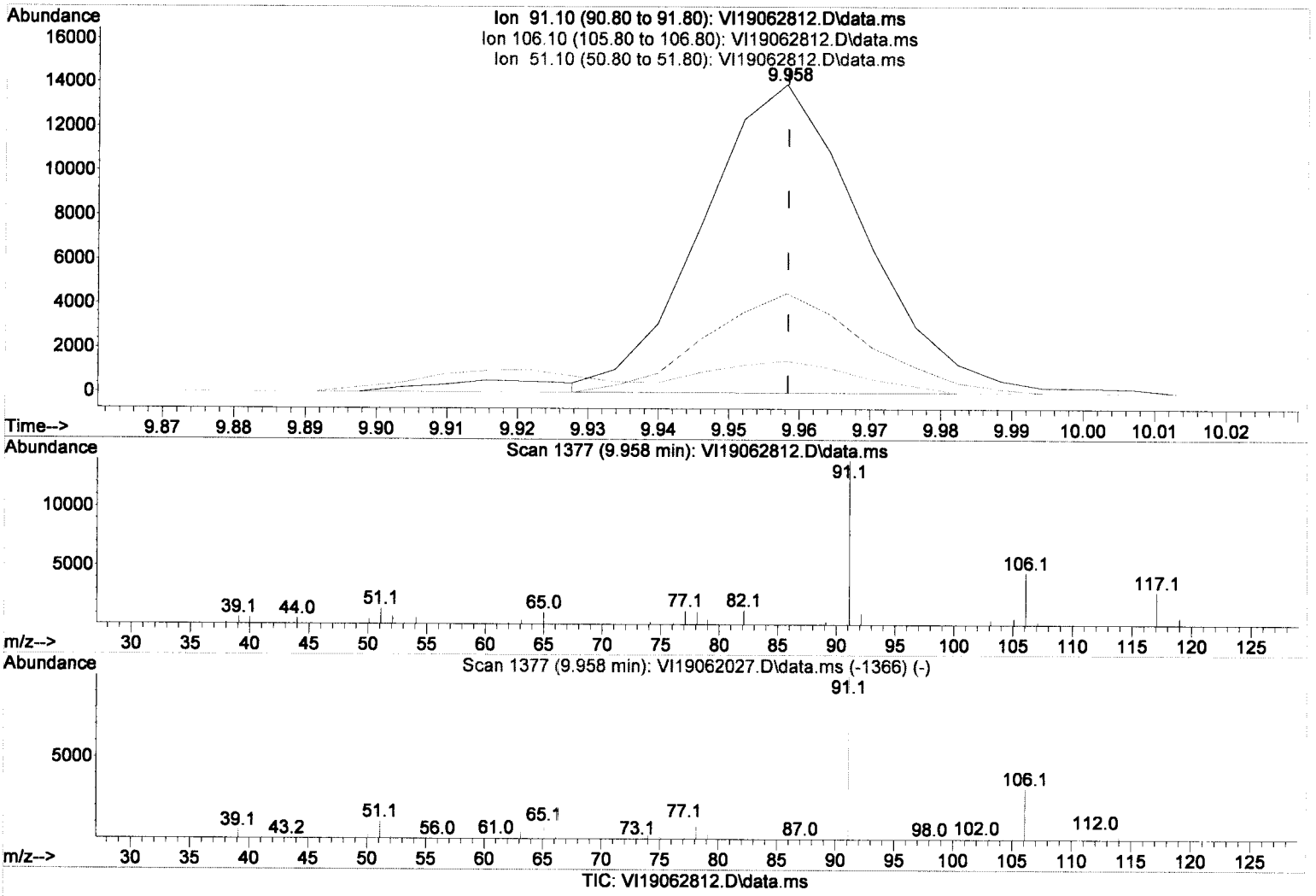
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.26
51.10	10.40	10.34
0.00	0.00	0.00

MLS 6/28/19

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(59) Ethylbenzene (C)

9.958min (-0.000) 1.96 ug/L (m)

6/28/19 bnl

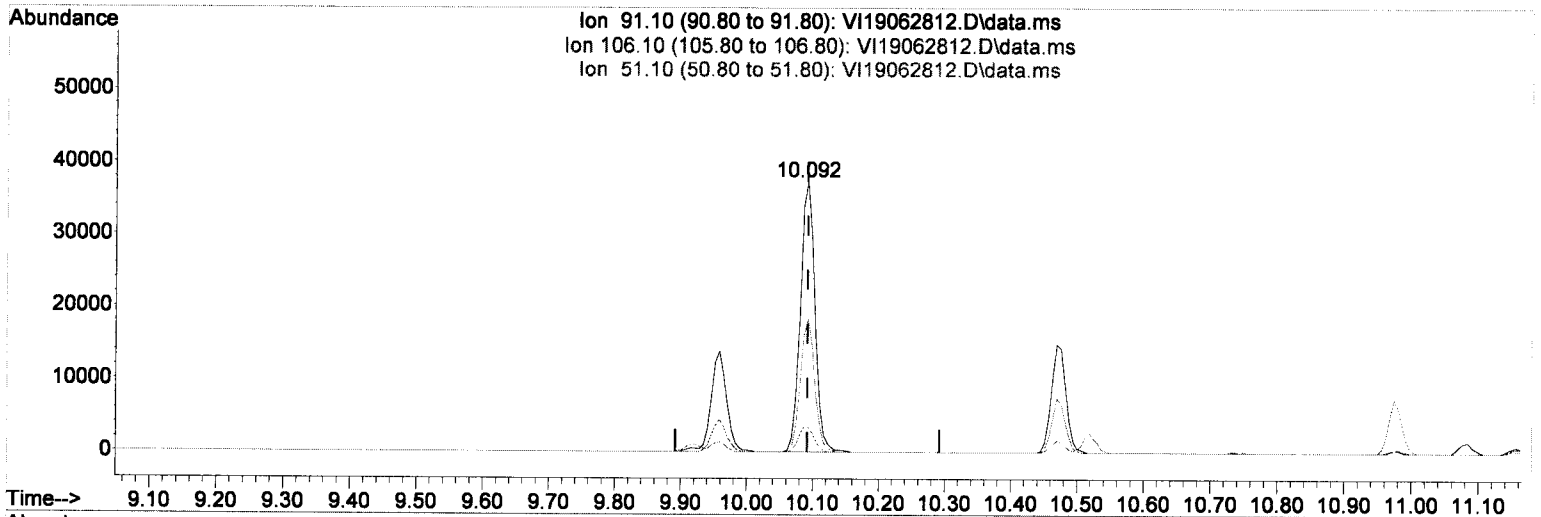
response 22125

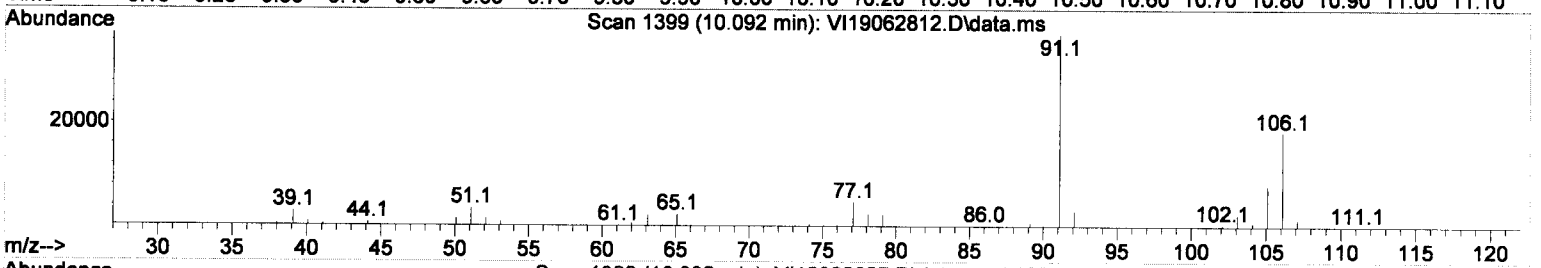
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.26
51.10	10.40	10.34
0.00	0.00	0.00

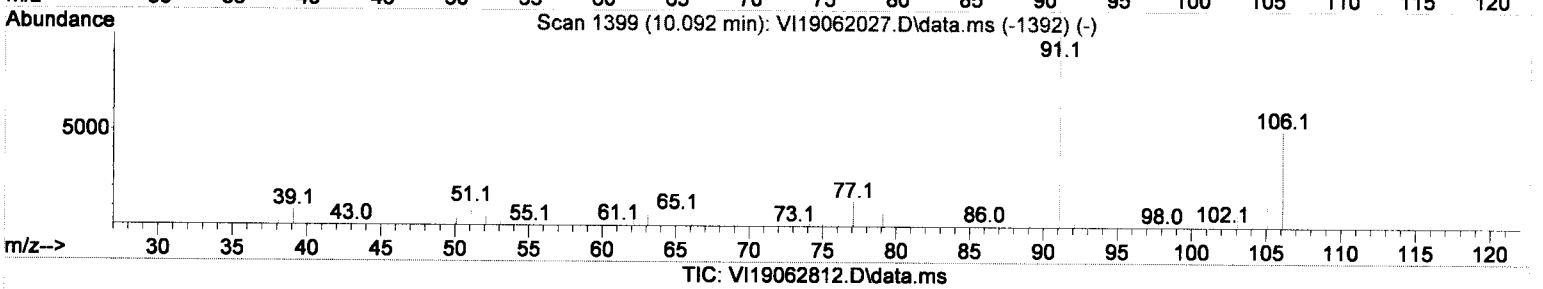
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(61) m,p-Xylenes (2)

10.092min (0.000) 6.70 ug/L

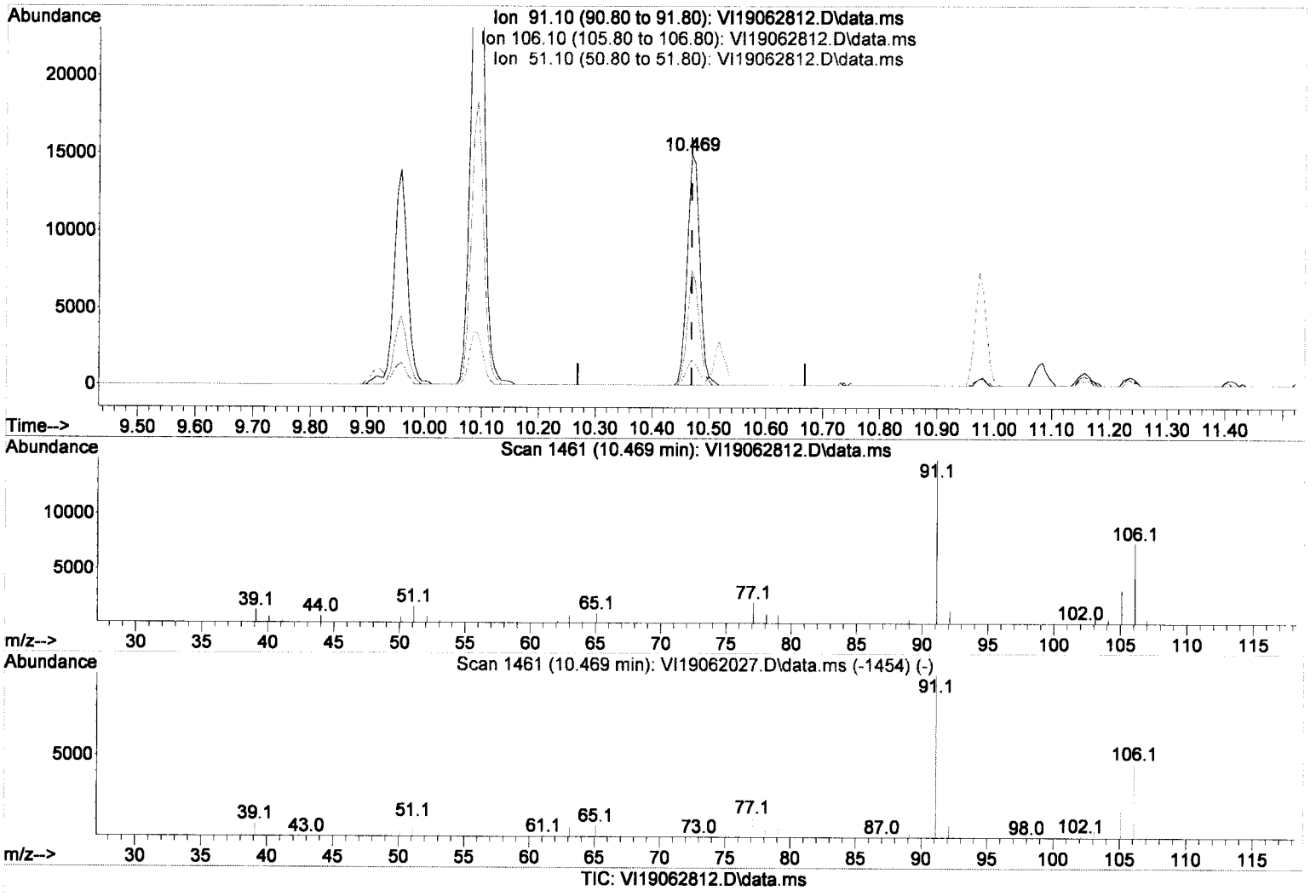
response 56999

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	51.20	49.24
51.10	9.80	9.28
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(62) o-Xylene

10.469min (+ 0.000) 2.65 ug/L

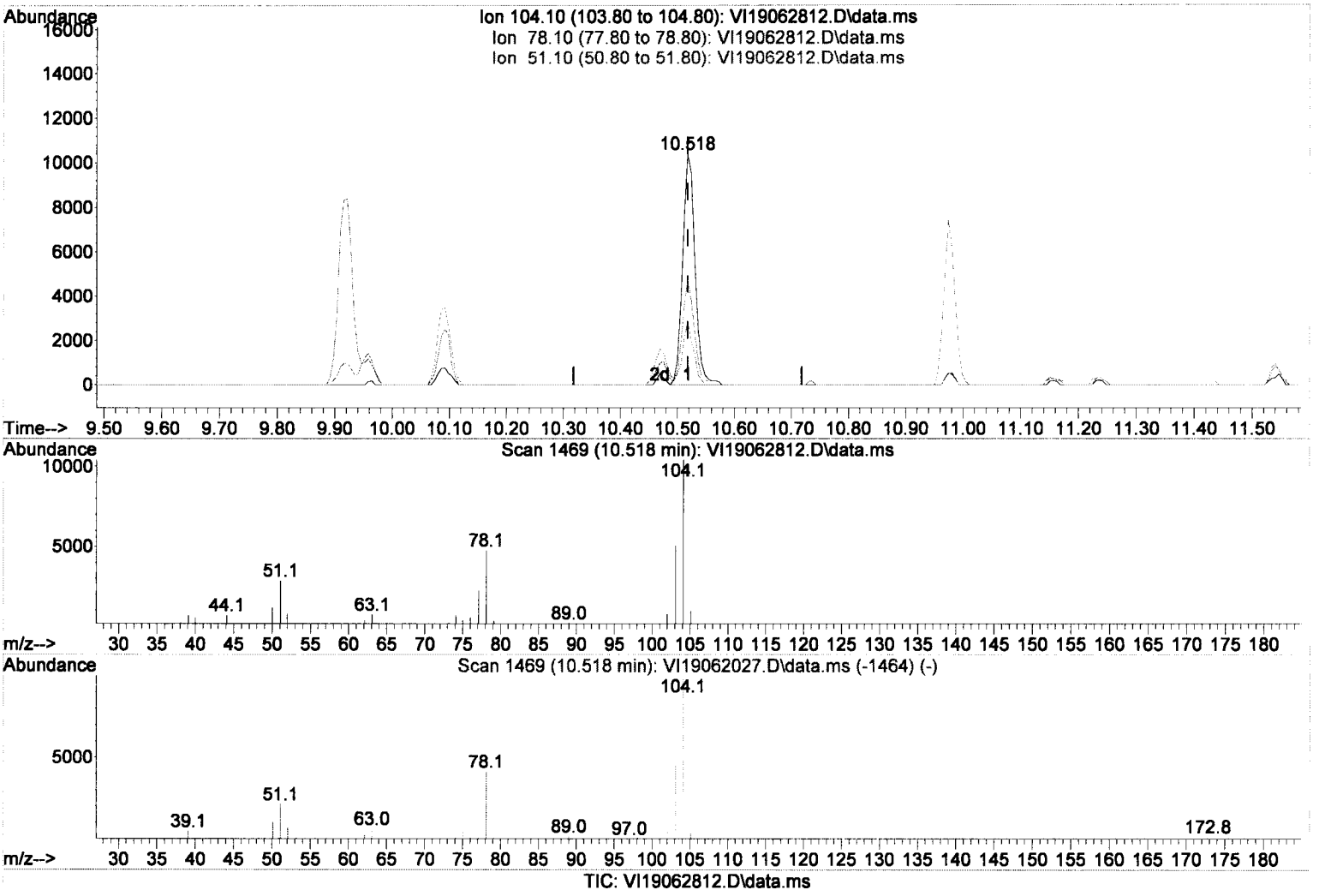
response 22949

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	48.30	49.94
51.10	10.20	10.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062812.D\data.ms

(63) Styrene

10.518min (-0.000) 2.37 ug/L

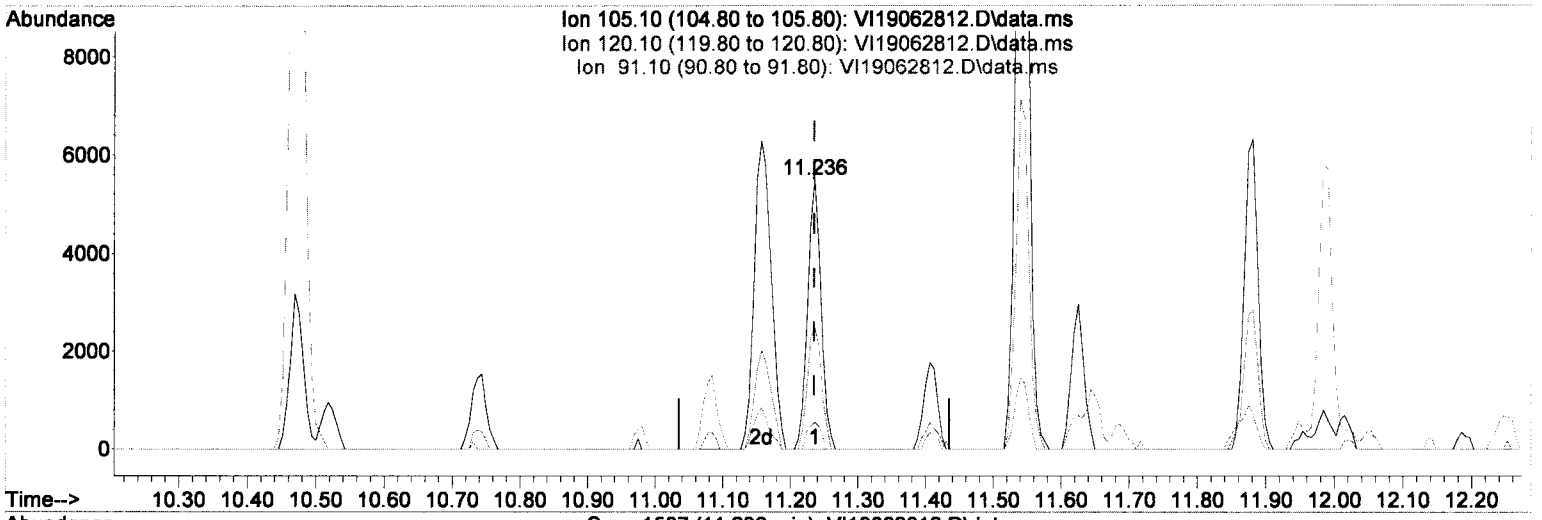
response 15678

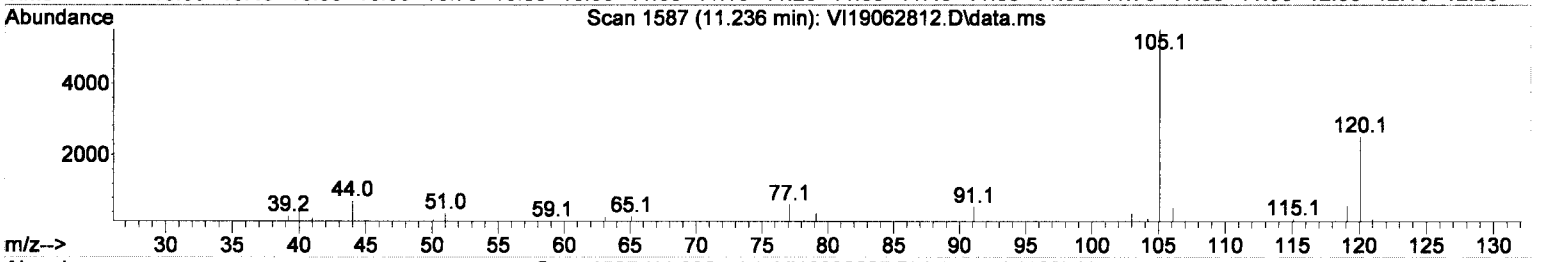
Ion	Exp%	Act%
104.10	100.00	100.00
78.10	39.40	45.70
51.10	22.20	27.43
0.00	0.00	0.00

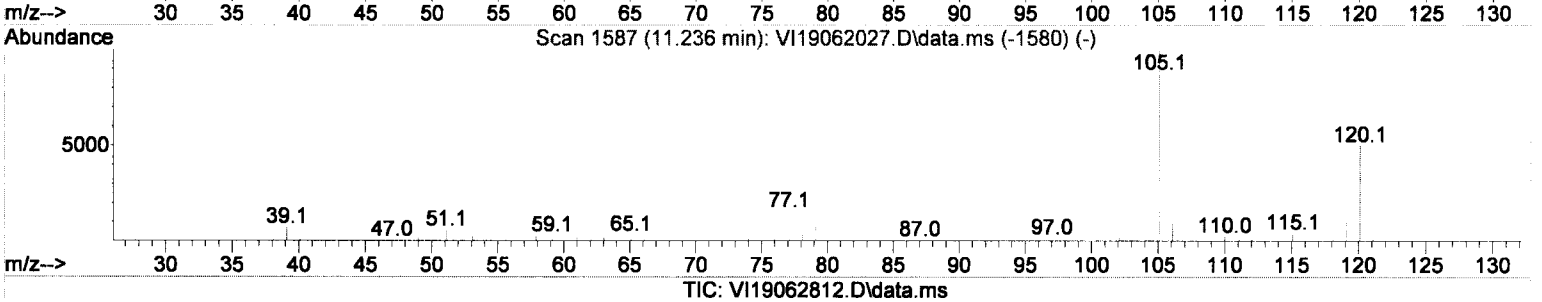
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(72) 1,3,5-Trimethylbenzene

11.236min (+ 0.001) 0.92 ug/L

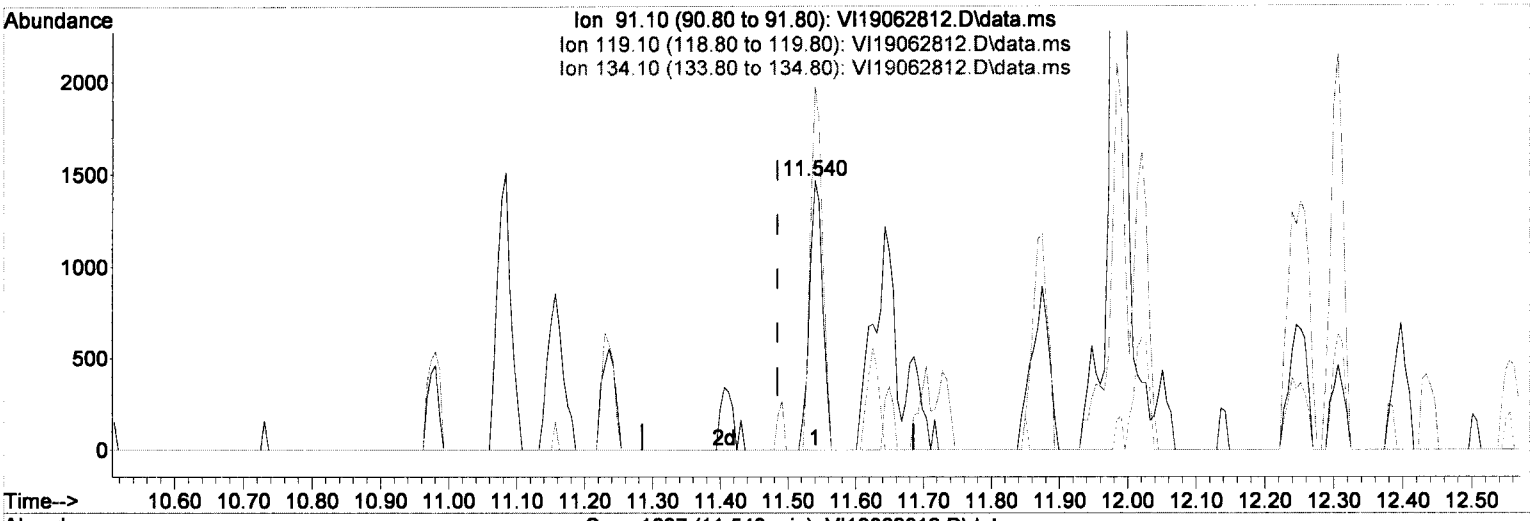
response 7526

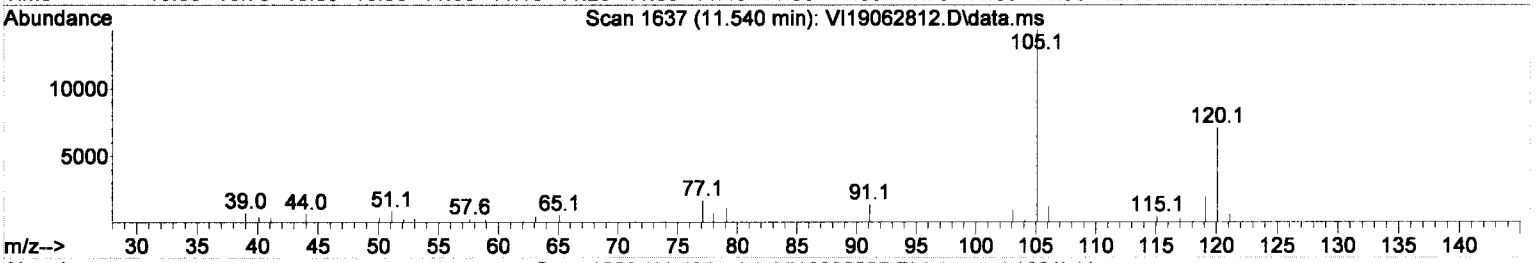
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.90	45.54
91.10	10.40	10.06
0.00	0.00	0.00

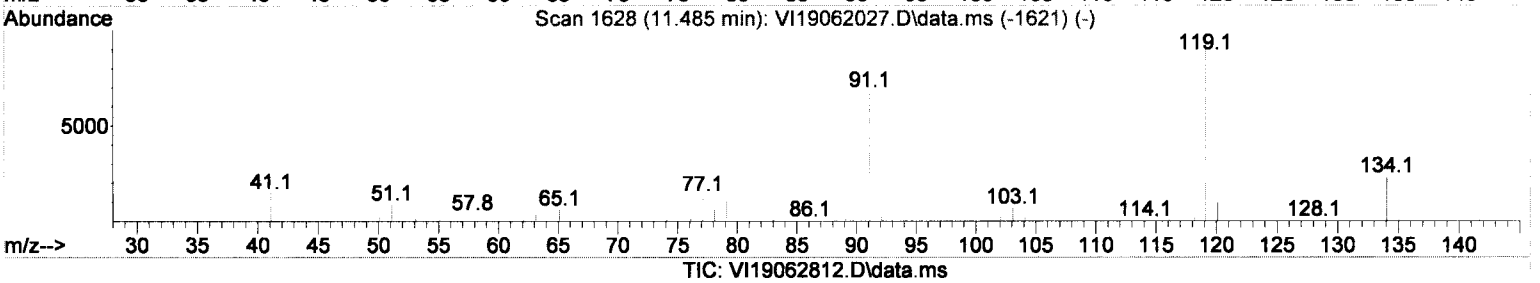
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(76) tert-Butylbenzene

11.540min (+ 0.055) 0.43 ug/L

response 2022

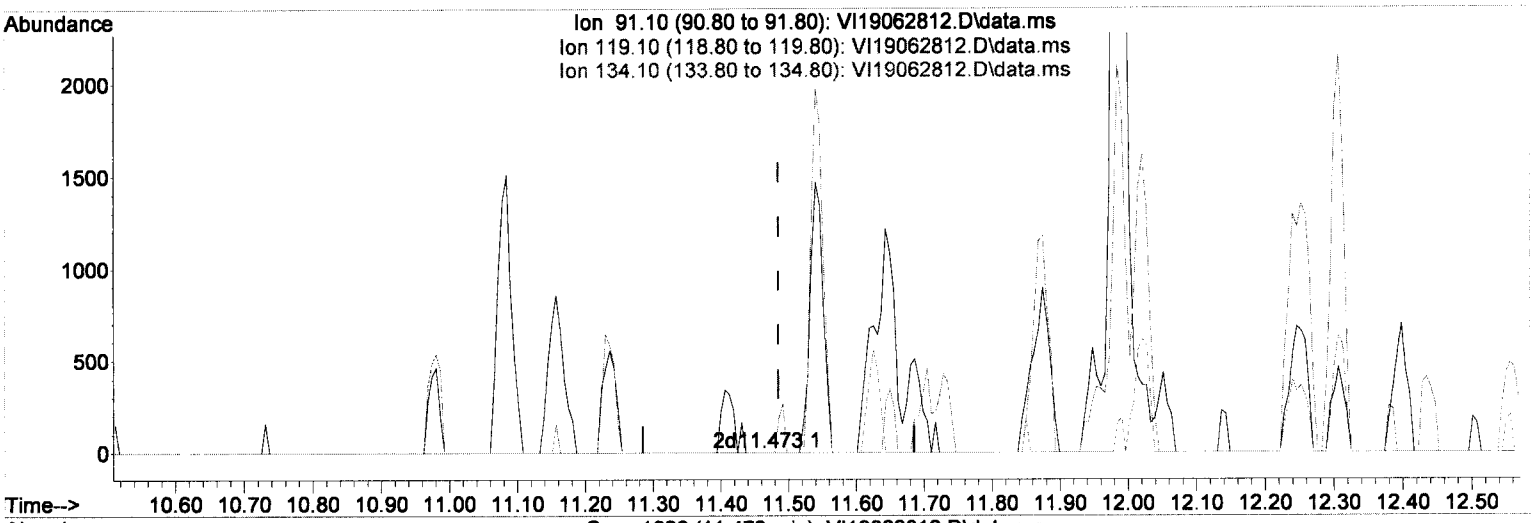
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	134.56
134.10	38.80	0.00#
0.00	0.00	0.00

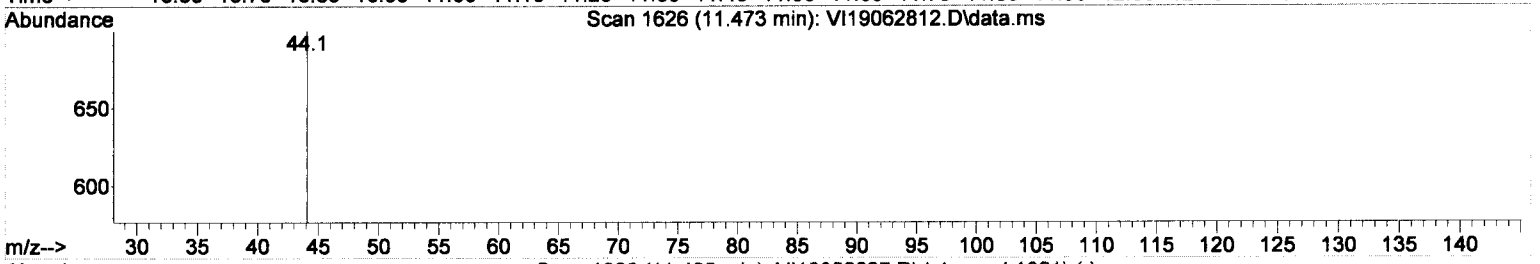
MC 6/28/19

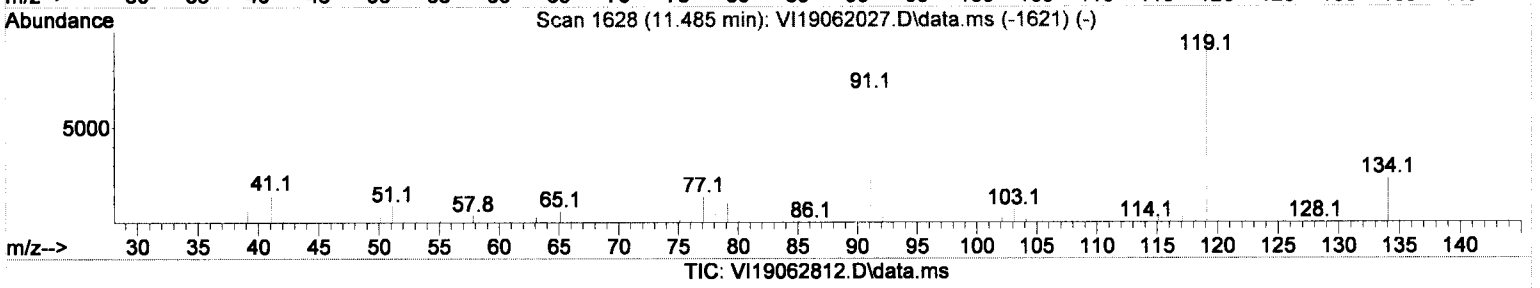
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







(76) tert-Butylbenzene

11.473min (-0.012) 0.00 ug/L m

response 0

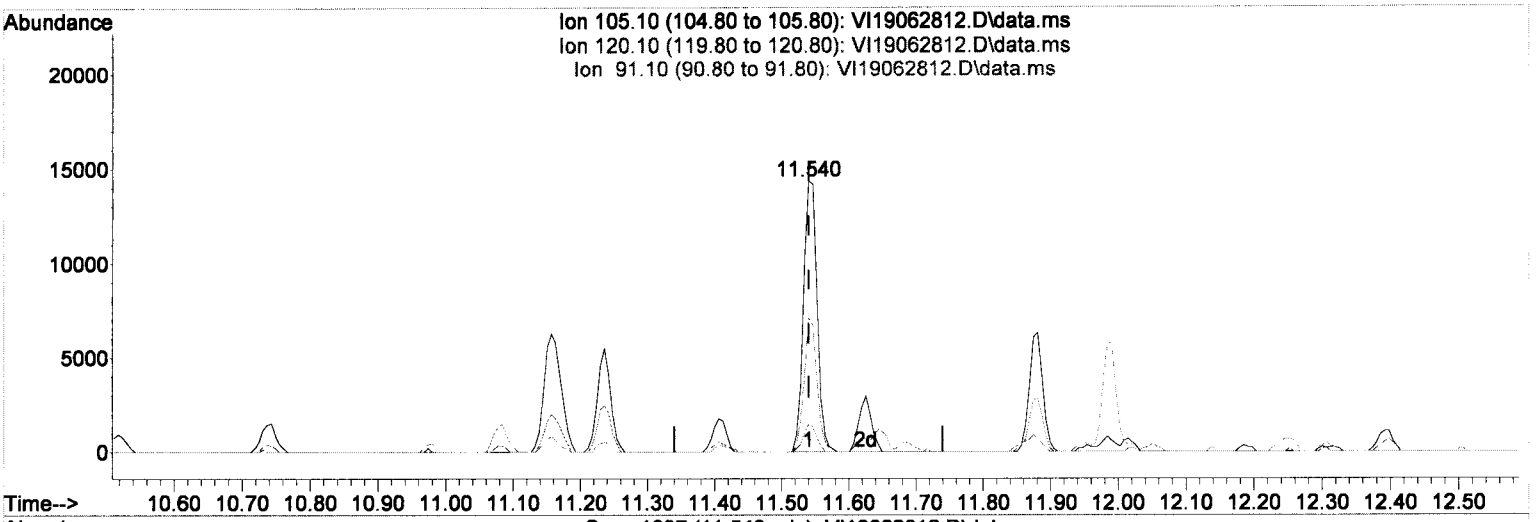
Ion	Exp%	Act%
91.10	100.00	0.00
119.10	156.60	0.00#
134.10	38.80	0.00#
0.00	0.00	0.00

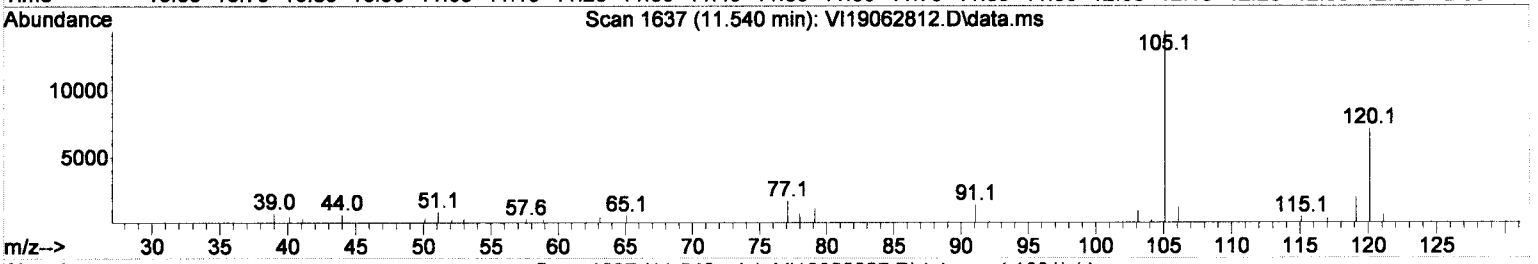
NP 6/28/19

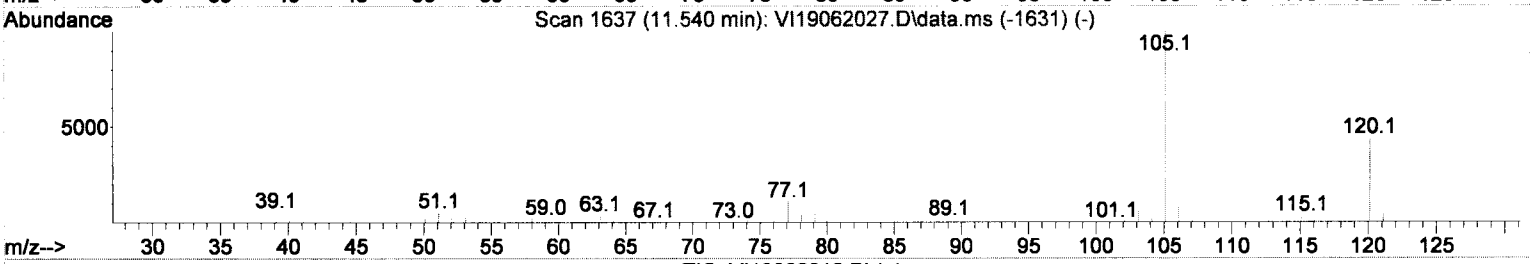
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(77) 1,2,4-Trimethylbenzene

11.540min (-0.000) 2.48 ug/L

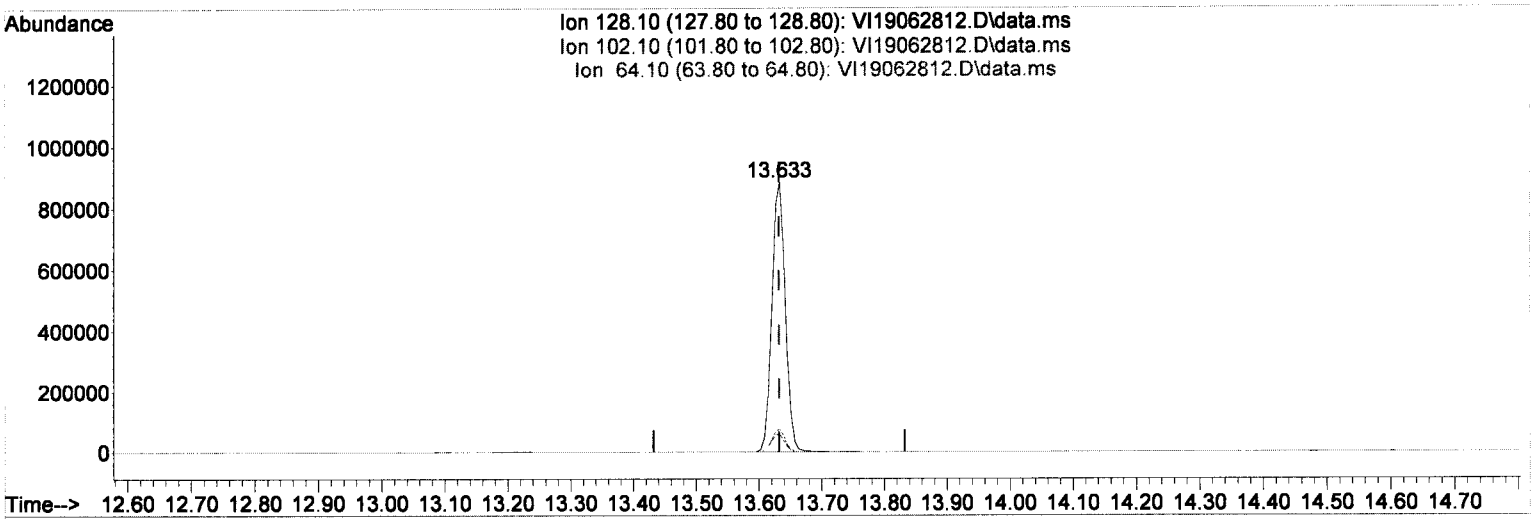
response 20375

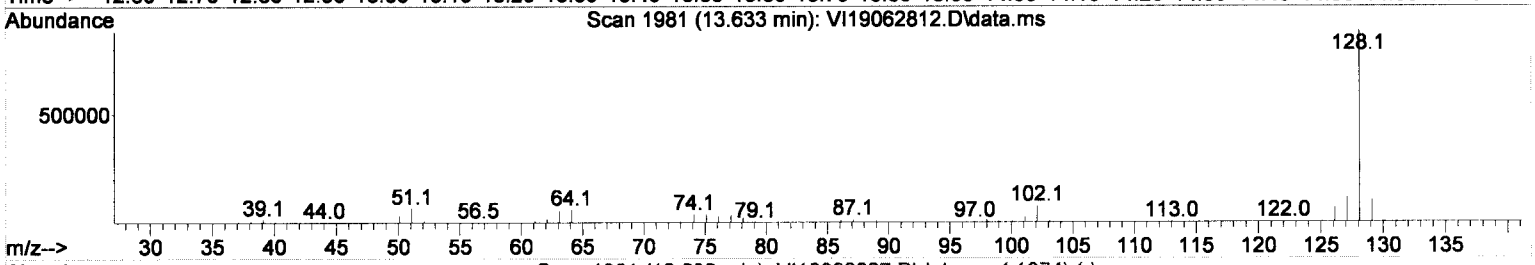
Ion	Exp%	Act%
105.10	100.00	100.00
120.10	49.80	49.54
91.10	10.50	10.24
0.00	0.00	0.00

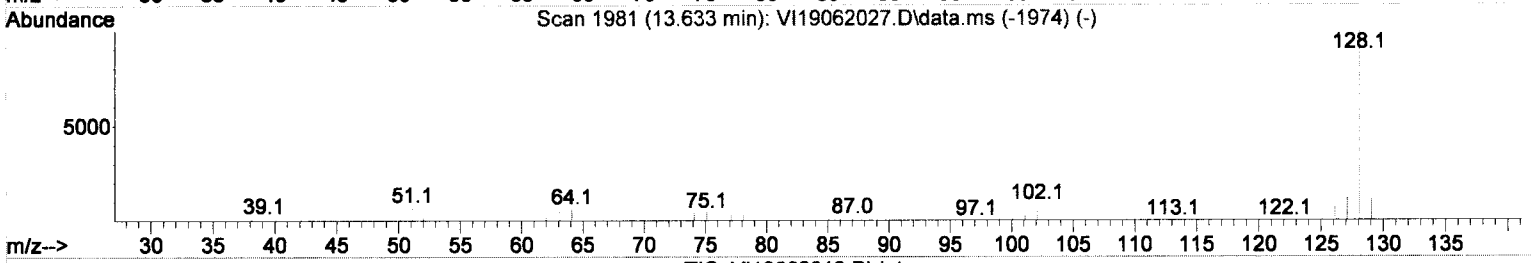
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062812.D\data.ms

(87) Naphthalene

13.633min (+ 0.001) 151.71 ug/L

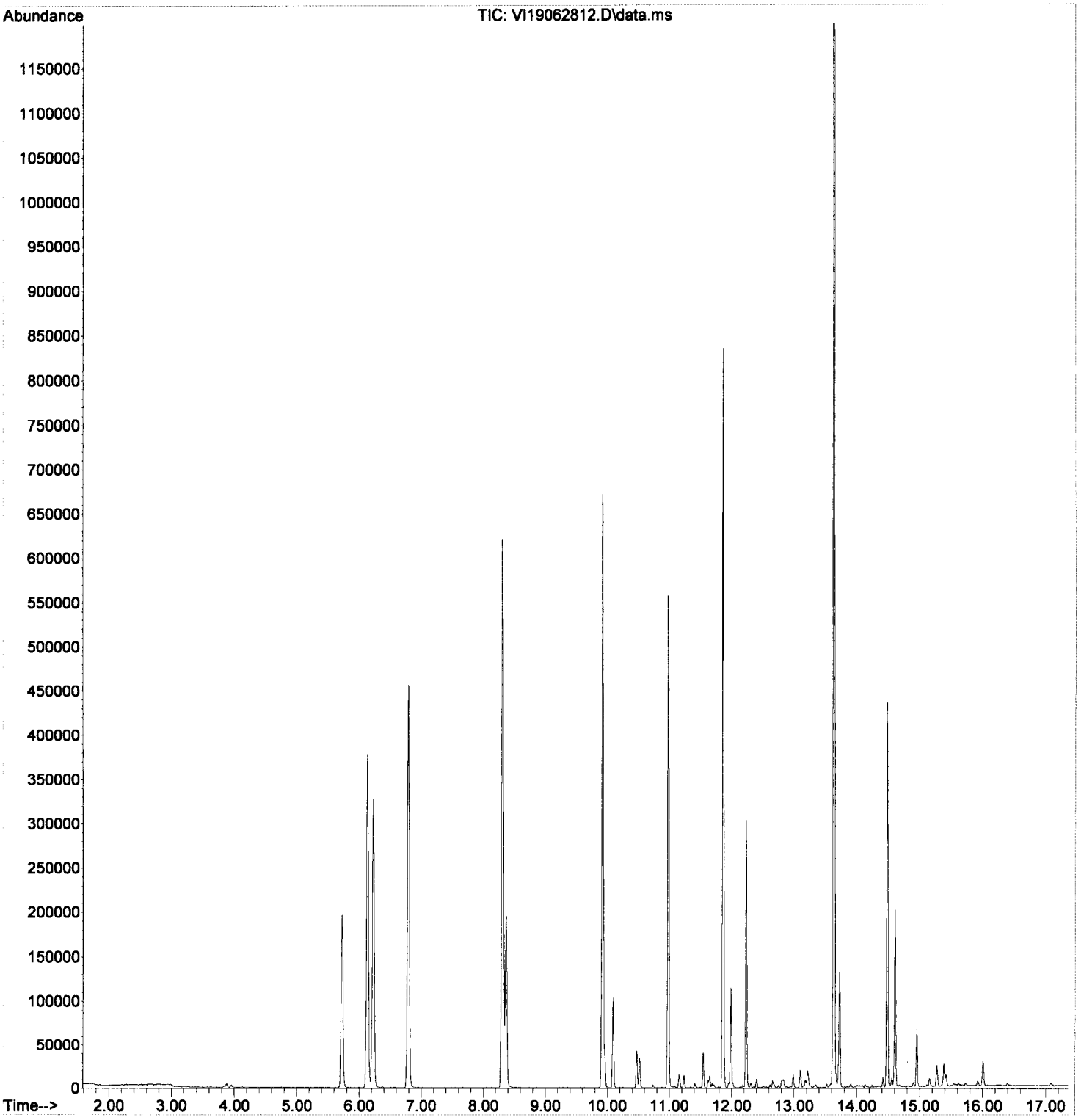
response 1322832

Ion	Exp%	Act%
128.10	100.00	100.00
102.10	7.60	8.41
64.10	4.70	6.56
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062812.D
Acq On : 28 Jun 2019 1:21 pm
Operator : TNL
Sample : A9F0860-02RE1@10
Misc : 10X 5mL/50mL 8260C/GX RR-03
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 13:53:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	245881	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	408928	49.45	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	141392	49.19	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	479446	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	365861	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	271409	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	5102661m	650.14	ug/L	
5) TPHg (C5-C9)	9.890	TIC	1935473m	163.29	ug/L	
6) TPHg (C6-C10)	9.890	TIC	1844925m	187.92	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	2761758m	204.81	ug/L	

6/28/19 NM

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

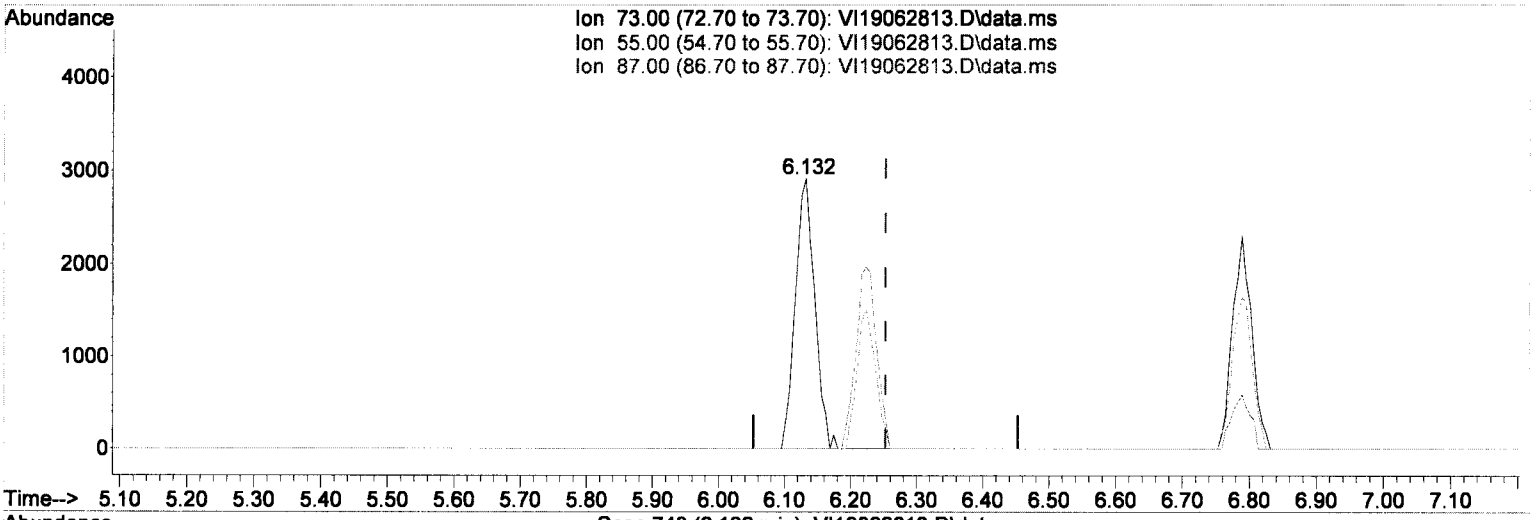
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	245881	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	365861	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	173757	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	132789	50.10 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	408928	49.97 ug/L	0.00
48) Toluene-d8 (S)	8.304	98	479447	50.16 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	141392	49.12 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.904	50	281	0.09 ug/L #	47
6) Chloroethane	2.488	64	506	0.49 ug/L #	36
10) Carbon Disulfide	3.260	76	681	0.11 ug/L	78
14) Methylene Chloride	3.887	84	2041	Below Cal	83
15) Acetone	3.954	43	3195	2.67 ug/L	95
35) Benzene	6.132	78	371249	36.19 ug/L	97
36) tert-Amyl methyl ether...	6.132	73	5952	0.77 ug/L #	46
49) Toluene	8.364	91	162771	15.60 ug/L	98
59) Ethylbenzene	9.958	91	21989	2.01 ug/L	98
61) m,p-Xylenes (2)	10.092	91	54762	6.65 ug/L	100
62) o-Xylene	10.469	91	22337	2.66 ug/L	99
63) Styrene	10.518	104	15613	2.43 ug/L	98
65) Isopropylbenzene	10.737	105	2259	0.23 ug/L	92
69) n-Propylbenzene	11.084	91	1892	0.16 ug/L	78
72) 1,3,5-Trimethylbenzene	11.236	105	7268	0.91 ug/L	94
74) t-1,4-Dichloro-2-butene	11.242	53	122	0.14 ug/L #	1
76) tert-Butylbenzene	11.540	91	2028	0.44 ug/L #	52
77) 1,2,4-Trimethylbenzene	11.540	105	19907	2.48 ug/L	93
78) sec-Butylbenzene	11.625	105	3759	0.38 ug/L	90
87) Naphthalene	13.633	128	1360947	160.25 ug/L	96

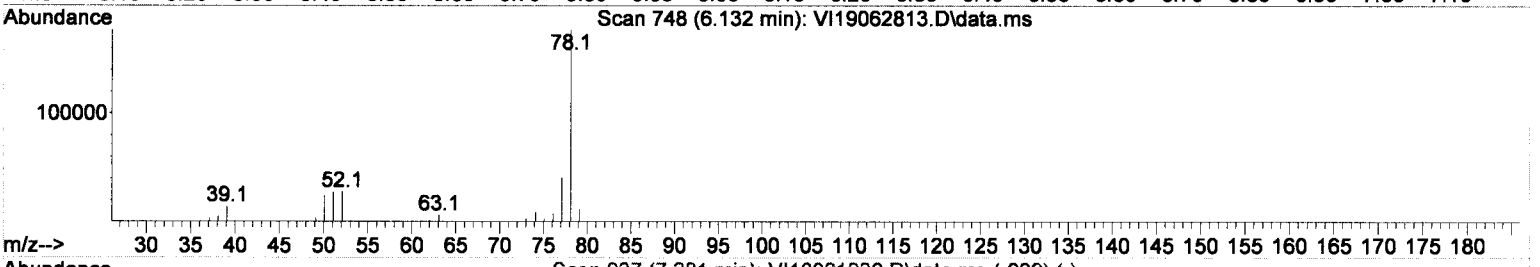
(#) = qualifier out of range (m) = manual integration (+) = signals summed

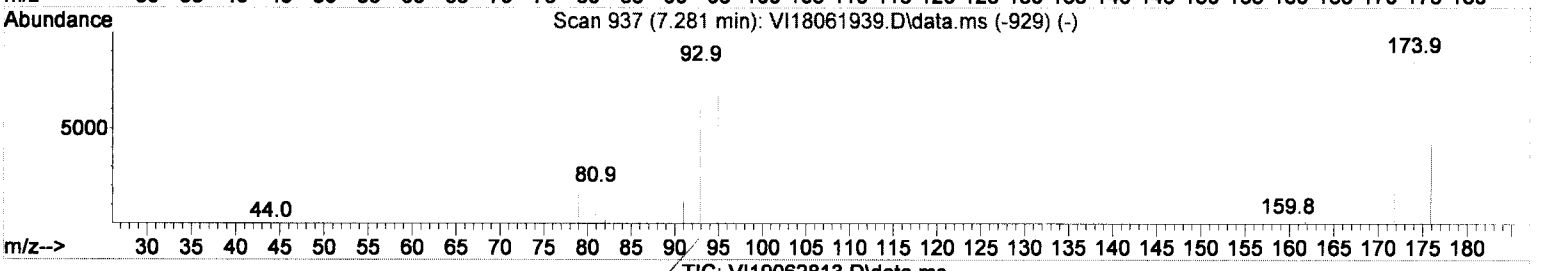
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:18:46 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.132min (-0.121) 0.77 ug/L

response 5952

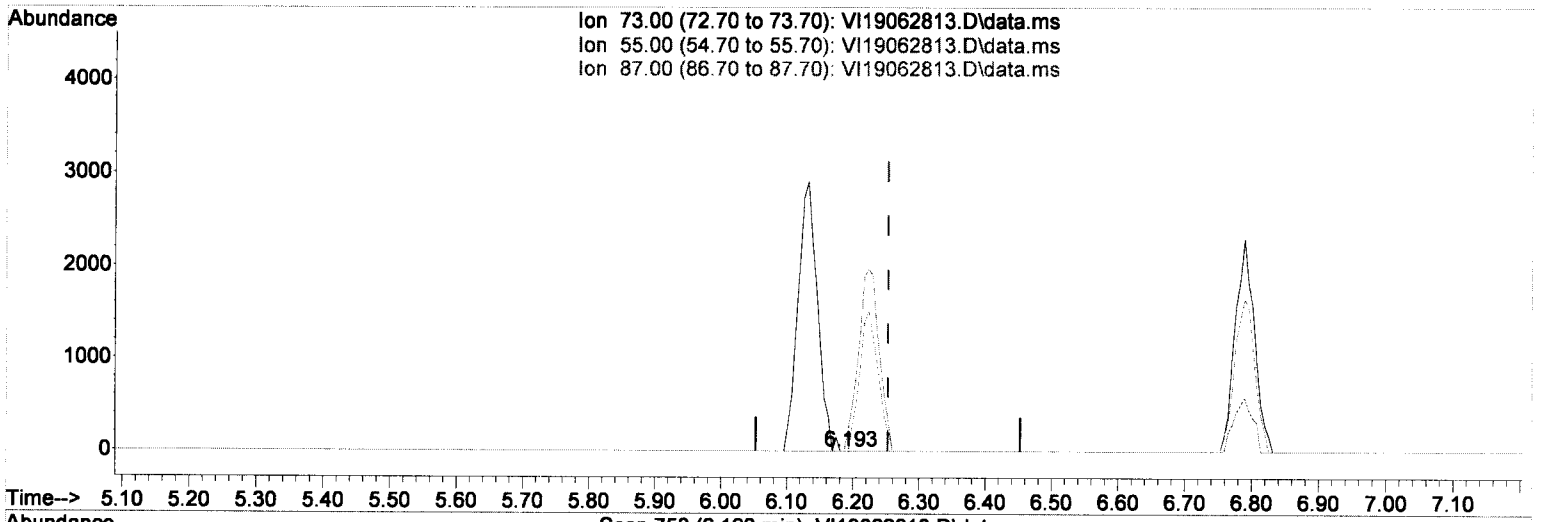
Ion	Exp%	Act%
73.00	100.00	100.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

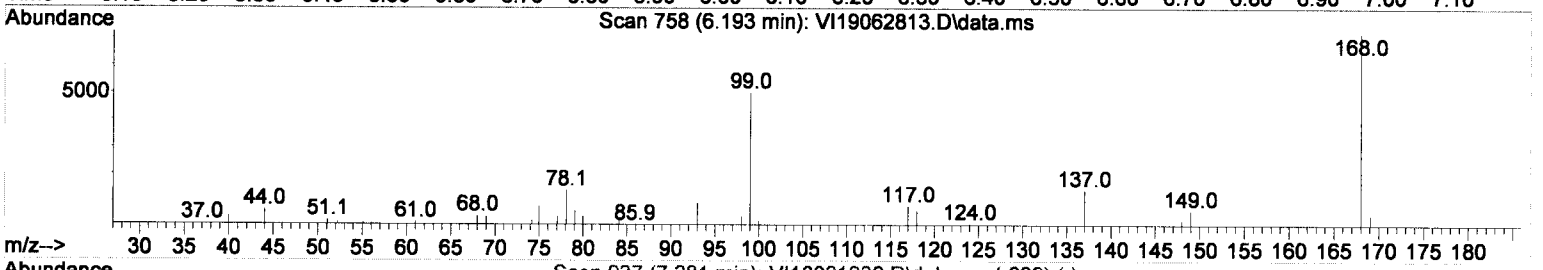
ME 6/28/19

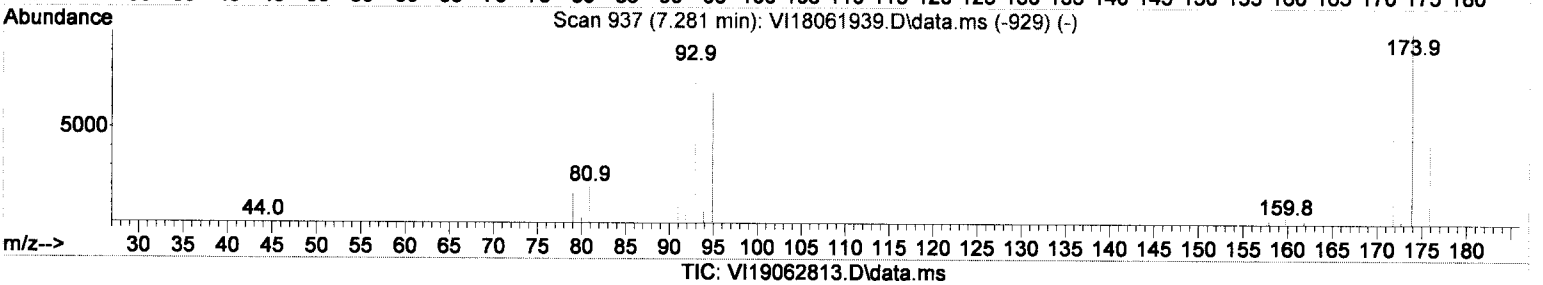
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:18:46 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(36) tert-Amyl methyl ether (TAME)

6.193min (-0.060) 0.00 ug/L m

response 0

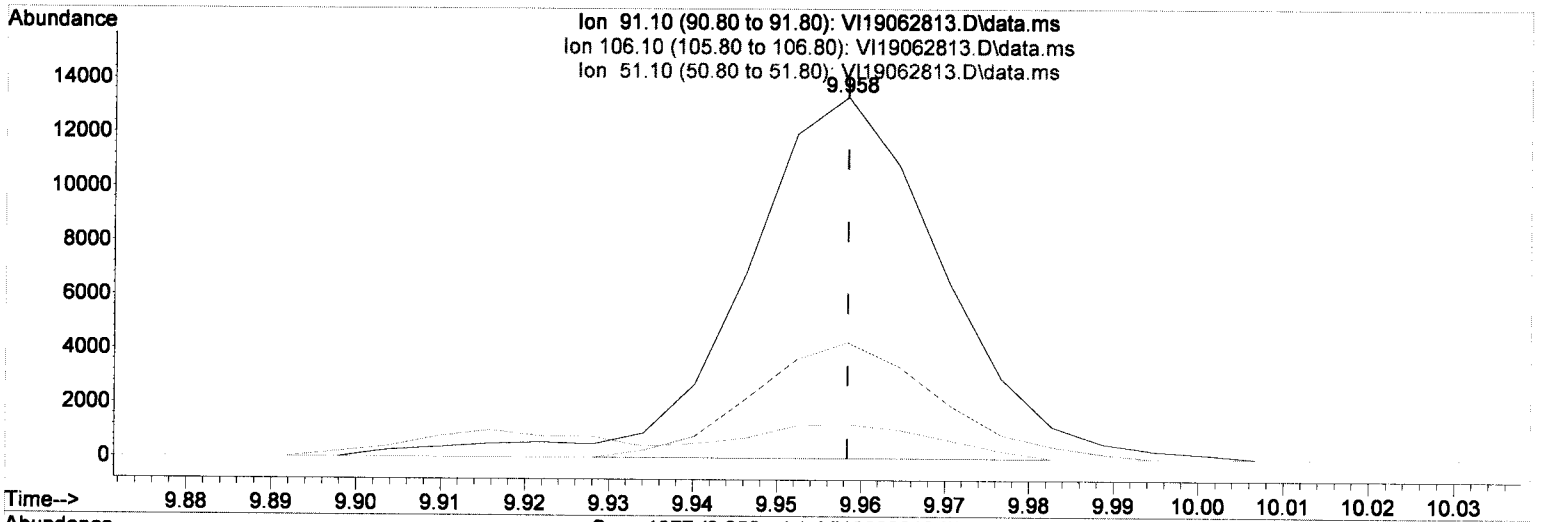
Ion	Exp%	Act%
73.00	100.00	0.00
55.00	32.20	0.00#
87.00	24.60	0.00
0.00	0.00	0.00

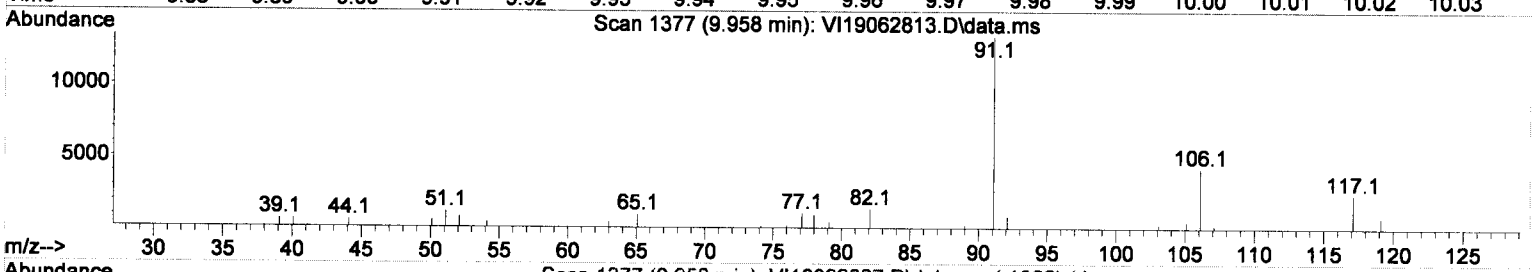
ND
6/28/19 mf

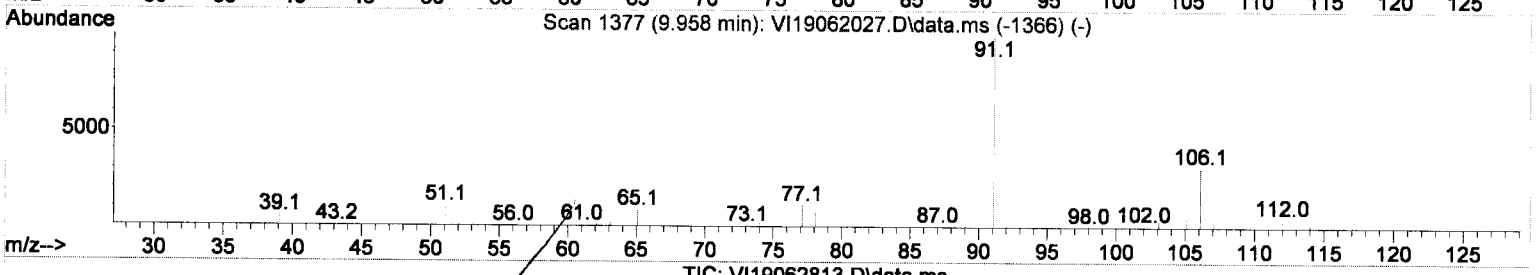
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(59) Ethylbenzene (C)

9.958min (0.000) 2.01 ug/L

response 21989

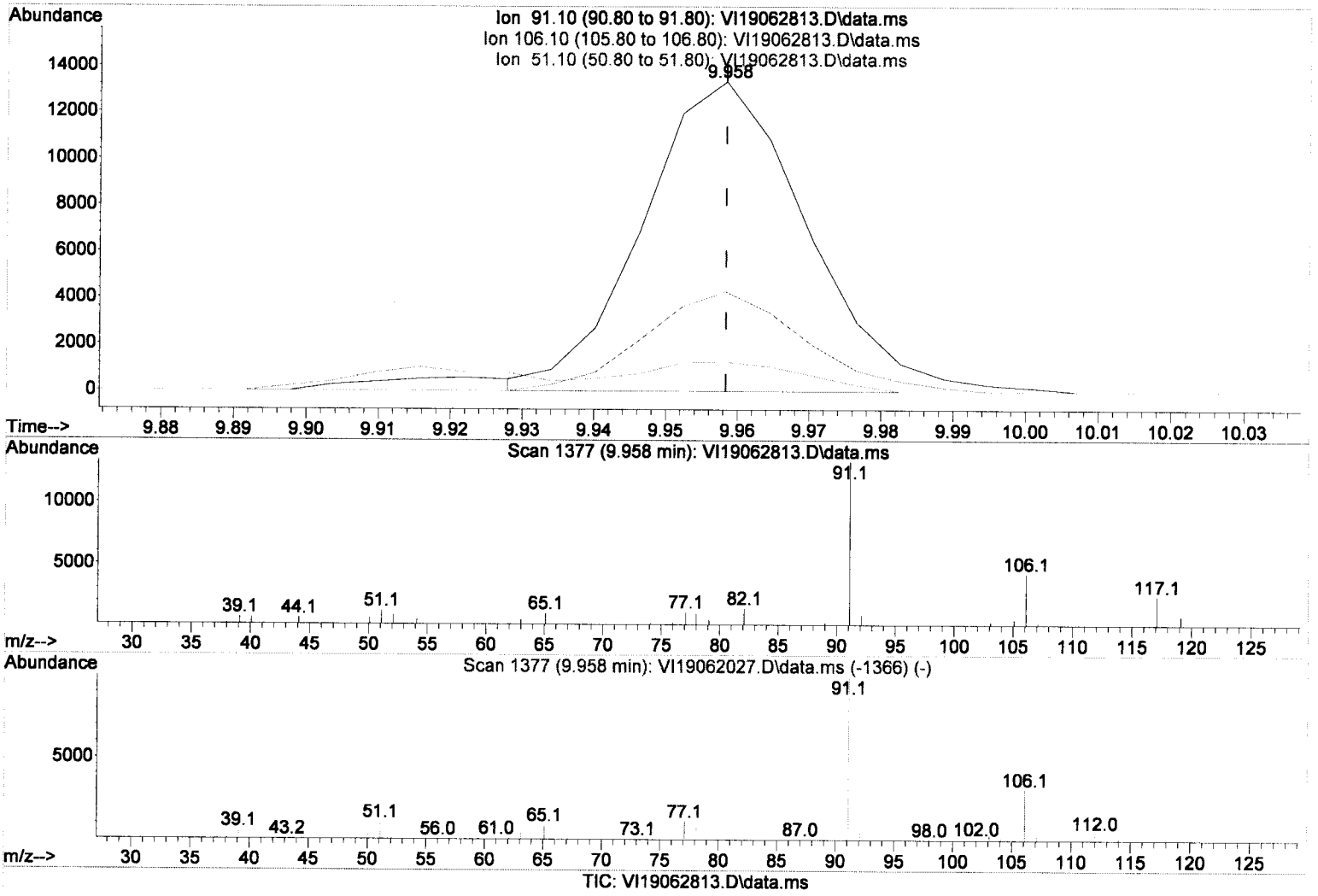
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.10
51.10	10.40	9.36
0.00	0.00	0.00

ML 6/28/19 mc

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



TIC: VI19062813.D\data.ms

(59) Ethylbenzene (C)

9.958min (0.000) 1.94 ug/L m

6/28/19 mi

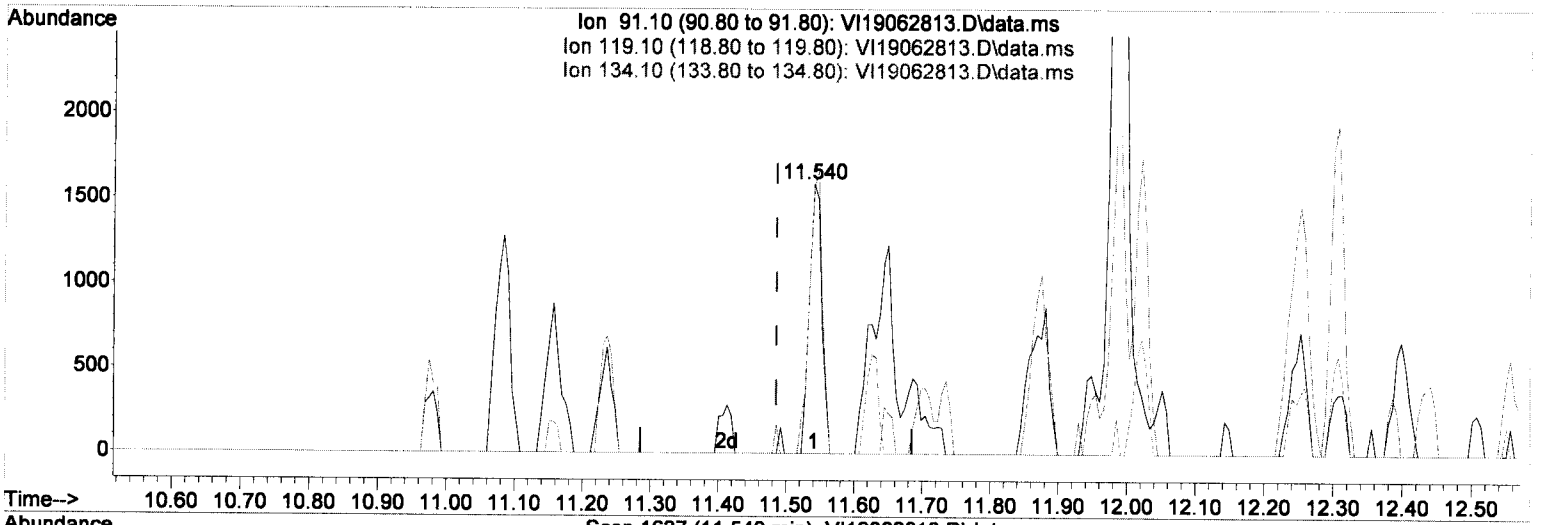
response 21189

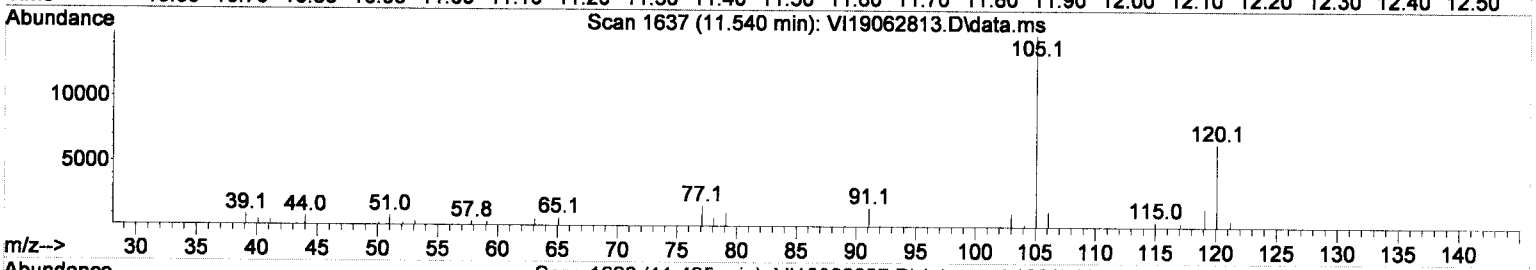
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	32.10
51.10	10.40	9.36
0.00	0.00	0.00

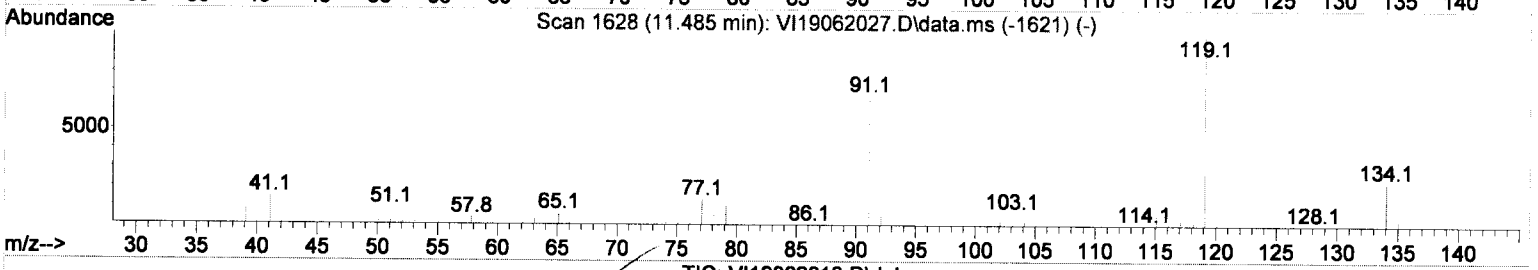
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(76) tert-Butylbenzene

11.540min (+ 0.055) 0.44 ug/L

response 2028

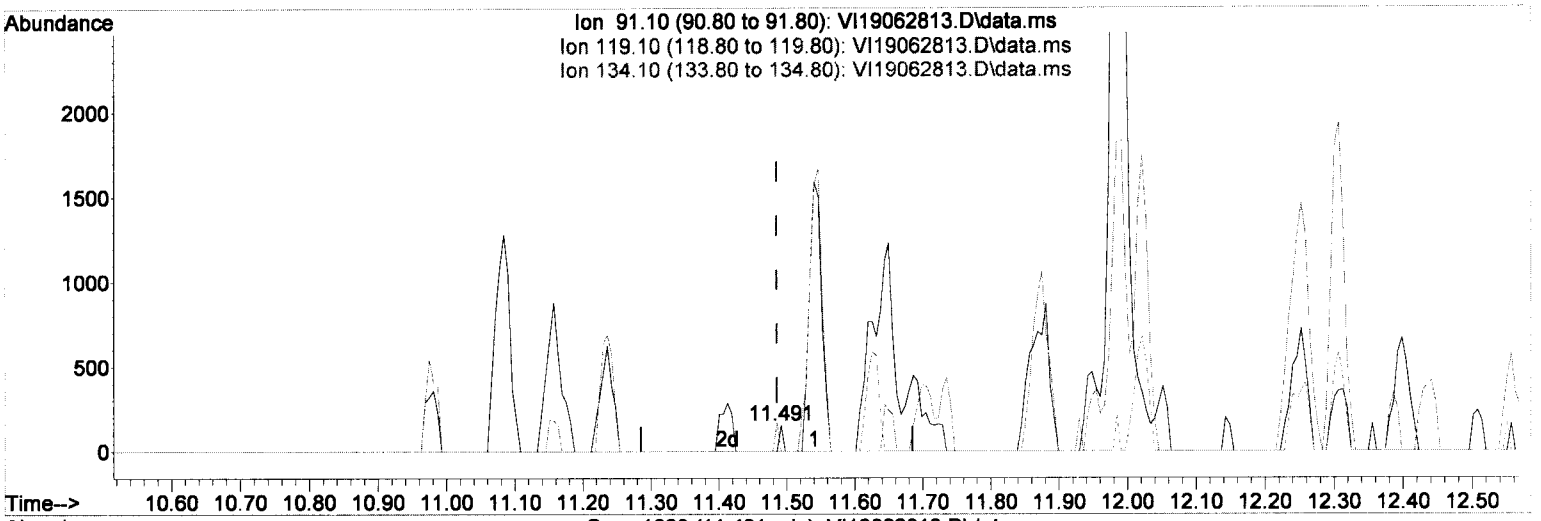
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	98.81#
134.10	38.80	0.00#
0.00	0.00	0.00

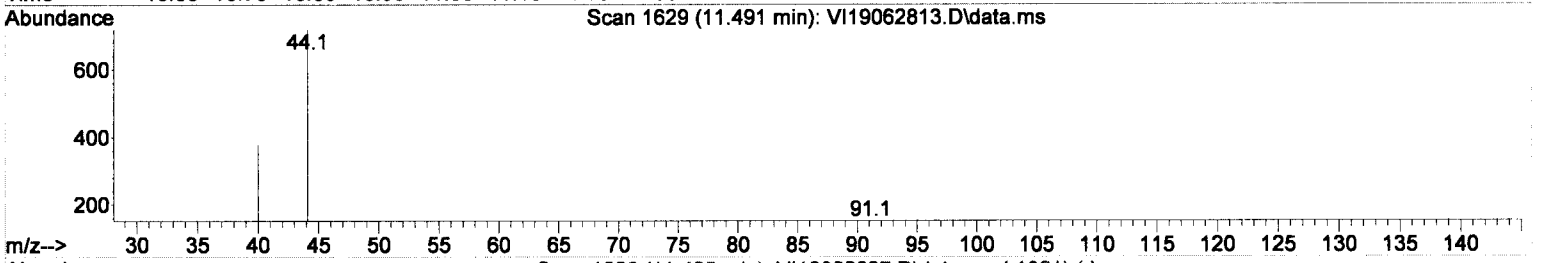
ME 6/28/19 AM

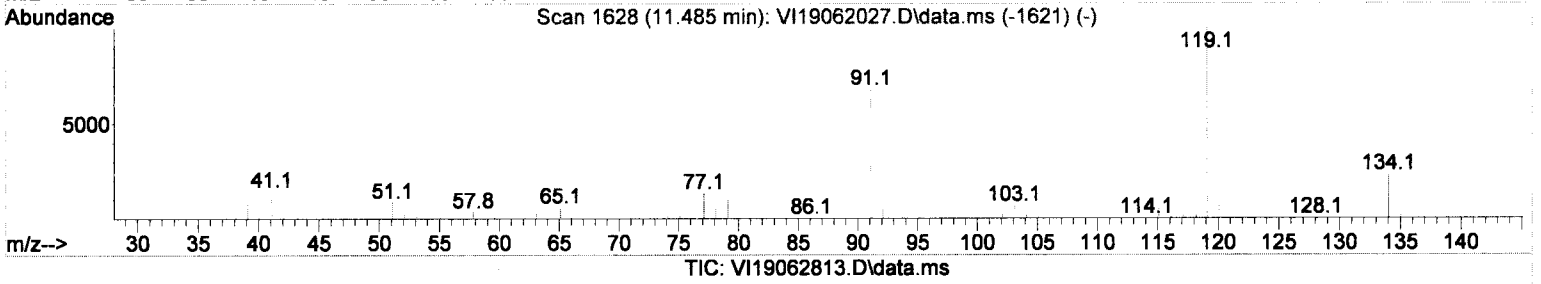
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062813.D\data.ms

(76) tert-Butylbenzene

11.491min (+ 0.006) 0.01 ug/L (m)

response 55

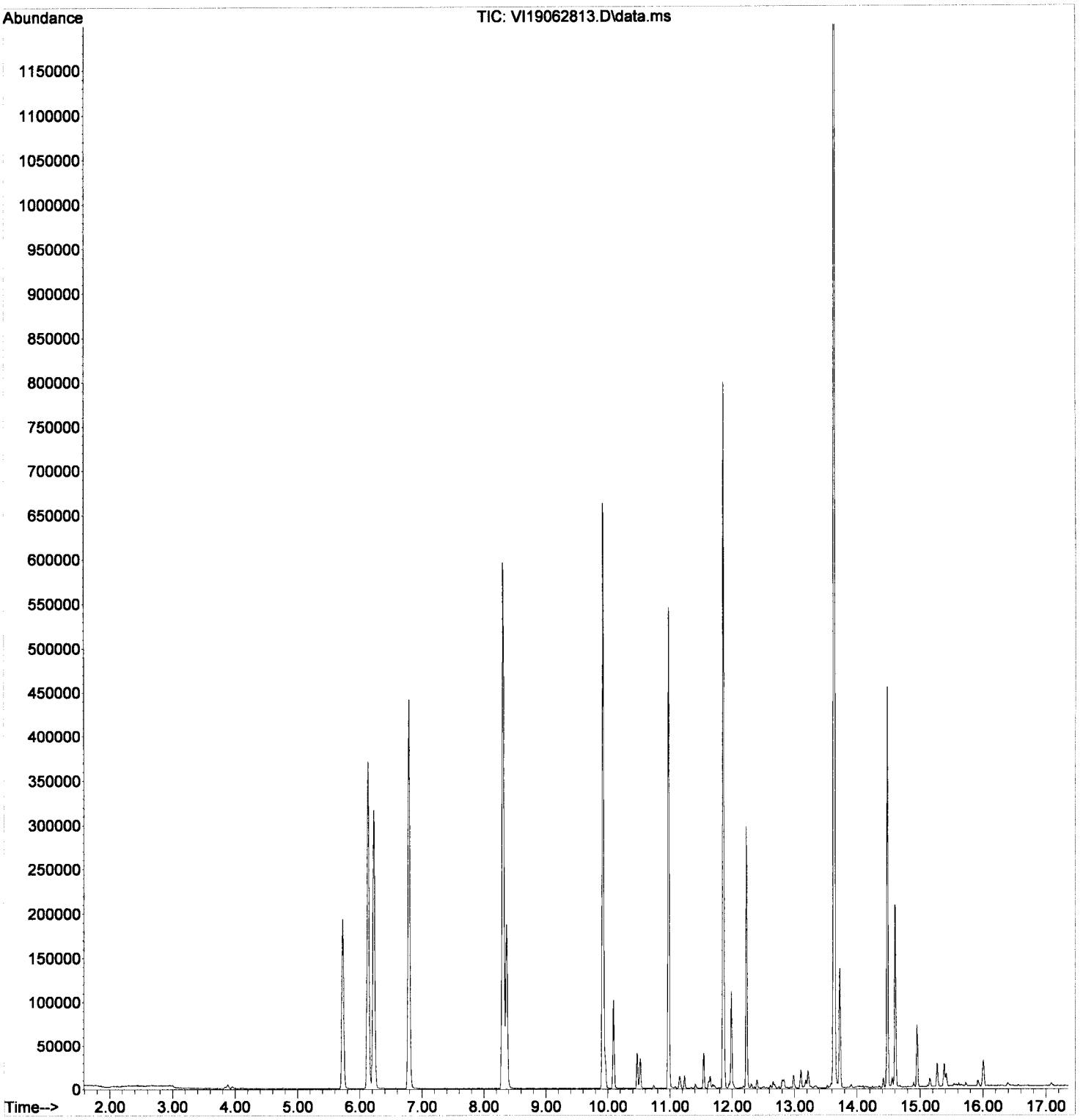
Ion	Exp%	Act%
91.10	100.00	100.00
119.10	156.60	0.00#
134.10	38.80	0.00#
0.00	0.00	0.00

CMK 6/28/2019

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062813.D
Acq On : 28 Jun 2019 1:48 pm
Operator : TNL
Sample : 9061478-DUP1@10
Misc : 10X 5mL/50mL A9F0860-02RE1
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:17:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062814.D
Acq On : 28 Jun 2019 2:15 pm
Operator : TNL
Sample : 9061478-MS1@10
Misc : 10X 5mL/50mL A19F366 (A9F0860-02RE1)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

6/28/2019

Quant Time: Jun 28 14:36:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	251471	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	377902	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	181992	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	135869	50.12	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	418136	49.96	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	489734	49.60	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	147006	48.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.672	85	52654	20.19	ug/L		98
3) Chloromethane	1.891	50	60066	18.09	ug/L		97
4) Vinyl Chloride	1.995	62	63772	21.32	ug/L		97
5) Bromomethane	2.360	96	30973	20.06	ug/L		97
6) Chloroethane	2.494	64	22196	20.90	ug/L		84
7) Trichlorofluoromethane	2.658	101	72289	21.53	ug/L		97
8) Ethanol	3.236	45	75680	1229.79	ug/L		89
9) 1,1-Dichloroethene	3.230	61	75948	22.35	ug/L		96
10) Carbon Disulfide	3.248	76	126405	20.64	ug/L		99
11) Freon 113	3.285	101	48090	21.79	ug/L		96
12) Iodomethane	3.388	142	12176	11.74	ug/L		92
13) Acrolein	3.619	56	14206	20.75	ug/L		71
14) Methylene Chloride	3.875	84	52994	20.41	ug/L		92
15) Acetone	3.942	43	47332	38.65	ug/L		98
16) t-1,2-Dichloroethene	4.039	61	71153	21.44	ug/L		97
17) n-Hexane	4.124	86	11031	23.80	ug/L	#	82
18) Methyl-tert-butyl-ether	4.167	73	160656	19.77	ug/L		91
19) tert-Butanol (TBA)	4.294	59	670532	1226.04	ug/L		88
20) Diisopropyl ether (DIPE)	4.568	45	42361	4.99	ug/L		92
21) 1,1-Dichloroethane	4.684	63	94229	21.54	ug/L		96
22) Acrylonitrile	4.751	53	29367	21.11	ug/L		97
23) Ethyl-tert-butyl ether...	4.945	59	40446	4.92	ug/L		97
24) Vinyl Acetate	4.958	43	122180	22.07	ug/L		97
25) c-1,2-Dichloroethene	5.244	61	74433	21.01	ug/L		93
26) 2,2-Dichloropropane	5.353	77	68495	20.05	ug/L		97
27) Bromochloromethane	5.450	130	37263	22.82	ug/L		93
28) Chloroform	5.529	83	97257	21.54	ug/L		99
29) Carbon Tetrachloride	5.663	117	62871	22.77	ug/L		95
30) Tetrahydrofuran	5.706	42	26776	18.90	ug/L		88
31) 1,1,1-Trichloroethane	5.736	97	78526	21.82	ug/L		96
33) 1,1-Dichloropropene	5.864	75	74415	21.69	ug/L		96
34) 2-Butanone (MEK)	5.858	43	80949	39.69	ug/L		99
35) Benzene	6.126	78	587569	56.01	ug/L		97
36) tert-Amyl methyl ether...	6.253	73	37576	4.76	ug/L		97
37) 1,2-Dichloroethane (EDC)	6.345	62	71598	20.67	ug/L		91
38) iso-Butyl Alcohol	6.381	43	95439	458.59	ug/L		91
40) Trichloroethene (TCE)	6.746	130	55650	21.93	ug/L		94
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	30129	4.97	ug/L		90
42) Dibromomethane	7.202	93	36059	21.60	ug/L		91
43) 1,2-Dichloropropane	7.312	63	58497	21.77	ug/L		91
44) Bromodichloromethane	7.385	83	68700	22.16	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.097	63	334	0.16	ug/L		100
47) c-1,3-Dichloropropene	8.097	75	80977	20.86	ug/L		89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062814.D
Acq On : 28 Jun 2019 2:15 pm
Operator : TNL
Sample : 9061478-MS1@10
Misc : 10X 5mL/50mL A19F366 (A9F0860-02RE1)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:36:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

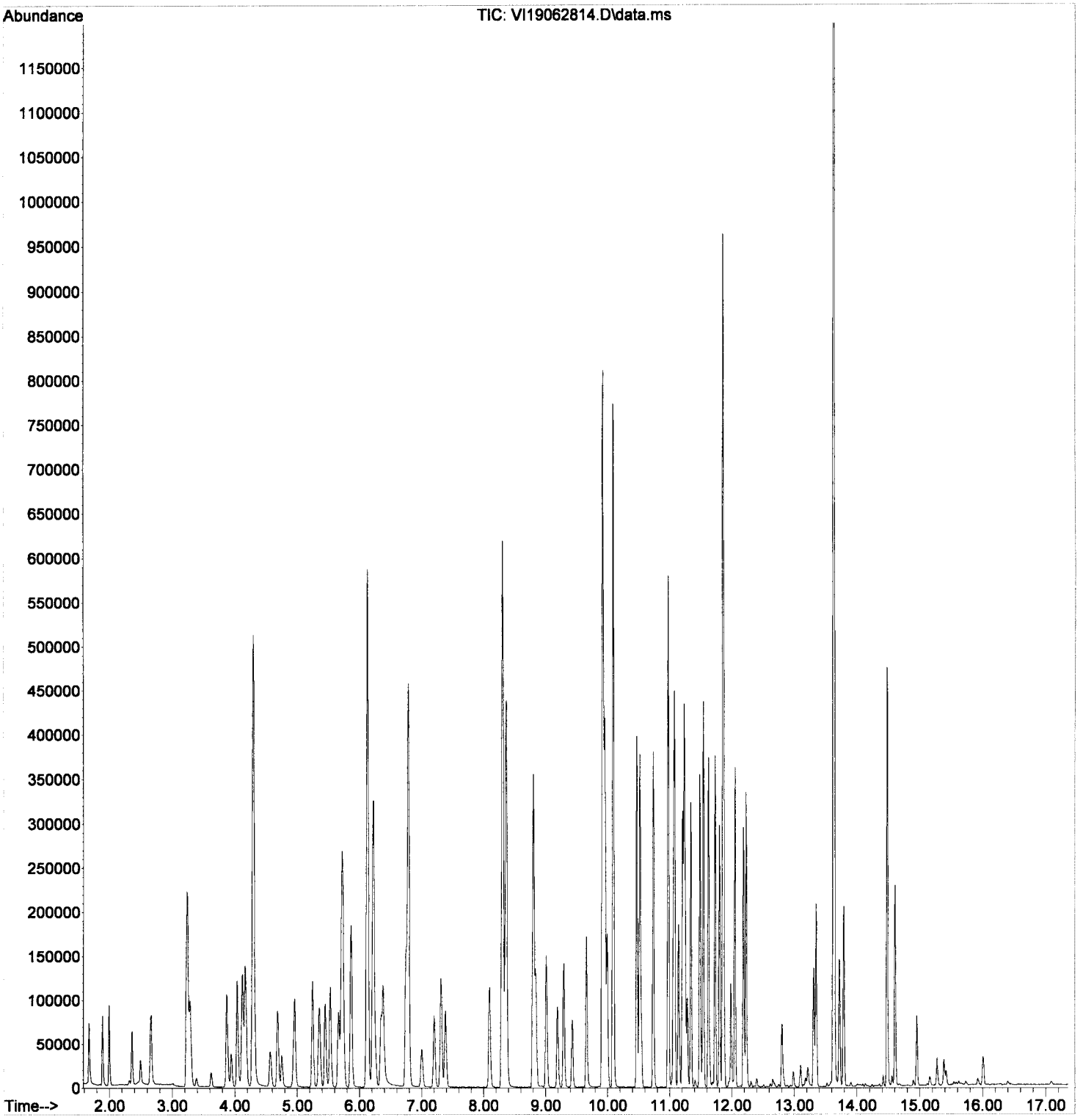
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	390573	36.23	ug/L		100
50) Tetrachloroethene (PCE)	8.802	166	54172	22.12	ug/L		91
51) 4-Methyl-2-Pentanone (...	8.802	43	154887	40.98	ug/L		99
52) t-1,3-Dichloropropene	8.839	75	74230	20.88	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	51581	21.69	ug/L		98
54) Dibromochloromethane	9.192	129	53033	23.78	ug/L		95
55) 1,3-Dichloropropane	9.295	76	90129	21.27	ug/L		94
56) 1,2-Dibromoethane (EDB)	9.429	107	55672	22.23	ug/L		96
57) 2-Hexanone	9.660	43	112263	40.34	ug/L		93
58) Chlorobenzene	9.934	112	142952	21.81	ug/L		96
59) Ethylbenzene	9.958	91	265937	23.55	ug/L		100
60) 1,1,1,2-Tetrachloroethane	9.995	131	46919	23.44	ug/L		92
61) m,p-Xylenes (2)	10.086	91	422240	49.64	ug/L		97
62) o-Xylene	10.469	91	211184	24.36	ug/L		98
63) Styrene	10.518	104	165129	24.93	ug/L		94
64) Bromoform	10.542	173	36309	24.51	ug/L		95
65) Isopropylbenzene	10.737	105	227833	22.19	ug/L		99
68) Bromobenzene	11.065	156	59126	21.20	ug/L		84
69) n-Propylbenzene	11.078	91	269005	21.72	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	50423	21.58	ug/L		92
71) 2-Chlorotoluene	11.211	126	53421	21.35	ug/L		98
72) 1,3,5-Trimethylbenzene	11.236	105	187200	22.36	ug/L		98
73) 1,2,3-Trichloropropane	11.254	110	23340	21.75	ug/L		91
74) t-1,4-Dichloro-2-butene	11.284	53	18818	20.78	ug/L	#	72
75) 4-Chlorotoluene	11.339	91	161308	20.79	ug/L		94
76) tert-Butylbenzene	11.485	91	101554	21.05	ug/L		93
77) 1,2,4-Trimethylbenzene	11.540	105	204426	24.35	ug/L		95
78) sec-Butylbenzene	11.625	105	227053	21.87	ug/L		98
79) 4-Isopropyltoluene	11.729	119	183585	22.40	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	104563	21.42	ug/L		98
81) 1,4-Dichlorobenzene	11.869	146	105812	21.00	ug/L		96
82) n-Butylbenzene	12.051	91	167773	22.32	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	100241	21.20	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	15769	21.37	ug/L		90
85) Hexachlorobutadiene	13.310	223	14852	21.79	ug/L		93
86) 1,2,4-Trichlorobenzene	13.347	180	59740	21.97	ug/L		97
87) Naphthalene	13.633	128	1663088	186.96	ug/L		97
88) 1,2,3-Trichlorobenzene	13.791	180	57439	21.76	ug/L		97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F28013\
Data File : VI19062814.D
Acq On : 28 Jun 2019 2:15 pm
Operator : TNL
Sample : 9061478-MS1@10
Misc : 10X 5mL/50mL A19F366 (A9F0860-02RE1)
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 28 14:36:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Volatile Organic Compounds by EPA 8260C
Calibration Data

Sequence 9F20044 (Cal ID A9F2102) VOA-GCMS9

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9F20044	Instrument:	VOA-GCMS9
Date:	06/20/19 16:38	Calibration:	A9F2102

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9F20044-IBL1	Water	QC	QC			A19C125	
2	9F20044-TUN1	Water	QC	QC			A19C125	
3	9F20044-ICB1	Water	QC	QC			A19C125	
4	9F20044-CAL1	Water	QC	QC			A19C125	A19F282
5	9F20044-CAL2	Water	QC	QC			A19C125	A19F283
6	9F20044-CAL3	Water	QC	QC			A19C125	A19F284
7	9F20044-CAL4	Water	QC	QC			A19C125	A19F285
8	9F20044-CAL5	Water	QC	QC			A19C125	A19F286
9	9F20044-CAL6	Water	QC	QC			A19C125	A19F287
10	9F20044-CAL7	Water	QC	QC			A19C125	A19F288
11	9F20044-CAL8	Water	QC	QC			A19C125	A19F289
12	9F20044-CAL9	Water	QC	QC			A19C125	A19F290
13	9F20044-IBL2	Water	QC	QC			A19C125	
14	9F20044-CALA	Water	QC	QC			A19C125	A19F291
15	9F20044-IBL3	Water	QC	QC			A19C125	
16	9F20044-CALB	Water	QC	QC			A19C125	A19F292
17	9F20044-IBL4	Water	QC	QC			A19C125	
18	9F20044-IBL5	Water	QC	QC			A19C125	
19	9F20044-ICV1	Water	QC	QC			A19C125	A19F293
20	9F20044-ICV2	Water	QC	QC			A19C125	A19E195
21	9F20044-IBL6	Water	QC	QC			A19C125	
22	9F20044-TUN2	Water	QC	QC			A19C125	
23	9F20044-ICB2	Water	QC	QC			A19E148	
24	9F20044-IBL7	Water	QC	QC			A19C125	
25	9F20044-CALC	Water	QC	QC			A19C125	A19F179
26	9F20044-CALD	Water	QC	QC			A19C125	A19F176
27	9F20044-CALE	Water	QC	QC			A19C125	A19F177
28	9F20044-CALF	Water	QC	QC			A19C125	A19F178
29	9F20044-CALG	Water	QC	QC			A19C125	A19F180
30	9F20044-CALH	Water	QC	QC			A19C125	A19F181
31	9F20044-CALI	Water	QC	QC			A19C125	A19F182
32	9F20044-CALJ	Water	QC	QC			A19C125	A19F183
33	9F20044-IBL8	Water	QC	QC			A19C125	
34	9F20044-IBL9	Water	QC	QC			A19C125	
35	9F20044-ICV3	Water	QC	QC			A19C125	A19B262
36	9F20044-IBLA	Water	QC	QC			A19C125	

+ Reactives
+ OXY

Data Entered By: 6/21/19

Data Reviewed By: 6/21/19

Comments:

Calibration Status Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	0.1	-1	50	C:\msdchem\1\data\2019-06\9F20044\VI19062020.D
2	0.2	0	50	C:\msdchem\1\data\2019-06\9F20044\VI19062021.D
3	0.5	0	50	C:\msdchem\1\data\2019-06\9F20044\VI19062022.D
4	1	1	50	C:\msdchem\1\data\2019-06\9F20044\VI19062023.D
5	2	2	50	C:\msdchem\1\data\2019-06\9F20044\VI19062024.D
6	5	5	50	C:\msdchem\1\data\2019-06\9F20044\VI19062025.D
7	10	10	50	C:\msdchem\1\data\2019-06\9F20044\VI19062026.D
8	20	20	50	C:\msdchem\1\data\2019-06\9F20044\VI19062027.D
9	50	50	50	C:\msdchem\1\data\2019-06\9F20044\VI19062028.D
10	100	100	50	C:\msdchem\1\data\2019-06\9F20044\VI19062030.D
11	200	200	50	C:\msdchem\1\data\2019-06\9F20044\VI19062032.D

#	ID	Update Time	Quant Time	Acquisition Time
1	0.1	Jun 21 10:05 2019	Jun 21 09:50 2019	20 Jun 2019 6:16 pm
2	0.2	Jun 21 10:05 2019	Jun 21 09:52 2019	20 Jun 2019 6:43 pm
3	0.5	Jun 21 10:05 2019	Jun 21 09:55 2019	20 Jun 2019 7:10 pm
4	1	Jun 21 10:05 2019	Jun 21 09:56 2019	20 Jun 2019 7:37 pm
5	2	Jun 21 10:05 2019	Jun 21 09:58 2019	20 Jun 2019 8:04 pm
6	5	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 8:31 pm
7	10	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 8:58 pm
8	20	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 9:25 pm
9	50	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 9:52 pm
10	100	Jun 21 10:05 2019	Jun 21 09:46 2019	20 Jun 2019 10:46 pm
11	200	Jun 21 10:05 2019	Jun 21 10:04 2019	20 Jun 2019 11:40 pm

VI190621W+.M Fri Jun 21 10:41:31 2019

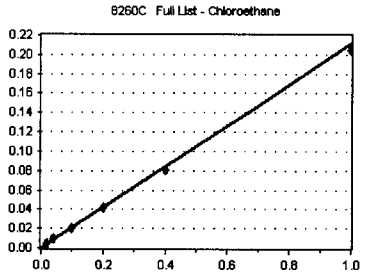
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Chloroethane

Curve Fit: **AVERAGE RF**

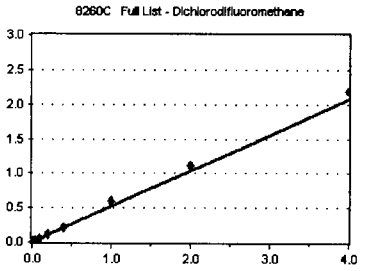


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	908	0.214	0.00
9F20044-CAL5	2	1914	0.231	0.00
9F20044-CAL6	5	4333	0.206	2.51
9F20044-CAL7	10	8771	0.210	2.51
9F20044-CAL8	20	17079	0.202	2.50
9F20044-CAL9	50	41565	0.204	2.50
~~9F20044-CALA~~	~~100~~	~~41076~~	~~9.548~~	~~2.51~~
~~9F20044-CALB~~	~~200~~	~~72831~~	~~8.917~~	~~2.49~~

AVE RF **0.211** RF RSD **5.05** AVE RT **1.67**

Dichlorodifluoromethane

Curve Fit: **AVERAGE RF**

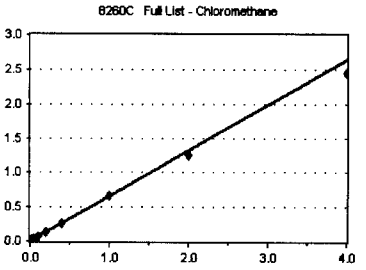


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	715	0.413	1.69
9F20044-CAL4	1	1914	0.451	1.69
9F20044-CAL5	2	4211	0.508	1.68
9F20044-CAL6	5	10727	0.510	1.69
9F20044-CAL7	10	22869	0.548	1.69
9F20044-CAL8	20	45341	0.535	1.68
9F20044-CAL9	50	120443	0.592	1.69
9F20044-CALA	100	242339	0.563	1.69
9F20044-CALB	200	445670	0.546	1.68

AVE RF **0.518** RF RSD **10.82** AVE RT **1.68**

Chloromethane

Curve Fit: **AVERAGE RF**

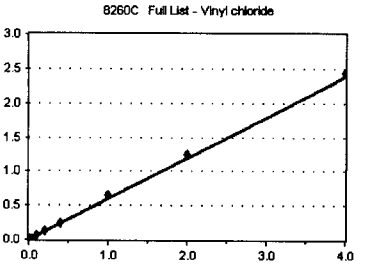


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~680~~	~~1.341~~	~~1.91~~
~~9F20044-CAL2~~	~~0.2~~	~~842~~	~~0.981~~	~~1.89~~
9F20044-CAL3	0.4	1399	0.808	1.90
9F20044-CAL4	1	2855	0.673	1.90
9F20044-CAL5	2	5408	0.653	1.90
9F20044-CAL6	5	12884	0.612	1.90
9F20044-CAL7	10	27212	0.652	1.90
9F20044-CAL8	20	53847	0.636	1.90
9F20044-CAL9	50	136445	0.671	1.90
9F20044-CALA	100	268247	0.624	1.90
9F20044-CALB	200	500665	0.613	1.90

AVE RF **0.660** RF RSD **9.10** AVE RT **1.90**

Vinyl chloride

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	502	0.585	2.00
9F20044-CAL3	0.4	1014	0.586	2.01
9F20044-CAL4	1	2289	0.539	2.00
9F20044-CAL5	2	4635	0.559	2.00
9F20044-CAL6	5	11994	0.570	2.00
9F20044-CAL7	10	25922	0.621	2.00
9F20044-CAL8	20	51551	0.608	2.00
9F20044-CAL9	50	131880	0.649	2.00
9F20044-CALA	100	267614	0.622	2.01
9F20044-CALB	200	495944	0.607	2.00

AVE RF **0.595** RF RSD **5.54** AVE RT **2.00**

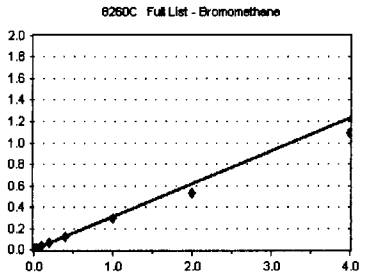
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Bromomethane

Curve Fit: **AVERAGE RF**

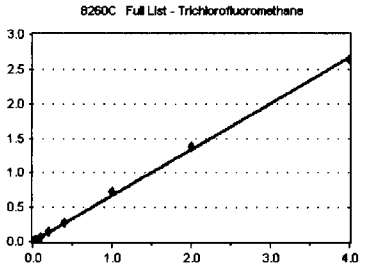


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	1674	0.394	2.37
9F20044-CAL5	2	2788	0.337	2.36
9F20044-CAL6	5	6144	0.292	2.37
9F20044-CAL7	10	12781	0.306	2.37
9F20044-CAL8	20	25381	0.300	2.37
9F20044-CAL9	50	58858	0.289	2.37
9F20044-CALA	100	114028	0.265	2.37
9F20044-CALB	200	223036	0.273	2.37

AVE RF **0.307** RF RSD **13.50** AVE RT **2.37**

Trichlorofluoromethane

Curve Fit: **AVERAGE RF**

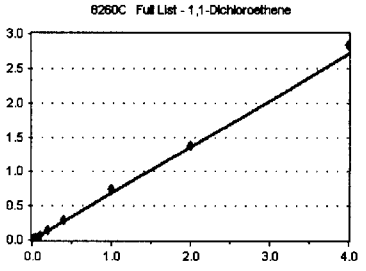


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	995	0.575	2.68
9F20044-CAL4	1	2781	0.655	2.67
9F20044-CAL5	2	5447	0.657	2.67
9F20044-CAL6	5	13723	0.652	2.67
9F20044-CAL7	10	29578	0.709	2.68
9F20044-CAL8	20	58229	0.687	2.66
9F20044-CAL9	50	147150	0.724	2.67
9F20044-CALA	100	296413	0.689	2.67
9F20044-CALB	200	538727	0.660	2.66

AVE RF **0.668** RF RSD **6.45** AVE RT **2.67**

1,1-Dichloroethene

Curve Fit: **AVERAGE RF**

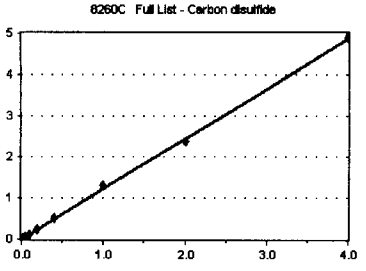


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	456	0.531	3.24
9F20044-CAL3	0.4	1077	0.622	3.24
9F20044-CAL4	1	2735	0.644	3.24
9F20044-CAL5	2	5714	0.690	3.24
9F20044-CAL6	5	14113	0.671	3.24
9F20044-CAL7	10	30179	0.723	3.24
9F20044-CAL8	20	60935	0.719	3.24
9F20044-CAL9	50	152871	0.752	3.24
9F20044-CALA	100	298169	0.693	3.24
9F20044-CALB	200	581132	0.711	3.24

AVE RF **0.676** RF RSD **9.41** AVE RT **3.24**

Carbon disulfide

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	2039	1.178	3.26
9F20044-CAL4	1	4926	1.161	3.25
9F20044-CAL5	2	9921	1.197	3.25
9F20044-CAL6	5	24895	1.183	3.25
9F20044-CAL7	10	53141	1.273	3.26
9F20044-CAL8	20	106077	1.252	3.25
9F20044-CAL9	50	265043	1.303	3.25
9F20044-CALA	100	511828	1.190	3.26
9F20044-CALB	200	996935	1.221	3.25

AVE RF **1.218** RF RSD **3.98** AVE RT **3.26**

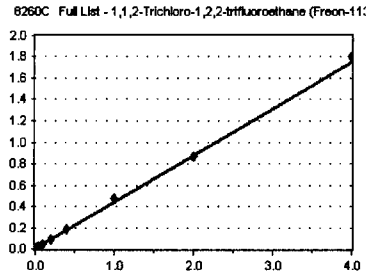
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,1,2-Trichloro-1,2,2-trifluoroetha

Curve Fit: **AVERAGE RF**

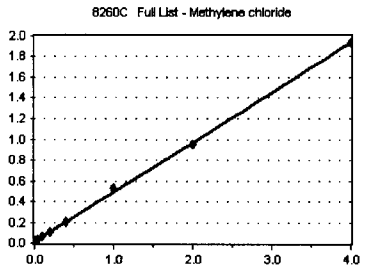


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	1682	0.396	3.29
9F20044-CAL5	2	3564	0.430	3.29
9F20044-CAL6	5	8855	0.421	3.29
9F20044-CAL7	10	19042	0.456	3.29
9F20044-CAL8	20	38212	0.451	3.29
9F20044-CAL9	50	96319	0.474	3.29
9F20044-CALA	100	185413	0.431	3.30
9F20044-CALB	200	369170	0.452	3.29

AVE RF **0.439** RF RSD **5.52** AVE RT **3.29**

Methylene chloride

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

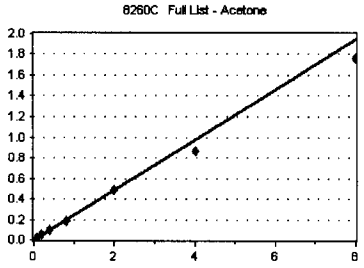


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.1	5025	11.618	3.88
9F20044-CAL2	0.2	3802	4.431	3.88
9F20044-CAL3	0.4	3778	2.183	3.88
9F20044-CAL4	1	5068	1.194	3.88
9F20044-CAL5	2	7259	0.876	3.88
9F20044-CAL6	5	12982	0.617	3.88
9F20044-CAL7	10	23309	0.559	3.88
9F20044-CAL8	20	43827	0.517	3.88
9F20044-CAL9	50	106690	0.525	3.88
9F20044-CALA	100	204285	0.475	3.88
9F20044-CALB	200	395740	0.484	3.88

AVE RF **2.135** RF RSD **157.60** AVE RT **3.88**

Acetone

Curve Fit: **AVERAGE RF**

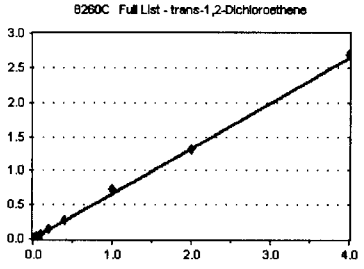


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL5	4	4813	0.290	3.95
9F20044-CAL6	10	10828	0.257	3.95
9F20044-CAL7	20	20886	0.250	3.95
9F20044-CAL8	40	38901	0.230	3.94
9F20044-CAL9	100	98222	0.241	3.95
9F20044-CALA	200	185269	0.215	3.95
9F20044-CALB	400	359555	0.220	3.94

AVE RF **0.243** RF RSD **10.58** AVE RT **3.95**

trans-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1032	0.596	4.05
9F20044-CAL4	1	2591	0.611	4.05
9F20044-CAL5	2	5449	0.658	4.05
9F20044-CAL6	5	13534	0.643	4.05
9F20044-CAL7	10	29093	0.697	4.05
9F20044-CAL8	20	57700	0.681	4.05
9F20044-CAL9	50	146773	0.722	4.05
9F20044-CALA	100	283049	0.658	4.05
9F20044-CALB	200	550967	0.675	4.04

AVE RF **0.660** RF RSD **6.02** AVE RT **4.05**

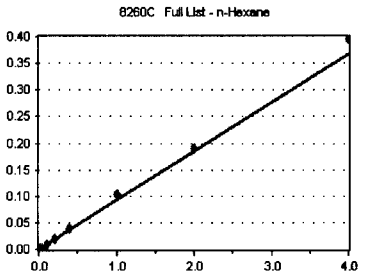
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

n-Hexane

Curve Fit: **AVERAGE RF**

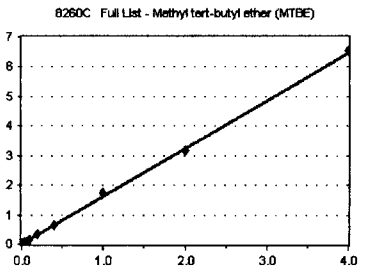


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	322	7.588	4.13
9F20044-CAL5	2	660	7.966	4.12
9F20044-CAL6	5	1835	8.718	4.13
9F20044-CAL7	10	4064	0.097	4.13
9F20044-CAL8	20	8288	9.782	4.12
9F20044-CAL9	50	21296	0.105	4.12
9F20044-CALA	100	41081	9.549	4.13
9F20044-CALB	200	80961	9.912	4.12

AVE RF **9.216** RF RSD **11.03** AVE RT **4.13**

Methyl tert-butyl ether (MTBE)

Curve Fit: **AVERAGE RF**

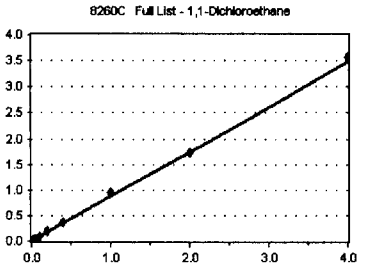


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	2633	1.521	4.19
9F20044-CAL4	1	6733	1.587	4.17
9F20044-CAL5	2	12876	1.554	4.17
9F20044-CAL6	5	33795	1.606	4.18
9F20044-CAL7	10	68708	1.646	4.17
9F20044-CAL8	20	139596	1.648	4.17
9F20044-CAL9	50	355406	1.748	4.17
9F20044-CALA	100	687445	1.598	4.18
9F20044-CALB	200	1335564	1.635	4.17

AVE RF **1.616** RF RSD **4.02** AVE RT **4.18**

1,1-Dichloroethane

Curve Fit: **AVERAGE RF**

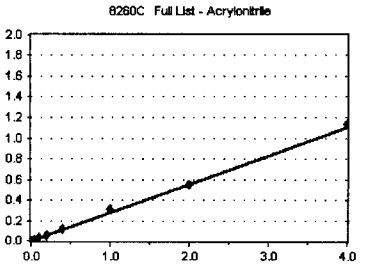


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1280	0.740	4.69
9F20044-CAL4	1	3536	0.833	4.68
9F20044-CAL5	2	7318	0.883	4.69
9F20044-CAL6	5	17942	0.852	4.69
9F20044-CAL7	10	38535	0.923	4.69
9F20044-CAL8	20	75912	0.896	4.69
9F20044-CAL9	50	192771	0.948	4.69
9F20044-CALA	100	370610	0.861	4.70
9F20044-CALB	200	726726	0.890	4.69

AVE RF **0.870** RF RSD **6.91** AVE RT **4.69**

Acrylonitrile

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	1079	0.254	4.76
9F20044-CAL5	2	2105	0.254	4.76
9F20044-CAL6	5	5714	0.271	4.76
9F20044-CAL7	10	11651	0.279	4.76
9F20044-CAL8	20	24079	0.284	4.76
9F20044-CAL9	50	62678	0.308	4.75
9F20044-CALA	100	119204	0.277	4.76
9F20044-CALB	200	232029	0.284	4.75

AVE RF **0.277** RF RSD **6.34** AVE RT **4.76**

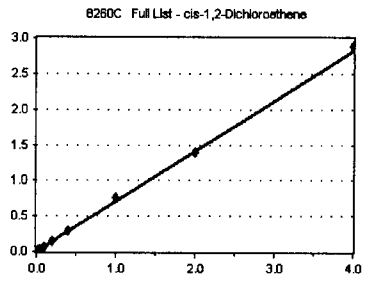
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

cis-1,2-Dichloroethene

Curve Fit: **AVERAGE RF**

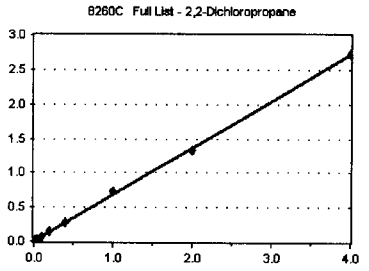


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1145	0.662	5.25
9F20044-CAL4	1	2829	0.667	5.26
9F20044-CAL5	2	5852	0.706	5.25
9F20044-CAL6	5	14214	0.675	5.25
9F20044-CAL7	10	30222	0.724	5.25
9F20044-CAL8	20	61245	0.723	5.25
9F20044-CAL9	50	155174	0.763	5.25
9F20044-CALA	100	300456	0.698	5.25
9F20044-CALB	200	588700	0.721	5.25

AVE RF **0.704** RF RSD **4.65** AVE RT **5.25**

2,2-Dichloropropane

Curve Fit: **AVERAGE RF**

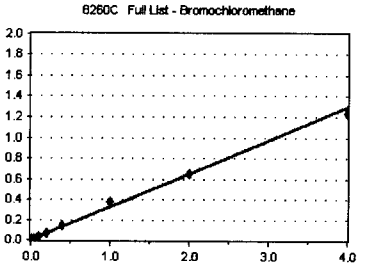


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	2775	0.654	5.36
9F20044-CAL5	2	5539	0.669	5.36
9F20044-CAL6	5	13609	0.647	5.36
9F20044-CAL7	10	29277	0.702	5.36
9F20044-CAL8	20	58610	0.692	5.36
9F20044-CAL9	50	148380	0.730	5.36
9F20044-CALA	100	285471	0.664	5.36
9F20044-CALB	200	554747	0.679	5.36

AVE RF **0.679** RF RSD **4.04** AVE RT **5.36**

Bromochloromethane

Curve Fit: **AVERAGE RF**

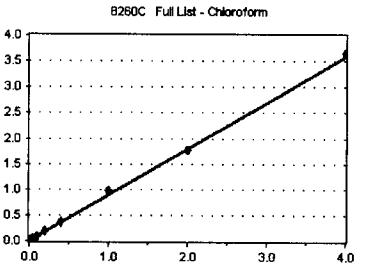


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	437	0.253	5.45
9F20044-CAL4	1	1297	0.306	5.45
9F20044-CAL5	2	2660	0.321	5.45
9F20044-CAL6	5	7111	0.338	5.46
9F20044-CAL7	10	14538	0.348	5.45
9F20044-CAL8	20	29415	0.347	5.45
9F20044-CAL9	50	76222	0.375	5.45
9F20044-CALA	100	140204	0.326	5.46
9F20044-CALB	200	252303	0.309	5.45

AVE RF **0.325** RF RSD **10.66** AVE RT **5.45**

Chloroform

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1469	0.849	5.54
9F20044-CAL4	1	3614	0.852	5.53
9F20044-CAL5	2	7377	0.890	5.53
9F20044-CAL6	5	18377	0.873	5.54
9F20044-CAL7	10	38632	0.926	5.54
9F20044-CAL8	20	77689	0.917	5.53
9F20044-CAL9	50	197721	0.972	5.54
9F20044-CALA	100	381891	0.888	5.54
9F20044-CALB	200	746862	0.914	5.53

AVE RF **0.898** RF RSD **4.36** AVE RT **5.53**

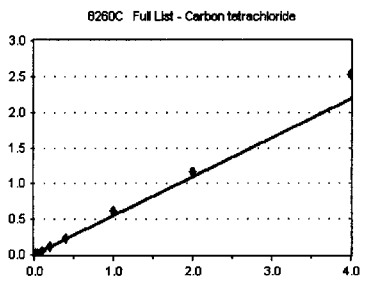
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Carbon tetrachloride

Curve Fit: **AVERAGE RF**

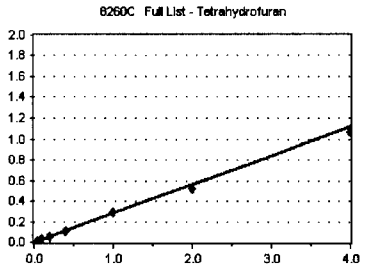


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~643~~	~~0.372~~	~~5.67~~
9F20044-CAL4	1	2061	0.486	5.66
9F20044-CAL5	2	4035	0.487	5.67
9F20044-CAL6	5	10336	0.491	5.67
9F20044-CAL7	10	22754	0.545	5.67
9F20044-CAL8	20	46960	0.554	5.66
9F20044-CAL9	50	124688	0.613	5.67
9F20044-CALA	100	251247	0.584	5.67
9F20044-CALB	200	516185	0.632	5.66

AVE RF **0.549** RF RSD **10.55** AVE RT **5.67**

Tetrahydrofuran

Curve Fit: **AVERAGE RF**

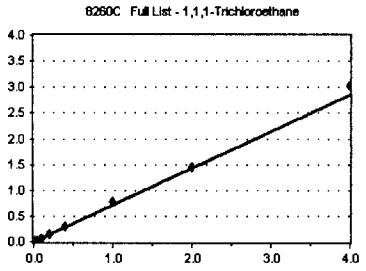


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL5	2	2546	0.307	5.71
9F20044-CAL6	5	6018	0.286	5.71
9F20044-CAL7	10	11859	0.284	5.71
9F20044-CAL8	20	22966	0.271	5.71
9F20044-CAL9	50	59864	0.294	5.70
9F20044-CALA	100	112665	0.262	5.71
9F20044-CALB	200	218470	0.267	5.70

AVE RF **0.282** RF RSD **5.70** AVE RT **5.71**

1,1,1-Trichloroethane

Curve Fit: **AVERAGE RF**

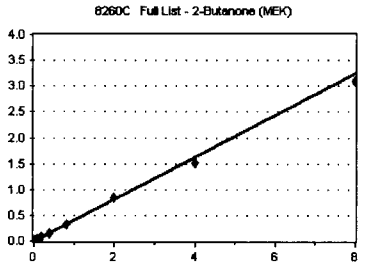


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1087	0.628	5.74
9F20044-CAL4	1	3002	0.707	5.74
9F20044-CAL5	2	5613	0.678	5.74
9F20044-CAL6	5	14420	0.685	5.74
9F20044-CAL7	10	30675	0.735	5.74
9F20044-CAL8	20	62914	0.743	5.74
9F20044-CAL9	50	159643	0.785	5.74
9F20044-CALA	100	311653	0.724	5.74
9F20044-CALB	200	617180	0.756	5.74

AVE RF **0.716** RF RSD **6.57** AVE RT **5.74**

2-Butanone (MEK)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.8~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	2	3724	0.439	5.87
9F20044-CAL5	4	7000	0.422	5.87
9F20044-CAL6	10	16551	0.393	5.86
9F20044-CAL7	20	33398	0.400	5.86
9F20044-CAL8	40	68176	0.402	5.86
9F20044-CAL9	100	172204	0.423	5.86
9F20044-CALA	200	323609	0.376	5.86
9F20044-CALB	400	633397	0.388	5.86

AVE RF **0.406** RF RSD **5.18** AVE RT **5.86**

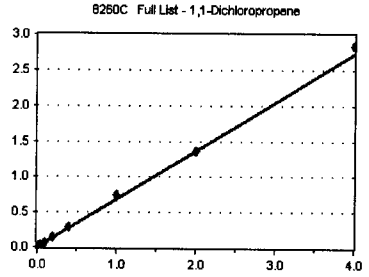
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,1-Dichloropropene

Curve Fit: **AVERAGE RF**

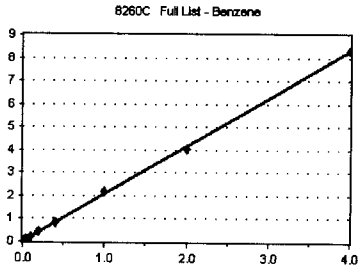


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1102	0.637	5.87
9F20044-CAL4	1	2702	0.637	5.88
9F20044-CAL5	2	5432	0.656	5.86
9F20044-CAL6	5	13797	0.655	5.87
9F20044-CAL7	10	29419	0.705	5.87
9F20044-CAL8	20	60592	0.715	5.86
9F20044-CAL9	50	151196	0.743	5.87
9F20044-CALA	100	293441	0.682	5.87
9F20044-CALB	200	579299	0.709	5.86

AVE RF **0.682** RF RSD **5.59** AVE RT **5.87**

Benzene

Curve Fit: **AVERAGE RF**

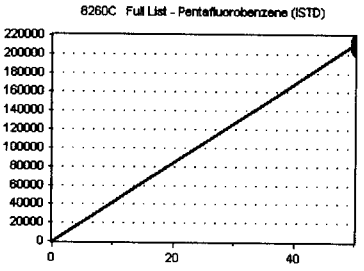


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1868	2.177	6.13
9F20044-CAL3	0.4	3614	2.088	6.13
9F20044-CAL4	1	8486	2.000	6.13
9F20044-CAL5	2	16870	2.036	6.13
9F20044-CAL6	5	42655	2.027	6.13
9F20044-CAL7	10	89017	2.133	6.13
9F20044-CAL8	20	177855	2.099	6.13
9F20044-CAL9	50	445865	2.193	6.13
9F20044-CALA	100	869915	2.022	6.13
9F20044-CALB	200	1701439	2.083	6.13

AVE RF **2.086** RF RSD **3.18** AVE RT **6.13**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

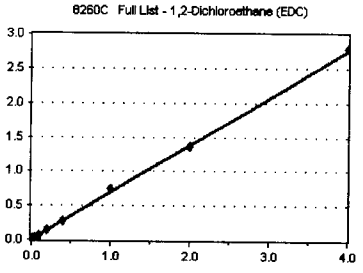


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	216252	4325.040	6.22
9F20044-CAL2	50	214495	4289.900	6.22
9F20044-CAL3	50	216322	4326.440	6.22
9F20044-CAL4	50	212184	4243.680	6.22
9F20044-CAL5	50	207120	4142.400	6.22
9F20044-CAL6	50	210483	4209.660	6.22
9F20044-CAL7	50	208672	4173.440	6.22
9F20044-CAL8	50	211811	4236.220	6.22
9F20044-CAL9	50	203359	4067.180	6.22
9F20044-CALA	50	215096	4301.920	6.22
9F20044-CALB	50	204201	4084.020	6.22

AVE RF **4218.173** RF RSD **2.18** AVE RT **6.22**

1,2-Dichloroethane (EDC)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1039	0.600	6.35
9F20044-CAL4	1	2943	0.694	6.35
9F20044-CAL5	2	5701	0.688	6.35
9F20044-CAL6	5	14313	0.680	6.35
9F20044-CAL7	10	29731	0.712	6.35
9F20044-CAL8	20	59444	0.702	6.35
9F20044-CAL9	50	151724	0.746	6.35
9F20044-CALA	100	291619	0.678	6.35
9F20044-CALB	200	569728	0.698	6.34

AVE RF **0.689** RF RSD **5.65** AVE RT **6.35**

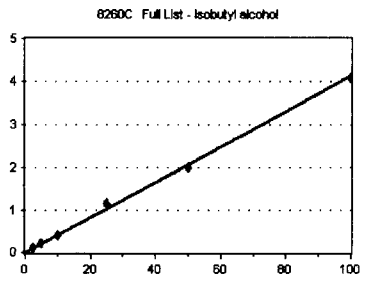
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Isobutyl alcohol

Curve Fit: **AVERAGE RF**

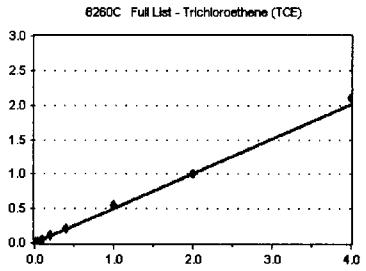


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~2.5~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~5~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~10~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~25~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL5~~	~~50~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL6	125	20716	0.039	6.38
9F20044-CAL7	250	42610	4.084	6.38
9F20044-CAL8	500	87748	0.041	6.38
9F20044-CAL9	1250	234023	0.046	6.38
9F20044-CALA	2500	428089	3.980	6.38
9F20044-CALB	5000	833289	4.081	6.38

AVE RF **4.138** RF RSD **5.80** AVE RT **6.38**

Trichloroethene (TCE)

Curve Fit: **AVERAGE RF**

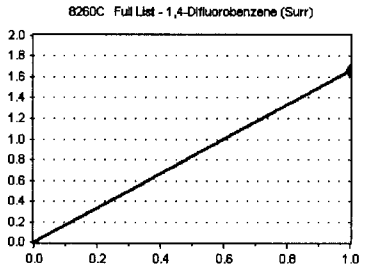


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	770	0.445	6.75
9F20044-CAL4	1	2094	0.493	6.75
9F20044-CAL5	2	3971	0.479	6.75
9F20044-CAL6	5	10321	0.490	6.75
9F20044-CAL7	10	22223	0.532	6.75
9F20044-CAL8	20	44514	0.525	6.75
9F20044-CAL9	50	110584	0.544	6.75
9F20044-CALA	100	217794	0.506	6.75
9F20044-CALB	200	429061	0.525	6.75

AVE RF **0.505** RF RSD **6.15** AVE RT **6.75**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

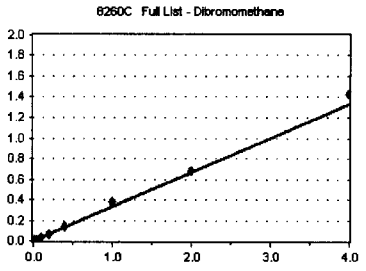


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	358207	1.656	6.79
9F20044-CAL2	50	352562	1.644	6.78
9F20044-CAL3	50	354384	1.638	6.79
9F20044-CAL4	50	356332	1.679	6.79
9F20044-CAL5	50	346645	1.674	6.79
9F20044-CAL6	50	351357	1.669	6.79
9F20044-CAL7	50	346503	1.661	6.79
9F20044-CAL8	50	352468	1.664	6.79
9F20044-CAL9	50	340921	1.676	6.79
9F20044-CALA	50	358617	1.667	6.79
9F20044-CALB	50	342426	1.677	6.79

AVE RF **1.664** RF RSD **0.81** AVE RT **6.79**

Dibromomethane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	433	0.250	7.21
9F20044-CAL4	1	1305	0.308	7.20
9F20044-CAL5	2	2728	0.329	7.20
9F20044-CAL6	5	6909	0.328	7.21
9F20044-CAL7	10	14550	0.349	7.20
9F20044-CAL8	20	29571	0.349	7.20
9F20044-CAL9	50	76074	0.374	7.20
9F20044-CALA	100	147484	0.343	7.21
9F20044-CALB	200	291580	0.357	7.20

AVE RF **0.332** RF RSD **10.86** AVE RT **7.20**

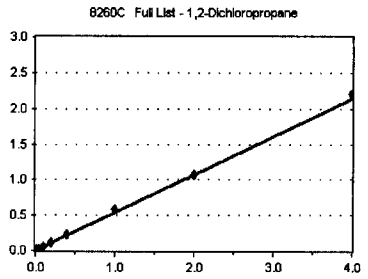
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,2-Dichloropropane

Curve Fit: **AVERAGE RF**

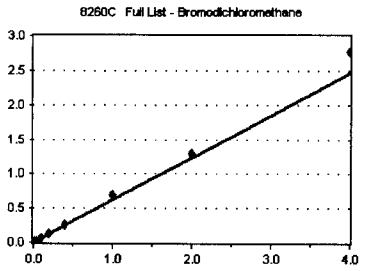


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	812	0.469	7.31
9F20044-CAL4	1	2194	0.517	7.31
9F20044-CAL5	2	4334	0.523	7.32
9F20044-CAL6	5	11150	0.530	7.32
9F20044-CAL7	10	23246	0.557	7.32
9F20044-CAL8	20	46799	0.552	7.32
9F20044-CAL9	50	117196	0.576	7.31
9F20044-CALA	100	229097	0.533	7.32
9F20044-CALB	200	449560	0.550	7.31

AVE RF **0.534** RF RSD **5.75** AVE RT **7.32**

Bromodichloromethane

Curve Fit: **AVERAGE RF**

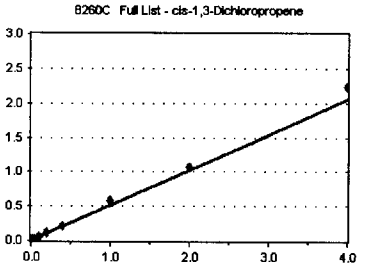


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	949	0.548	7.39
9F20044-CAL4	1	2265	0.534	7.39
9F20044-CAL5	2	4841	0.584	7.39
9F20044-CAL6	5	12311	0.585	7.39
9F20044-CAL7	10	26103	0.625	7.39
9F20044-CAL8	20	53614	0.633	7.39
9F20044-CAL9	50	141449	0.696	7.39
9F20044-CALA	100	279539	0.650	7.39
9F20044-CALB	200	565142	0.692	7.39

AVE RF **0.616** RF RSD **9.41** AVE RT **7.39**

cis-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**

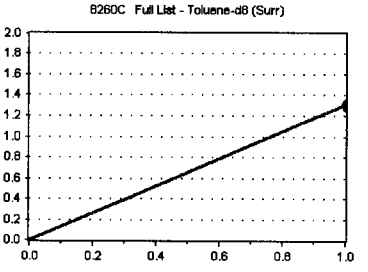


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1097	0.425	8.10
9F20044-CAL4	1	3024	0.471	8.10
9F20044-CAL5	2	6162	0.495	8.10
9F20044-CAL6	5	15503	0.488	8.10
9F20044-CAL7	10	33223	0.537	8.10
9F20044-CAL8	20	67880	0.528	8.10
9F20044-CAL9	50	179241	0.580	8.10
9F20044-CALA	100	350611	0.536	8.10
9F20044-CALB	200	697644	0.561	8.10

AVE RF **0.514** RF RSD **9.38** AVE RT **8.10**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	419867	1.314	8.30
9F20044-CAL2	50	416463	1.320	8.30
9F20044-CAL3	50	421971	1.309	8.30
9F20044-CAL4	50	417568	1.300	8.30
9F20044-CAL5	50	408908	1.314	8.30
9F20044-CAL6	50	413565	1.302	8.30
9F20044-CAL7	50	406176	1.314	8.30
9F20044-CAL8	50	416334	1.296	8.30
9F20044-CAL9	50	405204	1.312	8.30
9F20044-CALA	50	420397	1.286	8.30
9F20044-CALB	50	405261	1.304	8.30

AVE RF **1.306** RF RSD **0.76** AVE RT **8.30**

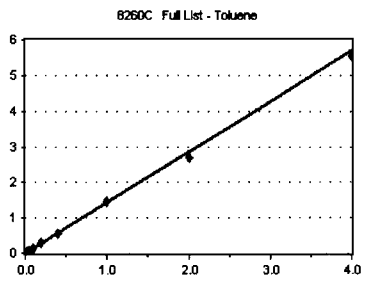
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Toluene

Curve Fit: **AVERAGE RF**

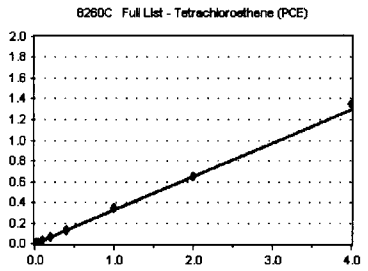


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.1	1033	1.616	8.36
9F20044-CAL2	0.2	1910	1.514	8.36
9F20044-CAL3	0.4	3651	1.416	8.36
9F20044-CAL4	1	8763	1.364	8.36
9F20044-CAL5	2	17144	1.377	8.36
9F20044-CAL6	5	42182	1.328	8.36
9F20044-CAL7	10	89825	1.453	8.36
9F20044-CAL8	20	182138	1.417	8.36
9F20044-CAL9	50	453767	1.469	8.36
9F20044-CALA	100	880744	1.347	8.36
9F20044-CALB	200	1725149	1.388	8.36

AVE RF **1.426** RF RSD **5.87** AVE RT **8.36**

Tetrachloroethene (PCE)

Curve Fit: **AVERAGE RF**

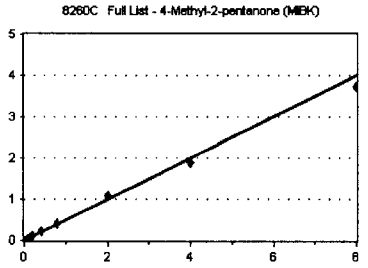


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	702	0.272	8.81
9F20044-CAL4	1	2059	0.321	8.80
9F20044-CAL5	2	3980	0.320	8.80
9F20044-CAL6	5	10061	0.317	8.80
9F20044-CAL7	10	21224	0.343	8.80
9F20044-CAL8	20	43326	0.337	8.80
9F20044-CAL9	50	106928	0.346	8.80
9F20044-CALA	100	211071	0.323	8.80
9F20044-CALB	200	419348	0.337	8.80

AVE RF **0.324** RF RSD **6.88** AVE RT **8.80**

4-Methyl-2-pentanone (MiBK)

Curve Fit: **AVERAGE RF**

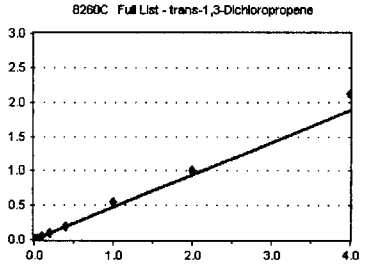


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.8~~	~~2659~~	~~0.516~~	~~8.82~~
~~9F20044-CAL4~~	~~2~~	~~6582~~	~~0.512~~	~~8.81~~
9F20044-CAL5	4	12326	0.495	8.81
9F20044-CAL6	10	31812	0.501	8.81
9F20044-CAL7	20	63594	0.514	8.80
9F20044-CAL8	40	131182	0.510	8.80
9F20044-CAL9	100	334688	0.542	8.80
9F20044-CALA	200	616521	0.471	8.80
9F20044-CALB	400	1160712	0.467	8.80

AVE RF **0.500** RF RSD **5.16** AVE RT **8.80**

trans-1,3-Dichloropropene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1047	0.406	8.85
9F20044-CAL4	1	2700	0.420	8.85
9F20044-CAL5	2	5224	0.420	8.85
9F20044-CAL6	5	13846	0.436	8.85
9F20044-CAL7	10	29864	0.483	8.85
9F20044-CAL8	20	62988	0.490	8.84
9F20044-CAL9	50	168385	0.545	8.85
9F20044-CALA	100	328804	0.503	8.85
9F20044-CALB	200	658211	0.529	8.84

AVE RF **0.470** RF RSD **10.91** AVE RT **8.84**

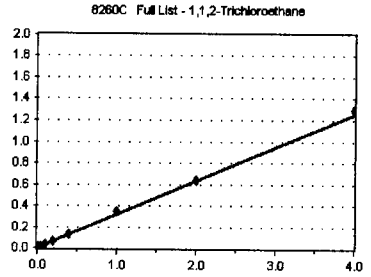
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,1,2-Trichloroethane

Curve Fit: **AVERAGE RF**

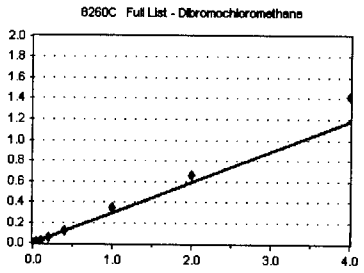


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	686	0.266	9.01
9F20044-CAL4	1	1850	0.288	9.02
9F20044-CAL5	2	3923	0.315	9.02
9F20044-CAL6	5	9783	0.308	9.01
9F20044-CAL7	10	20793	0.336	9.02
9F20044-CAL8	20	42325	0.329	9.01
9F20044-CAL9	50	107199	0.347	9.01
9F20044-CALA	100	208022	0.318	9.02
9F20044-CALB	200	402284	0.324	9.01

AVE RF **0.315** RF RSD **7.89** AVE RT **9.01**

Dibromochloromethane

Curve Fit: **AVERAGE RF**

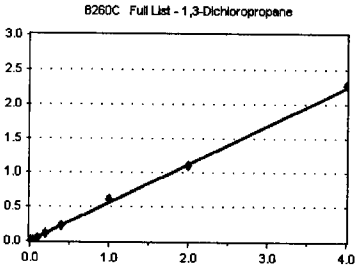


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~565~~	~~0.219~~	~~9.19~~
9F20044-CAL4	1	1527	0.238	9.20
9F20044-CAL5	2	3080	0.247	9.19
9F20044-CAL6	5	8356	0.263	9.19
9F20044-CAL7	10	17821	0.288	9.19
9F20044-CAL8	20	38368	0.299	9.19
9F20044-CAL9	50	105586	0.342	9.19
9F20044-CALA	100	215589	0.330	9.19
9F20044-CALB	200	439963	0.354	9.19

AVE RF **0.295** RF RSD **14.87** AVE RT **9.19**

1,3-Dichloropropane

Curve Fit: **AVERAGE RF**

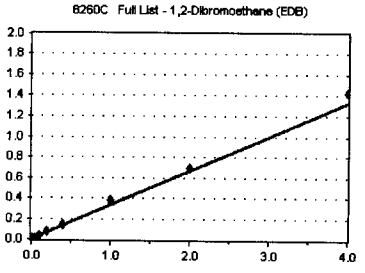


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	1270	0.493	9.30
9F20044-CAL4	1	3534	0.550	9.30
9F20044-CAL5	2	6955	0.559	9.30
9F20044-CAL6	5	17813	0.561	9.30
9F20044-CAL7	10	36030	0.583	9.30
9F20044-CAL8	20	73700	0.573	9.30
9F20044-CAL9	50	188838	0.611	9.30
9F20044-CALA	100	360265	0.551	9.30
9F20044-CALB	200	703363	0.566	9.30

AVE RF **0.561** RF RSD **5.67** AVE RT **9.30**

1,2-Dibromoethane (EDB)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	297	0.235	9.44
9F20044-CAL3	0.4	766	0.297	9.44
9F20044-CAL4	1	2008	0.313	9.43
9F20044-CAL5	2	4093	0.329	9.44
9F20044-CAL6	5	10703	0.337	9.43
9F20044-CAL7	10	22272	0.360	9.43
9F20044-CAL8	20	45760	0.356	9.43
9F20044-CAL9	50	117678	0.381	9.43
9F20044-CALA	100	227284	0.348	9.43
9F20044-CALB	200	444681	0.358	9.43

AVE RF **0.331** RF RSD **12.58** AVE RT **9.43**

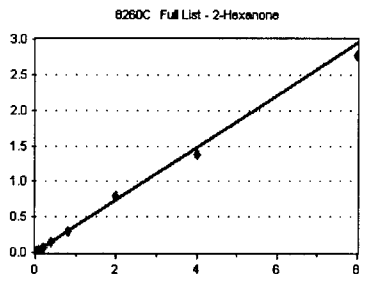
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

2-Hexanone

Curve Fit: **AVERAGE RF**

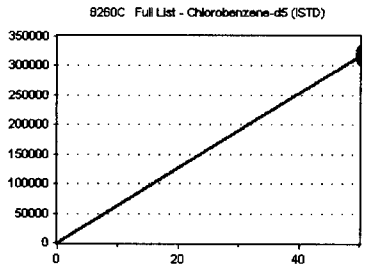


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.8	1999	0.388	9.67
9F20044-CAL4	2	4754	0.370	9.66
9F20044-CAL5	4	8923	0.358	9.66
9F20044-CAL6	10	22445	0.353	9.66
9F20044-CAL7	20	47165	0.381	9.66
9F20044-CAL8	40	95510	0.372	9.66
9F20044-CAL9	100	246411	0.399	9.66
9F20044-CALA	200	451887	0.346	9.66
9F20044-CALB	400	863303	0.347	9.66

AVE RF **0.368** RF RSD **5.06** AVE RT **9.66**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

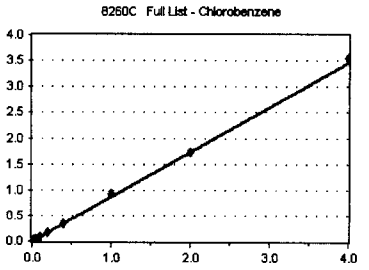


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	319588	6391.760	9.92
9F20044-CAL2	50	315477	6309.540	9.92
9F20044-CAL3	50	322309	6446.180	9.92
9F20044-CAL4	50	321130	6422.600	9.92
9F20044-CAL5	50	311234	6224.680	9.92
9F20044-CAL6	50	317560	6351.200	9.92
9F20044-CAL7	50	309194	6183.880	9.92
9F20044-CAL8	50	321290	6425.800	9.92
9F20044-CAL9	50	308920	6178.400	9.92
9F20044-CALA	50	326979	6539.580	9.92
9F20044-CALB	50	310773	6215.460	9.92

AVE RF **6335.371** RF RSD **1.92** AVE RT **9.92**

Chlorobenzene

Curve Fit: **AVERAGE RF**

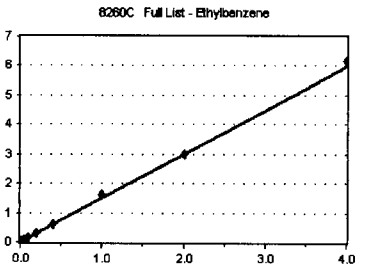


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1008	0.799	9.93
9F20044-CAL3	0.4	2135	0.828	9.93
9F20044-CAL4	1	5419	0.844	9.93
9F20044-CAL5	2	10769	0.865	9.93
9F20044-CAL6	5	27201	0.857	9.93
9F20044-CAL7	10	56373	0.912	9.93
9F20044-CAL8	20	114554	0.891	9.93
9F20044-CAL9	50	287748	0.931	9.93
9F20044-CALA	100	563709	0.862	9.93
9F20044-CALB	200	1098798	0.884	9.93

AVE RF **0.867** RF RSD **4.53** AVE RT **9.93**

Ethylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.1	867	1.356	9.96
9F20044-CAL2	0.2	1959	1.552	9.96
9F20044-CAL3	0.4	3623	1.405	9.96
9F20044-CAL4	1	9234	1.438	9.96
9F20044-CAL5	2	17924	1.440	9.96
9F20044-CAL6	5	46640	1.469	9.96
9F20044-CAL7	10	97148	1.571	9.96
9F20044-CAL8	20	199043	1.549	9.96
9F20044-CAL9	50	500499	1.620	9.96
9F20044-CALA	100	976571	1.493	9.96
9F20044-CALB	200	1912618	1.539	9.96

AVE RF **1.494** RF RSD **5.35** AVE RT **9.96**

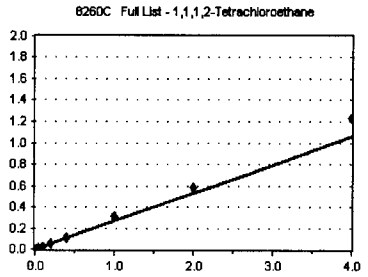
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,1,1,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

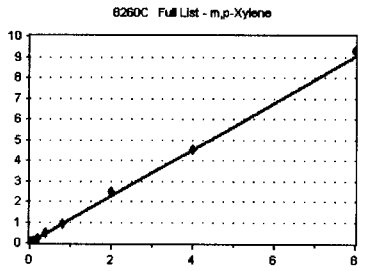


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~225~~	~~0.178~~	~~10.00~~
9F20044-CAL3	0.4	526	0.204	10.00
9F20044-CAL4	1	1352	0.211	9.99
9F20044-CAL5	2	3145	0.253	10.00
9F20044-CAL6	5	7859	0.247	10.00
9F20044-CAL7	10	17145	0.277	10.00
9F20044-CAL8	20	36071	0.281	10.00
9F20044-CAL9	50	95349	0.309	10.00
9F20044-CALA	100	191370	0.293	10.00
9F20044-CALB	200	384611	0.309	10.00

AVE RF **0.265** RF RSD **14.74** AVE RT **9.99**

m,p-Xylene

Curve Fit: **AVERAGE RF**

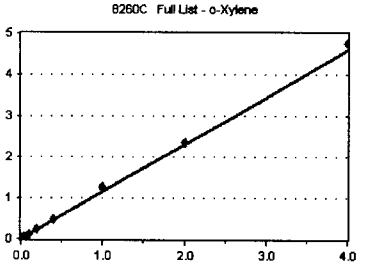


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.2	1349	1.055	10.09
9F20044-CAL2	0.4	2948	1.168	10.09
9F20044-CAL3	0.8	5389	1.045	10.09
9F20044-CAL4	2	13780	1.073	10.09
9F20044-CAL5	4	26844	1.078	10.09
9F20044-CAL6	10	69099	1.088	10.09
9F20044-CAL7	20	146011	1.181	10.09
9F20044-CAL8	40	297370	1.157	10.09
9F20044-CAL9	100	761093	1.232	10.09
9F20044-CALA	200	1487683	1.137	10.09
9F20044-CALB	400	2895454	1.165	10.09

AVE RF **1.125** RF RSD **5.38** AVE RT **10.09**

o-Xylene

Curve Fit: **AVERAGE RF**

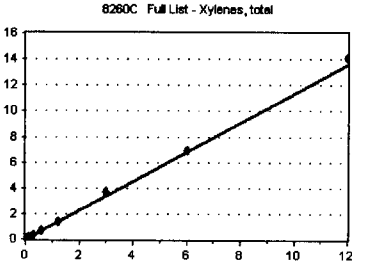


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.1	703	1.100	10.48
9F20044-CAL2	0.2	1371	1.086	10.48
9F20044-CAL3	0.4	2671	1.036	10.48
9F20044-CAL4	1	6999	1.090	10.47
9F20044-CAL5	2	14152	1.137	10.47
9F20044-CAL6	5	35226	1.109	10.47
9F20044-CAL7	10	75737	1.225	10.47
9F20044-CAL8	20	154063	1.199	10.47
9F20044-CAL9	50	393871	1.275	10.47
9F20044-CALA	100	764933	1.170	10.47
9F20044-CALB	200	1481357	1.192	10.47

AVE RF **1.147** RF RSD **6.21** AVE RT **10.47**

Xylenes, total

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	0.3	2052	1.070	10.48
9F20044-CAL2	0.6	4319	1.141	10.48
9F20044-CAL3	1.2	8060	1.042	10.48
9F20044-CAL4	3	20779	1.078	10.47
9F20044-CAL5	6	40996	1.098	10.47
9F20044-CAL6	15	104325	1.095	10.47
9F20044-CAL7	30	221748	1.195	10.47
9F20044-CAL8	60	451433	1.171	10.47
9F20044-CAL9	150	1154964	1.246	10.47
9F20044-CALA	300	2252616	1.148	10.47
9F20044-CALB	600	4376811	1.174	10.47

AVE RF **1.133** RF RSD **5.44** AVE RT **10.47**

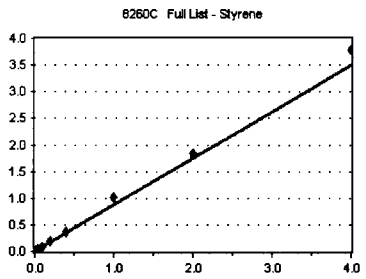
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Styrene

Curve Fit: **AVERAGE RF**

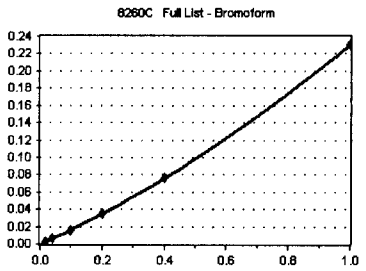


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	998	0.791	10.52
9F20044-CAL3	0.4	1902	0.738	10.52
9F20044-CAL4	1	5129	0.799	10.52
9F20044-CAL5	2	10275	0.825	10.52
9F20044-CAL6	5	26982	0.850	10.52
9F20044-CAL7	10	58587	0.947	10.52
9F20044-CAL8	20	120508	0.938	10.52
9F20044-CAL9	50	310680	1.006	10.52
9F20044-CALA	100	603050	0.922	10.52
9F20044-CALB	200	1179064	0.948	10.52

AVE RF **0.876** RF RSD **9.97** AVE RT **10.52**

Bromoform

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

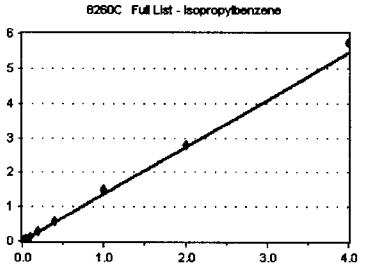


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	864	0.135	10.55
9F20044-CAL5	2	1903	0.153	10.54
9F20044-CAL6	5	5086	0.160	10.54
9F20044-CAL7	10	10720	0.173	10.54
9F20044-CAL8	20	24635	0.192	10.54
9F20044-CAL9	50	71192	0.230	10.54
~~9F20044-CALA~~	~~100~~	~~146715~~	~~0.224~~	~~10.54~~
~~9F20044-CALB~~	~~200~~	~~304762~~	~~0.245~~	~~10.54~~

AVE RF **0.174** RF RSD **19.42** AVE RT **10.54**

Isopropylbenzene

Curve Fit: **AVERAGE RF**

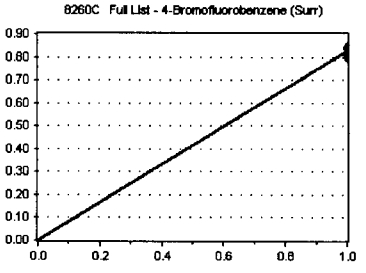


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1594	1.263	10.74
9F20044-CAL3	0.4	3170	1.229	10.74
9F20044-CAL4	1	8025	1.249	10.74
9F20044-CAL5	2	16331	1.312	10.74
9F20044-CAL6	5	41584	1.309	10.74
9F20044-CAL7	10	90064	1.456	10.74
9F20044-CAL8	20	183642	1.429	10.74
9F20044-CAL9	50	464969	1.505	10.74
9F20044-CALA	100	915044	1.399	10.74
9F20044-CALB	200	1780791	1.433	10.74

AVE RF **1.359** RF RSD **7.17** AVE RT **10.74**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	122172	0.846	10.98
9F20044-CAL2	50	119949	0.839	10.98
9F20044-CAL3	50	123411	0.838	10.98
9F20044-CAL4	50	121837	0.836	10.98
9F20044-CAL5	50	118488	0.834	10.98
9F20044-CAL6	50	122376	0.833	10.98
9F20044-CAL7	50	120665	0.839	10.98
9F20044-CAL8	50	126396	0.824	10.98
9F20044-CAL9	50	122539	0.813	10.98
9F20044-CALA	50	127873	0.809	10.98
9F20044-CALB	50	118374	0.800	10.98

AVE RF **0.828** RF RSD **1.79** AVE RT **10.98**

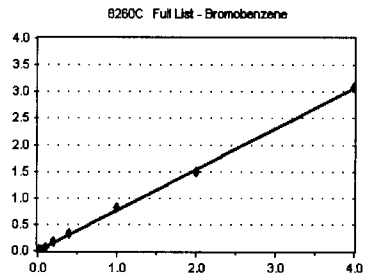
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Bromobenzene

Curve Fit: **AVERAGE RF**

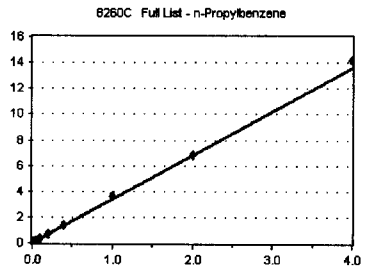


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	406	0.710	11.06
9F20044-CAL3	0.4	864	0.734	11.07
9F20044-CAL4	1	2205	0.757	11.06
9F20044-CAL5	2	4450	0.783	11.07
9F20044-CAL6	5	10912	0.743	11.07
9F20044-CAL7	10	23575	0.820	11.07
9F20044-CAL8	20	48339	0.788	11.07
9F20044-CAL9	50	122510	0.813	11.07
9F20044-CALA	100	235375	0.744	11.07
9F20044-CALB	200	457253	0.773	11.06

AVE RF **0.766** RF RSD **4.61** AVE RT **11.06**

n-Propylbenzene

Curve Fit: **AVERAGE RF**

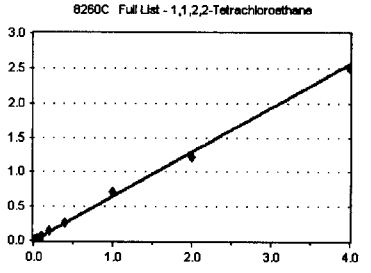


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1849	3.231	11.08
9F20044-CAL3	0.4	3601	3.058	11.08
9F20044-CAL4	1	9689	3.326	11.08
9F20044-CAL5	2	18778	3.305	11.08
9F20044-CAL6	5	48510	3.303	11.08
9F20044-CAL7	10	105162	3.657	11.08
9F20044-CAL8	20	216830	3.533	11.08
9F20044-CAL9	50	552123	3.664	11.08
9F20044-CALA	100	1076928	3.406	11.08
9F20044-CALB	200	2100401	3.549	11.08

AVE RF **3.403** RF RSD **5.76** AVE RT **11.08**

1,1,2,2-Tetrachloroethane

Curve Fit: **AVERAGE RF**

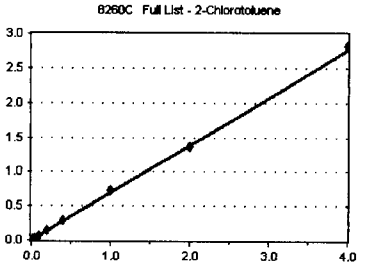


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	327	0.571	11.15
9F20044-CAL3	0.4	707	0.600	11.15
9F20044-CAL4	1	1857	0.637	11.15
9F20044-CAL5	2	3674	0.647	11.15
9F20044-CAL6	5	9734	0.663	11.15
9F20044-CAL7	10	20049	0.697	11.15
9F20044-CAL8	20	40959	0.667	11.15
9F20044-CAL9	50	106308	0.706	11.15
9F20044-CALA	100	191420	0.605	11.15
9F20044-CALB	200	370226	0.626	11.14

AVE RF **0.642** RF RSD **6.68** AVE RT **11.14**

2-Chlorotoluene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	771	0.655	11.21
9F20044-CAL4	1	1852	0.636	11.21
9F20044-CAL5	2	3795	0.668	11.21
9F20044-CAL6	5	9766	0.665	11.21
9F20044-CAL7	10	21062	0.732	11.21
9F20044-CAL8	20	43622	0.711	11.21
9F20044-CAL9	50	110540	0.734	11.21
9F20044-CALA	100	215672	0.682	11.21
9F20044-CALB	200	417067	0.705	11.21

AVE RF **0.687** RF RSD **5.06** AVE RT **11.21**

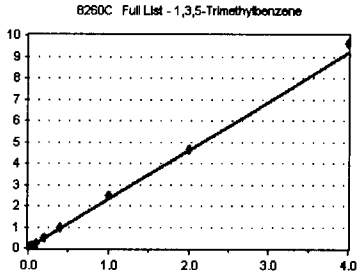
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,3,5-Trimethylbenzene

Curve Fit: **AVERAGE RF**

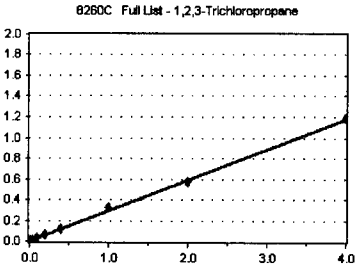


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1280	2.237	11.24
9F20044-CAL3	0.4	2531	2.149	11.24
9F20044-CAL4	1	6421	2.204	11.24
9F20044-CAL5	2	12170	2.142	11.24
9F20044-CAL6	5	32548	2.216	11.24
9F20044-CAL7	10	70618	2.456	11.24
9F20044-CAL8	20	146061	2.380	11.24
9F20044-CAL9	50	374460	2.485	11.24
9F20044-CALA	100	734923	2.325	11.24
9F20044-CALB	200	1425435	2.408	11.24

AVE RF **2.300** RF RSD **5.52** AVE RT **11.24**

1,2,3-Trichloropropane

Curve Fit: **AVERAGE RF**

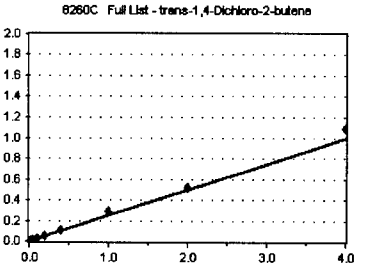


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	243	0.206	11.25
9F20044-CAL4	1	858	0.294	11.25
9F20044-CAL5	2	1731	0.305	11.25
9F20044-CAL6	5	4458	0.304	11.25
9F20044-CAL7	10	9348	0.325	11.25
9F20044-CAL8	20	19069	0.311	11.25
9F20044-CAL9	50	48655	0.323	11.25
9F20044-CALA	100	91426	0.289	11.25
9F20044-CALB	200	175270	0.296	11.25

AVE RF **0.295** RF RSD **11.99** AVE RT **11.25**

trans-1,4-Dichloro-2-butene

Curve Fit: **AVERAGE RF**

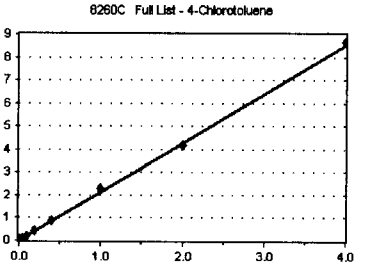


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	218	0.185	11.29
9F20044-CAL4	1	668	0.229	11.28
9F20044-CAL5	2	1245	0.219	11.29
9F20044-CAL6	5	3644	0.248	11.28
9F20044-CAL7	10	7647	0.266	11.29
9F20044-CAL8	20	16429	0.268	11.29
9F20044-CAL9	50	44053	0.292	11.29
9F20044-CALA	100	81928	0.259	11.29
9F20044-CALB	200	161119	0.272	11.28

AVE RF **0.249** RF RSD **13.12** AVE RT **11.28**

4-Chlorotoluene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1252	2.188	11.35
9F20044-CAL3	0.4	2288	1.943	11.35
9F20044-CAL4	1	6153	2.112	11.34
9F20044-CAL5	2	11633	2.048	11.34
9F20044-CAL6	5	30340	2.066	11.34
9F20044-CAL7	10	64861	2.256	11.34
9F20044-CAL8	20	134477	2.191	11.34
9F20044-CAL9	50	342004	2.270	11.34
9F20044-CALA	100	657809	2.081	11.34
9F20044-CALB	200	1277794	2.159	11.34

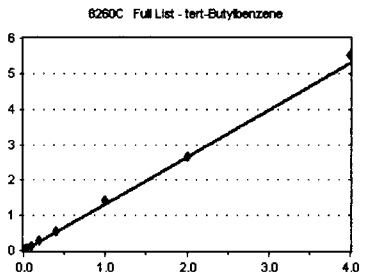
AVE RF **2.131** RF RSD **4.75** AVE RT **11.34**

Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

tert-Butylbenzene

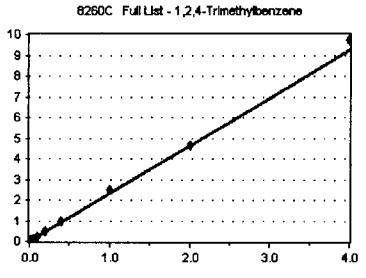


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	742	1.297	11.49
9F20044-CAL3	0.4	1379	1.171	11.49
9F20044-CAL4	1	3735	1.282	11.49
9F20044-CAL5	2	7529	1.325	11.49
9F20044-CAL6	5	18913	1.288	11.49
9F20044-CAL7	10	40180	1.397	11.49
9F20044-CAL8	20	83942	1.368	11.49
9F20044-CAL9	50	215295	1.429	11.49
9F20044-CALA	100	418585	1.324	11.49
9F20044-CALB	200	813927	1.375	11.49

AVE RF **1.326** RF RSD **5.52** AVE RT **11.49**

1,2,4-Trimethylbenzene

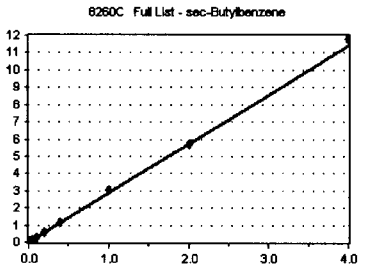


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1259	2.200	11.54
9F20044-CAL3	0.4	2364	2.007	11.54
9F20044-CAL4	1	6535	2.243	11.54
9F20044-CAL5	2	12644	2.226	11.54
9F20044-CAL6	5	32738	2.229	11.54
9F20044-CAL7	10	71009	2.470	11.54
9F20044-CAL8	20	147716	2.407	11.54
9F20044-CAL9	50	378562	2.512	11.54
9F20044-CALA	100	737015	2.331	11.54
9F20044-CALB	200	1441707	2.436	11.54

AVE RF **2.306** RF RSD **6.68** AVE RT **11.54**

sec-Butylbenzene

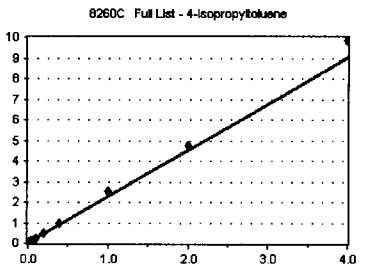


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1695	2.962	11.63
9F20044-CAL3	0.4	3002	2.549	11.63
9F20044-CAL4	1	8087	2.776	11.63
9F20044-CAL5	2	15209	2.677	11.63
9F20044-CAL6	5	39995	2.723	11.63
9F20044-CAL7	10	86944	3.024	11.63
9F20044-CAL8	20	180863	2.947	11.63
9F20044-CAL9	50	462445	3.069	11.63
9F20044-CALA	100	901848	2.853	11.63
9F20044-CALB	200	1744647	2.948	11.63

AVE RF **2.853** RF RSD **5.86** AVE RT **11.63**

4-Isopropyltoluene



Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1137	1.987	11.73
9F20044-CAL3	0.4	2328	1.977	11.73
9F20044-CAL4	1	6051	2.077	11.73
9F20044-CAL5	2	12207	2.149	11.73
9F20044-CAL6	5	32047	2.182	11.73
9F20044-CAL7	10	69238	2.408	11.73
9F20044-CAL8	20	145889	2.377	11.73
9F20044-CAL9	50	381484	2.532	11.73
9F20044-CALA	100	747978	2.366	11.73
9F20044-CALB	200	1456273	2.460	11.73

AVE RF **2.251** RF RSD **8.97** AVE RT **11.73**

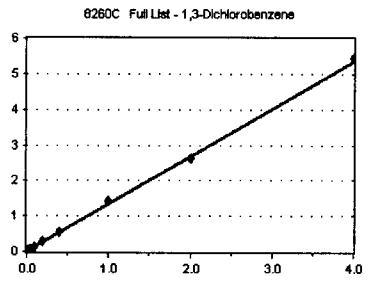
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

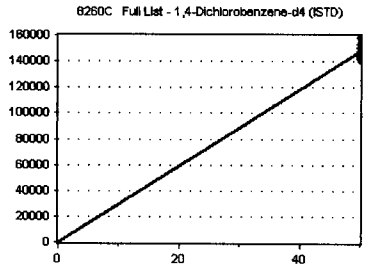


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	722	1.262	11.80
9F20044-CAL3	0.4	1483	1.259	11.80
9F20044-CAL4	1	3906	1.341	11.80
9F20044-CAL5	2	7534	1.326	11.80
9F20044-CAL6	5	19276	1.312	11.80
9F20044-CAL7	10	40809	1.419	11.80
9F20044-CAL8	20	84752	1.381	11.80
9F20044-CAL9	50	214935	1.426	11.80
9F20044-CALA	100	416625	1.318	11.80
9F20044-CALB	200	808417	1.366	11.80

AVE RF **1.341** RF RSD **4.32** AVE RT **11.80**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**

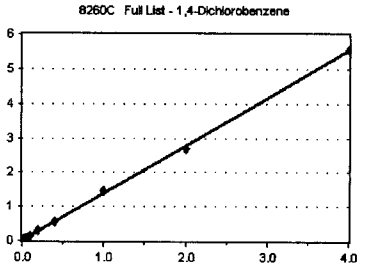


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	144355	2887.100	11.86
9F20044-CAL2	50	143049	2860.980	11.86
9F20044-CAL3	50	147216	2944.320	11.86
9F20044-CAL4	50	145672	2913.440	11.86
9F20044-CAL5	50	142034	2840.680	11.86
9F20044-CAL6	50	146868	2937.360	11.86
9F20044-CAL7	50	143770	2875.400	11.86
9F20044-CAL8	50	153422	3068.440	11.86
9F20044-CAL9	50	150676	3013.520	11.86
9F20044-CALA	50	158080	3161.600	11.86
9F20044-CALB	50	147969	2959.380	11.86

AVE RF **2951.111** RF RSD **3.28** AVE RT **11.86**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

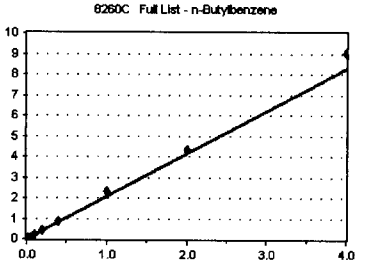


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	760	1.328	11.87
9F20044-CAL3	0.4	1589	1.349	11.87
9F20044-CAL4	1	4031	1.384	11.87
9F20044-CAL5	2	7885	1.388	11.87
9F20044-CAL6	5	20166	1.373	11.87
9F20044-CAL7	10	41265	1.435	11.87
9F20044-CAL8	20	86143	1.404	11.87
9F20044-CAL9	50	219818	1.459	11.87
9F20044-CALA	100	424379	1.342	11.87
9F20044-CALB	200	818316	1.383	11.87

AVE RF **1.384** RF RSD **2.93** AVE RT **11.87**

n-Butylbenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	1025	1.791	12.05
9F20044-CAL3	0.4	2284	1.939	12.05
9F20044-CAL4	1	5420	1.860	12.05
9F20044-CAL5	2	10983	1.933	12.05
9F20044-CAL6	5	29388	2.001	12.05
9F20044-CAL7	10	63502	2.208	12.05
9F20044-CAL8	20	134600	2.193	12.05
9F20044-CAL9	50	347856	2.309	12.05
9F20044-CALA	100	684028	2.164	12.05
9F20044-CALB	200	1332336	2.251	12.05

AVE RF **2.065** RF RSD **8.76** AVE RT **12.05**

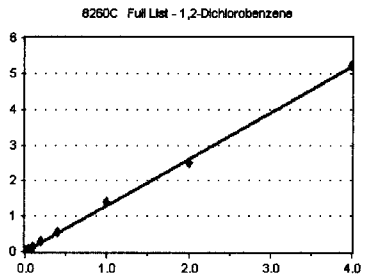
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

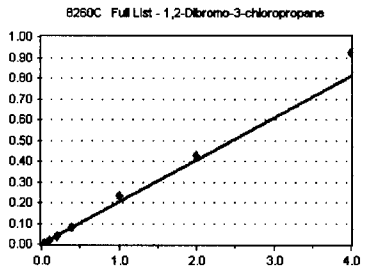


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	0.2	689	1.204	12.19
9F20044-CAL3	0.4	1424	1.209	12.19
9F20044-CAL4	1	3854	1.323	12.19
9F20044-CAL5	2	7242	1.275	12.19
9F20044-CAL6	5	18834	1.282	12.19
9F20044-CAL7	10	39721	1.381	12.19
9F20044-CAL8	20	82461	1.344	12.19
9F20044-CAL9	50	212354	1.409	12.19
9F20044-CALA	100	396257	1.253	12.19
9F20044-CALB	200	774584	1.309	12.19

AVE RF **1.299** RF RSD **5.24** AVE RT **12.19**

1,2-Dibromo-3-chloropropane

Curve Fit: **AVERAGE RF**

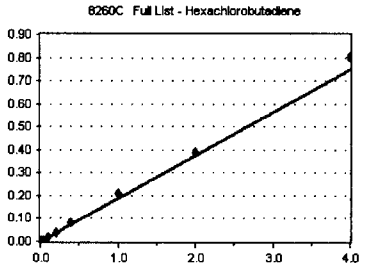


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~1~~	~~404~~	~~0.139~~	~~12.81~~
9F20044-CAL5	2	981	0.173	12.81
9F20044-CAL6	5	2495	0.170	12.81
9F20044-CAL7	10	5649	0.196	12.81
9F20044-CAL8	20	12521	0.204	12.81
9F20044-CAL9	50	35049	0.233	12.81
9F20044-CALA	100	67160	0.212	12.81
9F20044-CALB	200	136786	0.231	12.81

AVE RF **0.203** RF RSD **12.44** AVE RT **12.81**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

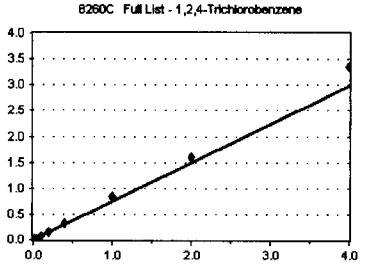


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	435	0.149	13.31
9F20044-CAL5	2	934	0.164	13.32
9F20044-CAL6	5	2508	0.171	13.31
9F20044-CAL7	10	5826	0.203	13.31
9F20044-CAL8	20	12574	0.205	13.31
9F20044-CAL9	50	31871	0.212	13.31
9F20044-CALA	100	61323	0.194	13.31
9F20044-CALB	200	118721	0.201	13.31

AVE RF **0.187** RF RSD **12.10** AVE RT **13.31**

1,2,4-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	646	0.549	13.36
9F20044-CAL4	1	1991	0.683	13.35
9F20044-CAL5	2	3993	0.703	13.35
9F20044-CAL6	5	10341	0.704	13.35
9F20044-CAL7	10	22943	0.798	13.35
9F20044-CAL8	20	49011	0.799	13.35
9F20044-CAL9	50	128307	0.852	13.35
9F20044-CALA	100	252382	0.798	13.35
9F20044-CALB	200	496669	0.839	13.35

AVE RF **0.747** RF RSD **12.92** AVE RT **13.35**

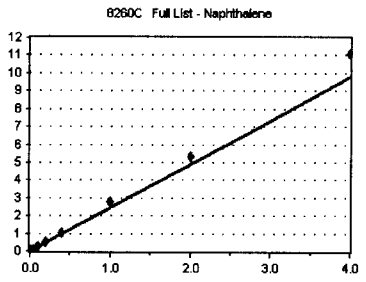
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Full List** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Naphthalene

Curve Fit: **AVERAGE RF**

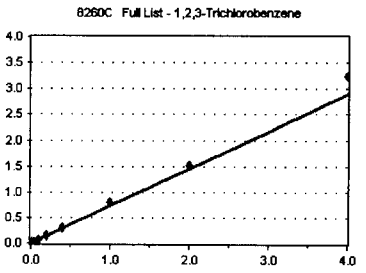


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	2544	2.160	13.63
9F20044-CAL4	1	6018	2.066	13.63
9F20044-CAL5	2	12353	2.174	13.63
9F20044-CAL6	5	33574	2.286	13.63
9F20044-CAL7	10	72663	2.527	13.63
9F20044-CAL8	20	157738	2.570	13.63
9F20044-CAL9	50	419902	2.787	13.63
9F20044-CALA	100	840999	2.660	13.63
9F20044-CALB	200	1636463	2.765	13.63

AVE RF **2.444** RF RSD **11.31** AVE RT **13.63**

1,2,3-Trichlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL3	0.4	669	0.568	13.79
9F20044-CAL4	1	1982	0.680	13.79
9F20044-CAL5	2	3953	0.696	13.79
9F20044-CAL6	5	10056	0.685	13.79
9F20044-CAL7	10	21767	0.757	13.79
9F20044-CAL8	20	46693	0.761	13.79
9F20044-CAL9	50	121910	0.809	13.79
9F20044-CALA	100	240292	0.760	13.79
9F20044-CALB	200	480782	0.812	13.79

AVE RF **0.725** RF RSD **10.61** AVE RT **13.79**

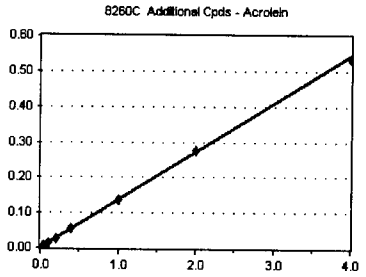
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Acrolein

Curve Fit: **AVERAGE RF**

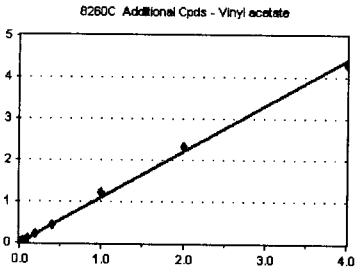


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL4~~	~~1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL5	2	1243	0.150	3.63
9F20044-CAL6	5	2633	0.125	3.63
9F20044-CAL7	10	5612	0.134	3.63
9F20044-CAL8	20	11354	0.134	3.63
9F20044-CAL9	50	27909	0.137	3.63
9F20044-CALA	100	59402	0.138	3.63
9F20044-CALB	200	109382	0.134	3.63

AVE RF **0.136** RF RSD **5.47** AVE RT **3.63**

Vinyl acetate

Curve Fit: **AVERAGE RF**

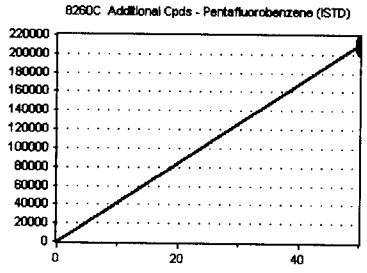


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	4452	1.049	4.98
9F20044-CAL5	2	9168	1.107	4.96
9F20044-CAL6	5	23059	1.096	4.96
9F20044-CAL7	10	42948	1.029	4.96
9F20044-CAL8	20	90782	1.071	4.96
9F20044-CAL9	50	245025	1.205	4.96
9F20044-CALA	100	502043	1.167	4.96
9F20044-CALB	200	884370	1.083	4.96

AVE RF **1.101** RF RSD **5.35** AVE RT **4.96**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

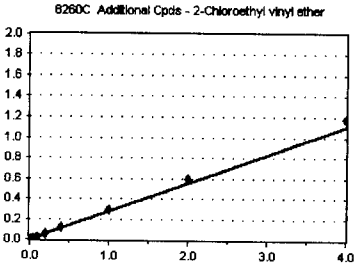


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	216252	4325.040	6.22
9F20044-CAL2	50	214495	4289.900	6.22
9F20044-CAL3	50	216322	4326.440	6.22
9F20044-CAL4	50	212184	4243.680	6.22
9F20044-CAL5	50	207120	4142.400	6.22
9F20044-CAL6	50	210483	4209.660	6.22
9F20044-CAL7	50	208672	4173.440	6.22
9F20044-CAL8	50	211811	4236.220	6.22
9F20044-CAL9	50	203359	4067.180	6.22
9F20044-CALA	50	215096	4301.920	6.22
9F20044-CALB	50	204201	4084.020	6.22

AVE RF **4218.173** RF RSD **2.18** AVE RT **6.22**

2-Chloroethyl vinyl ether

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.2~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.4~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	1	1514	0.236	8.03
9F20044-CAL5	2	3031	0.243	8.03
9F20044-CAL6	5	8448	0.266	8.03
9F20044-CAL7	10	17440	0.282	8.03
9F20044-CAL8	20	36879	0.287	8.03
9F20044-CAL9	50	90290	0.292	8.03
9F20044-CALA	100	194477	0.297	8.03
9F20044-CALB	200	365213	0.294	8.03

AVE RF **0.275** RF RSD **8.66** AVE RT **8.03**

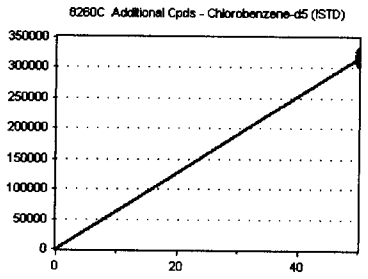
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Additional Cpds** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	319588	6391.760	9.92
9F20044-CAL2	50	315477	6309.540	9.92
9F20044-CAL3	50	322309	6446.180	9.92
9F20044-CAL4	50	321130	6422.600	9.92
9F20044-CAL5	50	311234	6224.680	9.92
9F20044-CAL6	50	317560	6351.200	9.92
9F20044-CAL7	50	309194	6183.880	9.92
9F20044-CAL8	50	321290	6425.800	9.92
9F20044-CAL9	50	308920	6178.400	9.92
9F20044-CALA	50	326979	6539.580	9.92
9F20044-CALB	50	310773	6215.460	9.92

AVE RF **6335.371** RF RSD **1.92** AVE RT **9.92**

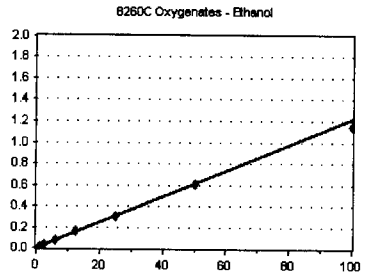
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Ethanol

Curve Fit: **AVERAGE RF**

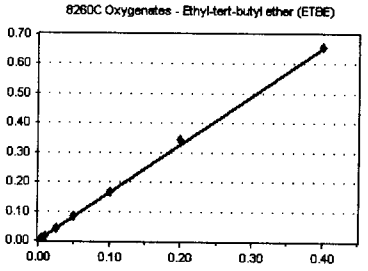


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~6.25~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~12.5~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~25~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	62.5	3359	1.266	0.00
9F20044-CAL5	125	6404	1.237	0.00
9F20044-CAL6	312	16135	1.228	0.00
9F20044-CAL7	625	32934	1.263	0.00
9F20044-CAL8	1250	64932	1.226	0.00
9F20044-CAL9	2500	122303	1.203	0.00
9F20044-CALA	5000	245570	1.142	0.00

AVE RF **1.224** RF RSD **3.45** AVE RT **0.00**

Ethyl-tert-butyl ether (ETBE)

Curve Fit: **AVERAGE RF**

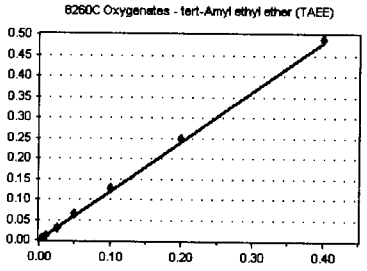


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	0.25	1607	1.515	0.00
9F20044-CAL5	0.5	3218	1.554	0.00
9F20044-CAL6	1.25	8642	1.642	0.00
9F20044-CAL7	2.5	17677	1.694	0.00
9F20044-CAL8	5	35210	1.662	0.00
9F20044-CAL9	10	70328	1.729	0.00
9F20044-CALA	20	141315	1.642	0.00

AVE RF **1.634** RF RSD **4.63** AVE RT **0.00**

tert-Amyl ethyl ether (TAEE)

Curve Fit: **AVERAGE RF**

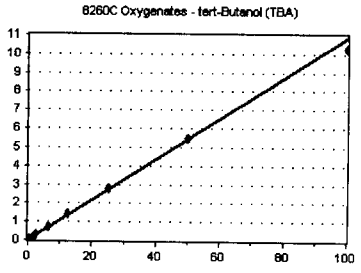


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	0.25	1175	1.108	0.00
9F20044-CAL5	0.5	2362	1.140	0.00
9F20044-CAL6	1.25	6227	1.183	0.00
9F20044-CAL7	2.5	13457	1.290	0.00
9F20044-CAL8	5	26731	1.262	0.00
9F20044-CAL9	10	50305	1.237	0.00
9F20044-CALA	20	105118	1.222	0.00

AVE RF **1.206** RF RSD **5.44** AVE RT **0.00**

tert-Butanol (TBA)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~6.25~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL2	12.5	5907	0.110	0.00
9F20044-CAL3	25	11068	0.102	0.00
9F20044-CAL4	62.5	28689	0.108	0.00
9F20044-CAL5	125	56818	0.110	0.00
9F20044-CAL6	312	145017	0.110	0.00
9F20044-CAL7	625	295406	0.113	0.00
9F20044-CAL8	1250	596009	0.113	0.00
9F20044-CAL9	2500	1112985	0.109	0.00
9F20044-CALA	5000	2207246	0.103	0.00

AVE RF **0.109** RF RSD **3.56** AVE RT **0.00**

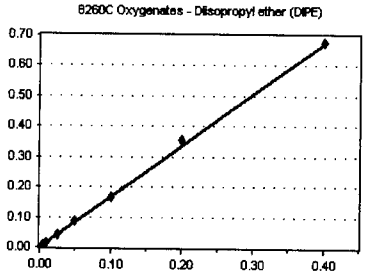
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Diisopropyl ether (DIPE)

Curve Fit: **AVERAGE RF**

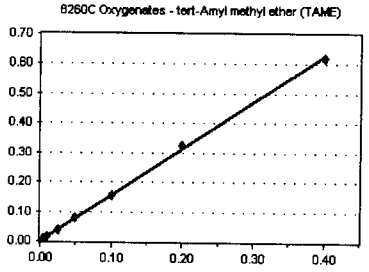


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	0.25	1806	1.702	0.00
9F20044-CAL5	0.5	3461	1.671	0.00
9F20044-CAL6	1.25	8488	1.613	0.00
9F20044-CAL7	2.5	17804	1.706	0.00
9F20044-CAL8	5	34910	1.648	4.57
9F20044-CAL9	10	72280	1.777	0.00
9F20044-CALA	20	145556	1.692	0.00

AVE RF **1.687** RF RSD **3.06** AVE RT **0.65**

tert-Amyl methyl ether (TAME)

Curve Fit: **AVERAGE RF**

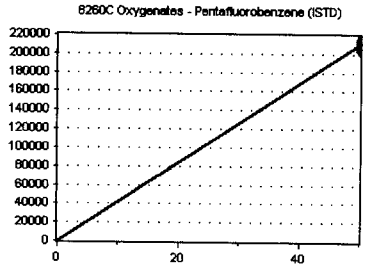


Standard	Concentration	Response	Response Factor	RT
~~9F20044-CAL1~~	~~0.025~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL2~~	~~0.05~~	~~0~~	~~0.000~~	~~0.00~~
~~9F20044-CAL3~~	~~0.1~~	~~0~~	~~0.000~~	~~0.00~~
9F20044-CAL4	0.25	1716	1.617	0.00
9F20044-CAL5	0.5	3075	1.485	0.00
9F20044-CAL6	1.25	8135	1.546	0.00
9F20044-CAL7	2.5	16510	1.582	0.00
9F20044-CAL8	5	33066	1.561	6.25
9F20044-CAL9	10	66498	1.635	0.00
9F20044-CALA	20	133827	1.555	0.00

AVE RF **1.569** RF RSD **3.16** AVE RT **0.89**

Pentafluorobenzene (ISTD)

Curve Fit: **AVERAGE RF**

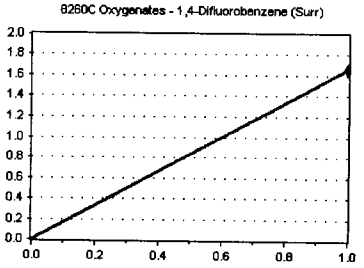


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	216252	4325.040	6.22
9F20044-CAL2	50	214495	4289.900	6.22
9F20044-CAL3	50	216322	4326.440	6.22
9F20044-CAL4	50	212184	4243.680	6.22
9F20044-CAL5	50	207120	4142.400	6.22
9F20044-CAL6	50	210483	4209.660	6.22
9F20044-CAL7	50	208672	4173.440	6.22
9F20044-CAL8	50	211811	4236.220	6.22
9F20044-CAL9	50	203359	4067.180	6.22
9F20044-CALA	50	215096	4301.920	6.22
9F20044-CALB	50	204201	4084.020	6.22

AVE RF **4218.173** RF RSD **2.18** AVE RT **6.22**

1,4-Difluorobenzene (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	358207	1.656	6.79
9F20044-CAL2	50	352562	1.644	6.78
9F20044-CAL3	50	354384	1.638	6.79
9F20044-CAL4	50	356332	1.679	6.79
9F20044-CAL5	50	346645	1.674	6.79
9F20044-CAL6	50	351357	1.669	6.79
9F20044-CAL7	50	346503	1.661	6.79
9F20044-CAL8	50	352468	1.664	6.79
9F20044-CAL9	50	340921	1.676	6.79
9F20044-CALA	50	358617	1.667	6.79
9F20044-CALB	50	342426	1.677	6.79

AVE RF **1.664** RF RSD **0.81** AVE RT **6.79**

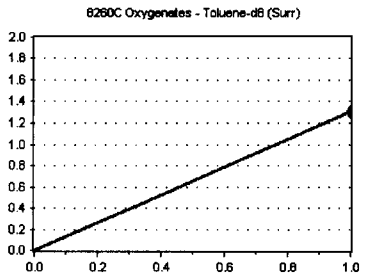
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8260C Oxygenates** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Toluene-d8 (Surr)

Curve Fit: **AVERAGE RF**

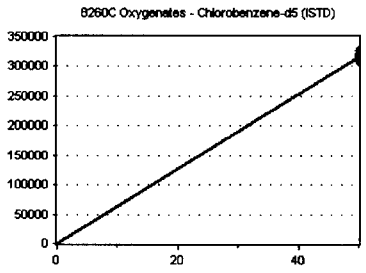


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	419867	1.314	8.30
9F20044-CAL2	50	416463	1.320	8.30
9F20044-CAL3	50	421971	1.309	8.30
9F20044-CAL4	50	417568	1.300	8.30
9F20044-CAL5	50	408908	1.314	8.30
9F20044-CAL6	50	413565	1.302	8.30
9F20044-CAL7	50	406176	1.314	8.30
9F20044-CAL8	50	416334	1.296	8.30
9F20044-CAL9	50	405204	1.312	8.30
9F20044-CALA	50	420397	1.286	8.30
9F20044-CALB	50	405261	1.304	8.30

AVE RF **1.306** RF RSD **0.76** AVE RT **8.30**

Chlorobenzene-d5 (ISTD)

Curve Fit: **AVERAGE RF**

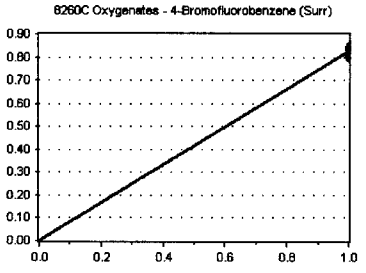


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	319588	6391.760	9.92
9F20044-CAL2	50	315477	6309.540	9.92
9F20044-CAL3	50	322309	6446.180	9.92
9F20044-CAL4	50	321130	6422.600	9.92
9F20044-CAL5	50	311234	6224.680	9.92
9F20044-CAL6	50	317560	6351.200	9.92
9F20044-CAL7	50	309194	6183.880	9.92
9F20044-CAL8	50	321290	6425.800	9.92
9F20044-CAL9	50	308920	6178.400	9.92
9F20044-CALA	50	326979	6539.580	9.92
9F20044-CALB	50	310773	6215.460	9.92

AVE RF **6335.371** RF RSD **1.92** AVE RT **9.92**

4-Bromofluorobenzene (Surr)

Curve Fit: **AVERAGE RF**

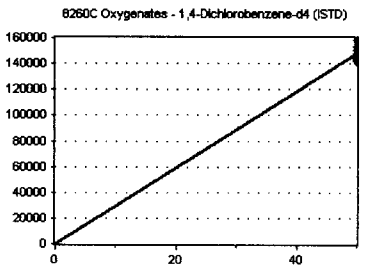


Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	122172	0.846	10.98
9F20044-CAL2	50	119949	0.839	10.98
9F20044-CAL3	50	123411	0.838	10.98
9F20044-CAL4	50	121837	0.836	10.98
9F20044-CAL5	50	118488	0.834	10.98
9F20044-CAL6	50	122376	0.833	10.98
9F20044-CAL7	50	120665	0.839	10.98
9F20044-CAL8	50	126396	0.824	10.98
9F20044-CAL9	50	122539	0.813	10.98
9F20044-CALA	50	127873	0.809	10.98
9F20044-CALB	50	118374	0.800	10.98

AVE RF **0.828** RF RSD **1.79** AVE RT **10.98**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CAL1	50	144355	2887.100	11.86
9F20044-CAL2	50	143049	2860.980	11.86
9F20044-CAL3	50	147216	2944.320	11.86
9F20044-CAL4	50	145672	2913.440	11.86
9F20044-CAL5	50	142034	2840.680	11.86
9F20044-CAL6	50	146868	2937.360	11.86
9F20044-CAL7	50	143770	2875.400	11.86
9F20044-CAL8	50	153422	3068.440	11.86
9F20044-CAL9	50	150676	3013.520	11.86
9F20044-CALA	50	158080	3161.600	11.86
9F20044-CALB	50	147969	2959.380	11.86

AVE RF **2951.111** RF RSD **3.28** AVE RT **11.86**

Response Factor Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019
Response Via : Initial Calibration

Calibration Files
0.1 =VI19062020.D 0.2 =VI19062021.D 0.5 =VI19062022.D 1 =VI19062023.D 2 =VI19062024.D 5 =VI19062025.D
10 =VI19062026.D 20 =VI19062027.D 50 =VI19062028.D 100 =VI19062030.D 200 =VI19062032.D

		Compound	0.1	0.2	0.5	1	2	5	10	20	50	100	200	Avg		%RSD
1)	I	Pentafluorobenzene...	ISTD													
2)		Dichlorodifluo...			0.413	0.451	0.508	0.510	0.548	0.535	0.592	0.563	0.546	0.518		10.82
3)	P	Chloromethane			0.808	0.673	0.653	0.612	0.652	0.636	0.671	0.624	0.613	0.660		9.10
4)	C	Vinyl Chloride		0.585	0.586	0.539	0.559	0.570	0.621	0.608	0.649	0.622	0.607	0.595		5.54
5)		Bromomethane				0.394	0.337	0.292	0.306	0.300	0.289	0.265	0.273	0.307		13.50
6)		Chloroethane				0.214	0.231	0.206	0.210	0.202	0.204			0.211		5.05
7)		Trichlorofluor...			0.575	0.655	0.657	0.652	0.709	0.687	0.724	0.689	0.660	0.668		6.45
8)		Ethanol				0.013	0.012	0.012	0.013	0.012	0.012	0.011		0.012		3.45
9)	C	1,1-Dichloroet...		0.531	0.622	0.644	0.690	0.671	0.723	0.719	0.752	0.693	0.711	0.676		9.41
10)		Carbon Disulfide			1.178	1.161	1.197	1.183	1.273	1.252	1.303	1.190	1.221	1.218		3.98
11)		Freon 113				0.396	0.430	0.421	0.456	0.451	0.474	0.431	0.452	0.439		5.52
12)		Iodomethane					0.072	0.078	0.113	0.170	0.295	0.330	0.364	0.203		61.14
13)		Acrolein					0.150	0.125	0.134	0.134	0.137	0.138	0.134	0.136		5.47
14)		Methylene Chlo...	1.162	0.443	0.218	0.119	0.088	0.062	0.056	0.052	0.052	0.047	0.048	0.213	E1	157.60
15)		Acetone					0.290	0.257	0.250	0.230	0.241	0.215	0.220	0.243		10.58
16)		t-1,2-Dichloro...			0.596	0.611	0.658	0.643	0.697	0.681	0.722	0.658	0.675	0.660		6.02
17)		n-Hexane				0.076	0.080	0.087	0.097	0.098	0.105	0.095	0.099	0.092		11.03
18)		Methyl-tert-bu...			1.521	1.587	1.554	1.606	1.646	1.648	1.748	1.598	1.635	1.616		4.02
19)		tert-Butanol ...		0.110	0.102	0.108	0.110	0.110	0.113	0.113	0.109	0.103		0.109		3.56
20)		Diisopropyl et...				1.702	1.671	1.613	1.706	1.648	1.777	1.692		1.687		3.06
21)	P	1,1-Dichloroet...			0.740	0.833	0.883	0.852	0.923	0.896	0.948	0.861	0.890	0.870		6.91
22)		Acrylonitrile				0.254	0.254	0.271	0.279	0.284	0.308	0.277	0.284	0.277		6.34
23)		Ethyl-tert-but...				1.515	1.554	1.642	1.694	1.662	1.729	1.642		1.634		4.63
24)		Vinyl Acetate				1.049	1.107	1.096	1.029	1.071	1.205	1.167	1.083	1.101		5.35
25)		c-1,2-Dichloro...			0.662	0.667	0.706	0.675	0.724	0.723	0.763	0.698	0.721	0.704		4.65
26)		2,2-Dichloropr...				0.654	0.669	0.647	0.702	0.692	0.730	0.664	0.679	0.679		4.04
27)		Bromochloromet...			0.253	0.306	0.321	0.338	0.348	0.347	0.375	0.326	0.309	0.325		10.66
28)	C	Chloroform			0.849	0.852	0.890	0.873	0.926	0.917	0.972	0.888	0.914	0.898		4.36
29)		Carbon Tetrach...				0.486	0.487	0.491	0.545	0.554	0.613	0.584	0.632	0.549		10.55
30)		Tetrahydrofuran					0.307	0.286	0.284	0.271	0.294	0.262	0.267	0.282		5.70
31)		1,1,1-Trichlor...			0.628	0.707	0.678	0.685	0.735	0.743	0.785	0.724	0.756	0.716		6.57
32)	S	Dibromofluorom...	0.537	0.531	0.528	0.536	0.536	0.538	0.541	0.538	0.549	0.543	0.552	0.539		1.33
33)		1,1-Dichloropr...			0.637	0.637	0.656	0.655	0.705	0.715	0.743	0.682	0.709	0.682		5.59
34)		2-Butanone (MEK)				0.439	0.422	0.393	0.400	0.402	0.423	0.376	0.388	0.406		5.18
35)		Benzene		2.177	2.088	2.000	2.036	2.027	2.133	2.099	2.193	2.022	2.083	2.086		3.18
36)		tert-Amyl meth...				1.617	1.485	1.546	1.582	1.561	1.635	1.555		1.569		3.16
37)		1,2-Dichloroet...			0.600	0.694	0.688	0.680	0.712	0.702	0.746	0.678	0.698	0.689		5.65
38)		iso-Butyl Alcohol						0.039	0.041	0.041	0.046	0.040	0.041	0.041		5.80
39)	S	1,4-Difluorobe...	1.656	1.644	1.638	1.679	1.674	1.669	1.661	1.664	1.676	1.667	1.677	1.664		0.81
40)		Trichloroethen...			0.445	0.493	0.479	0.490	0.532	0.525	0.544	0.506	0.525	0.505		6.15
41)		Tert-Amyl-Ethy...				1.108	1.140	1.183	1.290	1.262	1.237	1.222		1.206		5.44

Method Path : C:\msdchem\1\methods\
Method File : VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds

42)		Dibromomethane			0.250	0.308	0.329	0.328	0.349	0.349	0.374	0.343	0.357	0.332	10.86
43)	C	1,2-Dichloropr...			0.469	0.517	0.523	0.530	0.557	0.552	0.576	0.533	0.550	0.534	5.75
44)		Bromodichlorom...			0.548	0.534	0.584	0.585	0.625	0.633	0.696	0.650	0.692	0.616	9.41
45)		Chlorobenzene-d5 (I)	----------	ISTD	----------										
46)		2-Chloroethyl ...				0.236	0.243	0.266	0.282	0.287	0.292	0.297	0.294	0.275	8.66
47)		c-1,3-Dichloro...			0.425	0.471	0.495	0.488	0.537	0.528	0.580	0.536	0.561	0.514	9.38
48)	S	Toluene-d8 (S)	1.314	1.320	1.309	1.300	1.314	1.302	1.314	1.296	1.312	1.286	1.304	1.306	0.76
49)	C	Toluene	1.616	1.514	1.416	1.364	1.377	1.328	1.453	1.417	1.469	1.347	1.388	1.426	5.87
50)		Tetrachloroeth...			0.272	0.321	0.320	0.317	0.343	0.337	0.346	0.323	0.337	0.324	6.88
51)		4-Methyl-2-Pen...					0.495	0.501	0.514	0.510	0.542	0.471	0.467	0.500	5.16
52)		t-1,3-Dichloro...			0.406	0.420	0.420	0.436	0.483	0.490	0.545	0.503	0.529	0.470	10.91
53)		1,1,2-Trichlor...			0.266	0.288	0.315	0.308	0.336	0.329	0.347	0.318	0.324	0.315	7.89
54)		Dibromochlorom...				0.238	0.247	0.263	0.288	0.299	0.342	0.330	0.354	0.295	14.87
55)		1,3-Dichloropr...			0.493	0.550	0.559	0.561	0.583	0.573	0.611	0.551	0.566	0.561	5.67
56)		1,2-Dibromoeth...		0.235	0.297	0.313	0.329	0.337	0.360	0.356	0.381	0.348	0.358	0.331	12.58
57)		2-Hexanone			0.388	0.370	0.358	0.353	0.381	0.372	0.399	0.346	0.347	0.368	5.06
58)	P	Chlorobenzene		0.799	0.828	0.844	0.865	0.857	0.912	0.891	0.931	0.862	0.884	0.867	4.53
59)	C	Ethylbenzene	1.356	1.552	1.405	1.438	1.440	1.469	1.571	1.549	1.620	1.493	1.539	1.494	5.35
60)		1,1,1,2-Tetrac...			0.204	0.211	0.253	0.247	0.277	0.281	0.309	0.293	0.309	0.265	14.74
61)		m,p-Xylenes (2)	1.055	1.168	1.045	1.073	1.078	1.088	1.181	1.157	1.232	1.137	1.165	1.125	5.38
62)		o-Xylene	1.100	1.086	1.036	1.090	1.137	1.109	1.225	1.199	1.275	1.170	1.192	1.147	6.21
63)		Styrene		0.791	0.738	0.799	0.825	0.850	0.947	0.938	1.006	0.922	0.948	0.876	9.97
64)	P	Bromoform				0.135	0.153	0.160	0.173	0.192	0.230			0.174	19.42
65)		Isopropylbenzene		1.263	1.229	1.249	1.312	1.309	1.456	1.429	1.505	1.399	1.433	1.359	7.17
66)	I	1,4-Dichlorobenzen...	----------	ISTD	----------										
67)	S	4-Bromofluorob...	0.846	0.839	0.838	0.836	0.834	0.833	0.839	0.824	0.813	0.809	0.800	0.828	1.79
68)		Bromobenzene		0.710	0.734	0.757	0.783	0.743	0.820	0.788	0.813	0.744	0.773	0.766	4.61
69)		n-Propylbenzene		3.231	3.058	3.326	3.305	3.303	3.657	3.533	3.664	3.406	3.549	3.403	5.76
70)	P	1,1,2,2-Tetrac...		0.571	0.600	0.637	0.647	0.663	0.697	0.667	0.706	0.605	0.626	0.642	6.68
71)		2-Chlorotoluene			0.655	0.636	0.668	0.665	0.732	0.711	0.734	0.682	0.705	0.687	5.06
72)		1,3,5-Trimethy...		2.237	2.149	2.204	2.142	2.216	2.456	2.380	2.485	2.325	2.408	2.300	5.52
73)		1,2,3-Trichlor...			0.206	0.294	0.305	0.304	0.325	0.311	0.323	0.289	0.296	0.295	11.99
74)		t-1,4-Dichloro...			0.185	0.229	0.219	0.248	0.266	0.268	0.292	0.259	0.272	0.249	13.12
75)		4-Chlorotoluene		2.188	1.943	2.112	2.048	2.066	2.256	2.191	2.270	2.081	2.159	2.131	4.75
76)		tert-Butylbenzene		1.297	1.171	1.282	1.325	1.288	1.397	1.368	1.429	1.324	1.375	1.326	5.52
77)		1,2,4-Trimethy...		2.200	2.007	2.243	2.226	2.229	2.470	2.407	2.512	2.331	2.436	2.306	6.68
78)		sec-Butylbenzene		2.962	2.549	2.776	2.677	2.723	3.024	2.947	3.069	2.853	2.948	2.853	5.86
79)		4-Isopropyltol...		1.987	1.977	2.077	2.149	2.182	2.408	2.377	2.532	2.366	2.460	2.251	8.97
80)		1,3-Dichlorobe...		1.262	1.259	1.341	1.326	1.312	1.419	1.381	1.426	1.318	1.366	1.341	4.32
81)		1,4-Dichlorobe...		1.328	1.349	1.384	1.388	1.373	1.435	1.404	1.459	1.342	1.383	1.384	2.93
82)		n-Butylbenzene		1.791	1.939	1.860	1.933	2.001	2.208	2.193	2.309	2.164	2.251	2.065	8.76
83)		1,2-Dichlorobe...		1.204	1.209	1.323	1.275	1.282	1.381	1.344	1.409	1.253	1.309	1.299	5.24
84)		1,2-Dibromo-3-...					0.173	0.170	0.196	0.204	0.233	0.212	0.231	0.203	12.44
85)		Hexachlorobuta...				0.149	0.164	0.171	0.203	0.205	0.212	0.194	0.201	0.187	12.10
86)		1,2,4-Trichlor...			0.549	0.683	0.703	0.704	0.798	0.799	0.852	0.798	0.839	0.747	12.92
87)		Naphthalene			2.160	2.066	2.174	2.286	2.527	2.570	2.787	2.660	2.765	2.444	11.31
88)		1,2,3-Trichlor...			0.568	0.680	0.696	0.685	0.757	0.761	0.809	0.760	0.812	0.725	10.61

(#) = Out of Range

Compound List Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019
Response Via : Initial Calibration

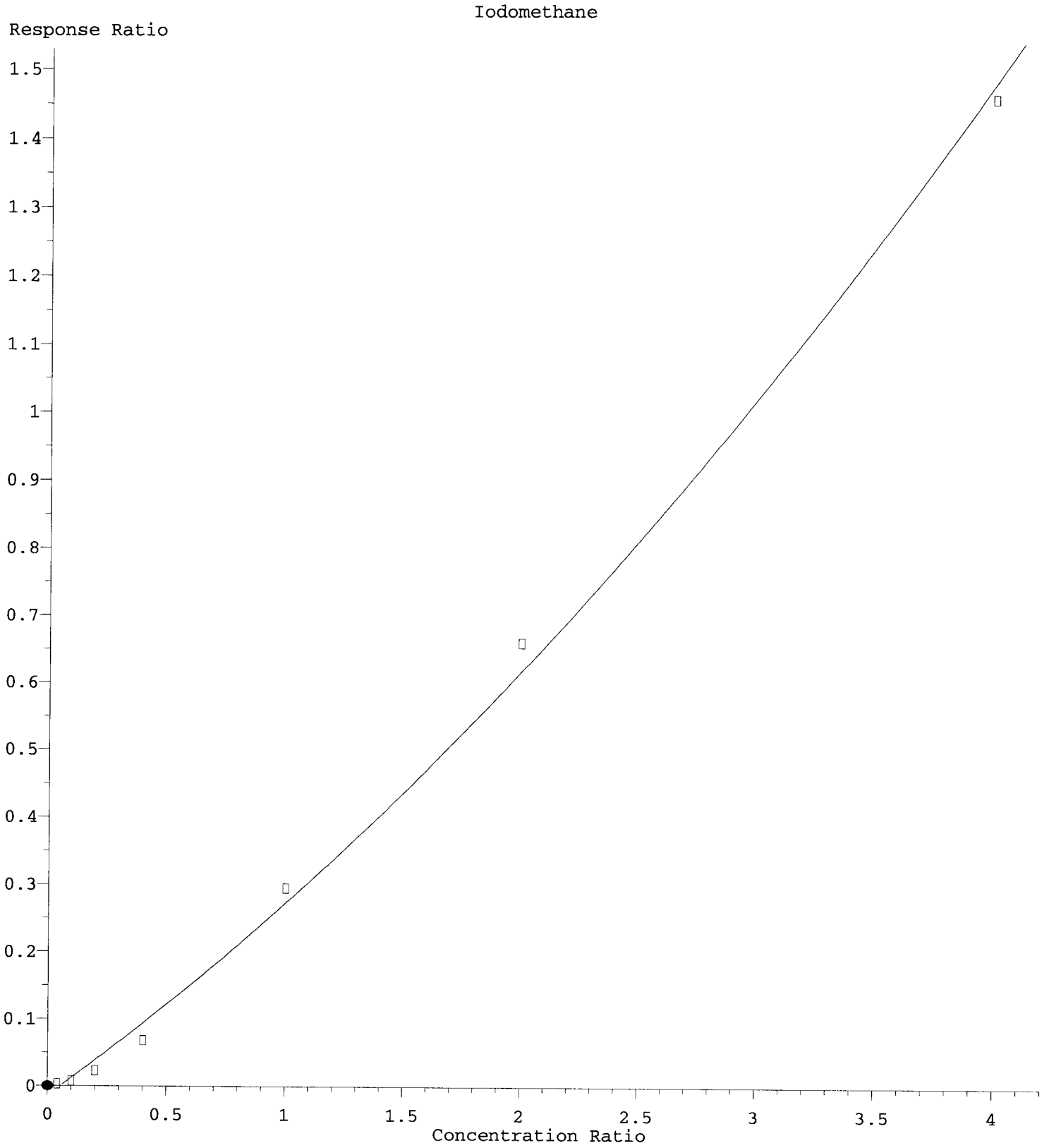
Total Cpnds : 88

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (I)	168	6.223	1.000	A	2	A	R
2		Dichlorodifluoromethane	85	1.679	0.270	A	2	A	R
3	P	Chloromethane	50	1.897	0.305	A	2	A	R
4	C	Vinyl Chloride	62	2.001	0.322	A	2	A	R
5		Bromomethane	96	2.366	0.380	A	2	A	R
6		Chloroethane	64	2.499	0.402	A	2	A	R
7		Trichlorofluoromethane	101	2.664	0.428	A	2	A	R
8		Ethanol	45	3.236	0.520	A	1	A	R
9	C	1,1-Dichloroethene	61	3.236	0.520	A	2	A	R
10		Carbon Disulfide	76	3.254	0.523	A	2	A	R
11		Freon 113	101	3.291	0.529	A	2	A	R
12		Iodomethane	142	3.394	0.545	Q	2	A	R
13		Acrolein	56	3.625	0.583	A	2	A	R
14		Methylene Chloride	84	3.874	0.623	Q	2	A	R
15		Acetone	43	3.942	0.633	A	1	A	R
16		t-1,2-Dichloroethene	61	4.045	0.650	A	2	A	R
17		n-Hexane	86	4.124	0.663	A	3	A	R
18		Methyl-tert-butyl-ether	73	4.172	0.670	A	3	A	R
19		tert-Butanol (TBA)	59	4.294	0.690	A	1	A	R
20		Diisopropyl ether (DIPE)	45	4.568	0.734	A	2	A	R
21	P	1,1-Dichloroethane	63	4.690	0.754	A	2	A	R
22		Acrylonitrile	53	4.757	0.764	A	2	A	R
23		Ethyl-tert-butyl ether (ETBE)	59	4.945	0.795	A	2	A	R
24		Vinyl Acetate	43	4.963	0.798	A	2	A	R
25		c-1,2-Dichloroethene	61	5.250	0.844	A	2	A	R
26		2,2-Dichloropropane	77	5.359	0.861	A	2	A	R
27		Bromochloromethane	130	5.450	0.876	A	2	A	R
28	C	Chloroform	83	5.530	0.889	A	2	A	R
29		Carbon Tetrachloride	117	5.663	0.910	A	2	A	R
30		Tetrahydrofuran	42	5.705	0.917	A	2	A	R
31		1,1,1-Trichloroethane	97	5.736	0.922	A	2	A	R
32	S	Dibromofluoromethane (S)	111	5.718	0.919	A	2	A	R
33		1,1-Dichloropropene	75	5.864	0.942	A	2	A	R
34		2-Butanone (MEK)	43	5.858	0.941	A	2	A	R
35		Benzene	78	6.126	0.984	A	2	A	R
36		tert-Amyl methyl ether (TAME)	73	6.253	1.005	A	2	A	R
37		1,2-Dichloroethane (EDC)	62	6.345	1.020	A	2	A	R
38		iso-Butyl Alcohol	43	6.375	1.024	A	2	A	R
39	S	1,4-Difluorobenzene (S)	114	6.789	1.091	A	2	A	R
40		Trichloroethene (TCE)	130	6.746	1.084	A	2	A	R
41		Tert-Amyl-Ethyl-Ether (TAEE)	59	7.001	1.125	A	2	A	R
42		Dibromomethane	93	7.203	1.157	A	2	A	R
43	C	1,2-Dichloropropane	63	7.318	1.176	A	2	A	R
44		Bromodichloromethane	83	7.385	1.187	A	2	A	R
45	I	Chlorobenzene-d5 (I)	117	9.916	1.000	A	2	A	R
46		2-Chloroethyl Vinyl Ether	63	8.029	0.810	A	2	A	R
47		c-1,3-Dichloropropene	75	8.096	0.816	A	2	A	R
48	S	Toluene-d8 (S)	98	8.304	0.837	A	2	A	R
49	C	Toluene	91	8.364	0.844	A	2	A	R
50		Tetrachloroethene (PCE)	166	8.803	0.888	A	2	A	R
51		4-Methyl-2-Pentanone (MIBK)	43	8.802	0.888	A	2	A	R
52		t-1,3-Dichloropropene	75	8.839	0.891	A	2	A	R
53		1,1,2-Trichloroethane	97	9.009	0.909	A	2	A	R
54		Dibromochloromethane	129	9.191	0.927	A	2	A	R
55		1,3-Dichloropropane	76	9.295	0.937	A	2	A	R

56		1,2-Dibromoethane (EDB)	107	9.429	0.951	A	2	A	R
57		2-Hexanone	43	9.660	0.974	A	2	A	R
58	P	Chlorobenzene	112	9.934	1.002	A	2	A	R
59	C	Ethylbenzene	91	9.958	1.004	A	2	A	R
60		1,1,1,2-Tetrachloroethane	131	9.994	1.008	A	2	A	R
61		m,p-Xylenes (2)	91	10.092	1.018	A	2	A	R
62		o-Xylene	91	10.469	1.056	A	2	A	R
63		Styrene	104	10.518	1.061	A	2	A	R
64	P	Bromoform	173	10.542	1.063	Q	2	A	R
65		Isopropylbenzene	105	10.737	1.083	A	2	A	R
66	I	1,4-Dichlorobenzene-d4 (I)	152	11.856	1.000	A	2	A	R
67	S	4-Bromofluorobenzene (S)	174	10.980	0.926	A	2	A	R
68		Bromobenzene	156	11.066	0.933	A	2	A	R
69		n-Propylbenzene	91	11.077	0.934	A	2	A	R
70	P	1,1,2,2-Tetrachloroethane	85	11.145	0.940	A	2	A	R
71		2-Chlorotoluene	126	11.211	0.946	A	2	A	R
72		1,3,5-Trimethylbenzene	105	11.235	0.948	A	2	A	R
73		1,2,3-Trichloropropane	110	11.254	0.949	A	2	A	R
74		t-1,4-Dichloro-2-butene	53	11.284	0.952	A	3	A	R
75		4-Chlorotoluene	91	11.339	0.956	A	2	A	R
76		tert-Butylbenzene	91	11.485	0.969	A	2	A	R
77		1,2,4-Trimethylbenzene	105	11.540	0.973	A	2	A	R
78		sec-Butylbenzene	105	11.625	0.980	A	2	A	R
79		4-Isopropyltoluene	119	11.728	0.989	A	2	A	R
80		1,3-Dichlorobenzene	146	11.802	0.995	A	2	A	R
81		1,4-Dichlorobenzene	146	11.869	1.001	A	2	A	R
82		n-Butylbenzene	91	12.051	1.016	A	2	A	R
83		1,2-Dichlorobenzene	146	12.185	1.028	A	2	A	R
84		1,2-Dibromo-3-Chloropropane	157	12.805	1.080	A	2	A	R
85		Hexachlorobutadiene	223	13.310	1.123	A	3	A	R
86		1,2,4-Trichlorobenzene	180	13.353	1.126	A	2	A	R
87		Naphthalene	128	13.632	1.150	A	2	A	R
88		1,2,3-Trichlorobenzene	180	13.791	1.163	A	2	A	R

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

VI190621W+.M Fri Jun 21 10:41:26 2019

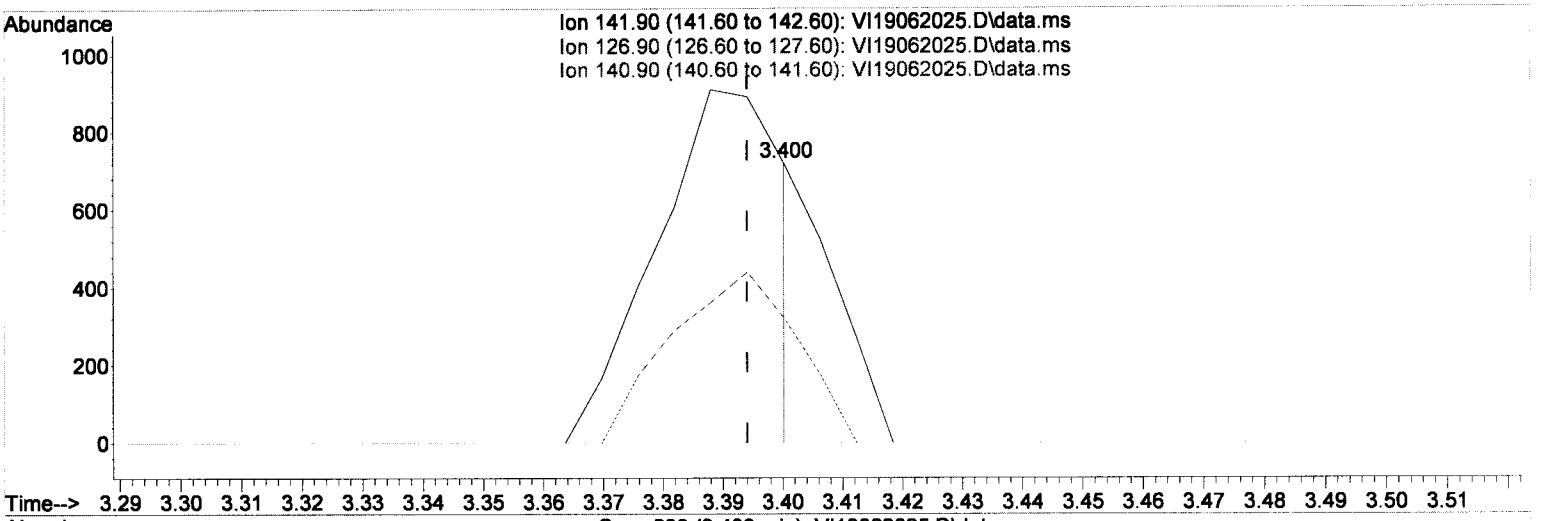


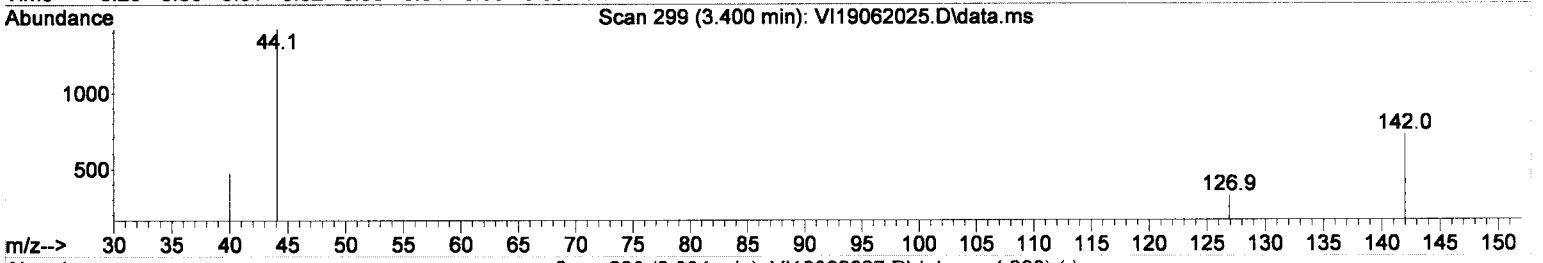
R = 2.89e-002 A*A + 2.58e-001 A - 1.37e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V119062W4.M
Calibration Table Last Updated: Fri Jun 21 10:15:13 2019

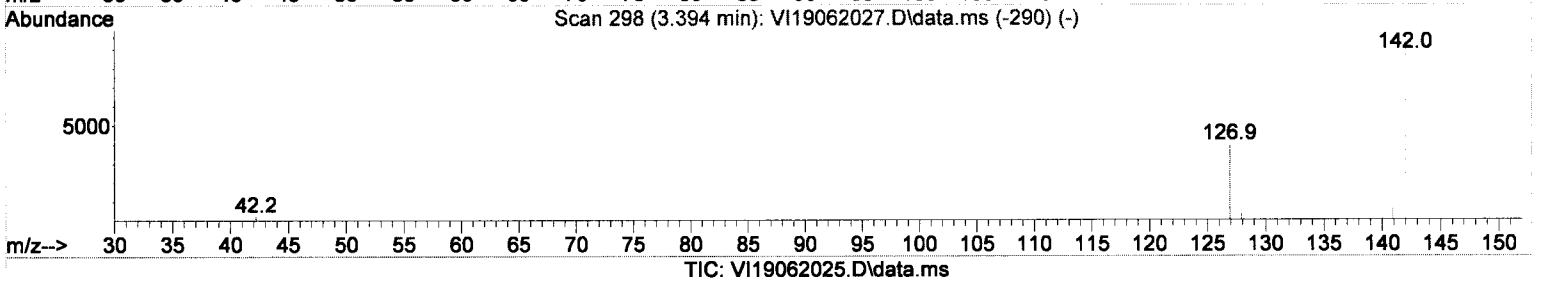
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:27:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







TIC: VI19062025.D\data.ms

(12) Iodomethane

3.400min (+ 0.006) 2.91 ug/L m

response 291

Ion	Exp%	Act%
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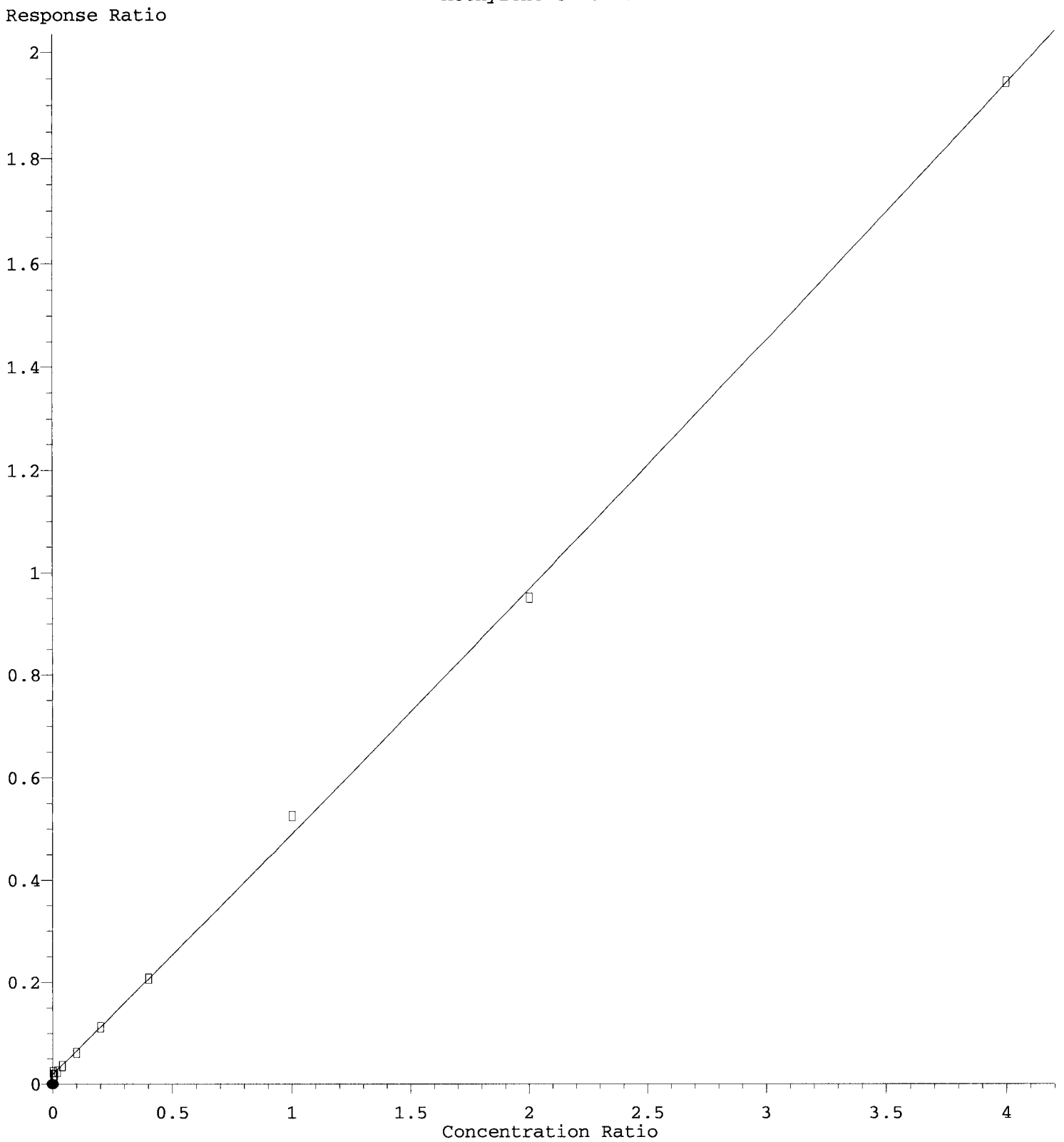
126.90	34.80	44.66
140.90	15.30	0.00#
0.00	0.00	0.00

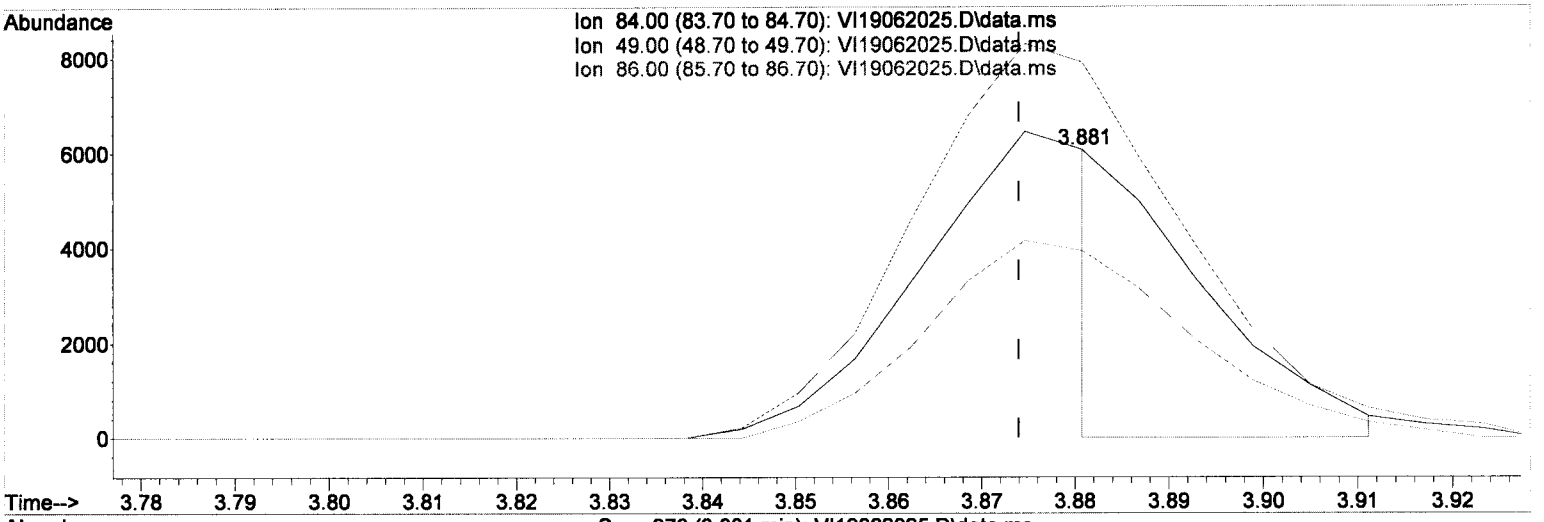


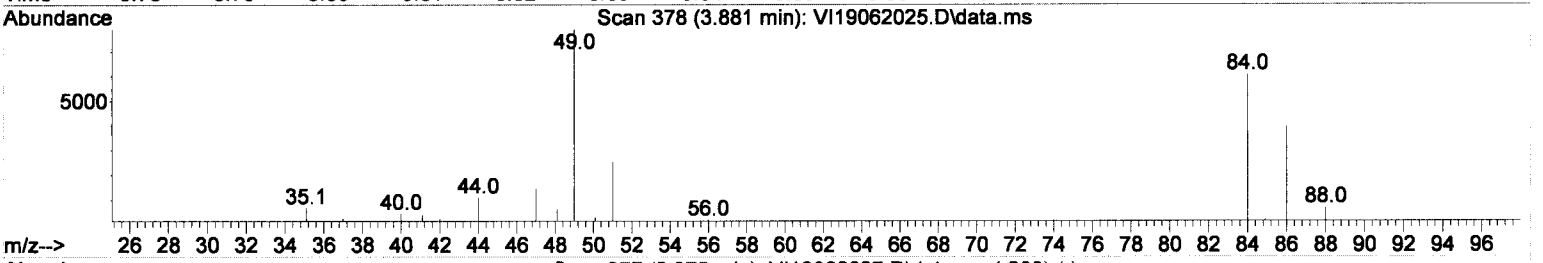
R = 2.67e-003 A*A + 4.69e-001 A + 1.89e-002
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VI190621w+.M
Calibration Table Last Updated: Fri Jun 21 10:15:55 2019

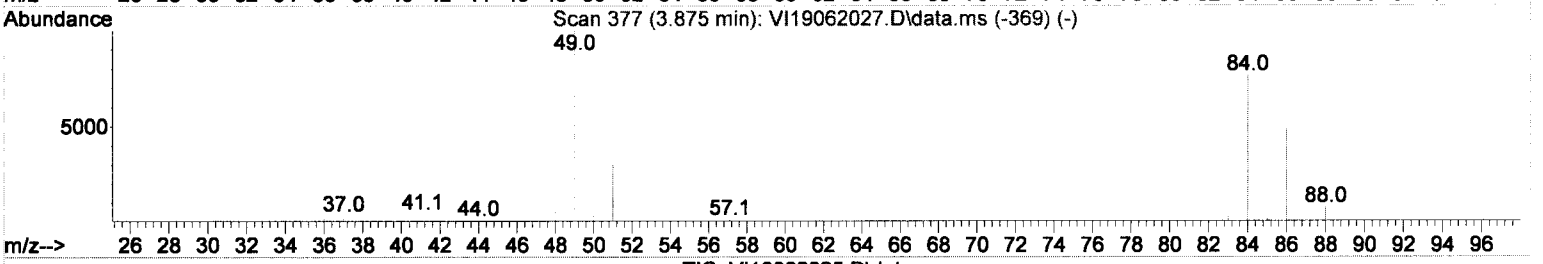
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:27:41 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







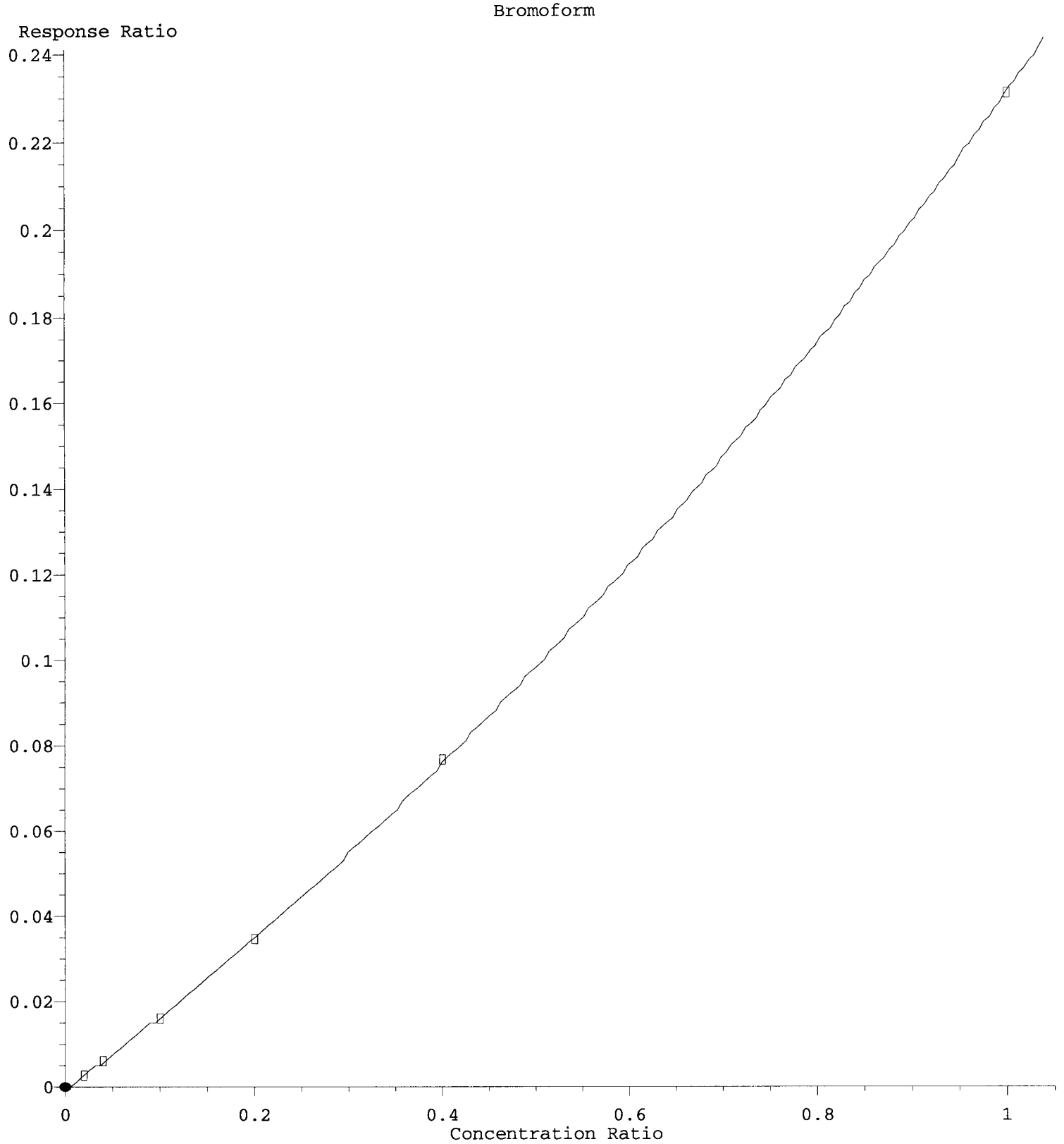
TIC: VI19062025.D\data.ms

(14) Methylene Chloride

3.881min (+ 0.007) 0.17 ug/L m

response 4307

Ion	Exp%	Act%
84.00	100.00	100.00
49.00	134.70	130.45
86.00	61.50	64.88
0.00	0.00	0.00

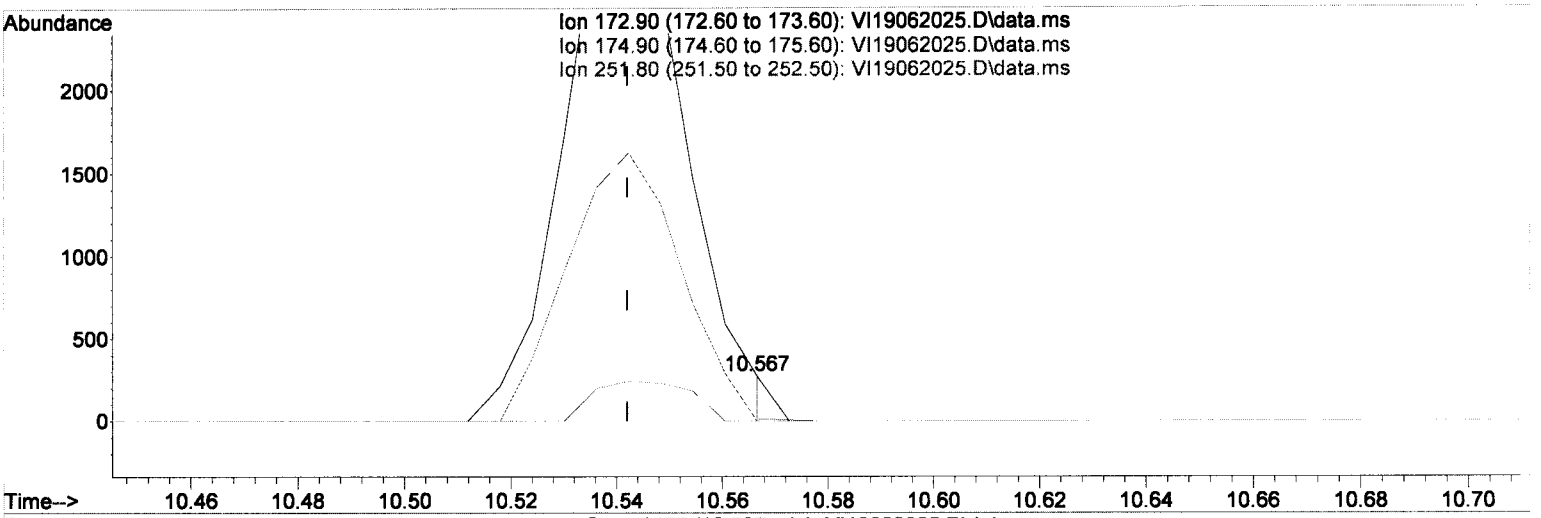


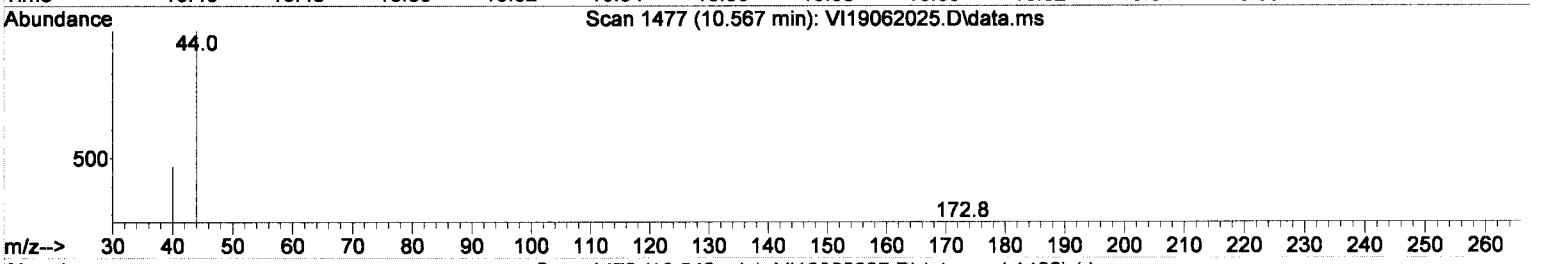
R = 6.67e-002 A*A + 1.65e-001 A - 6.64e-004
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V1190621w+.M
Calibration Table Last Updated: Fri Jun 21 10:35:40 2019

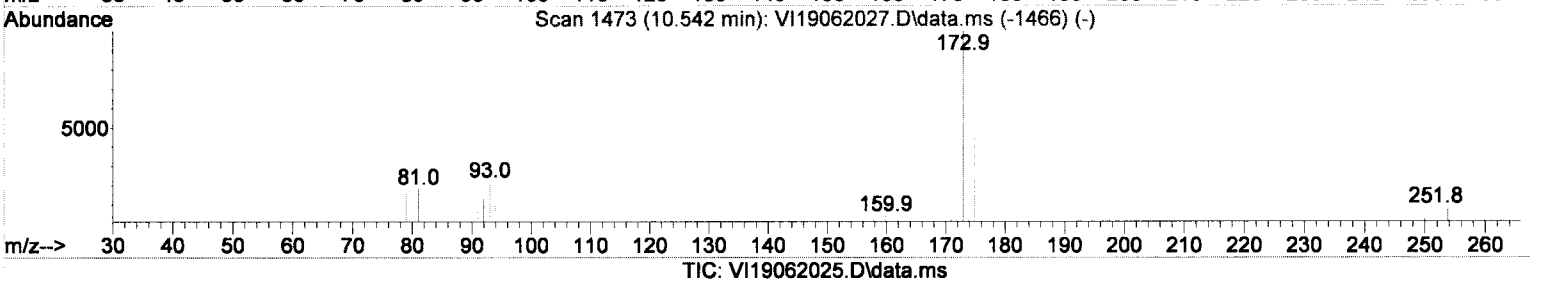
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:35:44 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration







(64) Bromoform (P)

10.567min (+ 0.025) 0.20 ug/L m

response -5

Ion	Exp%	Act%
172.90	100.00	100.00
174.90	49.20	0.00#
251.80	13.30	0.00
0.00	0.00	-0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9F20044

Analysis Included
8260C Full List
8260C Additional Cpds
8260C Oxygenates

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD_ID	Analyzed
9F20044-TUN1	MS Tune	Water		A19C125	6/20/2019 5:22:00PM
9F20044-ICB1	Initial Cal Blank	Water		A19C125	6/20/2019 5:49:00PM
9F20044-CAL1	Cal Standard	Water	A19F282	"	6/20/2019 6:16:00PM
9F20044-CAL2	Cal Standard	Water	A19F283	"	6/20/2019 6:43:00PM
9F20044-CAL3	Cal Standard	Water	A19F284	"	6/20/2019 7:10:00PM
9F20044-CAL4	Cal Standard	Water	A19F285	"	6/20/2019 7:37:00PM
9F20044-CAL5	Cal Standard	Water	A19F286	"	6/20/2019 8:04:00PM
9F20044-CAL6	Cal Standard	Water	A19F287	"	6/20/2019 8:31:00PM
9F20044-CAL7	Cal Standard	Water	A19F288	"	6/20/2019 8:58:00PM
9F20044-CAL8	Cal Standard	Water	A19F289	"	6/20/2019 9:25:00PM
9F20044-CAL9	Cal Standard	Water	A19F290	"	6/20/2019 9:52:00PM
9F20044-CALA	Cal Standard	Water	A19F291	"	6/20/2019 10:46:00PM
9F20044-CALB	Cal Standard	Water	A19F292	"	6/20/2019 11:40:00PM
9F20044-ICV1	Initial Cal Check	Water	A19F293	"	6/21/2019 1:01:00AM
9F20044-ICV2	Initial Cal Check	Water	A19E195	"	6/21/2019 1:28:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: A9F2102 Instrument: VOA-GCMS9

8260C Full List Sequence: 9F20044 Matrix: Water

9F20044-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CALA	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9F20044-CALB	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9F20044

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: **A9F2102** Instrument: **VOA-GCMS9**

8260C Full List Sequence: **9F20044** Matrix: **Water**

9F20044-ICV1	**Inst. MRL**	**ICV Level**	**Result**	**%Rec.**	**Qual**
9F20044-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\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

MM 6/21/19

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	100	0.00
2		Dichlorodifluoromethane	20.000	22.655	-13.3	110	0.01
3	P	Chloromethane	20.000	20.431	-2.2	106	0.00
4	C	Vinyl Chloride	20.000	20.188	-0.9	99	0.00
5		Bromomethane	20.000	19.281	3.6	99	0.00
6		Chloroethane	20.000	19.256	3.7	101	0.00
7		Trichlorofluoromethane	20.000	19.778	1.1	96	0.00
8		~~Ethanol~~	~~1250.000~~	~~28.841~~	~~97.7#~~	~~2~~	~~0.02~~
9	C	1,1-Dichloroethene	20.000	21.016	-5.1	99	0.00
10		Carbon Disulfide	20.000	22.077	-10.4	107	0.00
11		Freon 113	20.000	20.460	-2.3	99	0.01
12		Iodomethane	20.000	18.120	9.4	123	0.00
13		Acrolein	20.000	19.485	2.6	99	0.00
14		Methylene Chloride	20.000	20.532	-2.7	102	0.00
15		Acetone	40.000	38.984	2.5	103	0.01
16		t-1,2-Dichloroethene	20.000	21.653	-8.3	105	0.00
17		n-Hexane	20.000	20.430	-2.1	96	0.00
18		Methyl-tert-butyl-ether	20.000	20.303	-1.5	99	0.00
19		~~tert-Butanol (TBA)~~	~~1250.000~~	~~15.938~~	~~98.7#~~	~~1~~	~~0.01~~
20		~~Diisopropyl ether (DIPE)~~	~~5.000~~	~~0.081~~	~~98.4#~~	~~2~~	~~0.00~~
21	P	1,1-Dichloroethane	20.000	21.972	-9.9	107	0.00
22		Acrylonitrile	20.000	20.501	-2.5	100	0.00
23		~~Ethyl-tert-butyl ether (ET~~	~~5.000~~	~~0.074~~	~~98.5#~~	~~2~~	~~0.00~~
24		Vinyl Acetate	20.000	19.354	3.2	99	0.00
25		c-1,2-Dichloroethene	20.000	20.741	-3.7	101	0.00
26		2,2-Dichloropropane	20.000	18.952	5.2	93	0.00
27		Bromochloromethane	20.000	21.990	-9.9	103	0.00
28	C	Chloroform	20.000	20.737	-3.7	101	0.00
29		Carbon Tetrachloride	20.000	20.656	-3.3	102	0.00
30		Tetrahydrofuran	20.000	19.878	0.6	103	0.00
31		1,1,1-Trichloroethane	20.000	21.347	-6.7	103	0.00
32	S	Dibromofluoromethane (S)	50.000	49.709	0.6	99	0.00
33		1,1-Dichloropropene	20.000	20.704	-3.5	99	0.00
34		2-Butanone (MEK)	40.000	39.531	1.2	99	0.00
35		Benzene	20.000	20.383	-1.9	101	0.00
36		~~tert-Amyl methyl ether (TA~~	~~5.000~~	~~0.120~~	~~97.6#~~	~~3~~	~~0.00~~
37		1,2-Dichloroethane (EDC)	20.000	21.213	-6.1	104	0.00
38		iso-Butyl Alcohol	500.000	543.917	-8.8	109	0.00
39	S	1,4-Difluorobenzene (S)	50.000	50.377	-0.8	101	0.00
40		Trichloroethene (TCE)	20.000	20.973	-4.9	101	0.00
41		~~Tert-Amyl-Ethyl-Ether (TAEE~~	~~5.000~~	~~0.065~~	~~98.7#~~	~~1~~	~~0.00~~
42		Dibromomethane	20.000	21.205	-6.0	101	0.00
43	C	1,2-Dichloropropane	20.000	20.979	-4.9	101	0.00
44		Bromodichloromethane	20.000	21.276	-6.4	103	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	99	0.00
46		2-Chloroethyl Vinyl Ether	20.000	21.136	-5.7	101	0.00
47		c-1,3-Dichloropropene	20.000	20.950	-4.7	101	0.00
48	S	Toluene-d8 (S)	50.000	49.736	0.5	100	0.00
49	C	Toluene	20.000	19.771	1.1	99	0.00
50		Tetrachloroethene (PCE)	20.000	20.835	-4.2	100	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	40.908	-2.3	100	0.00
52		t-1,3-Dichloropropene	20.000	21.671	-8.4	103	0.00
53		1,1,2-Trichloroethane	20.000	21.459	-7.3	102	0.00
54		Dibromochloromethane	20.000	21.192	-6.0	104	0.00
55		1,3-Dichloropropane	20.000	20.707	-3.5	101	0.00
56		1,2-Dibromoethane (EDB)	20.000	21.529	-7.6	100	0.00
57		2-Hexanone	40.000	40.738	-1.8	100	0.00
58	P	Chlorobenzene	20.000	21.135	-5.7	102	0.00
59	C	Ethylbenzene	20.000	20.865	-4.3	100	0.00
60		1,1,1,2-Tetrachloroethane	20.000	21.640	-8.2	102	0.00
61		m,p-Xylenes (2)	40.000	41.951	-4.9	101	0.00
62		o-Xylene	20.000	21.033	-5.2	100	0.00
63		Styrene	20.000	21.416	-7.1	100	0.00
64	P	Bromoform	20.000	21.073	-5.4	105	0.00
65		Isopropylbenzene	20.000	20.876	-4.4	99	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	99	0.00
67	S	4-Bromofluorobenzene (S)	50.000	49.161	1.7	98	0.00
68		Bromobenzene	20.000	20.733	-3.7	100	0.00
69		n-Propylbenzene	20.000	20.613	-3.1	99	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	20.497	-2.5	98	0.00
71		2-Chlorotoluene	20.000	20.857	-4.3	100	0.00
72		1,3,5-Trimethylbenzene	20.000	20.749	-3.7	100	0.00
73		1,2,3-Trichloropropane	20.000	21.392	-7.0	101	0.00
74		t-1,4-Dichloro-2-butene	20.000	18.623	6.9	86	0.00
75		4-Chlorotoluene	20.000	20.810	-4.0	101	0.00
76		tert-Butylbenzene	20.000	20.656	-3.3	100	0.00
77		1,2,4-Trimethylbenzene	20.000	20.840	-4.2	99	0.00
78		sec-Butylbenzene	20.000	20.715	-3.6	100	0.00
79		4-Isopropyltoluene	20.000	21.320	-6.6	100	0.00
80		1,3-Dichlorobenzene	20.000	21.184	-5.9	102	0.00
81		1,4-Dichlorobenzene	20.000	20.576	-2.9	101	0.00
82		n-Butylbenzene	20.000	21.081	-5.4	99	0.00
83		1,2-Dichlorobenzene	20.000	20.994	-5.0	101	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	20.985	-4.9	104	0.00
85		Hexachlorobutadiene	20.000	21.409	-7.0	97	0.00
86		1,2,4-Trichlorobenzene	20.000	21.203	-6.0	99	0.00
87		Naphthalene	20.000	21.172	-5.9	100	0.00
88		1,2,3-Trichlorobenzene	20.000	21.100	-5.5	100	0.00

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (I)	50.000	50.000	0.0	98	0.00
2		Dichlorodifluoromethane	20.000	0.151	99.2#	1	0.00
3	P	Chloromethane	20.000	0.439	97.8#	2	0.00
4	C	Vinyl Chloride	20.000	0.160	99.2#	1	0.00
5		Bromomethane	20.000	0.584	97.1#	3	0.00
6		Chloroethane	20.000	0.438	97.8#	2	0.02
7		Trichlorofluoromethane	20.000	0.089	99.6#	0	0.01
8		Ethanol	1250.000	1332.917	-6.6	99	0.00
9	C	1,1-Dichloroethene	20.000	0.146	99.3#	1	0.00
10		Carbon Disulfide	20.000	0.505	97.5#	2	0.00
11		Freon 113	20.000	0.000	100.0#	0	-3.29#
12		Iodomethane	20.000	2.975	85.1#	2	0.00
13		Acrolein	20.000	0.000	100.0#	0	-3.63#
14		Methylene Chloride	20.000	-1.000	105.0#	7	0.00
15		Acetone	40.000	0.849	97.9#	2	0.02
16		t-1,2-Dichloroethene	20.000	0.285	98.6#	1	0.00
17		n-Hexane	20.000	0.000	100.0#	0	-4.12#
18		Methyl-tert-butyl-ether	20.000	0.069	99.7#	0	0.00
19		tert-Butanol (TBA)	1250.000	1346.739	-7.7	98	0.00
20		Diisopropyl ether (DIPE)	5.000	4.510	9.8	101	0.00
21	P	1,1-Dichloroethane	20.000	0.226	98.9#	1	0.00
22		Acrylonitrile	20.000	0.000	100.0#	0	-4.76#
23		Ethyl-tert-butyl ether (ET	5.000	4.600	8.0	98	0.00
24		Vinyl Acetate	20.000	0.859	95.7#	4	-0.02
25		c-1,2-Dichloroethene	20.000	0.214	98.9#	1	0.00
26		2,2-Dichloropropane	20.000	0.086	99.6#	0	0.00
27		Bromochloromethane	20.000	0.000	100.0#	0	-5.45#
28	C	Chloroform	20.000	0.239	98.8#	1	0.00
29		Carbon Tetrachloride	20.000	0.000	100.0#	0	-5.66#
30		Tetrahydrofuran	20.000	0.000	100.0#	0	-5.71#
31		1,1,1-Trichloroethane	20.000	0.091	99.5#	0	0.01
32	S	Dibromofluoromethane (S)	50.000	49.499	1.0	98	0.00
33		1,1-Dichloropropene	20.000	0.189	99.1#	1	0.00
34		2-Butanone (MEK)	40.000	0.000	100.0#	0	-5.86#
35		Benzene	20.000	0.224	98.9#	1	0.01
36		tert-Amyl methyl ether (TA	5.000	4.459	10.8	98	0.00
37		1,2-Dichloroethane (EDC)	20.000	0.126	99.4#	1	0.00
38		iso-Butyl Alcohol	500.000	63.312	87.3#	12	-0.12
39	S	1,4-Difluorobenzene (S)	50.000	50.206	-0.4	99	0.00
40		Trichloroethene (TCE)	20.000	0.233	98.8#	1	0.00
41		Tert-Amyl-Ethyl-Ether (TAEE	5.000	4.485	10.3	93	0.00
42		Dibromomethane	20.000	0.000	100.0#	0	-7.20#
43	C	1,2-Dichloropropane	20.000	0.158	99.2#	1	0.00
44		Bromodichloromethane	20.000	0.127	99.4#	1	0.00
45		Chlorobenzene-d5 (I)	50.000	50.000	0.0	96	0.00
46		2-Chloroethyl Vinyl Ether	20.000	0.000	100.0#	0	-8.03#
47		c-1,3-Dichloropropene	20.000	0.141	99.3#	1	0.00
48	S	Toluene-d8 (S)	50.000	49.809	0.4	97	0.00
49	C	Toluene	20.000	0.240	98.8#	1	0.00
50		Tetrachloroethene (PCE)	20.000	0.220	98.9#	1	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51		4-Methyl-2-Pentanone (MIBK)	40.000	0.000	100.0#	0	-8.80#
52		t-1,3-Dichloropropene	20.000	0.114	99.4#	1	0.01
53		1,1,2-Trichloroethane	20.000	0.000	100.0#	0	-9.01#
54		Dibromochloromethane	20.000	0.000	100.0#	0	-9.19#
55		1,3-Dichloropropane	20.000	0.102	99.5#	0	0.00
56		1,2-Dibromoethane (EDB)	20.000	0.000	100.0#	0	-9.43#
57		2-Hexanone	40.000	0.080	99.8#	0	0.00
58	P	Chlorobenzene	20.000	0.287	98.6#	1	0.00
59	C	Ethylbenzene	20.000	0.239	98.8#	1	0.00
60		1,1,1,2-Tetrachloroethane	20.000	0.127	99.4#	1	0.00
61		m,p-Xylenes (2)	40.000	0.503	98.7#	1	0.00
62		o-Xylene	20.000	0.225	98.9#	1	0.00
63		Styrene	20.000	0.237	98.8#	1	0.00
64	P	Bromoform	20.000	0.000	100.0#	0	-10.54#
65		Isopropylbenzene	20.000	0.196	99.0#	1	0.00
66	I	1,4-Dichlorobenzene-d4 (I)	50.000	50.000	0.0	91	0.00
67	S	4-Bromofluorobenzene (S)	50.000	51.306	-2.6	93	0.00
68		Bromobenzene	20.000	0.264	98.7#	1	0.00
69		n-Propylbenzene	20.000	0.264	98.7#	1	0.00
70	P	1,1,2,2-Tetrachloroethane	20.000	0.000	100.0#	0	-11.14#
71		2-Chlorotoluene	20.000	0.174	99.1#	1	0.00
72		1,3,5-Trimethylbenzene	20.000	0.256	98.7#	1	0.00
73		1,2,3-Trichloropropane	20.000	0.000	100.0#	0	-11.25#
74		t-1,4-Dichloro-2-butene	20.000	0.000	100.0#	0	-11.28#
75		4-Chlorotoluene	20.000	0.325	98.4#	1	0.00
76		tert-Butylbenzene	20.000	0.226	98.9#	1	0.00
77		1,2,4-Trimethylbenzene	20.000	0.288	98.6#	1	0.00
78		sec-Butylbenzene	20.000	0.239	98.8#	1	0.00
79		4-Isopropyltoluene	20.000	0.288	98.6#	1	0.00
80		1,3-Dichlorobenzene	20.000	0.348	98.3#	2	0.00
81		1,4-Dichlorobenzene	20.000	0.358	98.2#	2	0.00
82		n-Butylbenzene	20.000	0.368	98.2#	2	0.00
83		1,2-Dichlorobenzene	20.000	0.290	98.6#	1	0.00
84		1,2-Dibromo-3-Chloropropane	20.000	0.000	100.0#	0	-12.81#
85		Hexachlorobutadiene	20.000	0.746	96.3#	3	0.00
86		1,2,4-Trichlorobenzene	20.000	0.592	97.0#	3	0.00
87		Naphthalene	20.000	0.392	98.0#	2	0.00
88		1,2,3-Trichlorobenzene	20.000	0.528	97.4#	2	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 6

Calibration Status Report VOA-GCMS9

Method Path : C:\msdchem\1\methods\
Method File : VI190621G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Jun 21 11:04:13 2019
Response Via : Initial Calibration

#	ID	Conc	ISTD Conc	Path\File
1	50	50	50	C:\msdchem\1\data\2019-06\9F20044\VI19062042.D
2	100	100	50	C:\msdchem\1\data\2019-06\9F20044\VI19062043.D
3	250	250	50	C:\msdchem\1\data\2019-06\9F20044\VI19062044.D
4	500	500	50	C:\msdchem\1\data\2019-06\9F20044\VI19062045.D
5	1000	1000	50	C:\msdchem\1\data\2019-06\9F20044\VI19062046.D
6	2500	2500	50	C:\msdchem\1\data\2019-06\9F20044\VI19062047.D
7	5000	5000	50	C:\msdchem\1\data\2019-06\9F20044\VI19062048.D
8	10K	10000	50	C:\msdchem\1\data\2019-06\9F20044\VI19062049.D

#	ID	Update Time	Quant Time	Acquisition Time
1	50	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 4:10 am
2	100	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 4:37 am
3	250	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 5:04 am
4	500	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 5:31 am
5	1000	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 5:58 am
6	2500	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 6:25 am
7	5000	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 6:52 am
8	10K	Jun 21 11:04 2019	Jun 21 10:59 2019	21 Jun 2019 7:19 am

VI190621G.M Fri Jun 21 11:10:06 2019

Method Path : C:\msdchem\1\methods\
Method File : VI190621G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Jun 21 11:04:13 2019
Response Via : Initial Calibration

Calibration Files
50 =VI19062042.D 100 =VI19062043.D 250 =VI19062044.D 500 =VI19062045.D 1000=VI19062046.D 2500=VI19062047.D
5000=VI19062048.D 10K =VI19062049.D

		Compound	50	100	250	500	1000	2500	5000	10K	Avg	%RSD
1)	I	Pentafluorobenzene...	----------ISTD----------									
2)	S	1,4-Difluorobe...	1.674	1.679	1.674	1.666	1.685	1.668	1.694	1.713	1.682	0.93
3)	S	4-Bromofluorob...	0.566	0.572	0.568	0.582	0.586	0.593	0.604	0.606	0.585	2.64
4)	H	NWTPH-Gx (TPH)	0.868	1.298	1.446	1.577	1.545	1.638	1.731	1.724	1.478	19.30
5)	H	TPHg (C5-C9)	3.161	2.665	2.296	2.197	2.072	2.099	2.132	2.116	2.342	16.33
6)	H	TPHg (C6-C10)	2.644	2.253	1.930	1.868	1.761	1.775	1.804	1.803	1.980	15.77
7)	H	CA-LUFT (C5-C12)	3.557	3.029	2.649	2.602	2.468	2.537	2.603	2.593	2.755	13.25
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

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Compound List Report VOA-GCMS9

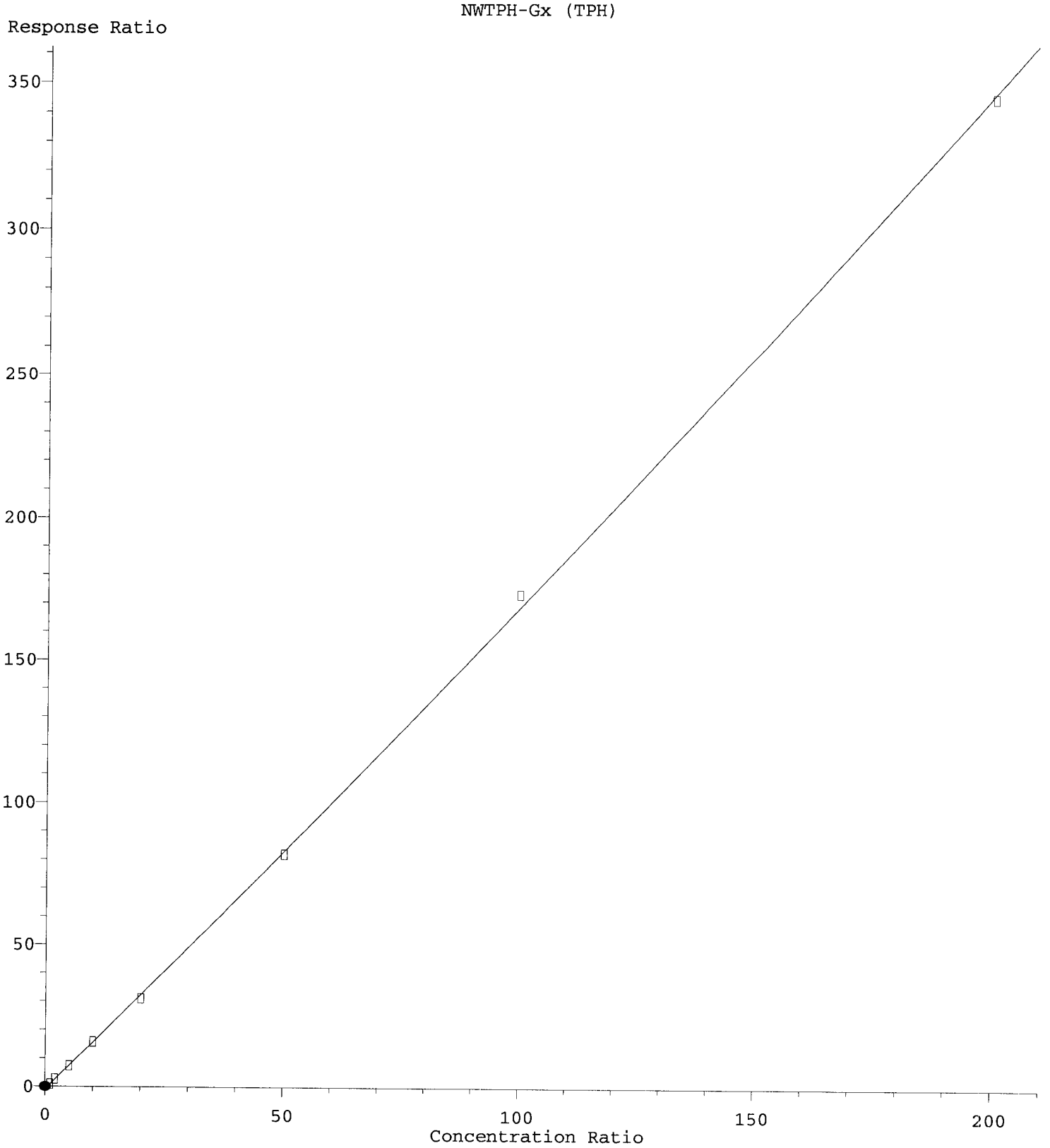
Method Path : C:\msdchem\1\methods\
Method File : VI190621G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Jun 21 11:04:13 2019
Response Via : Initial Calibration

Total Cpnds : 13

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	Pentafluorobenzene (IS)	168	6.223	1.000	A	2	A	B
2	S	1,4-Difluorobenzene (Sur)	114	6.789	1.091	A	2	A	B
3	S	4-Bromofluorobenzene (Sur)	174	10.980	1.764	A	2	A	B
4	H	NWTPH-Gx (TPH)	TIC	9.890	1.589	Q	0	A	B
5	H	TPHg (C5-C9)	TIC	9.890	1.589	Q	0	A	B
6	H	TPHg (C6-C10)	TIC	9.890	1.589	Q	0	A	B
7	H	CA-LUFT (C5-C12)	TIC	9.890	1.589	Q	0	A	B
8		Benzene (NR)	78	6.132	0.985	A	2	A	B
9	S	Toluene-d8 (NR)	98	8.304	1.334	A	2	A	B
10		Toluene (NR)	91	8.364	1.344	A	2	A	B
11	S	Chlorobenzene-d5 (NR)	117	9.916	1.593	A	2	A	B
12	S	1,4-Dichlorobenzene-d4 (NR)	150	11.856	1.905	A	2	A	B
13		Naphthalene (NR)	128	13.633	2.191	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

VI190621G.M Fri Jun 21 11:10:00 2019

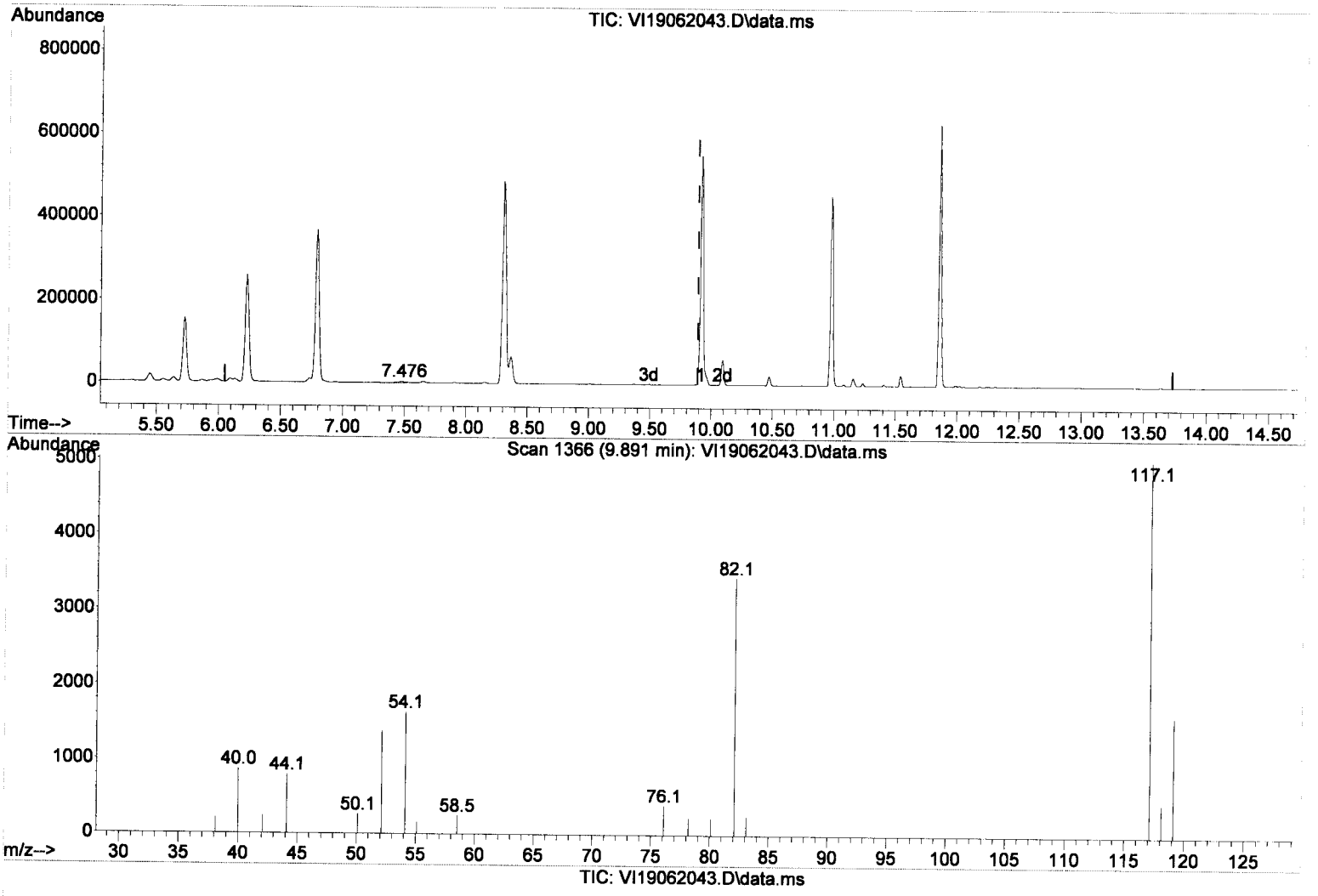


R = 4.10e-004 A*A + 1.65e+000 A - 8.33e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\VII9062IG.M
Calibration Table Last Updated: Fri Jun 21 11:04:13 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:06:13 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

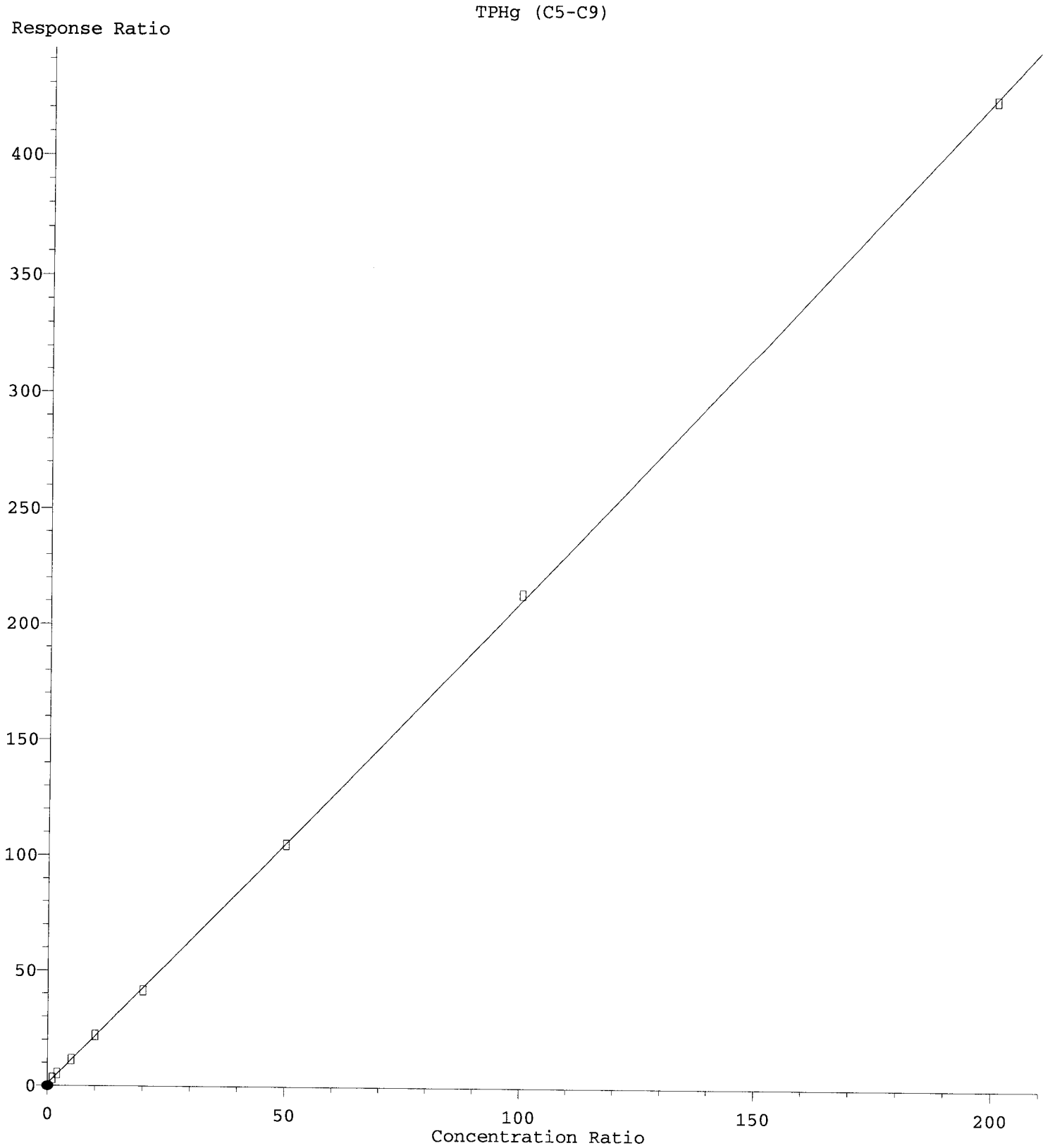


(4) NWTPH-Gx (TPH) (H)

9.890min (0.000) 29.43 ug/L m

response 27765

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.92#
0.00	0.00	1.53#
0.00	0.00	0.00

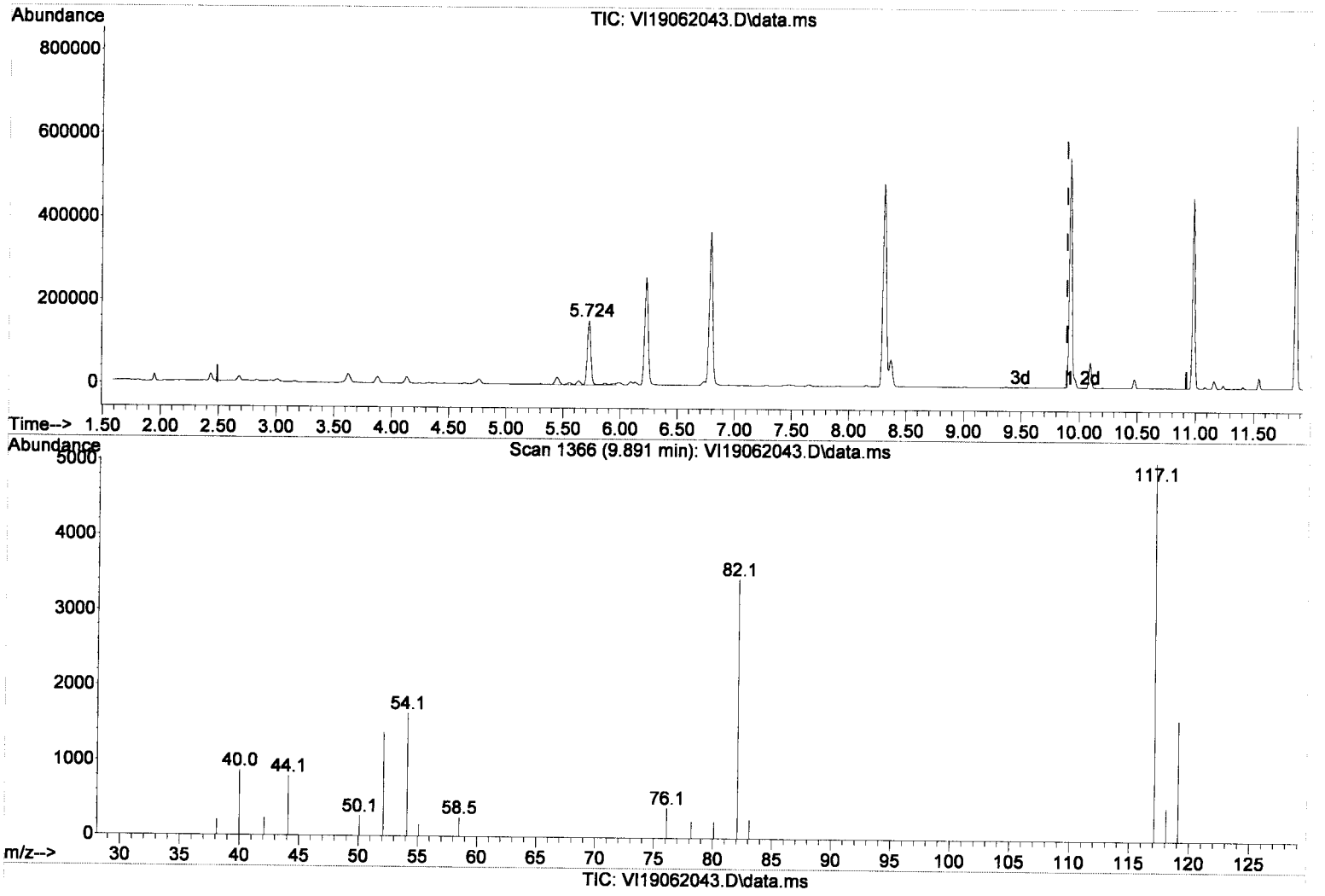


R = 1.98e-004 A*A + 2.08e+000 A + 1.09e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V119062IG.M
Calibration Table Last Updated: Fri Jun 21 11:04:40 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:06:13 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

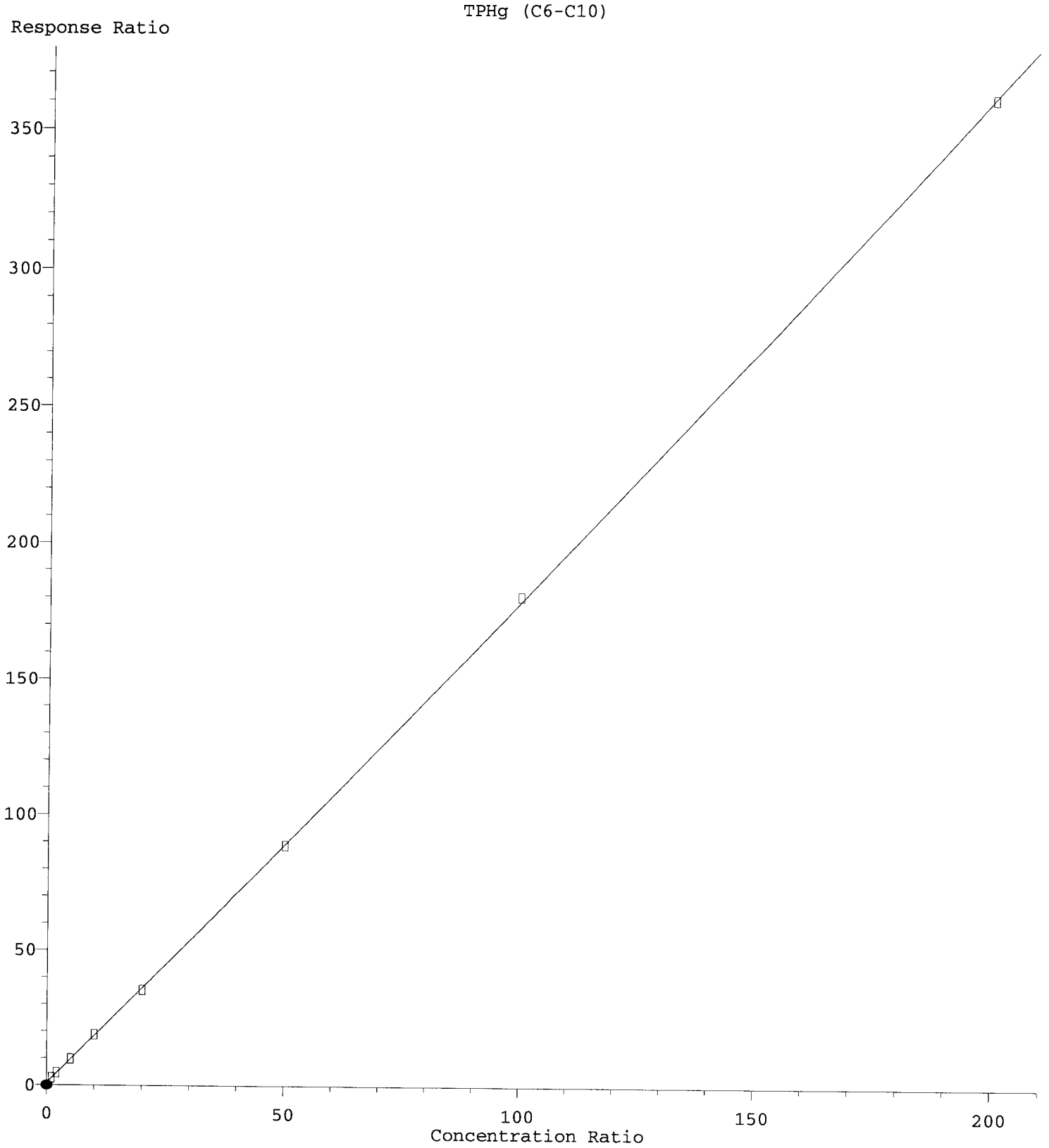


(5) TPHg (C5-C9) (H)

9.890min (0.000) 27.57 ug/L m

response 439094

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.12#
0.00	0.00	0.10#
0.00	0.00	0.00

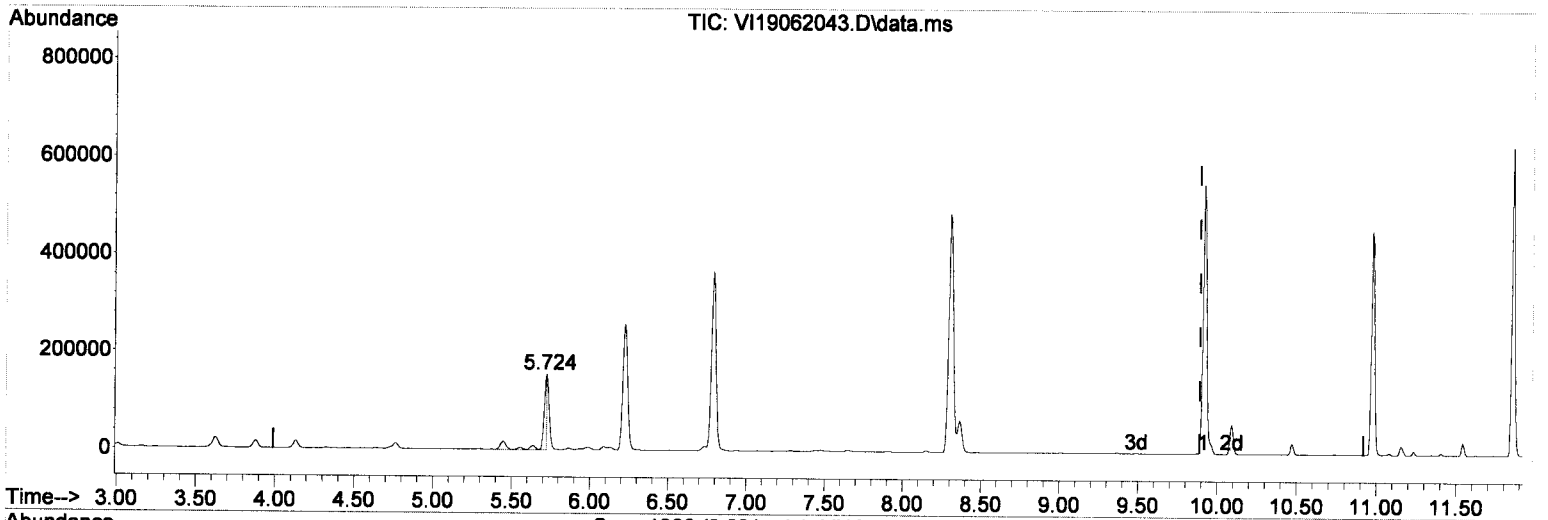


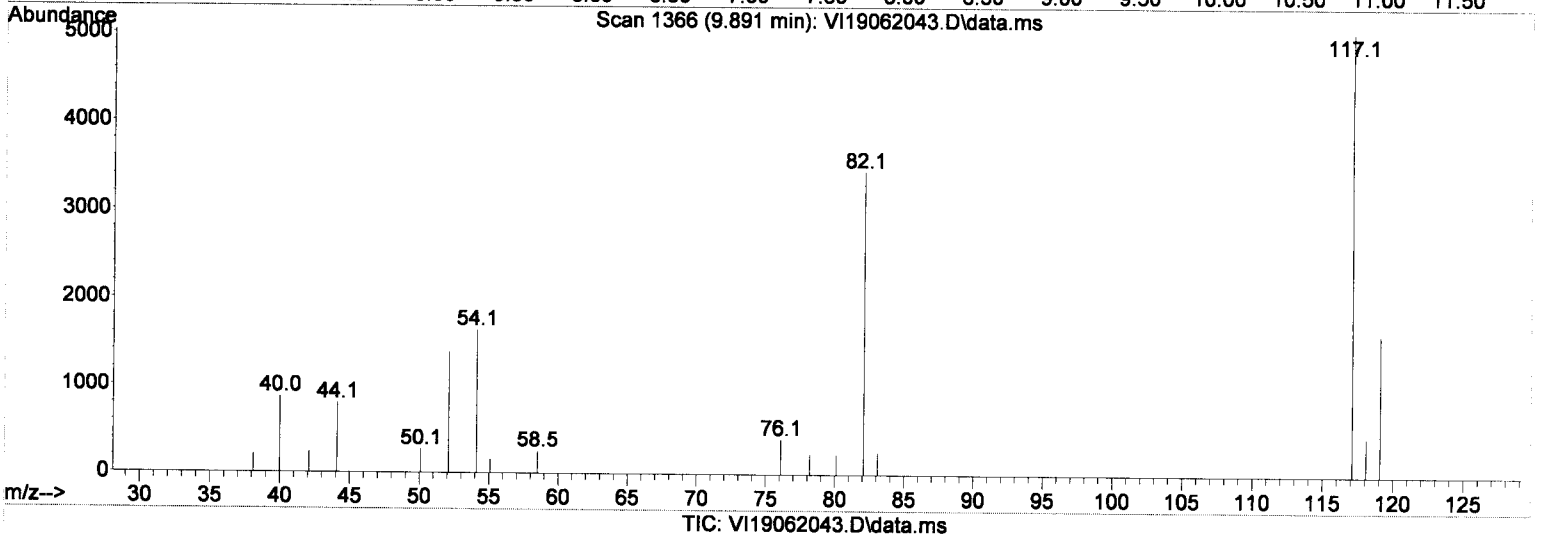
R = 2.42e-004 A*A + 1.75e+000 A + 9.10e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V119062IG.M
Calibration Table Last Updated: Fri Jun 21 11:04:48 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:06:13 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



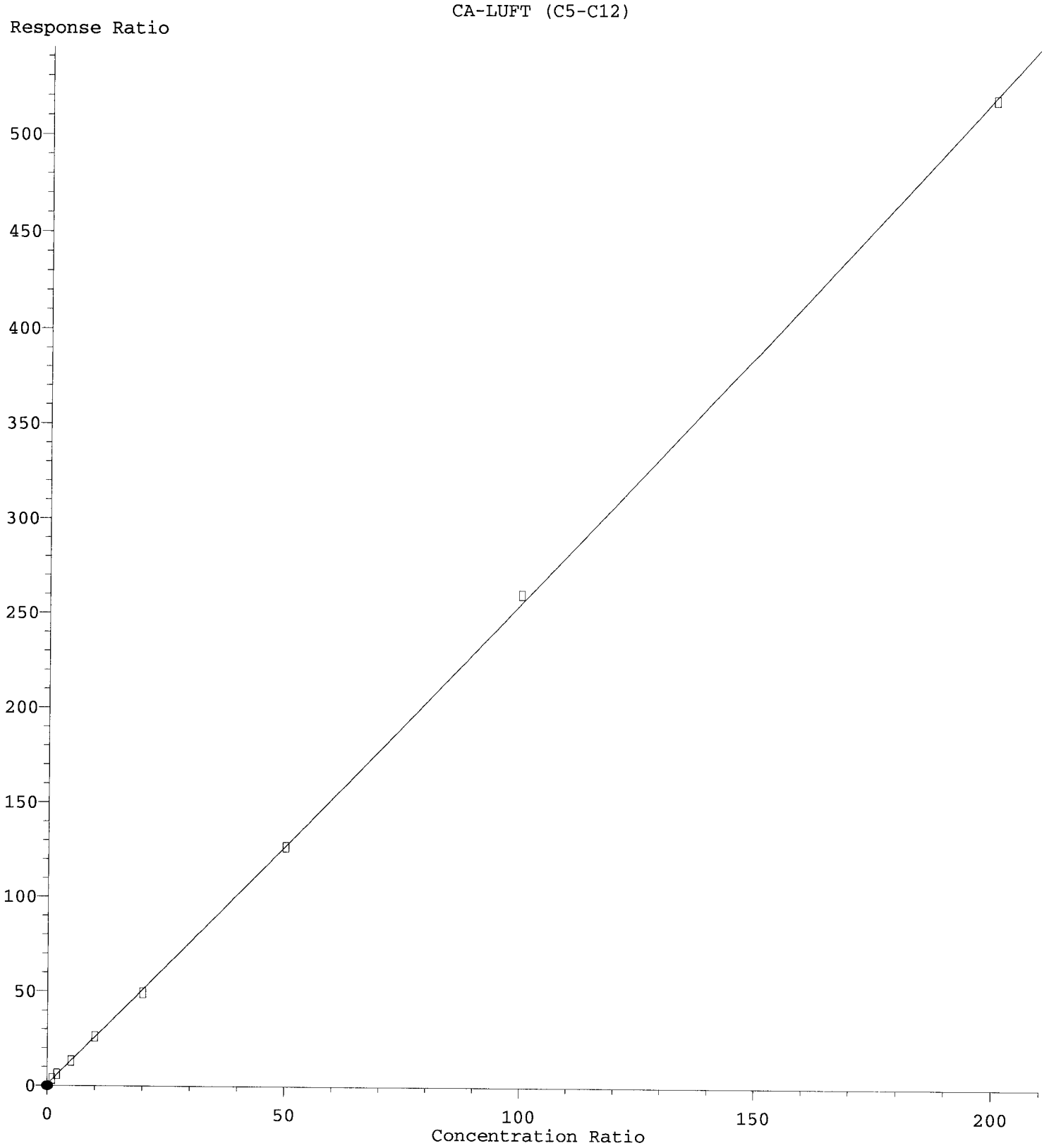


(6) TPHg (C6-C10) (H)

9.890min (0.000) 13.48 ug/L m

response 271802

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.20#
0.00	0.00	0.16#
0.00	0.00	0.00

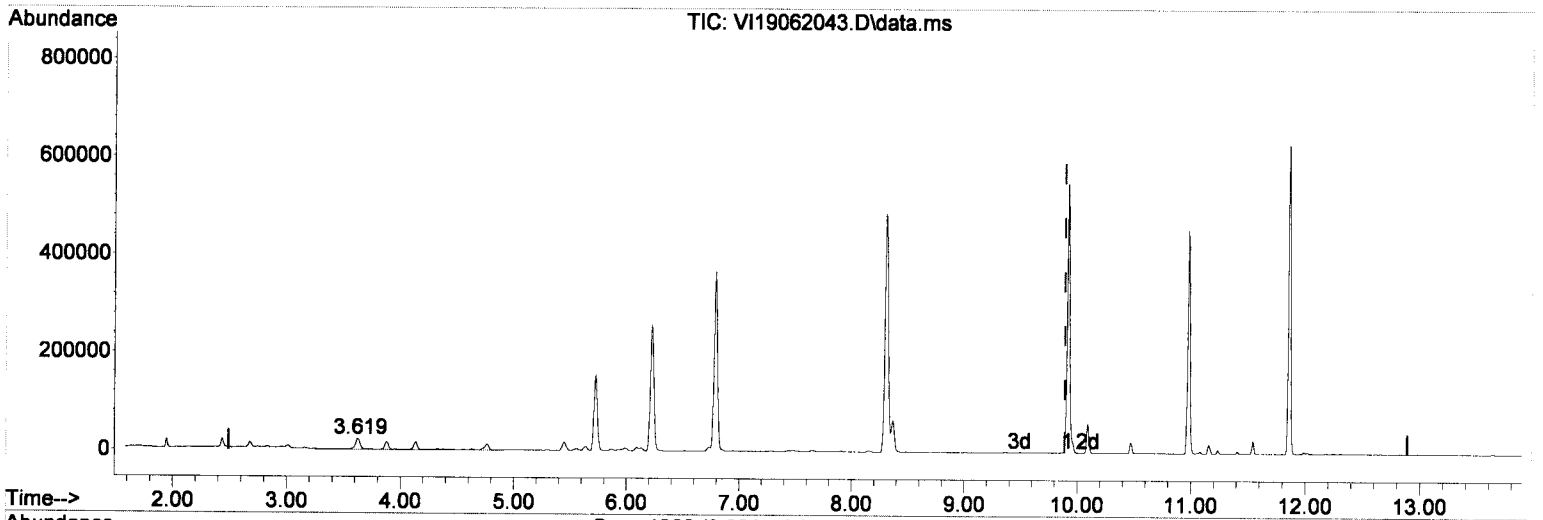


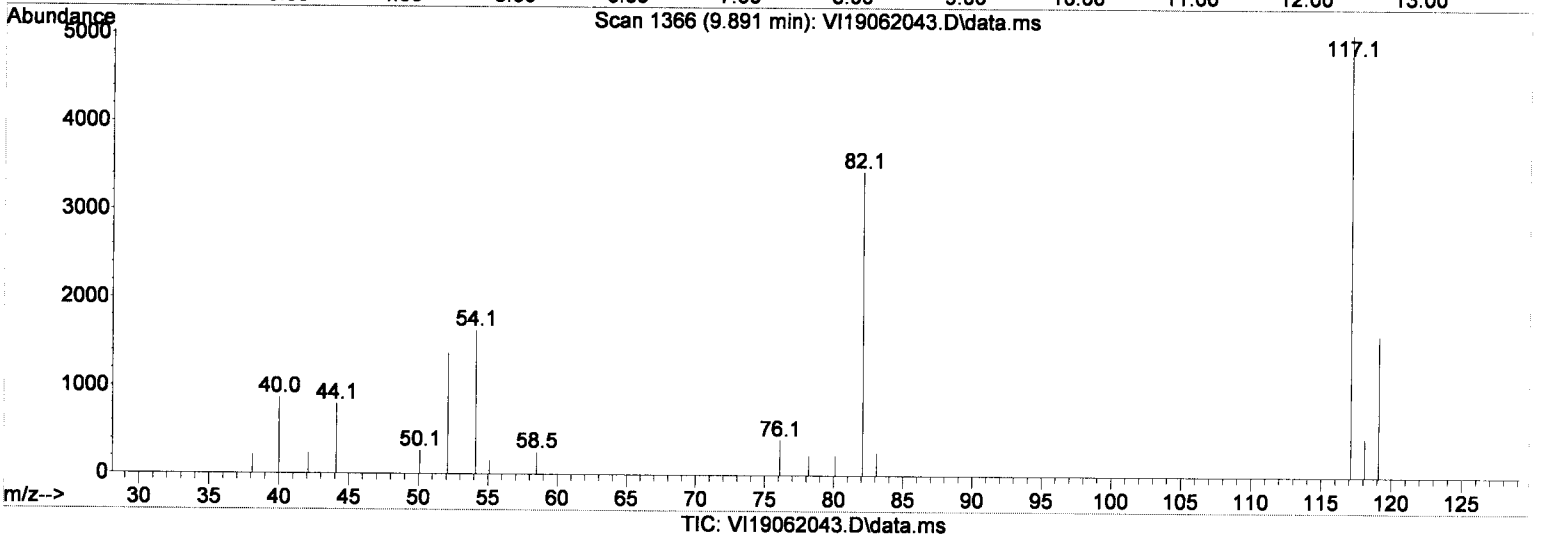
R = 4.71e-004 A*A + 2.50e+000 A + 9.71e-001
Coef of Det (r^2) = 1.000 Curve Fit: Quadratic w(1/a)
Method Name: C:\msdchem\1\methods\V1190621G.M
Calibration Table Last Updated: Fri Jun 21 11:04:48 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\REQUANT\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:06:13 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





(7) CA-LUFT (C5-C12) (H)

9.890min (0.000) 4.29 ug/L m

response 233055

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.23#
0.00	0.00	0.18#
0.00	0.00	0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9F20044

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	
9F20044-TUN2	MS Tune	Water		A19C125	6/21/2019	2:22:00AM
9F20044-ICB2	Initial Cal Blank	Water		A19E148	6/21/2019	3:43:00AM
9F20044-CALC	Cal Standard	Water	A19F179	"	6/21/2019	4:10:00AM
9F20044-CALD	Cal Standard	Water	A19F176	"	6/21/2019	4:37:00AM
9F20044-CALE	Cal Standard	Water	A19F177	"	6/21/2019	5:04:00AM
9F20044-CALF	Cal Standard	Water	A19F178	"	6/21/2019	5:31:00AM
9F20044-CALG	Cal Standard	Water	A19F180	"	6/21/2019	5:58:00AM
9F20044-CALH	Cal Standard	Water	A19F181	"	6/21/2019	6:25:00AM
9F20044-CALI	Cal Standard	Water	A19F182	"	6/21/2019	6:52:00AM
9F20044-CALJ	Cal Standard	Water	A19F183	"	6/21/2019	7:19:00AM
9F20044-ICV3	Initial Cal Check	Water	A19B262	"	6/21/2019	8:40:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9F2102** Instrument: **VOA-GCMS9**

8015D-Mod Gasoline (C6-C10 Sequence: **9F20044** Matrix: **Water**

9F20044-CALC	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALD	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALE	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALF	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALG	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALH	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-CALI	**Inst. MRL**	**Recalc Res.**	**Cal Level**	**%Rec.**	**Qual**
9F20044-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: 9F20044

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: **A9F2102** Instrument: **VOA-GCMS9**

NWTPH-Gx Sequence: **9F20044** Matrix: **Water**

9F20044-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\2019-06\9F20044\
Data File : VI19062052.D
Acq On : 21 Jun 2019 8:40 am
Operator : MM
Sample : 9F20044-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:25 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene (IS)	50.000	50.000	0.0	108	0.00
2	S	1,4-Difluorobenzene (Sur)	50.000	49.936	0.1	109	0.00
3	S	4-Bromofluorobenzene (Sur)	50.000	49.723	0.6	108	0.00
4	H	NWTPH-Gx (TPH)	500.000	491.693	1.7	106	0.00
5	H	TPHg (C5-C9)	500.000	469.246	6.2	101	0.00
6	H	TPHg (C6-C10)	500.000	488.486	2.3	104	0.00
7	H	CA-LUFT (C5-C12)	500.000	468.941	6.2	101	0.00
8		Benzene (NR)	-1.000	0.000	0.0	106	0.00
9	S	Toluene-d8 (NR)	-1.000	0.000	0.0	107	0.00
10		Toluene (NR)	-1.000	0.000	0.0	108	0.00
11	S	Chlorobenzene-d5 (NR)	-1.000	0.000	0.0	108	0.00
12	S	1,4-Dichlorobenzene-d4 (NR)	-1.000	0.000	0.0	107	0.00
13		Naphthalene (NR)	-1.000	0.000	0.0	125	0.00

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

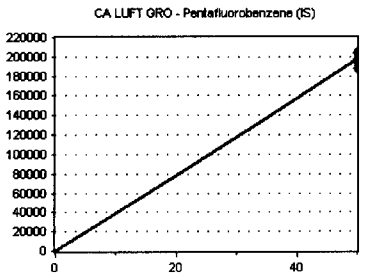
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **CA LUFT GRO** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

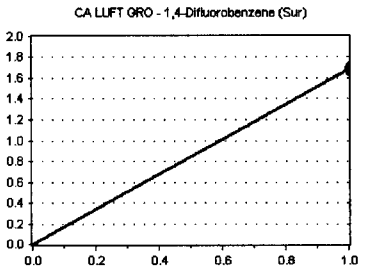


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	203678	4073.560	6.22
9F20044-CALD	50	196555	3931.100	6.22
9F20044-CALE	50	194307	3886.140	6.22
9F20044-CALF	50	193440	3868.800	6.22
9F20044-CALG	50	188214	3764.280	6.22
9F20044-CALH	50	197104	3942.080	6.22
9F20044-CALI	50	197272	3945.440	6.22
9F20044-CALJ	50	203972	4079.440	6.22

AVE RF **3936.355** RF RSD **2.65** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

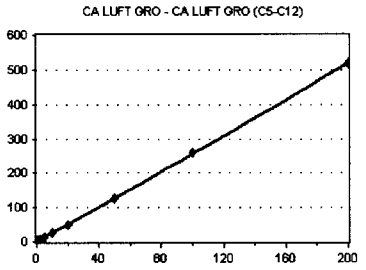


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	341047	1.674	6.79
9F20044-CALD	50	330061	1.679	6.79
9F20044-CALE	50	325280	1.674	6.79
9F20044-CALF	50	322266	1.666	6.79
9F20044-CALG	50	317178	1.685	6.79
9F20044-CALH	50	328682	1.668	6.79
9F20044-CALI	50	334265	1.694	6.79
9F20044-CALJ	50	349364	1.713	6.78

AVE RF **1.682** RF RSD **0.93** AVE RT **6.79**

CA LUFT GRO (C5-C12)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

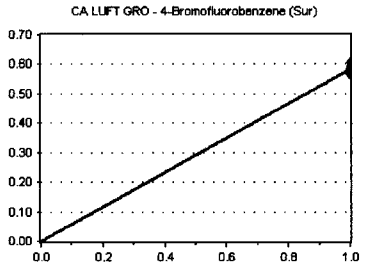


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	724537	3.557	9.89
9F20044-CALD	100	1190862	3.029	9.89
9F20044-CALE	250	2573247	2.649	9.89
9F20044-CALF	500	5033567	2.602	9.89
9F20044-CALG	1000	9289018	2.468	9.89
9F20044-CALH	2500	2.500336E+07	2.537	9.89
9F20044-CALI	5000	5.134156E+07	2.603	9.89
9F20044-CALJ	10000	1.0578E+08	2.593	9.89

AVE RF **2.755** RF RSD **13.25** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	115213	0.566	10.98
9F20044-CALD	50	112452	0.572	10.98
9F20044-CALE	50	110399	0.568	10.98
9F20044-CALF	50	112659	0.582	10.98
9F20044-CALG	50	110284	0.586	10.98
9F20044-CALH	50	116804	0.593	10.98
9F20044-CALI	50	119127	0.604	10.98
9F20044-CALJ	50	123534	0.606	10.98

AVE RF **0.585** RF RSD **2.64** AVE RT **10.98**

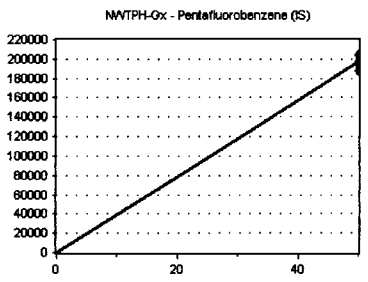
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **NWTPH-Gx** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

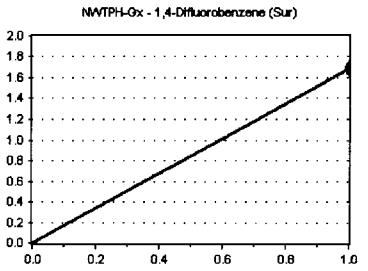


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	203678	4073.560	6.22
9F20044-CALD	50	196555	3931.100	6.22
9F20044-CALE	50	194307	3886.140	6.22
9F20044-CALF	50	193440	3868.800	6.22
9F20044-CALG	50	188214	3764.280	6.22
9F20044-CALH	50	197104	3942.080	6.22
9F20044-CALI	50	197272	3945.440	6.22
9F20044-CALJ	50	203972	4079.440	6.22

AVE RF **3936.355** RF RSD **2.65** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

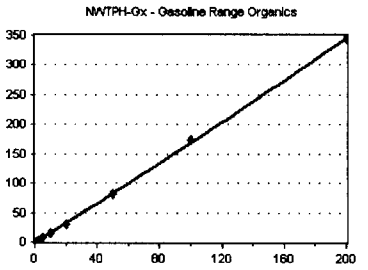


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	341047	1.674	6.79
9F20044-CALD	50	330061	1.679	6.79
9F20044-CALE	50	325280	1.674	6.79
9F20044-CALF	50	322266	1.666	6.79
9F20044-CALG	50	317178	1.685	6.79
9F20044-CALH	50	328682	1.668	6.79
9F20044-CALI	50	334265	1.694	6.79
9F20044-CALJ	50	349364	1.713	6.78

AVE RF **1.682** RF RSD **0.93** AVE RT **6.79**

Gasoline Range Organics

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

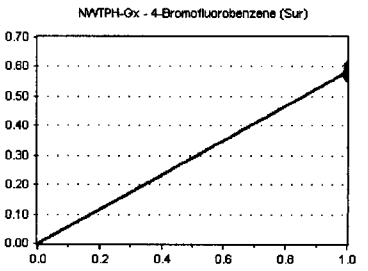


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	176842	0.868	9.89
9F20044-CALD	100	510164	1.298	9.89
9F20044-CALE	250	1404577	1.446	9.89
9F20044-CALF	500	3050984	1.577	9.89
9F20044-CALG	1000	5817074	1.545	9.89
9F20044-CALH	2500	1.613806E+07	1.638	9.89
9F20044-CALI	5000	3.415482E+07	1.731	9.89
9F20044-CALJ	10000	7.031796E+07	1.724	9.89

AVE RF **1.478** RF RSD **19.30** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	115213	0.566	10.98
9F20044-CALD	50	112452	0.572	10.98
9F20044-CALE	50	110399	0.568	10.98
9F20044-CALF	50	112659	0.582	10.98
9F20044-CALG	50	110284	0.586	10.98
9F20044-CALH	50	116804	0.593	10.98
9F20044-CALI	50	119127	0.604	10.98
9F20044-CALJ	50	123534	0.606	10.98

AVE RF **0.585** RF RSD **2.64** AVE RT **10.98**

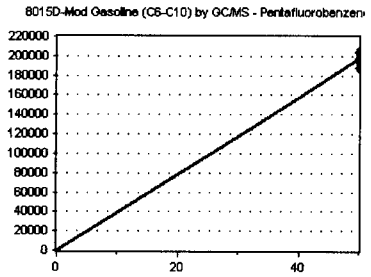
Element Calibration Review Sheet

Calibration ID: **A9F2102** Instrument: **VOA-GCMS9** Calibration Date: **06/21/2019**

Analysis: **8015D-Mod Gasoline (C6-C1** Instrument Cal ID: **VI190621W+.M VI190621G.I**

Pentafluorobenzene (IS)

Curve Fit: **AVERAGE RF**

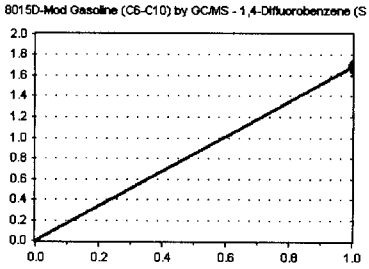


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	203678	4073.560	6.22
9F20044-CALD	50	196555	3931.100	6.22
9F20044-CALE	50	194307	3886.140	6.22
9F20044-CALF	50	193440	3868.800	6.22
9F20044-CALG	50	188214	3764.280	6.22
9F20044-CALH	50	197104	3942.080	6.22
9F20044-CALI	50	197272	3945.440	6.22
9F20044-CALJ	50	203972	4079.440	6.22

AVE RF **3936.355** RF RSD **2.65** AVE RT **6.22**

1,4-Difluorobenzene (Sur)

Curve Fit: **AVERAGE RF**

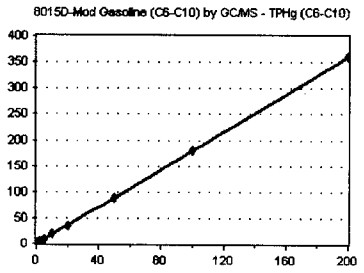


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	341047	1.674	6.79
9F20044-CALD	50	330061	1.679	6.79
9F20044-CALE	50	325280	1.674	6.79
9F20044-CALF	50	322266	1.666	6.79
9F20044-CALG	50	317178	1.685	6.79
9F20044-CALH	50	328682	1.668	6.79
9F20044-CALI	50	334265	1.694	6.79
9F20044-CALJ	50	349364	1.713	6.78

AVE RF **1.682** RF RSD **0.93** AVE RT **6.79**

TPHg (C6-C10)

Curve Fit: **QUADRATIC: Weighting: (1/a), Origin: Ignore**

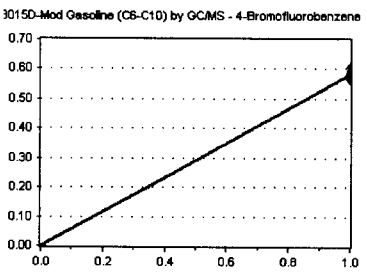


Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	538437	2.644	9.89
9F20044-CALD	100	885590	2.253	9.89
9F20044-CALE	250	1874608	1.930	9.89
9F20044-CALF	500	3614041	1.868	9.89
9F20044-CALG	1000	6627134	1.761	9.89
9F20044-CALH	2500	1.749223E+07	1.775	9.89
9F20044-CALI	5000	3.558933E+07	1.804	9.89
9F20044-CALJ	10000	7.354986E+07	1.803	9.89

AVE RF **1.980** RF RSD **15.77** AVE RT **9.89**

4-Bromofluorobenzene (Sur)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9F20044-CALC	50	115213	0.566	10.98
9F20044-CALD	50	112452	0.572	10.98
9F20044-CALE	50	110399	0.568	10.98
9F20044-CALF	50	112659	0.582	10.98
9F20044-CALG	50	110284	0.586	10.98
9F20044-CALH	50	116804	0.593	10.98
9F20044-CALI	50	119127	0.604	10.98
9F20044-CALJ	50	123534	0.606	10.98

AVE RF **0.585** RF RSD **2.64** AVE RT **10.98**

Injection Log

Directory: v:\data\2019-06\9F20044

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1	1	Vi19062017.d	1.	9F20044-IBL1	1X 5mL DI	20 Jun 2019 16:55
2	2	Vi19062018.d	1.	9F20044-TUN1	A19C125 5mL BFB...	20 Jun 2019 17:22
3	3	Vi19062019.d	1.	9F20044-ICB1	1X 5mL DI	20 Jun 2019 17:49
4	4	Vi19062020.d	1.	9F20044-CAL1	1X 5mL 0.1/0.2P...	20 Jun 2019 18:16
5	5	Vi19062021.d	1.	9F20044-CAL2	1X 5mL 0.2/0.4P...	20 Jun 2019 18:43
6	6	Vi19062022.d	1.	9F20044-CAL3	1X 5mL 0.4/0.8P...	20 Jun 2019 19:10
7	7	Vi19062023.d	1.	9F20044-CAL4	1X 5mL 1/2PPB V...	20 Jun 2019 19:37
8	8	Vi19062024.d	1.	9F20044-CAL5	1X 5mL 2/4PPB V...	20 Jun 2019 20:04
9	9	Vi19062025.d	1.	9F20044-CAL6	1X 5mL 5/10PPB ...	20 Jun 2019 20:31
10	10	Vi19062026.d	1.	9F20044-CAL7	1X 5mL 10/20PPB...	20 Jun 2019 20:58
11	11	Vi19062027.d	1.	9F20044-CAL8	1X 5mL 20/40PPB...	20 Jun 2019 21:25
12	12	Vi19062028.d	1.	9F20044-CAL9	1X 5mL 50/100PP...	20 Jun 2019 21:52
13	13	Vi19062029.d	1.	9F20044-IBL2	1X 5mL DI	20 Jun 2019 22:19
14	14	Vi19062030.d	1.	9F20044-CALA	1X 5mL 100/200P...	20 Jun 2019 22:46
15	15	Vi19062031.d	1.	9F20044-IBL3	1X 5mL DI	20 Jun 2019 23:13
16	16	Vi19062032.d	1.	9F20044-CALB	1X 5mL 200/400P...	20 Jun 2019 23:40
17	17	Vi19062033.d	1.	9F20044-IBL4	1X 5mL DI	21 Jun 2019 00:07
18	18	Vi19062034.d	1.	9F20044-IBL5	1X 5mL DI	21 Jun 2019 00:34
19	19	Vi19062035.d	1.	9F20044-ICV1	1X 5mL 20/40PPB...	21 Jun 2019 01:01
20	20	Vi19062036.d	1.	9F20044-ICV2	1X 5mL 5/1250PP...	21 Jun 2019 01:28
21	21	Vi19062037.d	1.	9F20044-IBL6	1X 5mL DI	21 Jun 2019 01:55
22	22	Vi19062038.d	1.	9F20044-TUN2	A19C125 5mL BFB...	21 Jun 2019 02:22
23	23	Vi19062039.d	1.	9F20044-RT1	A1A167 VPH RT STD	21 Jun 2019 02:49
24	24	Vi19062040.d	1.	9F20044-IBL7	1X 5mL DI	21 Jun 2019 03:16
25	25	Vi19062041.d	1.	9F20044-ICB1	1X 5mL DI	21 Jun 2019 03:43
26	26	Vi19062042.d	1.	9F20044-CALC	1X 5mL 50PPB GX	21 Jun 2019 04:10
27	27	Vi19062043.d	1.	9F20044-CALD	1X 5mL 100PPB GX	21 Jun 2019 04:37
28	28	Vi19062044.d	1.	9F20044-CALE	1X 5mL 250PPB GX	21 Jun 2019 05:04
29	29	Vi19062045.d	1.	9F20044-CALF	1X 5mL 500PPB GX	21 Jun 2019 05:31
30	30	Vi19062046.d	1.	9F20044-CALG	1X 5mL 1000PPB GX	21 Jun 2019 05:58
31	31	Vi19062047.d	1.	9F20044-CALH	1X 5mL 2500PPB GX	21 Jun 2019 06:25
32	32	Vi19062048.d	1.	9F20044-CALI	1X 5mL 5000PPB GX	21 Jun 2019 06:52
33	33	Vi19062049.d	1.	9F20044-CALJ	1X 5mL 10000PPB GX	21 Jun 2019 07:19
34	34	Vi19062050.d	1.	9F20044-IBL8	1X 5mL DI	21 Jun 2019 07:46
35	35	Vi19062051.d	1.	9F20044-IBL9	1X 5mL DI	21 Jun 2019 08:13
36	36	Vi19062052.d	1.	9F20044-ICV3	1X 5mL 500PPB GX	21 Jun 2019 08:40
37	37	Vi19062053.d	1.	9F20044-IBLA	1X 5mL DI	21 Jun 2019 09:08

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062017.D
Acq On : 20 Jun 2019 4:55 pm
Operator : MM
Sample : 9F20044-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

MR

Quant Time: Jun 21 10:39:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

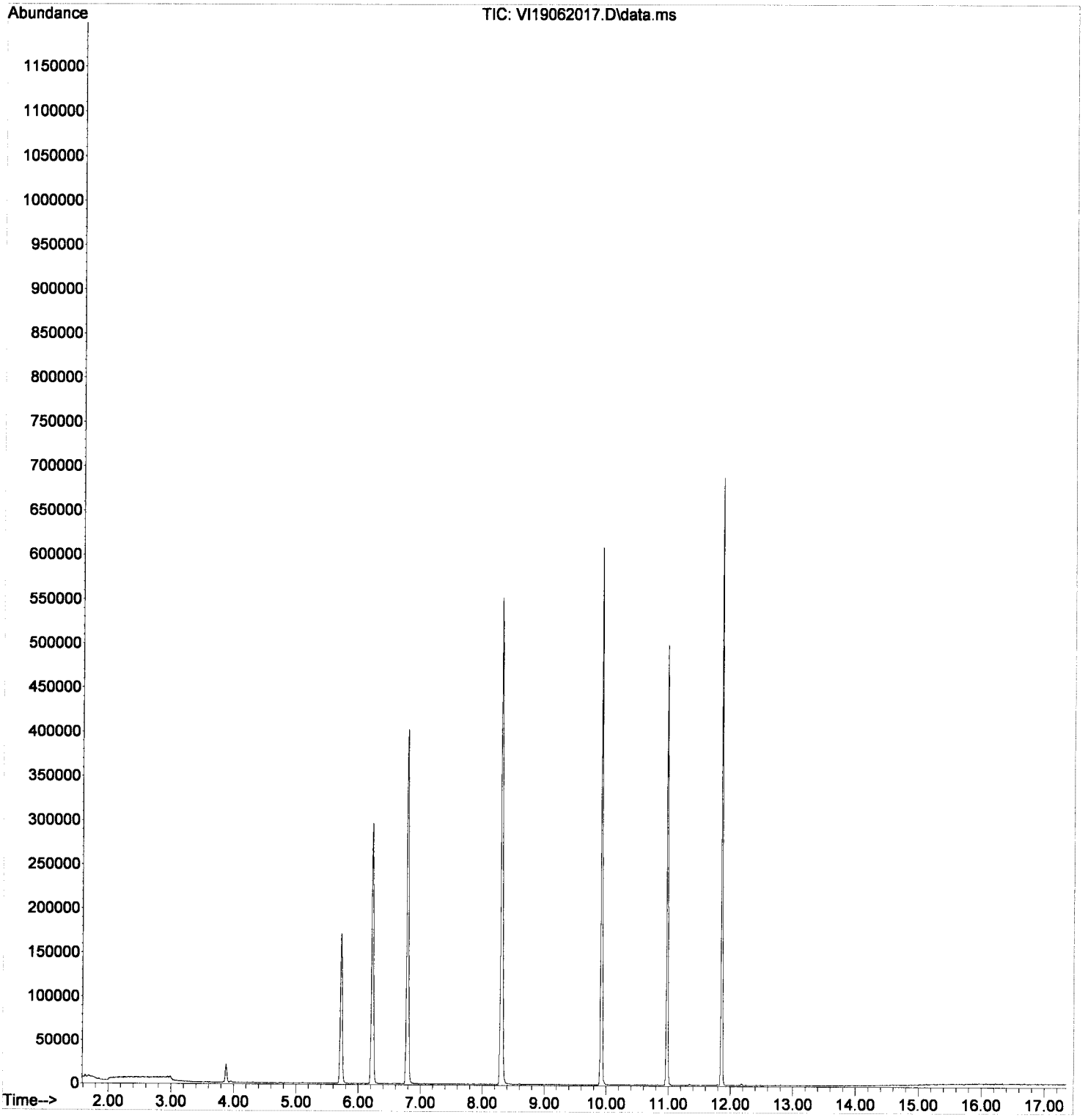
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	227353	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	333976	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	152208	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	120663	49.23	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	376223	49.72	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	439226	50.33	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	126337	50.10	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.904	50	487	0.16	ug/L	#	47
5) Bromomethane	2.372	96	269	0.19	ug/L		83
6) Chloroethane	2.585	64	129	0.13	ug/L	#	36
14) Methylene Chloride	3.881	84	9353	2.37	ug/L		94
15) Acetone	3.960	43	2747	2.48	ug/L		94
19) tert-Butanol (TBA)	4.301	59	370	0.78	ug/L		46

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062017.D
Acq On : 20 Jun 2019 4:55 pm
Operator : MM
Sample : 9F20044-IBL1
Misc : 1X 5mL DI
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

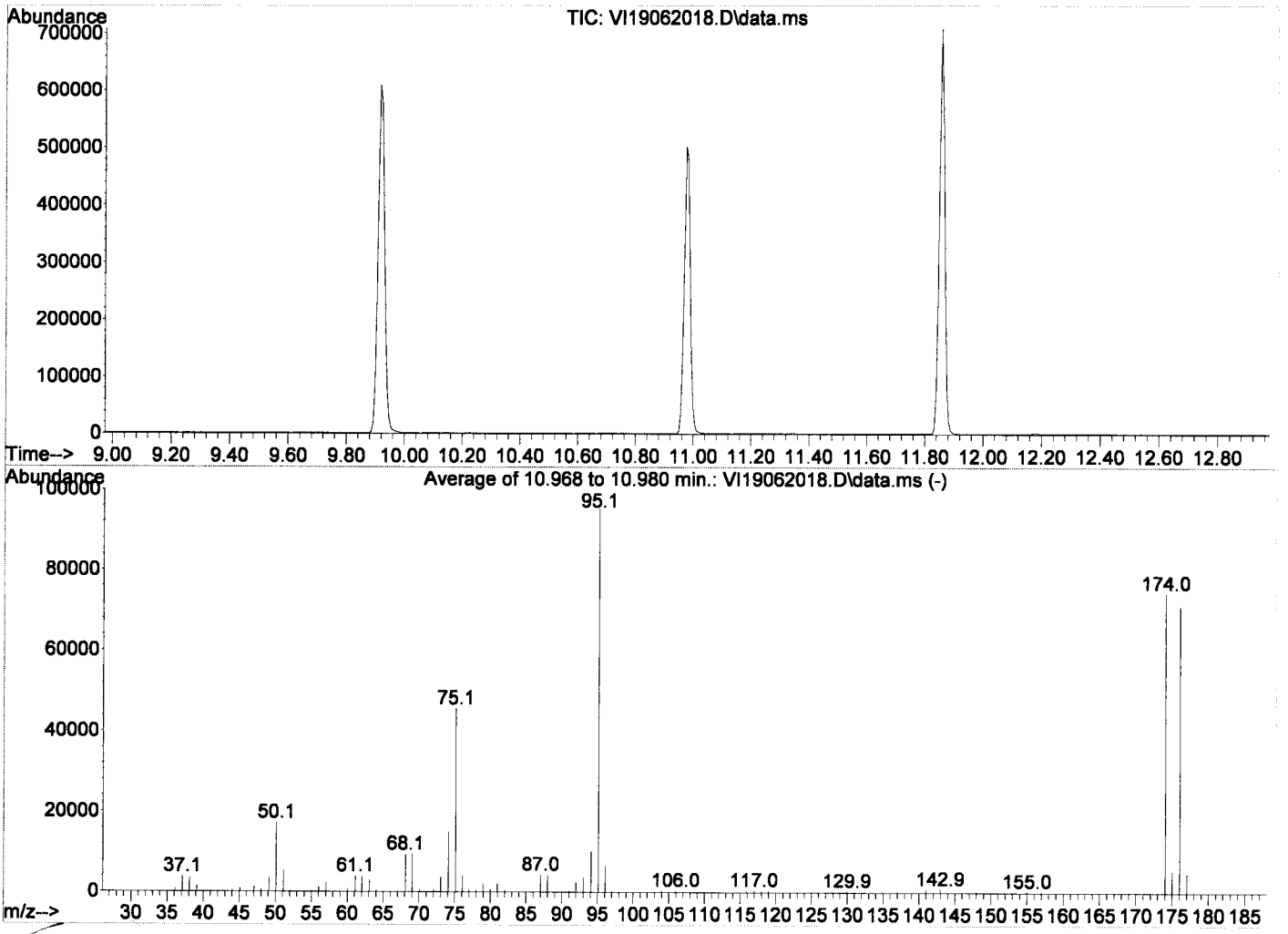
Quant Time: Jun 21 10:39:45 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062018.D
Acq On : 20 Jun 2019 5:22 pm
Operator : MM
Sample : 9F20044-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1

Integration File: RTEINT.P

Method : C:\msdchem\1\methods\VI190621W+.M
Title : EPA 8260: Volatile Organic Compounds
Last Update : Fri Jun 21 10:05:40 2019



AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1537

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	18.1	17224	PASS
75	95	30	60	47.9	45648	PASS
95	95	100	100	100.0	95269	PASS
96	95	5	9	6.9	6574	PASS
173	174	0.00	2	0.1	83	PASS
174	95	50	200	78.1	74403	PASS
175	174	5	9	7.3	5400	PASS
176	174	95	101	95.7	71181	PASS
177	176	5	9	6.8	4820	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062018.D
Acq On : 20 Jun 2019 5:22 pm
Operator : MM
Sample : 9F20044-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

M 6/21/19

Quant Time: Jun 21 10:39:51 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

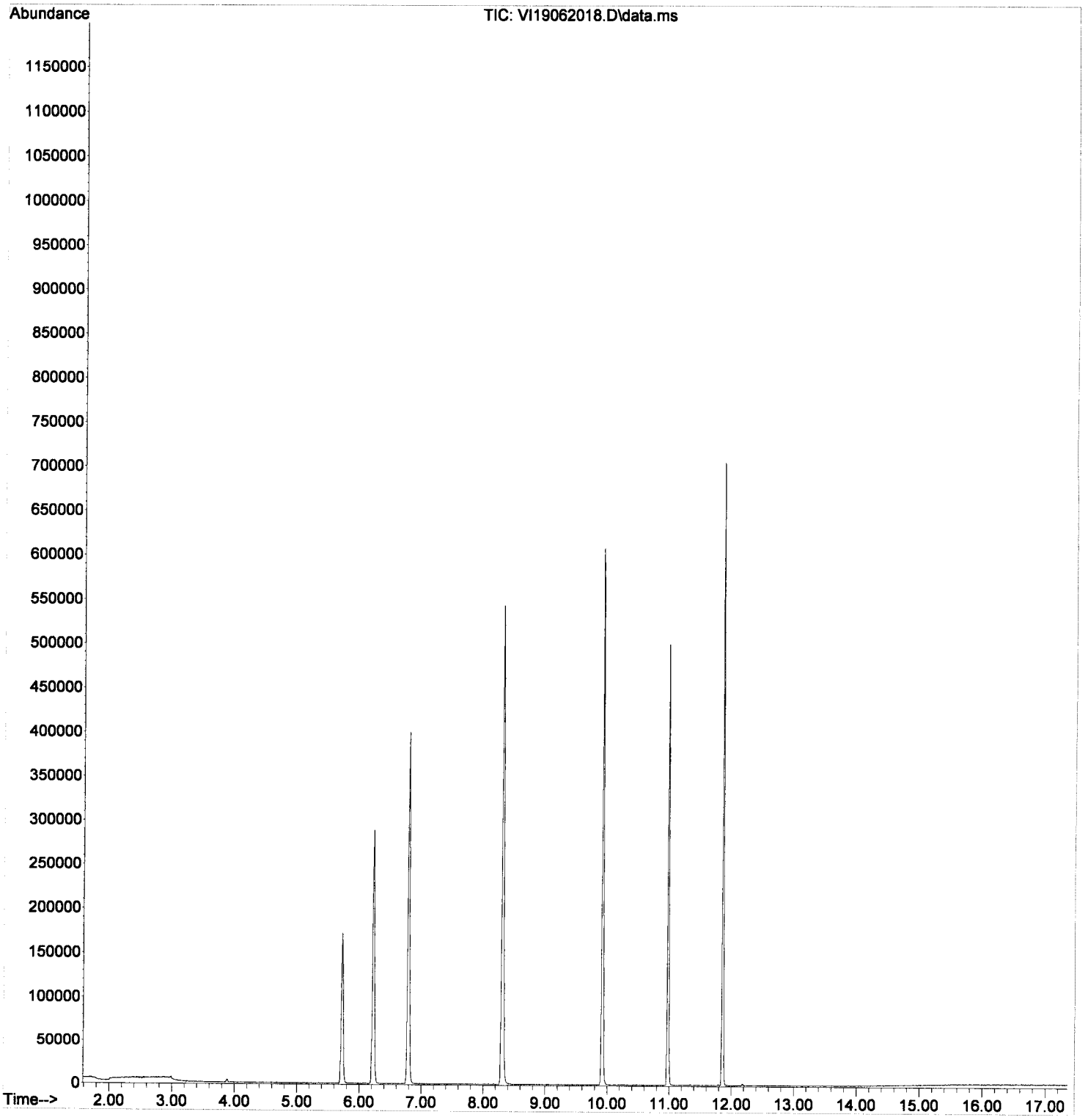
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	223382	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	332022	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	150946	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.724	111	118076	49.03	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	364407	49.01	ug/L	0.00
48) Toluene-d8 (S)	8.303	98	434245	50.06	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	126784	50.70	ug/L	0.00
Target Compounds						Qvalue
3) Chloromethane	1.904	50	333	0.11	ug/L #	47
5) Bromomethane	2.372	96	268	0.20	ug/L #	47
14) Methylene Chloride	3.881	84	1446	Below Cal		90
15) Acetone	3.948	43	832	0.76	ug/L #	44

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062018.D
Acq On : 20 Jun 2019 5:22 pm
Operator : MM
Sample : 9F20044-TUN1
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:39:51 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062019.D
Acq On : 20 Jun 2019 5:49 pm
Operator : MM
Sample : 9F20044-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:16 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

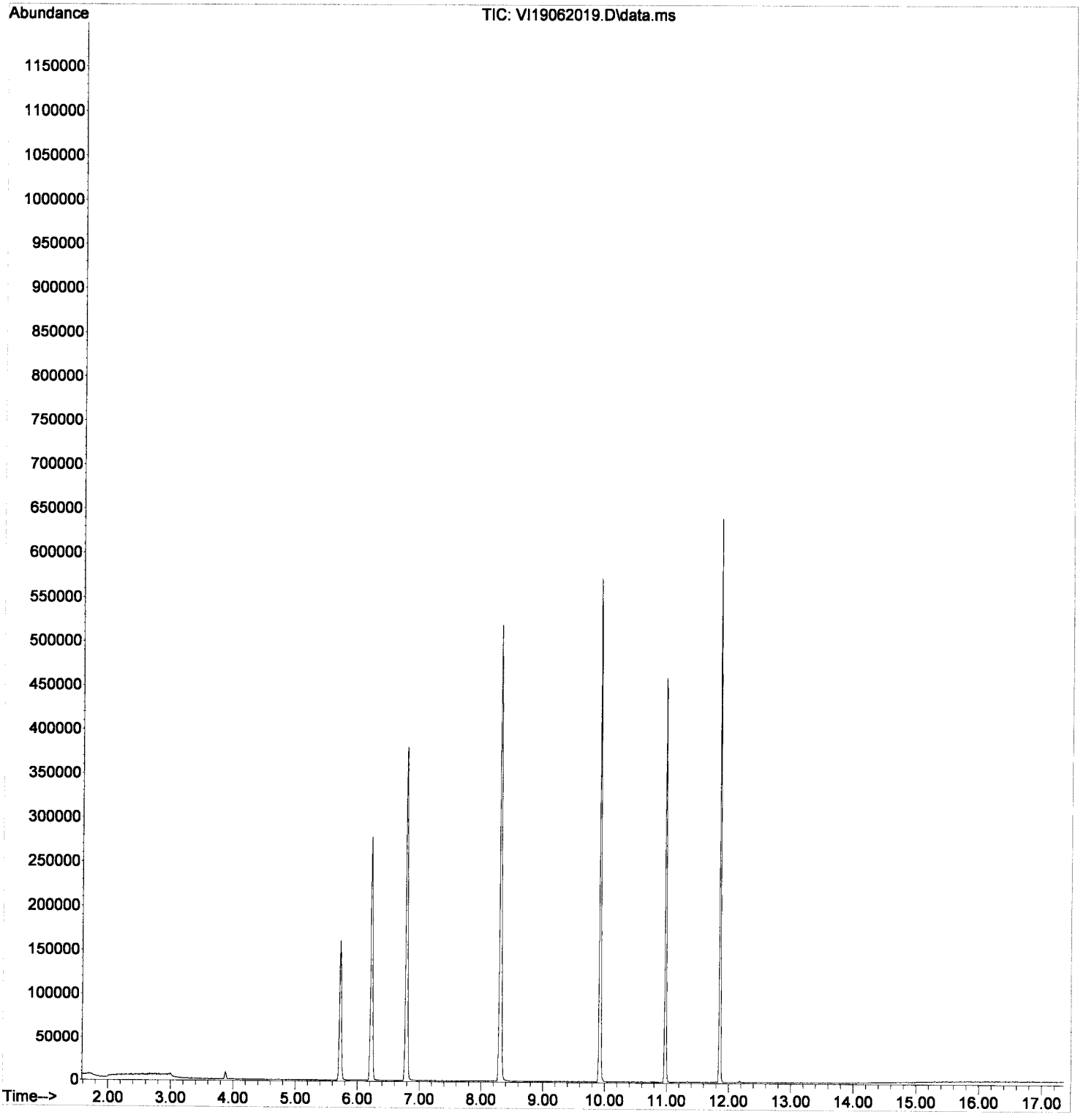
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	213213	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	313537	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138389	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	113446	49.36 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	353458	49.81 ug/L	0.00
48) Toluene-d8 (S)	8.304	98	411974	50.29 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	118495	51.68 ug/L	0.00
Target Compounds					Qvalue
3) Chloromethane	1.904	50	326	0.12 ug/L #	47
5) Bromomethane	2.372	96	346	0.26 ug/L	89
14) Methylene Chloride	3.881	84	3908	Below Cal	87
15) Acetone	3.960	43	1239	1.19 ug/L #	44

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062019.D
Acq On : 20 Jun 2019 5:49 pm
Operator : MM
Sample : 9F20044-ICB1
Misc : 1X 5mL DI
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:16 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:50:21 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	216252	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	319588	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	144355	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.724	111	116055	45.58	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	358207	46.21	ug/L	0.00
48) Toluene-d8 (S)	8.303	98	419867	49.50	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	122172	55.41	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d	
3) Chloromethane	1.910	50	580	0.16	ug/L	88
4) Vinyl Chloride	0.000		0	N.D.	d	
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.		
7) Trichlorofluoromethane	0.000		0	N.D.		
8) Ethanol	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	0.000		0	N.D.	d	
10) Carbon Disulfide	0.000		0	N.D.	d	
11) Freon 113	0.000		0	N.D.		
12) Iodomethane	0.000		0	N.D.		
13) Acrolein	0.000		0	N.D.		
14) Methylene Chloride	3.881	84	5025	1.84	ug/L	97
15) Acetone	0.000		0	N.D.	d	
16) t-1,2-Dichloroethene	0.000		0	N.D.		
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	0.000		0	N.D.	d	
19) tert-Butanol (TBA)	0.000		0	N.D.	d	
20) Diisopropyl ether (DIPE)	0.000		0	N.D.		
21) 1,1-Dichloroethane	0.000		0	N.D.	d	
22) Acrylonitrile	0.000		0	N.D.		
23) Ethyl-tert-butyl ether...	0.000		0	N.D.		
24) Vinyl Acetate	0.000		0	N.D.	d	
25) c-1,2-Dichloroethene	0.000		0	N.D.		
26) 2,2-Dichloropropane	0.000		0	N.D.		
27) Bromochloromethane	0.000		0	N.D.		
28) Chloroform	0.000		0	N.D.	d	
29) Carbon Tetrachloride	0.000		0	N.D.		
30) Tetrahydrofuran	0.000		0	N.D.		
31) 1,1,1-Trichloroethane	0.000		0	N.D.		
33) 1,1-Dichloropropene	0.000		0	N.D.		
34) 2-Butanone (MEK)	0.000		0	N.D.	d	
35) Benzene	0.000		0	N.D.	d	
36) tert-Amyl methyl ether...	0.000		0	N.D.		
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.		
38) iso-Butyl Alcohol	0.000		0	N.D.	d	
40) Trichloroethene (TCE)	0.000		0	N.D.		
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.		
42) Dibromomethane	0.000		0	N.D.		
43) 1,2-Dichloropropane	0.000		0	N.D.		
44) Bromodichloromethane	0.000		0	N.D.		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.		
47) c-1,3-Dichloropropene	0.000		0	N.D.	d	

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:50:21 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.364	91	1033	0.11	ug/L	94
50) Tetrachloroethene (PCE)	0.000		0	N.D.		
51) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	d	
52) t-1,3-Dichloropropene	0.000		0	N.D.		
53) 1,1,2-Trichloroethane	0.000		0	N.D.		
54) Dibromochloromethane	0.000		0	N.D.		
55) 1,3-Dichloropropane	0.000		0	N.D.	d	
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.		
57) 2-Hexanone	0.000		0	N.D.	d	
58) Chlorobenzene	0.000		0	N.D.	d	
59) Ethylbenzene	9.958	91	867	0.09	ug/L	92
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.		
61) m,p-Xylenes (2)	10.092	91	1349	0.41	ug/L	90
62) o-Xylene	10.475	91	703	0.25	ug/L	92
63) Styrene	0.000		0	N.D.	d	
64) Bromoform	0.000		0	N.D.		
65) Isopropylbenzene	0.000		0	N.D.	d	
68) Bromobenzene	0.000		0	N.D.		
69) n-Propylbenzene	0.000		0	N.D.	d	
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.		
71) 2-Chlorotoluene	0.000		0	N.D.		
72) 1,3,5-Trimethylbenzene	0.000		0	N.D.	d	
73) 1,2,3-Trichloropropane	0.000		0	N.D.		
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.		
75) 4-Chlorotoluene	0.000		0	N.D.	d	
76) tert-Butylbenzene	0.000		0	N.D.	d	
77) 1,2,4-Trimethylbenzene	0.000		0	N.D.	d	
78) sec-Butylbenzene	0.000		0	N.D.	d	
79) 4-Isopropyltoluene	0.000		0	N.D.	d	
80) 1,3-Dichlorobenzene	0.000		0	N.D.	d	
81) 1,4-Dichlorobenzene	0.000		0	N.D.	d	
82) n-Butylbenzene	0.000		0	N.D.	d	
83) 1,2-Dichlorobenzene	0.000		0	N.D.	d	
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.		
85) Hexachlorobutadiene	0.000		0	N.D.		
86) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
87) Naphthalene	0.000		0	N.D.	d	
88) 1,2,3-Trichlorobenzene	0.000		0	N.D.		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:42 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	216252	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	319588	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	144355	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	116055	45.58	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	358207	46.21	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	419867	49.50	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	122172	55.41	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	147	0.06	ug/L	#	49
3) Chloromethane	1.910	50	580	0.16	ug/L		88
4) Vinyl Chloride	2.007	62	208	0.07	ug/L	#	50
5) Bromomethane	2.372	96	318	0.19	ug/L	#	47
6) Chloroethane	0.000		0	N.D.			
7) Trichlorofluoromethane	0.000		0	N.D.			
8) Ethanol	3.242	45	289	No Calib		#	
9) 1,1-Dichloroethene	3.242	61	114	0.04	ug/L	#	28
10) Carbon Disulfide	3.260	76	568	0.11	ug/L		78
11) Freon 113	0.000		0	N.D.			
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	0.000		0	N.D.			
14) Methylene Chloride	3.881	84	5025	1.84	ug/L		97
15) Acetone	3.960	43	930	0.72	ug/L	#	44
16) t-1,2-Dichloroethene	0.000		0	N.D.			
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.185	73	515	0.10	ug/L		63
19) tert-Butanol (TBA)	4.307	59	2749	No Calib			
20) Diisopropyl ether (DIPE)	0.000		0	N.D.			
21) 1,1-Dichloroethane	4.702	63	203	0.05	ug/L	#	48
22) Acrylonitrile	0.000		0	N.D.			
23) Ethyl-tert-butyl ether...	0.000		0	N.D.			
24) Vinyl Acetate	4.988	43	684	2.83	ug/L		74
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	5.542	83	285	0.07	ug/L	#	28
29) Carbon Tetrachloride	0.000		0	N.D.			
30) Tetrahydrofuran	0.000		0	N.D.			
31) 1,1,1-Trichloroethane	0.000		0	N.D.			
33) 1,1-Dichloropropene	0.000		0	N.D.			
34) 2-Butanone (MEK)	5.882	43	561	0.31	ug/L		52
35) Benzene	6.126	78	912	0.10	ug/L		55
36) tert-Amyl methyl ether...	0.000		0	N.D.			
37) 1,2-Dichloroethane (EDC)	0.000		0	N.D.			
38) iso-Butyl Alcohol	6.405	43	402	1.92	ug/L		77
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	8.097	75	126	0.23	ug/L	#	53

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:42 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

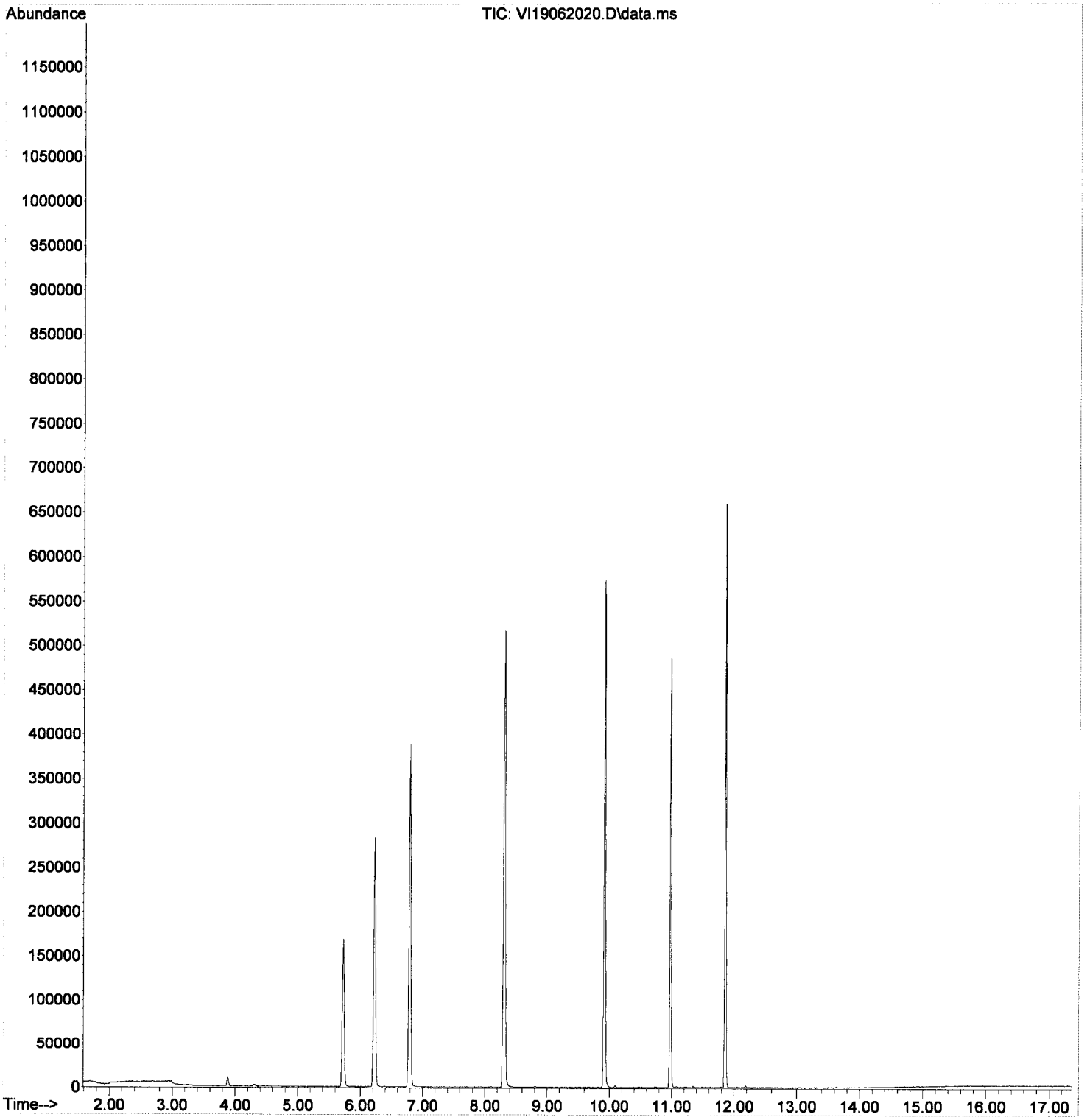
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	1033	0.11	ug/L		94
50) Tetrachloroethene (PCE)	0.000		0	N.D.			
51) 4-Methyl-2-Pentanone (...	8.808	43	934	0.30	ug/L		84
52) t-1,3-Dichloropropene	0.000		0	N.D.			
53) 1,1,2-Trichloroethane	0.000		0	N.D.			
54) Dibromochloromethane	0.000		0	N.D.			
55) 1,3-Dichloropropane	9.301	76	204	0.06	ug/L	#	58
56) 1,2-Dibromoethane (EDB)	0.000		0	N.D.			
57) 2-Hexanone	9.666	43	545	1.96	ug/L		86
58) Chlorobenzene	9.928	112	523	0.09	ug/L	#	1
59) Ethylbenzene	9.958	91	867	0.09	ug/L		92
60) 1,1,1,2-Tetrachloroethane	0.000		0	N.D.			
61) m,p-Xylenes (2)	10.092	91	1349	0.41	ug/L		90
62) o-Xylene	10.475	91	703	0.25	ug/L		92
63) Styrene	10.518	104	391	0.35	ug/L	#	42
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.737	105	802	0.53	ug/L		85
68) Bromobenzene	0.000		0	N.D			
69) n-Propylbenzene	11.078	91	975	0.11	ug/L		84
70) 1,1,2,2-Tetrachloroethane	0.000		0	N.D.			
71) 2-Chlorotoluene	0.000		0	N.D.			
72) 1,3,5-Trimethylbenzene	11.236	105	604	0.47	ug/L		94
73) 1,2,3-Trichloropropane	0.000		0	N.D.			
74) t-1,4-Dichloro-2-butene	0.000		0	N.D.			
75) 4-Chlorotoluene	11.339	91	551	0.10	ug/L	#	45
76) tert-Butylbenzene	11.485	91	267	0.44	ug/L	#	79
77) 1,2,4-Trimethylbenzene	11.540	105	654	0.37	ug/L		88
78) sec-Butylbenzene	11.625	105	749	0.33	ug/L		75
79) 4-Isopropyltoluene	11.729	119	490	0.36	ug/L		51
80) 1,3-Dichlorobenzene	11.802	146	301	0.08	ug/L	#	72
81) 1,4-Dichlorobenzene	11.868	146	392	0.09	ug/L	#	2
82) n-Butylbenzene	12.051	91	522	0.34	ug/L		68
83) 1,2-Dichlorobenzene	12.191	146	286	0.08	ug/L	#	70
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	0.000		0	N.D.			
87) Naphthalene	13.633	128	790	0.75	ug/L		81
88) 1,2,3-Trichlorobenzene	0.000		0	N.D.			

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062020.D
Acq On : 20 Jun 2019 6:16 pm
Operator : MM
Sample : 9F20044-CAL1
Misc : 1X 5mL 0.1/0.2PPB VOCR+OXY
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:42 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:52:55 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.M~~
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	214495	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	315477	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	143049	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113958	45.12	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	352562	45.85	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	416463	49.74	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	119949	54.89	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	0.000		0	N.D.	d		
3) Chloromethane	1.892	50	842	0.23	ug/L		90
4) Vinyl Chloride	1.995	62	502	0.16	ug/L	#	50
5) Bromomethane	0.000		0	N.D.	d		
6) Chloroethane	0.000		0	N.D.	d		
7) Trichlorofluoromethane	0.000		0	N.D.	d		
8) Ethanol	0.000		0	N.D.	d		
9) 1,1-Dichloroethene	3.242	61	456	0.15	ug/L		89
10) Carbon Disulfide	0.000		0	N.D.	d		
11) Freon 113	0.000		0	N.D.	d		
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	0.000		0	N.D.	d		
14) Methylene Chloride	3.875	84	3802	1.40	ug/L		95
15) Acetone	0.000		0	N.D.	d		
16) t-1,2-Dichloroethene	0.000		0	N.D.	d		
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	0.000		0	N.D.	d		
19) tert-Butanol (TBA)	4.301	59	5907	No Calib			
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	d		
21) 1,1-Dichloroethane	0.000		0	N.D.	d		
22) Acrylonitrile	0.000		0	N.D.			
23) Ethyl-tert-butyl ether...	0.000		0	N.D.	d		
24) Vinyl Acetate	0.000		0	N.D.	d		
25) c-1,2-Dichloroethene	0.000		0	N.D.	d		
26) 2,2-Dichloropropane	0.000		0	N.D.	d		
27) Bromochloromethane	0.000		0	N.D.			
28) Chloroform	0.000		0	N.D.	d		
29) Carbon Tetrachloride	0.000		0	N.D.	d		
30) Tetrahydrofuran	0.000		0	N.D.	d		
31) 1,1,1-Trichloroethane	0.000		0	N.D.	d		
33) 1,1-Dichloropropene	0.000		0	N.D.	d		
34) 2-Butanone (MEK)	0.000		0	N.D.	d		
35) Benzene	6.126	78	1868	0.21	ug/L		95
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	0.000		0	N.D.	d		
40) Trichloroethene (TCE)	0.000		0	N.D.	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.	d		
44) Bromodichloromethane	0.000		0	N.D.	d		
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	d		
47) c-1,3-Dichloropropene	0.000		0	N.D.	d		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:52:55 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	1910	0.21	ug/L		94
50) Tetrachloroethene (PCE)	0.000		0	N.D.	d		
51) 4-Methyl-2-Pentanone (...	0.000		0	N.D.	d		
52) t-1,3-Dichloropropene	0.000		0	N.D.	d		
53) 1,1,2-Trichloroethane	0.000		0	N.D.	d		
54) Dibromochloromethane	0.000		0	N.D.	d		
55) 1,3-Dichloropropane	0.000		0	N.D.	d		
56) 1,2-Dibromoethane (EDB)	9.435	107	297	0.15	ug/L		95
57) 2-Hexanone	0.000		0	N.D.	d		
58) Chlorobenzene	9.934	112	1008	0.17	ug/L	#	49
59) Ethylbenzene	9.958	91	1959	0.22	ug/L		90
60) 1,1,1,2-Tetrachloroethane	9.995	131	225	0.13	ug/L	#	82
61) m,p-Xylenes (2)	10.092	91	2948	0.63	ug/L		96
62) o-Xylene	10.475	91	1371	0.35	ug/L		85
63) Styrene	10.524	104	998	0.46	ug/L		95
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.737	105	1594	0.62	ug/L		91
68) Bromobenzene	11.059	156	406	0.19	ug/L	#	82
69) n-Propylbenzene	11.078	91	1849	0.20	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	327	0.18	ug/L		92
71) 2-Chlorotoluene	0.000		0	N.D.	d		
72) 1,3,5-Trimethylbenzene	11.236	105	1280	0.57	ug/L		94
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	11.345	91	1252	0.22	ug/L		87
76) tert-Butylbenzene	11.485	91	742	0.57	ug/L		81
77) 1,2,4-Trimethylbenzene	11.540	105	1259	0.46	ug/L		91
78) sec-Butylbenzene	11.625	105	1695	0.45	ug/L		94
79) 4-Isopropyltoluene	11.729	119	1137	0.47	ug/L		95
80) 1,3-Dichlorobenzene	11.802	146	722	0.20	ug/L		90
81) 1,4-Dichlorobenzene	11.869	146	760	0.18	ug/L	#	25
82) n-Butylbenzene	12.051	91	1025	0.43	ug/L		94
83) 1,2-Dichlorobenzene	12.191	146	689	0.20	ug/L		89
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	0.000		0	N.D.	d		
87) Naphthalene	0.000		0	N.D.	d		
88) 1,2,3-Trichlorobenzene	0.000		0	N.D.	d		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:47 2019
Quant Method : C:\msdchem\1\methods\VI~~190621W+~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	214495	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	315477	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	143049	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113958	45.12	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.783	114	352562	45.85	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	416463	49.74	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	119949	54.89	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	423	0.17	ug/L	#	49
3) Chloromethane	1.892	50	842	0.28	ug/L		90
4) Vinyl Chloride	1.995	62	502	0.16	ug/L	#	50
5) Bromomethane	2.354	96	543	0.34	ug/L		73
6) Chloroethane	2.506	64	126	Below Cal		#	36
7) Trichlorofluoromethane	2.664	101	476	0.18	ug/L		91
8) Ethanol	3.242	45	737	No Calib		#	
9) 1,1-Dichloroethene	3.242	61	456	0.15	ug/L		89
10) Carbon Disulfide	3.254	76	1009	0.19	ug/L		78
11) Freon 113	3.291	101	185	0.09	ug/L	#	63
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	3.625	56	183	0.31	ug/L	#	44
14) Methylene Chloride	3.875	84	3802	1.40	ug/L		95
15) Acetone	3.942	43	1401	1.10	ug/L	#	44
16) t-1,2-Dichloroethene	4.039	61	556	0.19	ug/L	#	73
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.167	73	1383	0.28	ug/L		88
19) tert-Butanol (TBA)	4.301	59	5907	No Calib			
20) Diisopropyl ether (DIPE)	4.556	45	316	No Calib			
21) 1,1-Dichloroethane	4.690	63	614	0.16	ug/L	#	48
22) Acrylonitrile	0.000		0	N.D.			
23) Ethyl-tert-butyl ether...	4.933	59	123	No Calib		#	
24) Vinyl Acetate	4.970	43	869	2.93	ug/L		74
25) c-1,2-Dichloroethene	5.237	61	484	0.17	ug/L	#	20
26) 2,2-Dichloropropane	5.347	77	463	0.27	ug/L		79
27) Bromochloromethane	0.000		0	N.D.			
28) Chloroform	5.529	83	742	0.18	ug/L		80
29) Carbon Tetrachloride	5.663	117	212	0.09	ug/L	#	14
30) Tetrahydrofuran	5.712	42	307	0.26	ug/L	#	62
31) 1,1,1-Trichloroethane	5.742	97	508	0.17	ug/L	#	69
33) 1,1-Dichloropropene	5.876	75	448	0.17	ug/L	#	43
34) 2-Butanone (MEK)	5.876	43	947	0.53	ug/L		52
35) Benzene	6.126	78	1868	0.21	ug/L		95
36) tert-Amyl methyl ether...	6.223	73	122	No Calib		#	
37) 1,2-Dichloroethane (EDC)	6.345	62	519	0.17	ug/L		54
38) iso-Butyl Alcohol	6.387	43	894	4.30	ug/L		90
40) Trichloroethene (TCE)	6.752	130	237	0.10	ug/L		76
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.			
42) Dibromomethane	0.000		0	N.D.			
43) 1,2-Dichloropropane	7.318	63	403	0.17	ug/L	#	35
44) Bromodichloromethane	7.379	83	383	0.14	ug/L	#	27
46) 2-Chloroethyl Vinyl Ether	8.036	63	193	2.24	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	477	0.39	ug/L	#	58

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:47 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

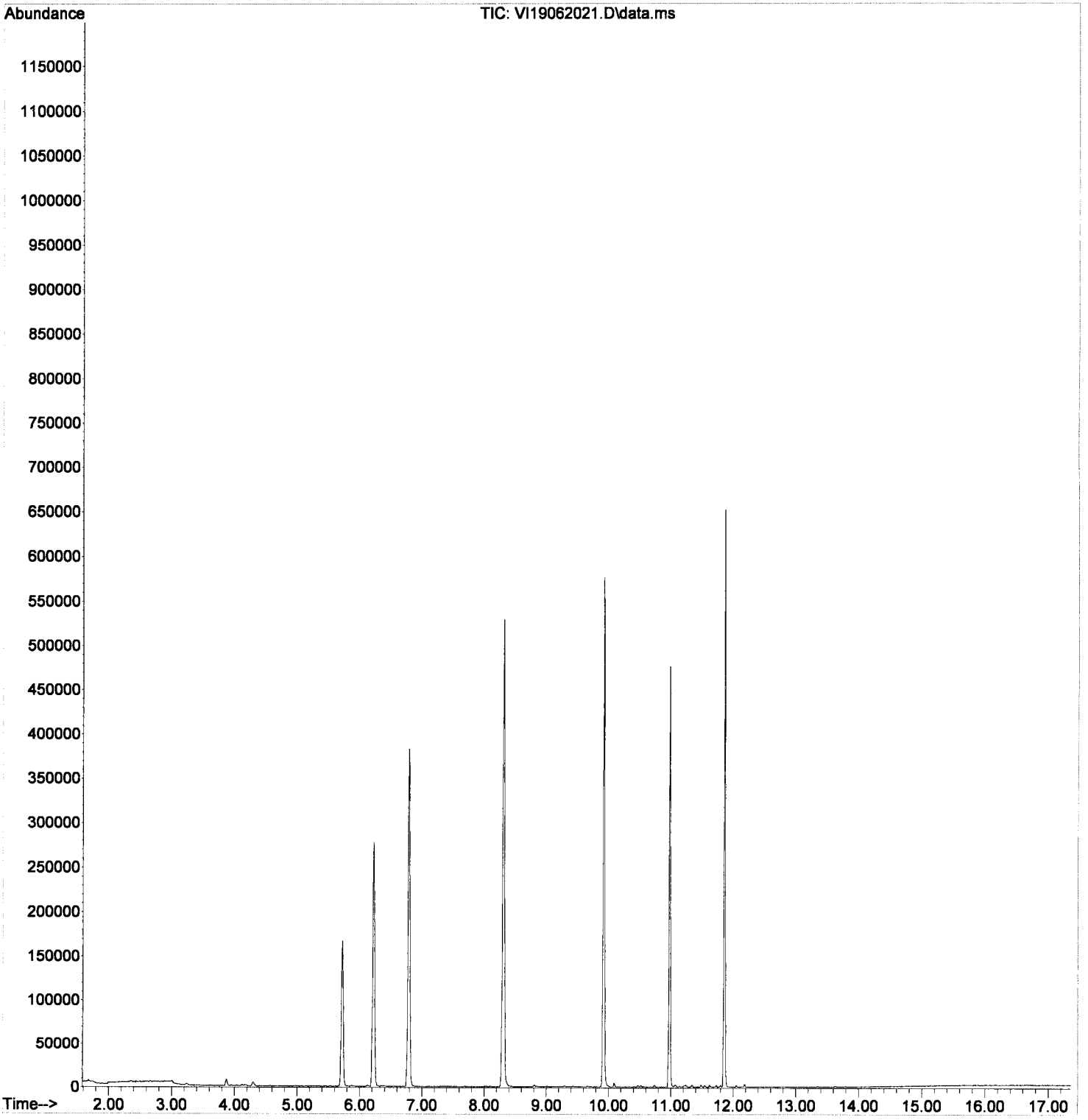
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	1910	0.21	ug/L		94
50) Tetrachloroethene (PCE)	8.802	166	308	0.15	ug/L	#	71
51) 4-Methyl-2-Pentanone (...	8.809	43	1390	0.45	ug/L		85
52) t-1,3-Dichloropropene	8.839	75	376	0.47	ug/L		54
53) 1,1,2-Trichloroethane	9.009	97	217	0.10	ug/L		84
54) Dibromochloromethane	9.192	129	199	0.10	ug/L	#	17
55) 1,3-Dichloropropane	9.295	76	680	0.20	ug/L	#	58
56) 1,2-Dibromoethane (EDB)	9.435	107	297	0.15	ug/L		95
57) 2-Hexanone	9.660	43	977	2.13	ug/L		83
58) Chlorobenzene	9.934	112	1008	0.17	ug/L	#	49
59) Ethylbenzene	9.958	91	1959	0.22	ug/L		90
60) 1,1,1,2-Tetrachloroethane	9.995	131	225	0.13	ug/L	#	82
61) m,p-Xylenes (2)	10.092	91	2948	0.63	ug/L		96
62) o-Xylene	10.475	91	1371	0.35	ug/L		85
63) Styrene	10.524	104	998	0.46	ug/L		95
64) Bromoform	0.000		0	N.D.			
65) Isopropylbenzene	10.737	105	1594	0.62	ug/L		91
68) Bromobenzene	11.059	156	406	0.19	ug/L	#	82
69) n-Propylbenzene	11.078	91	1849	0.20	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	327	0.18	ug/L		92
71) 2-Chlorotoluene	11.212	126	268	0.14	ug/L	#	80
72) 1,3,5-Trimethylbenzene	11.236	105	1280	0.57	ug/L		94
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	11.345	91	1252	0.22	ug/L		87
76) tert-Butylbenzene	11.485	91	742	0.57	ug/L		81
77) 1,2,4-Trimethylbenzene	11.540	105	1259	0.46	ug/L		91
78) sec-Butylbenzene	11.625	105	1695	0.45	ug/L		94
79) 4-Isopropyltoluene	11.729	119	1137	0.47	ug/L		95
80) 1,3-Dichlorobenzene	11.802	146	722	0.20	ug/L		90
81) 1,4-Dichlorobenzene	11.869	146	760	0.18	ug/L	#	25
82) n-Butylbenzene	12.051	91	1025	0.43	ug/L		94
83) 1,2-Dichlorobenzene	12.191	146	689	0.20	ug/L		89
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.			
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.353	180	356	0.85	ug/L		87
87) Naphthalene	13.633	128	1415	0.86	ug/L		81
88) 1,2,3-Trichlorobenzene	13.791	180	328	0.83	ug/L		82

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062021.D
Acq On : 20 Jun 2019 6:43 pm
Operator : MM
Sample : 9F20044-CAL2
Misc : 1X 5mL 0.2/0.4PPB VOCR+OXY
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:47 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:55:23 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	216322	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	322309	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	147216	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	114168	44.82	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	354384	45.70	ug/L	0.00
48) Toluene-d8 (S)	8.304	98	421971	49.33	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	123411	54.88	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.685	85	715	0.29	ug/L	79
3) Chloromethane	1.904	50	1399	0.38	ug/L	80
4) Vinyl Chloride	2.007	62	1014	0.32	ug/L	81
5) Bromomethane	0.000		0	N.D.	d	
6) Chloroethane	0.000		0	N.D.	d	
7) Trichlorofluoromethane	2.676	101	995	0.27	ug/L	86
8) Ethanol	0.000		0	N.D.	d	
9) 1,1-Dichloroethene	3.242	61	1077	0.34	ug/L	93
10) Carbon Disulfide	3.260	76	2039	0.38	ug/L	89
11) Freon 113	0.000		0	N.D.	d	
12) Iodomethane	0.000		0	N.D.		
13) Acrolein	0.000		0	N.D.	d	
14) Methylene Chloride	3.881	84	3778	1.38	ug/L	95
15) Acetone	0.000		0	N.D.	d	
16) t-1,2-Dichloroethene	4.051	61	1032	0.35	ug/L	98
17) n-Hexane	0.000		0	N.D.		
18) Methyl-tert-butyl-ether	4.185	73	2633	0.52	ug/L	81
19) tert-Butanol (TBA)	4.307	59	11068	No Calib		
20) Diisopropyl ether (DIPE)	0.000		0	N.D.	d	
21) 1,1-Dichloroethane	4.690	63	1280	0.32	ug/L	89
22) Acrylonitrile	0.000		0	N.D.	d	
23) Ethyl-tert-butyl ether...	0.000		0	N.D.	d	
24) Vinyl Acetate	0.000		0	N.D.	d	
25) c-1,2-Dichloroethene	5.250	61	1145	0.39	ug/L	95
26) 2,2-Dichloropropane	0.000		0	N.D.	d	
27) Bromochloromethane	5.450	130	437	0.29	ug/L	94
28) Chloroform	5.542	83	1469	0.35	ug/L	87
29) Carbon Tetrachloride	5.669	117	643	0.26	ug/L	80
30) Tetrahydrofuran	0.000		0	N.D.	d	
31) 1,1,1-Trichloroethane	5.742	97	1087	0.37	ug/L	93
33) 1,1-Dichloropropene	5.870	75	1102	0.41	ug/L	95
34) 2-Butanone (MEK)	0.000		0	N.D.	d	
35) Benzene	6.132	78	3614	0.41	ug/L	96
36) tert-Amyl methyl ether...	0.000		0	N.D.	d	
37) 1,2-Dichloroethane (EDC)	6.351	62	1039	0.34	ug/L	87
38) iso-Butyl Alcohol	0.000		0	N.D.	d	
40) Trichloroethene (TCE)	6.752	130	770	0.32	ug/L	88
41) Tert-Amyl-Ethyl-Ether ...	0.000		0	N.D.	d	
42) Dibromomethane	7.209	93	433	0.28	ug/L	84
43) 1,2-Dichloropropane	7.312	63	812	0.33	ug/L	82
44) Bromodichloromethane	7.391	83	949	0.34	ug/L	92
46) 2-Chloroethyl Vinyl Ether	0.000		0	N.D.	d	
47) c-1,3-Dichloropropene	8.097	75	1097	0.66	ug/L	92

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:55:23 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	3651	0.40	ug/L		94
50) Tetrachloroethene (PCE)	8.809	166	702	0.34	ug/L		87
51) 4-Methyl-2-Pentanone (...	8.815	43	2659	0.85	ug/L		98
52) t-1,3-Dichloropropene	8.845	75	1047	0.77	ug/L		87
53) 1,1,2-Trichloroethane	9.009	97	686	0.32	ug/L		96
54) Dibromochloromethane	9.192	129	565	0.29	ug/L		96
55) 1,3-Dichloropropane	9.295	76	1270	0.37	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.441	107	766	0.37	ug/L		94
57) 2-Hexanone	9.666	43	1999	2.51	ug/L		88
58) Chlorobenzene	9.934	112	2135	0.35	ug/L	#	72
59) Ethylbenzene	9.958	91	3623	0.39	ug/L		94
60) 1,1,1,2-Tetrachloroethane	9.995	131	526	0.29	ug/L		83
61) m,p-Xylenes (2)	10.092	91	5389	0.94	ug/L		99
62) o-Xylene	10.475	91	2671	0.53	ug/L		97
63) Styrene	10.524	104	1902	0.61	ug/L		91
64) Bromoform	0.000		0	N.D.	d		
65) Isopropylbenzene	10.737	105	3170	0.80	ug/L		98
68) Bromobenzene	11.066	156	864	0.40	ug/L		85
69) n-Propylbenzene	11.078	91	3601	0.39	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	707	0.37	ug/L		86
71) 2-Chlorotoluene	11.212	126	771	0.40	ug/L	#	80
72) 1,3,5-Trimethylbenzene	11.236	105	2531	0.75	ug/L		96
73) 1,2,3-Trichloropropane	11.254	110	243	0.25	ug/L	#	81
74) t-1,4-Dichloro-2-butene	11.285	53	218	0.35	ug/L	#	65
75) 4-Chlorotoluene	11.345	91	2288	0.40	ug/L		87
76) tert-Butylbenzene	11.485	91	1379	0.74	ug/L		91
77) 1,2,4-Trimethylbenzene	11.540	105	2364	0.63	ug/L		88
78) sec-Butylbenzene	11.625	105	3002	0.60	ug/L		98
79) 4-Isopropyltoluene	11.729	119	2328	0.65	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	1483	0.41	ug/L		87
81) 1,4-Dichlorobenzene	11.869	146	1589	0.37	ug/L	#	72
82) n-Butylbenzene	12.051	91	2284	0.65	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	1424	0.41	ug/L		89
84) 1,2-Dibromo-3-Chloropr...	0.000		0	N.D.	d		
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.359	180	646	1.00	ug/L		82
87) Naphthalene	13.633	128	2544	1.05	ug/L		81
88) 1,2,3-Trichlorobenzene	13.791	180	669	1.00	ug/L		92

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:50 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	216322	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	322309	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	147216	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	114168	44.82	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	354384	45.70	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	421971	49.38	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	123411	54.88	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	715	0.29	ug/L		79
3) Chloromethane	1.904	50	1399	0.38	ug/L		80
4) Vinyl Chloride	2.007	62	1014	0.32	ug/L		81
5) Bromomethane	2.372	96	806	0.49	ug/L		86
6) Chloroethane	2.518	64	476	Below Cal		#	52
7) Trichlorofluoromethane	2.676	101	995	0.27	ug/L		86
8) Ethanol	3.242	45	1544	No Calib			
9) 1,1-Dichloroethene	3.242	61	1077	0.34	ug/L		93
10) Carbon Disulfide	3.260	76	2039	0.38	ug/L		89
11) Freon 113	3.303	101	595	0.27	ug/L		91
12) Iodomethane	0.000		0	N.D.			
13) Acrolein	3.625	56	343	0.57	ug/L	#	57
14) Methylene Chloride	3.881	84	3778	1.38	ug/L		95
15) Acetone	3.954	43	1672	1.30	ug/L		92
16) t-1,2-Dichloroethene	4.051	61	1032	0.35	ug/L		98
17) n-Hexane	0.000		0	N.D.			
18) Methyl-tert-butyl-ether	4.185	73	2633	0.52	ug/L		81
19) tert-Butanol (TBA)	4.307	59	11068	No Calib			
20) Diisopropyl ether (DIPE)	4.587	45	673	No Calib			
21) 1,1-Dichloroethane	4.690	63	1280	0.32	ug/L		89
22) Acrylonitrile	4.757	53	286	0.21	ug/L	#	15
23) Ethyl-tert-butyl ether...	4.952	59	566	No Calib		#	
24) Vinyl Acetate	4.982	43	1760	3.38	ug/L		74
25) c-1,2-Dichloroethene	5.250	61	1145	0.39	ug/L		95
26) 2,2-Dichloropropane	5.365	77	1213	0.71	ug/L		85
27) Bromochloromethane	5.450	130	437	0.29	ug/L		94
28) Chloroform	5.542	83	1469	0.35	ug/L		87
29) Carbon Tetrachloride	5.669	117	643	0.26	ug/L		80
30) Tetrahydrofuran	5.706	42	583	0.48	ug/L	#	72
31) 1,1,1-Trichloroethane	5.742	97	1087	0.37	ug/L		93
33) 1,1-Dichloropropene	5.870	75	1102	0.41	ug/L		95
34) 2-Butanone (MEK)	5.870	43	1723	0.95	ug/L		92
35) Benzene	6.132	78	3614	0.41	ug/L		96
36) tert-Amyl methyl ether...	6.247	73	657	No Calib		#	
37) 1,2-Dichloroethane (EDC)	6.351	62	1039	0.34	ug/L		87
38) iso-Butyl Alcohol	6.387	43	1712	8.17	ug/L		82
40) Trichloroethene (TCE)	6.752	130	770	0.32	ug/L		88
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	316	No Calib		#	
42) Dibromomethane	7.209	93	433	0.28	ug/L		84
43) 1,2-Dichloropropane	7.312	63	812	0.33	ug/L		82
44) Bromodichloromethane	7.391	83	949	0.34	ug/L		92
46) 2-Chloroethyl Vinyl Ether	8.030	63	479	2.54	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	1097	0.66	ug/L		92

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:50 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

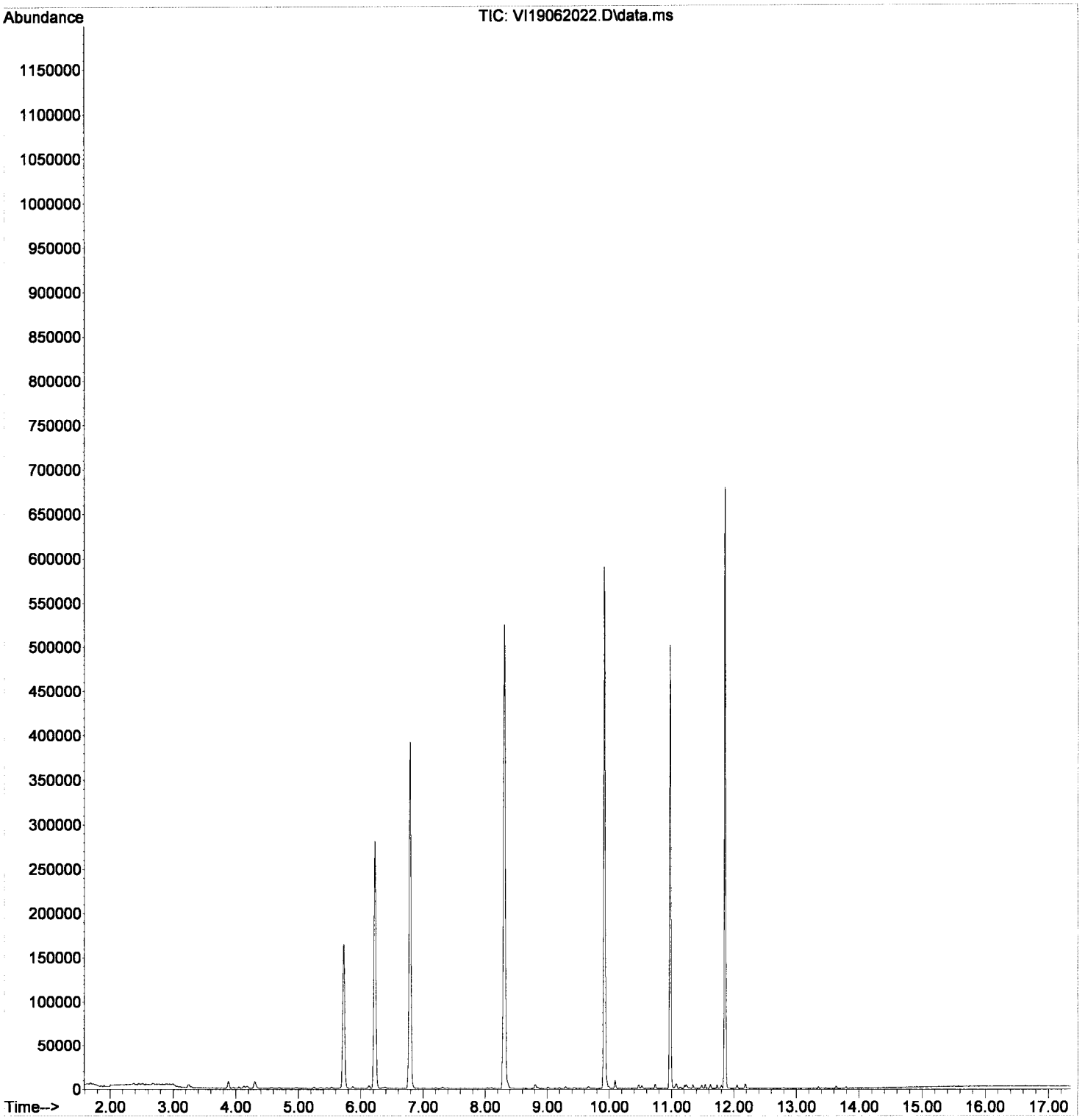
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	3651	0.40	ug/L		94
50) Tetrachloroethene (PCE)	8.809	166	702	0.34	ug/L		87
51) 4-Methyl-2-Pentanone (...	8.815	43	2659	0.85	ug/L		98
52) t-1,3-Dichloropropene	8.845	75	1047	0.77	ug/L		87
53) 1,1,2-Trichloroethane	9.009	97	686	0.32	ug/L		96
54) Dibromochloromethane	9.192	129	565	0.29	ug/L		96
55) 1,3-Dichloropropane	9.295	76	1270	0.37	ug/L		92
56) 1,2-Dibromoethane (EDB)	9.441	107	766	0.37	ug/L		94
57) 2-Hexanone	9.666	43	1999	2.51	ug/L		88
58) Chlorobenzene	9.934	112	2135	0.35	ug/L	#	72
59) Ethylbenzene	9.958	91	3623	0.39	ug/L		94
60) 1,1,1,2-Tetrachloroethane	9.995	131	526	0.29	ug/L		83
61) m,p-Xylenes (2)	10.092	91	5389	0.94	ug/L		99
62) o-Xylene	10.475	91	2671	0.53	ug/L		97
63) Styrene	10.524	104	1902	0.61	ug/L		91
64) Bromoform	10.536	173	234	0.26	ug/L	#	36
65) Isopropylbenzene	10.737	105	3170	0.80	ug/L		98
68) Bromobenzene	11.066	156	864	0.40	ug/L		85
69) n-Propylbenzene	11.078	91	3601	0.39	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	707	0.37	ug/L		86
71) 2-Chlorotoluene	11.212	126	771	0.40	ug/L	#	80
72) 1,3,5-Trimethylbenzene	11.236	105	2531	0.75	ug/L		96
73) 1,2,3-Trichloropropane	11.254	110	243	0.25	ug/L	#	81
74) t-1,4-Dichloro-2-butene	11.285	53	218	0.35	ug/L	#	65
75) 4-Chlorotoluene	11.345	91	2288	0.40	ug/L		87
76) tert-Butylbenzene	11.485	91	1379	0.74	ug/L		91
77) 1,2,4-Trimethylbenzene	11.540	105	2364	0.63	ug/L		88
78) sec-Butylbenzene	11.625	105	3002	0.60	ug/L		98
79) 4-Isopropyltoluene	11.729	119	2328	0.65	ug/L		99
80) 1,3-Dichlorobenzene	11.802	146	1483	0.41	ug/L		87
81) 1,4-Dichlorobenzene	11.869	146	1589	0.37	ug/L	#	72
82) n-Butylbenzene	12.051	91	2284	0.65	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	1424	0.41	ug/L		89
84) 1,2-Dibromo-3-Chloropr...	12.805	157	116	0.76	ug/L	#	52
85) Hexachlorobutadiene	0.000		0	N.D.			
86) 1,2,4-Trichlorobenzene	13.359	180	646	1.00	ug/L		82
87) Naphthalene	13.633	128	2544	1.05	ug/L		81
88) 1,2,3-Trichlorobenzene	13.791	180	669	1.00	ug/L		92

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062022.D
Acq On : 20 Jun 2019 7:10 pm
Operator : MM
Sample : 9F20044-CAL3
Misc : 1X 5mL 0.4/0.8PPB VOCR+OXY
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:50 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:56:42 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+.~~M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	212184	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	321130	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	145672	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113642	45.49	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	356332	46.85	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	417568	48.99	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	121837	54.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	1914	0.79	ug/L		99
3) Chloromethane	1.898	50	2855	0.79	ug/L		92
4) Vinyl Chloride	2.001	62	2289	0.74	ug/L		91
5) Bromomethane	2.366	96	1674	1.05	ug/L		85
6) Chloroethane	2.506	64	908	Below Cal			86
7) Trichlorofluoromethane	2.670	101	2781	0.78	ug/L		99
8) Ethanol	3.242	45	3359	No Calib			
9) 1,1-Dichloroethene	3.242	61	2735	0.89	ug/L		96
10) Carbon Disulfide	3.254	76	4926	0.94	ug/L		92
11) Freon 113	3.291	101	1682	0.78	ug/L		95
12) Iodomethane	0.000		0	N.D.	d		
13) Acrolein	0.000		0	N.D.	d		
14) Methylene Chloride	3.881	84	5068	1.89	ug/L		95
15) Acetone	0.000		0	N.D.	d		
16) t-1,2-Dichloroethene	4.045	61	2591	0.90	ug/L		98
17) n-Hexane	4.130	86	322	2.29	ug/L	#	86
18) Methyl-tert-butyl-ether	4.173	73	6733	1.35	ug/L		91
19) tert-Butanol (TBA)	4.301	59	28689	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	1806	No Calib			
21) 1,1-Dichloroethane	4.684	63	3536	0.91	ug/L		89
22) Acrylonitrile	4.763	53	1079	0.80	ug/L		92
23) Ethyl-tert-butyl ether...	4.945	59	1607	No Calib			
24) Vinyl Acetate	4.976	43	4452	4.80	ug/L		87
25) c-1,2-Dichloroethene	5.256	61	2829	0.99	ug/L		94
26) 2,2-Dichloropropane	5.359	77	2775	1.65	ug/L		96
27) Bromochloromethane	5.450	130	1297	0.88	ug/L		87
28) Chloroform	5.529	83	3614	0.88	ug/L		93
29) Carbon Tetrachloride	5.663	117	2061	0.85	ug/L		86
30) Tetrahydrofuran	0.000		0	N.D.	d		
31) 1,1,1-Trichloroethane	5.736	97	3002	1.03	ug/L		97
33) 1,1-Dichloropropene	5.876	75	2702	1.03	ug/L		96
34) 2-Butanone (MEK)	5.870	43	3724	2.09	ug/L		95
35) Benzene	6.126	78	8486	0.98	ug/L		94
36) tert-Amyl methyl ether...	6.266	73	1716	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	2943	0.97	ug/L		90
38) iso-Butyl Alcohol	0.000		0	N.D.	d		
40) Trichloroethene (TCE)	6.746	130	2094	0.89	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	1175	No Calib			
42) Dibromomethane	7.202	93	1305	0.86	ug/L		82
43) 1,2-Dichloropropane	7.312	63	2194	0.92	ug/L		86
44) Bromodichloromethane	7.391	83	2265	0.83	ug/L		87
46) 2-Chloroethyl Vinyl Ether	8.030	63	1514	3.68	ug/L	#	100
47) c-1,3-Dichloropropene	8.103	75	3024	1.51	ug/L		87

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:56:42 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	8763	0.96	ug/L		96
50) Tetrachloroethene (PCE)	8.802	166	2059	1.00	ug/L		82
51) 4-Methyl-2-Pentanone (...	8.808	43	6582	2.11	ug/L		92
52) t-1,3-Dichloropropene	8.845	75	2700	1.53	ug/L		92
53) 1,1,2-Trichloroethane	9.015	97	1850	0.86	ug/L		97
54) Dibromochloromethane	9.198	129	1527	0.78	ug/L		93
55) 1,3-Dichloropropane	9.301	76	3534	1.04	ug/L		93
56) 1,2-Dibromoethane (EDB)	9.429	107	2008	0.99	ug/L		98
57) 2-Hexanone	9.660	43	4754	3.56	ug/L		96
58) Chlorobenzene	9.934	112	5419	0.89	ug/L		84
59) Ethylbenzene	9.958	91	9234	1.00	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.989	131	1352	0.75	ug/L		75
61) m,p-Xylenes (2)	10.092	91	13780	2.06	ug/L		98
62) o-Xylene	10.469	91	6999	1.14	ug/L		97
63) Styrene	10.518	104	5129	1.16	ug/L		90
64) Bromoform	10.548	173	864	0.81	ug/L		89
65) Isopropylbenzene	10.737	105	8025	1.37	ug/L		98
68) Bromobenzene	11.059	156	2205	1.03	ug/L		87
69) n-Propylbenzene	11.078	91	9689	1.05	ug/L		95
70) 1,1,2,2-Tetrachloroethane	11.145	85	1857	0.98	ug/L		93
71) 2-Chlorotoluene	11.211	126	1852	0.98	ug/L	#	79
72) 1,3,5-Trimethylbenzene	11.236	105	6421	1.34	ug/L		95
73) 1,2,3-Trichloropropane	11.254	110	858	0.91	ug/L		90
74) t-1,4-Dichloro-2-butene	11.284	53	668	1.07	ug/L	#	65
75) 4-Chlorotoluene	11.339	91	6153	1.08	ug/L		91
76) tert-Butylbenzene	11.485	91	3735	1.41	ug/L		95
77) 1,2,4-Trimethylbenzene	11.540	105	6535	1.28	ug/L		94
78) sec-Butylbenzene	11.625	105	8087	1.23	ug/L		99
79) 4-Isopropyltoluene	11.729	119	6051	1.26	ug/L		97
80) 1,3-Dichlorobenzene	11.802	146	3906	1.08	ug/L		96
81) 1,4-Dichlorobenzene	11.868	146	4031	0.95	ug/L		82
82) n-Butylbenzene	12.051	91	5420	1.22	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	3854	1.12	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	404	1.22	ug/L	#	69
85) Hexachlorobutadiene	13.310	223	435	1.00	ug/L		89
86) 1,2,4-Trichlorobenzene	13.347	180	1991	1.74	ug/L		88
87) Naphthalene	13.633	128	6018	1.64	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	1982	1.71	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:54 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	212184	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	321130	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	145672	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113642	45.49	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	356332	46.85	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	417568	48.99	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	121837	54.75	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	1914	0.79	ug/L		99
3) Chloromethane	1.898	50	2855	0.79	ug/L		92
4) Vinyl Chloride	2.001	62	2289	0.74	ug/L		91
5) Bromomethane	2.366	96	1674	1.05	ug/L		85
6) Chloroethane	2.506	64	908	Below Cal			86
7) Trichlorofluoromethane	2.670	101	2781	0.78	ug/L		99
8) Ethanol	3.242	45	3359	No Calib			
9) 1,1-Dichloroethene	3.242	61	2735	0.89	ug/L		96
10) Carbon Disulfide	3.254	76	4926	0.94	ug/L		92
11) Freon 113	3.291	101	1682	0.78	ug/L		95
12) Iodomethane	3.394	142	318	6.03	ug/L	#	47
13) Acrolein	3.631	56	618	1.04	ug/L	#	36
14) Methylene Chloride	3.881	84	5068	1.89	ug/L		95
15) Acetone	3.954	43	2969	2.35	ug/L		100
16) t-1,2-Dichloroethene	4.045	61	2591	0.90	ug/L		98
17) n-Hexane	4.130	86	322	2.29	ug/L	#	86
18) Methyl-tert-butyl-ether	4.173	73	6733	1.35	ug/L		91
19) tert-Butanol (TBA)	4.301	59	28689	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	1806	No Calib			
21) 1,1-Dichloroethane	4.684	63	3536	0.91	ug/L		89
22) Acrylonitrile	4.763	53	1079	0.80	ug/L		92
23) Ethyl-tert-butyl ether...	4.945	59	1607	No Calib			
24) Vinyl Acetate	4.976	43	4452	4.80	ug/L		87
25) c-1,2-Dichloroethene	5.256	61	2829	0.99	ug/L		94
26) 2,2-Dichloropropane	5.359	77	2775	1.65	ug/L		96
27) Bromochloromethane	5.450	130	1297	0.88	ug/L		87
28) Chloroform	5.529	83	3614	0.88	ug/L		93
29) Carbon Tetrachloride	5.663	117	2061	0.85	ug/L		86
30) Tetrahydrofuran	5.712	42	1144	0.96	ug/L		92
31) 1,1,1-Trichloroethane	5.736	97	3002	1.03	ug/L		97
33) 1,1-Dichloropropene	5.876	75	2702	1.03	ug/L		96
34) 2-Butanone (MEK)	5.870	43	3724	2.09	ug/L		95
35) Benzene	6.126	78	8486	0.98	ug/L		94
36) tert-Amyl methyl ether...	6.266	73	1716	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	2943	0.97	ug/L		90
38) iso-Butyl Alcohol	6.387	43	4246	20.67	ug/L		87
40) Trichloroethene (TCE)	6.746	130	2094	0.89	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	1175	No Calib			
42) Dibromomethane	7.202	93	1305	0.86	ug/L		82
43) 1,2-Dichloropropane	7.312	63	2194	0.92	ug/L		86
44) Bromodichloromethane	7.391	83	2265	0.83	ug/L		87
46) 2-Chloroethyl Vinyl Ether	8.030	63	1514	3.68	ug/L	#	100
47) c-1,3-Dichloropropene	8.103	75	3024	1.51	ug/L		87

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:54 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

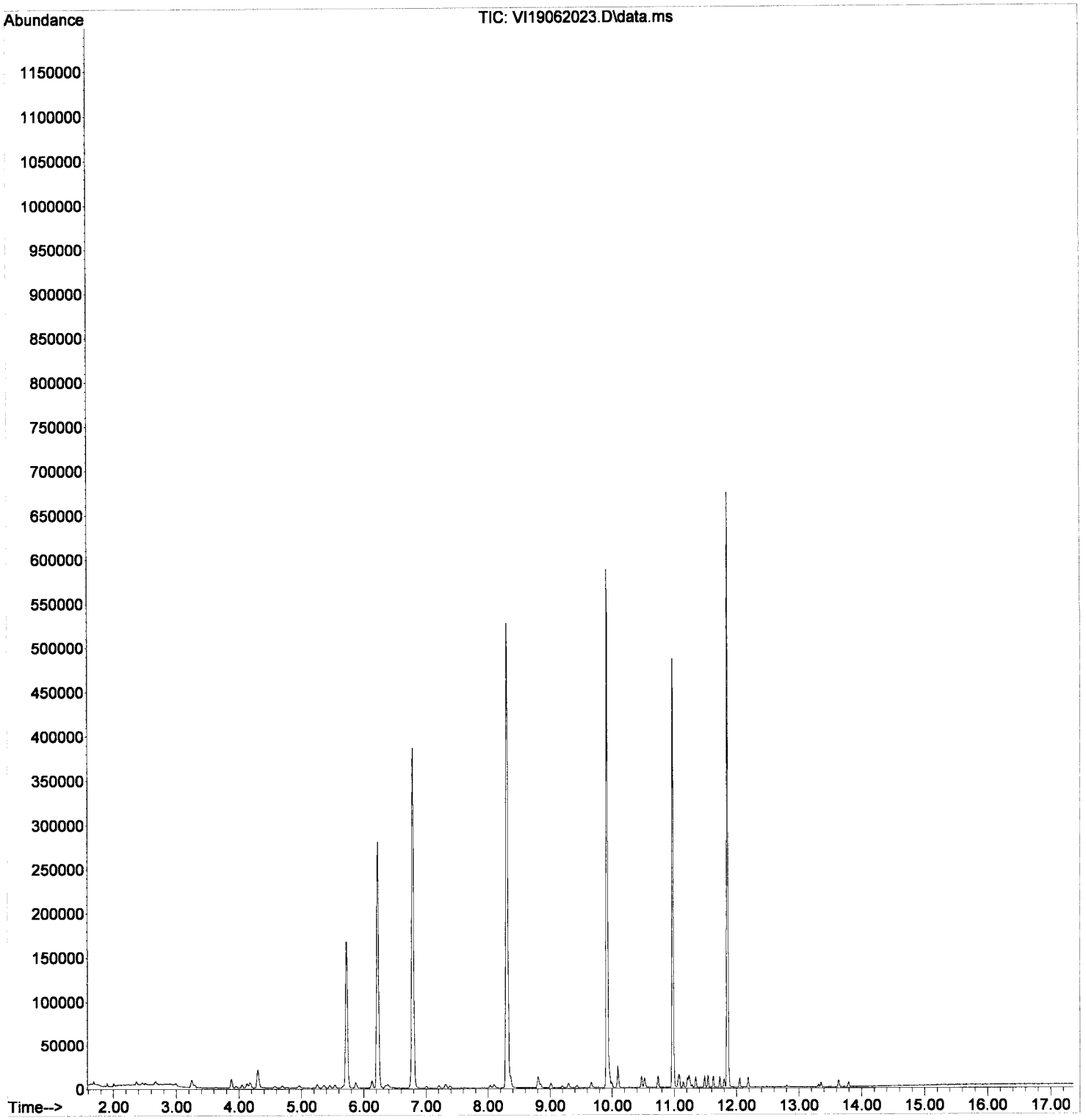
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	8763	0.96	ug/L		96
50) Tetrachloroethene (PCE)	8.802	166	2059	1.00	ug/L		82
51) 4-Methyl-2-Pentanone (...	8.808	43	6582	2.11	ug/L		92
52) t-1,3-Dichloropropene	8.845	75	2700	1.53	ug/L		92
53) 1,1,2-Trichloroethane	9.015	97	1850	0.86	ug/L		97
54) Dibromochloromethane	9.198	129	1527	0.78	ug/L		93
55) 1,3-Dichloropropane	9.301	76	3534	1.04	ug/L		93
56) 1,2-Dibromoethane (EDB)	9.429	107	2008	0.99	ug/L		98
57) 2-Hexanone	9.660	43	4754	3.56	ug/L		96
58) Chlorobenzene	9.934	112	5419	0.89	ug/L		84
59) Ethylbenzene	9.958	91	9234	1.00	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.989	131	1352	0.75	ug/L		75
61) m,p-Xylenes (2)	10.092	91	13780	2.06	ug/L		98
62) o-Xylene	10.469	91	6999	1.14	ug/L		97
63) Styrene	10.518	104	5129	1.16	ug/L		90
64) Bromoform	10.548	173	864	0.81	ug/L		89
65) Isopropylbenzene	10.737	105	8025	1.37	ug/L		98
68) Bromobenzene	11.059	156	2205	1.03	ug/L		87
69) n-Propylbenzene	11.078	91	9689	1.05	ug/L		95
70) 1,1,2,2-Tetrachloroethane	11.145	85	1857	0.98	ug/L		93
71) 2-Chlorotoluene	11.211	126	1852	0.98	ug/L	#	79
72) 1,3,5-Trimethylbenzene	11.236	105	6421	1.34	ug/L		95
73) 1,2,3-Trichloropropane	11.254	110	858	0.91	ug/L		90
74) t-1,4-Dichloro-2-butene	11.284	53	668	1.07	ug/L	#	65
75) 4-Chlorotoluene	11.339	91	6153	1.08	ug/L		91
76) tert-Butylbenzene	11.485	91	3735	1.41	ug/L		95
77) 1,2,4-Trimethylbenzene	11.540	105	6535	1.28	ug/L		94
78) sec-Butylbenzene	11.625	105	8087	1.23	ug/L		99
79) 4-Isopropyltoluene	11.729	119	6051	1.26	ug/L		97
80) 1,3-Dichlorobenzene	11.802	146	3906	1.08	ug/L		96
81) 1,4-Dichlorobenzene	11.868	146	4031	0.95	ug/L		82
82) n-Butylbenzene	12.051	91	5420	1.22	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	3854	1.12	ug/L		99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	404	1.22	ug/L	#	69
85) Hexachlorobutadiene	13.310	223	435	1.00	ug/L		89
86) 1,2,4-Trichlorobenzene	13.347	180	1991	1.74	ug/L		88
87) Naphthalene	13.633	128	6018	1.64	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	1982	1.71	ug/L		96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062023.D
Acq On : 20 Jun 2019 7:37 pm
Operator : MM
Sample : 9F20044-CAL4
Misc : 1X 5mL 1/2PPB VOCR+OXY
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:54 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	207120	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	311234	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	142034	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	111003	45.52	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	346645	46.69	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	408908	49.50	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	118488	54.61	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	4211	1.77	ug/L		93
3) Chloromethane	1.898	50	5408	1.52	ug/L		95
4) Vinyl Chloride	1.995	62	4635	1.54	ug/L		91
5) Bromomethane	2.360	96	2788	1.78	ug/L		97
6) Chloroethane	2.512	64	1914	Below Cal			82
7) Trichlorofluoromethane	2.670	101	5447	1.56	ug/L		96
8) Ethanol	3.236	45	6404	No Calib			
9) 1,1-Dichloroethene	3.236	61	5714	1.91	ug/L		97
10) Carbon Disulfide	3.254	76	9921	1.93	ug/L		97
11) Freon 113	3.291	101	3564	1.70	ug/L		94
12) Iodomethane	3.394	142	593	6.39	ug/L	#	70
13) Acrolein	3.625	56	1243	2.15	ug/L		60
14) Methylene Chloride	3.875	84	7259	2.77	ug/L		96
15) Acetone	3.948	43	4813	3.90	ug/L		99
16) t-1,2-Dichloroethene	4.045	61	5449	1.94	ug/L		92
17) n-Hexane	4.118	86	660	3.15	ug/L	#	82
18) Methyl-tert-butyl-ether	4.173	73	12876	2.65	ug/L		91
19) tert-Butanol (TBA)	4.295	59	56818	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	3461	No Calib			
21) 1,1-Dichloroethane	4.690	63	7318	1.94	ug/L		92
22) Acrylonitrile	4.757	53	2105	1.60	ug/L		85
23) Ethyl-tert-butyl ether...	4.946	59	3218	No Calib			
24) Vinyl Acetate	4.964	43	9168	7.36	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	5852	2.10	ug/L		95
26) 2,2-Dichloropropane	5.359	77	5539	3.37	ug/L		98
27) Bromochloromethane	5.450	130	2660	1.85	ug/L		97
28) Chloroform	5.530	83	7377	1.85	ug/L		95
29) Carbon Tetrachloride	5.669	117	4035	1.70	ug/L		96
30) Tetrahydrofuran	5.712	42	2546	2.20	ug/L		87
31) 1,1,1-Trichloroethane	5.742	97	5613	1.98	ug/L		92
33) 1,1-Dichloropropene	5.864	75	5432	2.12	ug/L		98
34) 2-Butanone (MEK)	5.870	43	7000	4.03	ug/L		98
35) Benzene	6.126	78	16870	1.99	ug/L		96
36) tert-Amyl methyl ether...	6.266	73	3075	No Calib			
37) 1,2-Dichloroethane (EDC)	6.351	62	5701	1.93	ug/L		90
38) iso-Butyl Alcohol	6.381	43	7793	38.86	ug/L		90
40) Trichloroethene (TCE)	6.746	130	3971	1.72	ug/L		92
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	2362	No Calib			
42) Dibromomethane	7.203	93	2728	1.85	ug/L		89
43) 1,2-Dichloropropane	7.318	63	4334	1.86	ug/L		90
44) Bromodichloromethane	7.385	83	4841	1.81	ug/L		90
46) 2-Chloroethyl Vinyl Ether	8.030	63	3031	5.45	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	6162	2.96	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

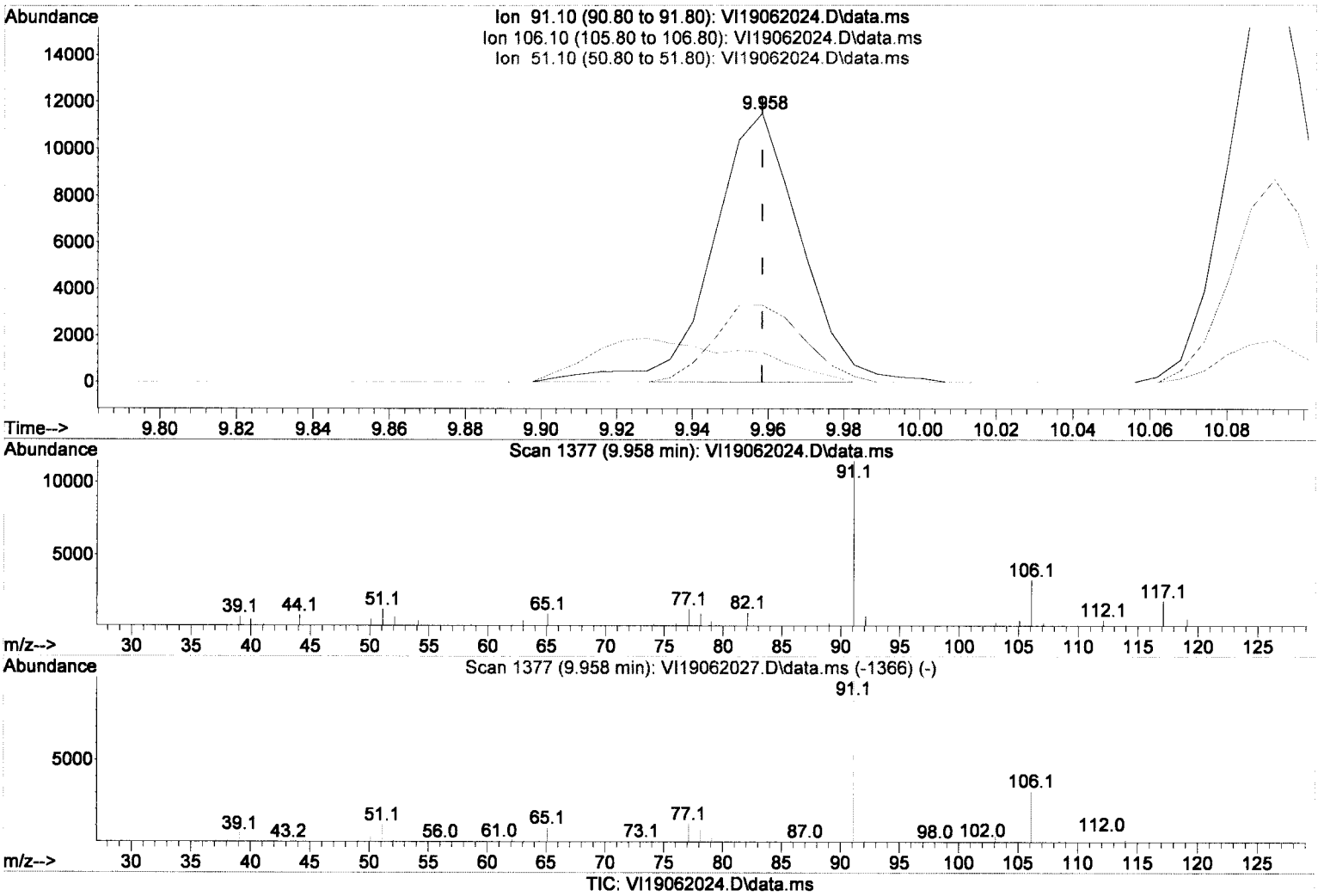
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	17144	1.94	ug/L		98
50) Tetrachloroethene (PCE)	8.803	166	3980	1.98	ug/L		96
51) 4-Methyl-2-Pentanone (...	8.809	43	12326	4.08	ug/L		96
52) t-1,3-Dichloropropene	8.845	75	5224	2.75	ug/L		95
53) 1,1,2-Trichloroethane	9.015	97	3923	1.88	ug/L		92
54) Dibromochloromethane	9.192	129	3080	1.62	ug/L		98
55) 1,3-Dichloropropane	9.295	76	6955	2.11	ug/L		96
56) 1,2-Dibromoethane (EDB)	9.435	107	4093	2.07	ug/L		94
57) 2-Hexanone	9.660	43	8923	5.26	ug/L		96
58) Chlorobenzene	9.934	112	10769	1.83	ug/L		93
59) Ethylbenzene	9.958	91	18616	2.08	ug/L		97
60) 1,1,1,2-Tetrachloroethane	9.995	131	3145	1.80	ug/L		91
61) m,p-Xylenes (2)	10.092	91	26844	3.89	ug/L		95
62) o-Xylene	10.469	91	14152	2.22	ug/L		97
63) Styrene	10.518	104	10275	2.09	ug/L		88
64) Bromoform	10.542	173	1903	1.74	ug/L		90
65) Isopropylbenzene	10.737	105	16331	2.39	ug/L		97
68) Bromobenzene	11.066	156	4450	2.12	ug/L		84
69) n-Propylbenzene	11.078	91	18778	2.08	ug/L		96
70) 1,1,2,2-Tetrachloroethane	11.145	85	3674	1.99	ug/L		97
71) 2-Chlorotoluene	11.212	126	3795	2.06	ug/L		96
72) 1,3,5-Trimethylbenzene	11.236	105	12170	2.25	ug/L		98
73) 1,2,3-Trichloropropane	11.254	110	1731	1.87	ug/L		90
74) t-1,4-Dichloro-2-butene	11.285	53	1245	2.05	ug/L	#	75
75) 4-Chlorotoluene	11.339	91	11633	2.10	ug/L		95
76) tert-Butylbenzene	11.485	91	7529	2.52	ug/L		89
77) 1,2,4-Trimethylbenzene	11.540	105	12644	2.27	ug/L		94
78) sec-Butylbenzene	11.625	105	15209	2.15	ug/L		97
79) 4-Isopropyltoluene	11.729	119	12207	2.30	ug/L		95
80) 1,3-Dichlorobenzene	11.802	146	7534	2.14	ug/L		95
81) 1,4-Dichlorobenzene	11.869	146	7885	1.90	ug/L		89
82) n-Butylbenzene	12.051	91	10983	2.26	ug/L		95
83) 1,2-Dichlorobenzene	12.185	146	7242	2.15	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.806	157	981	2.18	ug/L	#	76
85) Hexachlorobutadiene	13.317	223	934	2.21	ug/L		94
86) 1,2,4-Trichlorobenzene	13.347	180	3993	2.90	ug/L		92
87) Naphthalene	13.633	128	12353	2.77	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	3953	2.81	ug/L		88

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



TIC: VI19062024.D\data.ms

(59) Ethylbenzene (C)

9.958min (0.000) 2.08 ug/L

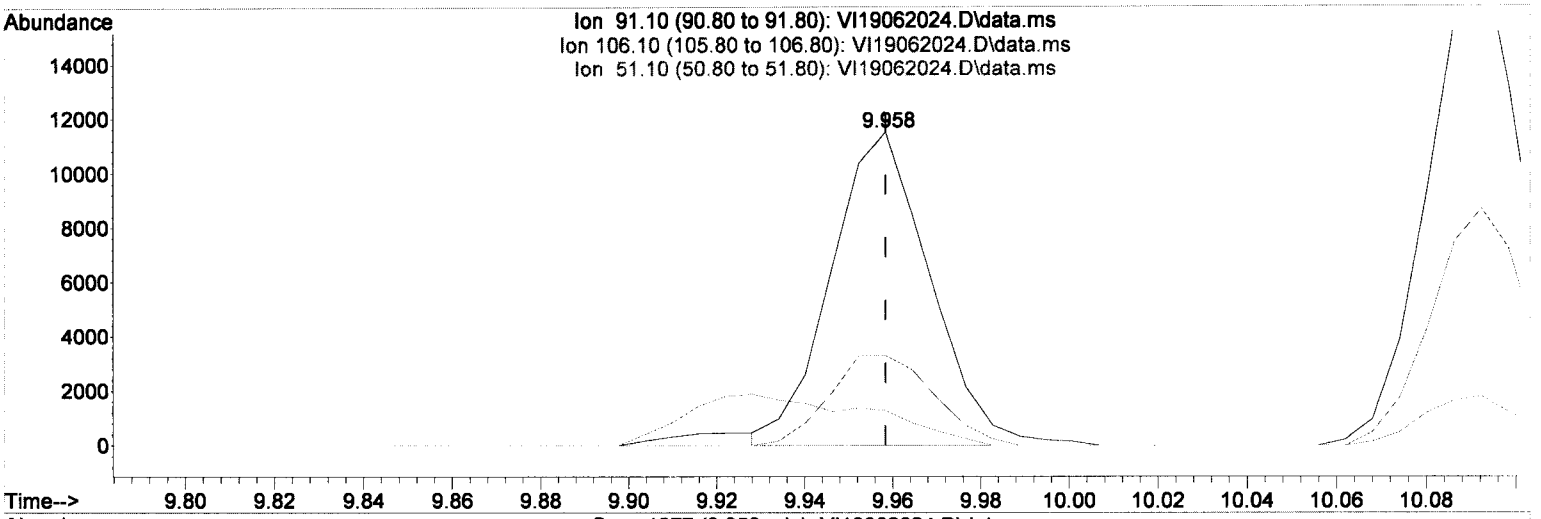
response 18616

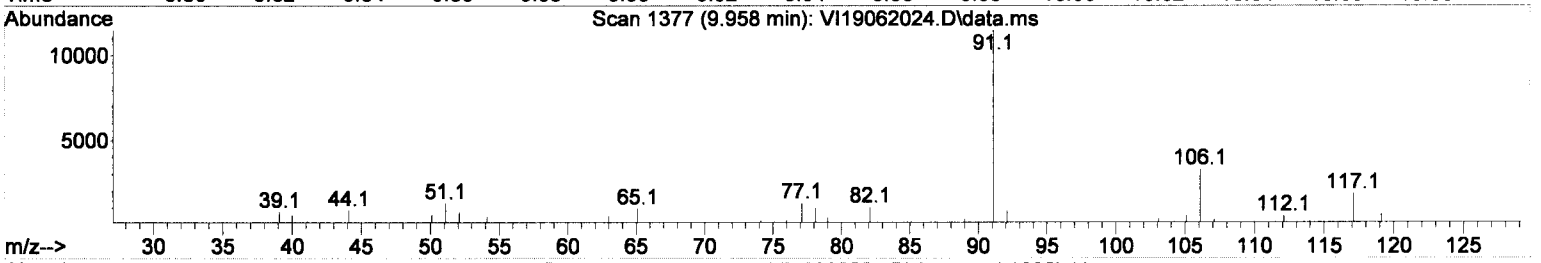
Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	28.69
51.10	10.40	11.18
0.00	0.00	0.00

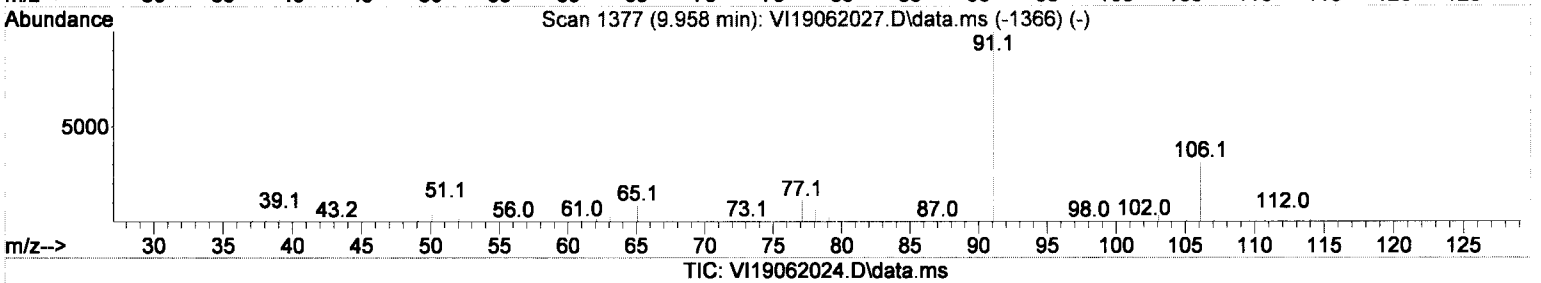
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration







TIC: VI19062024.D\data.ms

(59) Ethylbenzene (C)

9.958min (0.000) 2.00 ug/L m

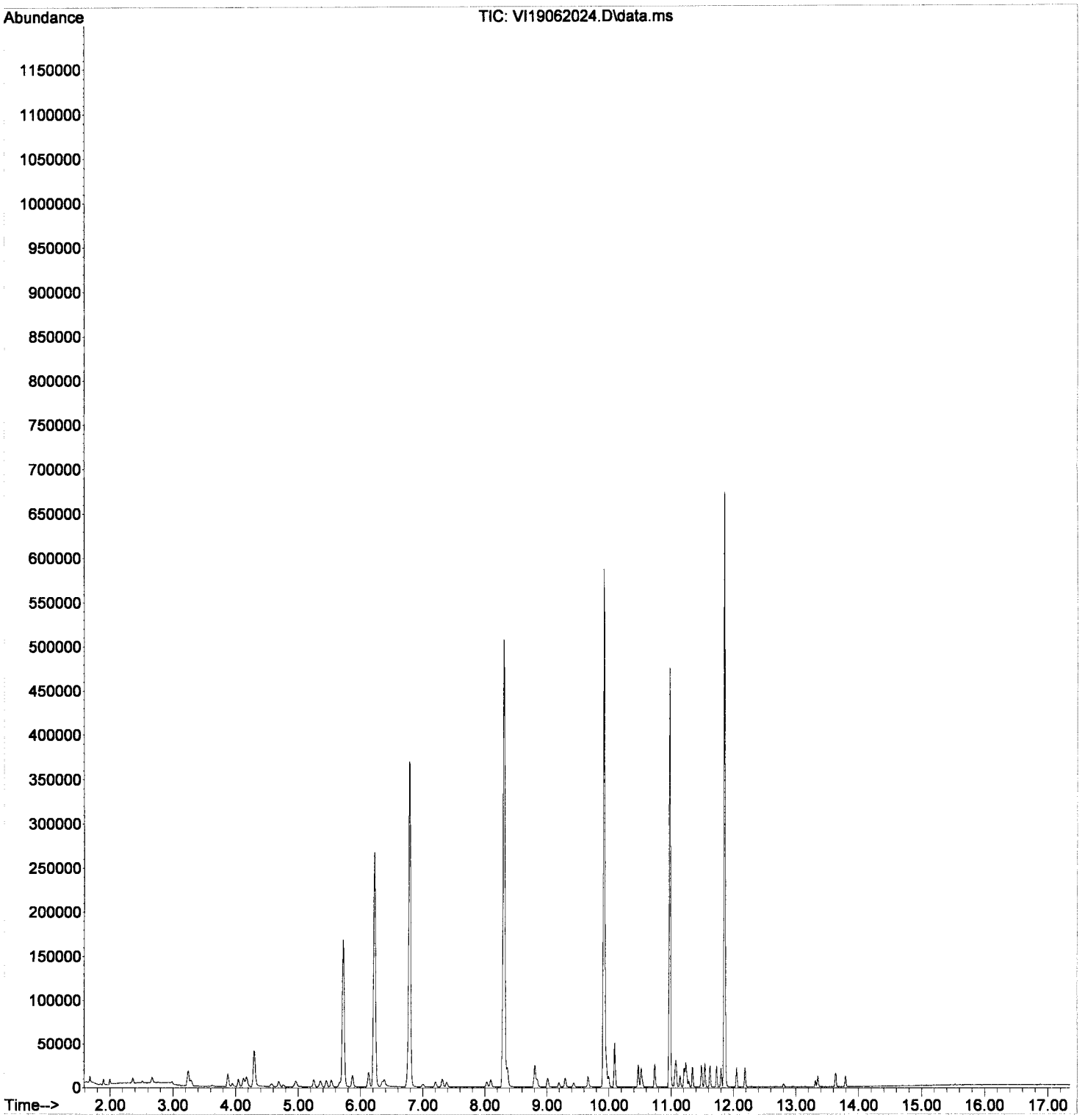
response 17924

Ion	Exp%	Act%
91.10	100.00	100.00
106.10	30.80	28.69
51.10	10.40	11.18
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062024.D
Acq On : 20 Jun 2019 8:04 pm
Operator : MM
Sample : 9F20044-CAL5
Misc : 1X 5mL 2/4PPB VOCR+OXY
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:45:57 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:00 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	210483	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	317560	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	146868	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113201	45.68	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	351357	46.57	ug/L		0.00
48) Toluene-d8 (S)	8.303	98	413565	49.07	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	122376	54.55	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	10727	4.44	ug/L		100
3) Chloromethane	1.897	50	12884	3.57	ug/L		96
4) Vinyl Chloride	2.001	62	11994	3.91	ug/L		95
5) Bromomethane	2.366	96	6144	3.87	ug/L		96
6) Chloroethane	2.512	64	4333	3.38	ug/L		84
7) Trichlorofluoromethane	2.670	101	13723	3.87	ug/L		96
8) Ethanol	3.242	45	16135	No Calib			
9) 1,1-Dichloroethene	3.236	61	14113	4.64	ug/L		99
10) Carbon Disulfide	3.254	76	24895	4.78	ug/L		99
11) Freon 113	3.291	101	8855	4.16	ug/L		99
12) Iodomethane	3.388	142	1639	7.68	ug/L	#	83
13) Acrolein	3.631	56	2633	4.48	ug/L		80
14) Methylene Chloride	3.875	84	12982	4.88	ug/L		95
15) Acetone	3.948	43	10828	8.63	ug/L		94
16) t-1,2-Dichloroethene	4.045	61	13534	4.75	ug/L		97
17) n-Hexane	4.130	86	1835	5.99	ug/L	#	87
18) Methyl-tert-butyl-ether	4.179	73	33795	6.85	ug/L		94
19) tert-Butanol (TBA)	4.294	59	145017	No Calib			
20) Diisopropyl ether (DIPE)	4.568	45	8488	No Calib			
21) 1,1-Dichloroethane	4.690	63	17942	4.67	ug/L		95
22) Acrylonitrile	4.757	53	5714	4.26	ug/L		99
23) Ethyl-tert-butyl ether...	4.951	59	8642	No Calib			
24) Vinyl Acetate	4.964	43	23059	14.45	ug/L		99
25) c-1,2-Dichloroethene	5.250	61	14214	5.01	ug/L		94
26) 2,2-Dichloropropane	5.359	77	13609	8.15	ug/L		98
27) Bromochloromethane	5.456	130	7111	4.86	ug/L		91
28) Chloroform	5.535	83	18377	4.53	ug/L		97
29) Carbon Tetrachloride	5.669	117	10336	4.28	ug/L		98
30) Tetrahydrofuran	5.706	42	6018	5.11	ug/L		86
31) 1,1,1-Trichloroethane	5.742	97	14420	5.00	ug/L		97
33) 1,1-Dichloropropene	5.870	75	13797	5.30	ug/L		96
34) 2-Butanone (MEK)	5.864	43	16551	9.38	ug/L		96
35) Benzene	6.126	78	42655	4.94	ug/L		98
36) tert-Amyl methyl ether...	6.253	73	8135	No Calib			
37) 1,2-Dichloroethane (EDC)	6.351	62	14313	4.77	ug/L		93
38) iso-Butyl Alcohol	6.381	43	20716	101.64	ug/L		93
40) Trichloroethene (TCE)	6.746	130	10321	4.40	ug/L		98
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	6227	No Calib			
42) Dibromomethane	7.208	93	6909	4.61	ug/L		95
43) 1,2-Dichloropropane	7.318	63	11150	4.72	ug/L		91
44) Bromodichloromethane	7.385	83	12311	4.53	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.030	63	8448	11.33	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	15503	6.84	ug/L		94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:00 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

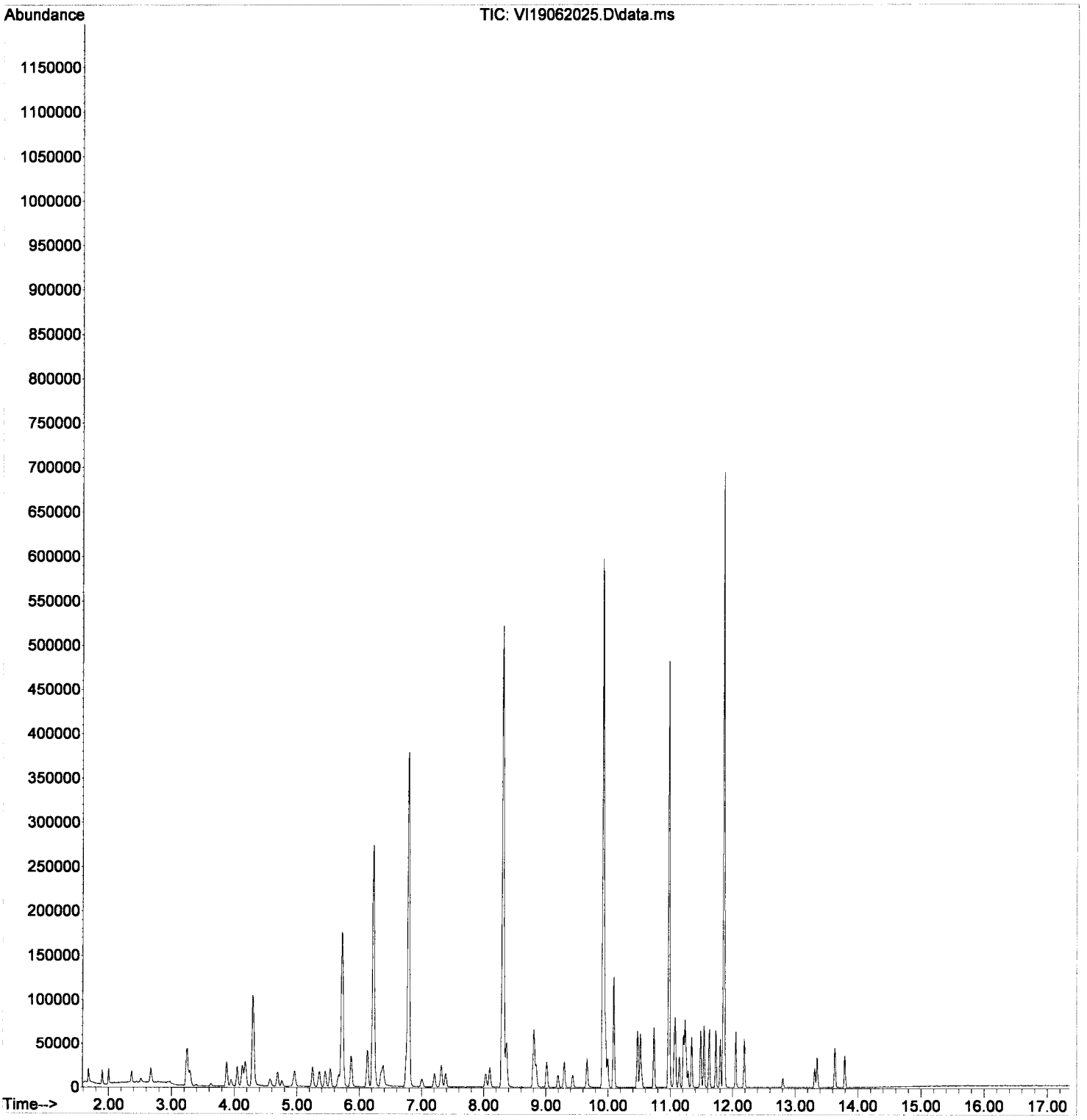
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	42182	4.68	ug/L		99
50) Tetrachloroethene (PCE)	8.802	166	10061	4.92	ug/L		92
51) 4-Methyl-2-Pentanone (...	8.808	43	31812	10.32	ug/L		98
52) t-1,3-Dichloropropene	8.845	75	13846	6.55	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	9783	4.61	ug/L		96
54) Dibromochloromethane	9.192	129	8356	4.32	ug/L		99
55) 1,3-Dichloropropane	9.295	76	17813	5.28	ug/L		98
56) 1,2-Dibromoethane (EDB)	9.429	107	10703	5.31	ug/L		92
57) 2-Hexanone	9.660	43	22445	10.40	ug/L		96
58) Chlorobenzene	9.934	112	27201	4.52	ug/L		92
59) Ethylbenzene	9.958	91	46640	5.11	ug/L		98
60) 1,1,1,2-Tetrachloroethane	9.995	131	7859	4.40	ug/L		93
61) m,p-Xylenes (2)	10.092	91	69099	9.46	ug/L		98
62) o-Xylene	10.469	91	35226	5.19	ug/L		97
63) Styrene	10.518	104	26982	4.92	ug/L		93
64) Bromoform	10.542	173	5086	4.37	ug/L		95
65) Isopropylbenzene	10.737	105	41584	5.29	ug/L		99
68) Bromobenzene	11.065	156	10912	5.04	ug/L	#	81
69) n-Propylbenzene	11.078	91	48510	5.21	ug/L		98
70) 1,1,2,2-Tetrachloroethane	11.145	85	9734	5.09	ug/L		99
71) 2-Chlorotoluene	11.211	126	9766	5.12	ug/L		92
72) 1,3,5-Trimethylbenzene	11.236	105	32548	5.22	ug/L		98
73) 1,2,3-Trichloropropane	11.254	110	4458	4.67	ug/L		94
74) t-1,4-Dichloro-2-butene	11.284	53	3644	5.80	ug/L	#	71
75) 4-Chlorotoluene	11.339	91	30340	5.31	ug/L		94
76) tert-Butylbenzene	11.485	91	18913	5.60	ug/L		93
77) 1,2,4-Trimethylbenzene	11.540	105	32738	5.29	ug/L		96
78) sec-Butylbenzene	11.625	105	39995	5.10	ug/L		99
79) 4-Isopropyltoluene	11.729	119	32047	5.39	ug/L		98
80) 1,3-Dichlorobenzene	11.802	146	19276	5.30	ug/L		98
81) 1,4-Dichlorobenzene	11.868	146	20166	4.71	ug/L		94
82) n-Butylbenzene	12.051	91	29388	5.46	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	18834	5.41	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.805	157	2495	4.51	ug/L		72
85) Hexachlorobutadiene	13.310	223	2508	5.74	ug/L		93
86) 1,2,4-Trichlorobenzene	13.353	180	10341	6.26	ug/L		93
87) Naphthalene	13.633	128	33574	6.25	ug/L		98
88) 1,2,3-Trichlorobenzene	13.791	180	10056	5.94	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062025.D
Acq On : 20 Jun 2019 8:31 pm
Operator : MM
Sample : 9F20044-CAL6
Misc : 1X 5mL 5/10PPB VOCR+OXY
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:00 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062026.D
Acq On : 20 Jun 2019 8:58 pm
Operator : MM
Sample : 9F20044-CAL7
Misc : 1X 5mL 10/20PPB VOCR+OXY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:03 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	208672	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	309194	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	143770	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	112974	45.98	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	346503	46.32	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	406176	49.50	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	120665	54.95	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	22869	9.55	ug/L		99
3) Chloromethane	1.904	50	27212	7.61	ug/L		95
4) Vinyl Chloride	2.001	62	25922	8.52	ug/L		96
5) Bromomethane	2.366	96	12781	8.11	ug/L		96
6) Chloroethane	2.512	64	8771	9.25	ug/L		84
7) Trichlorofluoromethane	2.676	101	29578	8.41	ug/L		98
8) Ethanol	3.242	45	32934	No Calib			
9) 1,1-Dichloroethene	3.242	61	30179	10.00	ug/L		97
10) Carbon Disulfide	3.260	76	53141	10.28	ug/L		99
11) Freon 113	3.291	101	19042	9.03	ug/L		96
12) Iodomethane	3.400	142	4730	11.52	ug/L		94
13) Acrolein	3.631	56	5612	9.64	ug/L		65
14) Methylene Chloride	3.881	84	23309	8.83	ug/L		95
15) Acetone	3.948	43	20886	16.78	ug/L		98
16) t-1,2-Dichloroethene	4.045	61	29093	10.31	ug/L		100
17) n-Hexane	4.130	86	4064	11.50	ug/L	#	78
18) Methyl-tert-butyl-ether	4.173	73	68708	14.05	ug/L		91
19) tert-Butanol (TBA)	4.294	59	295406	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	17804	No Calib			
21) 1,1-Dichloroethane	4.690	63	38535	10.12	ug/L		98
22) Acrylonitrile	4.757	53	11651	8.77	ug/L		97
23) Ethyl-tert-butyl ether...	4.952	59	17677	No Calib			
24) Vinyl Acetate	4.964	43	42948	24.69	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	30222	10.75	ug/L		94
26) 2,2-Dichloropropane	5.359	77	29277	17.68	ug/L		98
27) Bromochloromethane	5.450	130	14538	10.03	ug/L		83
28) Chloroform	5.536	83	38632	9.60	ug/L		98
29) Carbon Tetrachloride	5.669	117	22754	9.51	ug/L		91
30) Tetrahydrofuran	5.706	42	11859	10.16	ug/L		88
31) 1,1,1-Trichloroethane	5.742	97	30675	10.74	ug/L		95
33) 1,1-Dichloropropene	5.870	75	29419	11.39	ug/L		92
34) 2-Butanone (MEK)	5.864	43	33398	19.09	ug/L		95
35) Benzene	6.132	78	89017	10.40	ug/L		95
36) tert-Amyl methyl ether...	6.259	73	16510	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	29731	9.99	ug/L		93
38) iso-Butyl Alcohol	6.381	43	42610	210.87	ug/L		91
40) Trichloroethene (TCE)	6.752	130	22223	9.57	ug/L		97
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	13457	No Calib			
42) Dibromomethane	7.202	93	14550	9.80	ug/L		90
43) 1,2-Dichloropropane	7.318	63	23246	9.92	ug/L		94
44) Bromodichloromethane	7.385	83	26103	9.68	ug/L		92
46) 2-Chloroethyl Vinyl Ether	8.030	63	17440	21.53	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	33223	14.11	ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062026.D
Acq On : 20 Jun 2019 8:58 pm
Operator : MM
Sample : 9F20044-CAL7
Misc : 1X 5mL 10/20PPB VOCR+OXY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:03 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

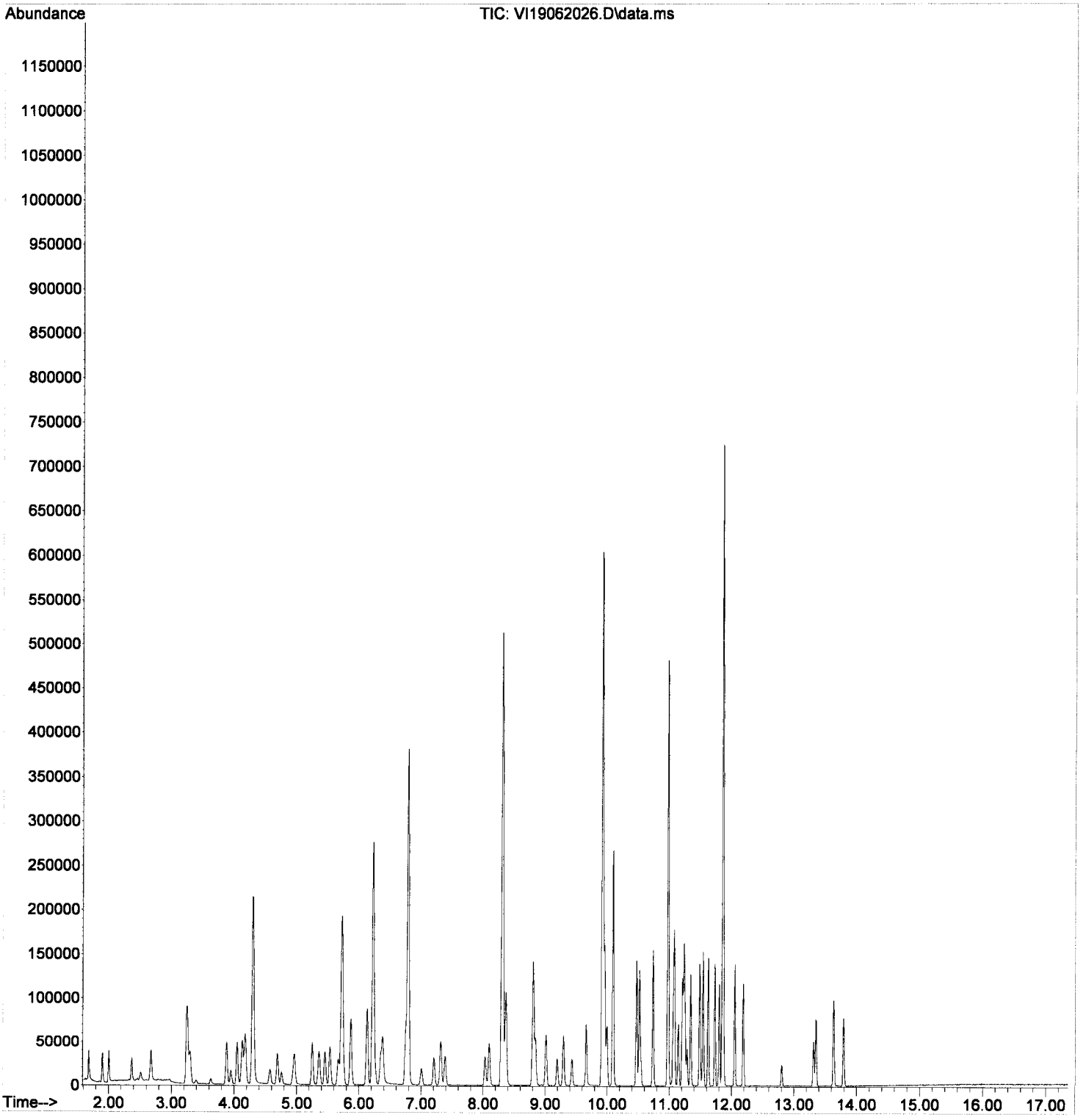
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	89825	10.24	ug/L		99
50) Tetrachloroethene (PCE)	8.802	166	21224	10.65	ug/L		85
51) 4-Methyl-2-Pentanone (...	8.802	43	63594	21.18	ug/L		99
52) t-1,3-Dichloropropene	8.845	75	29864	13.60	ug/L		96
53) 1,1,2-Trichloroethane	9.015	97	20793	10.05	ug/L		95
54) Dibromochloromethane	9.192	129	17821	9.46	ug/L		97
55) 1,3-Dichloropropane	9.295	76	36030	10.98	ug/L		97
56) 1,2-Dibromoethane (EDB)	9.429	107	22272	11.36	ug/L		93
57) 2-Hexanone	9.660	43	47165	20.45	ug/L		94
58) Chlorobenzene	9.934	112	56373	9.63	ug/L		94
59) Ethylbenzene	9.958	91	97148	10.93	ug/L		99
60) 1,1,1,2-Tetrachloroethane	9.995	131	17145	9.87	ug/L		95
61) m,p-Xylenes (2)	10.092	91	146011	20.20	ug/L		99
62) o-Xylene	10.469	91	75737	11.23	ug/L		96
63) Styrene	10.518	104	58587	10.58	ug/L		93
64) Bromoform	10.542	173	10720	9.03	ug/L		95
65) Isopropylbenzene	10.737	105	90064	11.20	ug/L		100
68) Bromobenzene	11.066	156	23575	11.11	ug/L	#	81
69) n-Propylbenzene	11.078	91	105162	11.53	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.145	85	20049	10.70	ug/L		91
71) 2-Chlorotoluene	11.211	126	21062	11.27	ug/L		88
72) 1,3,5-Trimethylbenzene	11.236	105	70618	11.08	ug/L		97
73) 1,2,3-Trichloropropane	11.254	110	9348	9.99	ug/L		95
74) t-1,4-Dichloro-2-butene	11.285	53	7647	12.44	ug/L	#	73
75) 4-Chlorotoluene	11.339	91	64861	11.59	ug/L		93
76) tert-Butylbenzene	11.485	91	40180	11.70	ug/L		90
77) 1,2,4-Trimethylbenzene	11.540	105	71009	11.35	ug/L		94
78) sec-Butylbenzene	11.625	105	86944	11.01	ug/L		99
79) 4-Isopropyltoluene	11.729	119	69238	11.50	ug/L		98
80) 1,3-Dichlorobenzene	11.802	146	40809	11.45	ug/L		97
81) 1,4-Dichlorobenzene	11.869	146	41265	9.85	ug/L		93
82) n-Butylbenzene	12.051	91	63502	11.68	ug/L		98
83) 1,2-Dichlorobenzene	12.185	146	39721	11.67	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.805	157	5649	9.66	ug/L		81
85) Hexachlorobutadiene	13.310	223	5826	13.61	ug/L		92
86) 1,2,4-Trichlorobenzene	13.353	180	22943	13.26	ug/L		97
87) Naphthalene	13.633	128	72663	12.93	ug/L		96
88) 1,2,3-Trichlorobenzene	13.791	180	21767	12.28	ug/L		94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062026.D
Acq On : 20 Jun 2019 8:58 pm
Operator : MM
Sample : 9F20044-CAL7
Misc : 1X 5mL 10/20PPB VOCR+OXY
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:03 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062027.D
Acq On : 20 Jun 2019 9:25 pm
Operator : MM
Sample : 9F20044-CAL8
Misc : 1X 5mL 20/40PPB VOCR+OXY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:06 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	211811	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	321290	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	153422	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	114050	45.73	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	352468	46.42	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	416334	48.82	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	126396	53.93	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	45341	18.66	ug/L		98
3) Chloromethane	1.898	50	53847	14.84	ug/L		96
4) Vinyl Chloride	2.001	62	51551	16.70	ug/L		96
5) Bromomethane	2.366	96	25381	15.87	ug/L		100
6) Chloroethane	2.500	64	17079	18.35	ug/L		84
7) Trichlorofluoromethane	2.664	101	58229	16.32	ug/L		97
8) Ethanol	3.236	45	64932	No Calib			
9) 1,1-Dichloroethene	3.236	61	60935	19.90	ug/L		98
10) Carbon Disulfide	3.254	76	106077	20.22	ug/L		98
11) Freon 113	3.291	101	38212	17.85	ug/L		99
12) Iodomethane	3.394	142	14419	22.58	ug/L		93
13) Acrolein	3.625	56	11354	19.22	ug/L		75
14) Methylene Chloride	3.875	84	43827	16.37	ug/L		97
15) Acetone	3.942	43	38901	30.80	ug/L		97
16) t-1,2-Dichloroethene	4.045	61	57700	20.14	ug/L		98
17) n-Hexane	4.124	86	8288	21.48	ug/L	#	78
18) Methyl-tert-butyl-ether	4.173	73	139596	28.12	ug/L		92
19) tert-Butanol (TBA)	4.295	59	596009	No Calib			
20) Diisopropyl ether (DIPE)	4.568	45	34910	No Calib			
21) 1,1-Dichloroethane	4.690	63	75912	19.65	ug/L		97
22) Acrylonitrile	4.757	53	24079	17.86	ug/L		97
23) Ethyl-tert-butyl ether...	4.946	59	35210	No Calib			
24) Vinyl Acetate	4.964	43	90782	47.54	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	61245	21.46	ug/L		97
26) 2,2-Dichloropropane	5.359	77	58610	34.87	ug/L		91
27) Bromochloromethane	5.450	130	29415	19.99	ug/L		87
28) Chloroform	5.530	83	77689	19.02	ug/L		97
29) Carbon Tetrachloride	5.663	117	46960	19.33	ug/L		93
30) Tetrahydrofuran	5.706	42	22966	19.38	ug/L		89
31) 1,1,1-Trichloroethane	5.736	97	62914	21.69	ug/L		96
33) 1,1-Dichloropropene	5.864	75	60592	23.11	ug/L		96
34) 2-Butanone (MEK)	5.858	43	68176	38.39	ug/L		96
35) Benzene	6.126	78	177855	20.48	ug/L		99
36) tert-Amyl methyl ether...	6.253	73	33066	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	59444	19.69	ug/L		92
38) iso-Butyl Alcohol	6.375	43	87748	427.82	ug/L		91
40) Trichloroethene (TCE)	6.746	130	44514	18.88	ug/L		97
41) Tert-Amyl-Ethyl-Ether ...	7.002	59	26731	No Calib			
42) Dibromomethane	7.203	93	29571	19.62	ug/L		94
43) 1,2-Dichloropropane	7.318	63	46799	19.68	ug/L		93
44) Bromodichloromethane	7.385	83	53614	19.60	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.030	63	36879	40.91	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	67880	25.60	ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062027.D
Acq On : 20 Jun 2019 9:25 pm
Operator : MM
Sample : 9F20044-CAL8
Misc : 1X 5mL 20/40PPB VOCR+OXY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:06 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

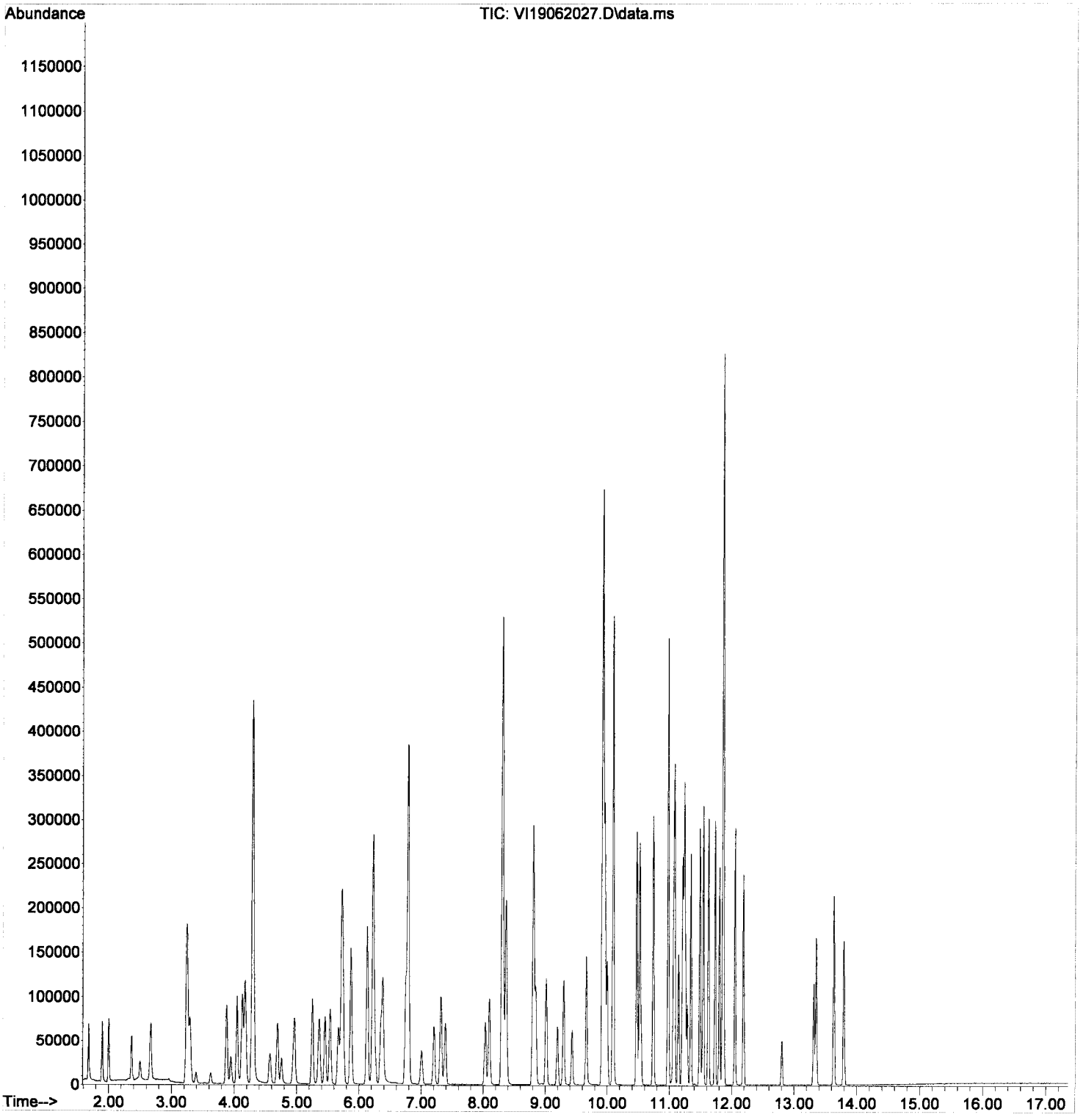
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.364	91	182138	19.97	ug/L	99
50) Tetrachloroethene (PCE)	8.803	166	43326	20.93	ug/L	92
51) 4-Methyl-2-Pentanone (...	8.803	43	131182	42.05	ug/L	100
52) t-1,3-Dichloropropene	8.839	75	62988	25.61	ug/L	95
53) 1,1,2-Trichloroethane	9.009	97	42325	19.69	ug/L	96
54) Dibromochloromethane	9.192	129	38368	19.60	ug/L	99
55) 1,3-Dichloropropane	9.295	76	73700	21.61	ug/L	94
56) 1,2-Dibromoethane (EDB)	9.429	107	45760	22.46	ug/L	96
57) 2-Hexanone	9.660	43	95510	38.33	ug/L	93
58) Chlorobenzene	9.934	112	114554	18.82	ug/L	96
59) Ethylbenzene	9.958	91	199043	21.55	ug/L	99
60) 1,1,1,2-Tetrachloroethane	9.995	131	36071	19.98	ug/L	97
61) m,p-Xylenes (2)	10.092	91	297370	39.23	ug/L	99
62) o-Xylene	10.469	91	154063	21.67	ug/L	97
63) Styrene	10.518	104	120508	20.54	ug/L	96
64) Bromoform	10.542	173	24635	18.47	ug/L	92
65) Isopropylbenzene	10.737	105	183642	21.40	ug/L	100
68) Bromobenzene	11.066	156	48339	21.35	ug/L	85
69) n-Propylbenzene	11.078	91	216830	22.29	ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.145	85	40959	20.49	ug/L	93
71) 2-Chlorotoluene	11.212	126	43622	21.88	ug/L	95
72) 1,3,5-Trimethylbenzene	11.236	105	146061	21.02	ug/L	99
73) 1,2,3-Trichloropropane	11.254	110	19069	19.10	ug/L	98
74) t-1,4-Dichloro-2-butene	11.285	53	16429	25.05	ug/L	81
75) 4-Chlorotoluene	11.339	91	134477	22.51	ug/L	93
76) tert-Butylbenzene	11.485	91	83942	22.43	ug/L	93
77) 1,2,4-Trimethylbenzene	11.540	105	147716	21.71	ug/L	95
78) sec-Butylbenzene	11.625	105	180863	21.14	ug/L	99
79) 4-Isopropyltoluene	11.729	119	145889	22.22	ug/L	99
80) 1,3-Dichlorobenzene	11.802	146	84752	22.29	ug/L	98
81) 1,4-Dichlorobenzene	11.869	146	86143	19.26	ug/L	97
82) n-Butylbenzene	12.051	91	134600	22.74	ug/L	98
83) 1,2-Dichlorobenzene	12.185	146	82461	22.70	ug/L	97
84) 1,2-Dibromo-3-Chloropr...	12.805	157	12521	19.32	ug/L	87
85) Hexachlorobutadiene	13.310	223	12574	27.53	ug/L	94
86) 1,2,4-Trichlorobenzene	13.353	180	49011	25.56	ug/L	97
87) Naphthalene	13.633	128	157738	25.13	ug/L	96
88) 1,2,3-Trichlorobenzene	13.791	180	46693	23.80	ug/L	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062027.D
Acq On : 20 Jun 2019 9:25 pm
Operator : MM
Sample : 9F20044-CAL8
Misc : 1X 5mL 20/40PPB VOCR+OXY
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:06 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062028.D
Acq On : 20 Jun 2019 9:52 pm
Operator : MM
Sample : 9F20044-CAL9
Misc : 1X 5mL 50/100PPB VOCR+OXY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:09 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	203359	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	308920	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	150676	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	111616	46.61	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	340921	46.77	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	405204	49.42	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	122539	53.24	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	120443	51.62	ug/L		99
3) Chloromethane	1.898	50	136445	39.16	ug/L		96
4) Vinyl Chloride	2.001	62	131880	44.49	ug/L		96
5) Bromomethane	2.366	96	58858	38.34	ug/L		97
6) Chloroethane	2.500	64	41565	40.89	ug/L		83
7) Trichlorofluoromethane	2.670	101	147150	42.96	ug/L		97
8) Ethanol	3.236	45	122303	No Calib			
9) 1,1-Dichloroethene	3.242	61	152871	51.99	ug/L		96
10) Carbon Disulfide	3.254	76	265043	52.63	ug/L		99
11) Freon 113	3.291	101	96319	46.86	ug/L		99
12) Iodomethane	3.394	142	59951	68.22	ug/L		90
13) Acrolein	3.625	56	27909	49.20	ug/L		74
14) Methylene Chloride	3.881	84	106690	41.50	ug/L		95
15) Acetone	3.948	43	98222	80.99	ug/L		98
16) t-1,2-Dichloroethene	4.045	61	146773	53.35	ug/L		97
17) n-Hexane	4.124	86	21296	54.03	ug/L	#	75
18) Methyl-tert-butyl-ether	4.173	73	355406	74.56	ug/L		91
19) tert-Butanol (TBA)	4.295	59	1112985	No Calib			
20) Diisopropyl ether (DIPE)	4.568	45	72280	No Calib			
21) 1,1-Dichloroethane	4.690	63	192771	51.96	ug/L		96
22) Acrylonitrile	4.751	53	62678	48.42	ug/L		98
23) Ethyl-tert-butyl ether...	4.946	59	70328	No Calib			
24) Vinyl Acetate	4.964	43	245025	119.65	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	155174	56.63	ug/L		96
26) 2,2-Dichloropropane	5.359	77	148380	91.94	ug/L		94
27) Bromochloromethane	5.450	130	76222	53.96	ug/L		86
28) Chloroform	5.536	83	197721	50.42	ug/L		98
29) Carbon Tetrachloride	5.669	117	124688	53.46	ug/L		94
30) Tetrahydrofuran	5.700	42	59864	52.62	ug/L		88
31) 1,1,1-Trichloroethane	5.736	97	159643	57.33	ug/L		98
33) 1,1-Dichloropropene	5.870	75	151196	60.08	ug/L		96
34) 2-Butanone (MEK)	5.858	43	172204	101.00	ug/L		98
35) Benzene	6.126	78	445865	53.47	ug/L		98
36) tert-Amyl methyl ether...	6.253	73	66498	No Calib			
37) 1,2-Dichloroethane (EDC)	6.345	62	151724	52.33	ug/L		94
38) iso-Butyl Alcohol	6.375	43	234023	1188.42	ug/L		91
40) Trichloroethene (TCE)	6.746	130	110584	48.84	ug/L		95
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	50305	No Calib			
42) Dibromomethane	7.203	93	76074	52.57	ug/L		91
43) 1,2-Dichloropropane	7.312	63	117196	51.32	ug/L		91
44) Bromodichloromethane	7.385	83	141449	53.85	ug/L		93
46) 2-Chloroethyl Vinyl Ether	8.030	63	90290	95.59	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	179241	58.16	ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062028.D
Acq On : 20 Jun 2019 9:52 pm
Operator : MM
Sample : 9F20044-CAL9
Misc : 1X 5mL 50/100PPB VOCR+OXY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:09 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

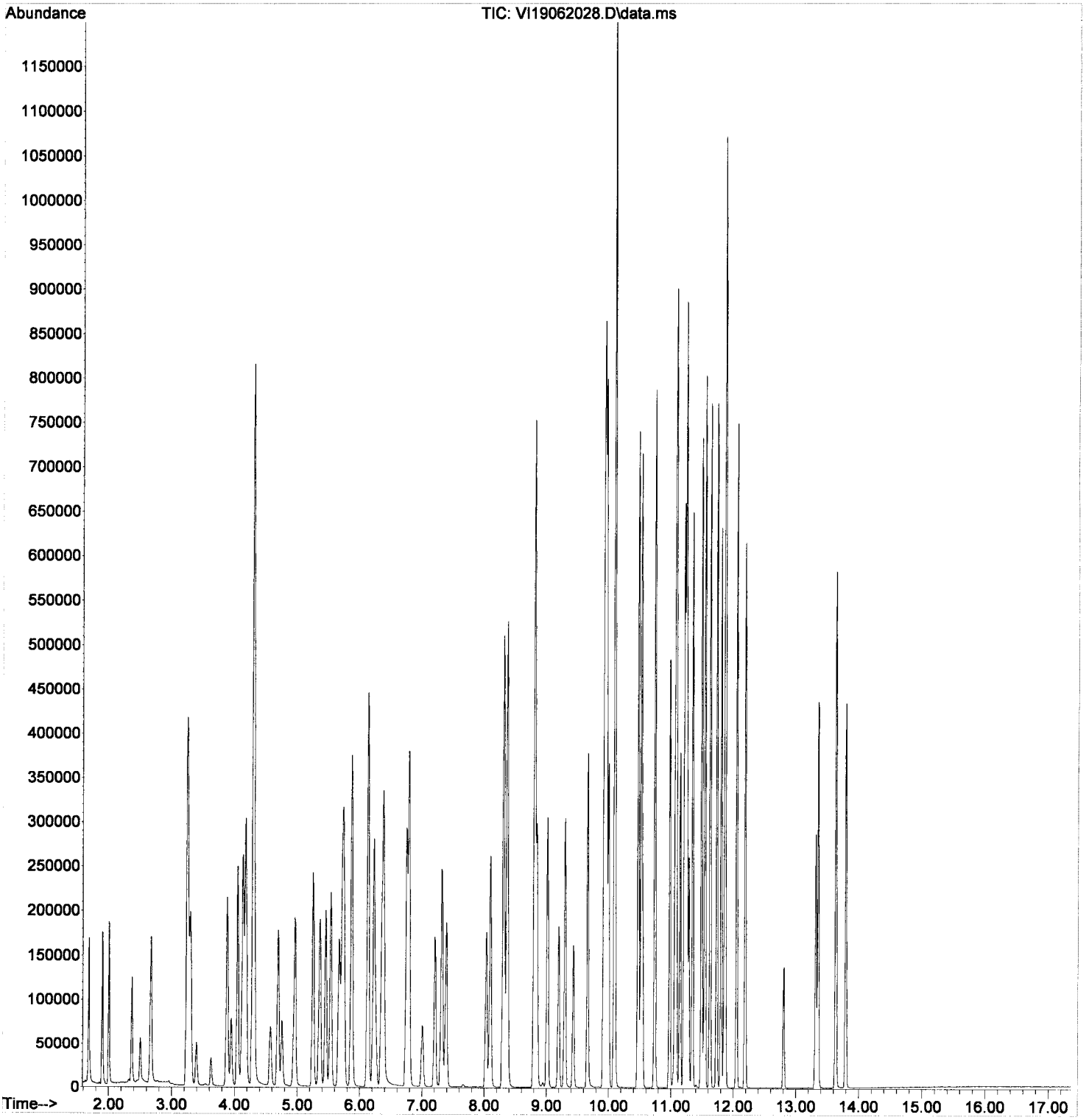
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.364	91	453767	51.75	ug/L	99
50) Tetrachloroethene (PCE)	8.802	166	106928	53.72	ug/L	89
51) 4-Methyl-2-Pentanone (...	8.802	43	334688	111.58	ug/L	99
52) t-1,3-Dichloropropene	8.845	75	168385	59.97	ug/L	97
53) 1,1,2-Trichloroethane	9.009	97	107199	51.87	ug/L	97
54) Dibromochloromethane	9.192	129	105586	56.11	ug/L	97
55) 1,3-Dichloropropane	9.295	76	188838	57.58	ug/L	97
56) 1,2-Dibromoethane (EDB)	9.429	107	117678	60.07	ug/L	97
57) 2-Hexanone	9.660	43	246411	101.13	ug/L	93
58) Chlorobenzene	9.934	112	287748	49.18	ug/L	95
59) Ethylbenzene	9.958	91	500499	56.36	ug/L	99
60) 1,1,1,2-Tetrachloroethane	9.995	131	95349	54.92	ug/L	97
61) m,p-Xylenes (2)	10.092	91	761093	102.80	ug/L	98
62) o-Xylene	10.469	91	393871	55.95	ug/L	98
63) Styrene	10.518	104	310680	53.57	ug/L	94
64) Bromoform	10.542	173	71192	45.80	ug/L	97
65) Isopropylbenzene	10.737	105	464969	54.41	ug/L	100
68) Bromobenzene	11.066	156	122510	55.10	ug/L	85
69) n-Propylbenzene	11.078	91	552123	57.78	ug/L	98
70) 1,1,2,2-Tetrachloroethane	11.145	85	106308	54.14	ug/L	94
71) 2-Chlorotoluene	11.212	126	110540	56.45	ug/L	97
72) 1,3,5-Trimethylbenzene	11.236	105	374460	53.34	ug/L	99
73) 1,2,3-Trichloropropane	11.254	110	48655	49.63	ug/L	98
74) t-1,4-Dichloro-2-butene	11.285	53	44053	68.38	ug/L	82
75) 4-Chlorotoluene	11.339	91	342004	58.30	ug/L	93
76) tert-Butylbenzene	11.485	91	215295	56.88	ug/L	90
77) 1,2,4-Trimethylbenzene	11.540	105	378562	54.99	ug/L	95
78) sec-Butylbenzene	11.625	105	462445	53.81	ug/L	98
79) 4-Isopropyltoluene	11.729	119	381484	56.92	ug/L	99
80) 1,3-Dichlorobenzene	11.802	146	214935	57.55	ug/L	98
81) 1,4-Dichlorobenzene	11.869	146	219818	50.04	ug/L	96
82) n-Butylbenzene	12.051	91	347856	57.63	ug/L	97
83) 1,2-Dichlorobenzene	12.185	146	212354	59.51	ug/L	98
84) 1,2-Dibromo-3-Chloropr...	12.805	157	35049	52.88	ug/L	88
85) Hexachlorobutadiene	13.310	223	31871	71.05	ug/L	95
86) 1,2,4-Trichlorobenzene	13.353	180	128307	64.38	ug/L	96
87) Naphthalene	13.633	128	419902	62.94	ug/L	96
88) 1,2,3-Trichlorobenzene	13.791	180	121910	60.36	ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062028.D
Acq On : 20 Jun 2019 9:52 pm
Operator : MM
Sample : 9F20044-CAL9
Misc : 1X 5mL 50/100PPB VOCR+OXY
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:09 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062029.D
Acq On : 20 Jun 2019 10:19 pm
Operator : MM
Sample : 9F20044-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:19 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

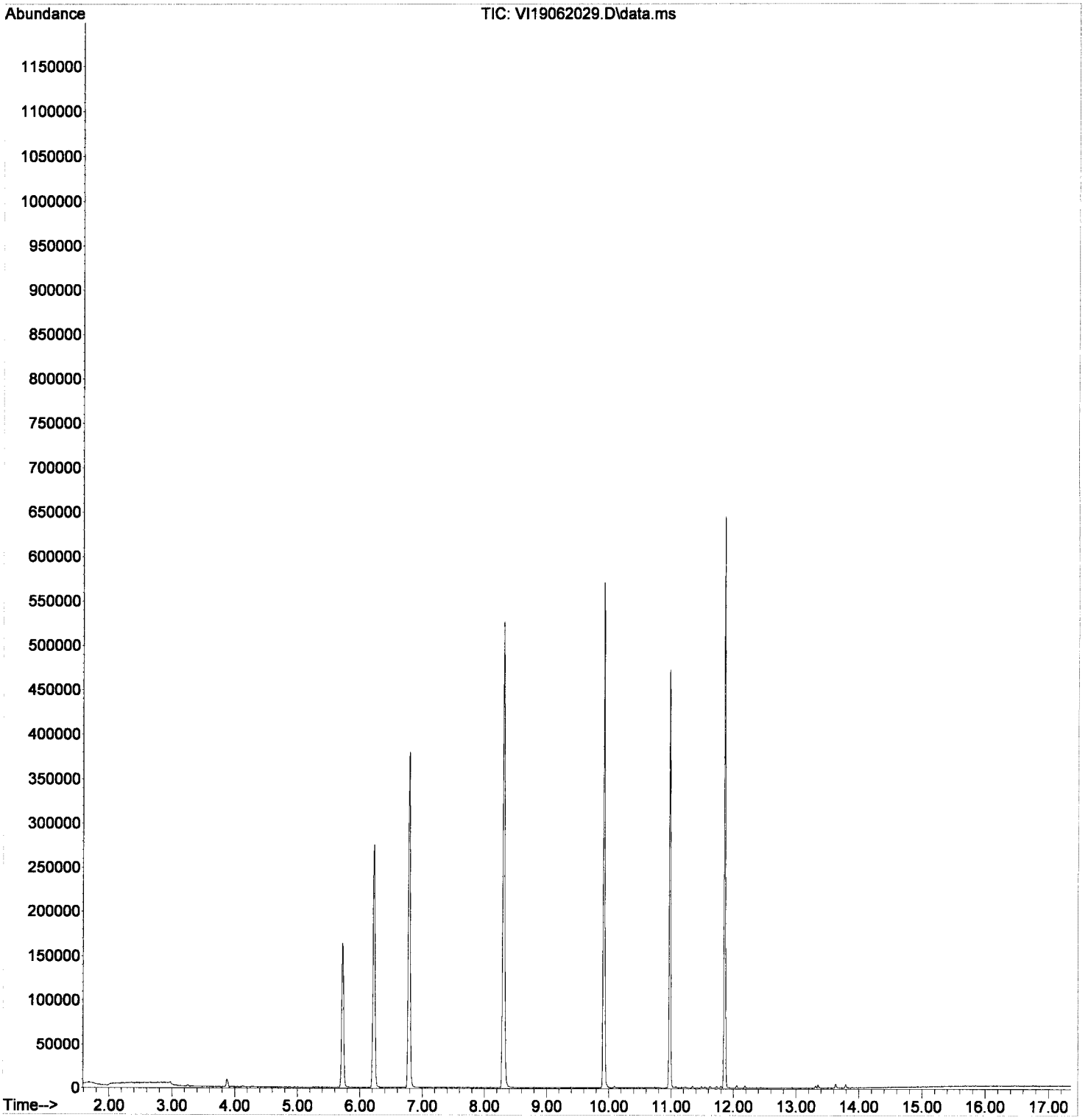
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	216079	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	318201	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	140956	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	113957	48.92	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	358531	49.85	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	417933	50.27	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	120696	51.68	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	241	0.11	ug/L	#	49
3) Chloromethane	1.891	50	540	0.19	ug/L	#	47
5) Bromomethane	2.366	96	393	0.30	ug/L		71
10) Carbon Disulfide	3.254	76	2053	0.39	ug/L		91
14) Methylene Chloride	3.875	84	4452	0.18	ug/L		96
15) Acetone	3.960	43	974	0.93	ug/L	#	44
16) t-1,2-Dichloroethene	4.045	61	289	0.10	ug/L	#	55
19) tert-Butanol (TBA)	4.301	59	353	0.79	ug/L	#	16
50) Tetrachloroethene (PCE)	8.808	166	228	0.11	ug/L	#	25
58) Chlorobenzene	9.934	112	442	0.08	ug/L	#	1
59) Ethylbenzene	9.958	91	823	0.09	ug/L		89
61) m,p-Xylenes (2)	10.098	91	1374	0.19	ug/L		95
65) Isopropylbenzene	10.743	105	718	0.08	ug/L		82
69) n-Propylbenzene	11.078	91	1498	0.16	ug/L		91
72) 1,3,5-Trimethylbenzene	11.236	105	742	0.11	ug/L		94
75) 4-Chlorotoluene	11.345	91	814	0.14	ug/L		89
76) tert-Butylbenzene	11.485	91	422	0.11	ug/L		97
77) 1,2,4-Trimethylbenzene	11.546	105	886	0.14	ug/L		93
78) sec-Butylbenzene	11.625	105	1404	0.17	ug/L		94
79) 4-Isopropyltoluene	11.729	119	1296	0.20	ug/L		85
80) 1,3-Dichlorobenzene	11.802	146	711	0.19	ug/L		95
81) 1,4-Dichlorobenzene	11.868	146	849	0.22	ug/L	#	18
82) n-Butylbenzene	12.051	91	1592	0.27	ug/L		96
83) 1,2-Dichlorobenzene	12.191	146	443	0.12	ug/L		96
85) Hexachlorobutadiene	13.316	223	457	0.87	ug/L	#	80
86) 1,2,4-Trichlorobenzene	13.353	180	1295	0.61	ug/L		96
87) Naphthalene	13.633	128	4300	0.62	ug/L		97
88) 1,2,3-Trichlorobenzene	13.791	180	1494	0.73	ug/L		99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062029.D
Acq On : 20 Jun 2019 10:19 pm
Operator : MM
Sample : 9F20044-IBL2
Misc : 1X 5mL DI
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:19 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062030.D
Acq On : 20 Jun 2019 10:46 pm
Operator : MM
Sample : 9F20044-CALA
Misc : 1X 5mL 100/200PPB VOCR+OXY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:12 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	215096	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	326979	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	158080	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	116734	46.09	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	358617	46.51	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	420397	48.44	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	127873	52.96	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	242339	98.19	ug/L		99
3) Chloromethane	1.904	50	268247	72.79	ug/L		95
4) Vinyl Chloride	2.007	62	267614	85.36	ug/L		97
5) Bromomethane	2.372	96	114028	70.22	ug/L		97
6) Chloroethane	2.506	64	41076	38.76	ug/L		87
7) Trichlorofluoromethane	2.670	101	296413	81.81	ug/L		96
8) Ethanol	3.248	45	245570	No Calib			
9) 1,1-Dichloroethene	3.242	61	298169	95.88	ug/L		97
10) Carbon Disulfide	3.260	76	511828	96.09	ug/L		99
11) Freon 113	3.297	101	185413	85.28	ug/L		99
12) Iodomethane	3.400	142	141825	124.21	ug/L		89
13) Acrolein	3.631	56	59402	99.01	ug/L		71
14) Methylene Chloride	3.881	84	204285	75.12	ug/L		95
15) Acetone	3.954	43	185269	144.43	ug/L		96
16) t-1,2-Dichloroethene	4.051	61	283049	97.27	ug/L		96
17) n-Hexane	4.130	86	41081	95.20	ug/L	#	72
18) Methyl-tert-butyl-ether	4.179	73	687445	136.36	ug/L		93
19) tert-Butanol (TBA)	4.301	59	2207246	No Calib			
20) Diisopropyl ether (DIPE)	4.574	45	145556	No Calib			
21) 1,1-Dichloroethane	4.696	63	370610	94.45	ug/L		96
22) Acrylonitrile	4.757	53	119204	87.06	ug/L		98
23) Ethyl-tert-butyl ether...	4.945	59	141315	No Calib			
24) Vinyl Acetate	4.964	43	502043	209.94	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	300456	103.66	ug/L		97
26) 2,2-Dichloropropane	5.359	77	285471	167.24	ug/L		92
27) Bromochloromethane	5.456	130	140204	93.83	ug/L		91
28) Chloroform	5.536	83	381891	92.07	ug/L		97
29) Carbon Tetrachloride	5.669	117	251247	101.85	ug/L		95
30) Tetrahydrofuran	5.706	42	112665	93.63	ug/L		88
31) 1,1,1-Trichloroethane	5.742	97	311653	105.81	ug/L		96
33) 1,1-Dichloropropene	5.870	75	293441	110.23	ug/L		97
34) 2-Butanone (MEK)	5.864	43	323609	179.44	ug/L		100
35) Benzene	6.132	78	869915	98.63	ug/L		98
36) tert-Amyl methyl ether...	6.260	73	133827	No Calib			
37) 1,2-Dichloroethane (EDC)	6.351	62	291619	95.10	ug/L		93
38) iso-Butyl Alcohol	6.381	43	428089	2055.31	ug/L		91
40) Trichloroethene (TCE)	6.752	130	217794	90.95	ug/L		97
41) Tert-Amyl-Ethyl-Ether ...	7.008	59	105118	No Calib			
42) Dibromomethane	7.209	93	147484	96.36	ug/L		94
43) 1,2-Dichloropropane	7.318	63	229097	94.85	ug/L		91
44) Bromodichloromethane	7.385	83	279539	100.61	ug/L		95
46) 2-Chloroethyl Vinyl Ether	8.030	63	194477	177.87	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	350611	91.47	ug/L		91

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062030.D
Acq On : 20 Jun 2019 10:46 pm
Operator : MM
Sample : 9F20044-CALA
Misc : 1X 5mL 100/200PPB VOCR+OXY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:12 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

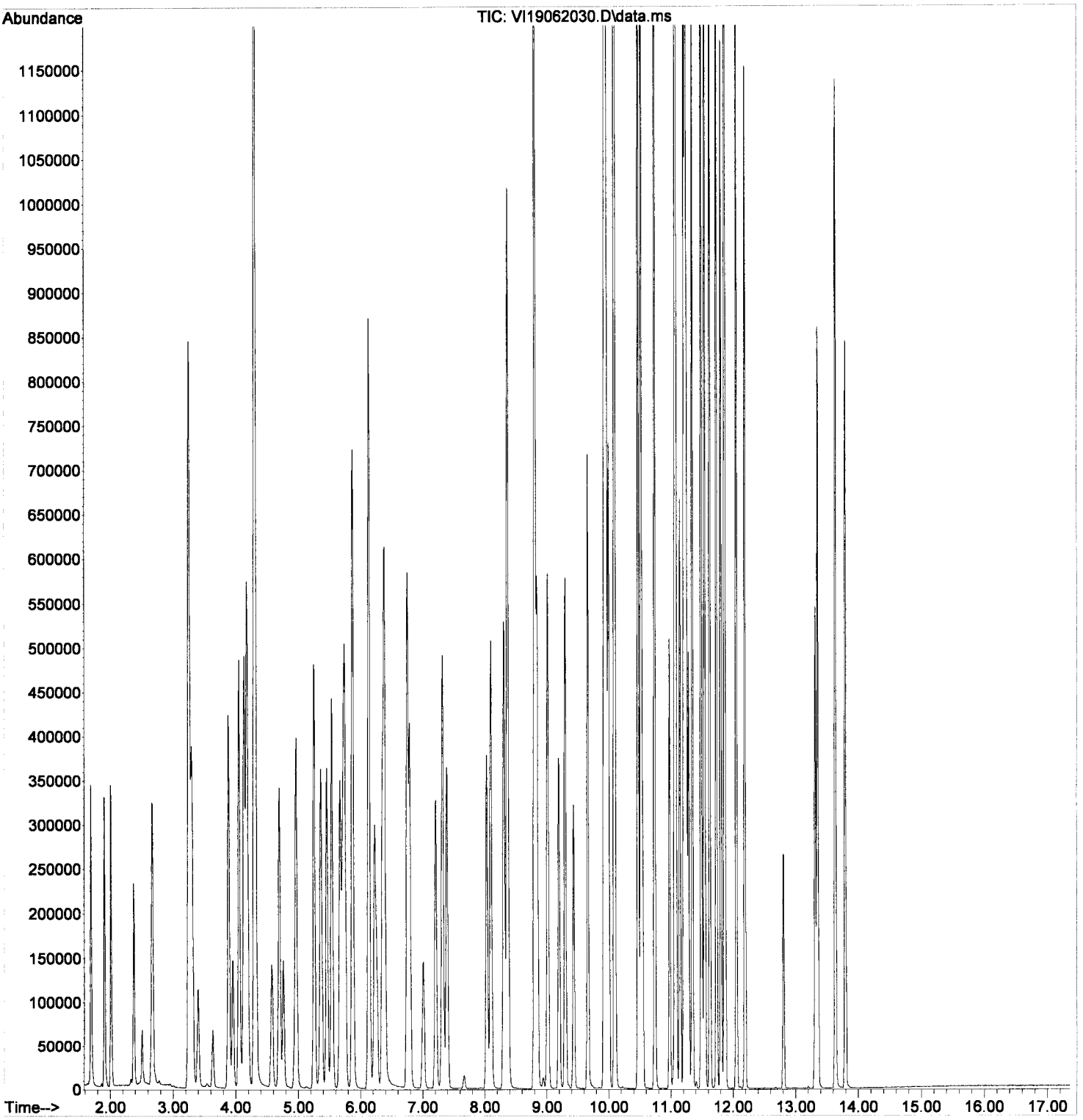
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
49) Toluene	8.364	91	880744	94.91	ug/L	99
50) Tetrachloroethene (PCE)	8.802	166	211071	100.18	ug/L	88
51) 4-Methyl-2-Pentanone (...	8.802	43	616521	194.19	ug/L	98
52) t-1,3-Dichloropropene	8.845	75	328804	95.48	ug/L	98
53) 1,1,2-Trichloroethane	9.015	97	208022	95.10	ug/L	94
54) Dibromochloromethane	9.192	129	215589	108.24	ug/L	98
55) 1,3-Dichloropropane	9.295	76	360265	103.79	ug/L	96
56) 1,2-Dibromoethane (EDB)	9.429	107	227284	109.61	ug/L	95
57) 2-Hexanone	9.660	43	451887	176.58	ug/L	93
58) Chlorobenzene	9.934	112	563709	91.02	ug/L	95
59) Ethylbenzene	9.958	91	976571	103.89	ug/L	99
60) 1,1,1,2-Tetrachloroethane	9.995	131	191370	104.13	ug/L	96
61) m,p-Xylenes (2)	10.092	91	1487683	186.69	ug/L	99
62) o-Xylene	10.469	91	764933	99.43	ug/L	98
63) Styrene	10.518	104	603050	95.73	ug/L	95
64) Bromoform	10.542	173	146715	75.14	ug/L	97
65) Isopropylbenzene	10.737	105	915044	97.94	ug/L	100
68) Bromobenzene	11.066	156	235375	100.90	ug/L	86
69) n-Propylbenzene	11.078	91	1076928	107.43	ug/L	98
70) 1,1,2,2-Tetrachloroethane	11.145	85	191420	92.93	ug/L	97
71) 2-Chlorotoluene	11.212	126	215672	104.98	ug/L	97
72) 1,3,5-Trimethylbenzene	11.236	105	734923	97.24	ug/L	99
73) 1,2,3-Trichloropropane	11.254	110	91426	88.90	ug/L	93
74) t-1,4-Dichloro-2-butene	11.285	53	81928	121.22	ug/L	89
75) 4-Chlorotoluene	11.339	91	657809	106.88	ug/L	93
76) tert-Butylbenzene	11.485	91	418585	102.51	ug/L	92
77) 1,2,4-Trimethylbenzene	11.540	105	737015	98.90	ug/L	96
78) sec-Butylbenzene	11.625	105	901848	97.74	ug/L	99
79) 4-Isopropyltoluene	11.729	119	747978	102.10	ug/L	99
80) 1,3-Dichlorobenzene	11.802	146	416625	106.33	ug/L	99
81) 1,4-Dichlorobenzene	11.869	146	424379	92.09	ug/L	97
82) n-Butylbenzene	12.051	91	684028	103.64	ug/L	97
83) 1,2-Dichlorobenzene	12.185	146	396257	105.85	ug/L	97
84) 1,2-Dibromo-3-Chloropr...	12.805	157	67160	93.72	ug/L	89
85) Hexachlorobutadiene	13.310	223	61323	130.30	ug/L	95
86) 1,2,4-Trichlorobenzene	13.347	180	252382	114.27	ug/L	95
87) Naphthalene	13.633	128	840999	110.90	ug/L	97
88) 1,2,3-Trichlorobenzene	13.791	180	240292	108.60	ug/L	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062030.D
Acq On : 20 Jun 2019 10:46 pm
Operator : MM
Sample : 9F20044-CALA
Misc : 1X 5mL 100/200PPB VOCR+OXY
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:12 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062031.D
Acq On : 20 Jun 2019 11:13 pm
Operator : MM
Sample : 9F20044-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	206174	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	306015	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138257	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	110229	49.60	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	343935	50.12	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	398633	49.86	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	117487	51.29	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	474	0.22	ug/L		88
3) Chloromethane	1.904	50	777	0.29	ug/L		84
4) Vinyl Chloride	2.001	62	315	0.13	ug/L	#	50
5) Bromomethane	2.366	96	411	0.32	ug/L	#	63
7) Trichlorofluoromethane	2.676	101	330	0.12	ug/L	#	27
9) 1,1-Dichloroethene	3.242	61	364	0.13	ug/L	#	74
10) Carbon Disulfide	3.260	76	3549	0.71	ug/L		94
11) Freon 113	3.303	101	239	0.13	ug/L	#	67
12) Iodomethane	3.394	142	276	2.90	ug/L	#	47
14) Methylene Chloride	3.887	84	4069	0.09	ug/L		90
15) Acetone	3.954	43	1077	1.07	ug/L	#	44
16) t-1,2-Dichloroethene	4.045	61	759	0.28	ug/L		87
19) tert-Butanol (TBA)	4.307	59	401	0.93	ug/L	#	40
33) 1,1-Dichloropropene	5.876	75	502	0.18	ug/L	#	43
40) Trichloroethene (TCE)	6.752	130	278	0.13	ug/L	#	70
49) Toluene	8.364	91	856	0.10	ug/L		86
50) Tetrachloroethene (PCE)	8.796	166	567	0.29	ug/L		92
57) 2-Hexanone	9.666	43	189	0.08	ug/L	#	35
58) Chlorobenzene	9.934	112	838	0.16	ug/L	#	22
59) Ethylbenzene	9.958	91	1286	0.14	ug/L		90
61) m,p-Xylenes (2)	10.092	91	2389	0.35	ug/L		94
62) o-Xylene	10.475	91	715	0.10	ug/L		88
63) Styrene	10.518	104	579	0.11	ug/L		74
65) Isopropylbenzene	10.737	105	1290	0.16	ug/L		93
68) Bromobenzene	11.066	156	273	0.13	ug/L	#	75
69) n-Propylbenzene	11.084	91	2573	0.27	ug/L		98
71) 2-Chlorotoluene	11.212	126	319	0.17	ug/L	#	74
72) 1,3,5-Trimethylbenzene	11.236	105	1446	0.23	ug/L		93
75) 4-Chlorotoluene	11.339	91	1667	0.28	ug/L		77
76) tert-Butylbenzene	11.485	91	725	0.20	ug/L		85
77) 1,2,4-Trimethylbenzene	11.546	105	1538	0.24	ug/L		79
78) sec-Butylbenzene	11.625	105	2528	0.32	ug/L		97
79) 4-Isopropyltoluene	11.729	119	1962	0.32	ug/L		98
80) 1,3-Dichlorobenzene	11.802	146	1227	0.33	ug/L		94
81) 1,4-Dichlorobenzene	11.869	146	1446	0.38	ug/L	#	48
82) n-Butylbenzene	12.051	91	2867	0.50	ug/L		91
83) 1,2-Dichlorobenzene	12.185	146	897	0.25	ug/L		82
85) Hexachlorobutadiene	13.310	223	768	1.48	ug/L		83
86) 1,2,4-Trichlorobenzene	13.353	180	2437	1.18	ug/L		87
87) Naphthalene	13.633	128	7063	1.05	ug/L		97
88) 1,2,3-Trichlorobenzene	13.791	180	2822	1.41	ug/L		93

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062031.D
Acq On : 20 Jun 2019 11:13 pm
Operator : MM
Sample : 9F20044-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

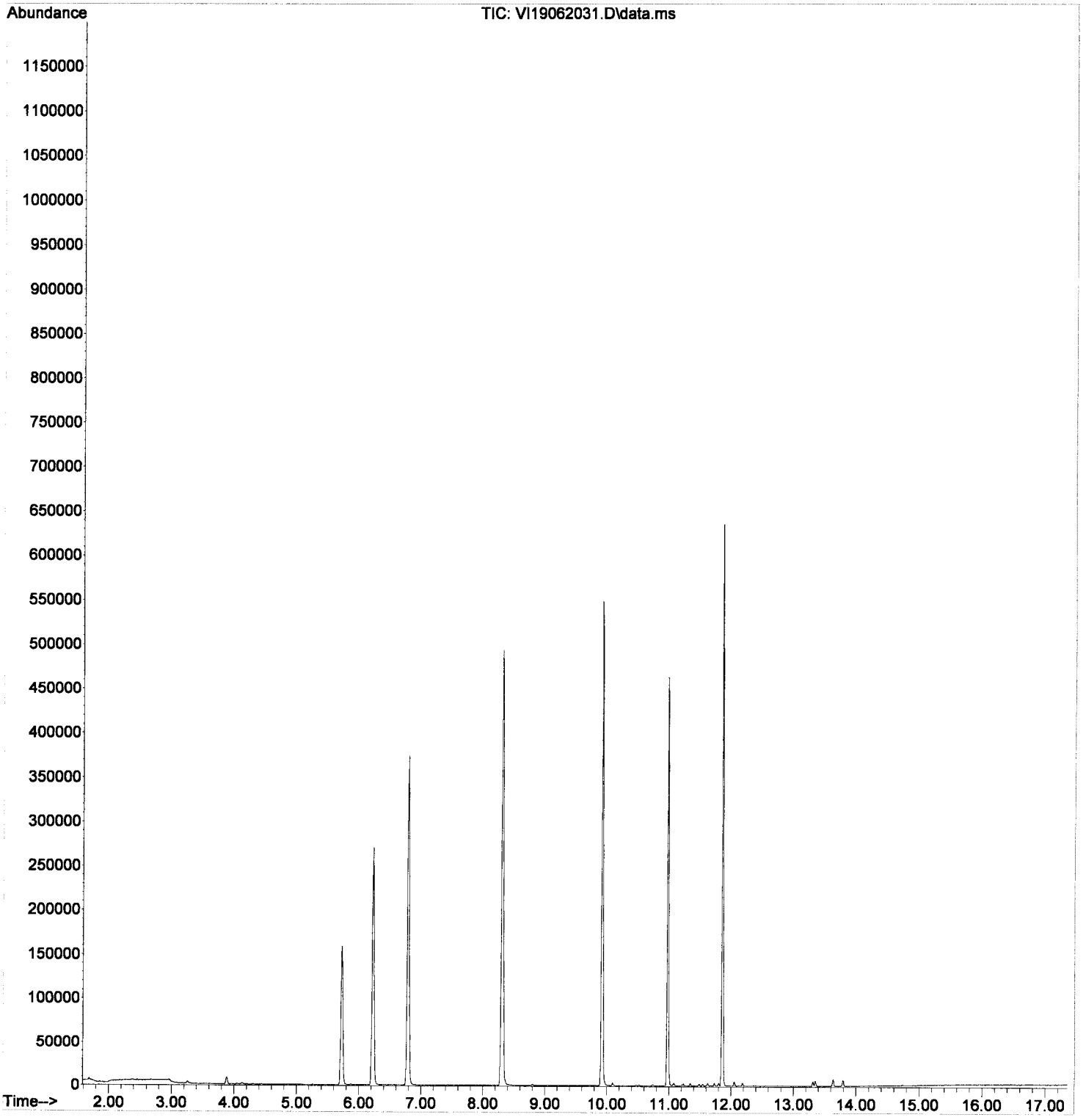
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062031.D
Acq On : 20 Jun 2019 11:13 pm
Operator : MM
Sample : 9F20044-IBL3
Misc : 1X 5mL DI
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:22 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062032.D
Acq On : 20 Jun 2019 11:40 pm
Operator : MM
Sample : 9F20044-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:15 2019
Quant Method : C:\msdchem\1\methods\~~VI190621W+~~.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (I)	6.223	168	204201	50.00	ug/L	0.00
45) Chlorobenzene-d5 (I)	9.916	117	310773	50.00	ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	147969	50.00	ug/L	0.00
System Monitoring Compounds						
32) Dibromofluoromethane (S)	5.718	111	112820	46.92	ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	342426	46.78	ug/L	0.00
48) Toluene-d8 (S)	8.303	98	405261	49.13	ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	118374	52.37	ug/L	0.00
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.678	85	445670	190.22	ug/L	99
3) Chloromethane	1.897	50	500665	143.11	ug/L	96
4) Vinyl Chloride	2.001	62	495944	166.63	ug/L	96
5) Bromomethane	2.366	96	223036	144.68	ug/L	98
6) Chloroethane	2.494	64	72831	62.00	ug/L	86
7) Trichlorofluoromethane	2.658	101	538727	156.62	ug/L	97
8) Ethanol	~~3.248~~	~~45~~	~~3998~~	~~No Calib~~	#	
9) 1,1-Dichloroethene	3.236	61	581132	196.84	ug/L	96
10) Carbon Disulfide	3.254	76	996935	197.14	ug/L	99
11) Freon 113	3.291	101	369170	178.85	ug/L	99
12) Iodomethane	3.388	142	297535	215.41	ug/L	88
13) Acrolein	3.625	56	109382	192.03	ug/L	73
14) Methylene Chloride	3.875	84	395740	153.28	ug/L	93
15) Acetone	3.941	43	359555	295.26	ug/L	97
16) t-1,2-Dichloroethene	4.039	61	550967	199.43	ug/L	98
17) n-Hexane	4.124	86	80961	186.99	ug/L #	80
18) Methyl-tert-butyl-ether	4.173	73	1335564	279.05	ug/L	93
19) tert-Butanol (TBA)	~~4.306~~	~~59~~	~~1660~~	~~No Calib~~	#	
20) Diisopropyl ether (DIPE)	~~4.568~~	~~45~~	~~1323~~	~~No Calib~~		
21) 1,1-Dichloroethane	4.690	63	726726	195.08	ug/L	97
22) Acrylonitrile	4.751	53	232029	178.51	ug/L	99
23) Ethyl-tert-butyl ether...	~~4.945~~	~~59~~	~~1030~~	~~No Calib~~	#	
24) Vinyl Acetate	4.957	43	884370	343.89	ug/L	97
25) c-1,2-Dichloroethene	5.249	61	588700	213.95	ug/L	95
26) 2,2-Dichloropropane	5.359	77	554747	342.33	ug/L	92
27) Bromochloromethane	5.450	130	252303	177.86	ug/L	89
28) Chloroform	5.529	83	746862	189.66	ug/L	98
29) Carbon Tetrachloride	5.663	117	516185	220.42	ug/L	95
30) Tetrahydrofuran	5.700	42	218470	191.25	ug/L	87
31) 1,1,1-Trichloroethane	5.736	97	617180	220.73	ug/L	96
33) 1,1-Dichloropropene	5.864	75	579299	229.23	ug/L	97
34) 2-Butanone (MEK)	5.858	43	633397	369.95	ug/L	99
35) Benzene	6.125	78	1701439	203.20	ug/L	98
36) tert-Amyl methyl ether...	~~6.253~~	~~73~~	~~785~~	~~No Calib~~	#	
37) 1,2-Dichloroethane (EDC)	6.344	62	569728	195.71	ug/L	93
38) iso-Butyl Alcohol	6.381	43	833289	4214.19	ug/L	90
40) Trichloroethene (TCE)	6.746	130	429061	188.73	ug/L	95
41) Tert-Amyl-Ethyl-Ether ...	~~7.008~~	~~59~~	~~785~~	~~No Calib~~		
42) Dibromomethane	7.202	93	291580	200.66	ug/L	93
43) 1,2-Dichloropropane	7.312	63	449560	196.05	ug/L	92
44) Bromodichloromethane	7.385	83	565142	214.26	ug/L	94
46) 2-Chloroethyl Vinyl Ether	8.030	63	365213	311.17	ug/L #	100
47) c-1,3-Dichloropropene	8.097	75	697644	151.22	ug/L	90

Quantitation Report (Not Reviewed)

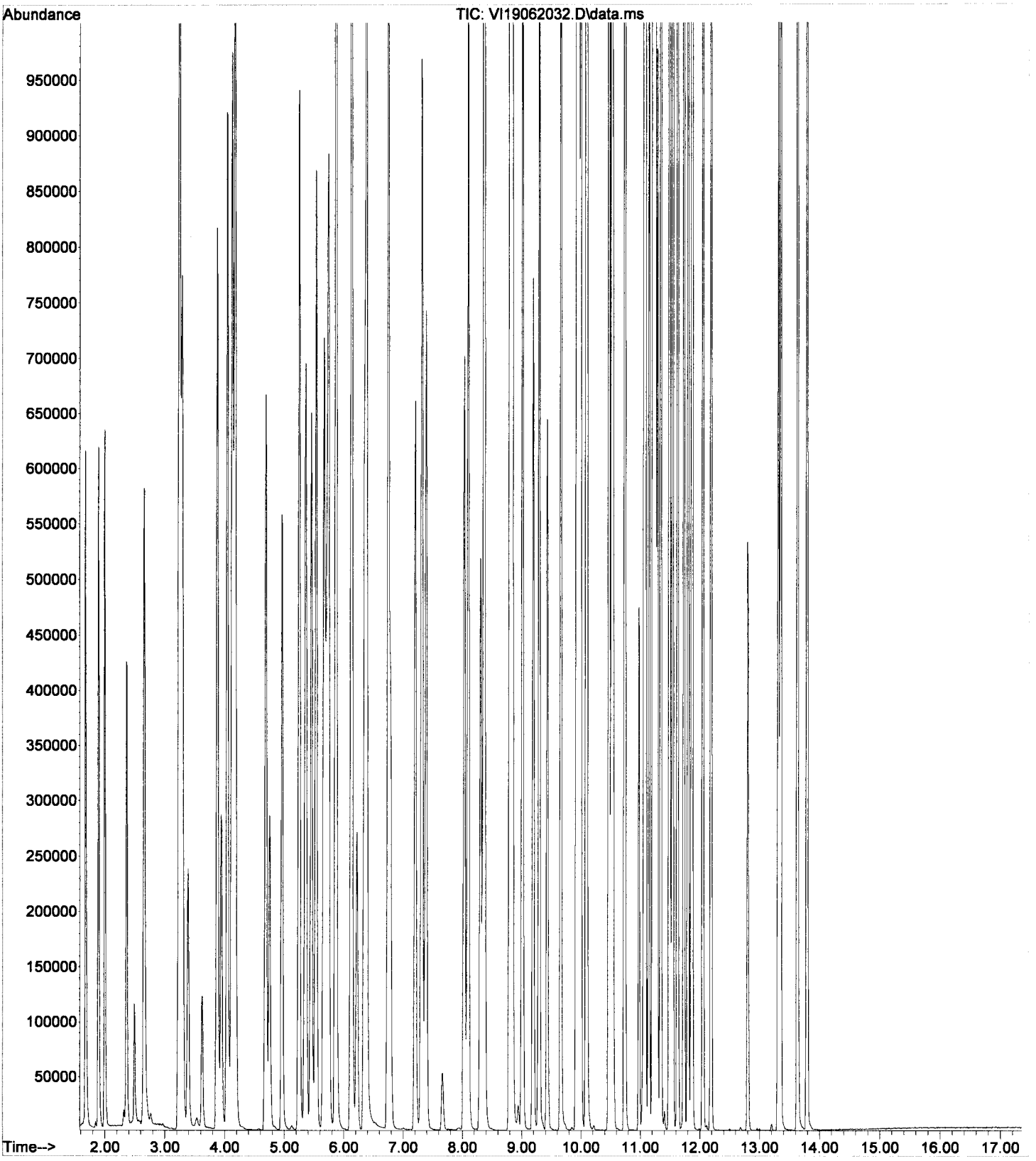
Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062032.D
Acq On : 20 Jun 2019 11:40 pm
Operator : MM
Sample : 9F20044-CALB
Misc : 1X 5mL 200/400PPB VOCR
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 09:46:15 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 08:57:41 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
49) Toluene	8.364	91	1725149	195.59	ug/L		99
50) Tetrachloroethene (PCE)	8.802	166	419348	209.41	ug/L		88
51) 4-Methyl-2-Pentanone (...	8.802	43	1160712	384.66	ug/L		96
52) t-1,3-Dichloropropene	8.839	75	658211	160.64	ug/L		96
53) 1,1,2-Trichloroethane	9.009	97	402284	193.50	ug/L		96
54) Dibromochloromethane	9.192	129	439963	232.40	ug/L		97
55) 1,3-Dichloropropane	9.295	76	703363	213.20	ug/L		96
56) 1,2-Dibromoethane (EDB)	9.429	107	444681	225.63	ug/L		95
57) 2-Hexanone	9.660	43	863303	367.45	ug/L		92
58) Chlorobenzene	9.934	112	1098798	186.66	ug/L		96
59) Ethylbenzene	9.958	91	1912618	214.08	ug/L		98
60) 1,1,1,2-Tetrachloroethane	9.995	131	384611	220.19	ug/L		96
61) m,p-Xylenes (2)	10.092	91	2895454	369.53	ug/L		99
62) o-Xylene	10.469	91	1481357	190.36	ug/L		99
63) Styrene	10.518	104	1179064	187.17	ug/L		95
64) Bromoform	10.542	173	304762	128.00	ug/L		97
65) Isopropylbenzene	10.737	105	1780791	188.88	ug/L		99
68) Bromobenzene	11.059	156	457253	209.42	ug/L	#	79
69) n-Propylbenzene	11.078	91	2100401	223.84	ug/L		99
70) 1,1,2,2-Tetrachloroethane	11.144	85	370226	192.01	ug/L		95
71) 2-Chlorotoluene	11.211	126	417067	216.88	ug/L		98
72) 1,3,5-Trimethylbenzene	11.236	105	1425435	191.81	ug/L		99
73) 1,2,3-Trichloropropane	11.254	110	175270	182.07	ug/L		91
74) t-1,4-Dichloro-2-butene	11.284	53	161119	254.68	ug/L		92
75) 4-Chlorotoluene	11.339	91	1277794	221.80	ug/L		94
76) tert-Butylbenzene	11.485	91	813927	201.72	ug/L		92
77) 1,2,4-Trimethylbenzene	11.540	105	1441707	194.31	ug/L		96
78) sec-Butylbenzene	11.625	105	1744647	193.03	ug/L		100
79) 4-Isopropyltoluene	11.728	119	1456273	196.47	ug/L		98
80) 1,3-Dichlorobenzene	11.801	146	808417	220.42	ug/L		98
81) 1,4-Dichlorobenzene	11.868	146	818316	189.70	ug/L		96
82) n-Butylbenzene	12.051	91	1332336	199.36	ug/L		99
83) 1,2-Dichlorobenzene	12.185	146	774584	221.04	ug/L		98
84) 1,2-Dibromo-3-Chloropr...	12.805	157	136786	191.80	ug/L		91
85) Hexachlorobutadiene	13.310	223	118721	269.50	ug/L		94
86) 1,2,4-Trichlorobenzene	13.347	180	496669	217.50	ug/L		95
87) Naphthalene	13.633	128	1636463	201.95	ug/L		97
88) 1,2,3-Trichlorobenzene	13.791	180	480782	213.84	ug/L		96

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

File :C:\msdchem\1\data\2019-06\9F20044\VI19062032.D
Operator : MM
Acquired : 20 Jun 2019 11:40 pm using AcqMethod VI1611RUN.M
Instrument : VOA-GCMS9
Sample Name: 9F20044-CALB
Misc Info : 1X 5mL 200/400PPB VOCR
Vial Number: 16



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062033.D
Acq On : 21 Jun 2019 12:07 am
Operator : MM
Sample : 9F20044-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	207143	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	304398	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	135827	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	110641	49.55	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	344343	49.95	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	401688	50.51	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	115198	51.19	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.685	85	934	0.43	ug/L		88
3) Chloromethane	1.904	50	791	0.29	ug/L		91
4) Vinyl Chloride	2.001	62	463	0.19	ug/L		83
5) Bromomethane	2.366	96	544	0.43	ug/L	#	48
6) Chloroethane	2.506	64	262	0.30	ug/L	#	36
7) Trichlorofluoromethane	2.670	101	766	0.28	ug/L		88
9) 1,1-Dichloroethene	3.236	61	733	0.26	ug/L		89
10) Carbon Disulfide	3.254	76	7000	1.39	ug/L		96
11) Freon 113	3.291	101	903	0.50	ug/L		89
12) Iodomethane	3.394	142	257	2.88	ug/L	#	47
14) Methylene Chloride	3.875	84	10579	3.43	ug/L		92
15) Acetone	3.954	43	3084	3.06	ug/L		99
16) t-1,2-Dichloroethene	4.045	61	1409	0.52	ug/L		94
25) c-1,2-Dichloroethene	5.250	61	557	0.19	ug/L		94
33) 1,1-Dichloropropene	5.870	75	1087	0.38	ug/L		86
34) 2-Butanone (MEK)	5.870	43	584	0.35	ug/L		52
35) Benzene	6.126	78	979	0.11	ug/L		83
38) iso-Butyl Alcohol	6.381	43	213	1.24	ug/L	#	18
40) Trichloroethene (TCE)	6.746	130	650	0.31	ug/L		94
47) c-1,3-Dichloropropene	8.097	75	302	0.10	ug/L	#	63
49) Toluene	8.364	91	1847	0.21	ug/L		96
50) Tetrachloroethene (PCE)	8.803	166	1037	0.53	ug/L		85
51) 4-Methyl-2-Pentanone (...	8.821	43	558	0.18	ug/L	#	43
52) t-1,3-Dichloropropene	8.839	75	546	0.19	ug/L	#	45
56) 1,2-Dibromoethane (EDB)	9.435	107	264	0.13	ug/L	#	8
57) 2-Hexanone	9.672	43	323	0.14	ug/L	#	35
58) Chlorobenzene	9.934	112	1373	0.26	ug/L	#	53
59) Ethylbenzene	9.952	91	2378	0.26	ug/L		97
61) m,p-Xylenes (2)	10.092	91	4252	0.62	ug/L		98
62) o-Xylene	10.469	91	1297	0.19	ug/L		90
63) Styrene	10.524	104	1219	0.23	ug/L		93
65) Isopropylbenzene	10.737	105	2610	0.32	ug/L		92
68) Bromobenzene	11.060	156	577	0.28	ug/L		89
69) n-Propylbenzene	11.078	91	4874	0.53	ug/L		94
71) 2-Chlorotoluene	11.212	126	621	0.33	ug/L		96
72) 1,3,5-Trimethylbenzene	11.236	105	2721	0.44	ug/L		95
74) t-1,4-Dichloro-2-butene	11.291	53	130	0.19	ug/L	#	1
75) 4-Chlorotoluene	11.345	91	3011	0.52	ug/L		95
76) tert-Butylbenzene	11.485	91	1544	0.43	ug/L		89
77) 1,2,4-Trimethylbenzene	11.540	105	2951	0.47	ug/L		97
78) sec-Butylbenzene	11.625	105	4731	0.61	ug/L		97
79) 4-Isopropyltoluene	11.729	119	4121	0.67	ug/L		95
80) 1,3-Dichlorobenzene	11.802	146	2503	0.69	ug/L		92

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062033.D
Acq On : 21 Jun 2019 12:07 am
Operator : MM
Sample : 9F20044-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

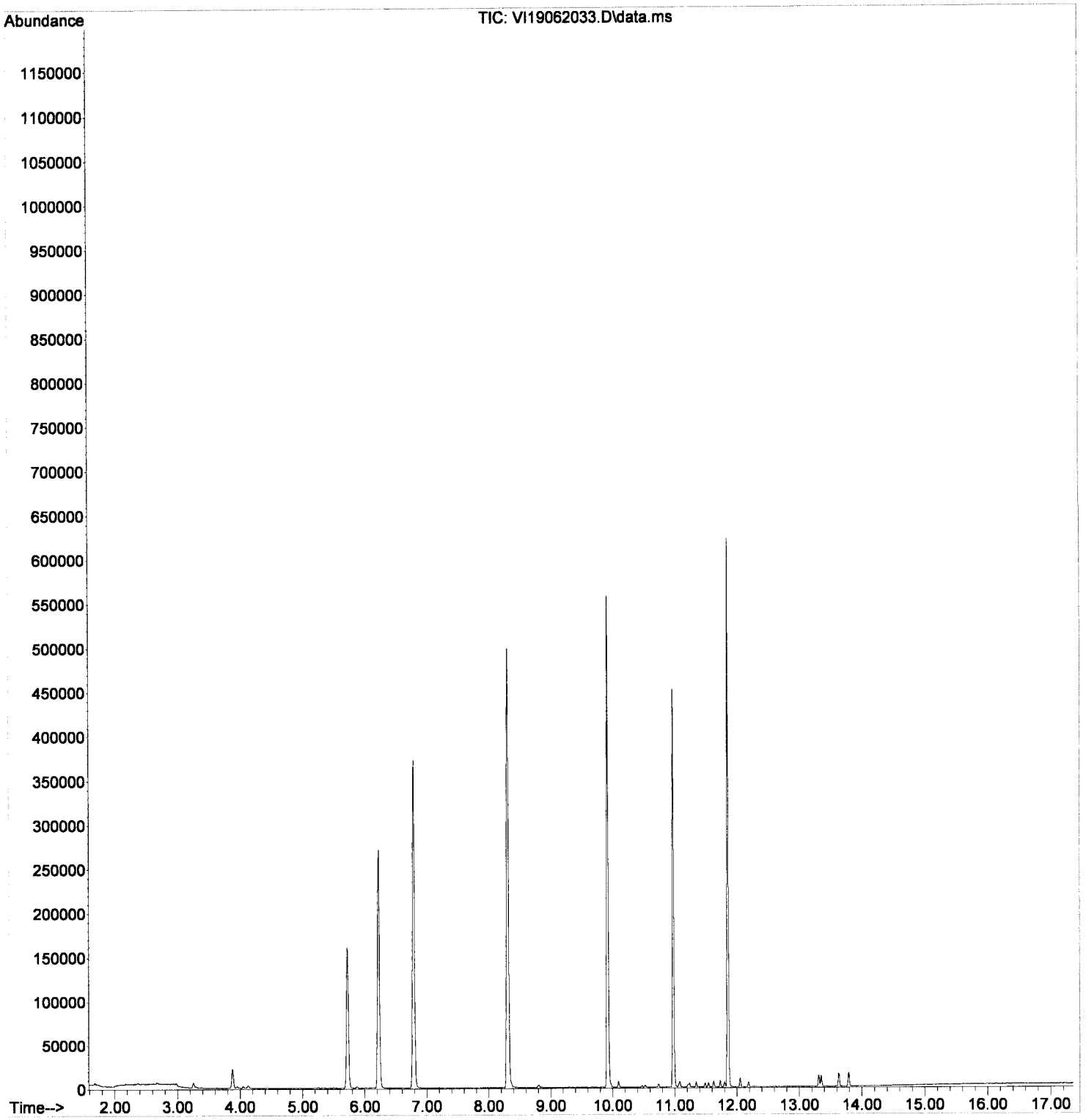
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
81) 1,4-Dichlorobenzene	11.869	146	2728	0.73	ug/L	77
82) n-Butylbenzene	12.051	91	5278	0.94	ug/L	99
83) 1,2-Dichlorobenzene	12.185	146	1650	0.47	ug/L	93
85) Hexachlorobutadiene	13.310	223	1654	3.25	ug/L	94
86) 1,2,4-Trichlorobenzene	13.347	180	4546	2.24	ug/L	96
87) Naphthalene	13.633	128	13737	2.07	ug/L	98
88) 1,2,3-Trichlorobenzene	13.791	180	5560	2.82	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062033.D
Acq On : 21 Jun 2019 12:07 am
Operator : MM
Sample : 9F20044-IBL4
Misc : 1X 5mL DI
ALS Vial : 17 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:25 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062034.D
Acq On : 21 Jun 2019 12:34 am
Operator : MM
Sample : 9F20044-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:28 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

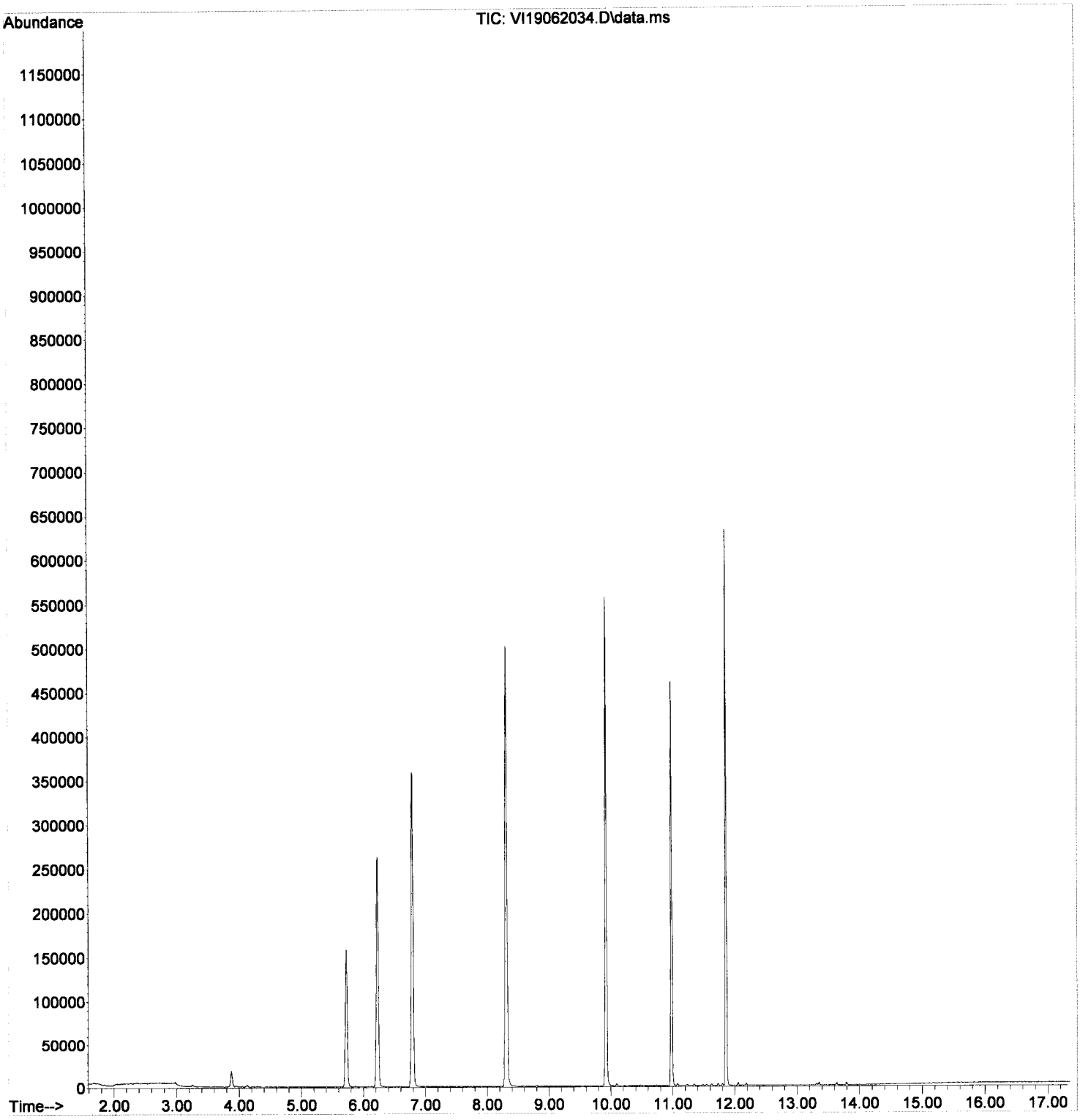
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	204332	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	304031	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138269	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.718	111	108599	49.30	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	336843	49.53	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	396397	49.90	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	117696	51.38	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.679	85	350	0.17	ug/L	#	49
3) Chloromethane	1.898	50	449	0.17	ug/L		88
5) Bromomethane	2.366	96	399	0.32	ug/L		80
6) Chloroethane	2.573	64	118	0.14	ug/L	#	36
7) Trichlorofluoromethane	2.664	101	322	0.12	ug/L		86
10) Carbon Disulfide	3.254	76	2804	0.56	ug/L		92
11) Freon 113	3.278	101	341	0.19	ug/L	#	19
14) Methylene Chloride	3.875	84	8734	2.54	ug/L		91
15) Acetone	3.954	43	2327	2.34	ug/L		99
16) t-1,2-Dichloroethene	4.045	61	445	0.16	ug/L	#	73
19) tert-Butanol (TBA)	4.301	59	476	1.12	ug/L	#	19
33) 1,1-Dichloropropene	5.870	75	534	0.19	ug/L	#	43
49) Toluene	8.352	91	764	0.09	ug/L		80
50) Tetrachloroethene (PCE)	8.802	166	423	0.21	ug/L	#	71
58) Chlorobenzene	9.934	112	554	0.11	ug/L	#	1
59) Ethylbenzene	9.958	91	1086	0.12	ug/L		91
61) m,p-Xylenes (2)	10.092	91	1807	0.26	ug/L		88
63) Styrene	10.524	104	478	0.09	ug/L	#	42
65) Isopropylbenzene	10.737	105	954	0.12	ug/L		80
69) n-Propylbenzene	11.084	91	1963	0.21	ug/L		86
71) 2-Chlorotoluene	11.211	126	191	0.10	ug/L	#	69
72) 1,3,5-Trimethylbenzene	11.236	105	952	0.15	ug/L		92
75) 4-Chlorotoluene	11.345	91	1154	0.20	ug/L		89
76) tert-Butylbenzene	11.485	91	470	0.13	ug/L	#	87
77) 1,2,4-Trimethylbenzene	11.546	105	1165	0.18	ug/L		84
78) sec-Butylbenzene	11.625	105	1608	0.20	ug/L		81
79) 4-Isopropyltoluene	11.729	119	1612	0.26	ug/L		93
80) 1,3-Dichlorobenzene	11.808	146	891	0.24	ug/L		96
81) 1,4-Dichlorobenzene	11.868	146	1013	0.26	ug/L	#	54
82) n-Butylbenzene	12.051	91	2016	0.35	ug/L		97
83) 1,2-Dichlorobenzene	12.185	146	554	0.15	ug/L		86
85) Hexachlorobutadiene	13.310	223	251	0.48	ug/L		90
86) 1,2,4-Trichlorobenzene	13.353	180	1273	0.62	ug/L		99
87) Naphthalene	13.633	128	2801	0.41	ug/L		87
88) 1,2,3-Trichlorobenzene	13.791	180	1093	0.54	ug/L		98

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062034.D
Acq On : 21 Jun 2019 12:34 am
Operator : MM
Sample : 9F20044-IBL5
Misc : 1X 5mL DI
ALS Vial : 18 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:28 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	211553	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	319542	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	152532	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	113363	49.71	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	354716	50.38	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	415243	49.74	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.974	174	124236	49.16	ug/L		0.00
Target Compounds							Qvalue
2) Dichlorodifluoromethane	1.691	85	49699	22.65	ug/L		98
3) Chloromethane	1.904	50	57063	20.43	ug/L		95
4) Vinyl Chloride	2.007	62	50798	20.19	ug/L		97
5) Bromomethane	2.372	96	25047	19.28	ug/L		98
6) Chloroethane	2.506	64	17204	19.26	ug/L		84
7) Trichlorofluoromethane	2.670	101	55861	19.78	ug/L		97
8) Ethanol	3.260	45	1411	28.84	ug/L	#	51
9) 1,1-Dichloroethene	3.242	61	60084	21.02	ug/L		99
10) Carbon Disulfide	3.260	76	113731	22.08	ug/L		100
11) Freon 113	3.303	101	37994	20.46	ug/L		96
12) Iodomethane	3.400	142	17671	18.12	ug/L		89
13) Acrolein	3.631	56	11222	19.48	ug/L		72
14) Methylene Chloride	3.881	84	44830	20.53	ug/L		95
15) Acetone	3.954	43	40162	38.98	ug/L		97
16) t-1,2-Dichloroethene	4.051	61	60467	21.65	ug/L		97
17) n-Hexane	4.130	86	7966	20.43	ug/L	#	77
18) Methyl-tert-butyl-ether	4.179	73	138803	20.30	ug/L		91
19) tert-Butanol (TBA)	4.307	59	7014	15.94	ug/L		99
20) Diisopropyl ether (DIPE)	4.574	45	638	0.08	ug/L		80
21) 1,1-Dichloroethane	4.696	63	80850	21.97	ug/L		95
22) Acrylonitrile	4.757	53	23990	20.50	ug/L		99
24) Vinyl Acetate	4.964	43	90143	19.35	ug/L		97
25) c-1,2-Dichloroethene	5.250	61	61811	20.74	ug/L		98
26) 2,2-Dichloropropane	5.359	77	54474	18.95	ug/L		96
27) Bromochloromethane	5.457	130	30210	21.99	ug/L		93
28) Chloroform	5.536	83	78780	20.74	ug/L		98
29) Carbon Tetrachloride	5.669	117	47986	20.66	ug/L		95
30) Tetrahydrofuran	5.706	42	23696	19.88	ug/L		89
31) 1,1,1-Trichloroethane	5.742	97	64636	21.35	ug/L		96
33) 1,1-Dichloropropene	5.870	75	59757	20.70	ug/L		96
34) 2-Butanone (MEK)	5.864	43	67826	39.53	ug/L		98
35) Benzene	6.132	78	179880	20.38	ug/L		97
36) tert-Amyl methyl ether...	6.260	73	881	0.12	ug/L	#	33
37) 1,2-Dichloroethane (EDC)	6.345	62	61806	21.21	ug/L		93
38) iso-Butyl Alcohol	6.381	43	95229	543.92	ug/L		91
40) Trichloroethene (TCE)	6.752	130	44775	20.97	ug/L		96
42) Dibromomethane	7.209	93	29775	21.21	ug/L		95
43) 1,2-Dichloropropane	7.318	63	47417	20.98	ug/L		91
44) Bromodichloromethane	7.385	83	55480	21.28	ug/L		94
46) 2-Chloroethyl Vinyl Ether	8.030	63	37106	21.14	ug/L	#	100
47) c-1,3-Dichloropropene	8.097	75	68767	20.95	ug/L		91
49) Toluene	8.364	91	180214	19.77	ug/L		98
50) Tetrachloroethene (PCE)	8.802	166	43140	20.83	ug/L		87

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

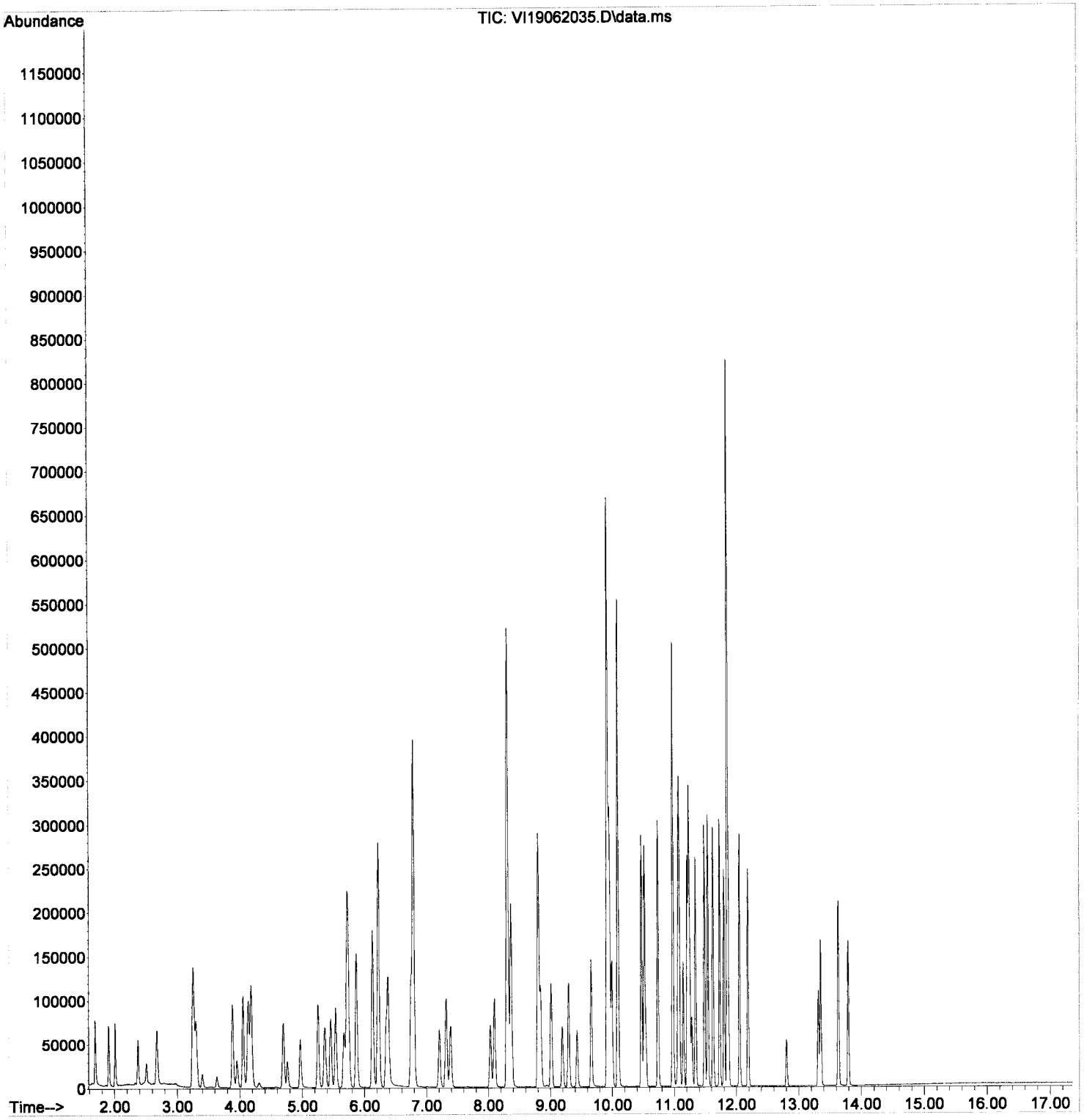
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
51) 4-Methyl-2-Pentanone (...	8.802	43	130735	40.91 ug/L	99
52) t-1,3-Dichloropropene	8.845	75	65130	21.67 ug/L	97
53) 1,1,2-Trichloroethane	9.015	97	43148	21.46 ug/L	93
54) Dibromochloromethane	9.192	129	39960	21.19 ug/L	99
55) 1,3-Dichloropropane	9.295	76	74203	20.71 ug/L	97
56) 1,2-Dibromoethane (EDB)	9.429	107	45587	21.53 ug/L	97
57) 2-Hexanone	9.660	43	95867	40.74 ug/L	93
58) Chlorobenzene	9.934	112	117137	21.13 ug/L	96
59) Ethylbenzene	9.958	91	199191	20.86 ug/L	99
60) 1,1,1,2-Tetrachloroethane	9.995	131	36621	21.64 ug/L	96
61) m,p-Xylenes (2)	10.092	91	301706	41.95 ug/L	99
62) o-Xylene	10.469	91	154185	21.03 ug/L	99
63) Styrene	10.518	104	119942	21.42 ug/L	94
64) Bromoform	10.542	173	25745	21.07 ug/L	98
65) Isopropylbenzene	10.737	105	181250	20.88 ug/L	100
68) Bromobenzene	11.059	156	48474	20.73 ug/L #	76
69) n-Propylbenzene	11.078	91	214005	20.61 ug/L	97
70) 1,1,2,2-Tetrachloroethane	11.145	85	40143	20.50 ug/L	96
71) 2-Chlorotoluene	11.212	126	43741	20.86 ug/L	96
72) 1,3,5-Trimethylbenzene	11.236	105	145599	20.75 ug/L	99
73) 1,2,3-Trichloropropane	11.254	110	19238	21.39 ug/L	95
74) t-1,4-Dichloro-2-butene	11.285	53	14134	18.62 ug/L	80
75) 4-Chlorotoluene	11.339	91	135297	20.81 ug/L	94
76) tert-Butylbenzene	11.485	91	83531	20.66 ug/L	92
77) 1,2,4-Trimethylbenzene	11.540	105	146609	20.84 ug/L	94
78) sec-Butylbenzene	11.625	105	180274	20.71 ug/L	98
79) 4-Isopropyltoluene	11.729	119	146435	21.32 ug/L	99
80) 1,3-Dichlorobenzene	11.802	146	86665	21.18 ug/L	99
81) 1,4-Dichlorobenzene	11.869	146	86900	20.58 ug/L	96
82) n-Butylbenzene	12.051	91	132800	21.08 ug/L	98
83) 1,2-Dichlorobenzene	12.185	146	83194	20.99 ug/L	99
84) 1,2-Dibromo-3-Chloropr...	12.805	157	12979	20.99 ug/L	92
85) Hexachlorobutadiene	13.310	223	12230	21.41 ug/L	93
86) 1,2,4-Trichlorobenzene	13.347	180	48327	21.20 ug/L	95
87) Naphthalene	13.633	128	157847	21.17 ug/L	96
88) 1,2,3-Trichlorobenzene	13.791	180	46690	21.10 ug/L	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062035.D
Acq On : 21 Jun 2019 1:01 am
Operator : MM
Sample : 9F20044-ICV1
Misc : 1X 5mL 20/40PPB VOCR
ALS Vial : 19 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:31 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:34 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) Pentafluorobenzene (I)	6.223	168	208504	50.00 ug/L	0.00
45) Chlorobenzene-d5 (I)	9.915	117	309465	50.00 ug/L	0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	138921	50.00 ug/L	0.00
System Monitoring Compounds					
32) Dibromofluoromethane (S)	5.724	111	111258	49.50 ug/L	0.00
39) 1,4-Difluorobenzene (S)	6.789	114	348415	50.21 ug/L	0.00
48) Toluene-d8 (S)	8.303	98	402744	49.81 ug/L	0.00
67) 4-Bromofluorobenzene (S)	10.980	174	118086	51.31 ug/L	0.00
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.684	85	326	0.15 ug/L #	49
3) Chloromethane	1.903	50	1208	0.44 ug/L	91
4) Vinyl Chloride	2.007	62	397	0.16 ug/L #	50
5) Bromomethane	2.366	96	748	0.58 ug/L	91
6) Chloroethane	2.524	64	386	0.44 ug/L #	36
7) Trichlorofluoromethane	2.676	101	248	0.09 ug/L #	27
8) Ethanol	3.242	45	64272	1332.92 ug/L	86
9) 1,1-Dichloroethene	3.242	61	412	0.15 ug/L #	64
10) Carbon Disulfide	3.254	76	2563	0.50 ug/L	93
12) Iodomethane	3.394	142	360	2.97 ug/L #	47
14) Methylene Chloride	3.881	84	3140	Below Cal	90
15) Acetone	3.960	43	862	0.85 ug/L #	44
16) t-1,2-Dichloroethene	4.051	61	785	0.29 ug/L	69
19) tert-Butanol (TBA)	4.300	59	584118	1346.74 ug/L	85
20) Diisopropyl ether (DIPE)	4.574	45	35105	4.51 ug/L	92
21) 1,1-Dichloroethane	4.696	63	819	0.23 ug/L	85
23) Ethyl-tert-butyl ether...	4.951	59	34670	4.60 ug/L	97
24) Vinyl Acetate	4.945	43	3943	0.86 ug/L	56
25) c-1,2-Dichloroethene	5.255	61	628	0.21 ug/L	99
26) 2,2-Dichloropropane	5.365	77	243	0.09 ug/L #	30
28) Chloroform	5.535	83	894	0.24 ug/L	80
31) 1,1,1-Trichloroethane	5.748	97	273	0.09 ug/L #	25
33) 1,1-Dichloropropene	5.870	75	539	0.19 ug/L #	43
35) Benzene	6.138	78	1949	0.22 ug/L	85
36) tert-Amyl methyl ether...	6.253	73	32321	4.46 ug/L	94
37) 1,2-Dichloroethane (EDC)	6.351	62	361	0.13 ug/L	54
38) iso-Butyl Alcohol	6.253	43	10925	63.31 ug/L #	55
40) Trichloroethene (TCE)	6.746	130	490	0.23 ug/L #	71
41) Tert-Amyl-Ethyl-Ether ...	7.001	59	24945	4.48 ug/L	86
43) 1,2-Dichloropropane	7.318	63	353	0.16 ug/L #	35
44) Bromodichloromethane	7.391	83	326	0.13 ug/L	97
47) c-1,3-Dichloropropene	8.096	75	449	0.14 ug/L #	75
49) Toluene	8.364	91	2123	0.24 ug/L	72
50) Tetrachloroethene (PCE)	8.802	166	441	0.22 ug/L #	68
52) t-1,3-Dichloropropene	8.851	75	332	0.11 ug/L #	45
55) 1,3-Dichloropropane	9.295	76	355	0.10 ug/L #	47
58) Chlorobenzene	9.934	112	1542	0.29 ug/L #	36
59) Ethylbenzene	9.958	91	2213	0.24 ug/L	88
60) 1,1,1,2-Tetrachloroethane	9.995	131	208	0.13 ug/L	84
61) m,p-Xylenes (2)	10.092	91	3501	0.50 ug/L	90
62) o-Xylene	10.469	91	1599	0.23 ug/L	93
63) Styrene	10.518	104	1284	0.24 ug/L	89
65) Isopropylbenzene	10.737	105	1651	0.20 ug/L	90

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:34 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

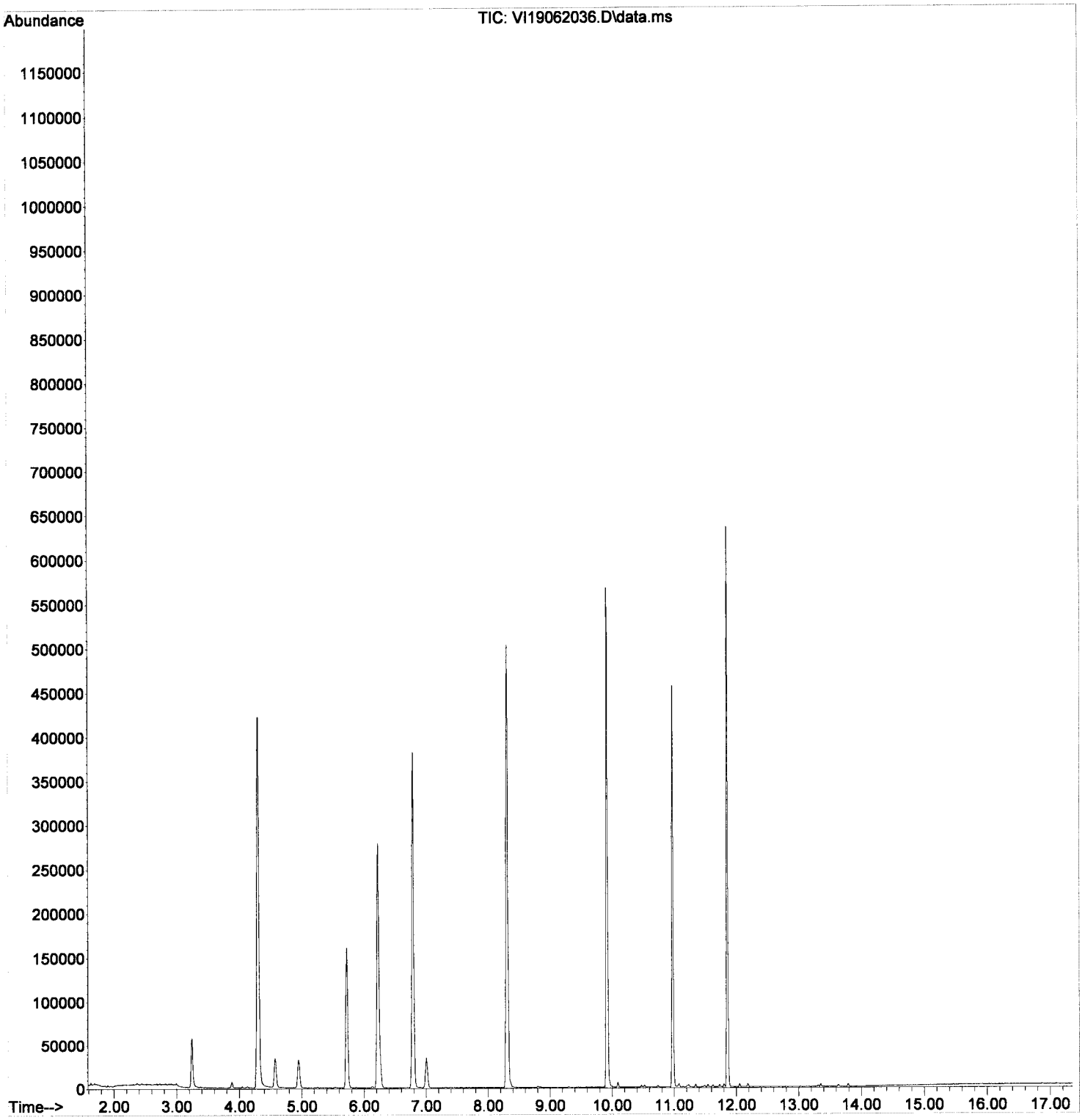
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
68) Bromobenzene	11.065	156	562	0.26	ug/L		92
69) n-Propylbenzene	11.077	91	2498	0.26	ug/L		96
71) 2-Chlorotoluene	11.211	126	333	0.17	ug/L	#	84
72) 1,3,5-Trimethylbenzene	11.236	105	1639	0.26	ug/L		89
75) 4-Chlorotoluene	11.345	91	1923	0.32	ug/L		91
76) tert-Butylbenzene	11.485	91	831	0.23	ug/L		89
77) 1,2,4-Trimethylbenzene	11.540	105	1848	0.29	ug/L		93
78) sec-Butylbenzene	11.625	105	1894	0.24	ug/L		99
79) 4-Isopropyltoluene	11.734	119	1801	0.29	ug/L		92
80) 1,3-Dichlorobenzene	11.807	146	1296	0.35	ug/L		98
81) 1,4-Dichlorobenzene	11.868	146	1379	0.36	ug/L	#	51
82) n-Butylbenzene	12.051	91	2110	0.37	ug/L		94
83) 1,2-Dichlorobenzene	12.191	146	1048	0.29	ug/L		96
85) Hexachlorobutadiene	13.310	223	388	0.75	ug/L		83
86) 1,2,4-Trichlorobenzene	13.353	180	1229	0.59	ug/L		93
87) Naphthalene	13.633	128	2660	0.39	ug/L		90
88) 1,2,3-Trichlorobenzene	13.791	180	1065	0.53	ug/L		94

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062036.D
Acq On : 21 Jun 2019 1:28 am
Operator : MM
Sample : 9F20044-ICV2
Misc : 1X 5mL 5/1250PPB OXY
ALS Vial : 20 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:34 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062037.D
Acq On : 21 Jun 2019 1:55 am
Operator : MM
Sample : 9F20044-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:37 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

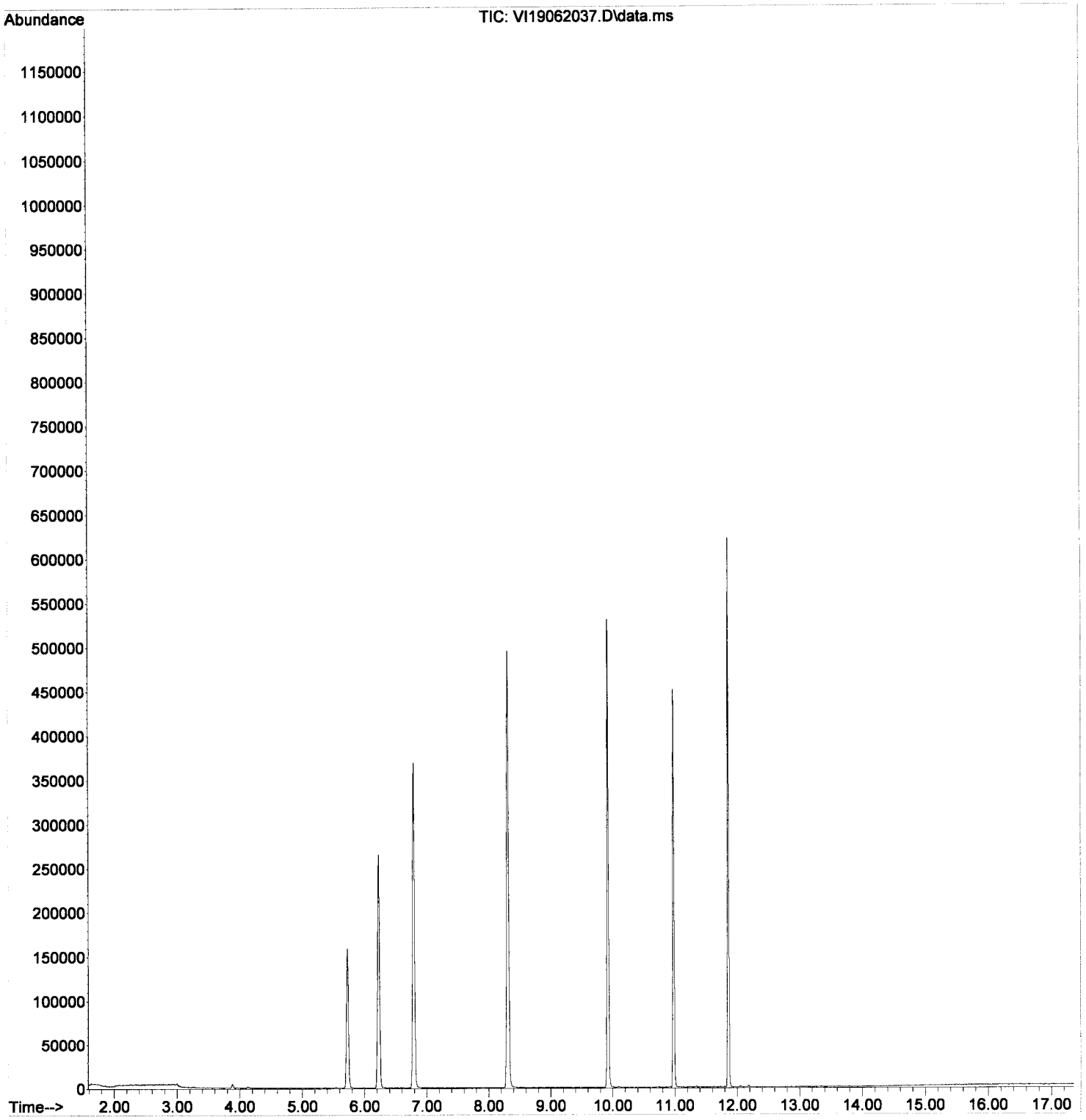
Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) Pentafluorobenzene (I)	6.223	168	201188	50.00	ug/L		0.00
45) Chlorobenzene-d5 (I)	9.916	117	295200	50.00	ug/L		0.00
66) 1,4-Dichlorobenzene-d4...	11.856	152	134710	50.00	ug/L		0.00
System Monitoring Compounds							
32) Dibromofluoromethane (S)	5.724	111	108642	50.09	ug/L		0.00
39) 1,4-Difluorobenzene (S)	6.789	114	337743	50.44	ug/L		0.00
48) Toluene-d8 (S)	8.304	98	393483	51.02	ug/L		0.00
67) 4-Bromofluorobenzene (S)	10.980	174	112738	50.51	ug/L		0.00
Target Compounds							Qvalue
3) Chloromethane	1.904	50	412	0.16	ug/L	#	47
5) Bromomethane	2.378	96	218	0.18	ug/L		74
6) Chloroethane	2.591	64	117	0.14	ug/L	#	36
10) Carbon Disulfide	3.254	76	1104	0.23	ug/L		78
14) Methylene Chloride	3.881	84	2137	Below Cal			95
15) Acetone	3.966	43	565	0.58	ug/L	#	44
28) Chloroform	5.536	83	394	0.11	ug/L	#	28
61) m,p-Xylenes (2)	10.092	91	711	0.11	ug/L		85
75) 4-Chlorotoluene	11.345	91	516	0.09	ug/L	#	45
80) 1,3-Dichlorobenzene	11.802	146	381	0.11	ug/L	#	77
81) 1,4-Dichlorobenzene	11.869	146	419	0.11	ug/L	#	1
82) n-Butylbenzene	12.051	91	815	0.15	ug/L		90
86) 1,2,4-Trichlorobenzene	13.353	180	367	0.18	ug/L		88
87) Naphthalene	13.639	128	867	0.13	ug/L		81
88) 1,2,3-Trichlorobenzene	13.797	180	255	0.13	ug/L		78

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062037.D
Acq On : 21 Jun 2019 1:55 am
Operator : MM
Sample : 9F20044-IBL6
Misc : 1X 5mL DI
ALS Vial : 21 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:40:37 2019
Quant Method : C:\msdchem\1\methods\VI190621W+.M
Quant Title : EPA 8260: Volatile Organic Compounds
QLast Update : Fri Jun 21 10:05:40 2019
Response via : Initial Calibration

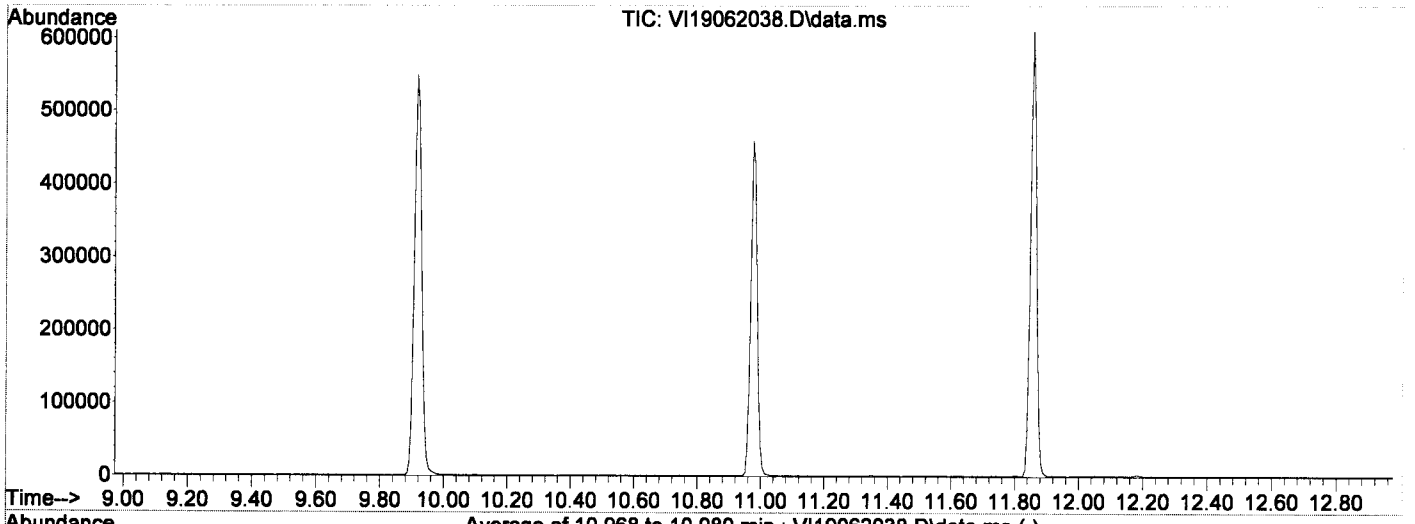


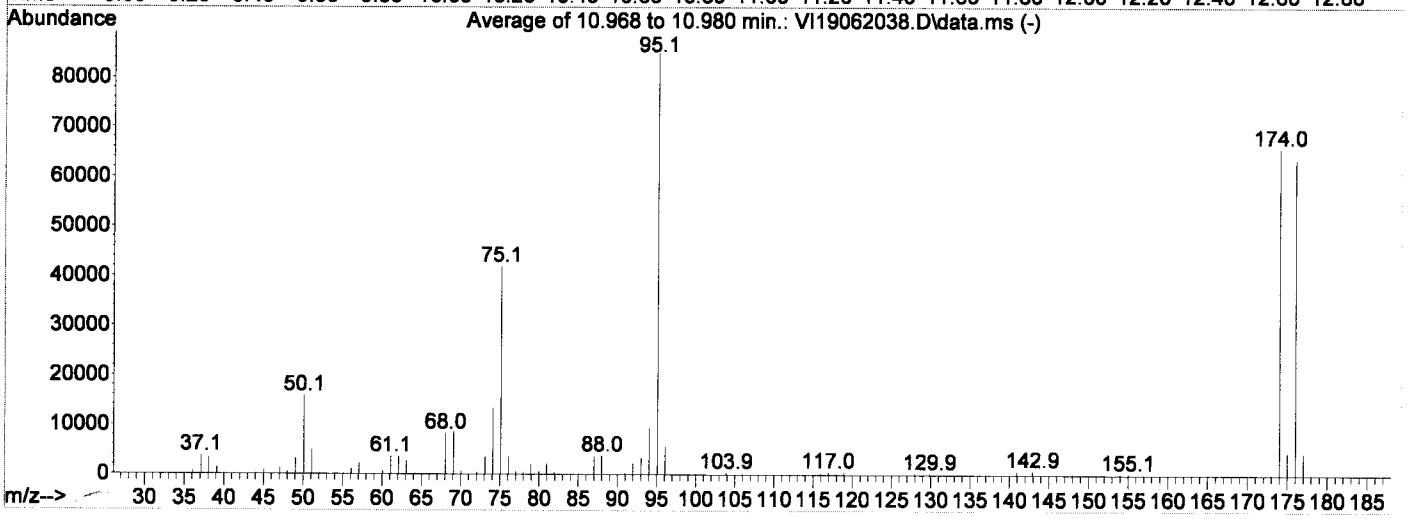
BFB

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062038.D
Acq On : 21 Jun 2019 2:22 am
Operator : MM
Sample : 9F20044-TUN2
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1

Integration File: APEXG.P

Method : C:\msdchem\1\methods\VI190621G.M
Title : NWTPH-Gx by GC/MS
Last Update : Fri Jun 21 11:04:13 2019





AutoFind: Scans 1543, 1544, 1545; Background Corrected with Scan 1537

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	12	40	18.6	15805	PASS
75	95	30	60	49.3	41891	PASS
95	95	100	100	100.0	84939	PASS
96	95	5	9	6.7	5684	PASS
173	174	0.00	2	0.2	125	PASS
174	95	50	200	77.5	65805	PASS
175	174	5	9	7.0	4598	PASS
176	174	95	101	96.7	63611	PASS
177	176	5	9	6.7	4283	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062038.D
Acq On : 21 Jun 2019 2:22 am
Operator : MM
Sample : 9F20044-TUN2
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:07:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

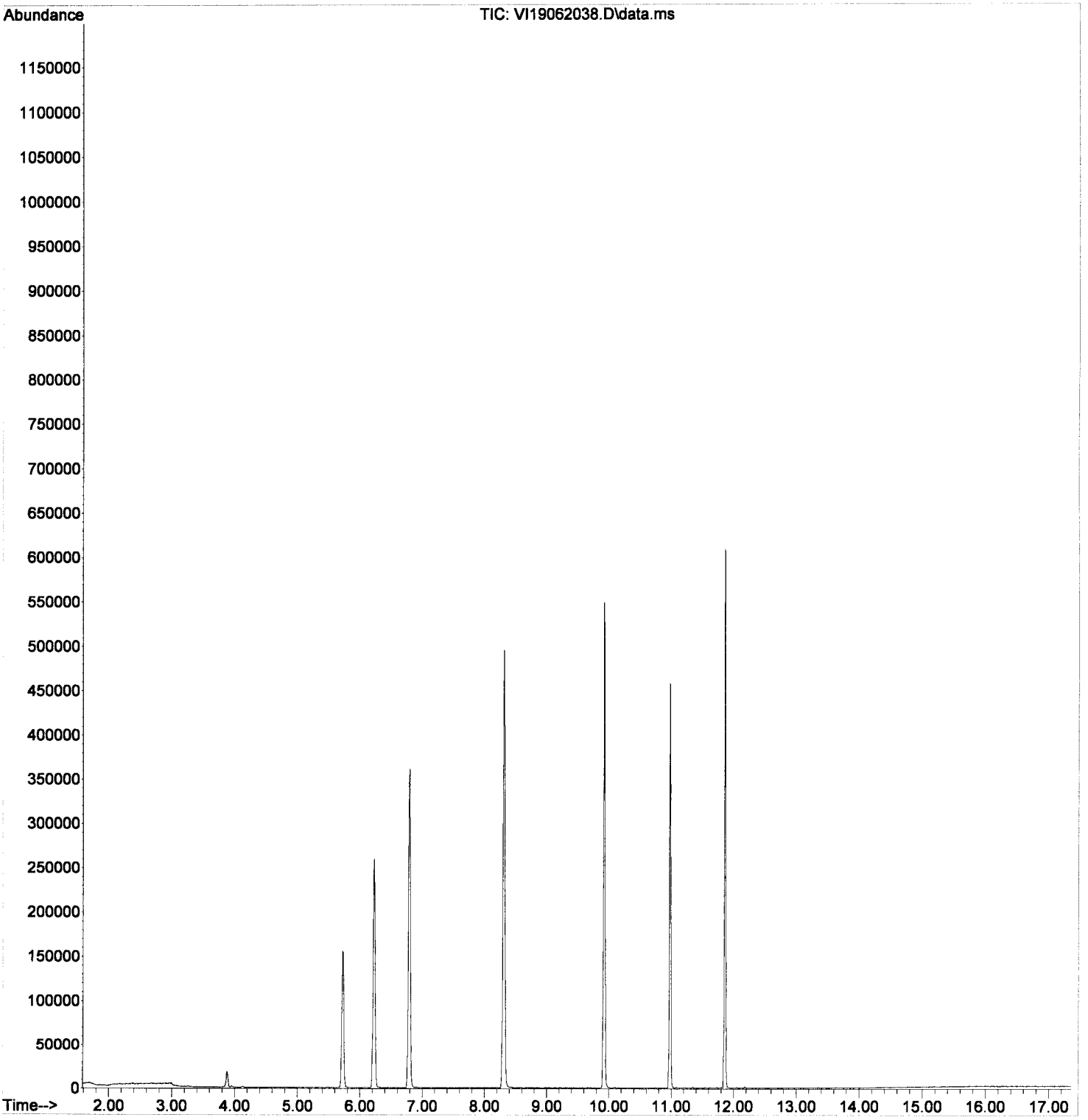
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	199857	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	335918	49.97	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	112478	48.14	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	391051	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	298571	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	207818	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	29758m	29.66	ug/L	
5) TPHg (C5-C9)	9.890	TIC	392801m	21.11	ug/L	
6) TPHg (C6-C10)	9.890	TIC	328745m	20.95	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	430664m	23.65	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062038.D
Acq On : 21 Jun 2019 2:22 am
Operator : MM
Sample : 9F20044-TUN2
Misc : A19C125 5mL BFB (IS/SURR)
ALS Vial : 22 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

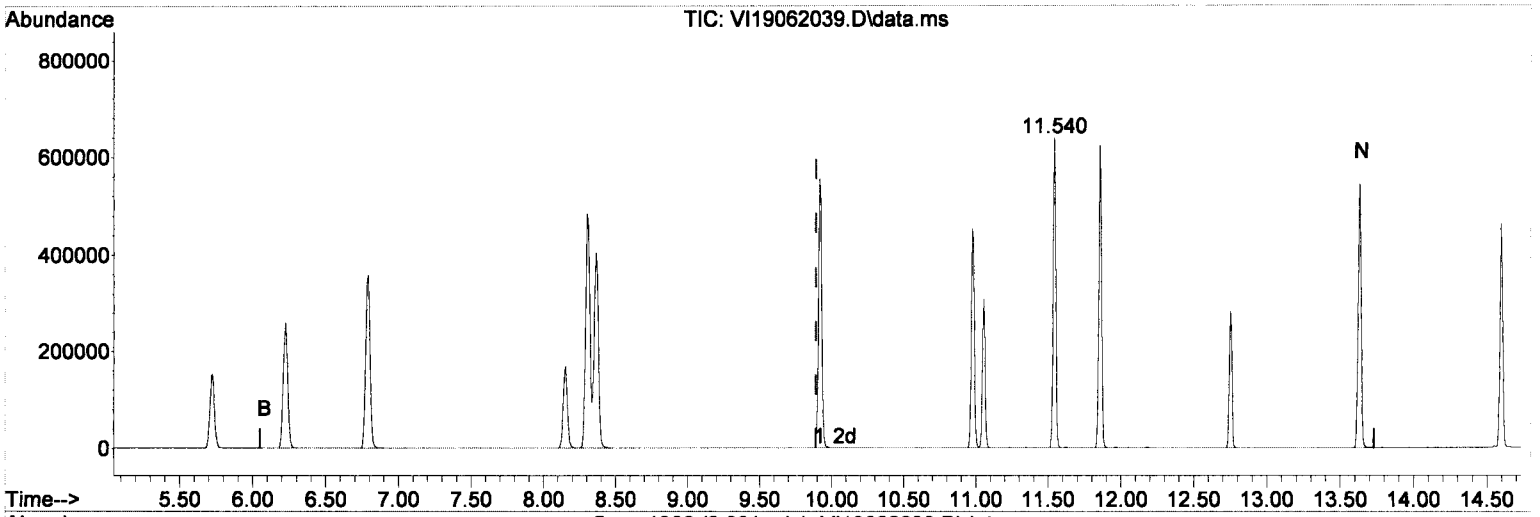
Quant Time: Jun 21 11:07:55 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

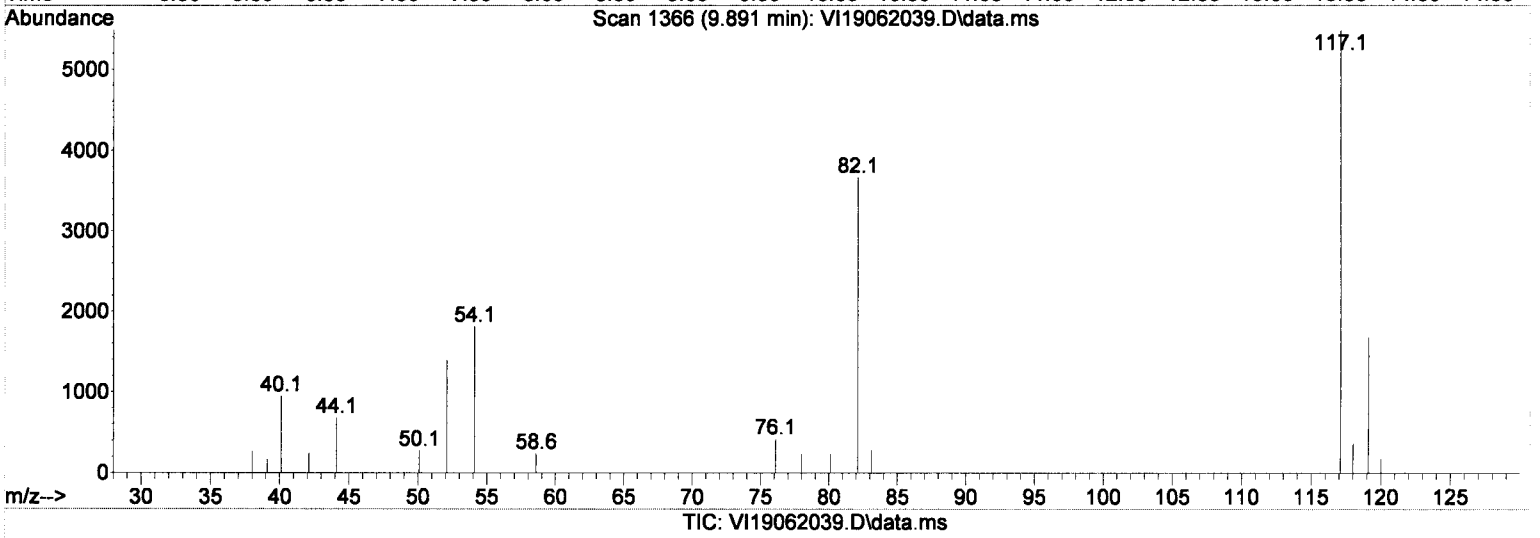


Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





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

9.890min (0.000) 575.55 ug/L m

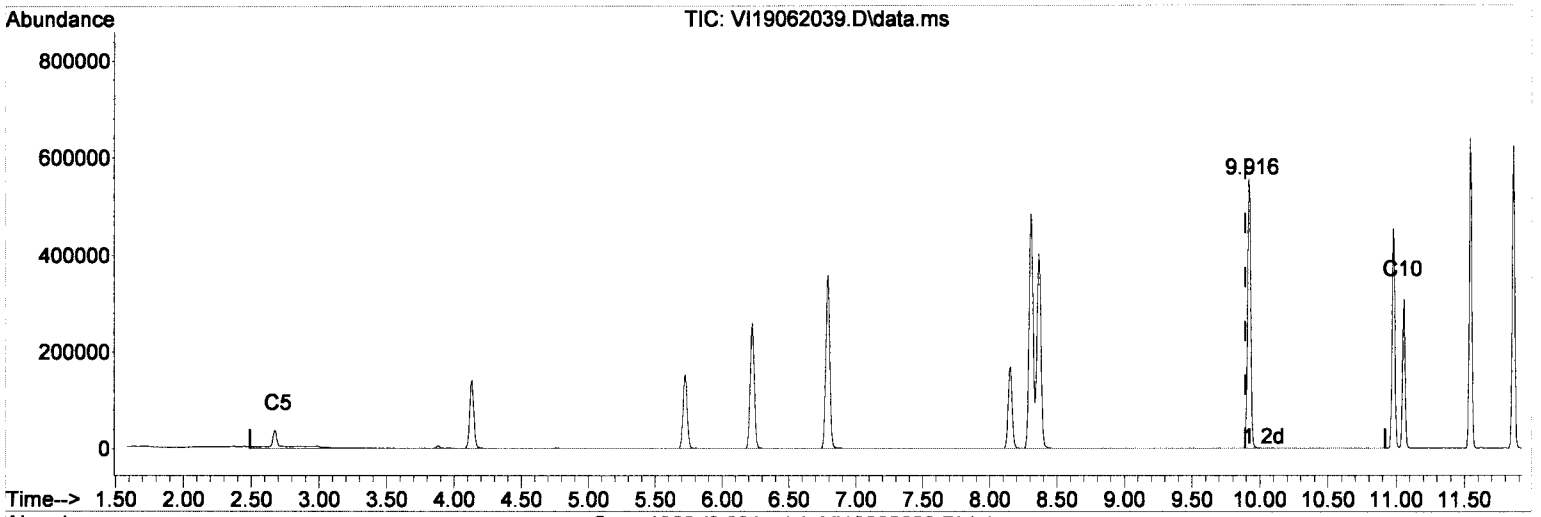
response 3545037

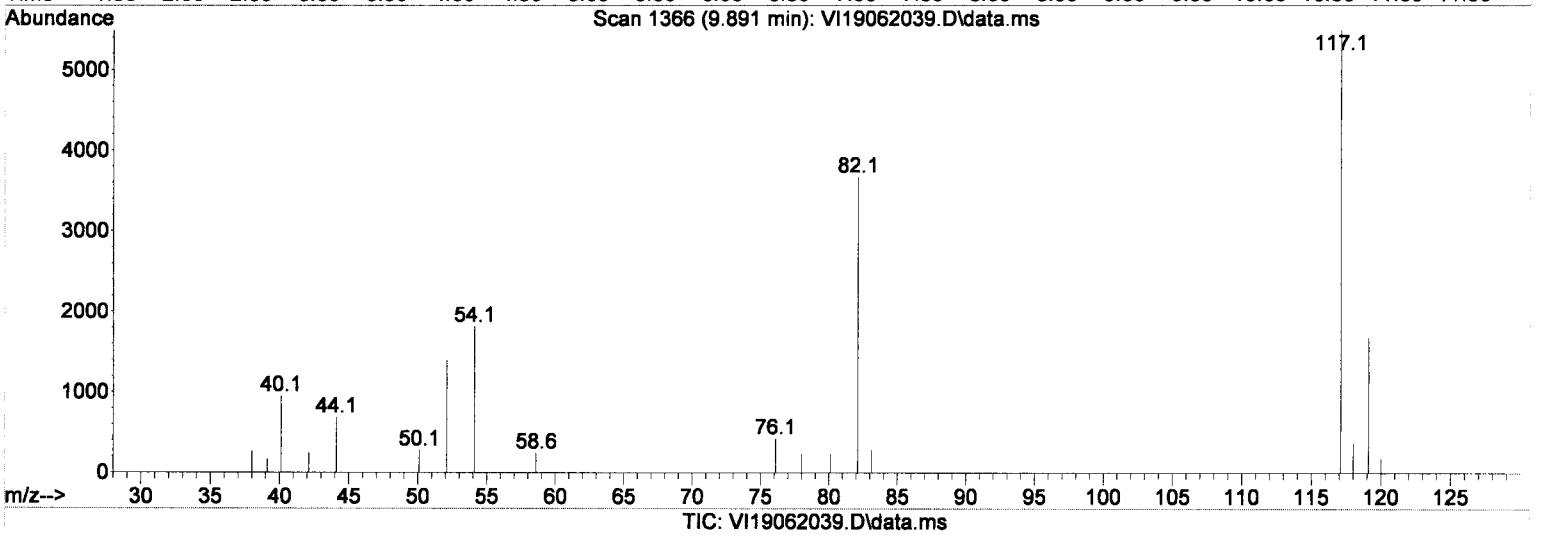
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.96#
0.00	0.00	0.74#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





TIC: VI19062039.D\data.ms

(5) TPHg (C5-C9) (H)

9.890min (0.000) 204.35 ug/L m

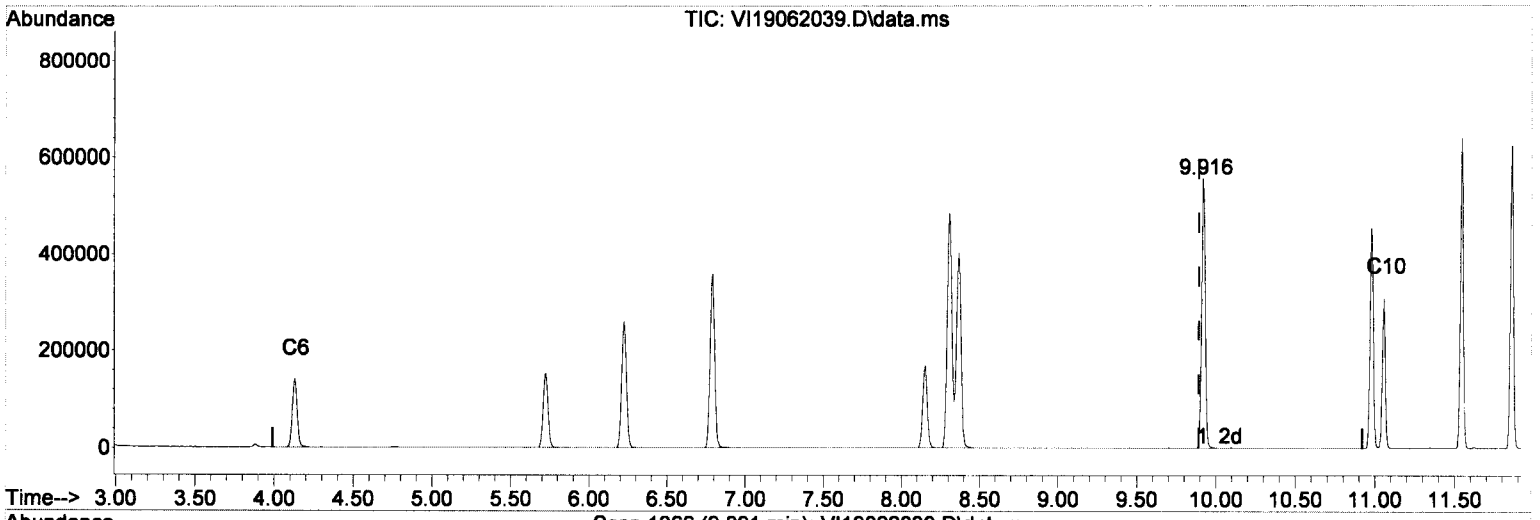
response 1858541

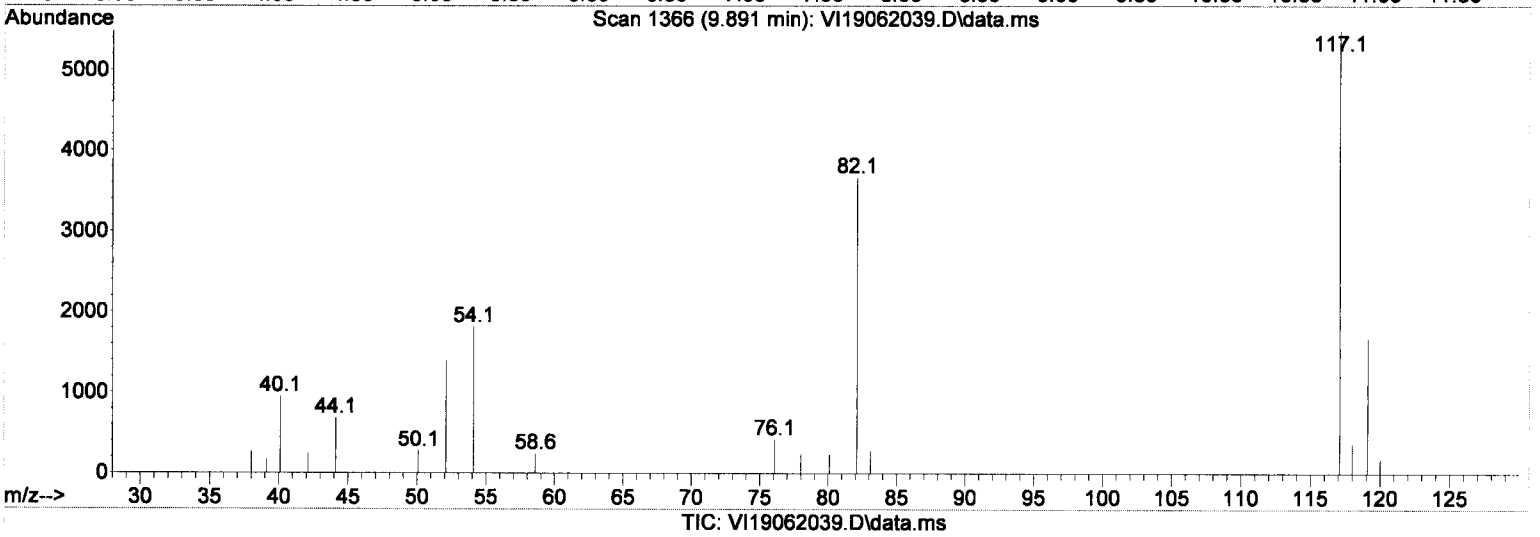
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.83#
0.00	0.00	1.41#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





(6) TPHg (C6-C10) (H)

9.890min (0.000) 233.58 ug/L m

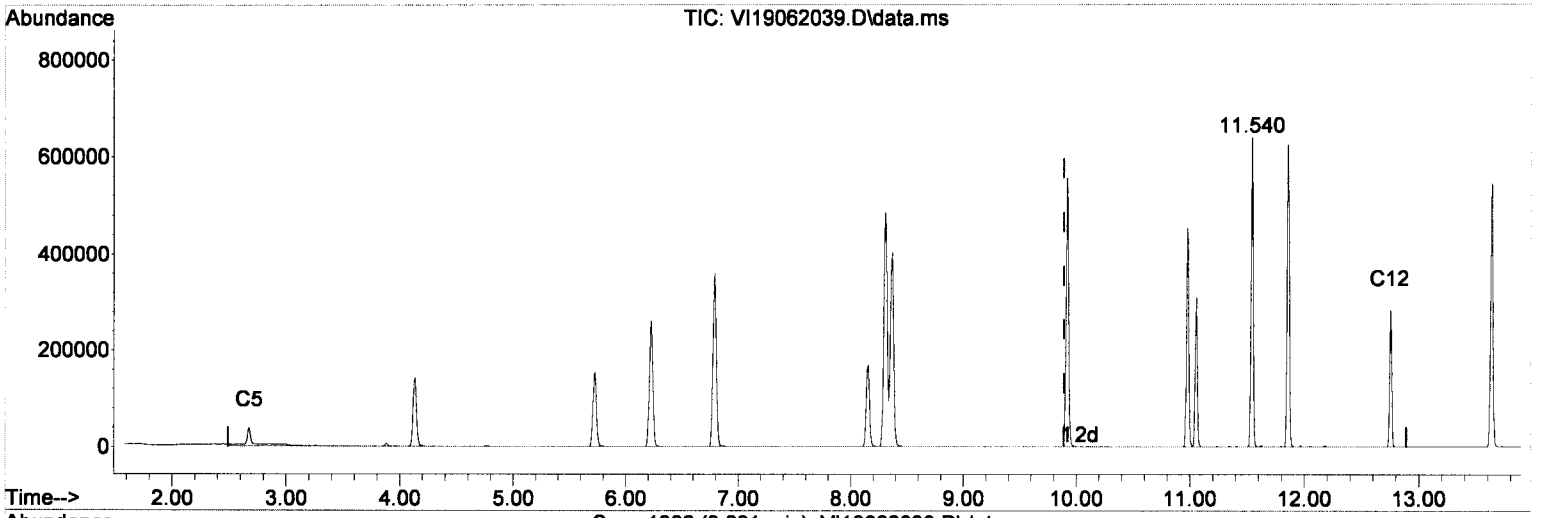
response 1767050

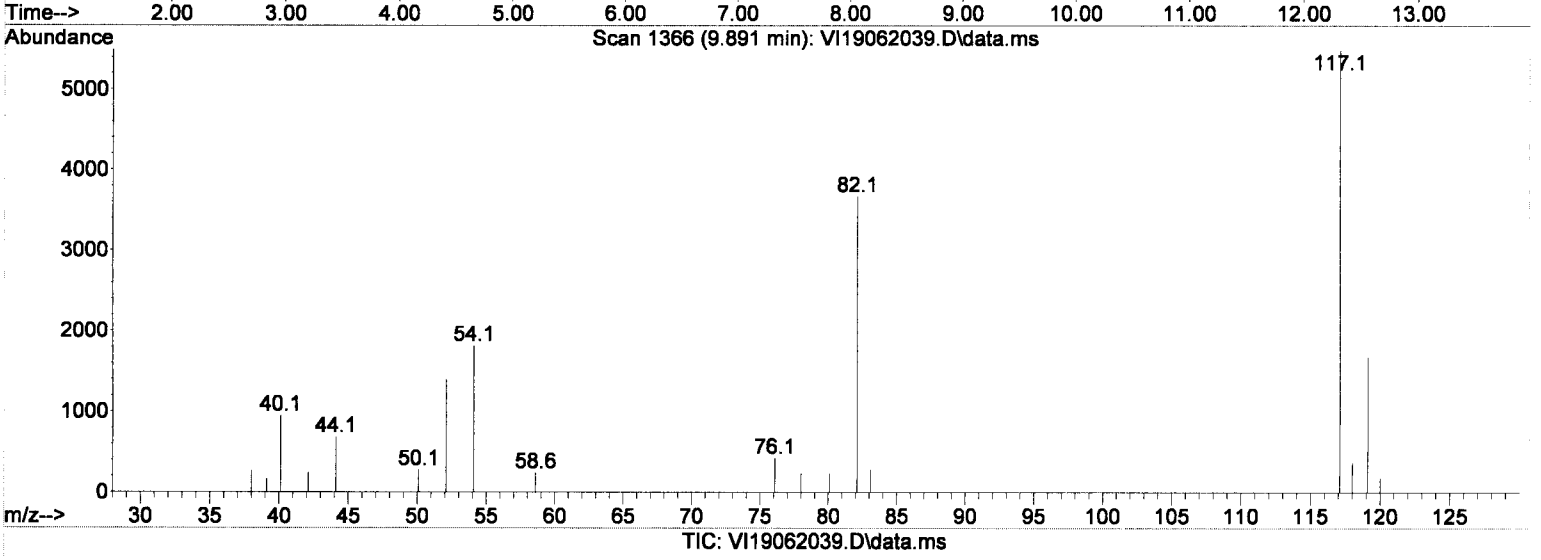
Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	1.92#
0.00	0.00	1.49#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration





TIC: VI19062039.D\data.ms

(7) CA-LUFT (C5-C12) (H)

9.890min (0.000) 337.37 ug/L m

response 3469895

Signal	Exp%	Act%
TIC	100.00	100.00
0.00	0.00	0.98#
0.00	0.00	0.76#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

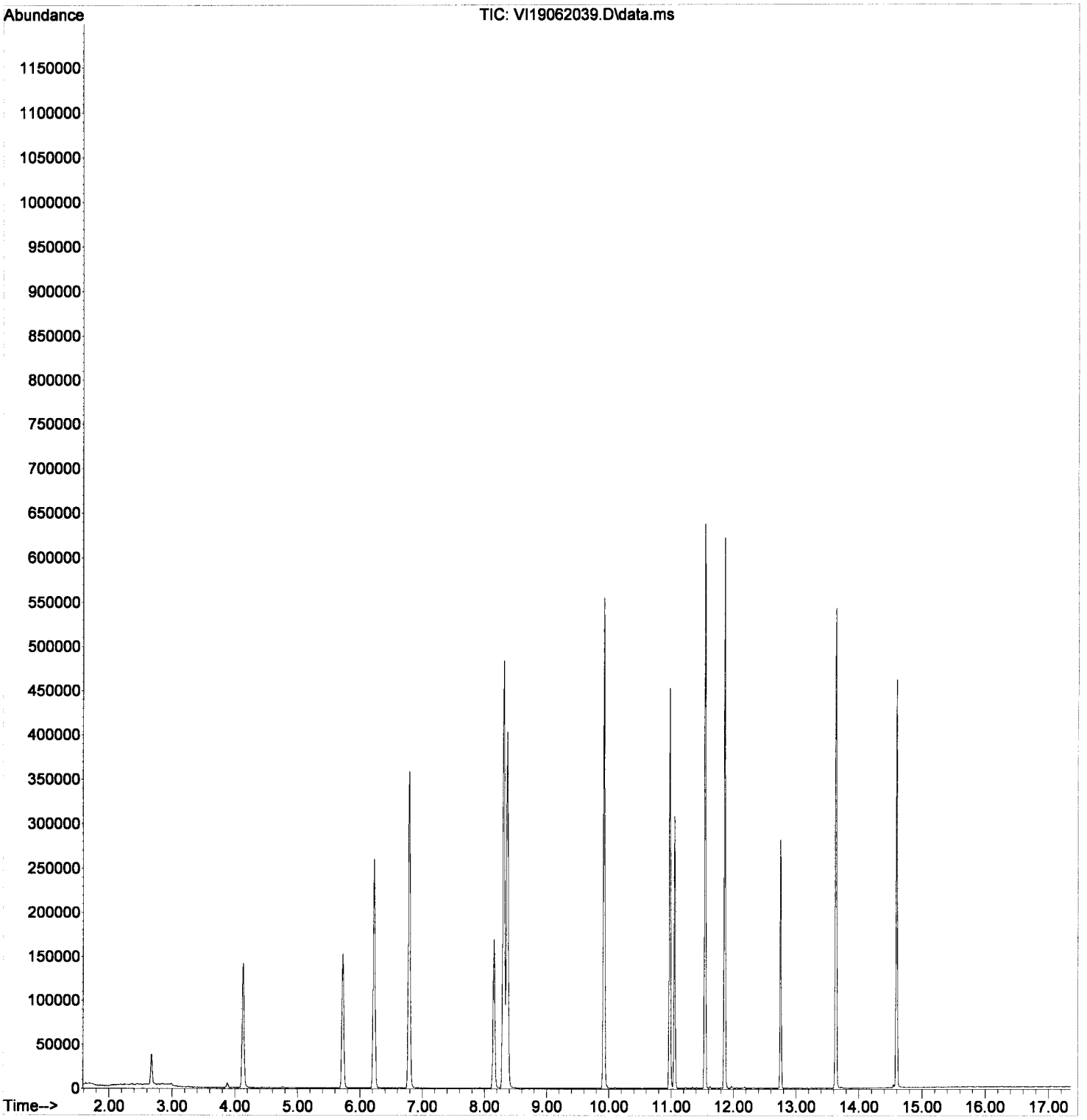
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	194046	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	326441	50.02	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	111816	49.29	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	383251	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	296736	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	213459	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3545037m	575.55	ug/L	
5) TPHg (C5-C9)	9.890	TIC	1858541m	204.35	ug/L	
6) TPHg (C6-C10)	9.890	TIC	1767050m	233.58	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	3469895m	337.37	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062039.D
Acq On : 21 Jun 2019 2:49 am
Operator : MM
Sample : 9F20044-RT1
Misc : A1A167 VPH RT STD
ALS Vial : 23 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:08:09 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062040.D
Acq On : 21 Jun 2019 3:16 am
Operator : MM
Sample : 9F20044-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:03 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

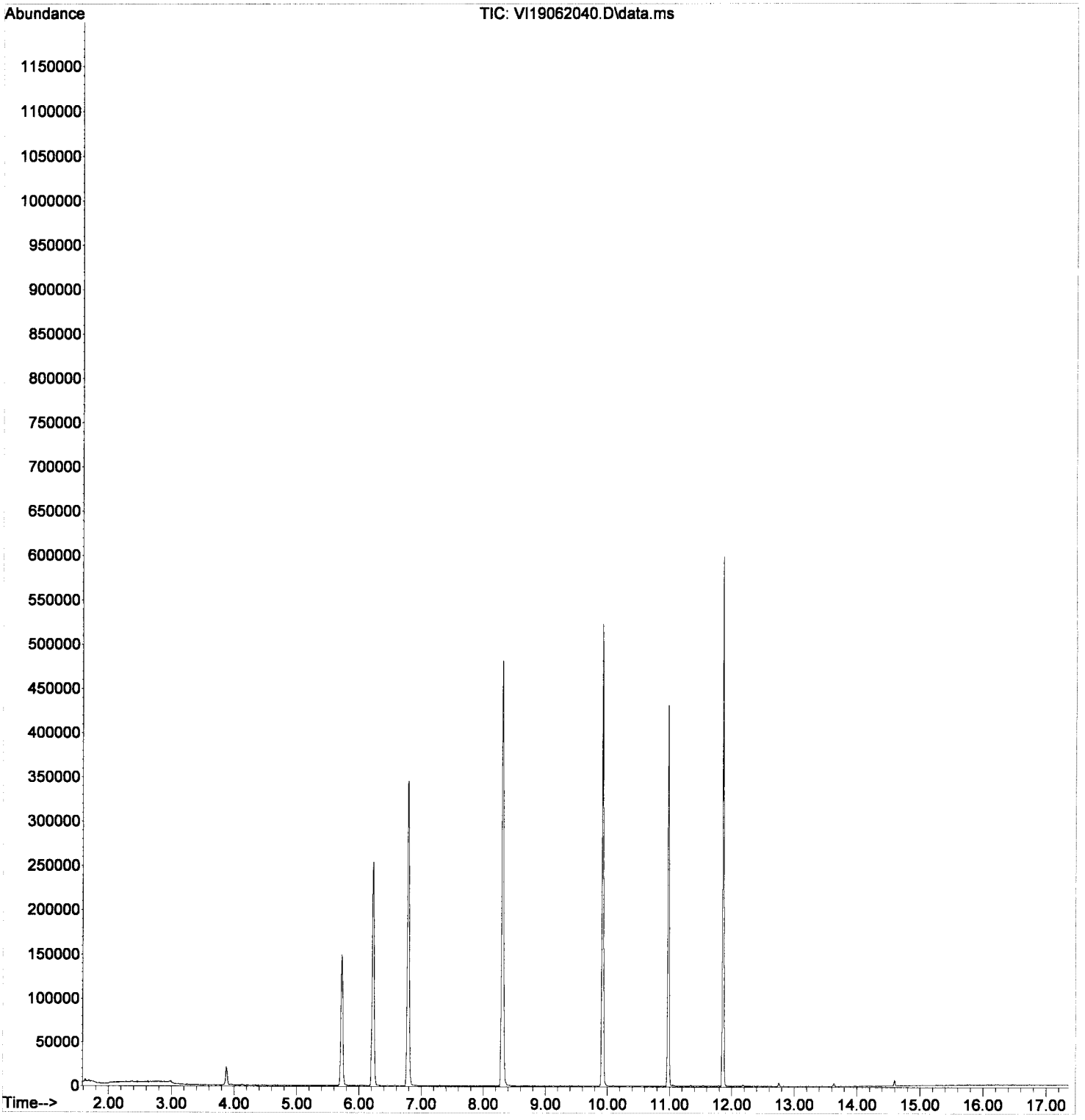
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	193860	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	324929	49.83	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	108973	48.08	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	377721	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	288051	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	201473	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	28123m	29.55	ug/L	
5) TPHg (C5-C9)	9.890	TIC	356658m	18.08	ug/L	
6) TPHg (C6-C10)	9.890	TIC	312995m	20.08	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	395196m	21.33	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062040.D
Acq On : 21 Jun 2019 3:16 am
Operator : MM
Sample : 9F20044-IBL7
Misc : 1X 5mL DI
ALS Vial : 24 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:03 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062041.D
Acq On : 21 Jun 2019 3:43 am
Operator : MM
Sample : 9F20044-ICB1
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:08 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

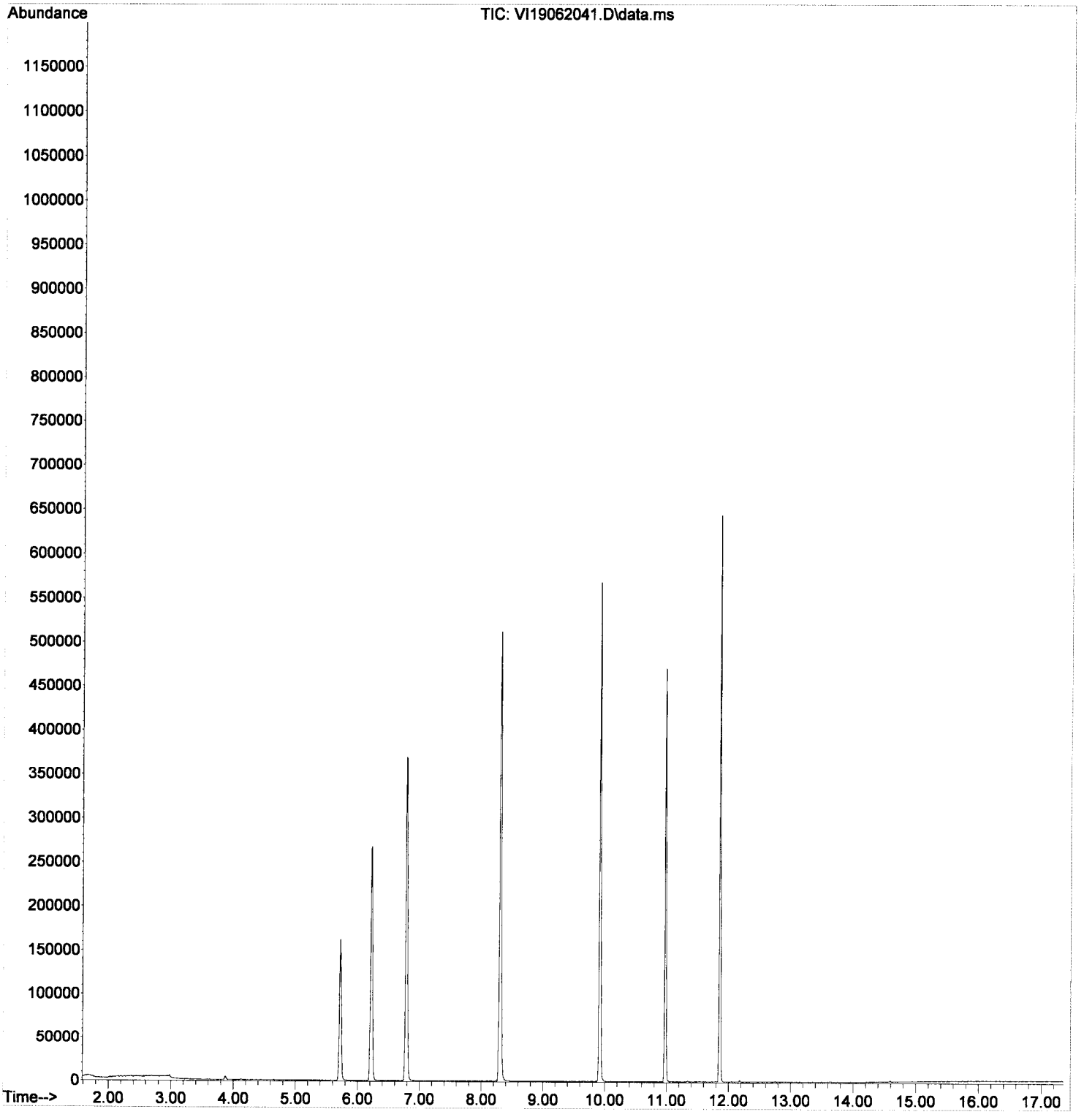
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	206455	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	345796	49.80	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	117310	48.60	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	403780	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	309053	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	217921	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	25801m	28.94	ug/L	
5) TPHg (C5-C9)	9.890	TIC	356995m	15.42	ug/L	
6) TPHg (C6-C10)	9.890	TIC	329511m	19.56	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	395646m	18.89	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062041.D
Acq On : 21 Jun 2019 3:43 am
Operator : MM
Sample : 9F20044-ICB1
Misc : 1X 5mL DI
ALS Vial : 25 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:08 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062042.D
Acq On : 21 Jun 2019 4:10 am
Operator : MM
Sample : 9F20044-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:08 2019
Quant Method : C:\msdchem\1\methods\~~VI190621G~~.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

MM 6/21/19

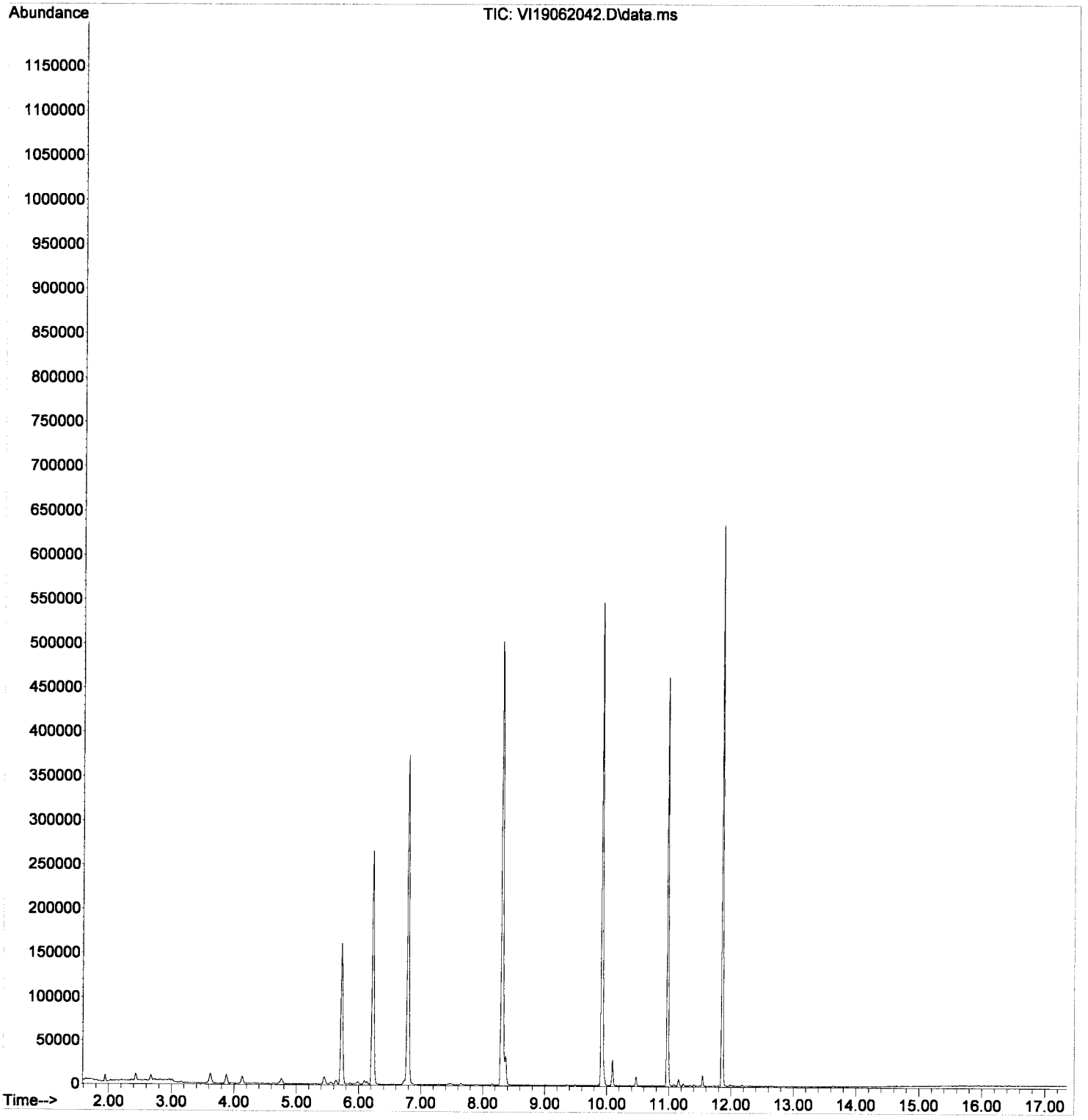
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	203678	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	341047	50.18	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	115213	53.16	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	399804	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	302490	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	214679	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	176842m	63.41	ug/L	
5) TPHg (C5-C9)	9.890	TIC	643841m	58.78	ug/L	
6) TPHg (C6-C10)	9.890	TIC	538437m	60.38	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	724537m	62.81	ug/L	
8) Benzene (NR)	6.132	78	3039	No Calib		
10) Toluene (NR)	8.364	91	26286	No Calib		
13) Naphthalene (NR)	13.633	128	1041	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062042.D
Acq On : 21 Jun 2019 4:10 am
Operator : MM
Sample : 9F20044-CALC
Misc : 1X 5mL 50PPB GX
ALS Vial : 26 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:08 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:11 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

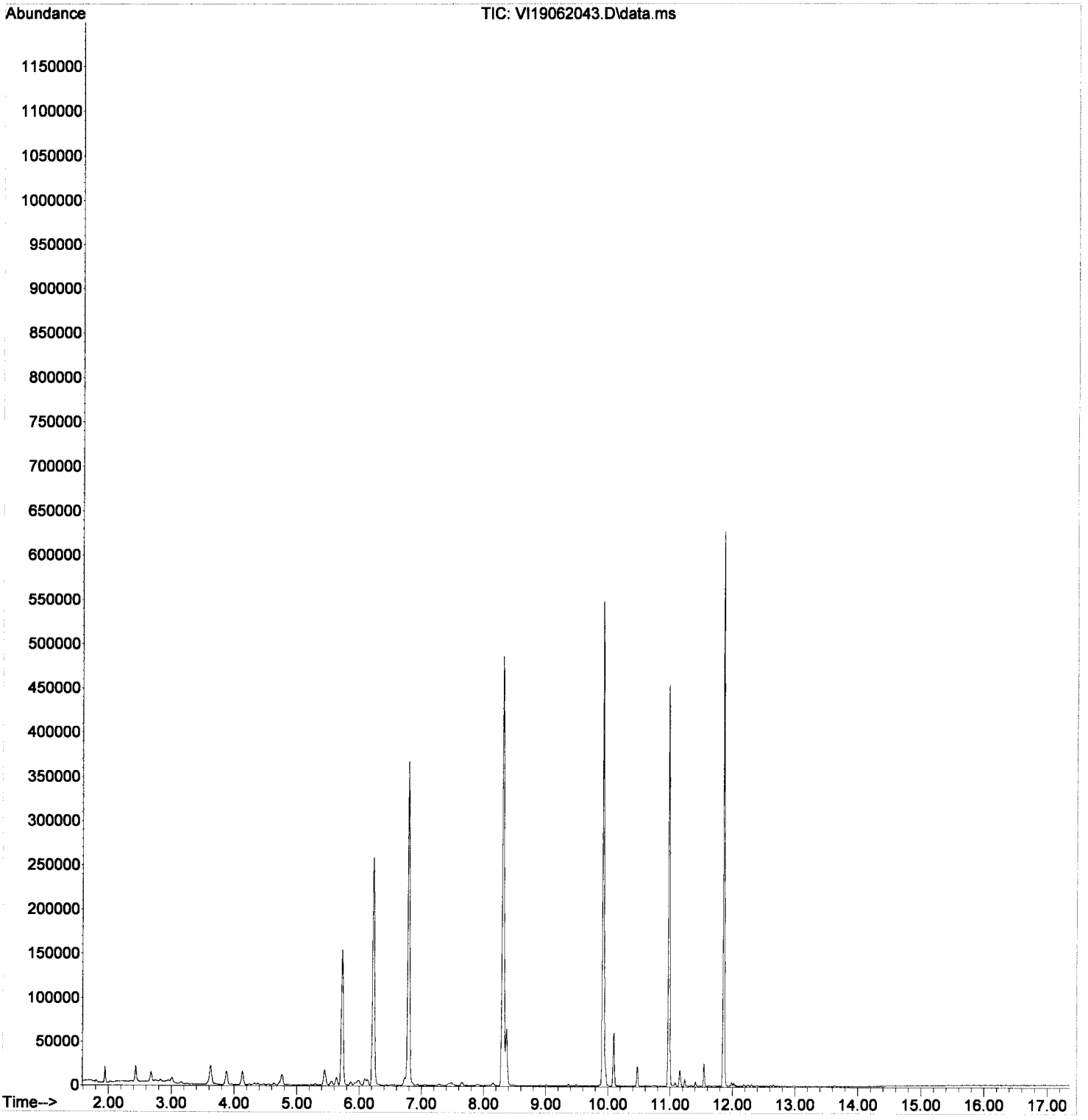
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	196555	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	330061	50.32	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	112452	53.77	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	386354	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	294827	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	209551	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	510164m	118.68	ug/L	
5) TPHg (C5-C9)	9.890	TIC	1047532m	112.79	ug/L	
6) TPHg (C6-C10)	9.890	TIC	885590m	115.27	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	1190862m	114.89	ug/L	
8) Benzene (NR)	6.132	78	6268	No Calib		
10) Toluene (NR)	8.364	91	54019	No Calib		
13) Naphthalene (NR)	13.633	128	1425	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062043.D
Acq On : 21 Jun 2019 4:37 am
Operator : MM
Sample : 9F20044-CALD
Misc : 1X 5mL 100PPB GX
ALS Vial : 27 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:11 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062044.D
Acq On : 21 Jun 2019 5:04 am
Operator : MM
Sample : 9F20044-CALE
Misc : 1X 5mL 250PPB GX
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:14 2019
Quant Method : C:\msdchem\1\methods\~~VI190621G~~.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

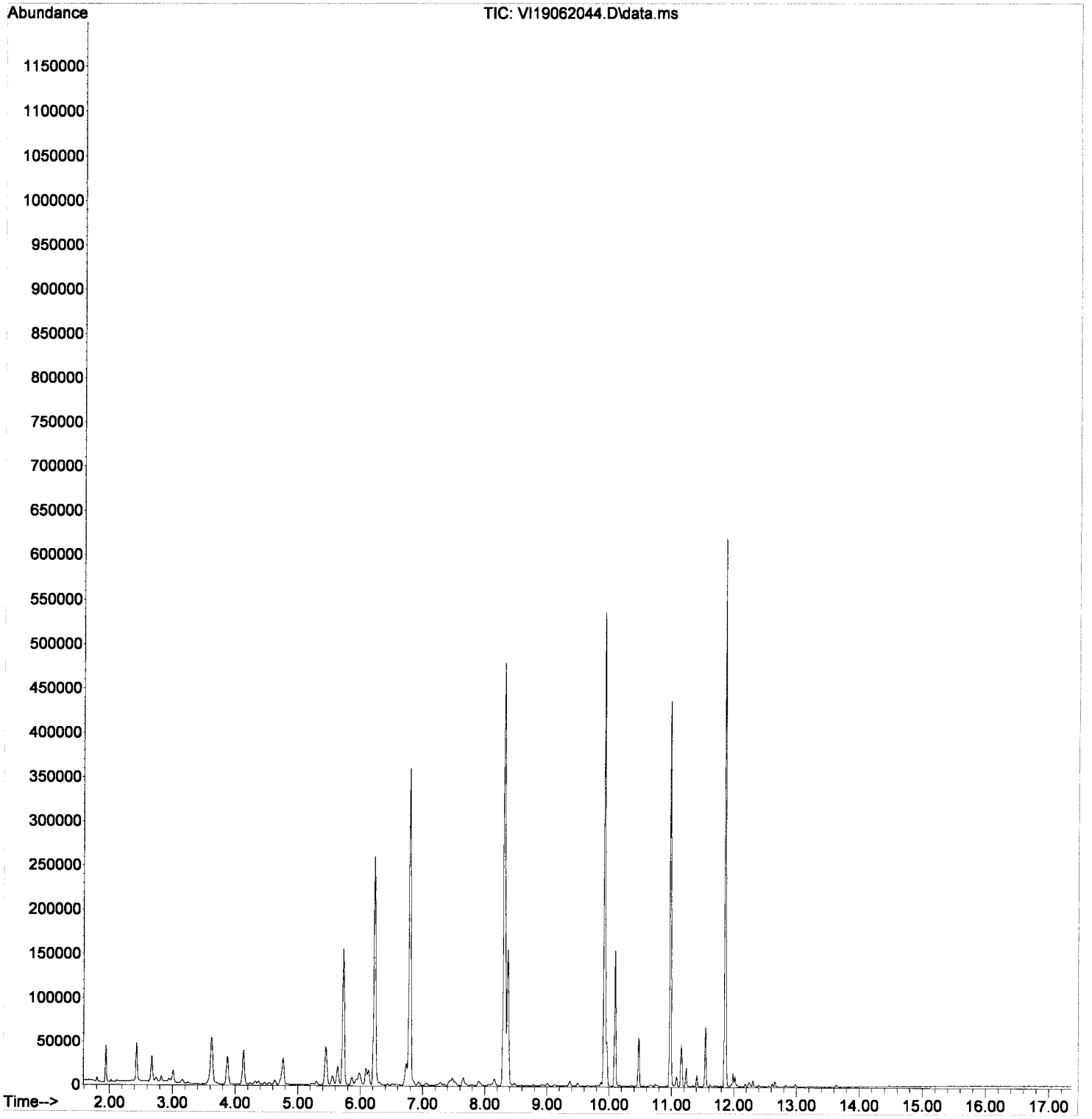
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	194307	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	325280	50.16	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	110399	53.40	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	382210	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.922	117	291147	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	208338	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	1404577m	266.52	ug/L	
5) TPHg (C5-C9)	9.890	TIC	2231124m	265.82	ug/L	
6) TPHg (C6-C10)	9.890	TIC	1874608m	266.61	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	2573247m	264.21	ug/L	
8) Benzene (NR)	6.132	78	15186	No Calib		
10) Toluene (NR)	8.364	91	131757	No Calib		
13) Naphthalene (NR)	13.633	128	2842	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062044.D
Acq On : 21 Jun 2019 5:04 am
Operator : MM
Sample : 9F20044-CALE
Misc : 1X 5mL 250PPB GX
ALS Vial : 28 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:14 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062045.D
Acq On : 21 Jun 2019 5:31 am
Operator : MM
Sample : 9F20044-CALF
Misc : 1X 5mL 500PPB GX
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:17 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

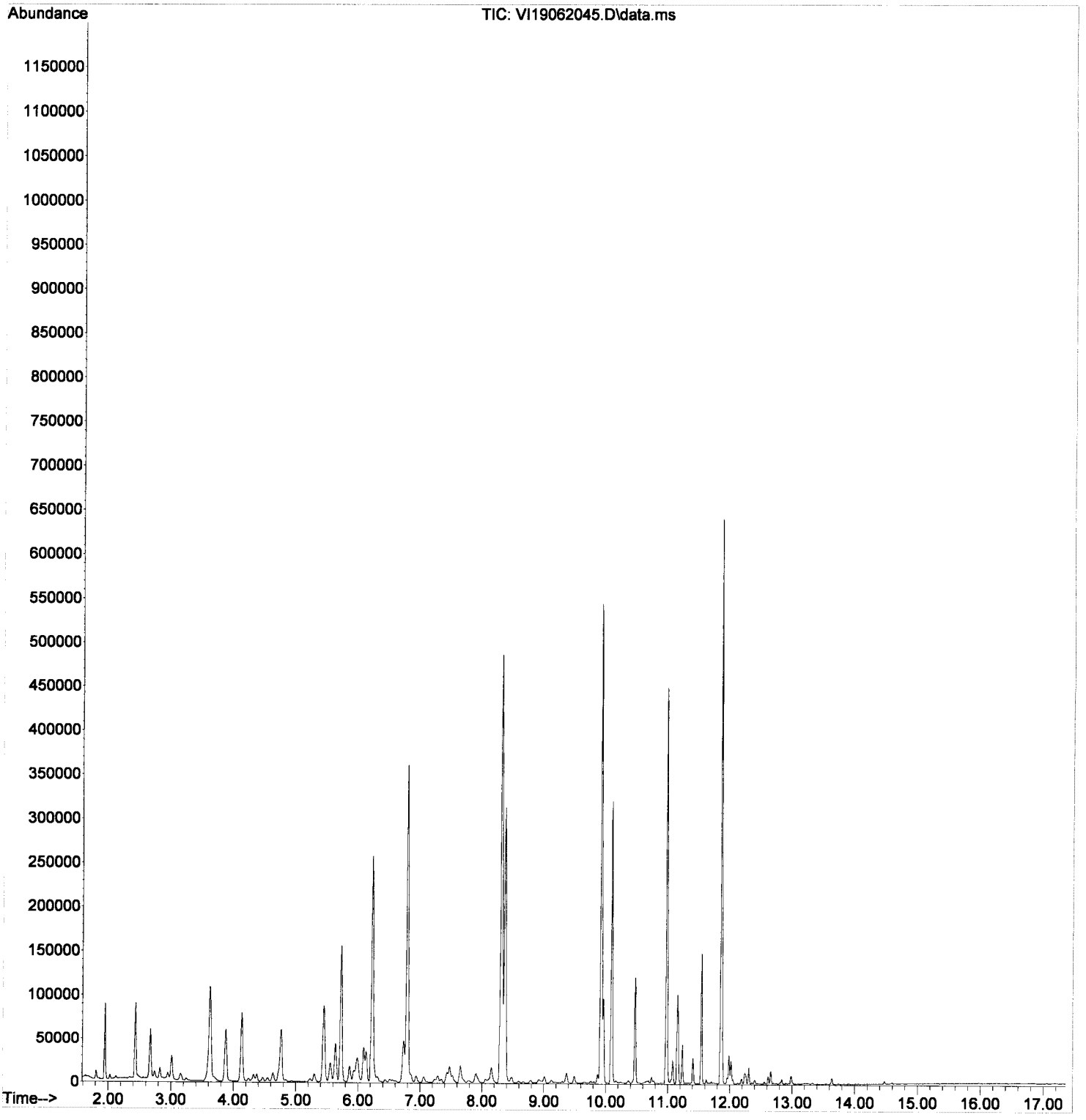
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	193440	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	322266	49.92	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	112659	54.74	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	383925	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	293849	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	214766	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3050984m	537.56	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4250064m	525.96	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3614041m	531.70	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	5033567m	528.74	ug/L	
8) Benzene (NR)	6.132	78	30256	No Calib		
10) Toluene (NR)	8.364	91	270787	No Calib		
13) Naphthalene (NR)	13.633	128	5779	No Calib	#	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062045.D
Acq On : 21 Jun 2019 5:31 am
Operator : MM
Sample : 9F20044-CALF
Misc : 1X 5mL 500PPB GX
ALS Vial : 29 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:17 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062046.D
Acq On : 21 Jun 2019 5:58 am
Operator : MM
Sample : 9F20044-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:20 2019
Quant Method : C:\msdchem\1\methods\~~VI190621~~G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

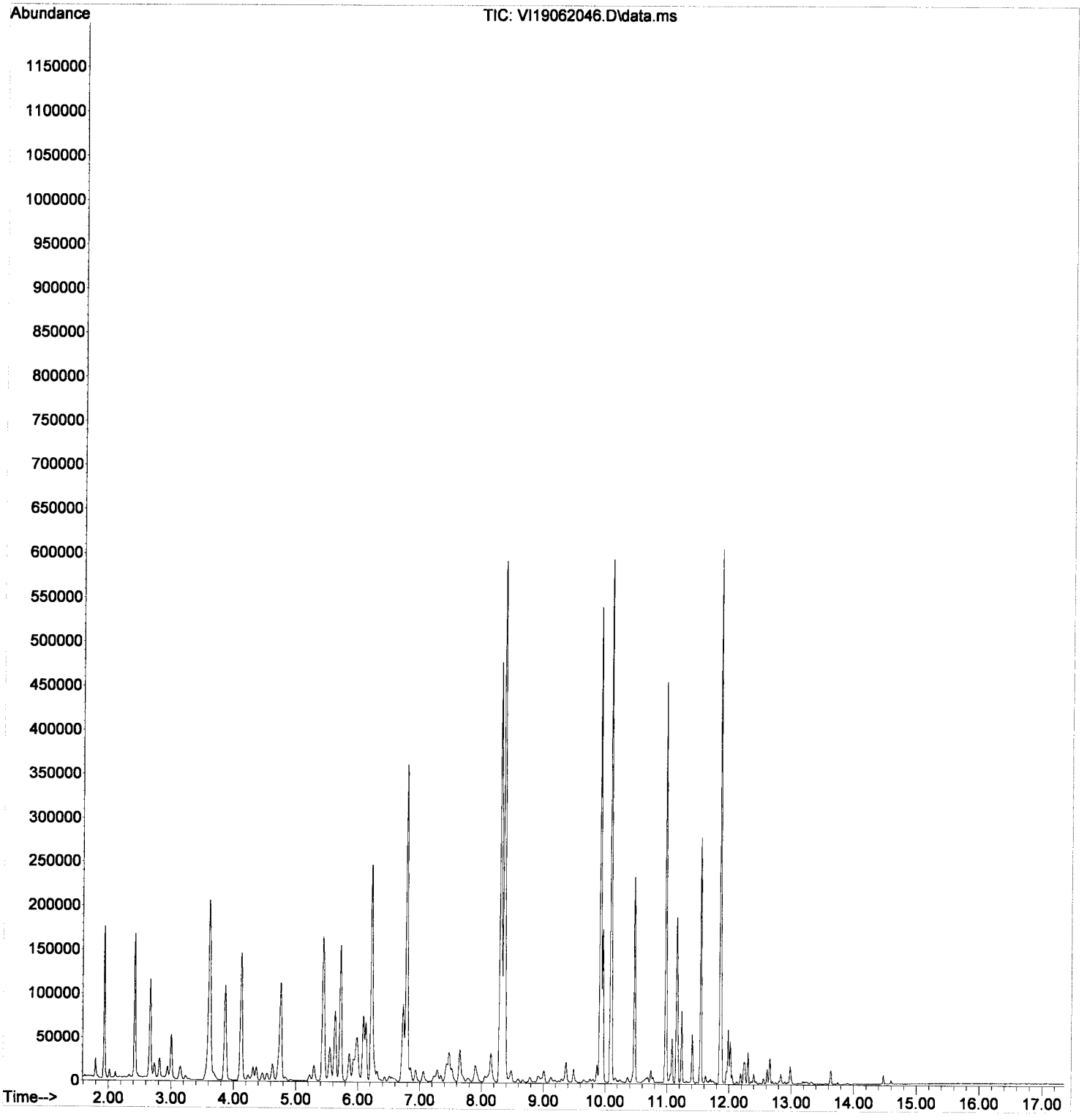
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	188214	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	317178	50.50	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	110284	55.07	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	373528	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	285367	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	207795	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	5817074m	1012.82	ug/L	
5) TPHg (C5-C9)	9.890	TIC	7801161m	1006.66	ug/L	
6) TPHg (C6-C10)	9.890	TIC	6627134m	1013.93	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	9289018m	1008.40	ug/L	
8) Benzene (NR)	6.126	78	59310	No Calib		
10) Toluene (NR)	8.364	91	517739	No Calib		
13) Naphthalene (NR)	13.633	128	12001	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062046.D
Acq On : 21 Jun 2019 5:58 am
Operator : MM
Sample : 9F20044-CALG
Misc : 1X 5mL 1000PPB GX
ALS Vial : 30 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:20 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062047.D
Acq On : 21 Jun 2019 6:25 am
Operator : MM
Sample : 9F20044-CALH
Misc : 1X 5mL 2500PPB GX
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:23 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

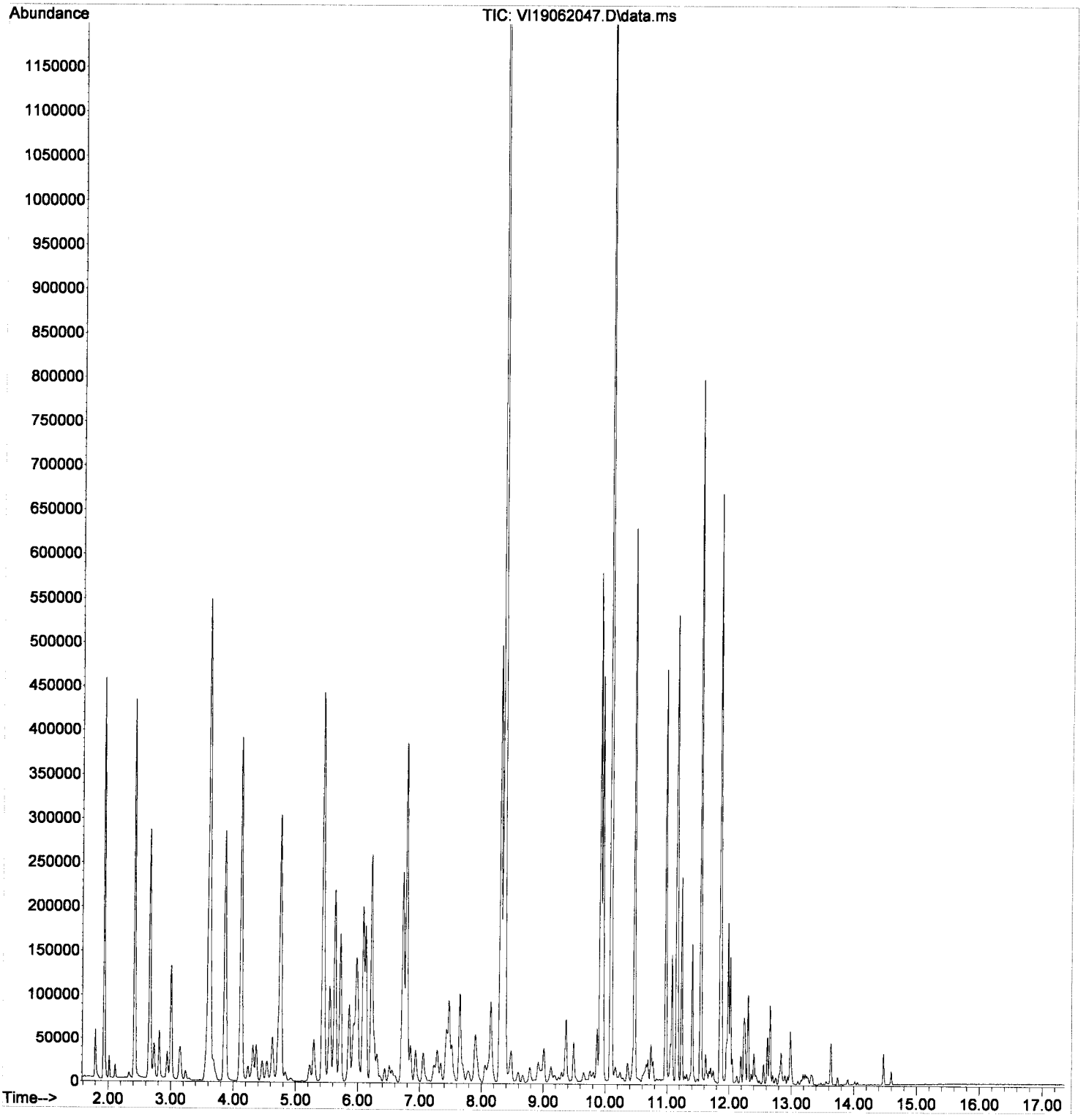
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	197104	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	328682	49.97	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	116804	55.70	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	388714	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	302739	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	224410	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	16138061m	2570.24	ug/L	
5) TPHg (C5-C9)	9.890	TIC	20687524m	2553.13	ug/L	
6) TPHg (C6-C10)	9.890	TIC	17492230m	2552.90	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	25003365m	2571.68	ug/L	
8) Benzene (NR)	6.126	78	153910	No Calib		
10) Toluene (NR)	8.364	91	1344333	No Calib		
13) Naphthalene (NR)	13.633	128	33340	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062047.D
Acq On : 21 Jun 2019 6:25 am
Operator : MM
Sample : 9F20044-CALH
Misc : 1X 5mL 2500PPB GX
ALS Vial : 31 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:23 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062048.D
Acq On : 21 Jun 2019 6:52 am
Operator : MM
Sample : 9F20044-CALI
Misc : 1X 5mL 5000PPB GX
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:26 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

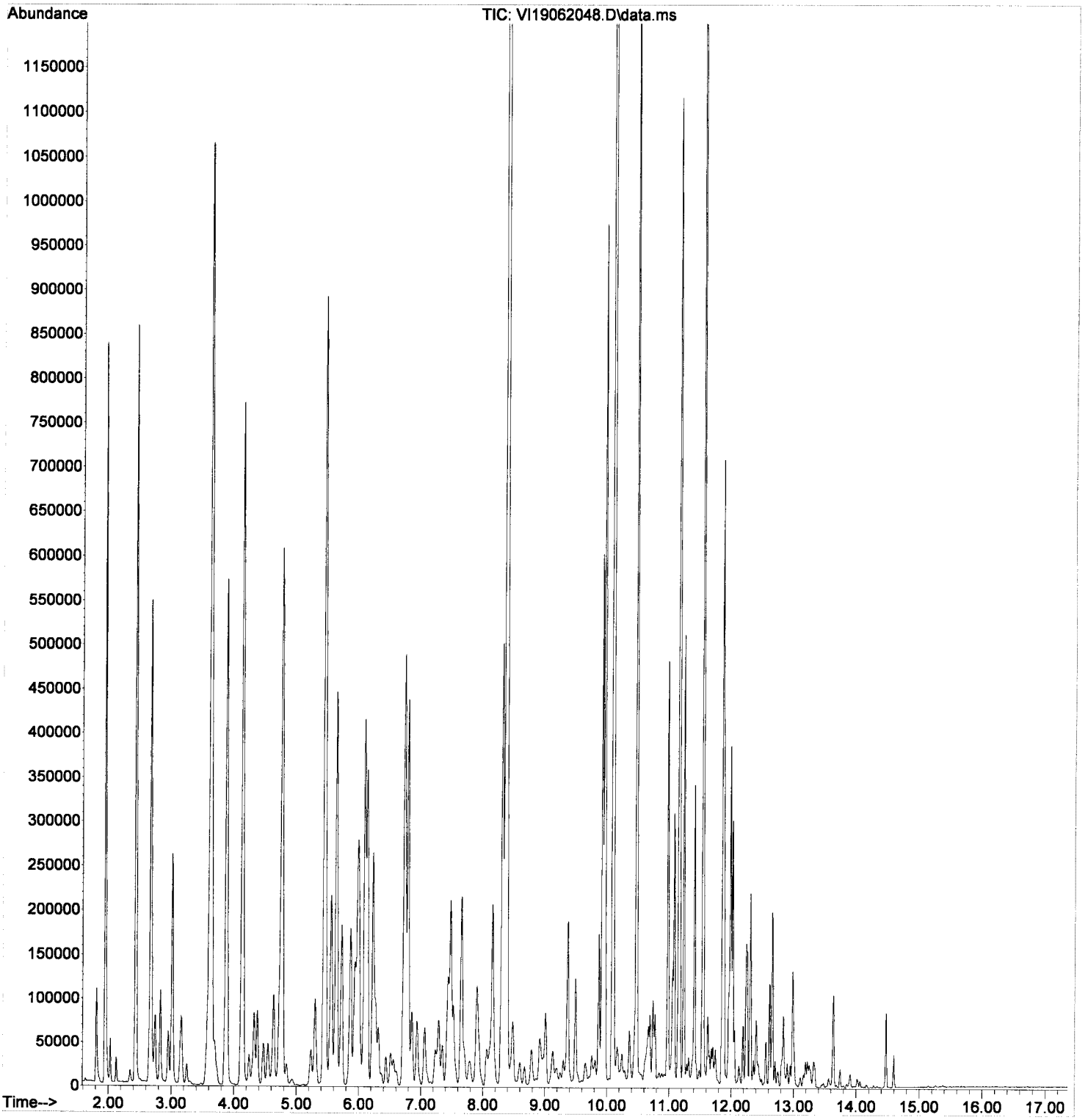
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	197272	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	334265	50.78	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	119127	56.75	ug/L	0.00
9) Toluene-d8 (NR)	8.310	98	393564	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	305618	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	227854	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	34154824m	5211.75	ug/L	
5) TPHg (C5-C9)	9.890	TIC	42062909m	5119.91	ug/L	
6) TPHg (C6-C10)	9.890	TIC	35589326m	5111.36	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	51341556m	5163.61	ug/L	
8) Benzene (NR)	6.132	78	315557	No Calib		
10) Toluene (NR)	8.364	91	2768205	No Calib		
13) Naphthalene (NR)	13.633	128	74373	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062048.D
Acq On : 21 Jun 2019 6:52 am
Operator : MM
Sample : 9F20044-CALI
Misc : 1X 5mL 5000PPB GX
ALS Vial : 32 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:26 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062049.D
Acq On : 21 Jun 2019 7:19 am
Operator : MM
Sample : 9F20044-CALJ
Misc : 1X 5mL 10000PPB GX
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:29 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration

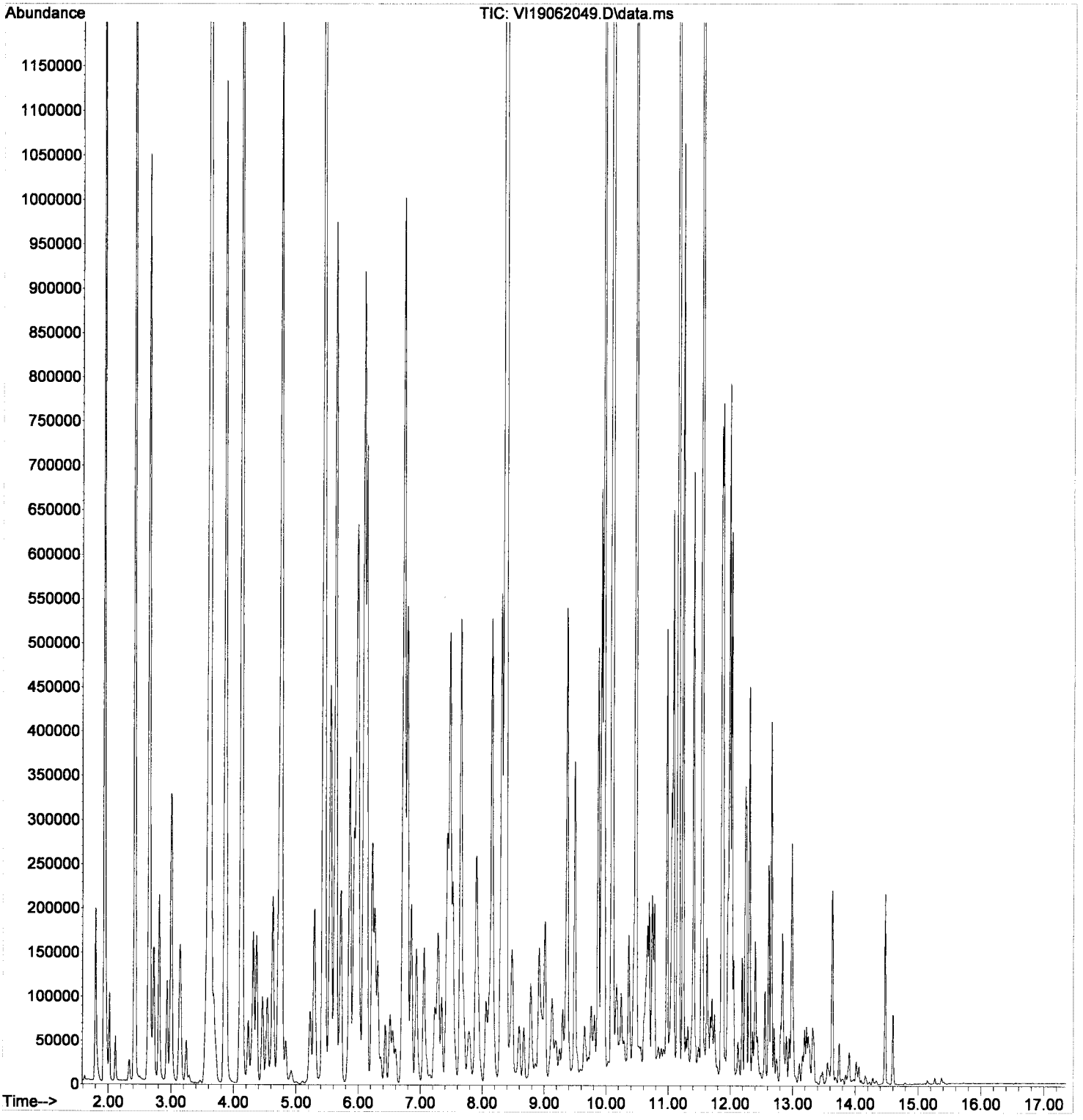
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	203972	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.783	114	349364	51.33	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	123534	56.92	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	412638	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	319888	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	236219	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	70317963m	9767.23	ug/L	
5) TPHg (C5-C9)	9.890	TIC	86326990m	9875.56	ug/L	
6) TPHg (C6-C10)	9.890	TIC	73549856m	9891.96	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	105779948m	9877.94	ug/L	
8) Benzene (NR)	6.126	78	624604	No Calib		
10) Toluene (NR)	8.364	91	5449592	No Calib		
13) Naphthalene (NR)	13.633	128	157135	No Calib		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062049.D
Acq On : 21 Jun 2019 7:19 am
Operator : MM
Sample : 9F20044-CALJ
Misc : 1X 5mL 10000PPB GX
ALS Vial : 33 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 10:59:29 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Tue May 14 10:07:28 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062050.D
Acq On : 21 Jun 2019 7:46 am
Operator : MM
Sample : 9F20044-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:19 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

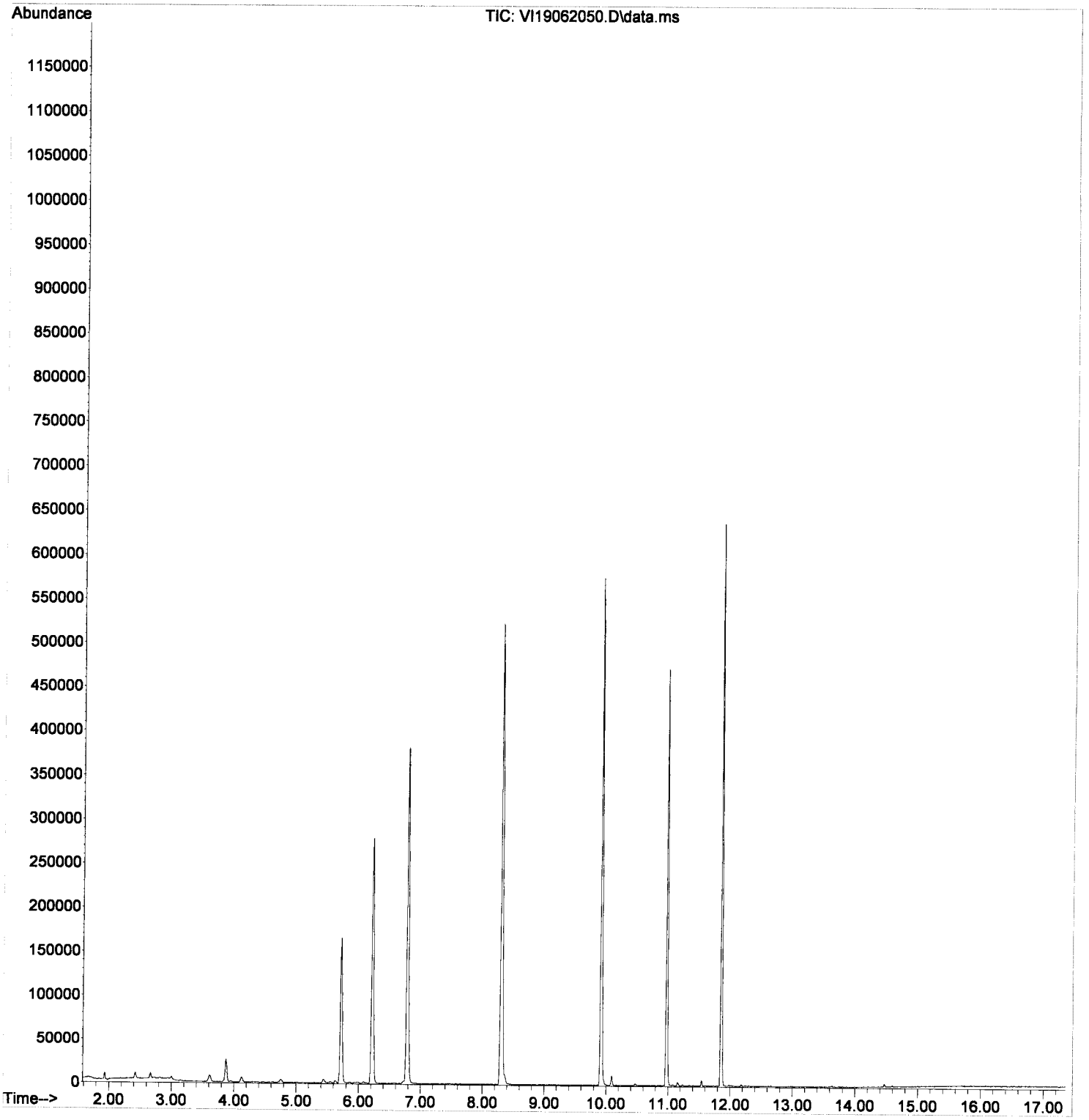
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	217202	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	362588	49.63	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	120633	47.51	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	418549	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.915	117	319447	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	223463	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	97363m	38.71	ug/L	
5) TPHg (C5-C9)	9.890	TIC	553329m	35.12	ug/L	
6) TPHg (C6-C10)	9.890	TIC	443327m	32.25	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	612105m	36.89	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062050.D
Acq On : 21 Jun 2019 7:46 am
Operator : MM
Sample : 9F20044-IBL8
Misc : 1X 5mL DI
ALS Vial : 34 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:19 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062051.D
Acq On : 21 Jun 2019 8:13 am
Operator : MM
Sample : 9F20044-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:22 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

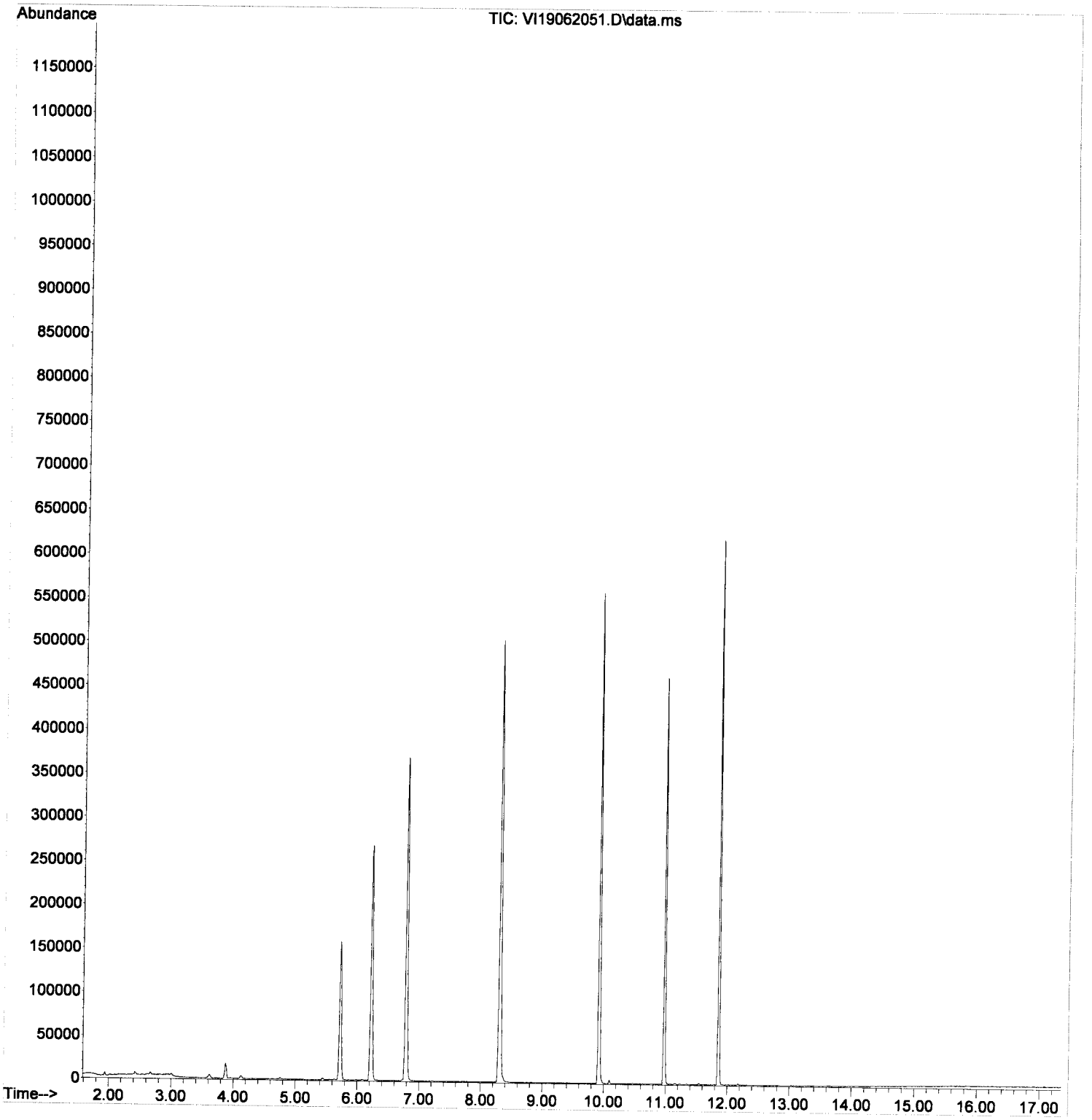
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	209371	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	347135	49.29	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.980	174	118433	48.38	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	405184	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	308837	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	217289	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	45758m	31.77	ug/L	
5) TPHg (C5-C9)	9.890	TIC	512154m	32.68	ug/L	
6) TPHg (C6-C10)	9.890	TIC	363119m	23.50	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	552083m	33.27	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062051.D
Acq On : 21 Jun 2019 8:13 am
Operator : MM
Sample : 9F20044-IBL9
Misc : 1X 5mL DI
ALS Vial : 35 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:22 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062052.D
Acq On : 21 Jun 2019 8:40 am
Operator : MM
Sample : 9F20044-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:25 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

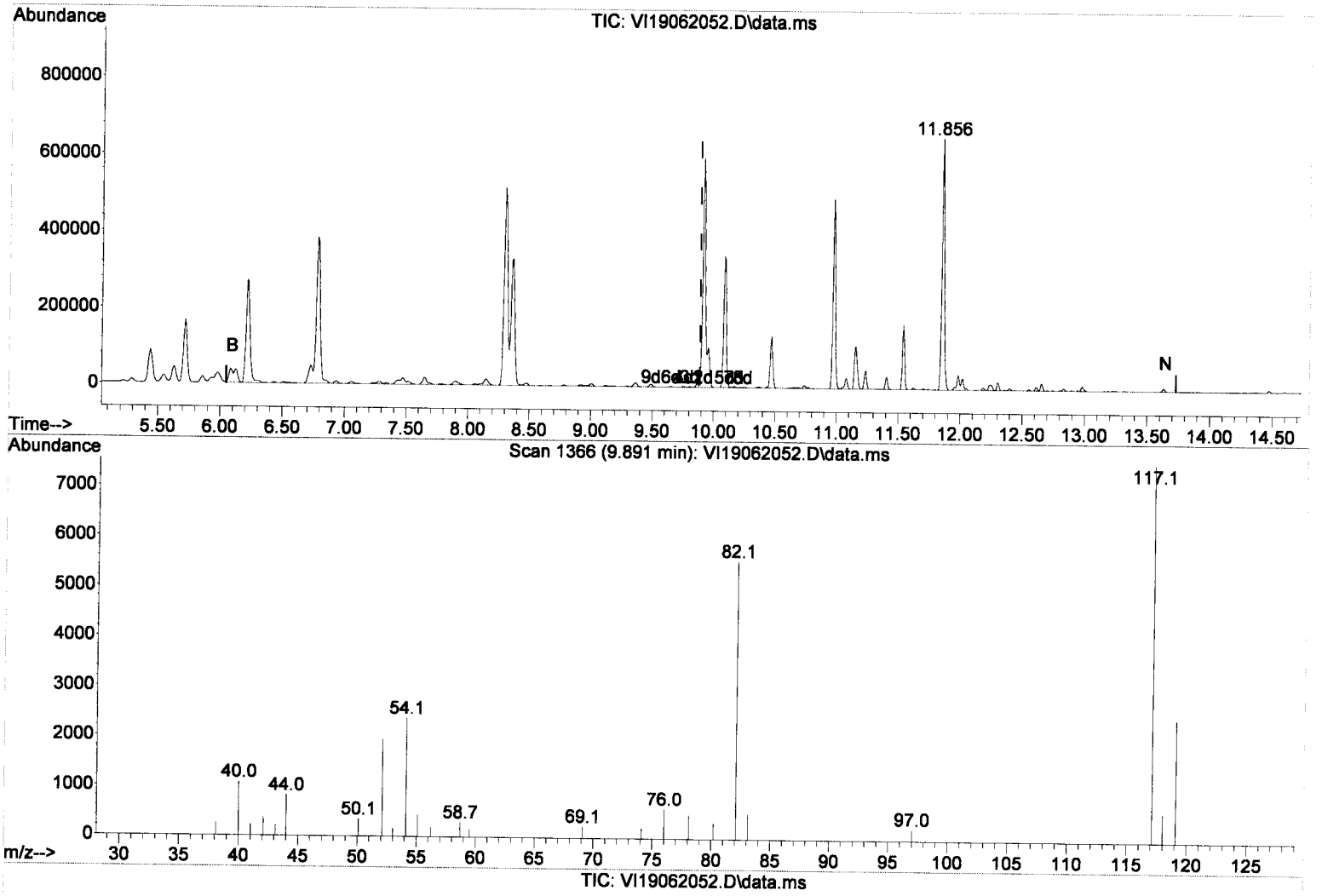
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	208499	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	350185	49.94	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	121204	49.72	ug/L	0.00
9) Toluene-d8 (NR)	8.303	98	408887	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	316434	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.856	150	229291	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	3227397m	491.69	ug/L	
5) TPHg (C5-C9)	9.890	TIC	4293325m	469.25	ug/L	
6) TPHg (C6-C10)	9.890	TIC	3766154m	488.49	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	5105856m	468.94	ug/L	

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062052.D
Acq On : 21 Jun 2019 8:40 am
Operator : MM
Sample : 9F20044-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:25 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



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

9.890min (0.000) 491.69 ug/L m

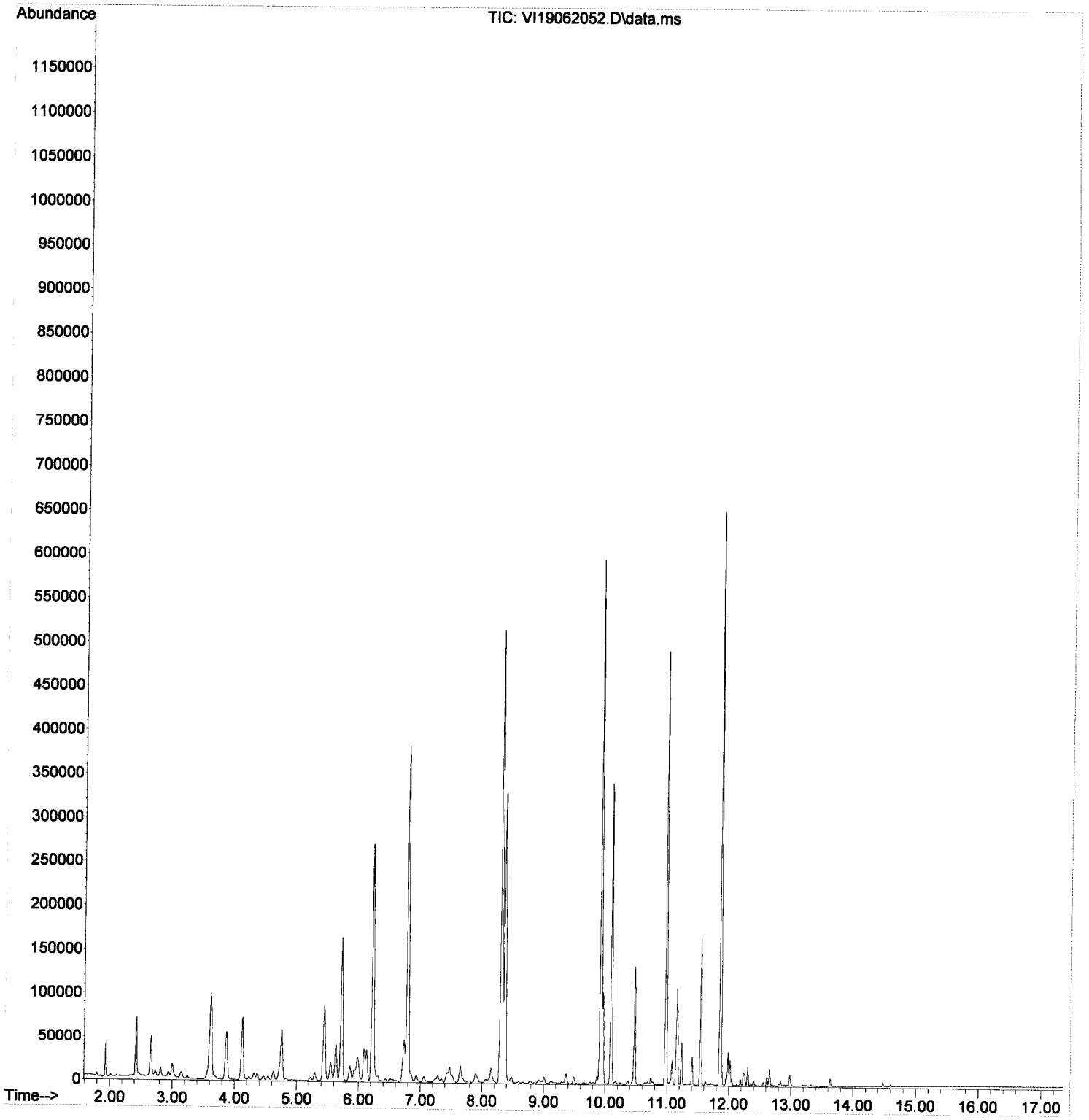
response 3227397

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\2019-06\9F20044\
Data File : VI19062052.D
Acq On : 21 Jun 2019 8:40 am
Operator : MM
Sample : 9F20044-ICV3
Misc : 1X 5mL 500PPB GX
ALS Vial : 36 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:25 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062053.D
Acq On : 21 Jun 2019 9:08 am
Operator : MM
Sample : 9F20044-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:28 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration

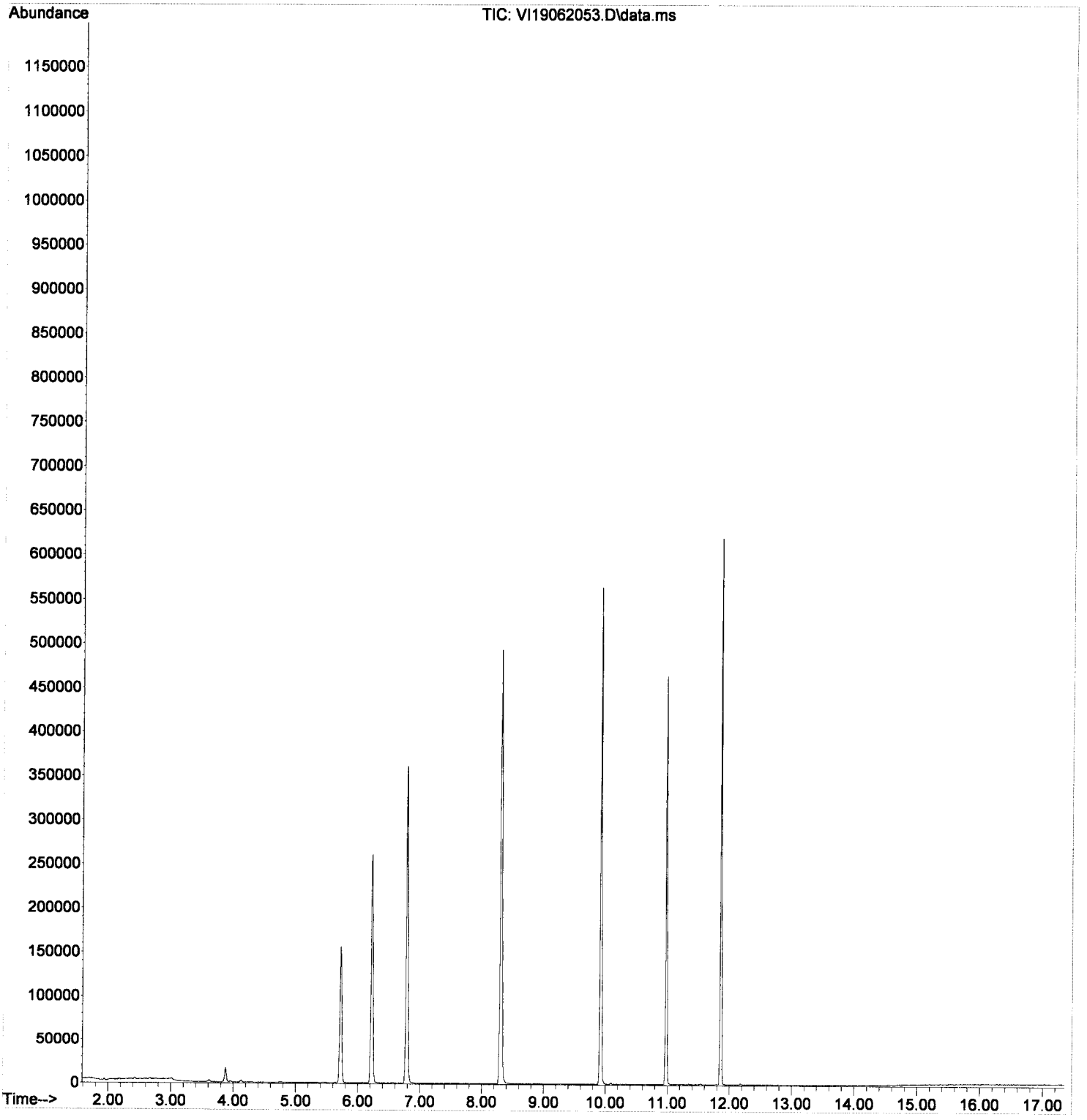
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene (IS)	6.223	168	202087	50.00	ug/L	0.00
System Monitoring Compounds						
2) 1,4-Difluorobenzene (Sur)	6.789	114	337807	49.70	ug/L	0.00
3) 4-Bromofluorobenzene (...	10.974	174	114849	48.61	ug/L	0.00
9) Toluene-d8 (NR)	8.304	98	395036	0.00	ug/L	0.00
11) Chlorobenzene-d5 (NR)	9.916	117	302127	0.00	ug/L	0.00
12) 1,4-Dichlorobenzene-d4...	11.857	150	211115	0.00	ug/L	0.00
Target Compounds						Qvalue
4) NWTPH-Gx (TPH)	9.890	TIC	-15516m	22.85	ug/L	
5) TPHg (C5-C9)	9.890	TIC	477707m	30.70	ug/L	
6) TPHg (C6-C10)	9.890	TIC	342314m	22.35	ug/L	
7) CA-LUFT (C5-C12)	9.890	TIC	459379m	26.01	ug/L	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\data\2019-06\9F20044\
Data File : VI19062053.D
Acq On : 21 Jun 2019 9:08 am
Operator : MM
Sample : 9F20044-IBLA
Misc : 1X 5mL DI
ALS Vial : 37 Sample Multiplier: 1
DataAcq Meth:VI1611RUN.M

Quant Time: Jun 21 11:09:28 2019
Quant Method : C:\msdchem\1\methods\VI190621G.M
Quant Title : NWTPH-Gx by GC/MS
QLast Update : Fri Jun 21 11:04:13 2019
Response via : Initial Calibration



Semivolatile Organic Compounds By EPA 8270D
Benchsheet & Analysis Sequence Data

Batch 9070583

Sequence 9G03020 (A9F0860-02RE2)

Apex Laboratories

PREPARATION BENCH SHEET

JUL 0 9 2019

BATCH #: 9070583 (Water)

Prep Method: EPA 3510C (Acid/Base Neutral)

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9070583-BLK1		QC	07/03/19 07:08	1100	1				100					
	9070583-BSD1		QC	07/03/19 07:08	1000	1	A19F255		50	100					
	9070583-BS1		QC	07/03/19 07:08	1000	1	A19F255		50	100					
	A9F0860-02	I	8270D Full List SVOC	07/03/19 07:08	1040	5				100	2708-190626-M ULT802-109				
	A9F0860-02RE1	I	8270D Full List SVOC	07/03/19 07:08	1040	5				100	2708-190626-M ULT802-109	Added 7/5/2019 by DTH			
	A9F0860-02RE2	I	8270D Full List SVOC	07/03/19 07:08	1040	5				100	2708-190626-M ULT802-109	Added 7/5/2019 by DTH			
	A9G0026-01	F	625 LL Full List (All Compounds)	07/03/19 07:08	1070	1				100	P89332 / Influent				
	A9G0026-01RE1	F	625 LL Full List (All Compounds)	07/03/19 07:08	1070	1				100	P89332 / Influent	Added 7/5/2019 by DTH			

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A18B257	09/30/20	6N Sodium Hydroxide
A18K311	12/31/20	Glass Wool
A19D007	09/30/20	DCM CHEM PROD. 186806
A19F120	06/12/20	Conc. HCl - Omnitrace
A19F362	12/23/19	Sodium Sulfate Lot # 183474

Analyte Spike(s)

Std ID	Exp. Date	Description
A19F255	12/16/19	8270D PAH+/Phenols (JSCS) Spike @ 80 PPM

Surrogate(s)

Std ID	Exp. Date	Description
A19F152	12/10/19	PAH Soil and Water Surr. (50ppm)

3x rinse

Witness: _____

Bottle Check: _____

Prepared By: _____ Date

DTH 7/5/19

Reviewed By: _____ Date

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9070583 (Water)

Prep Method: EPA 3510C (Acid/Base Neutral)

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
1	9070583-BLK1		QC	07/03/19 07:08	1000 1100	1				100			X		X
2	9070583-BSD1		QC	07/03/19 07:08	1000	1	A19F255		50	100			X		X
3	9070583-BS1		QC	07/03/19 07:08	1000	1	A19F255		50	100			X		X
4	A9F0860-02	I	8270D Full List SVOC	07/03/19 07:08	1000 1040	2 5				100	2708-190626-M ULT802-109 ✓	★	X		X
5	A9G0026-01	F	625 LL Full List (All Compounds)	07/03/19 07:08	1000 1070	1				100	P89332 / Influent ✓		X		X

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A18B257	09/30/20	6N Sodium Hydroxide
A18K311	12/31/20	Glass Wool
A19D007	09/30/20	DCM CHEM PROD. 186806
A19F120	06/12/20	Conc. HCl - Omnitrace
A19F362	12/23/19	Sodium Sulfate Lot # 183474

Analyte Spike(s)

Std ID	Exp. Date	Description
A19F255	12/16/19	8270D PAH+/Phenols (JSCS) Spike @ 80 PPM

Surrogate(s)

Std ID	Exp. Date	Description
A19F152	12/10/19	PAH Soil and Water Surr. (50ppm)

3x rinse ✓

Witness: MDI 7/03/19

Bottle Check: MDI 7/03/19

★= blown-down separate from QC and batch due to probable contamination.

Prepared By: AOJ 7-3-19 Date

Reviewed By: CAH 7-3-19 Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9G03020**	Instrument:	**SV-GCMS5**
Date:	**07/03/19 07:57**	Calibration:	**A9A3103**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9G03020-TUN1	Water	QC	QC			A19F307	A19F170
2	9G03020-IBL1	Water	QC	QC			A19F307	
3	9G03020-TUN2	Water	QC	QC			A19F307	A19F170
4	9G03020-IBL2	Water	QC	QC			A19F307	
5	9G03020-CCV1	Water	QC	QC			A19F307	A19D058
6	9G03020-CCB1	Water	QC	QC			A19F307	
7	9070574-BLK2	Soil	QC	QC		9070574	A19F307	
8	9070574-BS2	Soil	QC	QC		9070574	A19F307	
9	A9F0911-01RE3	Soil	8270D LL PAH/PHTH/Phenols		07/05/19	9070574	A19F307	
10	9070574-DUP2	Soil	QC	QC		9070574	A19F307	
11	9070574-MS2	Soil	QC	QC		9070574	A19F307	
12	9G03020-IBL3	Water	QC	QC			A19F307	
13	9070583-BLK1	Water	QC	QC		9070583	A19F307	
14	9070583-BS1	Water	QC	QC		9070583	A19F307	
15	9070583-BSD1	Water	QC	QC		9070583	A19F307	
16	A9F0860-02	Water	8270D Full List SVOC	Hahn and Associates	07/11/19	9070583	A19F307	
17	A9G0026-01	Water	625 LL Full List (All Compounds)		07/15/19	9070583	A19F307	
18	A9F0860-02RE1	Water	8270D Full List SVOC	Hahn and Associates	07/11/19	9070583	A19F307	
19	A9F0860-02RE2	Water	8270D Full List SVOC	Hahn and Associates	07/11/19	9070583	A19F307	
20	A9G0026-01RE1	Water	625 LL Full List (All Compounds)		07/15/19	9070583	A19F307	
21	9G03020-IBL4	Water	QC	QC			A19F307	

Data Entered By: DH 7/5/19

Data Reviewed By: 7/5/19

Comments:

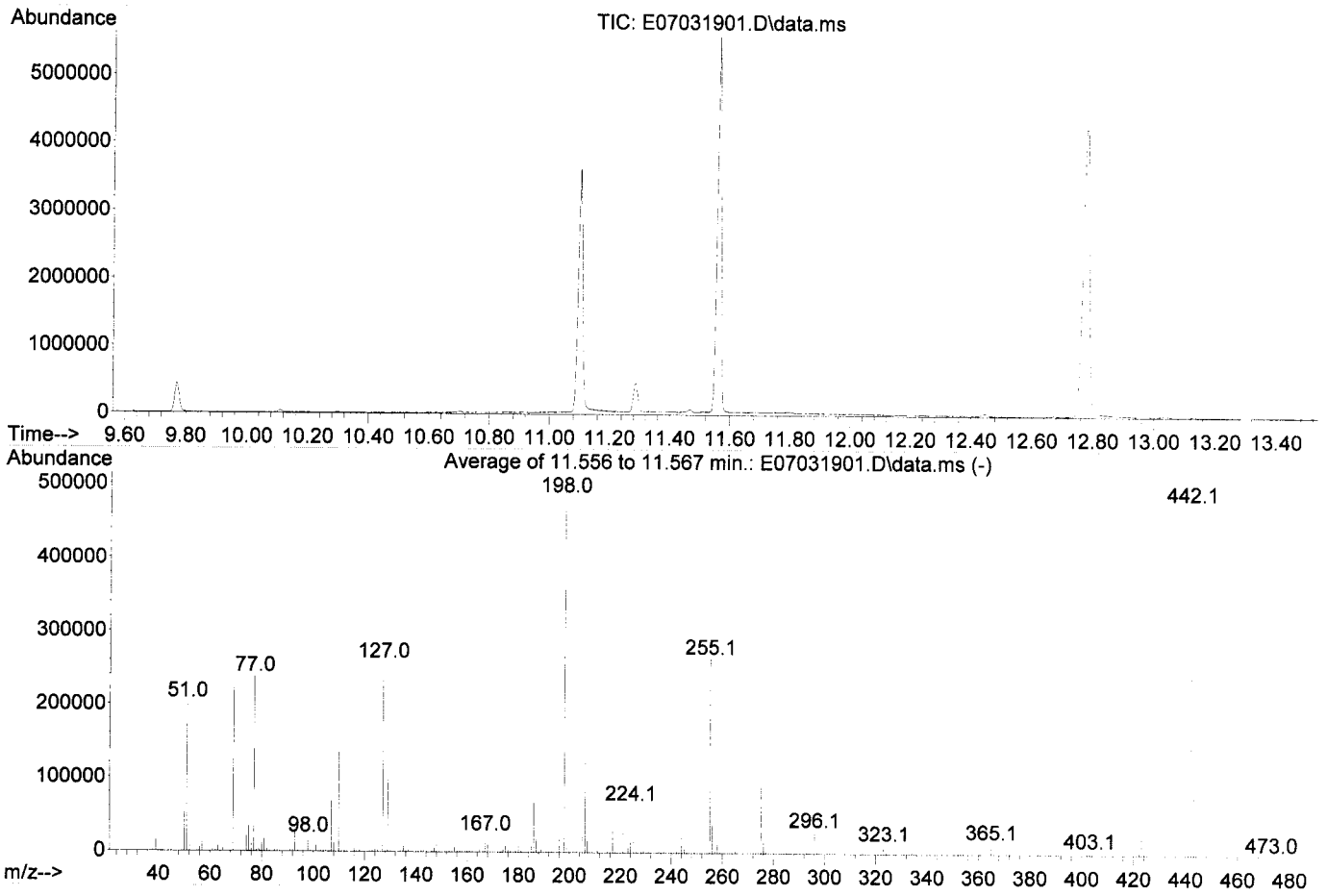
Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031901.D
Acq On : 3 Jul 2019 8:04 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP-625.M
Title : 8270 DFTPP Tune Method
Last Update : Tue May 21 14:24:55 2019

Replaced liner after this run
High breakdown
JK 7/5/19

DTH 7/5/19



AutoFind: Scans 1490, 1491, 1492; Background Corrected with Scan 1485

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	41.3	202877	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.3	222695	PASS
70	69	0.00	2	0.4	958	PASS
127	198	40	60	52.5	257683	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	491243	PASS
199	198	5	9	6.6	32447	PASS
275	198	10	30	26.8	131829	PASS
365	198	1	100	3.0	14505	PASS
441	443	0.01	100	78.9	72480	PASS
442	198	40	100	97.0	476523	PASS
443	442	17	23	19.3	91851	PASS

✓

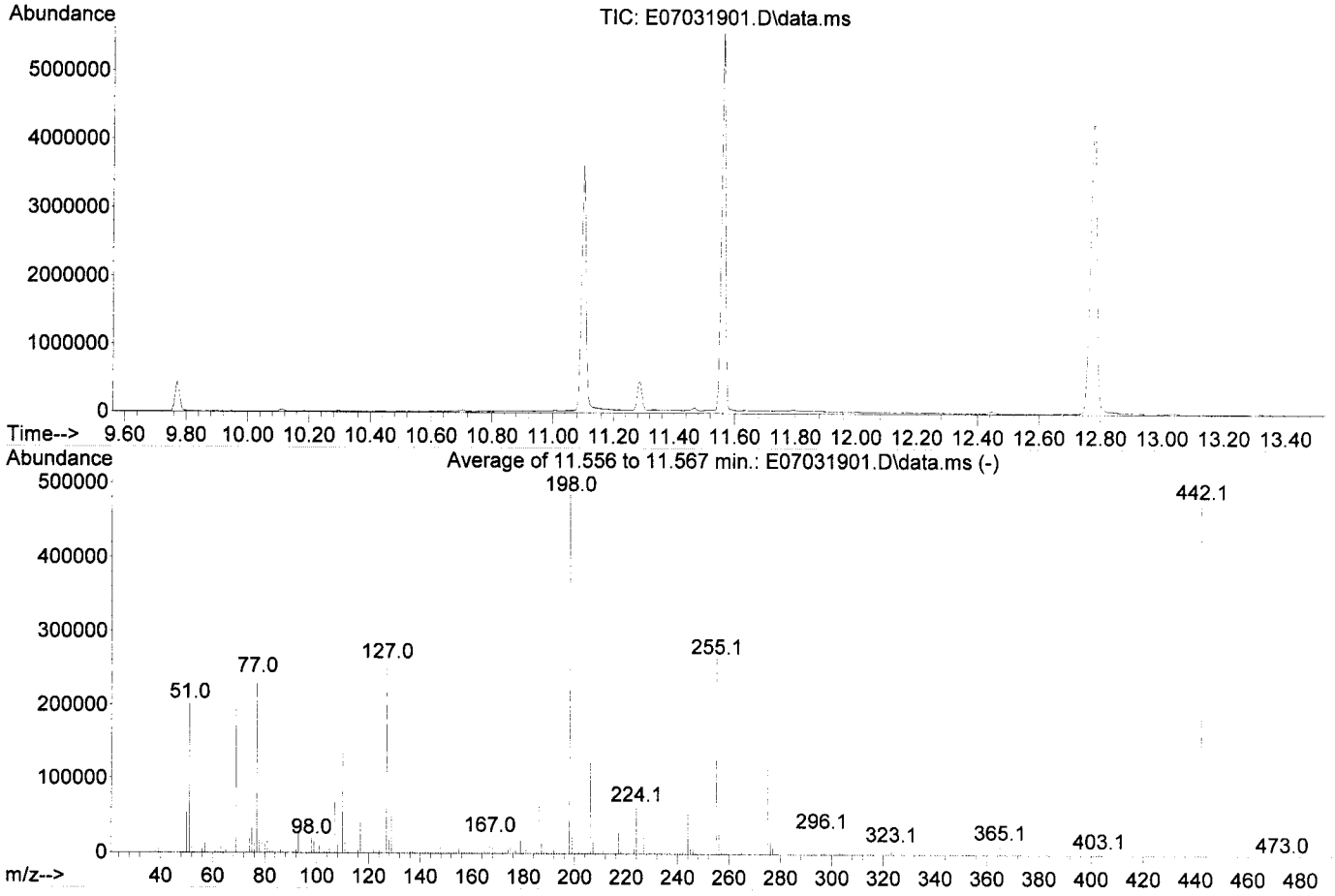
Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031901.D
Acq On : 3 Jul 2019 8:04 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

TO1

Integration File: rteint.p

DTH 7/8/19

Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Title : 8270 DFTPP Tune Method
Last Update : Wed May 15 13:49:43 2019



AutoFind: Scans 1490, 1491, 1492; Background Corrected with Scan 1485

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	41.3	202877	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	45.3	222695	PASS
70	69	0.00	2	0.4	958	PASS
127	198	10	80	52.5	257683	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	491243	PASS
199	198	5	9	6.6	32447	PASS
275	198	10	60	26.8	131829	PASS
365	198	1	100	3.0	14505	PASS
441	442	0.01	24	15.2	72480	PASS
442	198	50	200	97.0	476523	PASS
443	442	15	24	19.3	91851	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031901.D
Acq On : 3 Jul 2019 8:04 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

TO1
high BKD
DTH 7/3/19

Quant Time: Jul 03 12:07:09 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Wed May 15 13:49:43 2019
Response via : Initial Calibration
InstName : SV-GCMS5

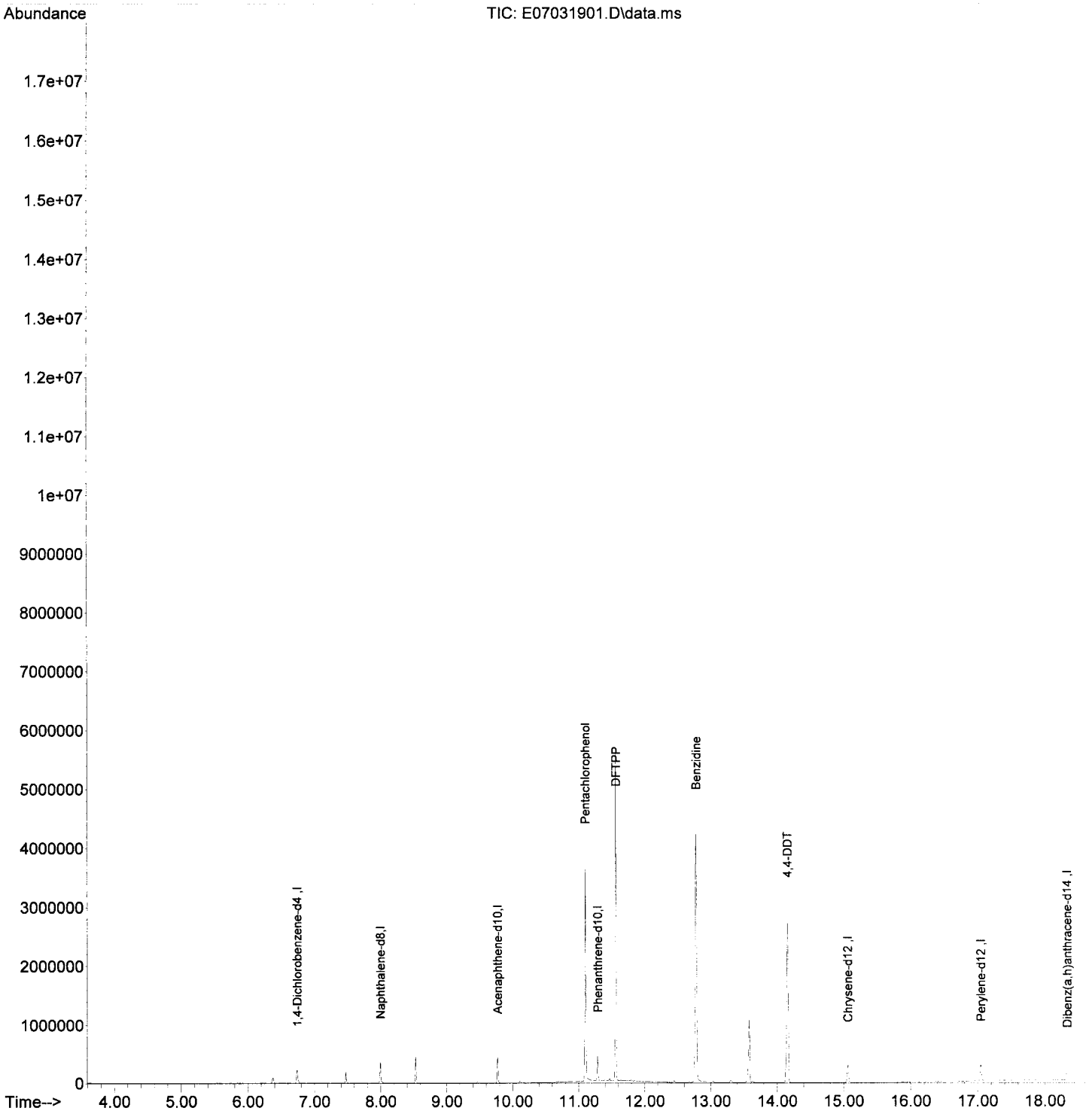
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.737	150	78856	2.00	ug/mL	-0.01
2) Naphthalene-d8	7.994	136	187942	2.00	ug/mL	-0.01
3) Acenaphthene-d10	9.770	162	98846	2.00	ug/mL	-0.02
5) Phenanthrene-d10	11.289	188	171739	2.00	ug/mL	-0.01
11) Chrysene-d12	15.060	240	151522	2.00	ug/mL	-0.02
12) Perylene-d12	17.044	264	128201	2.00	ug/mL	-0.01
13) Dibenz(a,h)anthracene-...	18.328	292	100493	2.00	ug/mL	-0.02
Target Compounds						Qvalue
4) Pentachlorophenol	11.102	266	439951	47.13	ug/mL	94
6) DFTPP	11.567	442	556287	40.12	ug/mL	76
7) Benzidine	12.781	184	2500403	40.93	ug/mL	96
8) 4,4-DDE	13.033	TIC	28230	No Calib		
9) 4,4-DDD	13.578	TIC	1478873	No Calib		
10) 4,4-DDT	14.156	TIC	4542089	25.79	ug/mL	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031901.D
Acq On : 3 Jul 2019 8:04 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN1
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jul 03 12:07:09 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Wed May 15 13:49:43 2019
Response via : Initial Calibration
InstName : SV-GCMS5



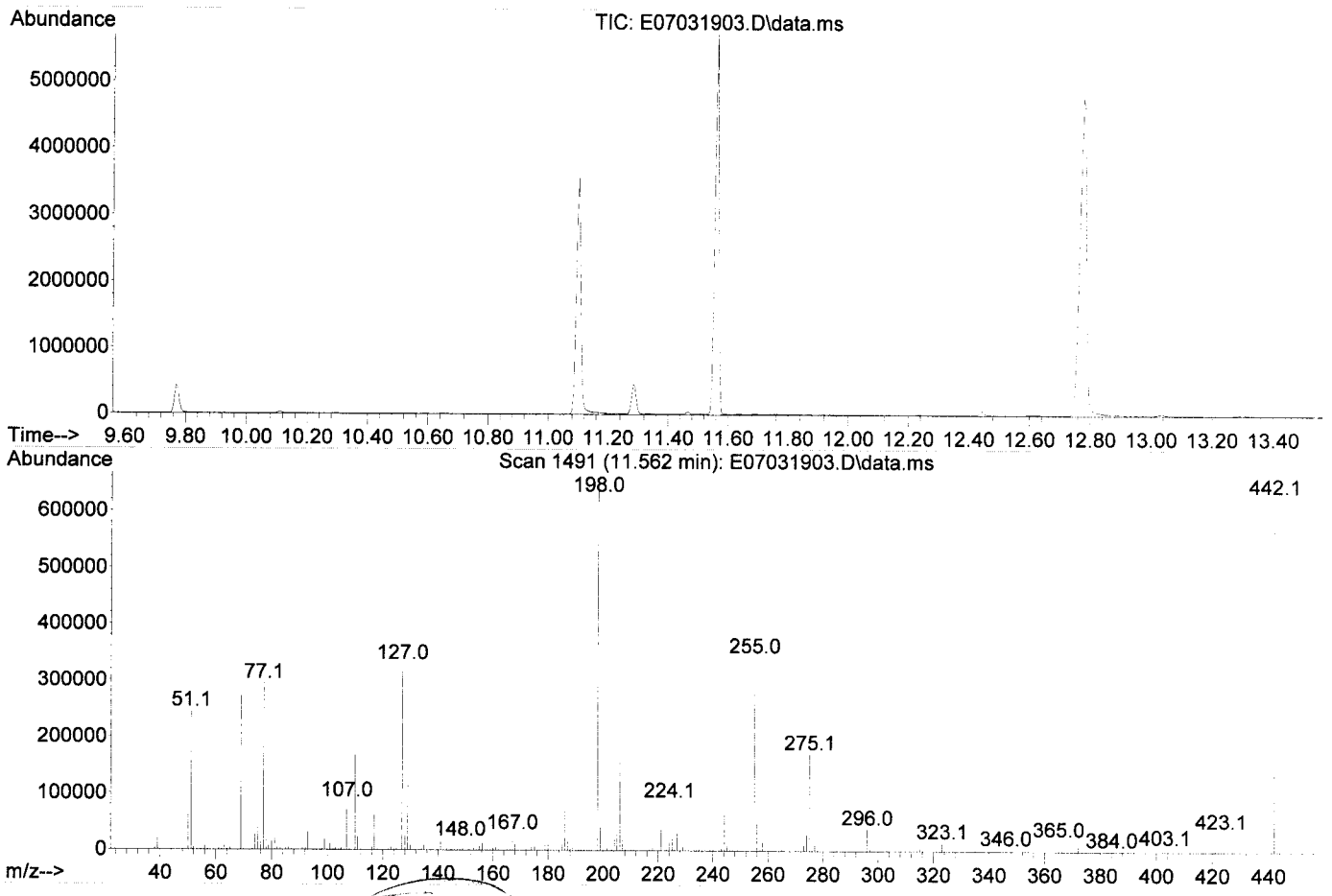
10/13/19 Haley & Aldrich, Inc. Mult 802 Pump Test - Level IV Data Package Page 949 of 1347

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031903.D
Acq On : 3 Jul 2019 9:19 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN2
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP-625.M
Title : 8270 DFTPP Tune Method
Last Update : Tue May 21 14:24:55 2019

DMT 7/3/19



Spectrum Information: Scan 1491 Apex

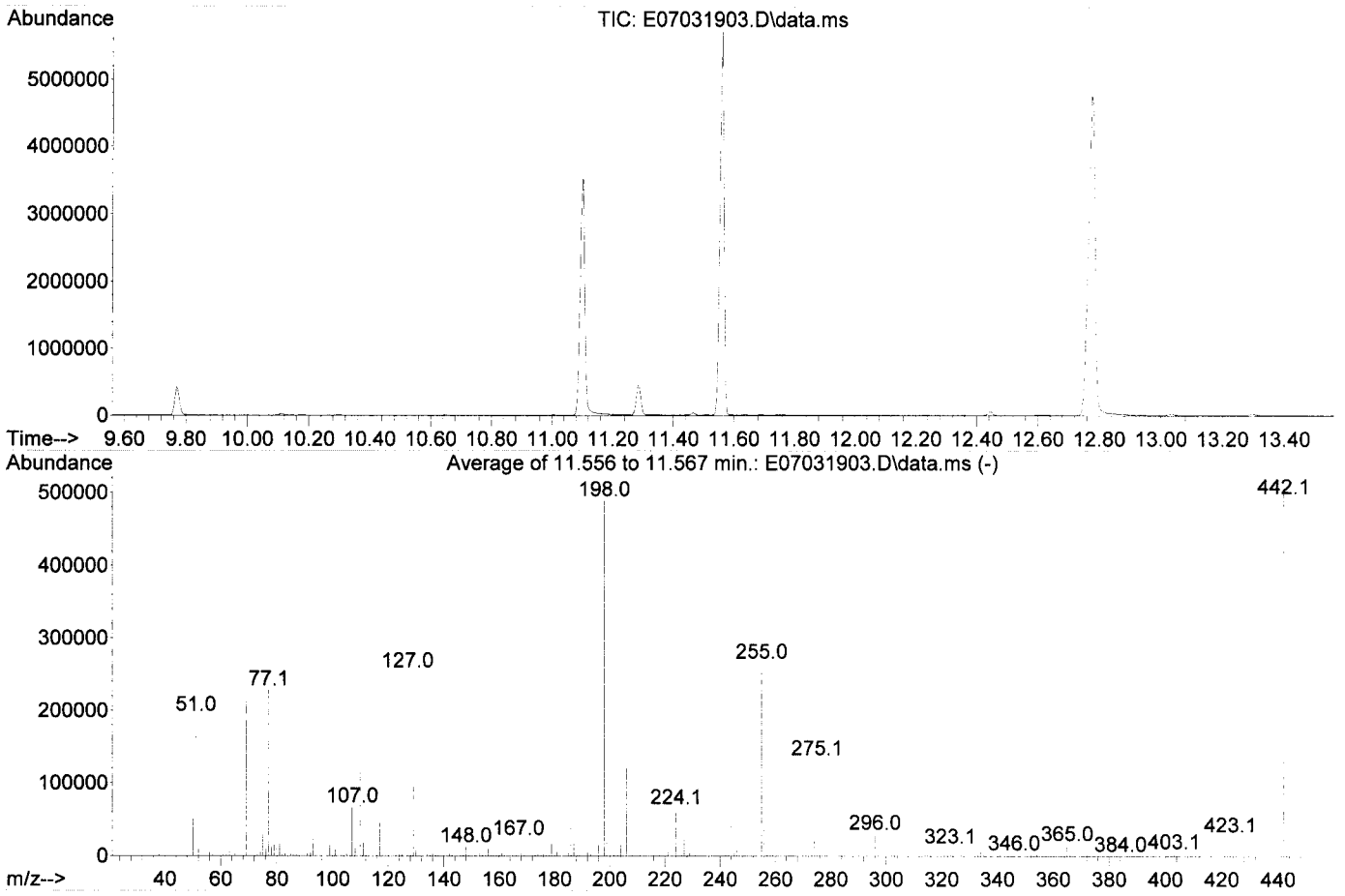
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	38.5	244736	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.0	273408	PASS
70	69	0.00	2	0.5	1458	PASS
127	198	40	60	51.8	329216	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	635904	PASS
199	198	5	9	6.7	42288	PASS
275	198	10	30	27.0	171520	PASS
365	198	1	100	3.0	19104	PASS
441	443	0.01	100	78.2	95560	PASS
442	198	40	100	98.8	628544	PASS
443	442	17	23	19.4	122160	PASS

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031903.D
Acq On : 3 Jul 2019 9:19 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN2
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

DTH 7/3/19

Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Title : 8270 DFTPP Tune Method
Last Update : Wed May 15 13:49:43 2019



AutoFind: Scans 1490, 1491, 1492; Background Corrected with Scan 1485

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	39.5	192922	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.00	100	43.8	214071	PASS
70	69	0.00	2	0.5	1118	PASS
127	198	10	80	51.8	253056	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	488640	PASS
199	198	5	9	6.7	32683	PASS
275	198	10	60	27.2	132683	PASS
365	198	1	100	3.1	15126	PASS
441	442	0.01	24	15.2	75907	PASS
442	198	50	200	102.2	499456	PASS
443	442	15	24	19.3	96264	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031903.D
Acq On : 3 Jul 2019 9:19 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN2
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jul 03 12:09:33 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Wed May 15 13:49:43 2019
Response via : Initial Calibration
InstName : SV-GCMS5

DTH 7/3/19

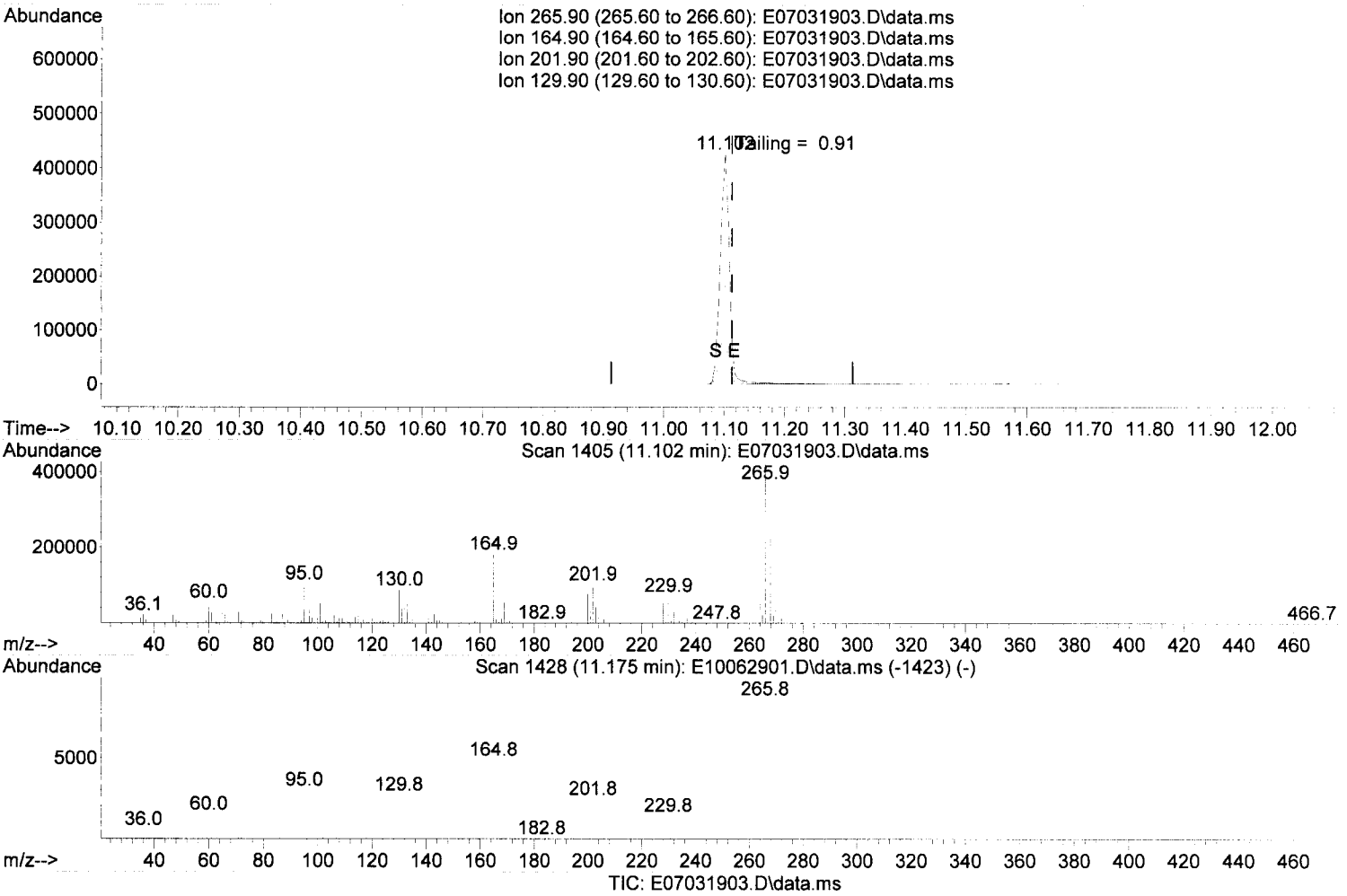
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.742	150	82678	2.00	ug/mL	0.00
2) Naphthalene-d8	7.994	136	188213	2.00	ug/mL	-0.01
3) Acenaphthene-d10	9.770	162	96984	2.00	ug/mL	-0.02
5) Phenanthrene-d10	11.283	188	178302	2.00	ug/mL	-0.02
11) Chrysene-d12	15.060	240	158471	2.00	ug/mL	-0.02
12) Perylene-d12	17.039	264	135432	2.00	ug/mL	-0.02
13) Dibenz(a,h)anthracene-...	18.322	292	115285	2.00	ug/mL	-0.02
Target Compounds						Qvalue
4) Pentachlorophenol	11.102	266	436896	47.70	ug/mL	93
6) DFTPP	11.562	442	560339	38.93	ug/mL	91
7) Benzidine	12.776	184	2856239	45.03	ug/mL	95
8) 4,4-DDE	13.033	TIC	30159	No Calib		
9) 4,4-DDD	13.573	TIC	12004	No Calib		
10) 4,4-DDT	14.161	TIC	7823422	42.79	ug/mL	97

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031903.D
Acq On : 3 Jul 2019 9:19 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN2
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jul 03 12:09:33 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Wed May 15 13:49:43 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031903.D\data.ms

(4) Pentachlorophenol

11.102min (-0.011) 47.70 ug/mL

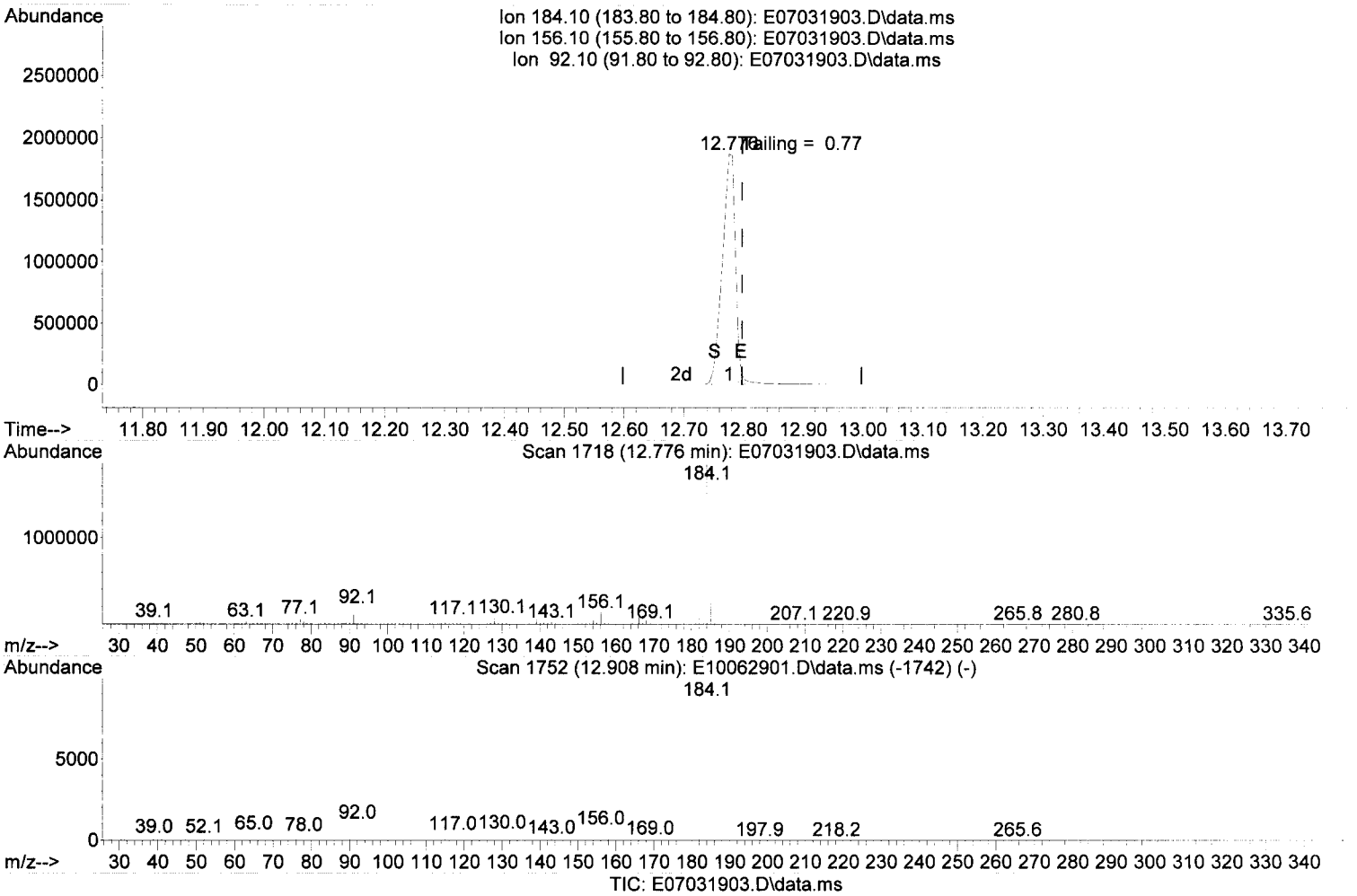
response 436896

Ion	Exp%	Act%
265.90	100.00	100.00
164.90	47.60	42.80
201.90	23.20	23.78
129.90	27.10	20.57

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031903.D
Acq On : 3 Jul 2019 9:19 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN2
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jul 03 12:09:33 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Wed May 15 13:49:43 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031903.D\data.ms

(7) Benzidine

12.776min (-0.022) 45.03 ug/mL

response 2856239

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.50	7.35
92.10	8.20	10.27
0.00	0.00	0.00

DDT Breakdown Check (Validated 5/1/2013)

From:
9G03020-TUN2
SV-GCMS5

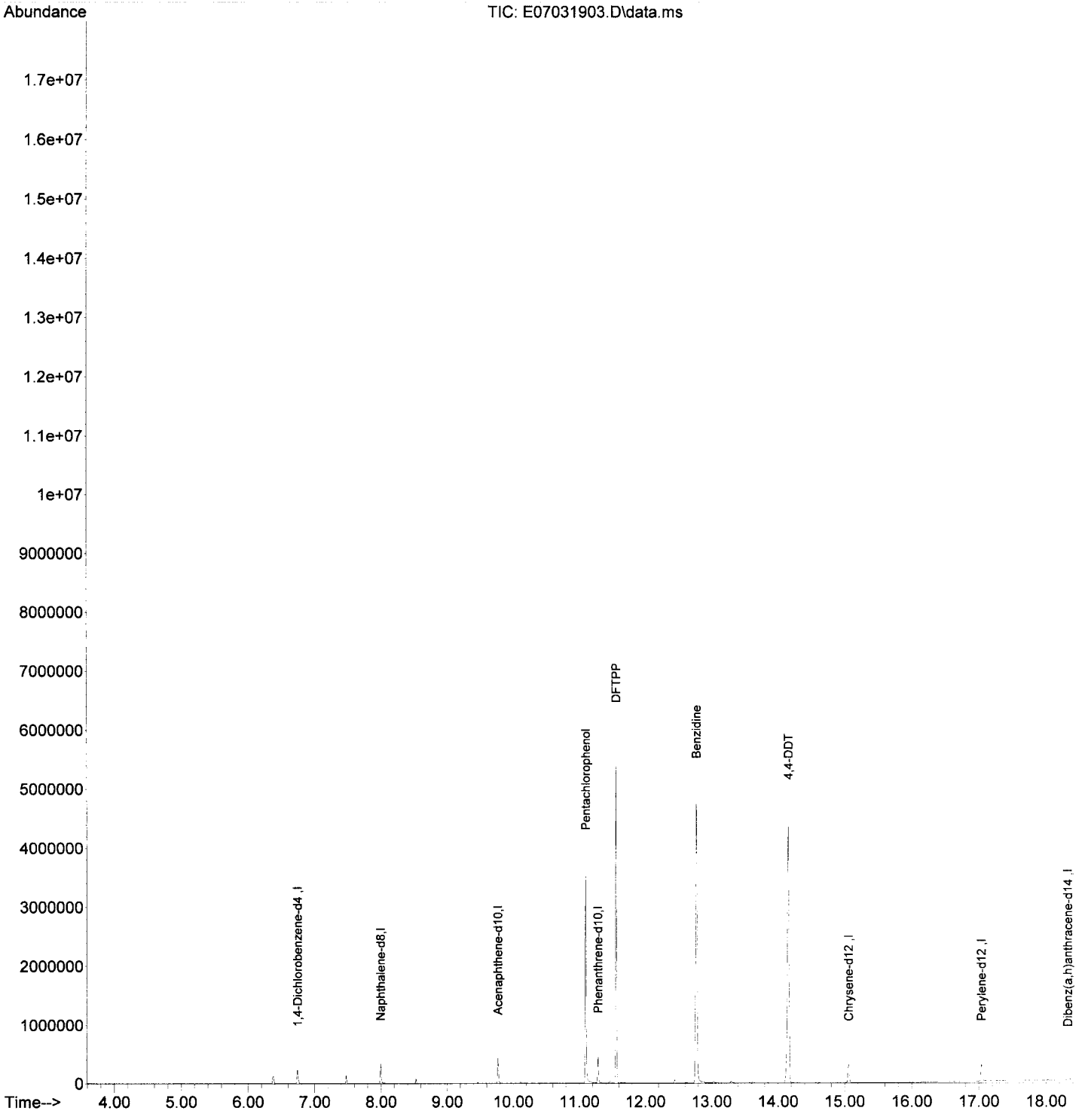
First Column	Area Counts	Percent Breakdown	
DDE	30159		
DDD	12004		
DDT	7823422	**0.54**	**PASS**

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031903.D
Acq On : 3 Jul 2019 9:19 am
Operator : JK/ AMS /DTH
Sample : 9G03020-TUN2
Misc : 1x, A19F170 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jul 03 12:09:33 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Wed May 15 13:49:43 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031905.D
Acq On : 3 Jul 2019 10:24 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCV1
Misc : 1x, A19D058@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:19:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

DTH 7/3/19

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	1,4-Dichlorobenzene-d4 (IST	2000.000	2000.000	0.0	82	-0.01
2	T	N-Nitrosodimethylamine	1000.000	876.687	12.3	71	-0.02
3	T	Pyridine	1000.000	880.035	12.0	72	-0.03
4	S	2-Fluorophenol (Surr)	1000.000	978.072	2.2	77	-0.02
5	S	Phenol-d6(Surr)	1000.000	937.717	6.2	75	-0.01
6	T	Phenol	1000.000	996.615	0.3	81	-0.01
7	T	Aniline	1000.000	859.565	14.0	73	0.00
8	T	Bis(2-chloroethyl) ether	1000.000	916.774	8.3	75	0.00
9	T	2-Chlorophenol	1000.000	1035.328	-3.5	83	-0.01
10	T	1,3-Dichlorobenzene	1000.000	991.830	0.8	82	-0.01
11	T	1,4-Dichlorobenzene	1000.000	1001.040	-0.1	82	-0.01
12	T	Benzyl alcohol	1000.000	887.491	11.3	72	0.00
13	T	1,2-Dichlorobenzene	1000.000	1000.598	-0.1	83	-0.01
14	T	2-Methylphenol	1000.000	995.033	0.5	80	-0.01
15	T	2,2'-Oxybis(1-Chloropropane	1000.000	866.869	13.3	71	-0.01
16	T	N-Nitrosodi-n-propylamine	1000.000	942.651	5.7	76	-0.01
17	T	3+4-Methylphenol	1000.000	990.641	0.9	79	0.00
18	T	Hexachloroethane	1000.000	980.481	2.0	80	-0.01
19	S	Nitrobenzene-d5 (Surr)	1000.000	941.421	5.9	79	-0.01
20	T	Nitrobenzene	1000.000	960.670	3.9	76	0.00
21	I	Naphthalene-d8 (ISTD)	2000.000	2000.000	0.0	83	0.00
22	T	Isophorone	1000.000	948.715	5.1	75	-0.01
23	T	2-Nitrophenol	1000.000	1202.681	-20.3#	98	0.00
24	T	2,4-Dimethylphenol	1000.000	1015.489	-1.5	82	0.00
25	T	Bis(2-chloroethoxy) methane	1000.000	929.916	7.0	76	0.00
26	T	Benzoic acid	2000.000	2452.720	-22.6#	118	0.00
27	T	2,4-Dichlorophenol	1000.000	1141.935	-14.2	93	0.00
28	T	1,2,4-Trichlorobenzene	1000.000	1075.409	-7.5	90	-0.01
29	T	Naphthalene	1000.000	987.837	1.2	82	0.00
30	T	4-Chloroaniline	1000.000	987.995	1.2	84	0.00
31	T	Hexachlorobutadiene	1000.000	1105.549	-10.6	89	-0.01
32	T	4-Chloro-3-methylphenol	1000.000	1090.403	-9.0	92	-0.01
33	T	2-Methylnaphthalene	1000.000	1057.150	-5.7	87	0.00
34	T	1-Methylnaphthalene	1000.000	1055.595	-5.6	87	-0.01
35	I	Acenaphthene-d10 (ISTD)	2000.000	2000.000	0.0	93	-0.01
36	T	Hexachlorocyclopentadiene	1000.000	1210.563	-21.1#	104	-0.01
37	T	2,4,6-Trichlorophenol	1000.000	1141.907	-14.2	102	0.00
38	T	2,4,5-Trichlorophenol	1000.000	1144.085	-14.4	104	-0.01
39	T	1,1'-Biphenyl	1000.000	991.875	0.8	91	0.00
40	S	2-Fluorobiphenyl (Surr)	1000.000	995.995	0.4	92	0.00
41	T	2-Chloronaphthalene	1000.000	988.016	1.2	93	0.00
42	T	2-Nitroaniline	1000.000	1093.186	-9.3	107	0.00
43	T	2,6-Dimethylnaphthalene	1000.000	1058.987	-5.9	96	-0.01
44	T	1,4-Dinitrobenzene	1000.000	1353.014	-35.3#	141	0.00
45	T	Dimethyl phthalate	1000.000	1092.511	-9.3	100	-0.01
46	T	1,3-Dinitrobenzene	1000.000	1207.209	-20.7#	121	0.00
47	T	2,6-Dinitrotoluene	1000.000	1158.088	-15.8	108	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031905.D
Acq On : 3 Jul 2019 10:24 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCV1
Misc : 1x, A19D058@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:19:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

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)
48	T	1,2-Dinitrobenzene	1000.000	1189.401	-18.9	114	0.00
49	T	Acenaphthylene	1000.000	1048.214	-4.8	94	-0.01
50	T	3-Nitroaniline	1000.000	1034.040	-3.4	101	0.00
51	T	Acenaphthene	1000.000	1025.504	-2.6	95	-0.01
52	T	2,4-Dinitrophenol	1000.000	1751.937	-75.2#	250	0.00
53	T	4-Nitrophenol	1000.000	884.569	11.5	88	0.00
54	T	2,4-Dinitrotoluene	1000.000	1187.264	-18.7	119	0.00
55	T	Dibenzofuran	1000.000	1041.647	-4.2	98	0.00
56	T	2,3,5,6-Tetrachlorophenol	1000.000	1203.166	-20.3#	114	0.00
57	T	2,3,4,6-Tetrachlorophenol	1000.000	1156.698	-15.7	109	0.00
58	T	Diethyl phthalate	1000.000	1106.412	-10.6	99	-0.01
59	T	2,3,5-Trimethylnaphthalene	1000.000	1089.369	-8.9	99	0.00
60	T	Fluorene	1000.000	1059.121	-5.9	97	-0.01
61	T	4-Chlorophenyl phenyl ether	1000.000	1066.096	-6.6	102	0.00
62	T	4-Nitroaniline	1000.000	958.716	4.1	100	0.00
63	T	4,6-Dinitro-2-methylphenol	1000.000	1573.721	-57.4#	193	0.00
64	I	Phenanthrene-d10 (ISTD)	2000.000	2000.000	0.0	103	-0.01
65	T	N-Nitrosodiphenylamine	1000.000	1047.829	-4.8	103	-0.01
66	T	Azobenzene (1,2-DPH)	1000.000	896.381	10.4	85	-0.01
67	S	2,4,6-Tribromophenol (Surr)	1000.000	1237.192	-23.7#	119	-0.01
68	T	4-Bromophenyl phenyl ether	1000.000	1036.569	-3.7	106	-0.01
69	T	Hexachlorobenzene	1000.000	1097.609	-9.8	111	-0.01
70	T	Pentachlorophenol (PCP)	1000.000	1009.520	-1.0	105	0.00
71	T	Phenanthrene	1000.000	1027.798	-2.8	104	0.00
72	T	Anthracene	1000.000	1008.820	-0.9	102	-0.01
73	T	Carbazole	1000.000	946.363	5.4	99	0.00
74	T	Di-n-butyl phthalate	1000.000	939.295	6.1	99	-0.01
75	T	Fluoranthene	1000.000	1025.717	-2.6	105	0.00
76	T	Benzidine	2000.000	2934.913	-46.7#	185	-0.01
77	T	Pyrene	1000.000	1037.121	-3.7	107	0.00
78	I	Chrysene-d12 (ISTD)	2000.000	2000.000	0.0	115	-0.02
79	S	Terphenyl-d14 (Surr)	1000.000	973.275	2.7	108	-0.01
80	T	Butyl benzyl phthalate	1000.000	936.067	6.4	105	-0.02
81	T	Bis(2-ethylhexyl) adipate	1000.000	982.443	1.8	118	-0.02
82	T	3,3-Dichlorobenzidine	2000.000	1982.763	0.9	115	-0.01
83	T	Benz(a)anthracene	1000.000	973.839	2.6	115	-0.01
84	T	Chrysene	1000.000	1012.979	-1.3	116	-0.02
85	T	Bis(2-ethylhexyl) phthalate	1000.000	943.373	5.7	111	-0.03
86	I	Perylene-d12 (ISTD)	2000.000	2000.000	0.0	117	-0.02
87	T	Di-n-octyl phthalate	1000.000	995.279	0.5	115	-0.03
88	T	Benzo(b)fluoranthene	1000.000	1110.352	-11.0	126	-0.02
89	T	Benzo(k)fluoranthene	1000.000	1158.909	-15.9	127	-0.02
90	T	Benzo(b+k)fluoranthene	2000.000	2190.505	-9.5	125	-0.02
91	T	Benzo(e)pyrene	1000.000	1094.766	-9.5	125	-0.02
92	T	Benzo(a)pyrene	1000.000	1175.603	-17.6	130	-0.02
93	T	Perylene	1000.000	989.696	1.0	114	-0.02

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031905.D
Acq On : 3 Jul 2019 10:24 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCV1
Misc : 1x, A19D058@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:19:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

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)
94	I	Dibenz(a,h)Anthrcene-d14 (I	2000.000	2000.000	0.0	134	-0.02
95	T	Indeno(1,2,3-cd)pyrene	1000.000	1023.324	-2.3	140	-0.02
96	T	Dibenz(a,h)anthracene	1000.000	1072.721	-7.3	145	-0.02
97	T	Benzo(g,h,i)perylene	1000.000	1066.923	-6.7	136	-0.01

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031905.D
Acq On : 3 Jul 2019 10:24 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCV1
Misc : 1x, A19D058@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:19:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

DTH 7/3/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.751	152	234951	2000.00	ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.997	136	905720	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.773	162	459698	2000.00	ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.287	188	863936	2000.00	ng/ml	-0.01
78) Chrysene-d12 (ISTD)	15.197	240	812051	2000.00	ng/ml	-0.02
86) Perylene-d12 (ISTD)	18.705	264	737977	2000.00	ng/ml	-0.02
94) Dibenz(a,h)Anthrcene-d...	21.102	292	674023	2000.00	ng/ml	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.548	112	143263	978.07	ng/ml	-0.02
5) Phenol-d6(Surr)	6.398	99	183723	937.72	ng/ml	-0.01
19) Nitrobenzene-d5 (Surr)	7.281	82	165378	941.42	ng/ml	-0.01
40) 2-Fluorobiphenyl (Surr)	9.078	172	340509	996.00	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.575	330	39444	1237.19	ng/ml	-0.01
79) Terphenyl-d14 (Surr)	13.116	244	369272	973.27	ng/ml	-0.01
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.296	74	97199	876.69	ng/ml	92
3) Pyridine	4.323	79	158018	880.04	ng/ml	99
6) Phenol	6.409	94	204602	996.62	ng/ml	94
7) Aniline	6.441	93	229957	859.56	ng/ml	96
8) Bis(2-chloroethyl) ether	6.489	93	153834	916.77	ng/ml	96
9) 2-Chlorophenol	6.559	128	159163	1035.33	ng/ml	93
10) 1,3-Dichlorobenzene	6.698	146	174299	991.83	ng/ml	96
11) 1,4-Dichlorobenzene	6.767	146	177744	1001.04	ng/ml	98
12) Benzyl alcohol	6.880	108	86411	887.49	ng/ml	89
13) 1,2-Dichlorobenzene	6.917	146	168290	1000.60	ng/ml	97
14) 2-Methylphenol	6.981	107	127217	995.03	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	6.997	45	230667	866.87	ng/ml	93
16) N-Nitrosodi-n-propylamine	7.126	70	118563	942.65	ng/ml	92
17) 3+4-Methylphenol	7.131	107	159985	990.64	ng/ml	92
18) Hexachloroethane	7.243	117	64268	980.48	ng/ml	84
20) Nitrobenzene	7.302	77	162989	960.67	ng/ml	91
22) Isophorone	7.527	82	293251	948.71	ng/ml	96
23) 2-Nitrophenol	7.618	139	81902	1202.68	ng/ml	82
24) 2,4-Dimethylphenol	7.650	122	137633	1015.49	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.735	93	180853	929.92	ng/ml	99
26) Benzoic acid	7.746	105	114595	2452.72	ng/ml	93
27) 2,4-Dichlorophenol	7.858	162	119930	1141.93	ng/ml	97
28) 1,2,4-Trichlorobenzene	7.939	180	135307	1075.41	ng/ml	96
29) Naphthalene	8.019	128	477289	987.84	ng/ml	99
30) 4-Chloroaniline	8.067	127	164402	988.00	ng/ml	95
31) Hexachlorobutadiene	8.142	225	67941	1105.55	ng/ml	99
32) 4-Chloro-3-methylphenol	8.548	107	126061	1090.40	ng/ml	98
33) 2-Methylnaphthalene	8.714	142	321288	1057.15	ng/ml	95
34) 1-Methylnaphthalene	8.810	142	307225	1055.59	ng/ml	96
36) Hexachlorocyclopentadiene	8.875	237	71385	1210.56	ng/ml	98
37) 2,4,6-Trichlorophenol	8.998	196	79159	1141.91	ng/ml	98
38) 2,4,5-Trichlorophenol	9.040	196	82794	1144.08	ng/ml	99
39) 1,1'-Biphenyl	9.179	154	390080	991.87	ng/ml	98
41) 2-Chloronaphthalene	9.206	162	280534	988.02	ng/ml	100
42) 2-Nitroaniline	9.308	138	95145	1093.19	ng/ml	83

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031905.D
Acq On : 3 Jul 2019 10:24 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCV1
Misc : 1x, A19D058@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:19:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

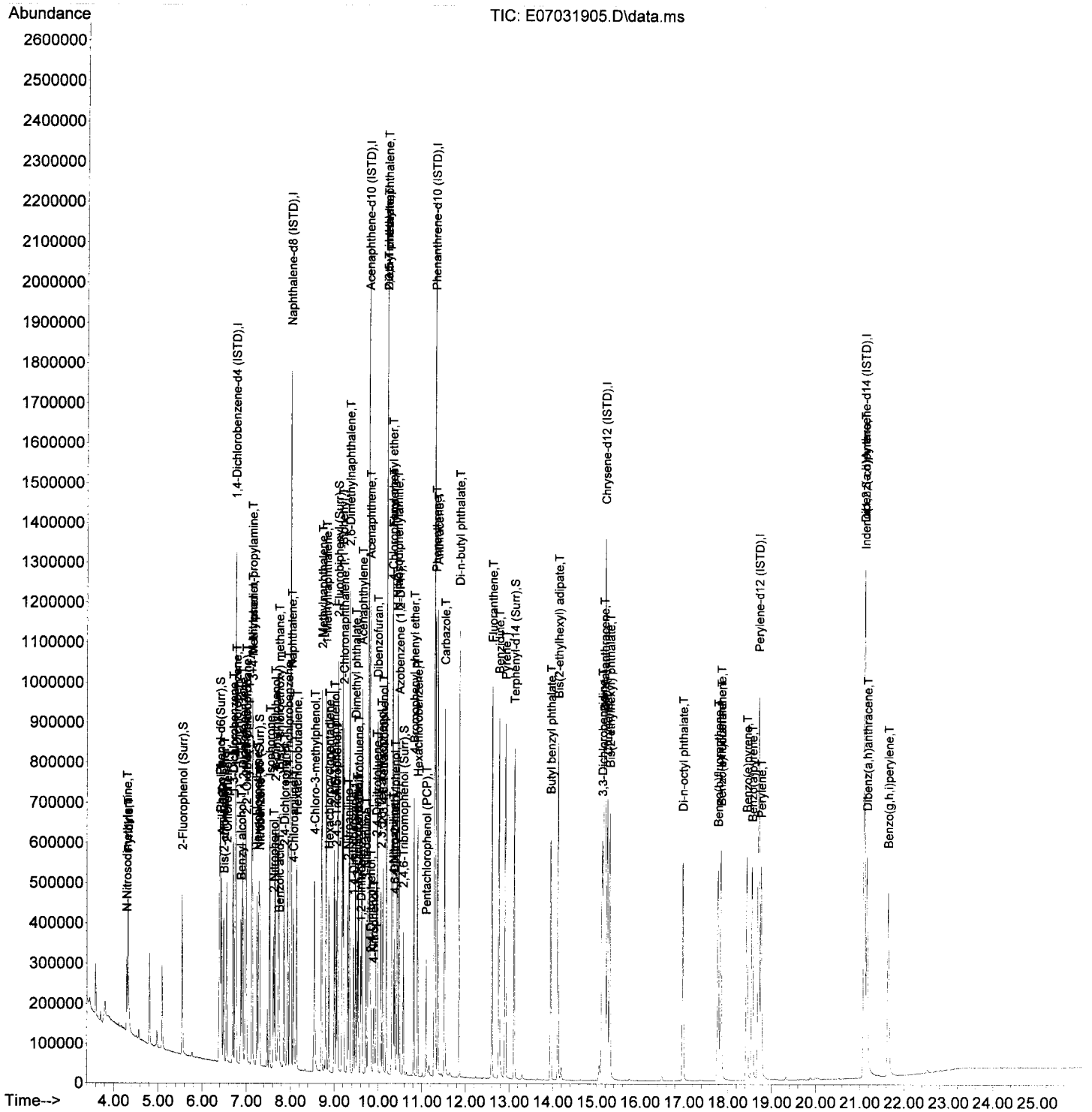
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	2,6-Dimethylnaphthalene	9.340	156	290968	1058.99	ng/ml	96
44)	1,4-Dinitrobenzene	9.436	168	46348	1353.01	ng/ml#	78
45)	Dimethyl phthalate	9.479	163	322327	1092.51	ng/ml	100
46)	1,3-Dinitrobenzene	9.516	168	52312	1207.21	ng/ml	91
47)	2,6-Dinitrotoluene	9.543	165	74997	1158.09	ng/ml	82
48)	1,2-Dinitrobenzene	9.607	168	34685	1189.40	ng/ml#	63
49)	Acenaphthylene	9.629	152	469364	1048.21	ng/ml	99
50)	3-Nitroaniline	9.725	138	76835	1034.04	ng/ml	90
51)	Acenaphthene	9.805	153	311362	1025.50	ng/ml	98
52)	2,4-Dinitrophenol	9.832	184	35643	1751.94	ng/ml	75
53)	4-Nitrophenol	9.902	139	48431	884.57	ng/ml	82
54)	2,4-Dinitrotoluene	9.960	165	99039	1187.26	ng/ml	83
55)	Dibenzofuran	9.982	168	411158	1041.65	ng/ml	90
56)	2,3,5,6-Tetrachlorophenol	10.067	232	64882	1203.17	ng/ml	89
57)	2,3,4,6-Tetrachlorophenol	10.110	232	70478	1156.70	ng/ml	91
58)	Diethyl phthalate	10.190	149	326231	1106.41	ng/ml	95
59)	2,3,5-Trimethylnaphtha...	10.190	170	266807	1089.37	ng/ml	97
60)	Fluorene	10.329	166	334738	1059.12	ng/ml	99
61)	4-Chlorophenyl phenyl ...	10.319	204	149191	1066.10	ng/ml	89
62)	4-Nitroaniline	10.345	138	79974	958.72	ng/ml	76
63)	4,6-Dinitro-2-methylph...	10.378	198	49459	1573.72	ng/ml	83
65)	N-Nitrosodiphenylamine	10.436	169	285982	1047.83	ng/ml	97
66)	Azobenzene (1,2-DPH)	10.479	77	334263	896.38	ng/ml	94
68)	4-Bromophenyl phenyl e...	10.816	248	82850	1036.57	ng/ml	93
69)	Hexachlorobenzene	10.902	284	88251	1097.61	ng/ml	94
70)	Pentachlorophenol (PCP)	11.100	266	39885	1009.52	ng/ml	96
71)	Phenanthrene	11.314	178	487365	1027.80	ng/ml	99
72)	Anthracene	11.362	178	490815	1008.82	ng/ml	98
73)	Carbazole	11.522	167	431107	946.36	ng/ml	98
74)	Di-n-butyl phthalate	11.854	149	535388	939.29	ng/ml	99
75)	Fluoranthene	12.608	202	504508	1025.72	ng/ml	98
76)	Benzidine	12.763	184	500115	2934.91	ng/ml	99
77)	Pyrene	12.913	202	518192	1037.12	ng/ml	99
80)	Butyl benzyl phthalate	13.950	149	222338	936.07	ng/ml	90
81)	Bis(2-ethylhexyl) adipate	14.122	129	232211	982.44	ng/ml	99
82)	3,3-Dichlorobenzidine	15.133	252	266584	1982.76	ng/ml	98
83)	Benz(a)anthracene	15.170	228	446066	973.84	ng/ml	98
84)	Chrysene	15.250	228	442018	1012.98	ng/ml	97
85)	Bis(2-ethylhexyl) phth...	15.304	149	320221	943.37	ng/ml	97
87)	Di-n-octyl phthalate	16.978	149	482648	995.28	ng/ml	98
88)	Benzo(b)fluoranthene	17.780	252	432916	1110.35	ng/ml	97
89)	Benzo(k)fluoranthene	17.850	252	444061	1158.91	ng/ml	100
90)	Benzo(b+k)fluoranthene	17.850	252	896928	2190.51	ng/ml	100
91)	Benzo(e)pyrene	18.438	252	433361	1094.77	ng/ml	98
92)	Benzo(a)pyrene	18.561	252	416167	1175.60	ng/ml	100
93)	Perylene	18.764	252	400434	989.70	ng/ml	98
95)	Indeno(1,2,3-cd)pyrene	21.107	276	378060	1023.32	ng/ml	99
96)	Dibenz(a,h)anthracene	21.166	278	362934	1072.72	ng/ml	99
97)	Benzo(g,h,i)perylene	21.647	276	388061	1066.92	ng/ml	81

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031905.D
Acq On : 3 Jul 2019 10:24 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCV1
Misc : 1x, A19D058@1000
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:19:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031906.D
Acq On : 3 Jul 2019 11:01 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:20:56 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

DTH 7/3/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.751	152	225977	2000.00	ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.992	136	881858	2000.00	ng/ml	-0.01
35) Acenaphthene-d10 (ISTD)	9.773	162	432050	2000.00	ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.287	188	836493	2000.00	ng/ml	-0.01
78) Chrysene-d12 (ISTD)	15.191	240	763815	2000.00	ng/ml	-0.02
86) Perylene-d12 (ISTD)	18.705	264	695256	2000.00	ng/ml	-0.02
94) Dibenz(a,h)Anthrcene-d...	21.096	292	631472	2000.00	ng/ml	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.649	112	79	0.56	ng/ml	0.09
5) Phenol-d6(Surr)	0.000	99	0	0.00	ng/ml	
19) Nitrobenzene-d5 (Surr)	7.291	82	67	0.40	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00	ng/ml	
67) 2,4,6-Tribromophenol (...	0.000	330	0	0.00	ng/ml	
79) Terphenyl-d14 (Surr)	0.000	244	0	0.00	ng/ml	
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.269	74	58	N.D.		
3) Pyridine	4.393	79	51	N.D.		
6) Phenol	0.000		0	N.D.		
7) Aniline	0.000		0	N.D.		
8) Bis(2-chloroethyl) ether	0.000		0	N.D.		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.		
11) 1,4-Dichlorobenzene	0.000		0	N.D.		
12) Benzyl alcohol	0.000		0	N.D.		
13) 1,2-Dichlorobenzene	0.000		0	N.D.		
14) 2-Methylphenol	0.000		0	N.D.		
15) 2,2'-Oxybis(1-Chloropr...	0.000		0	N.D.		
16) N-Nitrosodi-n-propylamine	7.126	70	51	N.D.		
17) 3+4-Methylphenol	0.000		0	N.D.		
18) Hexachloroethane	0.000		0	N.D.		
20) Nitrobenzene	7.291	77	81	N.D.		
22) Isophorone	7.543	82	138	N.D.		
23) 2-Nitrophenol	0.000		0	N.D.		
24) 2,4-Dimethylphenol	0.000		0	N.D.		
25) Bis(2-chloroethoxy) me...	0.000		0	N.D.		
26) Benzoic acid	0.000		0	N.D.		
27) 2,4-Dichlorophenol	0.000		0	N.D.		
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
29) Naphthalene	8.019	128	52	N.D.		
30) 4-Chloroaniline	0.000		0	N.D.		
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	0.000		0	N.D.		
33) 2-Methylnaphthalene	0.000		0	N.D.		
34) 1-Methylnaphthalene	0.000		0	N.D.		
36) Hexachlorocyclopentadiene	0.000		0	N.D.		
37) 2,4,6-Trichlorophenol	0.000		0	N.D.		
38) 2,4,5-Trichlorophenol	0.000		0	N.D.		
39) 1,1'-Biphenyl	0.000		0	N.D.		
41) 2-Chloronaphthalene	0.000		0	N.D.		
42) 2-Nitroaniline	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031906.D
Acq On : 3 Jul 2019 11:01 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:20:56 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

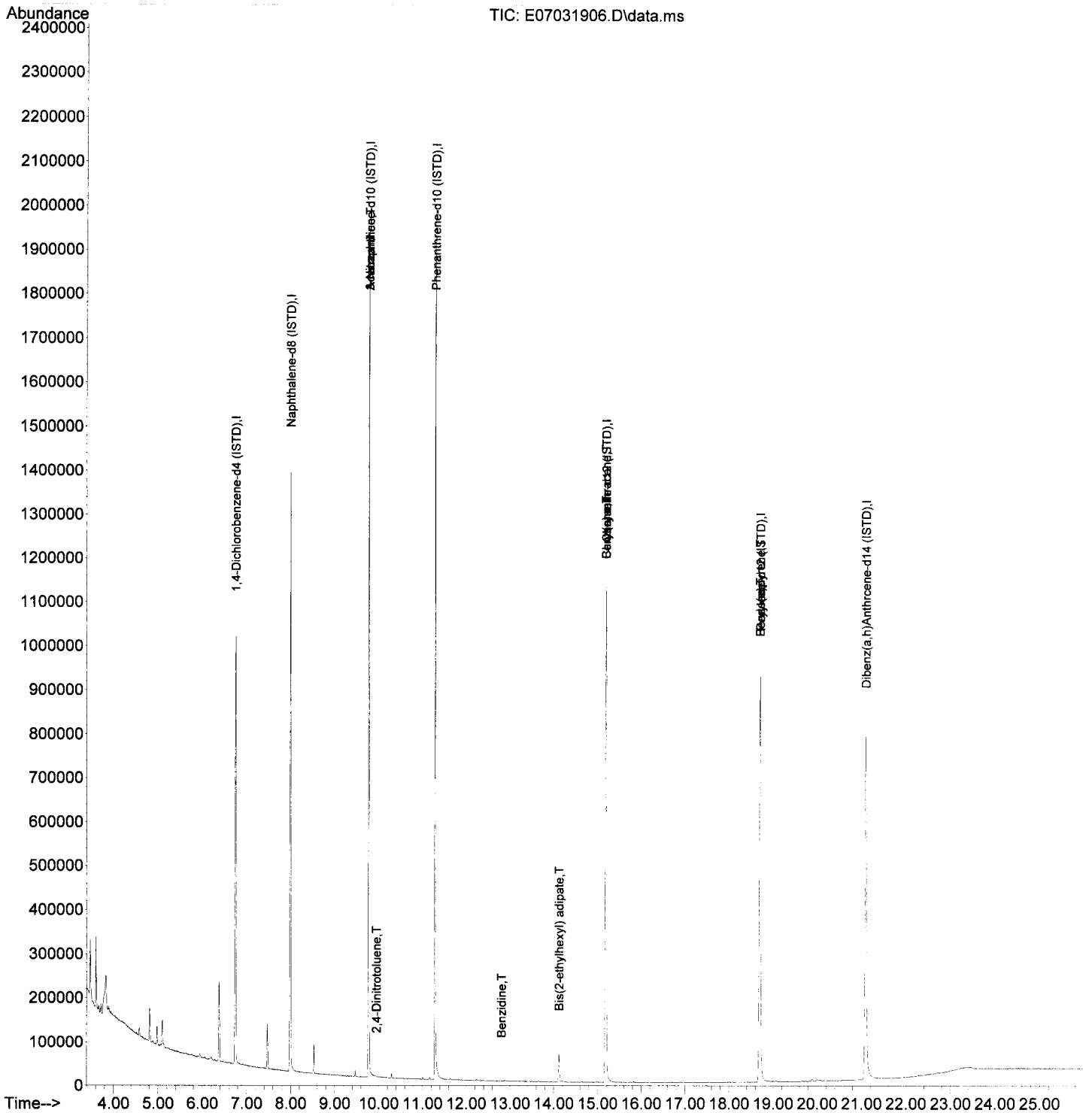
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.	
44) 1,4-Dinitrobenzene	0.000		0	N.D.	
45) Dimethyl phthalate	0.000		0	N.D.	
46) 1,3-Dinitrobenzene	0.000		0	N.D.	
47) 2,6-Dinitrotoluene	0.000		0	N.D.	
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	0.000		0	N.D.	
50) 3-Nitroaniline	9.773	138	57	29.95 ng/ml#	1
51) Acenaphthene	9.779	153	139	N.D.	
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	0.000		0	N.D.	
54) 2,4-Dinitrotoluene	9.950	165	68	61.88 ng/ml#	32
55) Dibenzofuran	0.000		0	N.D.	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	
57) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	
58) Diethyl phthalate	10.196	149	51	N.D.	
59) 2,3,5-Trimethylnaphtha...	10.308	170	83	N.D.	
60) Fluorene	0.000		0	N.D.	
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	
62) 4-Nitroaniline	0.000		0	N.D.	
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	
65) N-Nitrosodiphenylamine	0.000		0	N.D.	
66) Azobenzene (1,2-DPH)	0.000		0	N.D.	
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	0.000		0	N.D.	
71) Phenanthrene	11.287	178	340	N.D.	
72) Anthracene	11.287	178	340	N.D.	
73) Carbazole	0.000		0	N.D.	
74) Di-n-butyl phthalate	11.859	149	98	N.D.	
75) Fluoranthene	0.000		0	N.D.	
76) Benzidine	12.806	184	68	38.93 ng/ml	68
77) Pyrene	0.000		0	N.D.	
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.122	129	17693	79.58 ng/ml	96
82) 3,3-Dichlorobenzidine	0.000		0	N.D.	
83) Benz(a)anthracene	15.186	228	1846	4.28 ng/ml	81
84) Chrysene	15.186	228	1830	4.46 ng/ml	79
85) Bis(2-ethylhexyl) phth...	0.000		0	N.D.	
87) Di-n-octyl phthalate	0.000		0	N.D.	
88) Benzo(b)fluoranthene	0.000		0	N.D.	
89) Benzo(k)fluoranthene	0.000		0	N.D.	
90) Benzo(b+k)fluoranthene	0.000		0	N.D.	
91) Benzo(e)pyrene	18.700	252	2126	5.70 ng/ml#	1
92) Benzo(a)pyrene	0.000		0	N.D.	
93) Perylene	18.700	252	2126	5.58 ng/ml	68
95) Indeno(1,2,3-cd)pyrene	21.096	276	288	N.D.	
96) Dibenz(a,h)anthracene	21.091	278	154	N.D.	
97) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031906.D
Acq On : 3 Jul 2019 11:01 am
Operator : JK/ AMS /DTH
Sample : 9G03020-CCB1
Misc : 1x, DCM + ISTD
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:20:56 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031907.D
Acq On : 3 Jul 2019 11:38 am
Operator : JK/ AMS /DTH
Sample : 9070574-BLK2
Misc : 1x, 8270D LL PAH/PCP
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:21:00 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

DTH 7/3/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.751	152	210782	2000.00 ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.992	136	829896	2000.00 ng/ml	-0.01
35) Acenaphthene-d10 (ISTD)	9.773	162	416624	2000.00 ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.287	188	812142	2000.00 ng/ml	-0.01
78) Chrysene-d12 (ISTD)	15.191	240	734353	2000.00 ng/ml	-0.02
86) Perylene-d12 (ISTD)	18.700	264	672800	2000.00 ng/ml	-0.03
94) Dibenz(a,h)Anthrcene-d...	21.096	292	624099	2000.00 ng/ml	-0.02
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	5.548	112	263335	2003.96 ng/ml	-0.02
5) Phenol-d6(Surr)	6.393	99	351658	2000.66 ng/ml	-0.02
19) Nitrobenzene-d5 (Surr)	7.281	82	316540	2008.53 ng/ml	-0.01
40) 2-Fluorobiphenyl (Surr)	9.078	172	675612	2180.49 ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.575	330	72578	2271.59 ng/ml	-0.01
79) Terphenyl-d14 (Surr)	13.121	244	827445	2411.61 ng/ml	0.00
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	4.344	74	54	N.D.	
3) Pyridine	4.339	79	56	N.D.	
6) Phenol	6.404	94	1259	6.84 ng/ml#	1
7) Aniline	6.420	93	200	N.D.	
8) Bis(2-chloroethyl) ether	6.468	93	438	2.91 ng/ml#	37
9) 2-Chlorophenol	6.559	128	145	N.D.	
10) 1,3-Dichlorobenzene	0.000		0	N.D.	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	
12) Benzyl alcohol	6.901	108	279	3.19 ng/ml	90
13) 1,2-Dichlorobenzene	0.000		0	N.D.	
14) 2-Methylphenol	6.992	107	92	N.D.	
15) 2,2'-Oxybis(1-Chloropr...	7.024	45	104	N.D.	
16) N-Nitrosodi-n-propylamine	7.126	70	111	N.D.	
17) 3+4-Methylphenol	7.163	107	228	N.D.	
18) Hexachloroethane	7.254	117	79	N.D.	
20) Nitrobenzene	7.286	77	1242	8.16 ng/ml#	53
22) Isophorone	7.521	82	205	N.D.	
23) 2-Nitrophenol	0.000		0	N.D.	
24) 2,4-Dimethylphenol	7.660	122	82	N.D.	
25) Bis(2-chloroethoxy) me...	0.000		0	N.D.	
26) Benzoic acid	7.703	105	66	398.96 ng/ml#	33
27) 2,4-Dichlorophenol	0.000		0	N.D.	
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
29) Naphthalene	8.013	128	569	N.D.	
30) 4-Chloroaniline	0.000		0	N.D.	
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	8.580	107	201	28.48 ng/ml#	1
33) 2-Methylnaphthalene	8.720	142	189	N.D.	
34) 1-Methylnaphthalene	0.000		0	N.D.	
36) Hexachlorocyclopentadiene	0.000		0	N.D.	
37) 2,4,6-Trichlorophenol	0.000		0	N.D.	
38) 2,4,5-Trichlorophenol	0.000		0	N.D.	
39) 1,1'-Biphenyl	9.179	154	1146	3.22 ng/ml	81
41) 2-Chloronaphthalene	0.000		0	N.D.	
42) 2-Nitroaniline	9.228	138	217	56.84 ng/ml#	21

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031907.D
Acq On : 3 Jul 2019 11:38 am
Operator : JK/ AMS /DTH
Sample : 9070574-BLK2
Misc : 1x, 8270D LL PAH/PCP
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:21:00 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

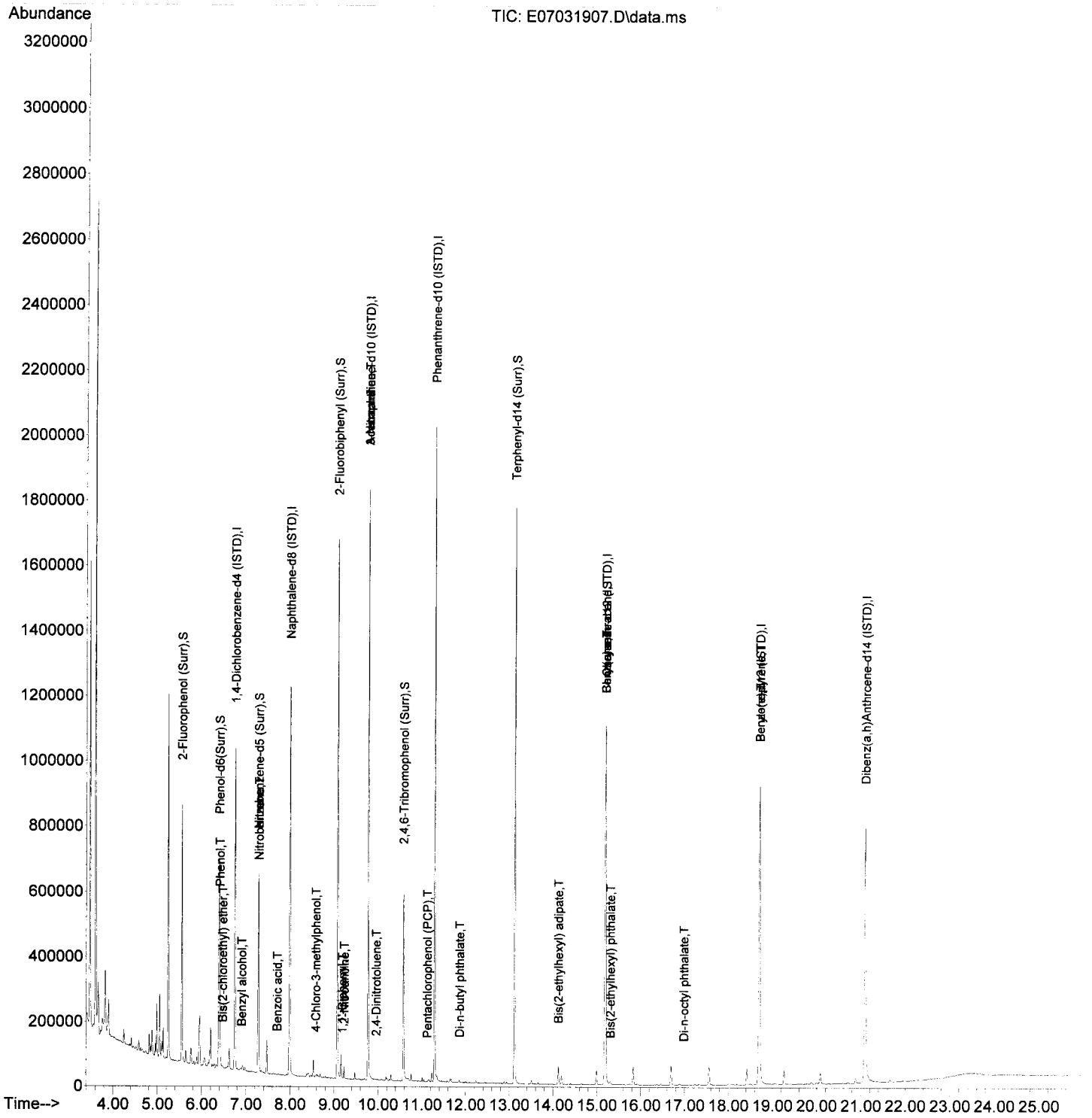
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.228	156	100	N.D.	
44) 1,4-Dinitrobenzene	0.000		0	N.D.	
45) Dimethyl phthalate	0.000		0	N.D.	
46) 1,3-Dinitrobenzene	0.000		0	N.D.	
47) 2,6-Dinitrotoluene	0.000		0	N.D.	
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	0.000		0	N.D.	
50) 3-Nitroaniline	9.773	138	74	30.23 ng/ml#	1
51) Acenaphthene	9.800	153	72	N.D.	
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	0.000		0	N.D.	
54) 2,4-Dinitrotoluene	9.955	165	66	61.88 ng/ml#	15
55) Dibenzofuran	0.000		0	N.D.	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	
57) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	
58) Diethyl phthalate	10.190	149	581	N.D.	
59) 2,3,5-Trimethylnaphtha...	10.196	170	71	N.D.	
60) Fluorene	0.000		0	N.D.	
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	
62) 4-Nitroaniline	0.000		0	N.D.	
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	
65) N-Nitrosodiphenylamine	0.000		0	N.D.	
66) Azobenzene (1,2-DPH)	10.495	77	352	N.D.	
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	11.121	266	78	72.04 ng/ml#	17
71) Phenanthrene	11.314	178	239	N.D.	
72) Anthracene	11.314	178	239	N.D.	
73) Carbazole	0.000		0	N.D.	
74) Di-n-butyl phthalate	11.859	149	1624	3.03 ng/ml	99
75) Fluoranthene	12.613	202	59	N.D.	
76) Benzidine	0.000		0	N.D.	
77) Pyrene	12.913	202	185	N.D.	
80) Butyl benzyl phthalate	13.950	149	298	N.D.	
81) Bis(2-ethylhexyl) adipate	14.116	129	14139	66.15 ng/ml	97
82) 3,3-Dichlorobenzidine	0.000		0	N.D.	
83) Benz(a)anthracene	15.186	228	1766	4.26 ng/ml	72
84) Chrysene	15.186	228	1766	4.48 ng/ml	70
85) Bis(2-ethylhexyl) phth...	15.304	149	3409	11.11 ng/ml	95
87) Di-n-octyl phthalate	16.983	149	56	30.80 ng/ml#	1
88) Benzo(b)fluoranthene	0.000		0	N.D.	
89) Benzo(k)fluoranthene	0.000		0	N.D.	
90) Benzo(b+k)fluoranthene	0.000		0	N.D.	
91) Benzo(e)pyrene	18.700	252	2257	6.25 ng/ml#	1
92) Benzo(a)pyrene	0.000		0	N.D.	
93) Perylene	18.700	252	2257	6.12 ng/ml	72
95) Indeno(1,2,3-cd)pyrene	21.086	276	289	N.D.	
96) Dibenz(a,h)anthracene	21.112	278	66	N.D.	
97) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031907.D
Acq On : 3 Jul 2019 11:38 am
Operator : JK/ AMS /DTH
Sample : 9070574-BLK2
Misc : 1x, 8270D LL PAH/PCP
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:21:00 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031908.D
Acq On : 3 Jul 2019 12:14 pm
Operator : JK/ AMS /DTH
Sample : 9070574-BS2@2
Misc : 2x, 8270D LL PAH/PCP
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

AMS 7/3/19

Quant Time: Jul 03 12:42:22 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.746	152	229285	2000.00	ng/ml	-0.02
21) Naphthalene-d8 (ISTD)	7.997	136	891504	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.773	162	453514	2000.00	ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.292	188	896934	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.202	240	817919	2000.00	ng/ml	-0.01
86) Perylene-d12 (ISTD)	18.711	264	734972	2000.00	ng/ml	-0.02
94) Dibenz(a,h)Anthrcene-d...	21.112	292	667878	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.548	112	144153	1008.47	ng/ml	-0.02
5) Phenol-d6(Surr)	6.398	99	194354	1016.49	ng/ml	-0.01
19) Nitrobenzene-d5 (Surr)	7.286	82	170432	994.17	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.078	172	358281	1062.27	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.581	330	48046	1432.86	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.116	244	446669	1168.82	ng/ml	-0.01
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.296	74	162708	1503.81	ng/ml	93
3) Pyridine	4.334	79	210196	1199.55	ng/ml	96
6) Phenol	6.409	94	359890	1796.34	ng/ml	95
7) Aniline	6.436	93	384673	1473.42	ng/ml	98
8) Bis(2-chloroethyl) ether	6.484	93	265643	1622.22	ng/ml	96
9) 2-Chlorophenol	6.553	128	274826	1831.87	ng/ml	96
10) 1,3-Dichlorobenzene	6.698	146	293683	1712.47	ng/ml	96
11) 1,4-Dichlorobenzene	6.762	146	300429	1733.80	ng/ml	99
12) Benzyl alcohol	6.880	108	160341	1687.49	ng/ml	91
13) 1,2-Dichlorobenzene	6.917	146	284155	1731.24	ng/ml	96
14) 2-Methylphenol	6.981	107	222518	1783.44	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	6.997	45	389028	1498.13	ng/ml	92
16) N-Nitrosodi-n-propylamine	7.131	70	198733	1619.10	ng/ml	91
17) 3+4-Methylphenol	7.131	107	283191	1796.88	ng/ml	93
18) Hexachloroethane	7.238	117	108530	1696.66	ng/ml	83
20) Nitrobenzene	7.302	77	284016	1715.38	ng/ml	89
22) Isophorone	7.532	82	503807	1655.89	ng/ml	94
23) 2-Nitrophenol	7.618	139	147061	2109.13	ng/ml	84
24) 2,4-Dimethylphenol	7.650	122	248797	1864.95	ng/ml	94
25) Bis(2-chloroethoxy) me...	7.735	93	317719	1659.71	ng/ml	98
26) Benzoic acid	7.725	105	42012	1248.07	ng/ml	93
27) 2,4-Dichlorophenol	7.858	162	212108	2051.83	ng/ml	97
28) 1,2,4-Trichlorobenzene	7.939	180	232882	1880.44	ng/ml	95
29) Naphthalene	8.019	128	825859	1736.52	ng/ml	99
30) 4-Chloroaniline	8.067	127	230993	1410.32	ng/ml	95
31) Hexachlorobutadiene	8.142	225	117682	1945.48	ng/ml	97
32) 4-Chloro-3-methylphenol	8.554	107	234518	1990.92	ng/ml	96
33) 2-Methylnaphthalene	8.714	142	558004	1865.31	ng/ml	96
34) 1-Methylnaphthalene	8.816	142	517810	1807.51	ng/ml	96
36) Hexachlorocyclopentadiene	8.875	237	127824	2197.23	ng/ml	96
37) 2,4,6-Trichlorophenol	8.998	196	146273	2056.56	ng/ml	99
38) 2,4,5-Trichlorophenol	9.040	196	156848	2119.23	ng/ml	98
39) 1,1'-Biphenyl	9.179	154	682663	1759.51	ng/ml	98
41) 2-Chloronaphthalene	9.206	162	497371	1775.58	ng/ml	99
42) 2-Nitroaniline	9.308	138	195146	2140.37	ng/ml	84

Haley & Aldrich, Inc. - Mult 802 Pump Test - Level IV Data Package Page 969 of 1347

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031908.D
Acq On : 3 Jul 2019 12:14 pm
Operator : JK/ AMS /DTH
Sample : 9070574-BS2@2
Misc : 2x, 8270D LL PAH/PCP
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:42:22 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

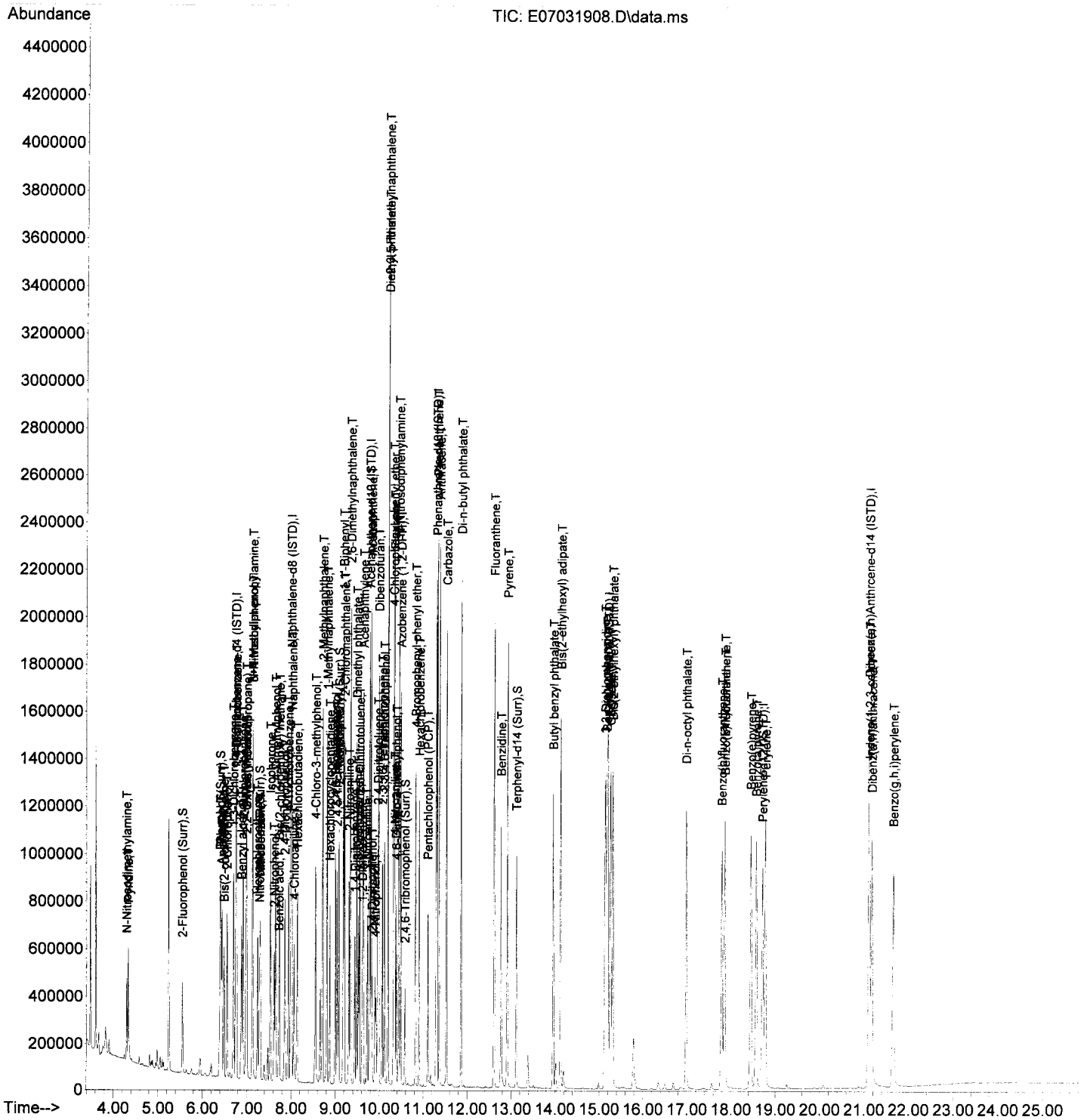
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.345	156	507720	1873.06	ng/ml	95
44) 1,4-Dinitrobenzene	9.442	168	95639	2541.45	ng/ml#	78
45) Dimethyl phthalate	9.484	163	631124	2168.33	ng/ml	100
46) 1,3-Dinitrobenzene	9.522	168	106856	2323.67	ng/ml	91
47) 2,6-Dinitrotoluene	9.549	165	148884	2230.20	ng/ml	79
48) 1,2-Dinitrobenzene	9.613	168	68282	2249.04	ng/ml#	62
49) Acenaphthylene	9.634	152	858291	1942.93	ng/ml	99
50) 3-Nitroaniline	9.725	138	131360	1733.15	ng/ml	95
51) Acenaphthene	9.811	153	562992	1879.56	ng/ml	100
52) 2,4-Dinitrophenol	9.832	184	72370	2894.44	ng/ml	79
53) 4-Nitrophenol	9.902	139	116745	1971.32	ng/ml	81
54) 2,4-Dinitrotoluene	9.966	165	199873	2297.80	ng/ml	83
55) Dibenzofuran	9.982	168	771907	1982.25	ng/ml	91
56) 2,3,5,6-Tetrachlorophenol	10.067	232	133621	2331.74	ng/ml	90
57) 2,3,4,6-Tetrachlorophenol	10.110	232	140605	2231.32	ng/ml	93
58) Diethyl phthalate	10.196	149	639752	2199.30	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.190	170	492251	2037.26	ng/ml	99
60) Fluorene	10.335	166	642713	2061.29	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.319	204	288311	2088.32	ng/ml	90
62) 4-Nitroaniline	10.351	138	181229	2202.17	ng/ml	78
63) 4,6-Dinitro-2-methylph...	10.383	198	114317	3058.70	ng/ml	82
65) N-Nitrosodiphenylamine	10.442	169	564946	1993.79	ng/ml	98
66) Azobenzene (1,2-DPH)	10.485	77	649402	1677.41	ng/ml	91
68) 4-Bromophenyl phenyl e...	10.822	248	164616	1983.80	ng/ml	89
69) Hexachlorobenzene	10.907	284	172492	2066.42	ng/ml	93
70) Pentachlorophenol (PCP)	11.100	266	97766	2156.87	ng/ml	96
71) Phenanthrene	11.314	178	958183	1946.36	ng/ml	99
72) Anthracene	11.367	178	981544	1943.24	ng/ml	98
73) Carbazole	11.528	167	899913	1902.80	ng/ml	98
74) Di-n-butyl phthalate	11.859	149	1094201	1849.06	ng/ml	99
75) Fluoranthene	12.608	202	1020263	1997.99	ng/ml	98
76) Benzidine	12.768	184	604843	3283.34	ng/ml	99
77) Pyrene	12.913	202	1056176	2036.09	ng/ml	99
80) Butyl benzyl phthalate	13.956	149	464453	1941.37	ng/ml	90
81) Bis(2-ethylhexyl) adipate	14.127	129	450693	1893.12	ng/ml	100
82) 3,3-Dichlorobenzidine	15.138	252	525767	3730.54	ng/ml	98
83) Benz(a)anthracene	15.175	228	910631	1973.80	ng/ml	99
84) Chrysene	15.261	228	887683	2019.72	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.309	149	677190	1980.69	ng/ml	96
87) Di-n-octyl phthalate	16.983	149	1079682	2117.48	ng/ml	98
88) Benzo(b)fluoranthene	17.791	252	872632	2247.30	ng/ml	98
89) Benzo(k)fluoranthene	17.860	252	871254	2283.09	ng/ml	99
90) Benzo(b+k)fluoranthene	17.860	252	1783257	4372.93	ng/ml	99
91) Benzo(e)pyrene	18.449	252	848293	2151.74	ng/ml	98
92) Benzo(a)pyrene	18.572	252	832287	2360.69	ng/ml	100
93) Perylene	18.780	252	890122	2208.98	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.123	276	758378	2071.65	ng/ml	99
96) Dibenz(a,h)anthracene	21.176	278	740133	2207.73	ng/ml	99
97) Benzo(g,h,i)perylene	21.658	276	770524	2137.95	ng/ml	81

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031908.D
Acq On : 3 Jul 2019 12:14 pm
Operator : JK/ AMS /DTH
Sample : 9070574-BS2@2
Misc : 2x, 8270D LL PAH/PCP
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 12:42:22 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Data Path : W:\DATA\2019-07\9G03020\
Data File : E07031911.D
Acq On : 3 Jul 2019 2:04 pm
Operator : JK/ AMS /DTH
Sample : 9070574-MS2@2
Misc : 2x, 8270D LL PAH/PCP
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

AMS 7/2/19

Quant Time: Jul 03 14:32:23 2019
Quant Method : W:\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.751	152	239358	2000.00	ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.997	136	934622	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.779	162	462180	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.292	188	839901	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.202	240	715559	2000.00	ng/ml	-0.01
86) Perylene-d12 (ISTD)	18.716	264	548235	2000.00	ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	21.107	292	349787	2000.00	ng/ml	-0.01
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.553	112	123489	827.55	ng/ml	-0.01
5) Phenol-d6(Surr)	6.404	99	168548	844.43	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.286	82	153318	856.70	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.078	172	342343	995.98	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.581	330	39934	1284.32	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.116	244	371562	1111.37	ng/ml	-0.01
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.307	74	135229	1197.24	ng/ml	92
3) Pyridine	4.350	79	76556	418.51	ng/ml	97
6) Phenol	6.414	94	282683	1351.60	ng/ml	95
7) Aniline	6.446	93	10177	37.34	ng/ml	80
8) Bis(2-chloroethyl) ether	6.489	93	231034	1351.50	ng/ml	94
9) 2-Chlorophenol	6.559	128	235043	1500.76	ng/ml	96
10) 1,3-Dichlorobenzene	6.703	146	247060	1379.98	ng/ml	96
11) 1,4-Dichlorobenzene	6.767	146	252165	1394.02	ng/ml	99
12) Benzyl alcohol	6.880	108	152552	1537.95	ng/ml	94
13) 1,2-Dichlorobenzene	6.917	146	241851	1411.49	ng/ml	97
14) 2-Methylphenol	6.987	107	180636	1386.84	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.003	45	341148	1258.46	ng/ml	92
16) N-Nitrosodi-n-propylamine	7.131	70	189876	1481.84	ng/ml	91
17) 3+4-Methylphenol	7.136	107	233421	1418.75	ng/ml	93
18) Hexachloroethane	7.243	117	94100	1409.17	ng/ml	83
20) Nitrobenzene	7.308	77	252404	1460.30	ng/ml	88
22) Isophorone	7.532	82	493445	1547.01	ng/ml	95
23) 2-Nitrophenol	7.618	139	135335	1869.11	ng/ml	85
24) 2,4-Dimethylphenol	7.655	122	159873	1143.10	ng/ml	94
25) Bis(2-chloroethoxy) me...	7.735	93	295943	1474.63	ng/ml	99
26) Benzoic acid	7.778	105	292977	4691.06	ng/ml	93
27) 2,4-Dichlorophenol	7.858	162	194458	1794.31	ng/ml	98
28) 1,2,4-Trichlorobenzene	7.944	180	205277	1581.07	ng/ml	93
29) Naphthalene	8.019	128	744056	1492.34	ng/ml	100
30) 4-Chloroaniline	8.099	127	14932	86.96	ng/ml	95
31) Hexachlorobutadiene	8.142	225	104640	1650.07	ng/ml	97
32) 4-Chloro-3-methylphenol	8.554	107	204615	1674.71	ng/ml	98
33) 2-Methylnaphthalene	8.714	142	526773	1679.67	ng/ml	95
34) 1-Methylnaphthalene	8.816	142	493190	1642.15	ng/ml	95
36) Hexachlorocyclopentadiene	8.880	237	84748	1429.46	ng/ml	97
37) 2,4,6-Trichlorophenol	9.003	196	138846	1925.69	ng/ml	100
38) 2,4,5-Trichlorophenol	9.040	196	145302	1938.50	ng/ml	98
39) 1,1'-Biphenyl	9.185	154	643452	1627.35	ng/ml	98
41) 2-Chloronaphthalene	9.206	162	468354	1640.64	ng/ml	100
42) 2-Nitroaniline	9.308	138	169391	1848.22	ng/ml	86
43) 2,6-Dimethylnaphthalene	9.345	156	479409	1735.45	ng/ml	95

Data Path : W:\DATA\2019-07\9G03020\
Data File : E07031911.D
Acq On : 3 Jul 2019 2:04 pm
Operator : JK/ AMS /DTH
Sample : 9070574-MS2@2
Misc : 2x, 8270D LL PAH/PCP
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

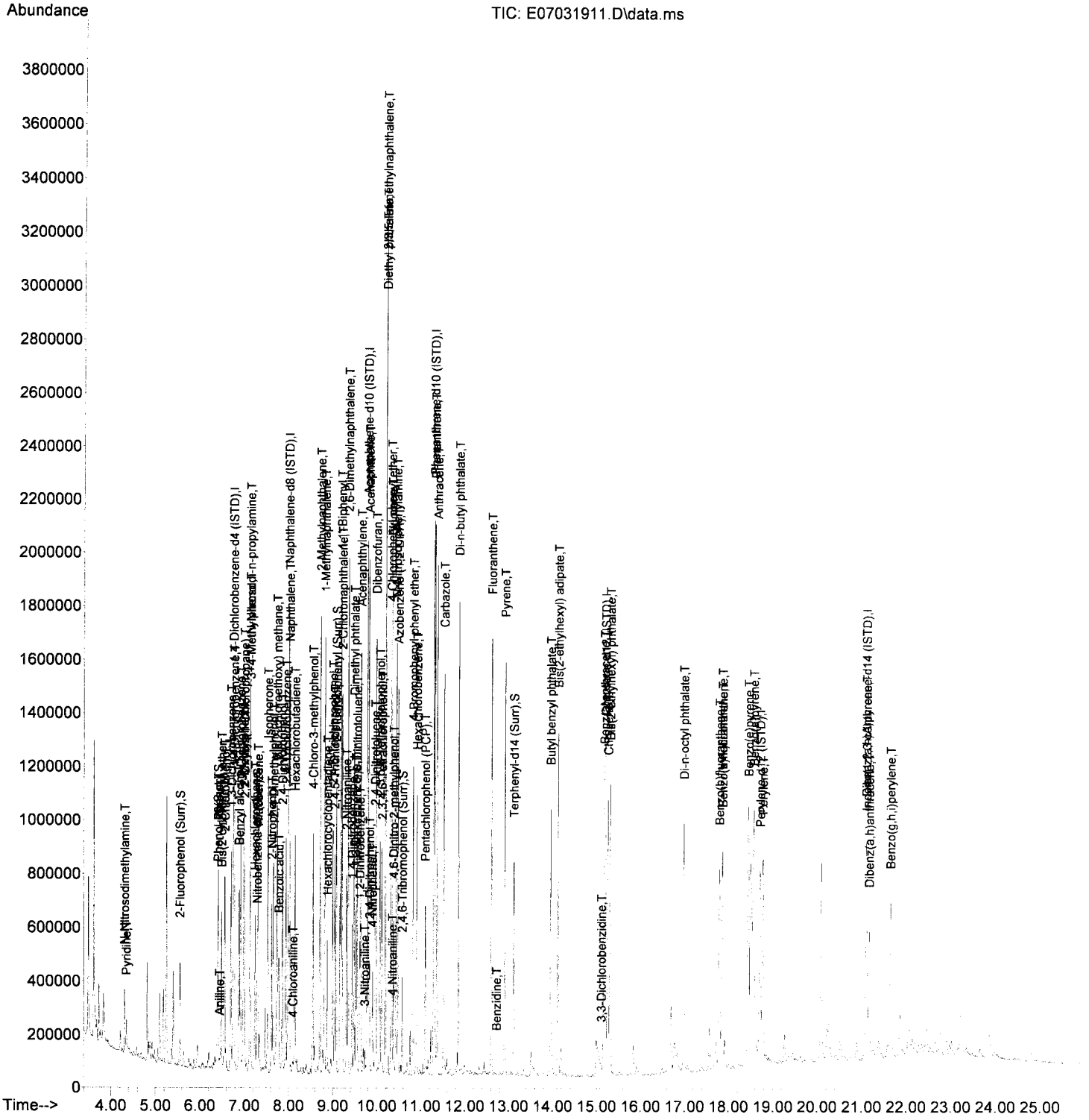
Quant Time: Jul 03 14:32:23 2019
Quant Method : W:\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
44) 1,4-Dinitrobenzene	9.442	168	82621	2211.92	ng/ml#	77
45) Dimethyl phthalate	9.484	163	538878	1816.69	ng/ml	99
46) 1,3-Dinitrobenzene	9.522	168	92330	2004.75	ng/ml	88
47) 2,6-Dinitrotoluene	9.549	165	129156	1919.56	ng/ml	82
48) 1,2-Dinitrobenzene	9.613	168	57976	1903.33	ng/ml#	61
49) Acenaphthylene	9.634	152	797413	1771.27	ng/ml	99
50) 3-Nitroaniline	9.725	138	23373	339.96	ng/ml	91
51) Acenaphthene	9.811	153	524529	1718.32	ng/ml	98
52) 2,4-Dinitrophenol	9.832	184	66610	2700.48	ng/ml	79
53) 4-Nitrophenol	9.902	139	93044	1581.85	ng/ml	82
54) 2,4-Dinitrotoluene	9.960	165	167497	1918.80	ng/ml	88
55) Dibenzofuran	9.982	168	697950	1758.72	ng/ml	92
56) 2,3,5,6-Tetrachlorophenol	10.067	232	113206	1979.56	ng/ml	91
57) 2,3,4,6-Tetrachlorophenol	10.116	232	118082	1865.81	ng/ml	90
58) Diethyl phthalate	10.196	149	529665	1786.71	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.190	170	445126	1807.68	ng/ml	100
60) Fluorene	10.335	166	570035	1793.92	ng/ml	98
61) 4-Chlorophenyl phenyl ...	10.319	204	252910	1797.55	ng/ml	91
62) 4-Nitroaniline	10.351	138	41828	498.73	ng/ml	75
63) 4,6-Dinitro-2-methylph...	10.383	198	92163	2554.63	ng/ml	79
65) N-Nitrosodiphenylamine	10.442	169	432393	1629.61	ng/ml	98
66) Azobenzene (1,2-DPH)	10.485	77	562926	1552.78	ng/ml	91
68) 4-Bromophenyl phenyl e...	10.822	248	143607	1848.14	ng/ml	87
69) Hexachlorobenzene	10.907	284	146496	1874.16	ng/ml	93
70) Pentachlorophenol (PCP)	11.100	266	84032	2001.05	ng/ml	95
71) Phenanthrene	11.314	178	814614	1767.09	ng/ml	99
72) Anthracene	11.367	178	811235	1715.13	ng/ml	99
73) Carbazole	11.528	167	727453	1642.60	ng/ml	98
74) Di-n-butyl phthalate	11.859	149	908170	1638.91	ng/ml	98
75) Fluoranthene	12.608	202	845949	1769.12	ng/ml	98
76) Benzidine	12.726	184	151	39.67	ng/ml#	1
77) Pyrene	12.913	202	860237	1770.97	ng/ml	99
80) Butyl benzyl phthalate	13.956	149	382452	1827.29	ng/ml	90
81) Bis(2-ethylhexyl) adipate	14.127	129	363485	1745.21	ng/ml	99
82) 3,3-Dichlorobenzidine	15.111	252	64	21.59	ng/ml#	1
83) Benz(a)anthracene	15.175	228	702485	1740.46	ng/ml	98
84) Chrysene	15.261	228	688786	1791.36	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.309	149	550270	1839.70	ng/ml	97
87) Di-n-octyl phthalate	16.989	149	887671	2315.87	ng/ml	99
88) Benzo(b)fluoranthene	17.791	252	621713	2146.46	ng/ml	98
89) Benzo(k)fluoranthene	17.860	252	616825	2166.93	ng/ml	99
90) Benzo(b+k)fluoranthene	17.860	252	1262706	4151.12	ng/ml	99
91) Benzo(e)pyrene	18.449	252	575070	1955.55	ng/ml	99
92) Benzo(a)pyrene	18.572	252	551555	2097.29	ng/ml	100
93) Perylene	18.775	252	554391	1844.43	ng/ml	98
95) Indeno(1,2,3-cd)pyrene	21.112	276	333703	1740.54	ng/ml	99
96) Dibenz(a,h)anthracene	21.171	278	335698	1911.96	ng/ml	99
97) Benzo(g,h,i)perylene	21.653	276	299973	1589.23	ng/ml	83

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

Data Path : W:\DATA\2019-07\9G03020\
Data File : E07031911.D
Acq On : 3 Jul 2019 2:04 pm
Operator : JK/ AMS /DTH
Sample : 9070574-MS2@2
Misc : 2x, 8270D LL PAH/PCP
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 14:32:23 2019
Quant Method : W:\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031913.D
Acq On : 3 Jul 2019 3:18 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BLK1
Misc : 1x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

AMS B 7/3/19

Quant Time: Jul 03 15:49:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.751	152	231752	2000.00 ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.997	136	888443	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.773	162	450097	2000.00 ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.287	188	849610	2000.00 ng/ml	-0.01
78) Chrysene-d12 (ISTD)	15.197	240	766778	2000.00 ng/ml	-0.02
86) Perylene-d12 (ISTD)	18.705	264	657745	2000.00 ng/ml	-0.02
94) Dibenz(a,h)Anthrcene-d...	21.096	292	524214	2000.00 ng/ml	-0.02
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	5.558	112	205059	1419.28 ng/ml	0.00
5) Phenol-d6(Surr)	6.409	99	22990	118.96 ng/ml	0.00 SO6
19) Nitrobenzene-d5 (Surr)	7.291	82	571275	3296.90 ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.078	172	1088922	3253.06 ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.581	330	159268	4278.37 ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.127	244	1565936	4370.96 ng/ml	0.00
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	4.312	74	230	N.D.	
3) Pyridine	4.317	79	113	N.D.	
6) Phenol	6.425	94	1015	5.01 ng/ml	89
7) Aniline	6.425	93	665	2.52 ng/ml	80
8) Bis(2-chloroethyl) ether	6.478	93	7574	↑ 45.76 ng/ml#	38 ↑ MDL-MRL 6.25
9) 2-Chlorophenol	6.575	128	148	N.D.	
10) 1,3-Dichlorobenzene	6.772	146	232	N.D.	
11) 1,4-Dichlorobenzene	6.772	146	248	N.D.	
12) Benzyl alcohol	6.863	108	211	N.D.	
13) 1,2-Dichlorobenzene	6.917	146	62	N.D.	
14) 2-Methylphenol	6.965	107	566	4.49 ng/ml	82
15) 2,2'-Oxybis(1-Chloropr...	6.992	45	465	N.D.	
16) N-Nitrosodi-n-propylamine	7.147	70	375	3.02 ng/ml	62
17) 3+4-Methylphenol	7.147	107	873	5.48 ng/ml#	1
18) Hexachloroethane	7.259	117	425	6.57 ng/ml#	18
20) Nitrobenzene	7.313	77	11139	66.56 ng/ml#	18
22) Isophorone	7.532	82	38986	128.58 ng/ml	95 B
23) 2-Nitrophenol	7.612	139	111	25.85 ng/ml#	1
24) 2,4-Dimethylphenol	7.671	122	2318	17.44 ng/ml	90
25) Bis(2-chloroethoxy) me...	7.735	93	203	N.D.	
26) Benzoic acid	7.719	105	12924	674.67 ng/ml	93
27) 2,4-Dichlorophenol	0.000		0	N.D.	
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
29) Naphthalene	8.024	128	3400	7.17 ng/ml	97
30) 4-Chloroaniline	8.051	127	390	N.D.	
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	8.559	107	703	32.79 ng/ml#	1
33) 2-Methylnaphthalene	8.714	142	1102	3.70 ng/ml	92
34) 1-Methylnaphthalene	8.816	142	596	N.D.	
36) Hexachlorocyclopentadiene	0.000		0	N.D.	
37) 2,4,6-Trichlorophenol	0.000		0	N.D.	
38) 2,4,5-Trichlorophenol	0.000		0	N.D.	
39) 1,1'-Biphenyl	9.179	154	2422	6.29 ng/ml	93
41) 2-Chloronaphthalene	9.206	162	209	N.D.	
42) 2-Nitroaniline	9.308	138	195	56.38 ng/ml#	1

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031913.D
Acq On : 3 Jul 2019 3:18 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BLK1
Misc : 1x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 15:49:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

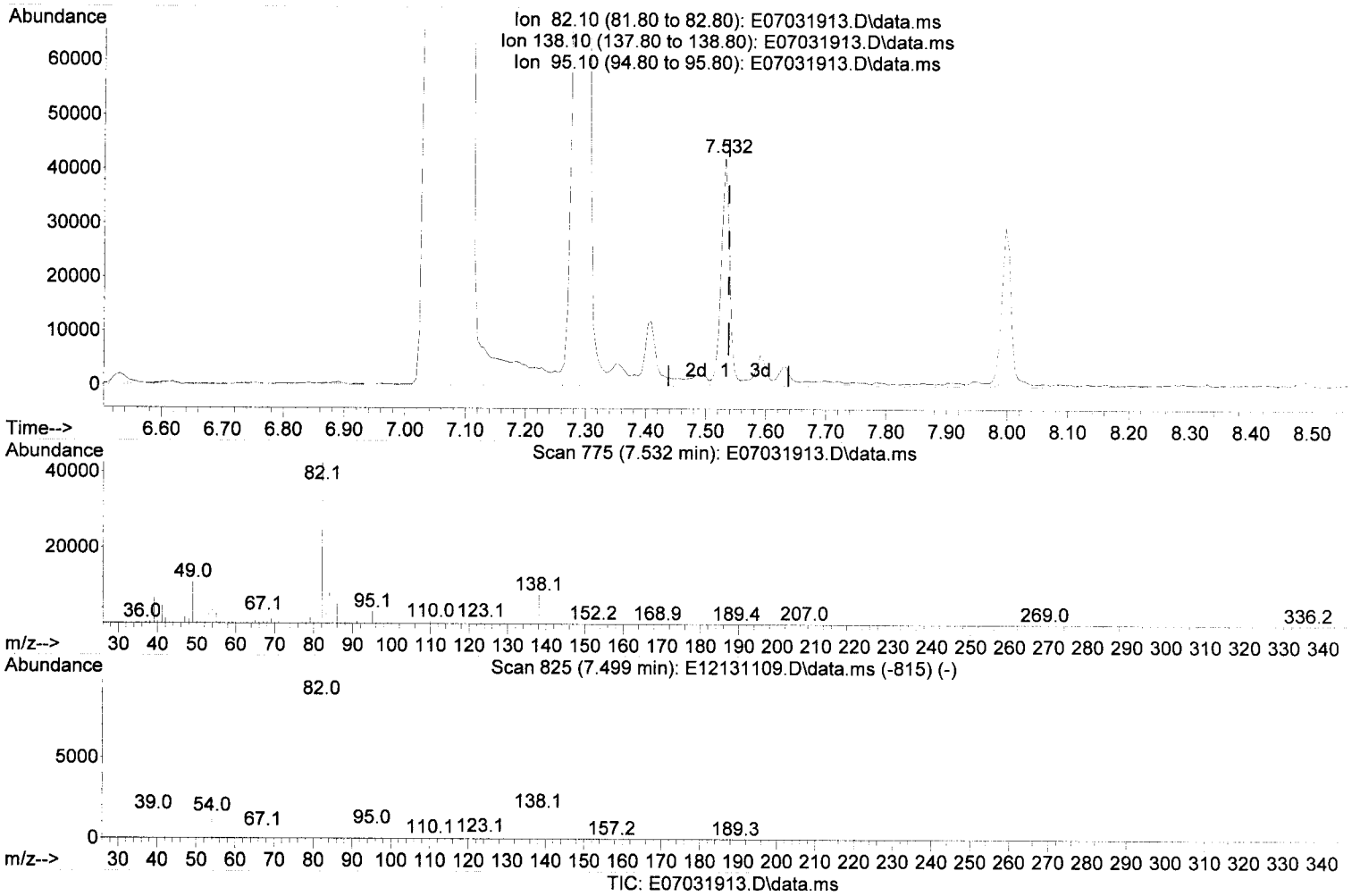
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.340	156	541	N.D.	
44) 1,4-Dinitrobenzene	0.000		0	N.D.	
45) Dimethyl phthalate	9.484	163	359	N.D.	
46) 1,3-Dinitrobenzene	0.000		0	N.D.	
47) 2,6-Dinitrotoluene	9.527	165	447	38.81 ng/ml#	56
48) 1,2-Dinitrobenzene	9.618	168	90	38.06 ng/ml#	1
49) Acenaphthylene	9.623	152	440	N.D.	
50) 3-Nitroaniline	9.752	138	354	34.01 ng/ml#	1
51) Acenaphthene	9.805	153	559	N.D.	
52) 2,4-Dinitrophenol	9.762	184	76	182.78 ng/ml#	1
53) 4-Nitrophenol	9.896	139	55	66.57 ng/ml#	1
54) 2,4-Dinitrotoluene	9.971	165	1991	84.86 ng/ml#	47
55) Dibenzofuran	9.976	168	465	N.D.	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	
57) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	
58) Diethyl phthalate	10.196	149	5518	19.11 ng/ml	91
59) 2,3,5-Trimethylnaphtha...	10.185	170	297	N.D.	
60) Fluorene	10.329	166	448	N.D.	
61) 4-Chlorophenyl phenyl ...	10.324	204	134	N.D.	
62) 4-Nitroaniline	10.287	138	985	12.06 ng/ml#	1
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	
65) N-Nitrosodiphenylamine	10.442	169	392	N.D.	
66) Azobenzene (1,2-DPH)	10.495	77	691	N.D.	
68) 4-Bromophenyl phenyl e...	10.821	248	51	N.D.	
69) Hexachlorobenzene	10.902	284	64	N.D.	
70) Pentachlorophenol (PCP)	11.116	266	96	72.40 ng/ml#	52
71) Phenanthrene	11.313	178	1621	3.48 ng/ml	86
72) Anthracene	11.367	178	1452	3.03 ng/ml	72
73) Carbazole	11.506	167	83	N.D.	
74) Di-n-butyl phthalate	11.854	149	8541	15.24 ng/ml	98
75) Fluoranthene	12.618	202	1275	2.64 ng/ml	85
76) Benzidine	12.779	184	492	42.66 ng/ml#	8
77) Pyrene	12.913	202	718	N.D.	
80) Butyl benzyl phthalate	13.950	149	3313	14.77 ng/ml	92
81) Bis(2-ethylhexyl) adipate	14.121	129	14686	65.80 ng/ml	96
82) 3,3-Dichlorobenzidine	15.111	252	63	21.55 ng/ml#	29
83) Benz(a)anthracene	15.197	228	2172	5.02 ng/ml	72
84) Chrysene	15.250	228	122	N.D.	
85) Bis(2-ethylhexyl) phth...	15.304	149	5146	16.06 ng/ml	96
87) Di-n-octyl phthalate	16.962	149	146	31.01 ng/ml#	1
88) Benzo(b)fluoranthene	17.785	252	282	N.D.	
89) Benzo(k)fluoranthene	17.855	252	364	N.D.	
90) Benzo(b+k)fluoranthene	17.855	252	364	N.D.	
91) Benzo(e)pyrene	18.427	252	465	N.D.	
92) Benzo(a)pyrene	18.555	252	76	N.D.	
93) Perylene	18.705	252	2405	6.67 ng/ml	69
95) Indeno(1,2,3-cd)pyrene	21.085	276	199	N.D.	
96) Dibenz(a,h)anthracene	21.150	278	190	N.D.	
97) Benzo(g,h,i)perylene	21.636	276	82	N.D.	

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031913.D
Acq On : 3 Jul 2019 3:18 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BLK1
Misc : 1x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 15:49:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031913.D\data.ms

(22) Isophorone (T)

7.532min (-0.006) 128.58 ng/ml

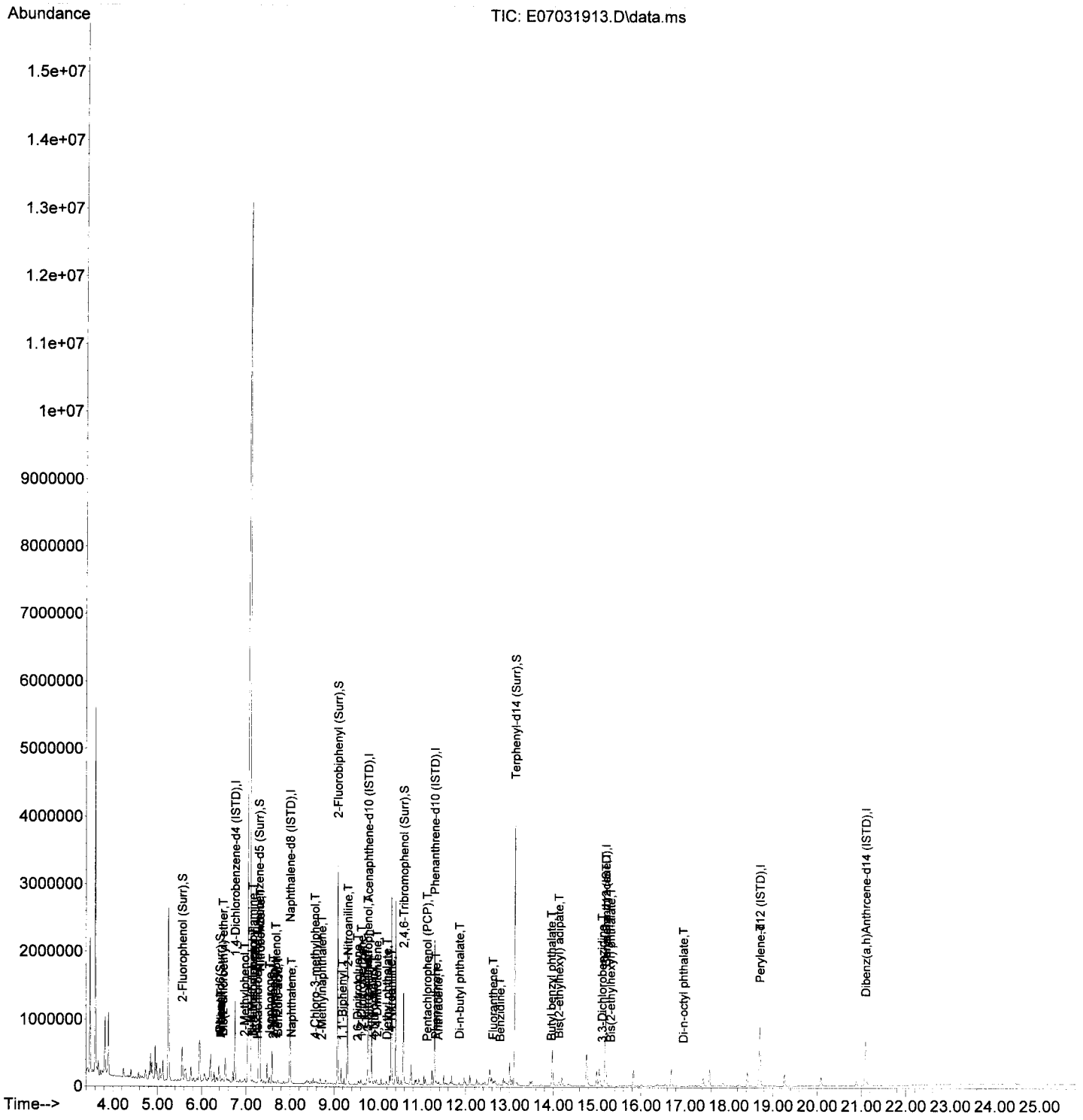
response 38986

Ion	Exp%	Act%
82.10	100.00	100.00
138.10	15.90	18.21
95.10	6.40	7.44
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031913.D
Acq On : 3 Jul 2019 3:18 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BLK1
Misc : 1x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 15:49:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031914.D
Acq On : 3 Jul 2019 3:55 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BS1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 16:25:31 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

DTH 7/3/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.751	152	229327	2000.00 ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.997	136	891004	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.778	162	452675	2000.00 ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.292	188	869647	2000.00 ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.202	240	798902	2000.00 ng/ml	-0.01
86) Perylene-d12 (ISTD)	18.716	264	702755	2000.00 ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	21.107	292	565979	2000.00 ng/ml	-0.01
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	5.558	112	147158	1029.30 ng/ml	0.00
5) Phenol-d6(Surr)	6.414	99	37389	195.51 ng/ml	0.00 SOG
19) Nitrobenzene-d5 (Surr)	7.286	82	310045	1808.23 ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.078	172	645478	1917.33 ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.581	330	92237	2640.06 ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.121	244	864546	2316.15 ng/ml	0.00
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	4.301	74	96533	892.03 ng/ml	94
3) Pyridine	4.334	79	141219	805.77 ng/ml	98
6) Phenol	6.441	94	56363	281.28 ng/ml#	1
7) Aniline	6.441	93	352887	1351.42 ng/ml	98
8) Bis(2-chloroethyl) ether	6.489	93	233530	1425.85 ng/ml	95
9) 2-Chlorophenol	6.564	128	151142	1007.26 ng/ml	94
10) 1,3-Dichlorobenzene	6.703	146	185697	1082.60 ng/ml	97
11) 1,4-Dichlorobenzene	6.767	146	193734	1117.85 ng/ml	99
12) Benzyl alcohol	6.880	108	29748	313.02 ng/ml	91 MI
13) 1,2-Dichlorobenzene	6.917	146	185283	1128.65 ng/ml	97
14) 2-Methylphenol	7.019	107	155233	1243.94 ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.019	45	328066	1263.14 ng/ml	92
16) N-Nitrosodi-n-propylamine	7.131	70	187497	1527.28 ng/ml	93
17) 3+4-Methylphenol	7.136	107	190809	1210.48 ng/ml	94
18) Hexachloroethane	7.249	117	65350	1021.44 ng/ml	80
20) Nitrobenzene	7.307	77	248056	1497.92 ng/ml	89
22) Isophorone	7.532	82	509431	1675.31 ng/ml	95
23) 2-Nitrophenol	7.618	139	130051	1883.00 ng/ml	87
24) 2,4-Dimethylphenol	7.655	122	167287	1254.67 ng/ml	95
25) Bis(2-chloroethoxy) me...	7.735	93	293916	1536.23 ng/ml	99
26) Benzoic acid	7.741	105	90978	2105.38 ng/ml	94
27) 2,4-Dichlorophenol	7.858	162	188118	1820.78 ng/ml	98
28) 1,2,4-Trichlorobenzene	7.939	180	161763	1306.91 ng/ml	94
29) Naphthalene	8.019	128	633934	1333.71 ng/ml	100
30) 4-Chloroaniline	8.067	127	285025	1741.19 ng/ml	96
31) Hexachlorobutadiene	8.142	225	73814	1220.95 ng/ml	98
32) 4-Chloro-3-methylphenol	8.554	107	212806	1817.99 ng/ml	97
33) 2-Methylnaphthalene	8.714	142	444974	1488.30 ng/ml	96
34) 1-Methylnaphthalene	8.816	142	421991	1473.87 ng/ml	96
36) Hexachlorocyclopentadiene	8.875	237	62419	1074.94 ng/ml	96
37) 2,4,6-Trichlorophenol	9.003	196	136535	1932.84 ng/ml	99
38) 2,4,5-Trichlorophenol	9.040	196	150112	2037.69 ng/ml	97
39) 1,1'-Biphenyl	9.179	154	577911	1492.28 ng/ml	98
41) 2-Chloronaphthalene	9.206	162	411573	1472.01 ng/ml	98
42) 2-Nitroaniline	9.313	138	180383	1995.32 ng/ml	82

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031914.D
Acq On : 3 Jul 2019 3:55 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BS1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 16:25:31 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

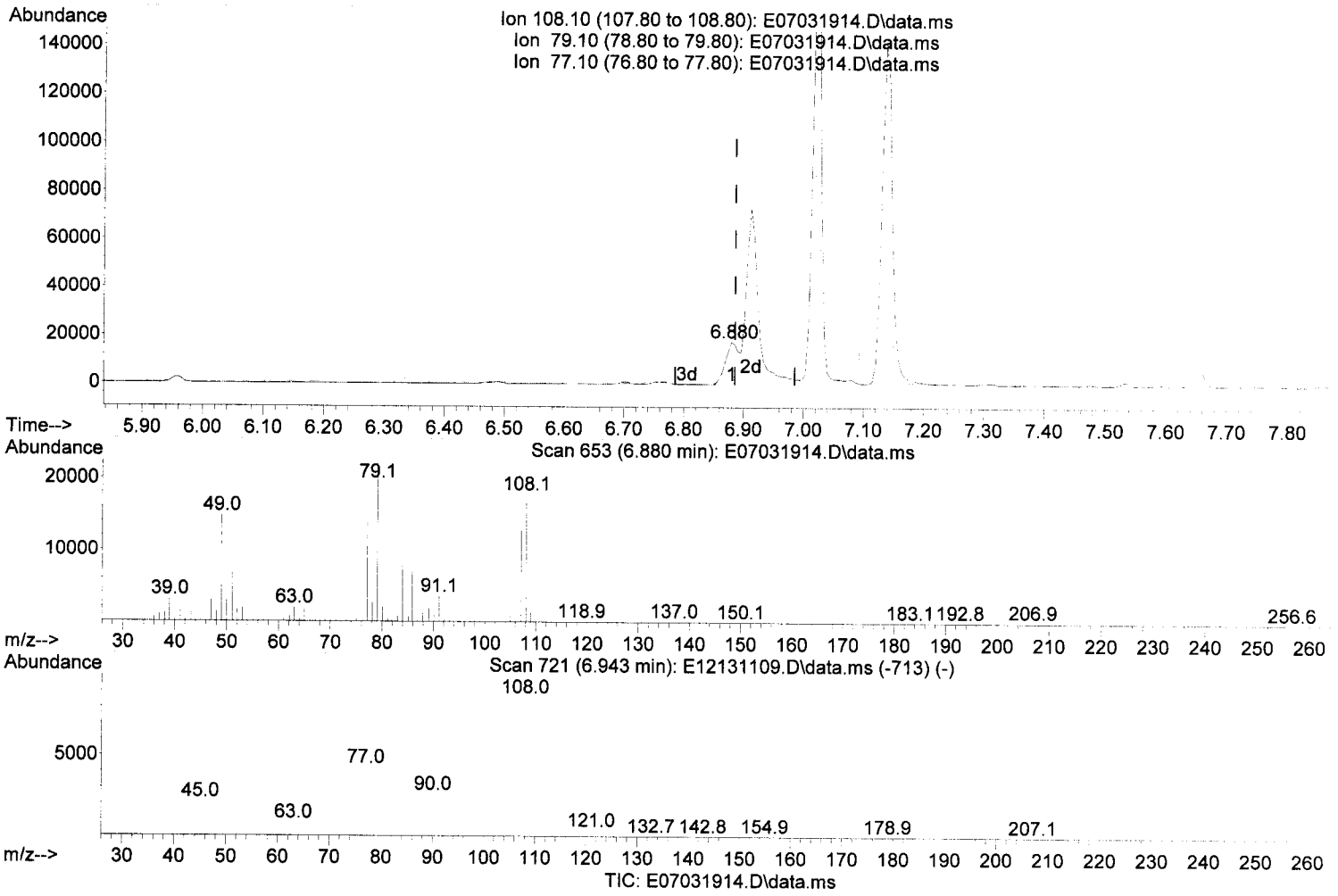
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.345	156	421302	1557.13	ng/ml	95
44) 1,4-Dinitrobenzene	9.441	168	86347	2336.35	ng/ml#	77
45) Dimethyl phthalate	9.484	163	580552	1998.28	ng/ml	100
46) 1,3-Dinitrobenzene	9.522	168	98680	2167.80	ng/ml	89
47) 2,6-Dinitrotoluene	9.548	165	135759	2050.28	ng/ml	79
48) 1,2-Dinitrobenzene	9.613	168	61988	2062.56	ng/ml#	61
49) Acenaphthylene	9.629	152	737996	1673.71	ng/ml	99
50) 3-Nitroaniline	9.725	138	139676	1838.53	ng/ml	94
51) Acenaphthene	9.811	153	488068	1632.44	ng/ml	98
52) 2,4-Dinitrophenol	9.832	184	69184	2810.78	ng/ml	78
53) 4-Nitrophenol	9.918	139	36055	690.33	ng/ml	80
54) 2,4-Dinitrotoluene	9.960	165	184884	2142.38	ng/ml	86
55) Dibenzofuran	9.982	168	667498	1717.31	ng/ml	91
56) 2,3,5,6-Tetrachlorophenol	10.067	232	118201	2095.48	ng/ml	93
57) 2,3,4,6-Tetrachlorophenol	10.115	232	121834	1958.11	ng/ml	92
58) Diethyl phthalate	10.196	149	599398	2064.40	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.190	170	429544	1781.03	ng/ml	98
60) Fluorene	10.335	166	560852	1802.08	ng/ml	98
61) 4-Chlorophenyl phenyl ...	10.319	204	250680	1819.11	ng/ml	90
62) 4-Nitroaniline	10.351	138	165215	2011.30	ng/ml	77
63) 4,6-Dinitro-2-methylph...	10.383	198	101319	2792.75	ng/ml	86
65) N-Nitrosodiphenylamine	10.442	169	493714	1797.07	ng/ml	98
66) Azobenzene (1,2-DPH)	10.484	77	585575	1560.00	ng/ml	92
68) 4-Bromophenyl phenyl e...	10.821	248	147510	1833.44	ng/ml	89
69) Hexachlorobenzene	10.907	284	152147	1879.88	ng/ml	93
70) Pentachlorophenol (PCP)	11.100	266	82256	1904.77	ng/ml	97
71) Phenanthrene	11.314	178	861085	1804.01	ng/ml	99
72) Anthracene	11.367	178	875758	1788.21	ng/ml	98
73) Carbazole	11.527	167	833217	1817.06	ng/ml	99
74) Di-n-butyl phthalate	11.859	149	1069655	1864.30	ng/ml	99
75) Fluoranthene	12.613	202	950417	1919.61	ng/ml	97
76) Benzidine	12.768	184	44802	401.23	ng/ml	99
77) Pyrene	12.913	202	968748	1926.14	ng/ml	99
80) Butyl benzyl phthalate	13.956	149	464066	1985.92	ng/ml	90
81) Bis(2-ethylhexyl) adipate	14.127	129	435309	1872.03	ng/ml	99
82) 3,3-Dichlorobenzidine	15.143	252	549830	3973.79	ng/ml	98
83) Benz(a)anthracene	15.181	228	855201	1897.78	ng/ml	97
84) Chrysene	15.261	228	832244	1938.66	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.314	149	668101	2000.62	ng/ml	95
87) Di-n-octyl phthalate	16.988	149	1112861	2269.08	ng/ml	98
88) Benzo(b)fluoranthene	17.796	252	813833	2191.95	ng/ml	98
89) Benzo(k)fluoranthene	17.860	252	825402	2262.10	ng/ml	99
90) Benzo(b+k)fluoranthene	17.860	252	1673661	4292.33	ng/ml	99
91) Benzo(e)pyrene	18.454	252	791196	2098.91	ng/ml	98
92) Benzo(a)pyrene	18.577	252	752283	2231.58	ng/ml	99
93) Perylene	18.780	252	784673	2036.57	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.118	276	592580	1910.18	ng/ml	99
96) Dibenz(a,h)anthracene	21.176	278	601418	2116.95	ng/ml	98
97) Benzo(g,h,i)perylene	21.652	276	553770	1813.16	ng/ml	83

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031914.D
Acq On : 3 Jul 2019 3:55 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BS1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 16:25:31 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(12) Benzyl alcohol (T)

6.880min (-0.005) 313.02 ng/ml

response 29748

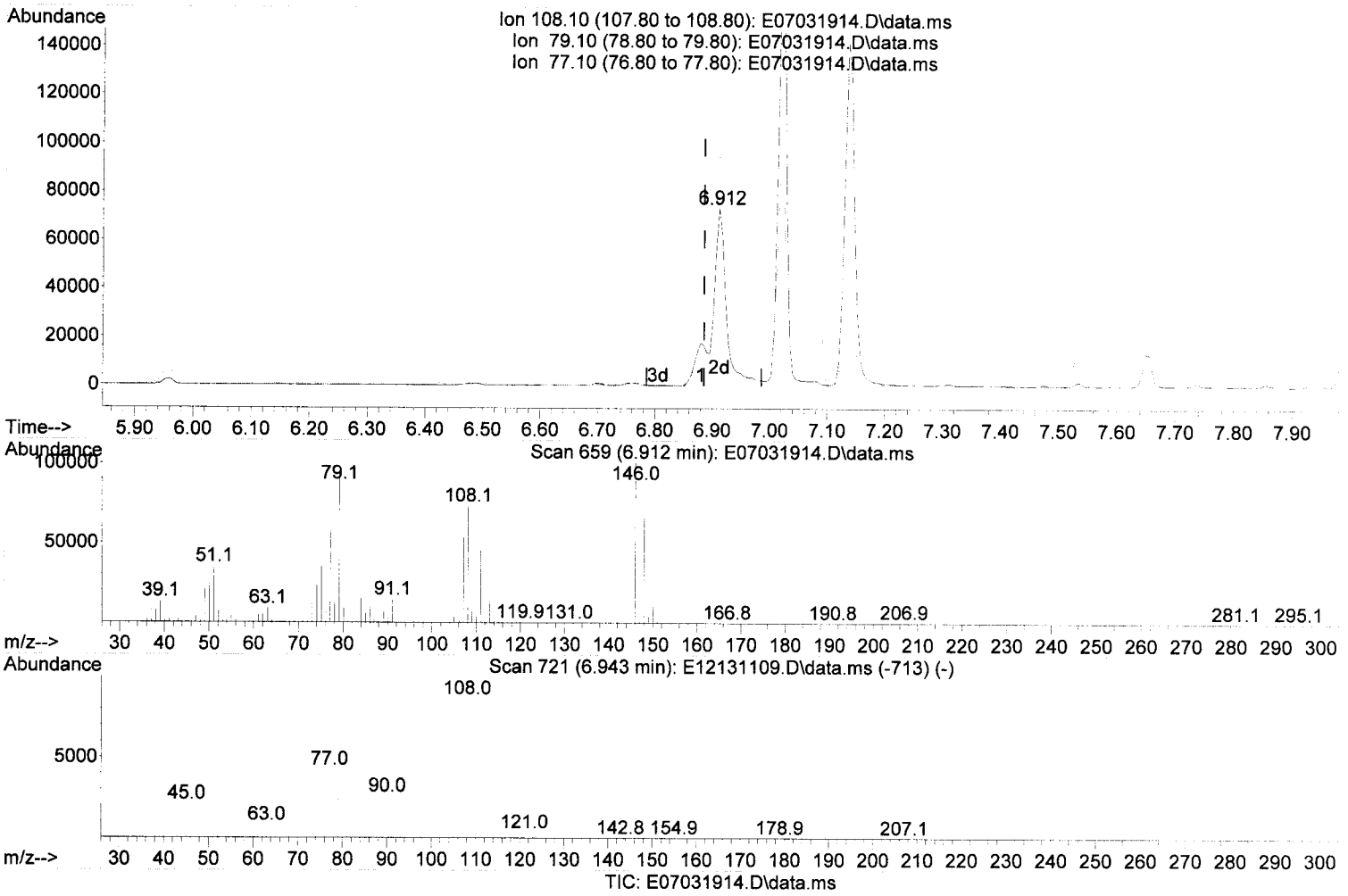
Ion	Exp%	Act%
108.10	100.00	100.00
79.10	136.30	126.18
77.10	88.20	79.21
0.00	0.00	0.00

MI

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031914.D
Acq On : 3 Jul 2019 3:55 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BS1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 16:25:31 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(12) Benzyl alcohol (T)

6.912min (+ 0.027) 1406.82 ng/ml m

response 133697

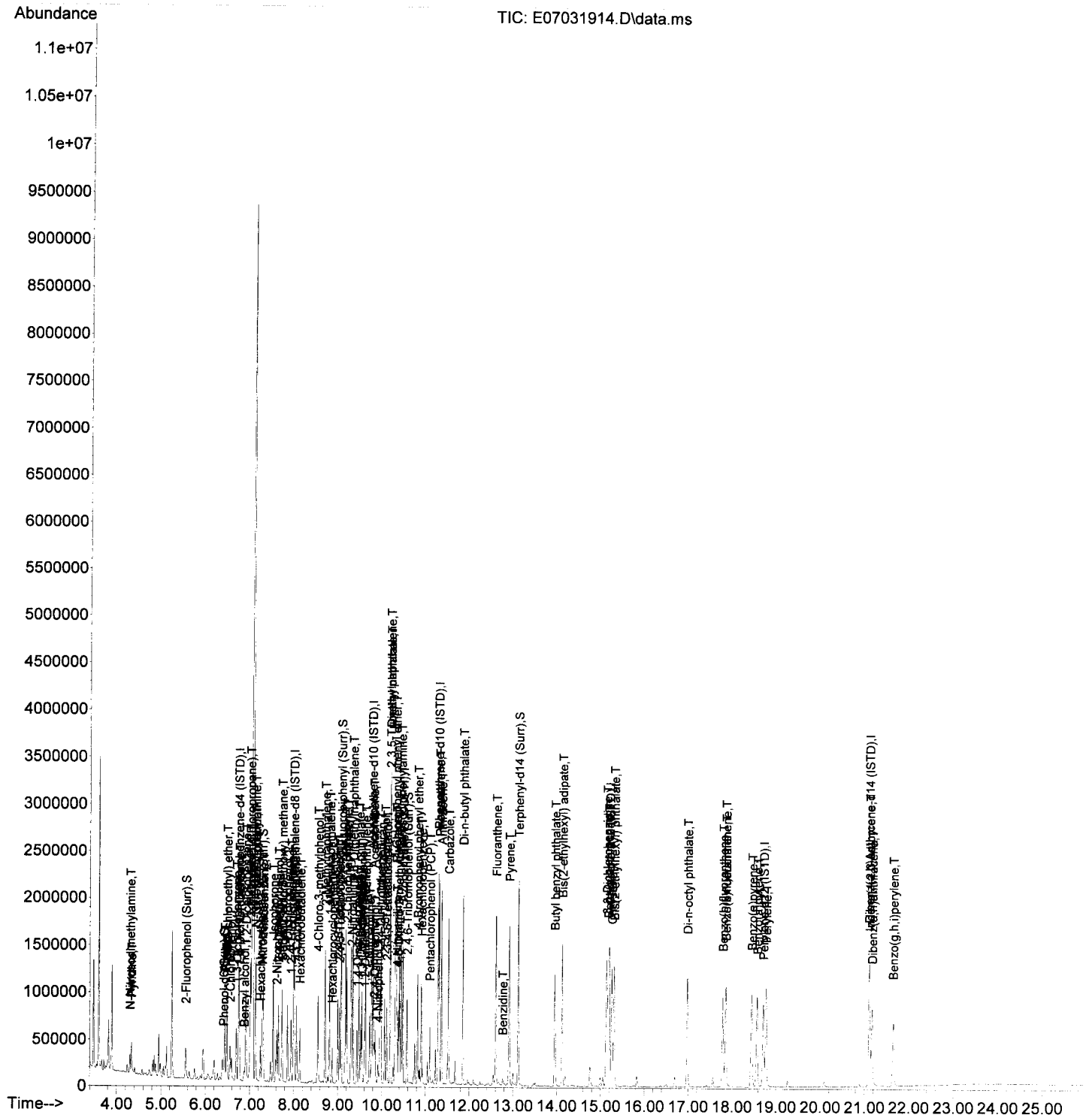
DTH 7/3/19

Ion	Exp%	Act%
108.10	100.00	100.00
79.10	136.30	129.27
77.10	88.20	78.23
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031914.D
Acq On : 3 Jul 2019 3:55 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BS1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 16:25:31 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031915.D
Acq On : 3 Jul 2019 4:31 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BSD1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Q19

Quant Time: Jul 03 17:54:45 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

DTH 7/3/19

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.751	152	226113	2000.00 ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.997	136	879886	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.778	162	448860	2000.00 ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.292	188	848691	2000.00 ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.202	240	769736	2000.00 ng/ml	-0.01
86) Perylene-d12 (ISTD)	18.716	264	668000	2000.00 ng/ml	-0.01
94) Dibenz(a,h)Anthrcene-d...	21.112	292	540102	2000.00 ng/ml	0.00
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	5.558	112	139555	990.00 ng/ml	0.00
5) Phenol-d6(Surr)	6.409	99	35315	187.29 ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.291	82	295513	1747.97 ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.078	172	624695	1871.36 ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.581	330	89637	2630.42 ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.121	244	830521	2309.31 ng/ml	0.00
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	4.301	74	91349	856.13 ng/ml	95
3) Pyridine	4.333	79	135357	783.30 ng/ml	98
6) Phenol	6.441	94	54656	276.64 ng/ml#	1
7) Aniline	6.441	93	336283	1306.14 ng/ml	98
8) Bis(2-chloroethyl) ether	6.489	93	219921	1361.85 ng/ml	95
9) 2-Chlorophenol	6.564	128	153764	1039.30 ng/ml	93
10) 1,3-Dichlorobenzene	6.703	146	180591	1067.80 ng/ml	95
11) 1,4-Dichlorobenzene	6.767	146	187981	1100.07 ng/ml	99
12) Benzyl alcohol	~~6.879~~	~~108~~	~~24302~~	~~259.35 ng/ml~~	~~90~~ NC
13) 1,2-Dichlorobenzene	6.922	146	184747	1141.38 ng/ml	96
14) 2-Methylphenol	7.019	107	147998	1202.82 ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.019	45	317067	1238.14 ng/ml	92
16) N-Nitrosodi-n-propylamine	7.136	70	179624	1483.94 ng/ml	91
17) 3+4-Methylphenol	7.136	107	182598	1174.86 ng/ml	92
18) Hexachloroethane	7.248	117	63677	1009.44 ng/ml	83
20) Nitrobenzene	7.307	77	237488	1454.48 ng/ml	89
22) Isophorone	7.532	82	492373	1639.68 ng/ml	95
23) 2-Nitrophenol	7.618	139	123593	1816.99 ng/ml	86
24) 2,4-Dimethylphenol	7.655	122	158762	1205.78 ng/ml	93
25) Bis(2-chloroethoxy) me...	7.735	93	283416	1500.06 ng/ml	99
26) Benzoic acid	7.741	105	91902	2139.45 ng/ml	93
27) 2,4-Dichlorophenol	7.858	162	182124	1785.04 ng/ml	97
28) 1,2,4-Trichlorobenzene	7.938	180	156333	1279.00 ng/ml	95
29) Naphthalene	8.019	128	614485	1309.13 ng/ml	99
30) 4-Chloroaniline	8.067	127	273230	1690.22 ng/ml	96
31) Hexachlorobutadiene	8.142	225	71796	1202.58 ng/ml	98
32) 4-Chloro-3-methylphenol	8.554	107	206603	1789.05 ng/ml	98
33) 2-Methylnaphthalene	8.714	142	428495	1451.29 ng/ml	95
34) 1-Methylnaphthalene	8.816	142	407617	1441.65 ng/ml	96
36) Hexachlorocyclopentadiene	8.880	237	57780	1003.51 ng/ml	96
37) 2,4,6-Trichlorophenol	9.003	196	134557	1921.88 ng/ml	99
38) 2,4,5-Trichlorophenol	9.040	196	142872	1961.10 ng/ml	98
39) 1,1'-Biphenyl	9.179	154	556687	1449.69 ng/ml	98
41) 2-Chloronaphthalene	9.206	162	397490	1433.73 ng/ml	100
42) 2-Nitroaniline	9.313	138	176934	1975.63 ng/ml	82

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031915.D
Acq On : 3 Jul 2019 4:31 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BSD1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 17:54:45 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

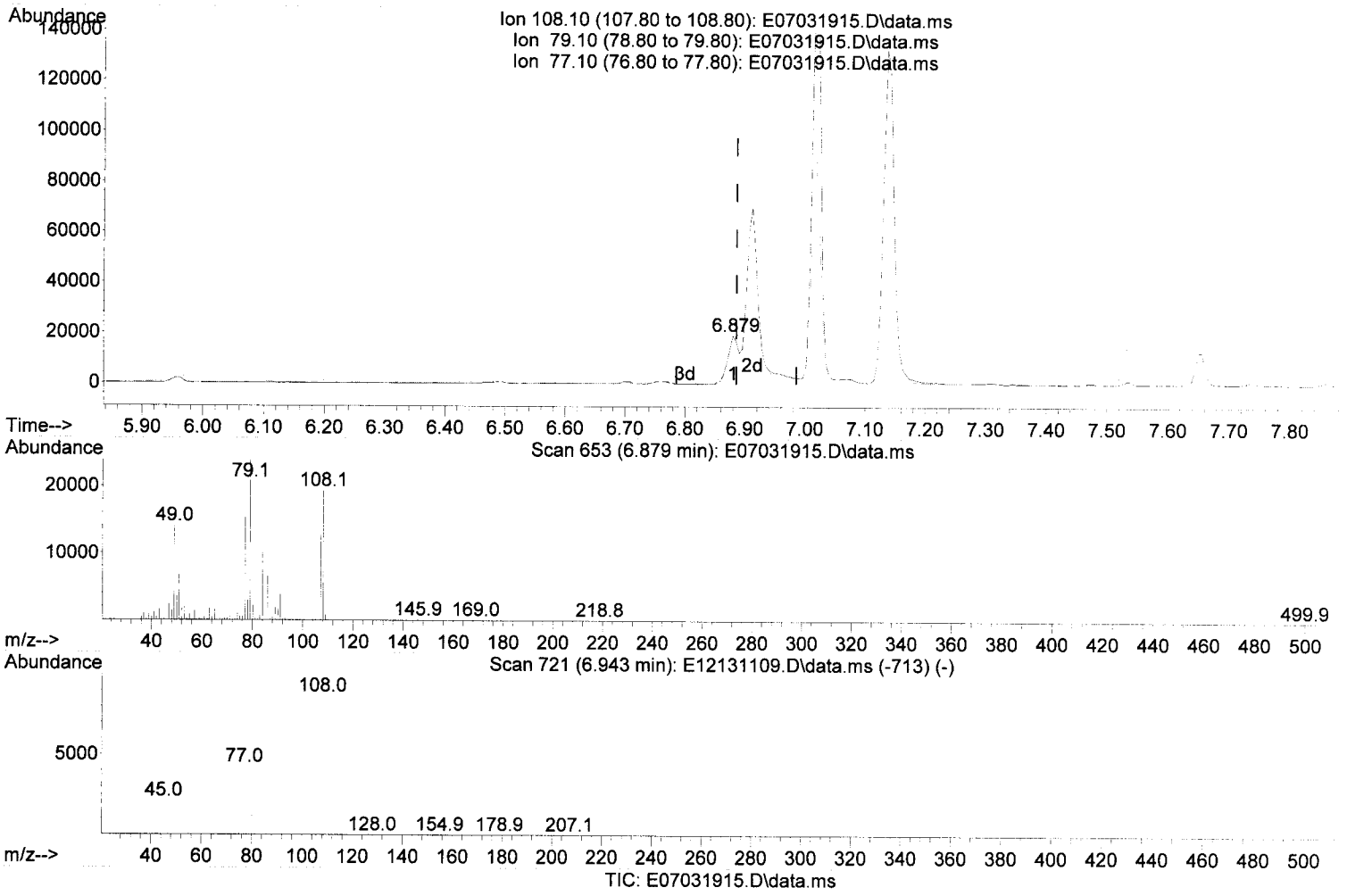
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.345	156	405146	1510.14	ng/ml	95
44) 1,4-Dinitrobenzene	9.441	168	84067	2300.63	ng/ml#	77
45) Dimethyl phthalate	9.484	163	563178	1954.95	ng/ml	100
46) 1,3-Dinitrobenzene	9.522	168	94692	2105.11	ng/ml	88
47) 2,6-Dinitrotoluene	9.548	165	130895	1997.42	ng/ml	82
48) 1,2-Dinitrobenzene	9.613	168	59840	2012.59	ng/ml#	60
49) Acenaphthylene	9.634	152	716181	1638.04	ng/ml	100
50) 3-Nitroaniline	9.725	138	135857	1805.79	ng/ml	94
51) Acenaphthene	9.810	153	472162	1592.67	ng/ml	99
52) 2,4-Dinitrophenol	9.832	184	65390	2720.40	ng/ml	80
53) 4-Nitrophenol	9.912	139	36623	705.13	ng/ml	82
54) 2,4-Dinitrotoluene	9.960	165	176939	2073.52	ng/ml	90
55) Dibenzofuran	9.982	168	640161	1660.97	ng/ml	92
56) 2,3,5,6-Tetrachlorophenol	10.067	232	114025	2044.88	ng/ml	94
57) 2,3,4,6-Tetrachlorophenol	10.115	232	119131	1932.92	ng/ml	92
58) Diethyl phthalate	10.196	149	580294	2015.59	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.190	170	416041	1739.71	ng/ml	98
60) Fluorene	10.335	166	544318	1763.82	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.324	204	243412	1781.38	ng/ml	85
62) 4-Nitroaniline	10.351	138	161189	1978.97	ng/ml	78
63) 4,6-Dinitro-2-methylph...	10.383	198	97377	2726.46	ng/ml	81
65) N-Nitrosodiphenylamine	10.442	169	485035	1809.08	ng/ml	98
66) Azobenzene (1,2-DPH)	10.484	77	565105	1542.64	ng/ml	91
68) 4-Bromophenyl phenyl e...	10.821	248	142732	1817.85	ng/ml	89
69) Hexachlorobenzene	10.907	284	147213	1863.83	ng/ml	93
70) Pentachlorophenol (PCP)	11.105	266	82043	1941.60	ng/ml	97
71) Phenanthrene	11.313	178	833389	1789.09	ng/ml	99
72) Anthracene	11.367	178	839874	1757.28	ng/ml	98
73) Carbazole	11.527	167	806009	1801.13	ng/ml	98
74) Di-n-butyl phthalate	11.859	149	1016806	1815.95	ng/ml	99
75) Fluoranthene	12.613	202	913611	1890.83	ng/ml	97
76) Benzidine	12.768	184	52499	469.35	ng/ml	98
77) Pyrene	12.913	202	928930	1892.58	ng/ml	99
80) Butyl benzyl phthalate	13.956	149	443393	1969.35	ng/ml	90
81) Bis(2-ethylhexyl) adipate	14.127	129	413945	1847.60	ng/ml	99
82) 3,3-Dichlorobenzidine	15.143	252	536919	4023.36	ng/ml	98
83) Benz(a)anthracene	15.175	228	814062	1874.94	ng/ml	97
84) Chrysene	15.261	228	792458	1915.92	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.314	149	634546	1972.14	ng/ml	95
87) Di-n-octyl phthalate	16.988	149	1059345	2272.08	ng/ml	98
88) Benzo(b)fluoranthene	17.796	252	768584	2177.78	ng/ml	97
89) Benzo(k)fluoranthene	17.860	252	783684	2259.51	ng/ml	99
90) Benzo(b+k)fluoranthene	17.860	252	1585324	4277.31	ng/ml	99
91) Benzo(e)pyrene	18.454	252	740623	2066.97	ng/ml	99
92) Benzo(a)pyrene	18.577	252	705656	2202.18	ng/ml	100
93) Perylene	18.780	252	740054	2020.69	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.123	276	553672	1870.27	ng/ml	100
96) Dibenz(a,h)anthracene	21.176	278	557856	2057.69	ng/ml	98
97) Benzo(g,h,i)perylene	21.658	276	521701	1790.00	ng/ml	81

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031915.D
Acq On : 3 Jul 2019 4:31 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BSD1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 17:54:45 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031915.D\data.ms

(12) Benzyl alcohol (T)

6.879min (-0.006) 259.35 ng/ml

response 24302

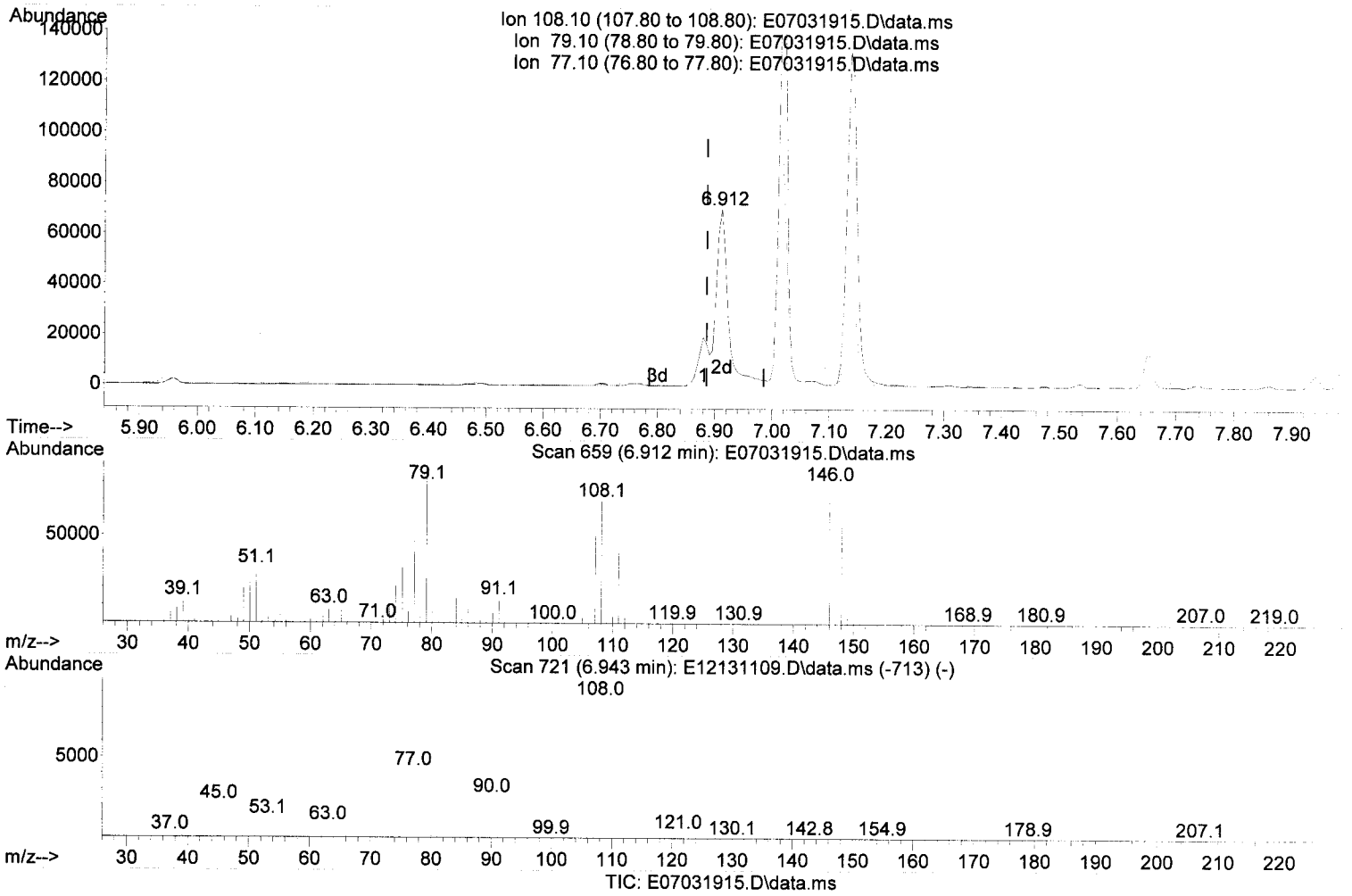
Ion	Exp%	Act%
108.10	100.00	100.00
79.10	136.30	123.46
77.10	88.20	79.47
0.00	0.00	0.00

MT

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031915.D
Acq On : 3 Jul 2019 4:31 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BSD1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 17:54:45 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(12) Benzyl alcohol (T)

6.912min (+ 0.027) 1370.61 ng/ml m

DTH 7/3/19

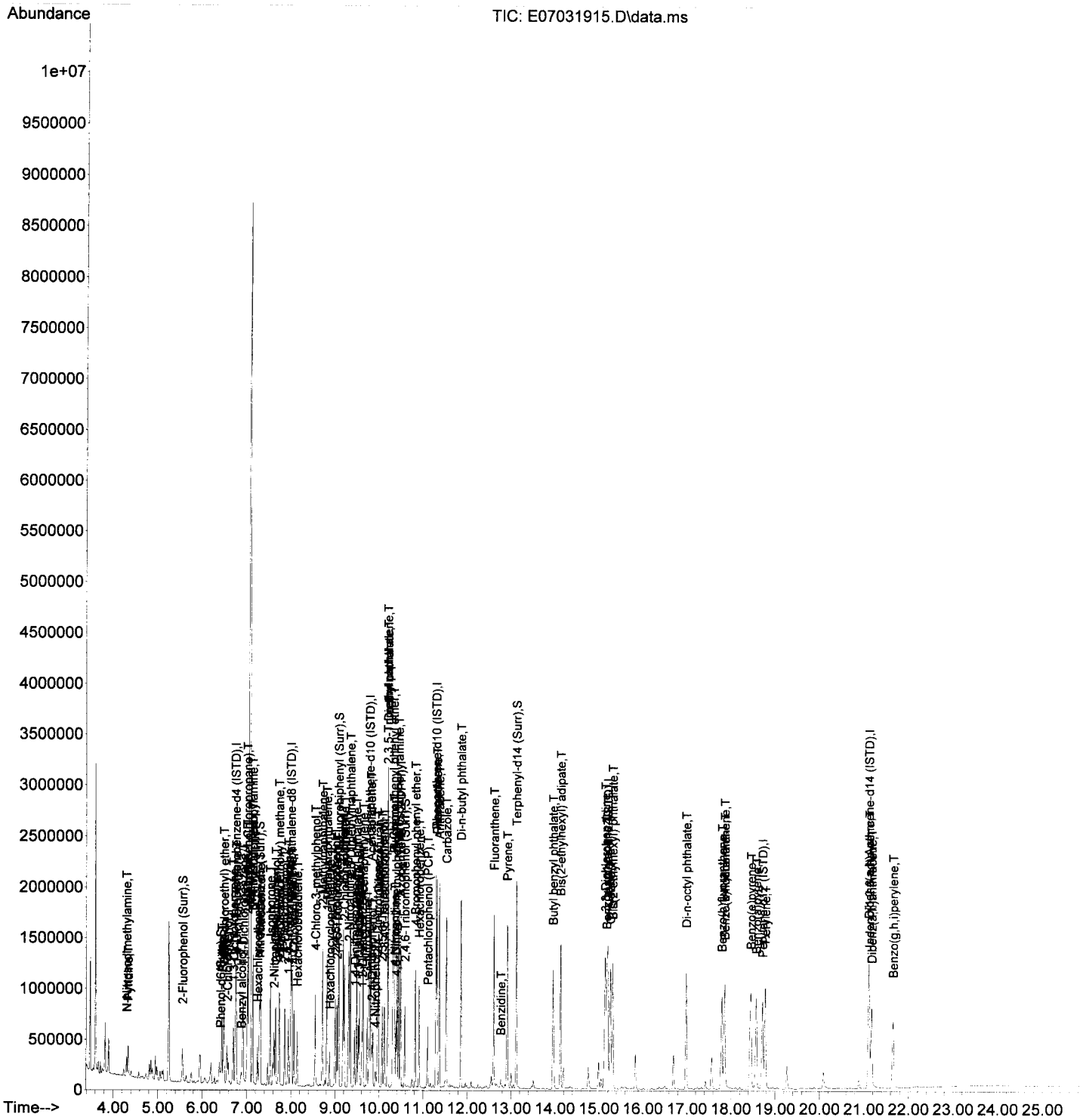
response 128430

Ion	Exp%	Act%
108.10	100.00	100.00
79.10	136.30	129.44
77.10	88.20	78.63
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031915.D
Acq On : 3 Jul 2019 4:31 pm
Operator : JK/ AMS /DTH
Sample : 9070583-BSD1@2
Misc : 2x, 625 LL Full List (AC), 8270D Full List SVOC
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 17:54:45 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031916.D
Acq On : 3 Jul 2019 5:08 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02@1000
Misc : 1000x, 8270D Full List SVOC
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

RCL DTH 7/3/19

Quant Time: Jul 03 17:54:49 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4...	6.751	152	223658	2000.00 ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.997	136	883381	2000.00 ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.773	162	438240	2000.00 ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.287	188	858914	2000.00 ng/ml	-0.01
78) Chrysene-d12 (ISTD)	15.191	240	775298	2000.00 ng/ml	-0.02
86) Perylene-d12 (ISTD)	18.705	264	680997	2000.00 ng/ml	-0.02
94) Dibenz(a,h)Anthrcene-d...	21.096	292	560235	2000.00 ng/ml	-0.02
System Monitoring Compounds					
4) 2-Fluorophenol (Surr)	5.639	112	135	0.97 ng/ml	0.07
5) Phenol-d6(Surr)	0.000	99	0	0.00 ng/ml	
19) Nitrobenzene-d5 (Surr)	7.270	82	50	0.30 ng/ml	-0.02
40) 2-Fluorobiphenyl (Surr)	9.083	172	325	1.00 ng/ml	0.00
67) 2,4,6-Tribromophenol (...	0.000	330	0	0.00 ng/ml	
79) Terphenyl-d14 (Surr)	13.116	244	337	0.93 ng/ml	-0.01
Target Compounds					Qvalue
2) N-Nitrosodimethylamine	0.000		0	N.D.	
3) Pyridine	4.344	79	66	N.D.	
6) Phenol	6.430	94	94	N.D.	
7) Aniline	6.446	93	256	N.D.	
8) Bis(2-chloroethyl) ether	6.478	93	52	N.D.	
9) 2-Chlorophenol	0.000		0	N.D.	
10) 1,3-Dichlorobenzene	0.000		0	N.D.	
11) 1,4-Dichlorobenzene	0.000		0	N.D.	
12) Benzyl alcohol	0.000		0	N.D.	
13) 1,2-Dichlorobenzene	0.000		0	N.D.	
14) 2-Methylphenol	7.002	107	118	N.D.	
15) 2,2'-Oxybis(1-Chloropr...	7.056	45	65	N.D.	
16) N-Nitrosodi-n-propylamine	7.109	70	149	N.D.	
17) 3+4-Methylphenol	7.158	107	160	N.D.	
18) Hexachloroethane	7.259	117	186	2.98 ng/ml#	30
20) Nitrobenzene	7.286	77	149	N.D.	
22) Isophorone	7.548	82	111	N.D.	
23) 2-Nitrophenol	0.000		0	N.D.	
24) 2,4-Dimethylphenol	7.692	122	68	N.D.	
25) Bis(2-chloroethoxy) me...	0.000		0	N.D.	
26) Benzoic acid	7.751	105	125	400.17 ng/ml#	56
27) 2,4-Dichlorophenol	0.000		0	N.D.	
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.	
29) Naphthalene	8.019	128	854	N.D.	
30) 4-Chloroaniline	8.008	127	68	N.D.	
31) Hexachlorobutadiene	0.000		0	N.D.	
32) 4-Chloro-3-methylphenol	0.000		0	N.D.	
33) 2-Methylnaphthalene	8.714	142	5557	18.75 ng/ml	89
34) 1-Methylnaphthalene	8.816	142	9716	34.23 ng/ml	93
36) Hexachlorocyclopentadiene	0.000		0	N.D.	
37) 2,4,6-Trichlorophenol	0.000		0	N.D.	
38) 2,4,5-Trichlorophenol	0.000		0	N.D.	
39) 1,1'-Biphenyl	9.179	154	5549	14.80 ng/ml	97
41) 2-Chloronaphthalene	9.260	162	149	N.D.	
42) 2-Nitroaniline	0.000		0	N.D.	

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031916.D
Acq On : 3 Jul 2019 5:08 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02@1000
Misc : 1000x, 8270D Full List SVOC
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 17:54:49 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

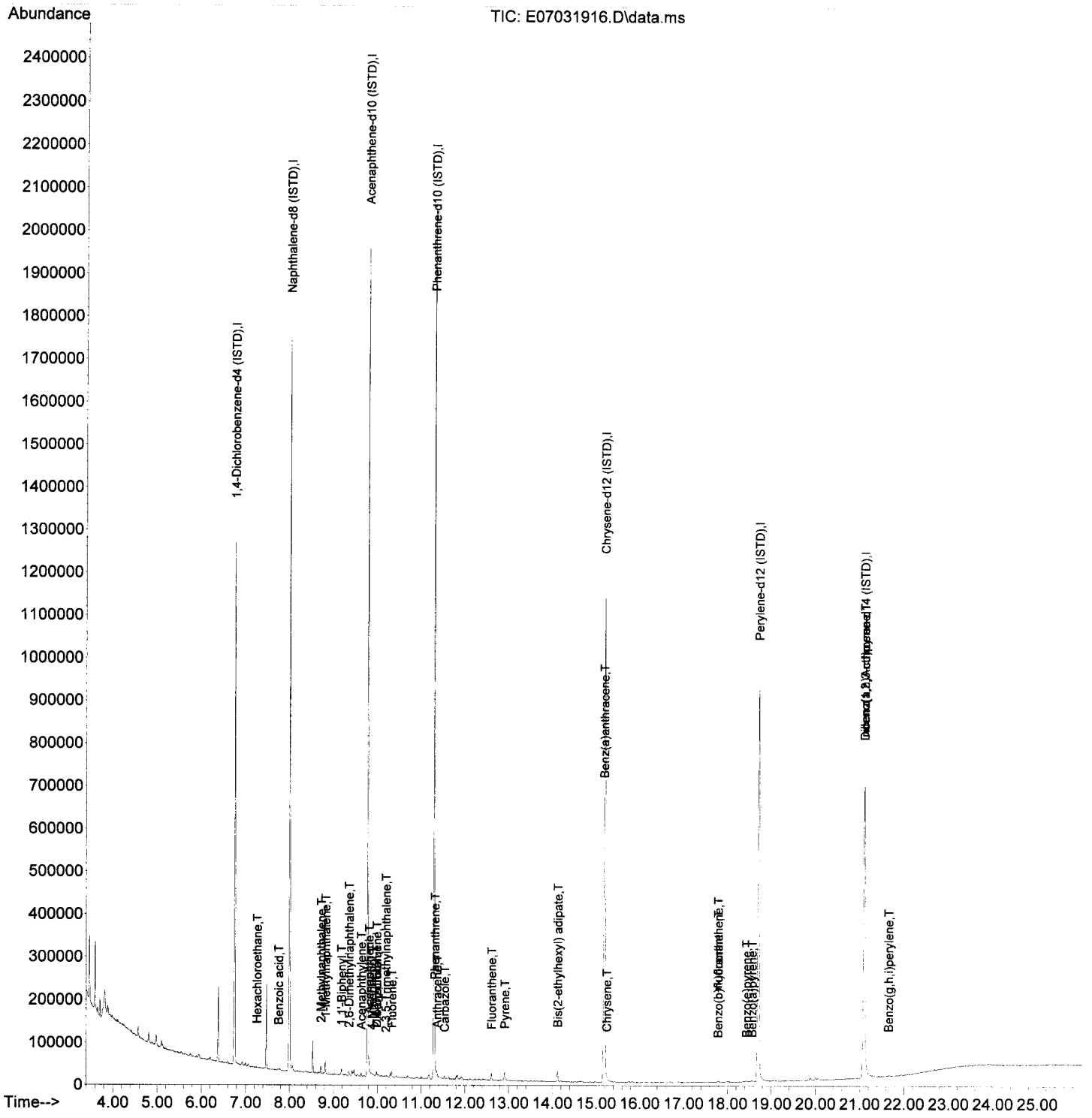
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.350	156	2863	10.93 ng/ml	85
44) 1,4-Dinitrobenzene	0.000		0	N.D.	
45) Dimethyl phthalate	0.000		0	N.D.	
46) 1,3-Dinitrobenzene	0.000		0	N.D.	
47) 2,6-Dinitrotoluene	0.000		0	N.D.	
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	9.629	152	2776	6.50 ng/ml	96
50) 3-Nitroaniline	0.000		0	N.D.	
51) Acenaphthene	9.805	153	6122	21.15 ng/ml	97
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	9.875	139	84	67.13 ng/ml#	1
54) 2,4-Dinitrotoluene	9.982	165	170	63.12 ng/ml#	31
55) Dibenzofuran	9.982	168	3989	10.60 ng/ml#	37
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	
57) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	
58) Diethyl phthalate	0.000		0	N.D.	
59) 2,3,5-Trimethylnaphtha...	10.190	170	792	3.39 ng/ml#	60
60) Fluorene	10.329	166	4606	15.29 ng/ml	98
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	
62) 4-Nitroaniline	0.000		0	N.D.	
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	
65) N-Nitrosodiphenylamine	10.442	169	207	N.D.	
66) Azobenzene (1,2-DPH)	10.495	77	200	N.D.	
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	0.000		0	N.D.	
71) Phenanthrene	11.308	178	29313	62.18 ng/ml	97
72) Anthracene	11.362	178	4601	9.51 ng/ml	93
73) Carbazole	11.533	167	4162	9.19 ng/ml	94
74) Di-n-butyl phthalate	11.859	149	124	N.D.	
75) Fluoranthene	12.608	202	9668	19.77 ng/ml	95
76) Benzidine	0.000		0	N.D.	
77) Pyrene	12.913	202	11535	23.22 ng/ml	97
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.121	129	7016	31.09 ng/ml	97
82) 3,3-Dichlorobenzidine	0.000		0	N.D.	
83) Benz(a)anthracene	15.175	228	4306	9.85 ng/ml	82
84) Chrysene	15.245	228	3029	7.27 ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.298	149	90	N.D.	
87) Di-n-octyl phthalate	0.000		0	N.D.	
88) Benzo(b)fluoranthene	17.785	252	2370	6.59 ng/ml	86
89) Benzo(k)fluoranthene	17.839	252	717	N.D.	
90) Benzo(b+k)fluoranthene	17.785	252	3087	8.17 ng/ml	87
91) Benzo(e)pyrene	18.432	252	1562	4.28 ng/ml	94
92) Benzo(a)pyrene	18.561	252	1968	6.02 ng/ml	92
93) Perylene	18.759	252	708	N.D.	
95) Indeno(1,2,3-cd)pyrene	21.096	276	1568	5.11 ng/ml#	44
96) Dibenz(a,h)anthracene	21.155	278	268	N.D.	
97) Benzo(g,h,i)perylene	21.652	276	1244	4.11 ng/ml	68

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031916.D
Acq On : 3 Jul 2019 5:08 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02@1000
Misc : 1000x, 8270D Full List SVOC
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 17:54:49 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031918.D
Acq On : 3 Jul 2019 6:22 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE1@20
Misc : 20x, 8270D Full List SVOC
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

KRL
7/3/19

Quant Time: Jul 03 18:56:24 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.751	152	230803	2000.00	ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.997	136	897880	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.773	162	458709	2000.00	ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.292	188	875457	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.197	240	818286	2000.00	ng/ml	-0.02
86) Perylene-d12 (ISTD)	18.705	264	721694	2000.00	ng/ml	-0.02
94) Dibenz(a,h)Anthrcene-d...	21.096	292	594890	2000.00	ng/ml	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.558	112	3044	21.16	ng/ml	0.00
5) Phenol-d6(Surr)	6.403	99	2231	11.59	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.286	82	6406	37.12	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.078	172	14880	43.62	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.581	330	1255	55.70	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.116	244	14998	39.23	ng/ml	-0.01
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.269	74	92	N.D.		
3) Pyridine	4.339	79	69	N.D.		
6) Phenol	6.419	94	17061	84.60	ng/ml	96
7) Aniline	6.441	93	9447	35.95	ng/ml	89
8) Bis(2-chloroethyl) ether	6.441	93	9353	56.74	ng/ml#	25
9) 2-Chlorophenol	6.505	128	70	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.		
11) 1,4-Dichlorobenzene	0.000		0	N.D.		
12) Benzyl alcohol	6.885	108	1255	13.12	ng/ml#	58
13) 1,2-Dichlorobenzene	0.000		0	N.D.		
14) 2-Methylphenol	6.986	107	10156	80.86	ng/ml	96
15) 2,2'-Oxybis(1-Chloropr...	6.997	45	203	N.D.		
16) N-Nitrosodi-n-propylamine	7.104	70	132	N.D.		
17) 3+4-Methylphenol	7.136	107	26511	167.11	ng/ml	87
18) Hexachloroethane	7.259	117	4369	67.85	ng/ml#	18
20) Nitrobenzene	7.297	77	666	4.00	ng/ml#	5
22) Isophorone	7.532	82	537	N.D.		
23) 2-Nitrophenol	7.618	139	110	25.82	ng/ml#	1
24) 2,4-Dimethylphenol	7.655	122	6946	51.70	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.741	93	369	N.D.		
26) Benzoic acid	7.741	105	1320	426.12	ng/ml#	1
27) 2,4-Dichlorophenol	7.848	162	1030	9.89	ng/ml#	28
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
29) Naphthalene	8.019	128	23265	48.57	ng/ml	99
30) 4-Chloroaniline	8.083	127	154	N.D.		
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	8.570	107	121	27.63	ng/ml#	1
33) 2-Methylnaphthalene	8.714	142	255701	848.69	ng/ml	95
34) 1-Methylnaphthalene	8.816	142	426518	1478.27	ng/ml	96
36) Hexachlorocyclopentadiene	0.000		0	N.D.		
37) 2,4,6-Trichlorophenol	8.987	196	216	14.29	ng/ml#	12
38) 2,4,5-Trichlorophenol	9.019	196	144	13.35	ng/ml#	30
39) 1,1'-Biphenyl	9.179	154	252839	644.29	ng/ml	98
41) 2-Chloronaphthalene	9.185	162	638	N.D.		
42) 2-Nitroaniline	9.276	138	453	59.27	ng/ml#	7

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031918.D
Acq On : 3 Jul 2019 6:22 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE1@20
Misc : 20x, 8270D Full List SVOC
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 18:56:24 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

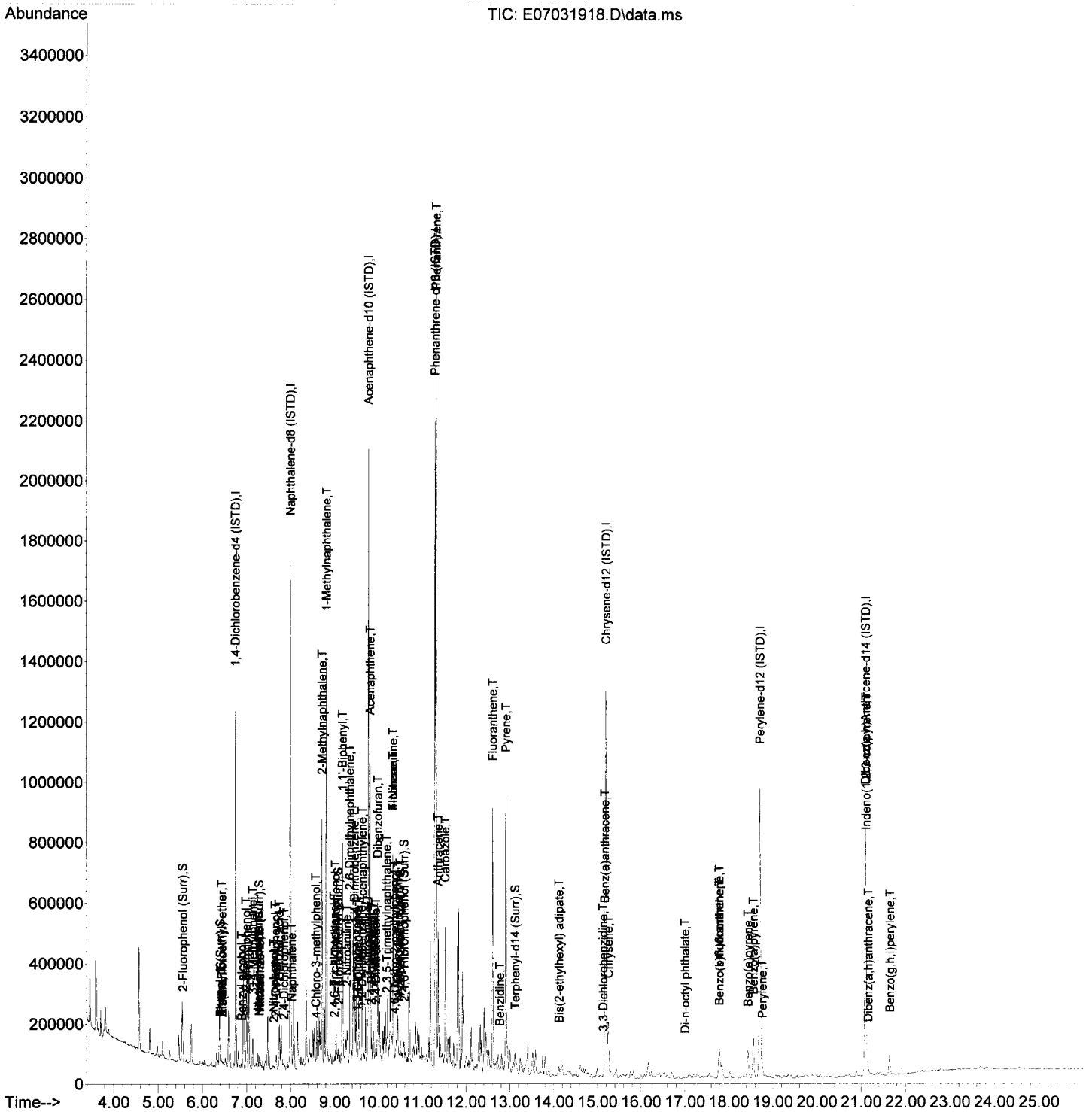
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.345	156	138325	504.52 ng/ml	96
44) 1,4-Dinitrobenzene	9.452	168	2435	144.57 ng/ml#	61
45) Dimethyl phthalate	9.490	163	311	N.D.	
46) 1,3-Dinitrobenzene	9.506	168	199	71.69 ng/ml#	1
47) 2,6-Dinitrotoluene	9.532	165	52	32.53 ng/ml#	1
48) 1,2-Dinitrobenzene	9.613	168	112	38.77 ng/ml#	1
49) Acenaphthylene	9.629	152	133932	299.75 ng/ml	97
50) 3-Nitroaniline	9.746	138	218	32.08 ng/ml#	39
51) Acenaphthene	9.805	153	258869	854.45 ng/ml	99
52) 2,4-Dinitrophenol	9.826	184	88	183.42 ng/ml#	1
53) 4-Nitrophenol	9.875	139	2514	109.76 ng/ml#	55
54) 2,4-Dinitrotoluene	9.933	165	1643	80.33 ng/ml#	62
55) Dibenzofuran	9.982	168	182743	463.97 ng/ml	90
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	
57) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	
58) Diethyl phthalate	10.190	149	162	N.D.	
59) 2,3,5-Trimethylnaphtha...	10.185	170	33129	135.56 ng/ml	98
60) Fluorene	10.329	166	203476	645.19 ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.335	204	89	N.D.	
62) 4-Nitroaniline	10.329	138	2585	31.06 ng/ml#	31
63) 4,6-Dinitro-2-methylph...	10.361	198	133	164.07 ng/ml#	1
65) N-Nitrosodiphenylamine	10.447	169	7255	26.23 ng/ml	84
66) Azobenzene (1,2-DPH)	10.490	77	1253	3.32 ng/ml#	1
68) 4-Bromophenyl phenyl e...	10.763	248	71	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	0.000		0	N.D.	
71) Phenanthrene	11.313	178	1163606	2421.62 ng/ml	99
72) Anthracene	11.362	178	196676	398.93 ng/ml	98
73) Carbazole	11.522	167	205254	444.64 ng/ml	98
74) Di-n-butyl phthalate	11.854	149	406	N.D.	
75) Fluoranthene	12.608	202	433665	870.08 ng/ml	98
76) Benzidine	12.768	184	77	38.98 ng/ml#	1
77) Pyrene	12.913	202	522111	1031.21 ng/ml	99
80) Butyl benzyl phthalate	13.956	149	76	N.D.	
81) Bis(2-ethylhexyl) adipate	14.121	129	7797	32.74 ng/ml	98
82) 3,3-Dichlorobenzidine	15.127	252	239	22.85 ng/ml#	32
83) Benz(a)anthracene	15.170	228	116673	252.78 ng/ml	97
84) Chrysene	15.250	228	130174	296.05 ng/ml	97
85) Bis(2-ethylhexyl) phth...	15.304	149	574	N.D.	
87) Di-n-octyl phthalate	16.999	149	61	30.80 ng/ml#	1
88) Benzo(b)fluoranthene	17.780	252	100666	264.02 ng/ml	98
89) Benzo(k)fluoranthene	17.780	252	128139	341.96 ng/ml	98
90) Benzo(b+k)fluoranthene	17.780	252	144352	360.50 ng/ml	98
91) Benzo(e)pyrene	18.432	252	63137	163.10 ng/ml	98
92) Benzo(a)pyrene	18.555	252	100287	289.69 ng/ml	98
93) Perylene	18.759	252	26824	67.79 ng/ml	97
95) Indeno(1,2,3-cd)pyrene	21.107	276	51084	156.67 ng/ml	97
96) Dibenz(a,h)anthracene	21.155	278	8391	28.10 ng/ml	87
97) Benzo(g,h,i)perylene	21.642	276	52913	164.83 ng/ml	77

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031918.D
Acq On : 3 Jul 2019 6:22 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE1@20
Misc : 20x, 8270D Full List SVOC
ALS Vial : 14 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 03 18:56:24 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

DTH 7/5/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.751	152	233133	2000.00	ng/ml	-0.01
21) Naphthalene-d8 (ISTD)	7.997	136	910670	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.773	162	465464	2000.00	ng/ml	-0.01
64) Phenanthrene-d10 (ISTD)	11.292	188	882111	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.197	240	815812	2000.00	ng/ml	-0.02
86) Perylene-d12 (ISTD)	18.711	264	707748	2000.00	ng/ml	-0.02
94) Dibenz(a,h)Anthrcene-d...	21.102	292	567616	2000.00	ng/ml	-0.02
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.553	112	6075	41.80	ng/ml	-0.01
5) Phenol-d6(Surr)	6.404	99	4567	23.49	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.286	82	12737	73.07	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.078	172	29427	85.01	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.581	330	3197	118.31	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.116	244	31407	82.40	ng/ml	-0.01
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.323	74	52	N.D.		
3) Pyridine	4.360	79	5820	32.67	ng/ml#	69
6) Phenol	6.414	94	36688	180.10	ng/ml	97
7) Aniline	6.441	93	20868	78.61	ng/ml	97
8) Bis(2-chloroethyl) ether	6.441	93	20868	125.33	ng/ml#	25
9) 2-Chlorophenol	6.527	128	52	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.		
11) 1,4-Dichlorobenzene	0.000		0	N.D.		
12) Benzyl alcohol	6.885	108	3562	36.87	ng/ml	84
13) 1,2-Dichlorobenzene	0.000		0	N.D.		
14) 2-Methylphenol	6.987	107	21451	169.09	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	6.997	45	58	N.D.		
16) N-Nitrosodi-n-propylamine	7.131	70	275	N.D.		
17) 3+4-Methylphenol	7.136	107	50968	318.06	ng/ml	89
18) Hexachloroethane	7.233	117	2033	31.26	ng/ml#	18
20) Nitrobenzene	7.291	77	1639	9.74	ng/ml#	11
22) Isophorone	7.532	82	1089	3.50	ng/ml#	20
23) 2-Nitrophenol	7.612	139	284	28.39	ng/ml#	1
24) 2,4-Dimethylphenol	7.655	122	14894	109.29	ng/ml	99
25) Bis(2-chloroethoxy) me...	7.741	93	839	4.29	ng/ml	88
26) Benzoic acid	7.741	105	2811	457.51	ng/ml#	1
27) 2,4-Dichlorophenol	7.848	162	1861	17.62	ng/ml#	32
28) 1,2,4-Trichlorobenzene	7.997	180	61	N.D.		
29) Naphthalene	8.019	128	48957	100.77	ng/ml	98
30) 4-Chloroaniline	8.051	127	449	2.68	ng/ml#	1
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	8.548	107	258	28.80	ng/ml#	1
33) 2-Methylnaphthalene	8.714	142	520351	1702.83	ng/ml	96
34) 1-Methylnaphthalene	8.816	142	871516	2978.17	ng/ml	96
36) Hexachlorocyclopentadiene	0.000		0	N.D.		
37) 2,4,6-Trichlorophenol	8.992	196	164	13.48	ng/ml#	12
38) 2,4,5-Trichlorophenol	9.051	196	146	13.35	ng/ml#	12
39) 1,1'-Biphenyl	9.180	154	516321	1296.61	ng/ml	98
41) 2-Chloronaphthalene	9.190	162	1213	4.22	ng/ml#	1
42) 2-Nitroaniline	9.276	138	563	60.42	ng/ml#	1

J

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.351	156	286760	1030.74 ng/ml	96
44) 1,4-Dinitrobenzene	9.458	168	4790	213.22 ng/ml#	47
45) Dimethyl phthalate	9.490	163	672	N.D.	
46) 1,3-Dinitrobenzene	9.511	168	572	80.04 ng/ml#	25
47) 2,6-Dinitrotoluene	9.538	165	515	39.62 ng/ml#	1
48) 1,2-Dinitrobenzene	9.613	168	94	38.09 ng/ml#	1
49) Acenaphthylene	9.629	152	279467	616.39 ng/ml	96
50) 3-Nitroaniline	9.714	138	181	31.54 ng/ml#	44
51) Acenaphthene	9.811	153	536986	1746.71 ng/ml	99
52) 2,4-Dinitrophenol	9.816	184	170	188.19 ng/ml#	1
53) 4-Nitrophenol	9.875	139	4534	143.98 ng/ml#	57
54) 2,4-Dinitrotoluene	9.934	165	2677	92.01 ng/ml#	61
55) Dibenzofuran	9.982	168	380690	952.51 ng/ml	92
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	
57) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	
58) Diethyl phthalate	10.190	149	348	N.D.	
59) 2,3,5-Trimethylnaphtha...	10.190	170	68062	274.45 ng/ml	98
60) Fluorene	10.335	166	423748	1324.14 ng/ml	98
61) 4-Chlorophenyl phenyl ...	10.308	204	120	N.D.	
62) 4-Nitroaniline	10.329	138	4840	57.30 ng/ml#	28
63) 4,6-Dinitro-2-methylph...	10.383	198	69	161.92 ng/ml#	1
65) N-Nitrosodiphenylamine	10.442	169	14602	52.40 ng/ml	77
66) Azobenzene (1,2-DPH)	10.495	77	2112	5.55 ng/ml#	1
68) 4-Bromophenyl phenyl e...	10.827	248	188	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	11.116	266	77	71.85 ng/ml#	27
71) Phenanthrene	11.319	178	2312895	4777.13 ng/ml	99
72) Anthracene	11.367	178	409729	824.80 ng/ml	99
73) Carbazole	11.528	167	422822	909.05 ng/ml	98
74) Di-n-butyl phthalate	11.859	149	504	N.D.	
75) Fluoranthene	12.613	202	885943	1764.10 ng/ml	98
76) Benzidine	12.784	184	128	39.41 ng/ml#	1
77) Pyrene	12.918	202	1060926	2079.61 ng/ml	99
80) Butyl benzyl phthalate	13.945	149	50	N.D.	
81) Bis(2-ethylhexyl) adipate	14.122	129	8654	36.44 ng/ml	93
82) 3,3-Dichlorobenzidine	15.127	252	308	23.38 ng/ml#	79
83) Benz(a)anthracene	15.170	228	240508	522.65 ng/ml	95
84) Chrysene	15.250	228	261060	595.52 ng/ml	96
85) Bis(2-ethylhexyl) phth...	15.304	149	1302	3.82 ng/ml	98
87) Di-n-octyl phthalate	16.972	149	157	31.01 ng/ml#	1
88) Benzo(b)fluoranthene	17.785	252	205160	548.67 ng/ml	97
89) Benzo(k)fluoranthene	~~17.844~~	~~252~~	~~64779~~	~~176.28 ng/ml~~	~~98~~
90) Benzo(b+k)fluoranthene	17.785	252	284191	723.70 ng/ml	97
91) Benzo(e)pyrene	18.438	252	130773	344.47 ng/ml	98
92) Benzo(a)pyrene	18.556	252	205593	605.57 ng/ml	98
93) Perylene	18.759	252	54974	141.67 ng/ml	98
95) Indeno(1,2,3-cd)pyrene	21.107	276	100776	323.91 ng/ml	98
96) Dibenz(a,h)anthracene	21.155	278	14307	50.21 ng/ml	86
97) Benzo(g,h,i)perylene	21.642	276	103613	338.27 ng/ml	82

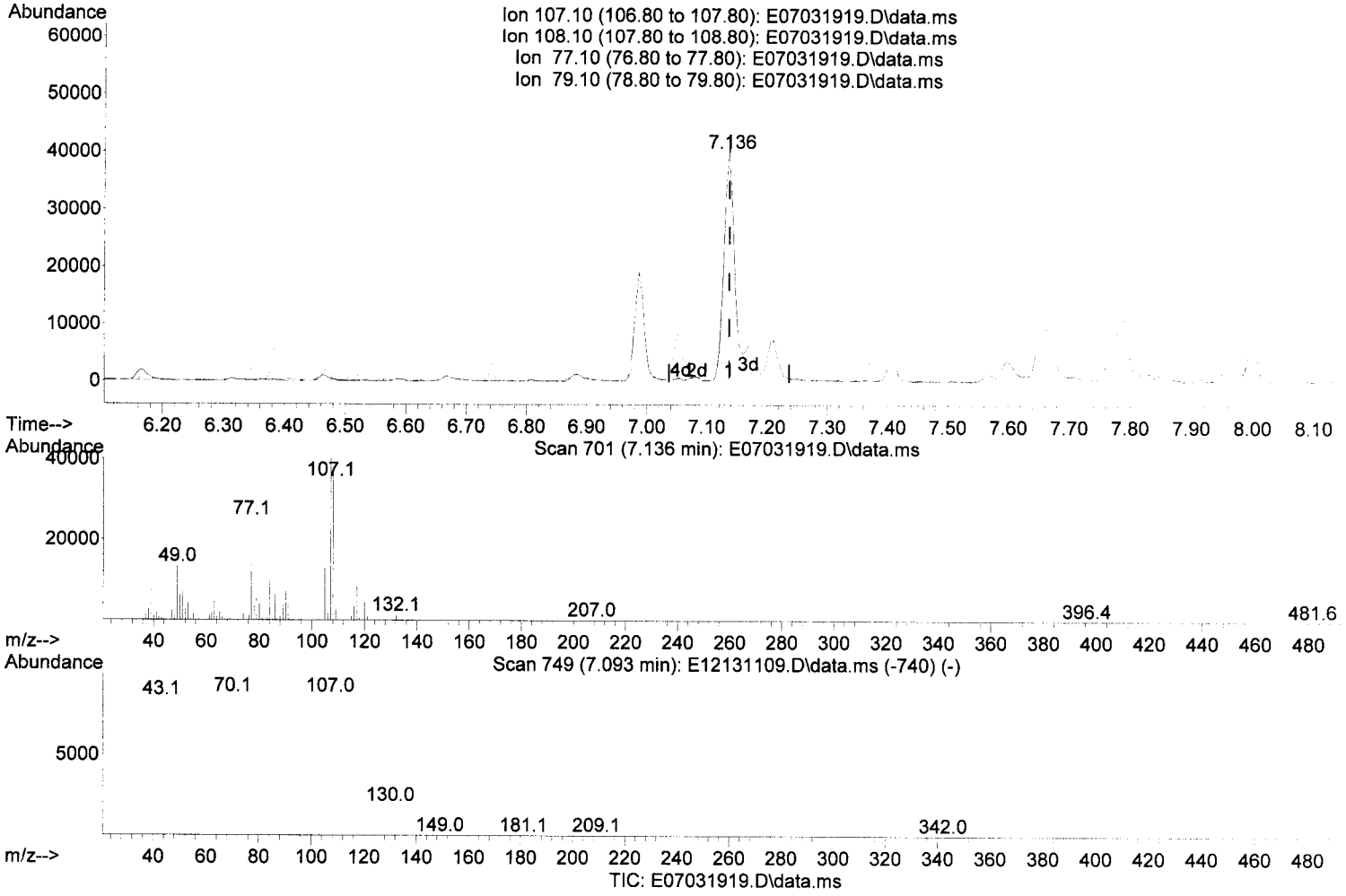
ND MI DTH 7/5/19

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031919.D\data.ms

(17) 3+4-Methylphenol (T)

7.136min (-0.000) 318.06 ng/ml J

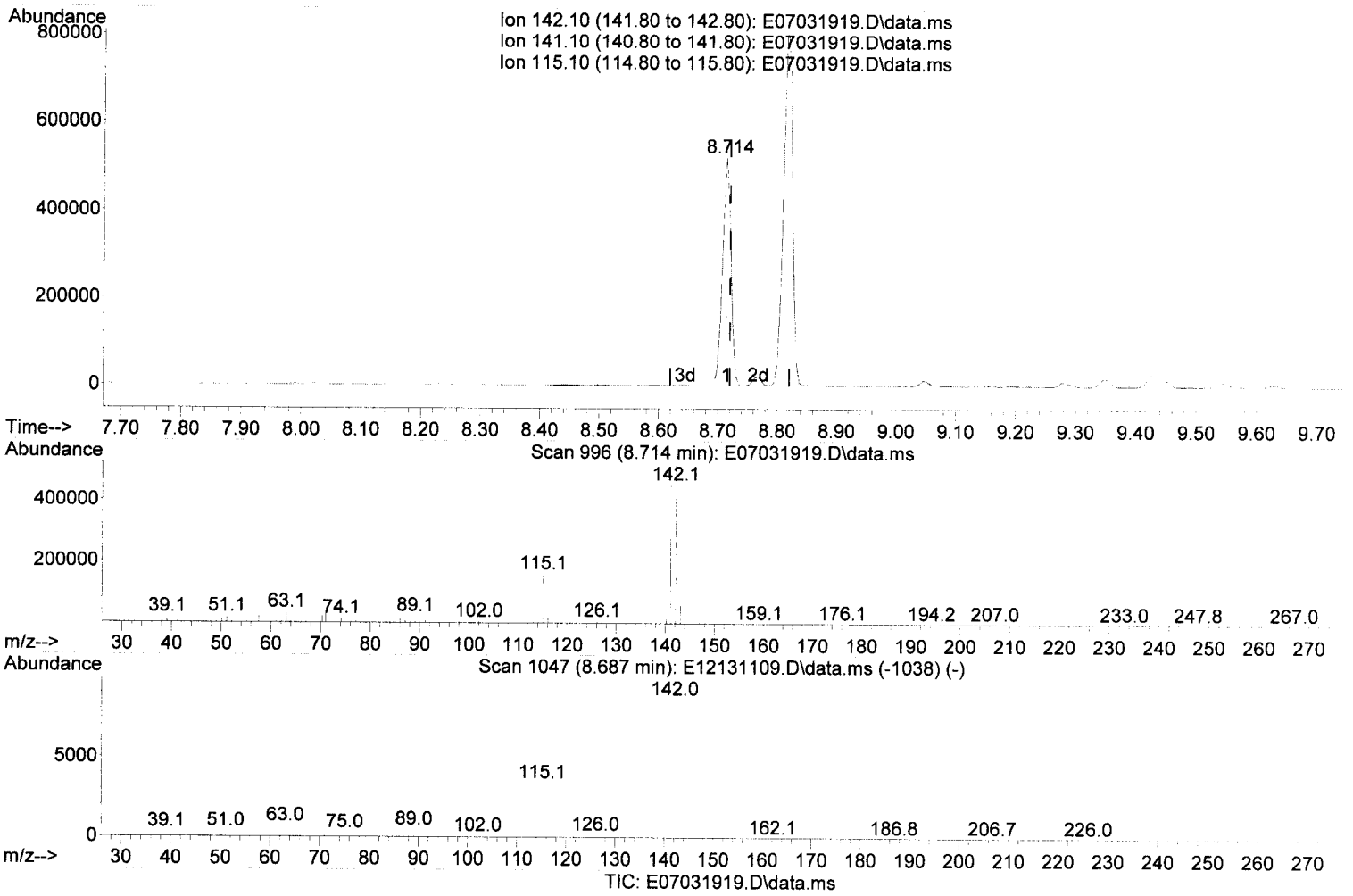
response 50968

Ion	Exp%	Act%
107.10	100.00	100.00
108.10	95.10	93.92
77.10	37.90	62.71
79.10	32.60	31.08

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031919.D\data.ms

(33) 2-Methylnaphthalene (T)

8.714min (-0.005) 1702.83 ng/ml

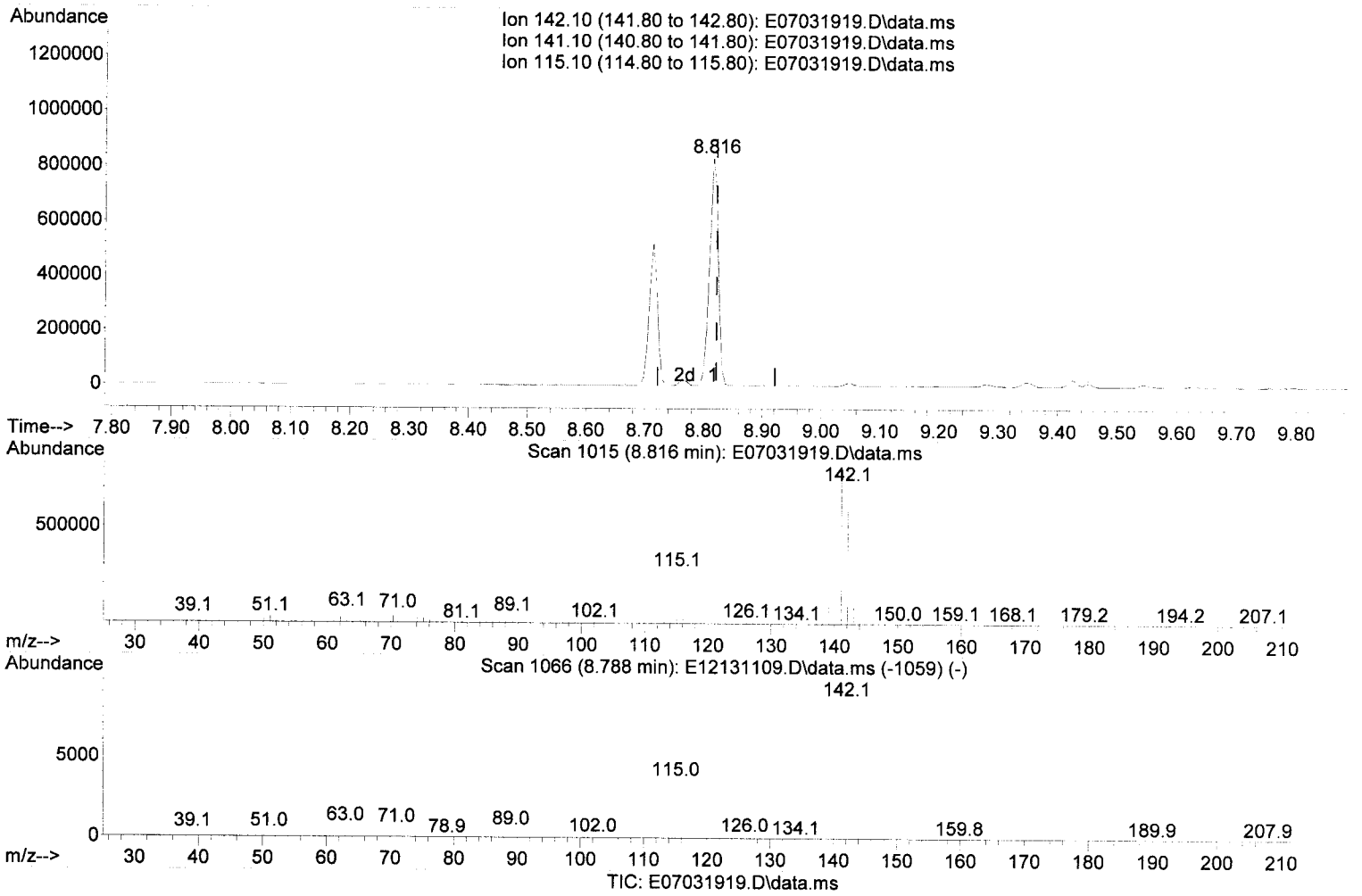
response 520351

Ion	Exp%	Act%
142.10	100.00	100.00
141.10	84.80	87.34
115.10	35.80	30.91
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(34) 1-Methylnaphthalene (T)

8.816min (-0.005) 2978.17 ng/ml

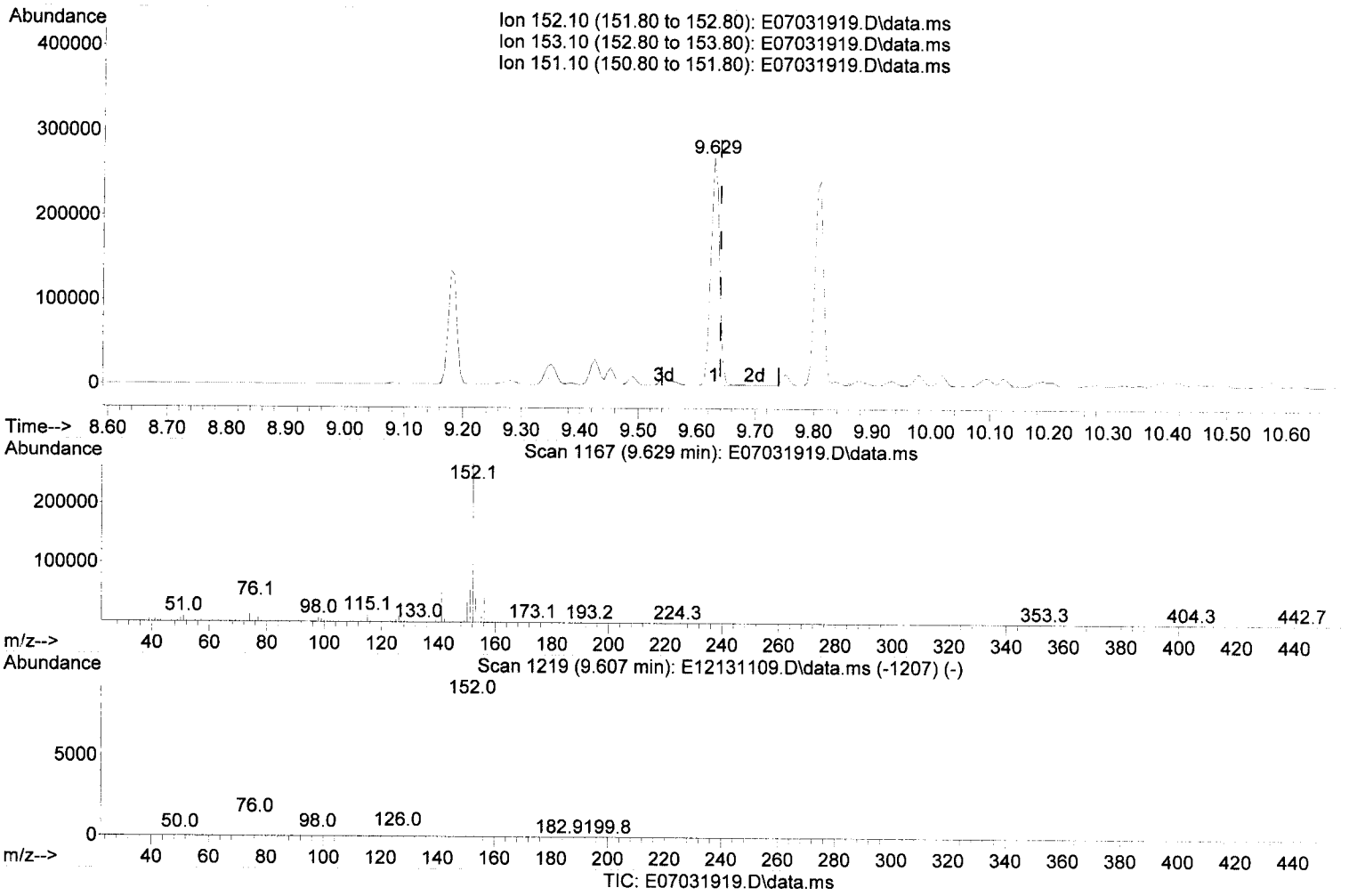
response 871516

Ion	Exp%	Act%
142.10	100.00	100.00
141.10	88.70	91.57
115.10	37.60	32.99
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(49) Acenaphthylene (T)

9.629min (-0.011) 616.39 ng/ml

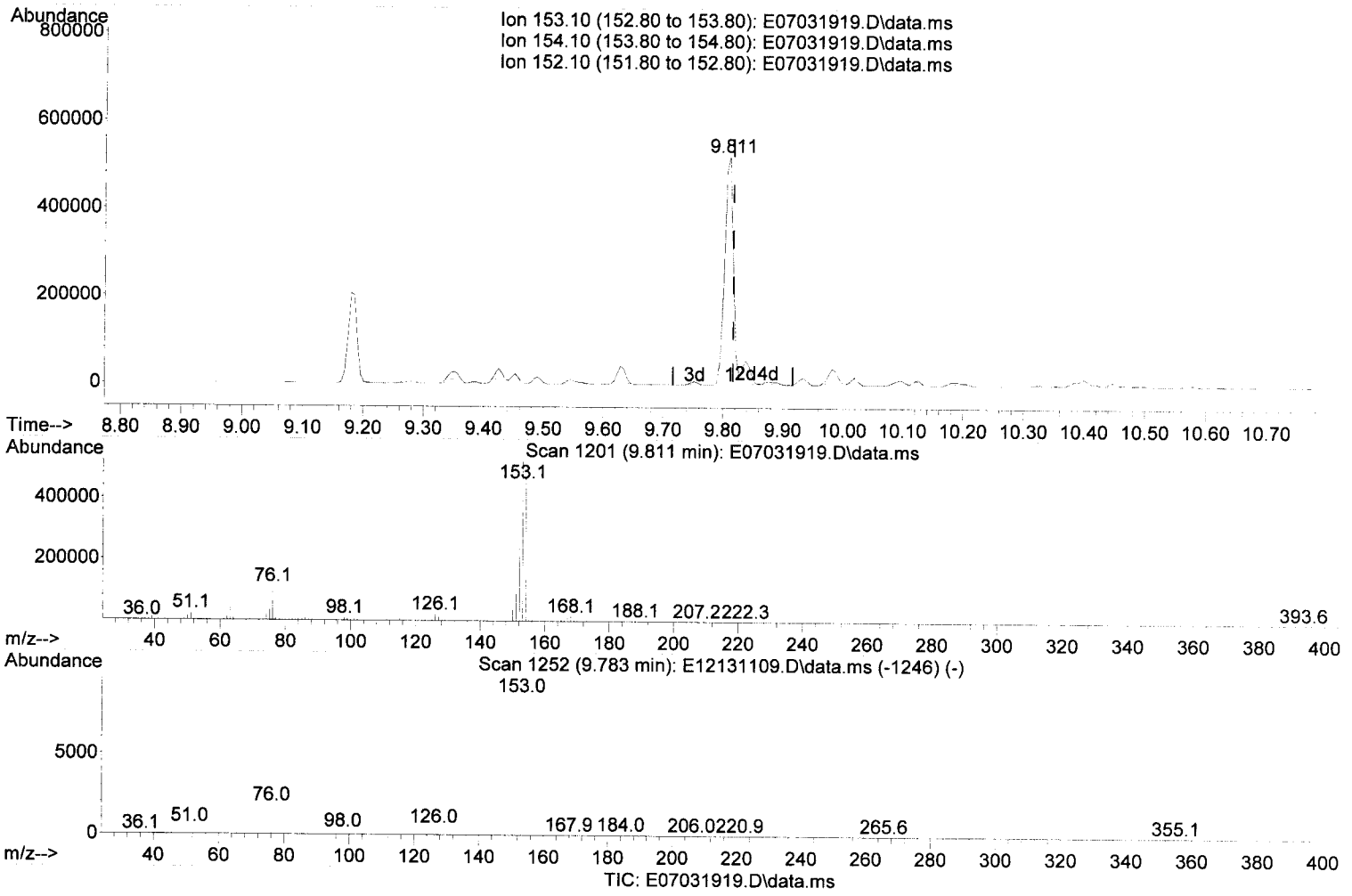
response 279467

Ion	Exp%	Act%
152.10	100.00	100.00
153.10	12.90	15.61
151.10	19.50	20.67
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(51) Acenaphthene (T)

9.811min (-0.005) 1746.71 ng/ml

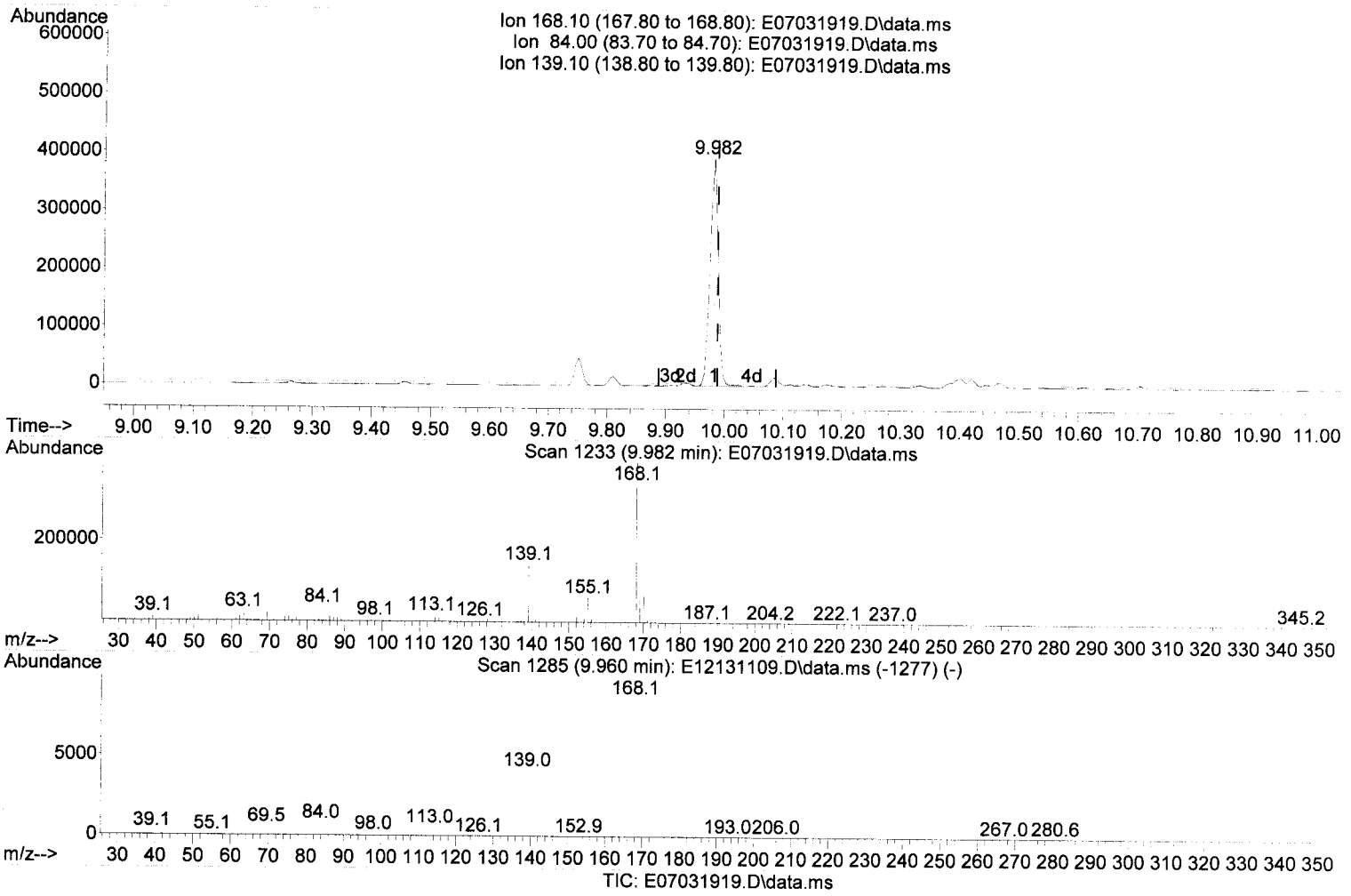
response 536986

Ion	Exp%	Act%
153.10	100.00	100.00
154.10	92.00	90.19
152.10	47.10	46.68
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(55) Dibenzofuran (T)

9.982min (-0.005) 952.51 ng/ml

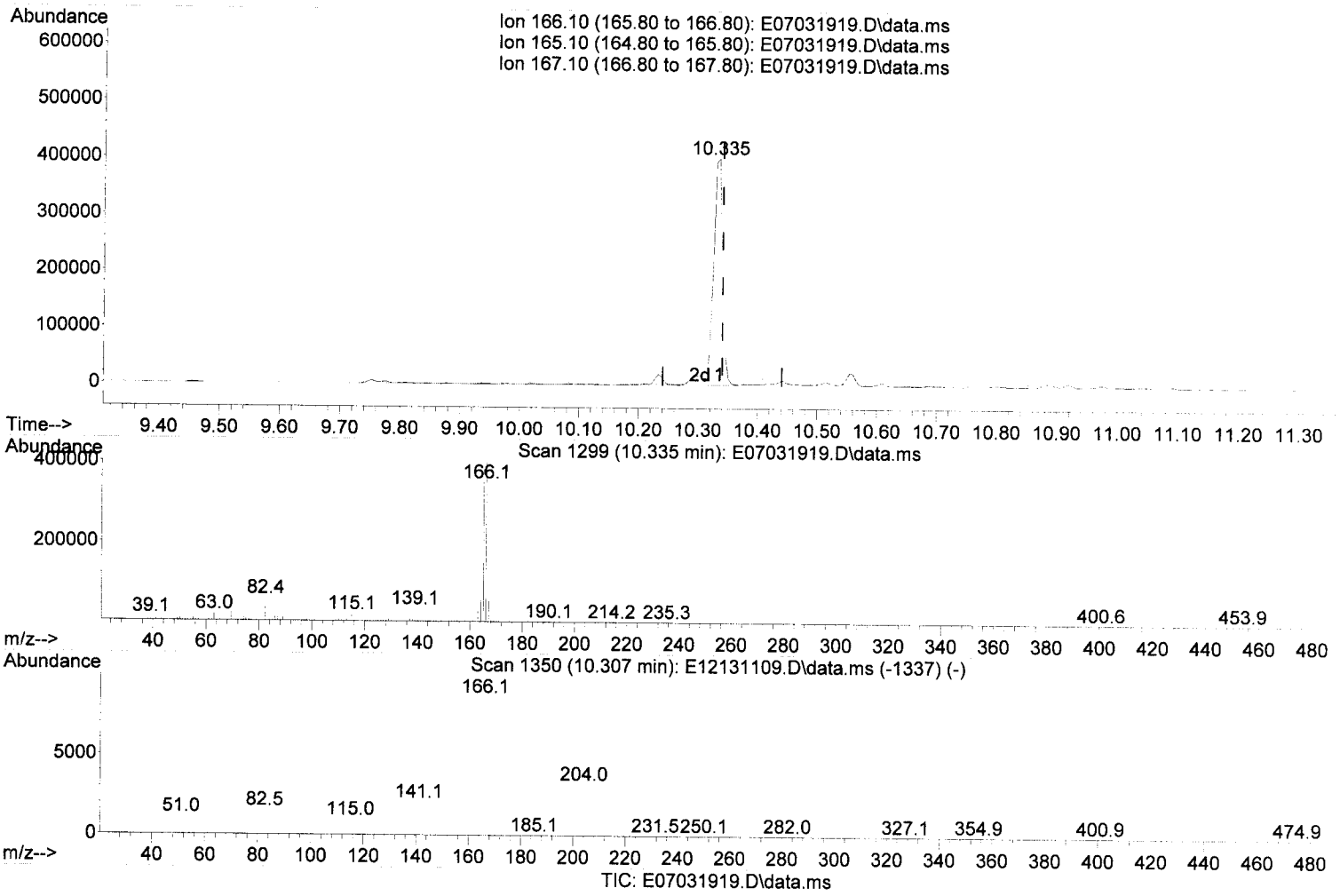
response 380690

Ion	Exp%	Act%
168.10	100.00	100.00
84.00	8.30	9.01
139.10	42.60	36.41
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(60) Fluorene (T)

10.335min (-0.005) 1324.14 ng/ml

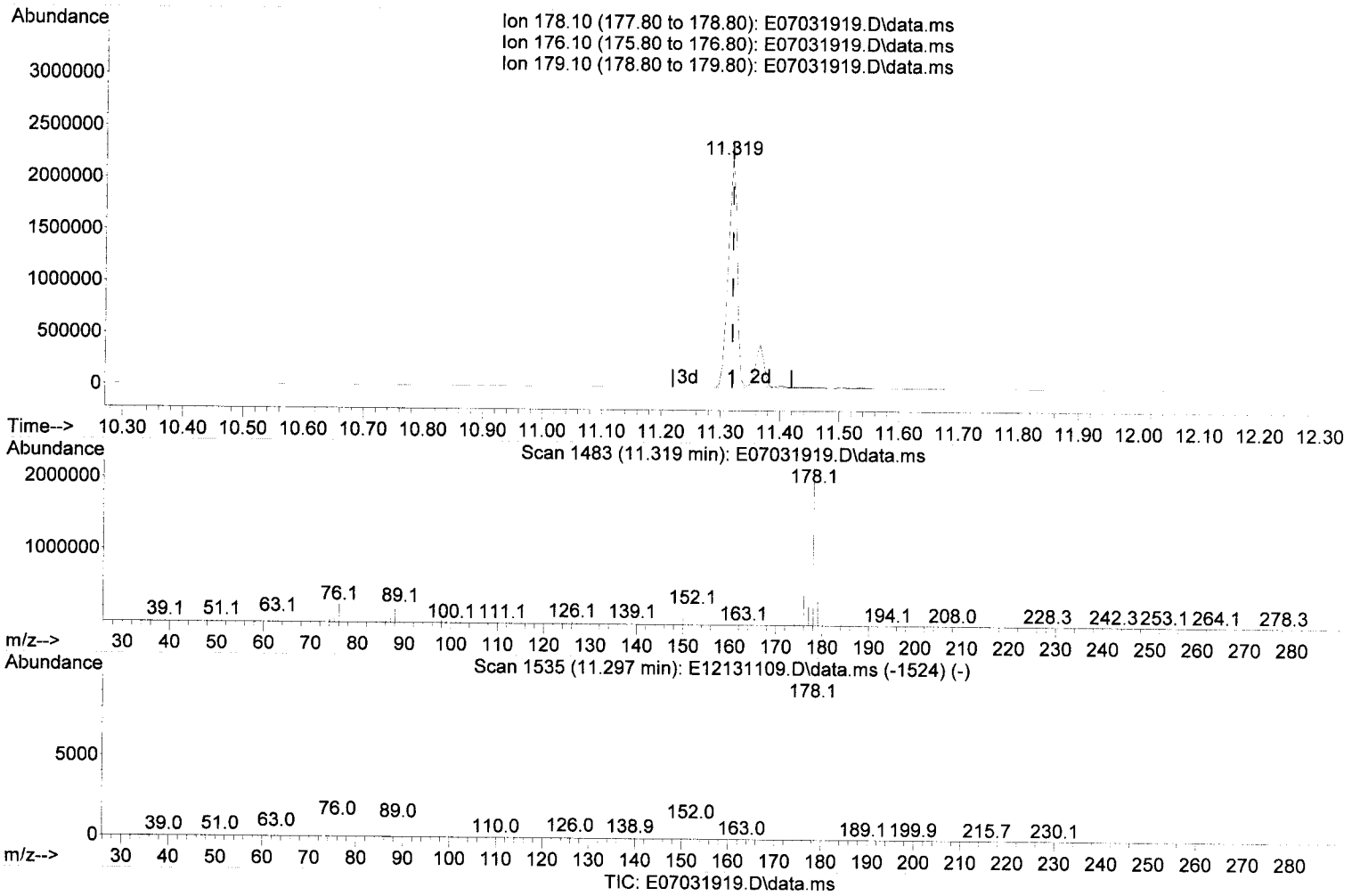
response 423748

Ion	Exp%	Act%
166.10	100.00	100.00
165.10	93.50	95.71
167.10	13.60	14.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031919.D\data.ms

(71) Phenanthrene (T)

11.319min (-0.000) 4777.13 ng/ml

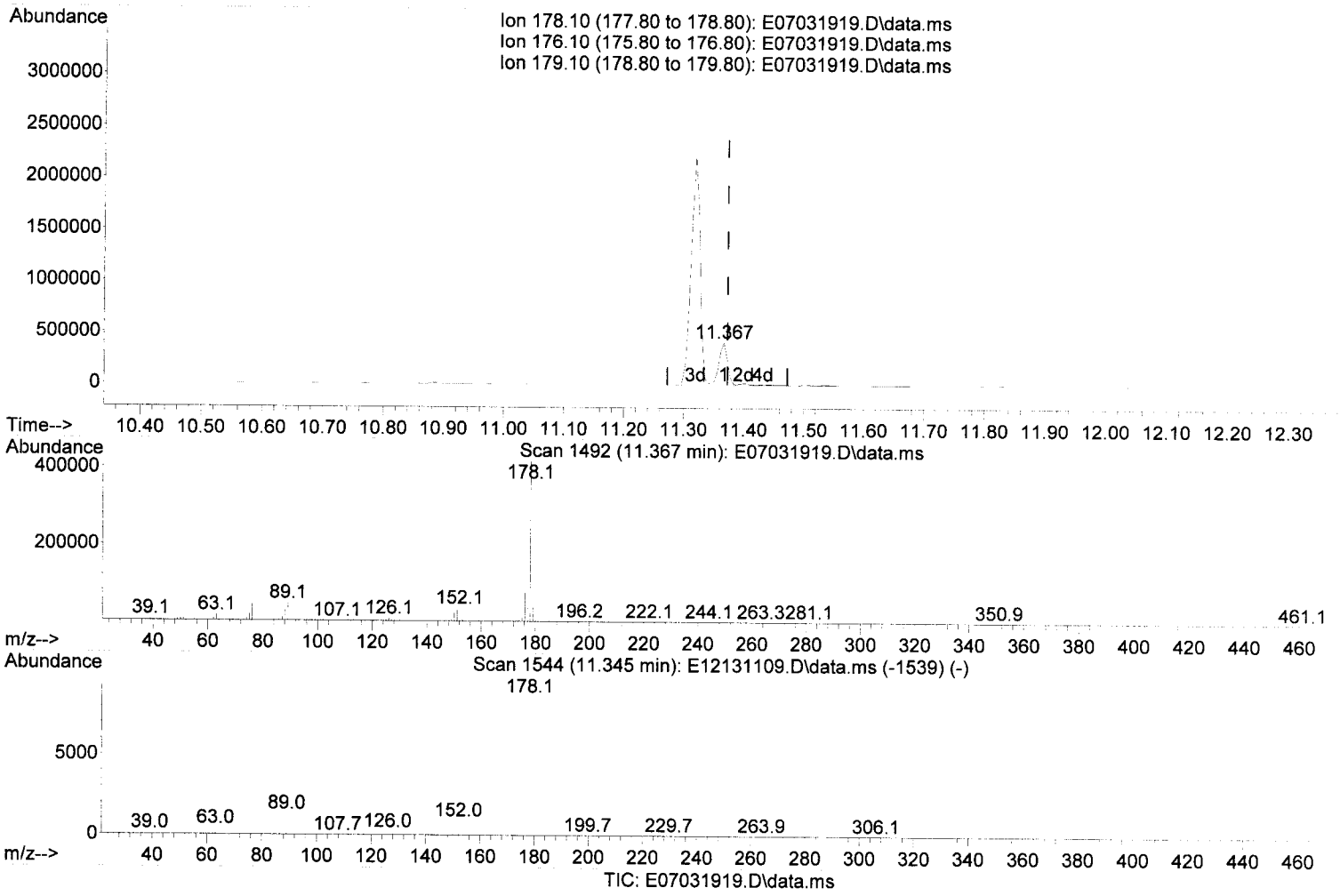
response 2312895

Ion	Exp%	Act%
178.10	100.00	100.00
176.10	19.10	18.96
179.10	15.00	15.66
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(72) Anthracene (T)

11.367min (-0.005) 824.80 ng/ml

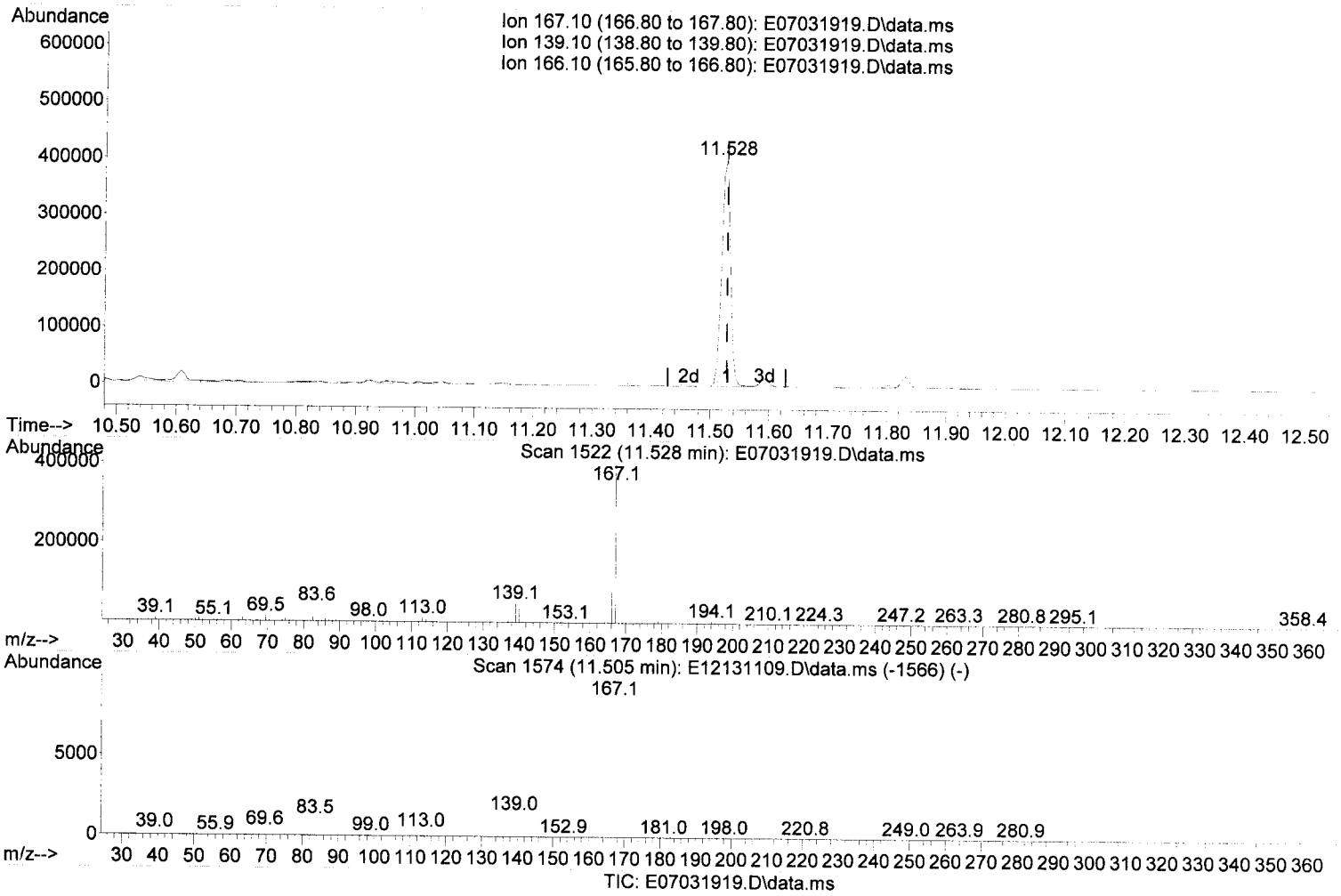
response 409729

Ion	Exp%	Act%
178.10	100.00	100.00
176.10	19.10	18.08
179.10	15.50	15.27
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031919.D\data.ms

(73) Carbazole (T)

11.528min (-0.000) 909.05 ng/ml

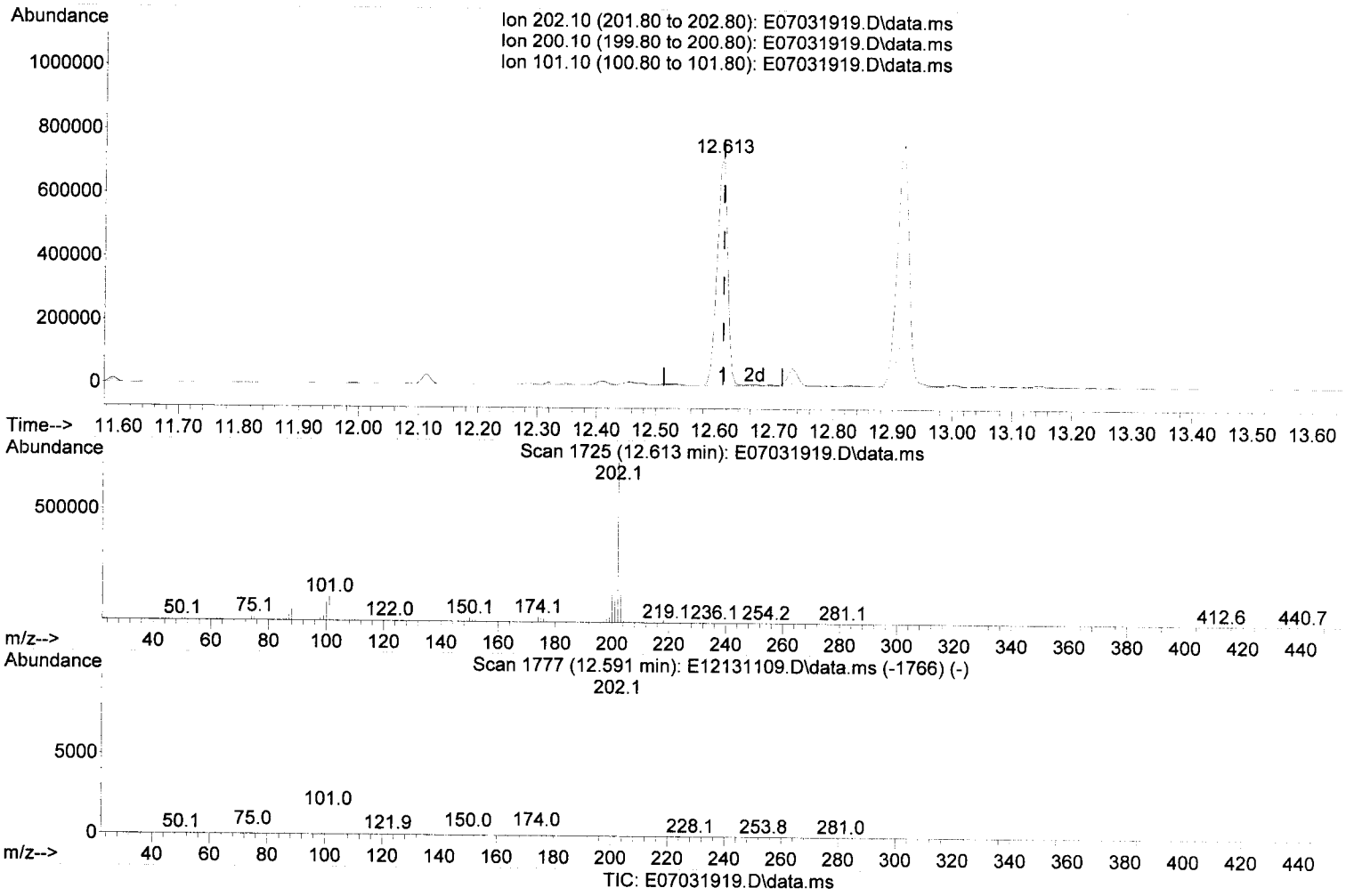
response 422822

Ion	Exp%	Act%
167.10	100.00	100.00
139.10	14.00	12.25
166.10	21.10	21.58
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(75) Fluoranthene (T)

12.613min (-0.000) 1764.10 ng/ml

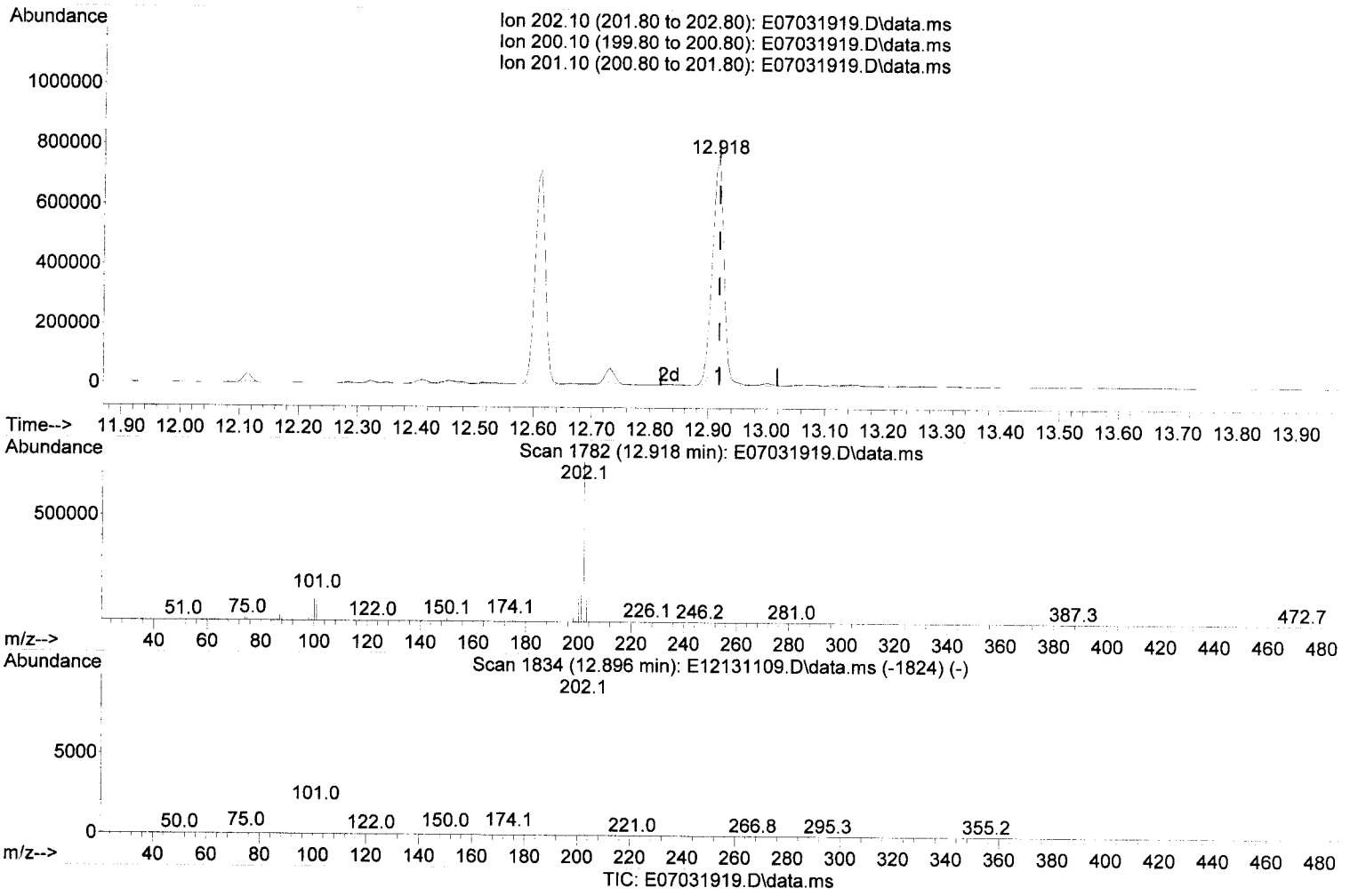
response 885943

Ion	Exp%	Act%
202.10	100.00	100.00
200.10	21.00	19.88
101.10	15.70	14.94
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031919.D\data.ms

(77) Pyrene (T)

12.918min (-0.000) 2079.61 ng/ml

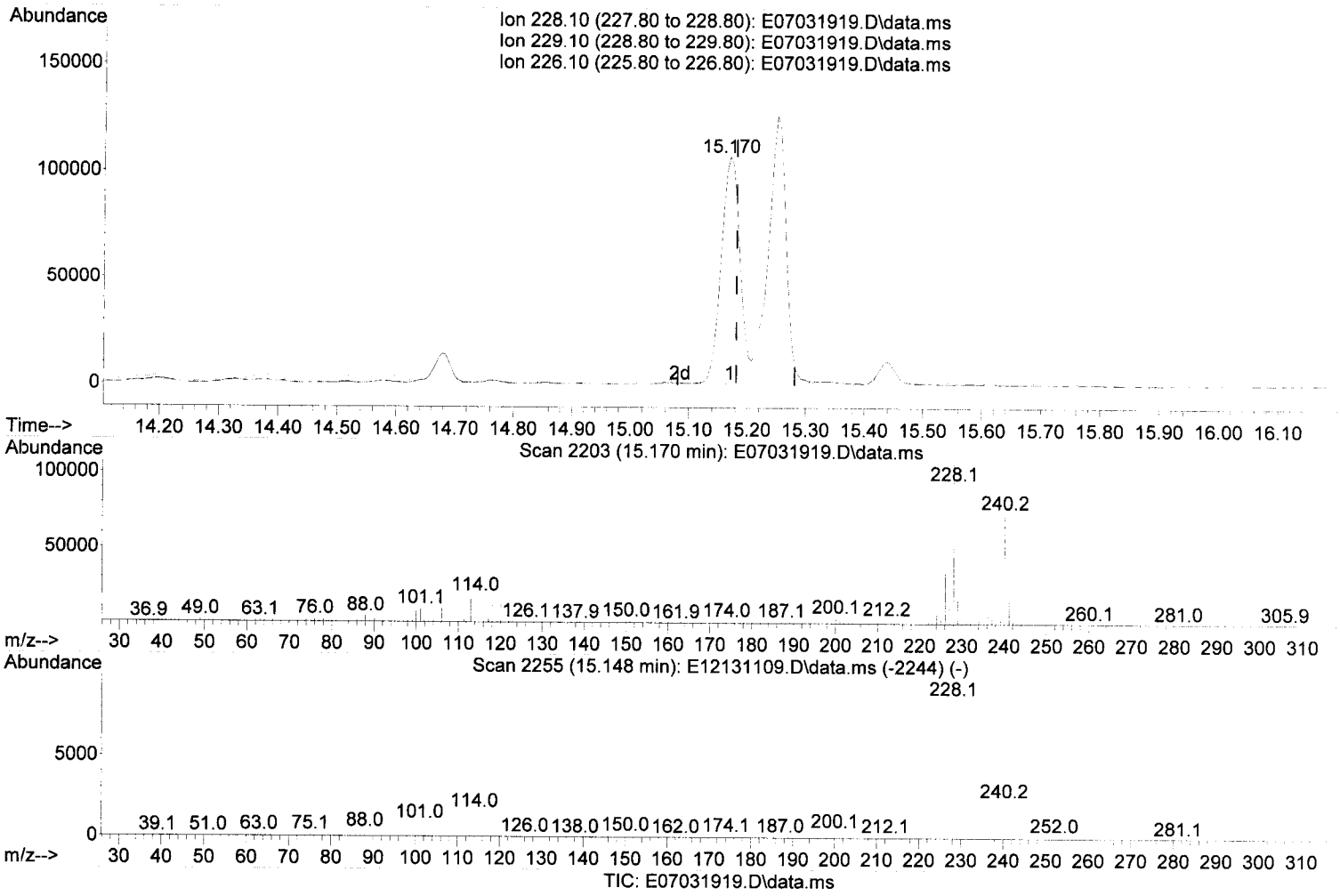
response 1060926

Ion	Exp%	Act%
202.10	100.00	100.00
200.10	21.20	20.11
201.10	17.50	17.38
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(83) Benz(a)anthracene (T)

15.170min (-0.011) 522.65 ng/ml

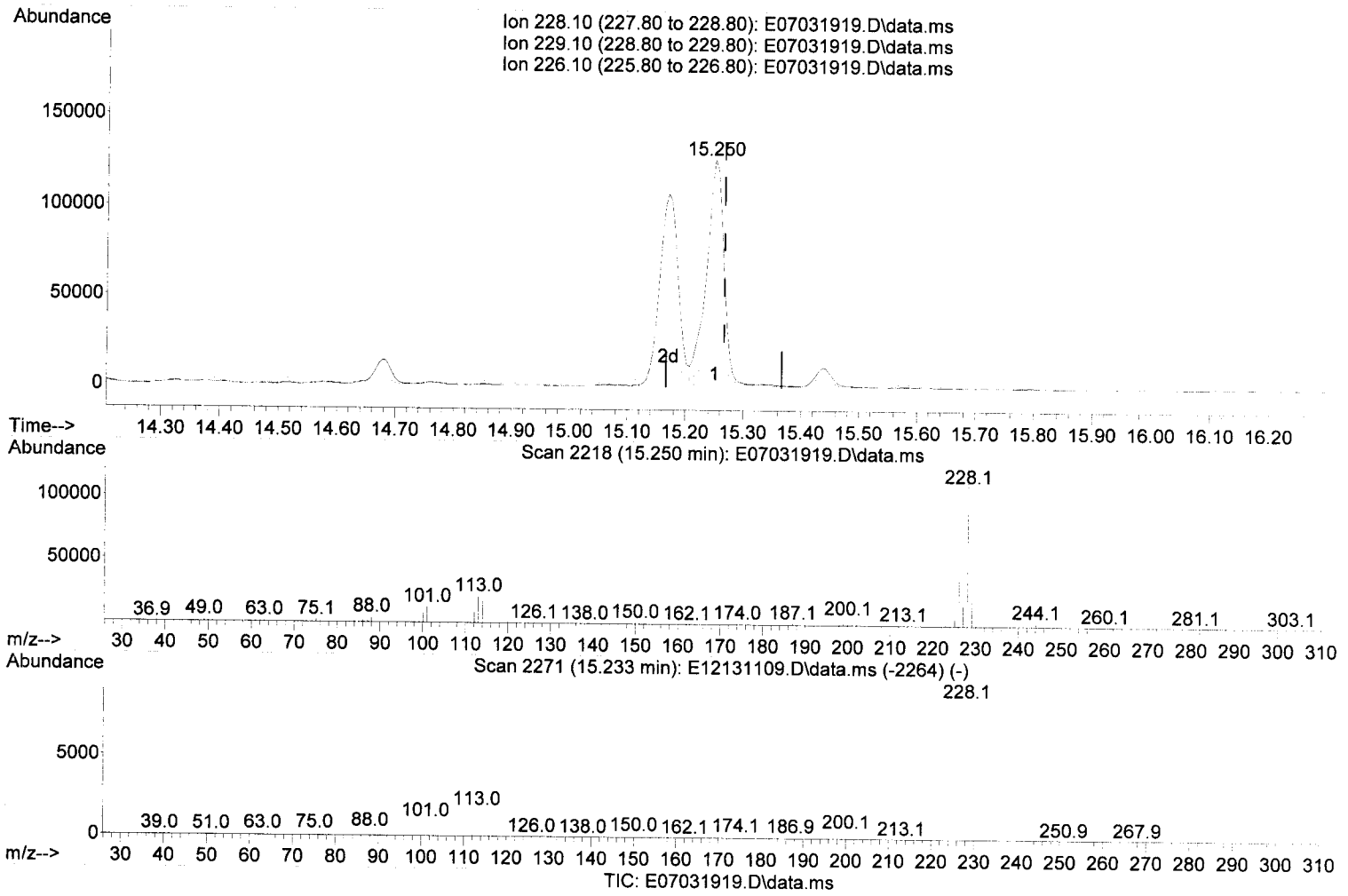
response 240508

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	20.10	20.60
226.10	27.80	31.72
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(84) Chrysene (T)

15.250min (-0.016) 595.52 ng/ml

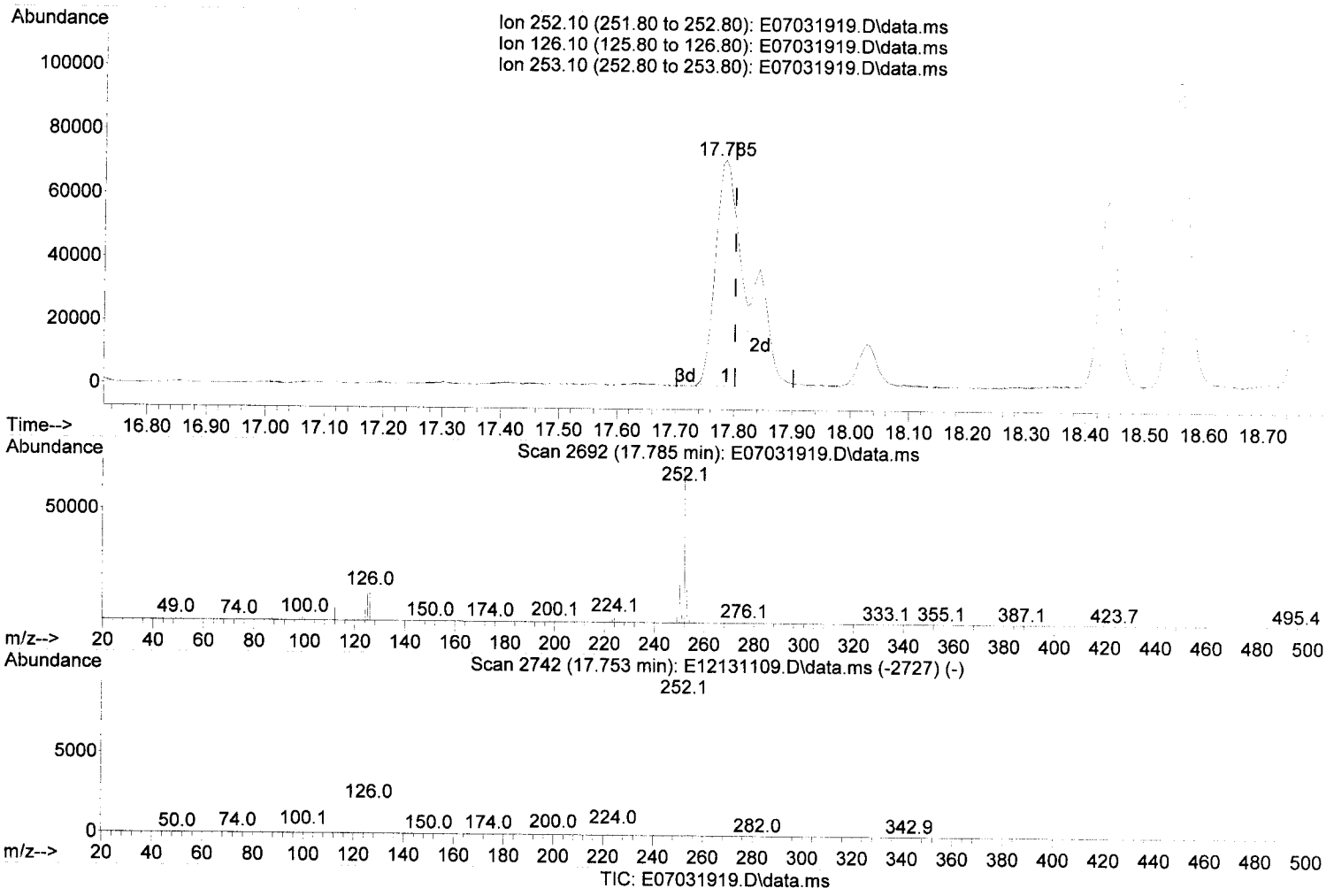
response 261060

Ion	Exp%	Act%
228.10	100.00	100.00
229.10	20.00	23.56
226.10	29.80	29.14
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(88) Benzo(b)fluoranthene (T)

17.785min (-0.016) 548.67 ng/ml

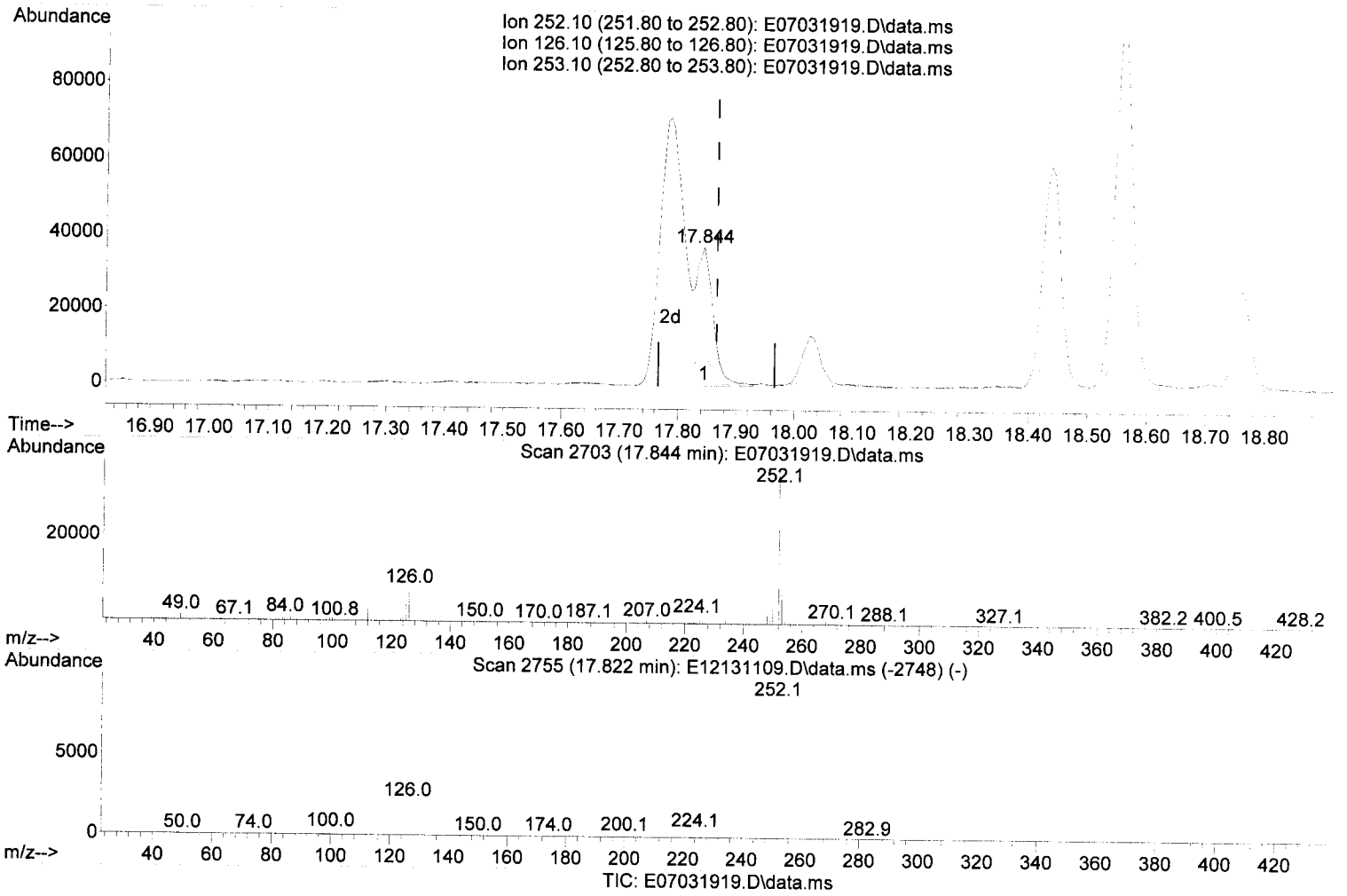
response 205160

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	21.80	19.55
253.10	22.40	22.61
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(89) Benzo(k)fluoranthene (T)

17.844min (-0.021) 208.20 ng/ml (m) ∠mdv ND DTH 7/5/19

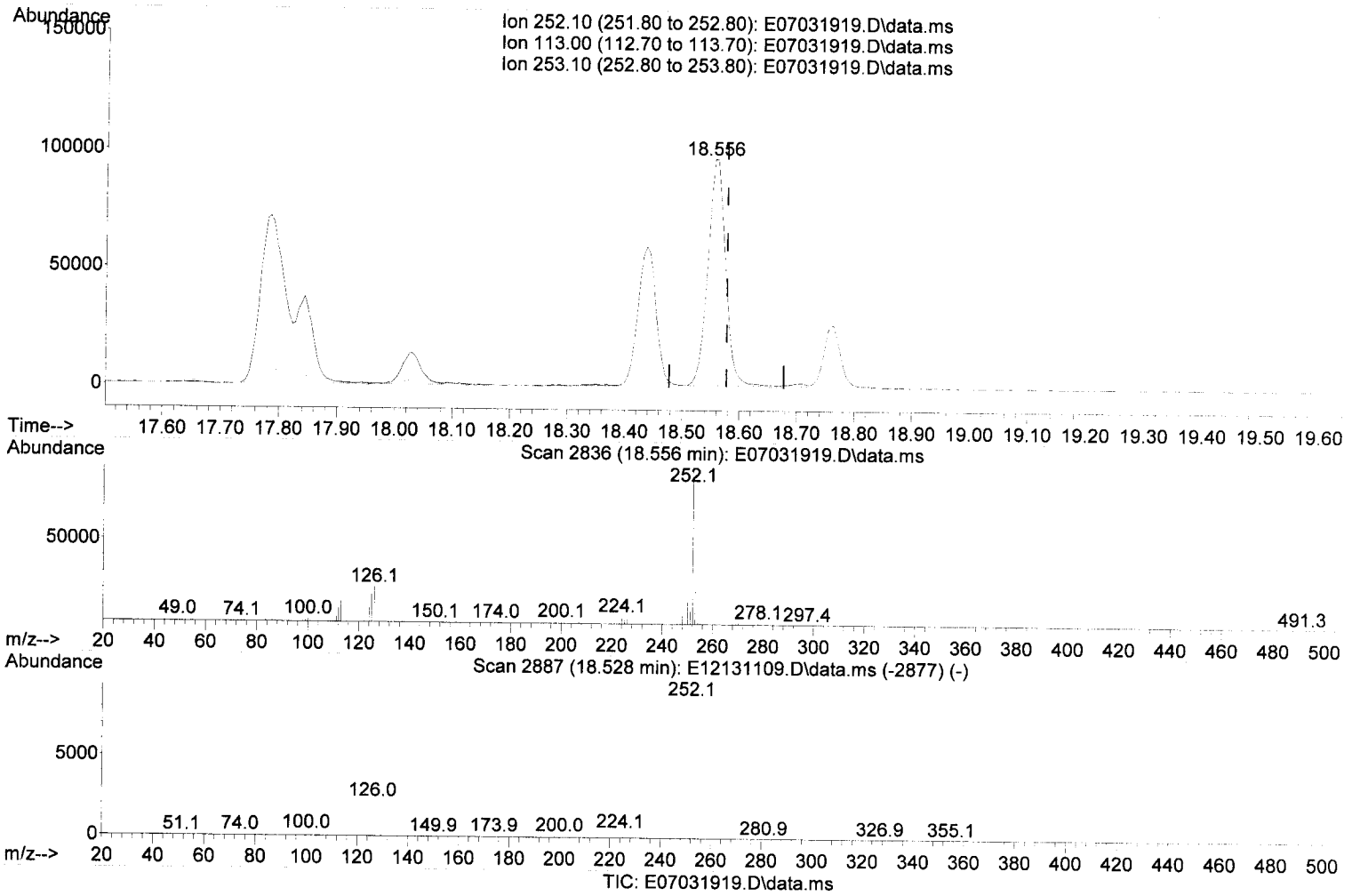
response 76508

Ion	Exp%	Act%
252.10	100.00	100.00
126.10	21.80	21.35
253.10	21.80	22.84
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(92) Benzo(a)pyrene (T)

18.556min (-0.021) 605.57 ng/ml

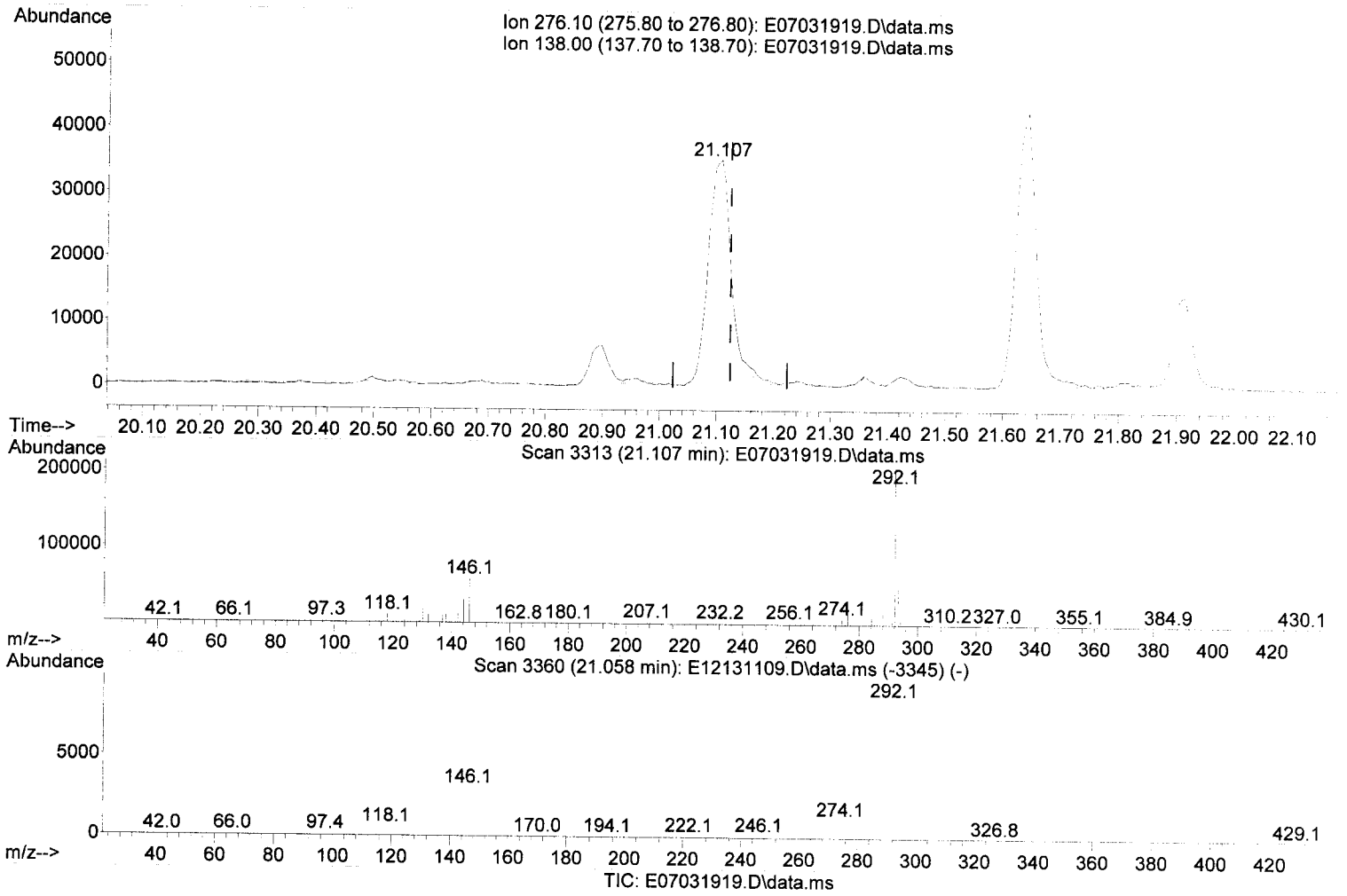
response 205593

Ion	Exp%	Act%
252.10	100.00	100.00
113.00	12.70	13.36
253.10	21.70	22.59
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(95) Indeno(1,2,3-cd)pyrene (T)

21.107min (-0.016) 323.91 ng/ml J

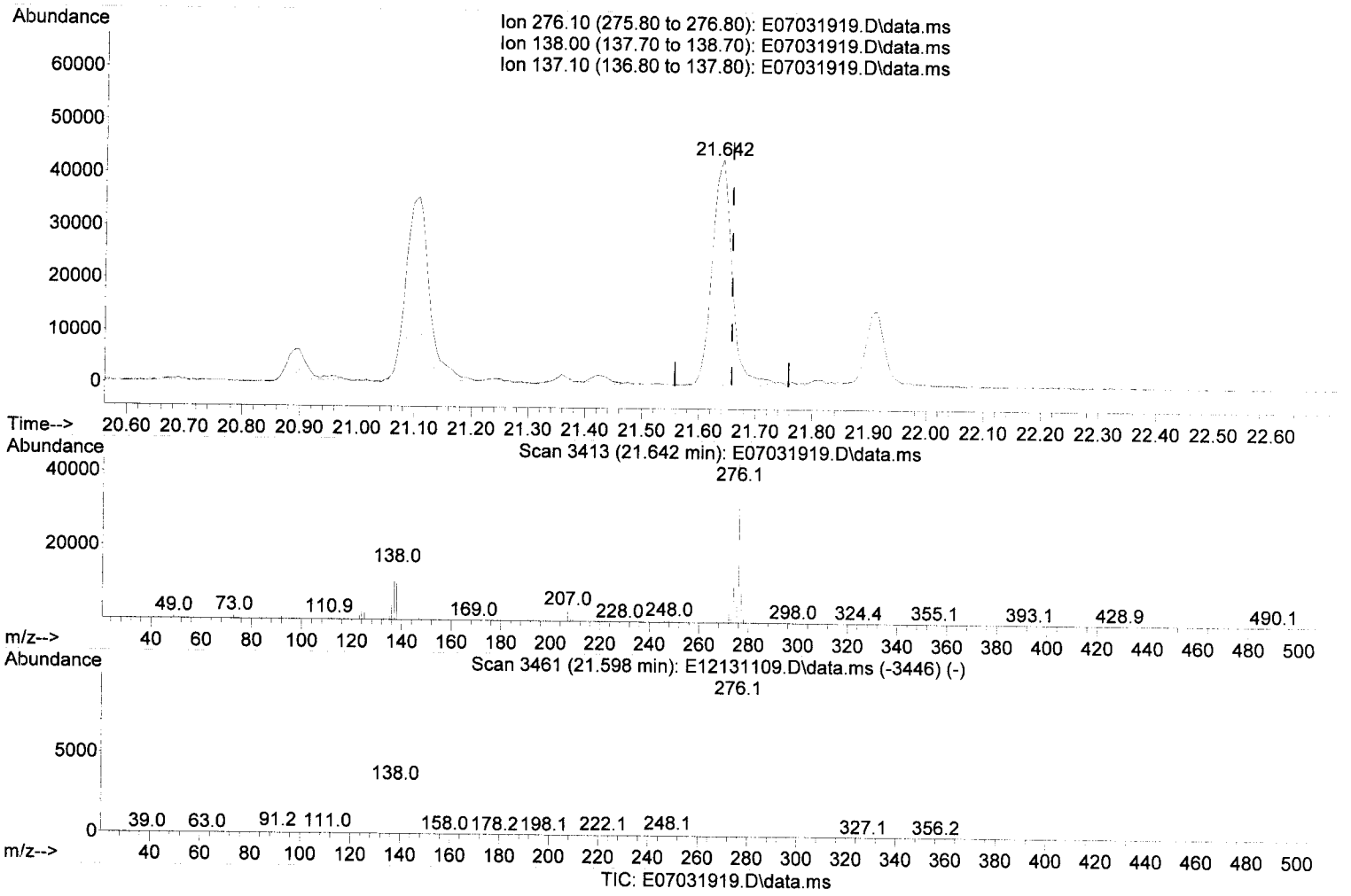
response 100776

Ion	Exp%	Act%
276.10	100.00	100.00
138.00	30.90	29.78
0.00	0.00	0.00
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E07031919.D\data.ms

(97) Benzo(g,h,i)perylene (T)

21.642min (-0.016) 338.27 ng/ml J

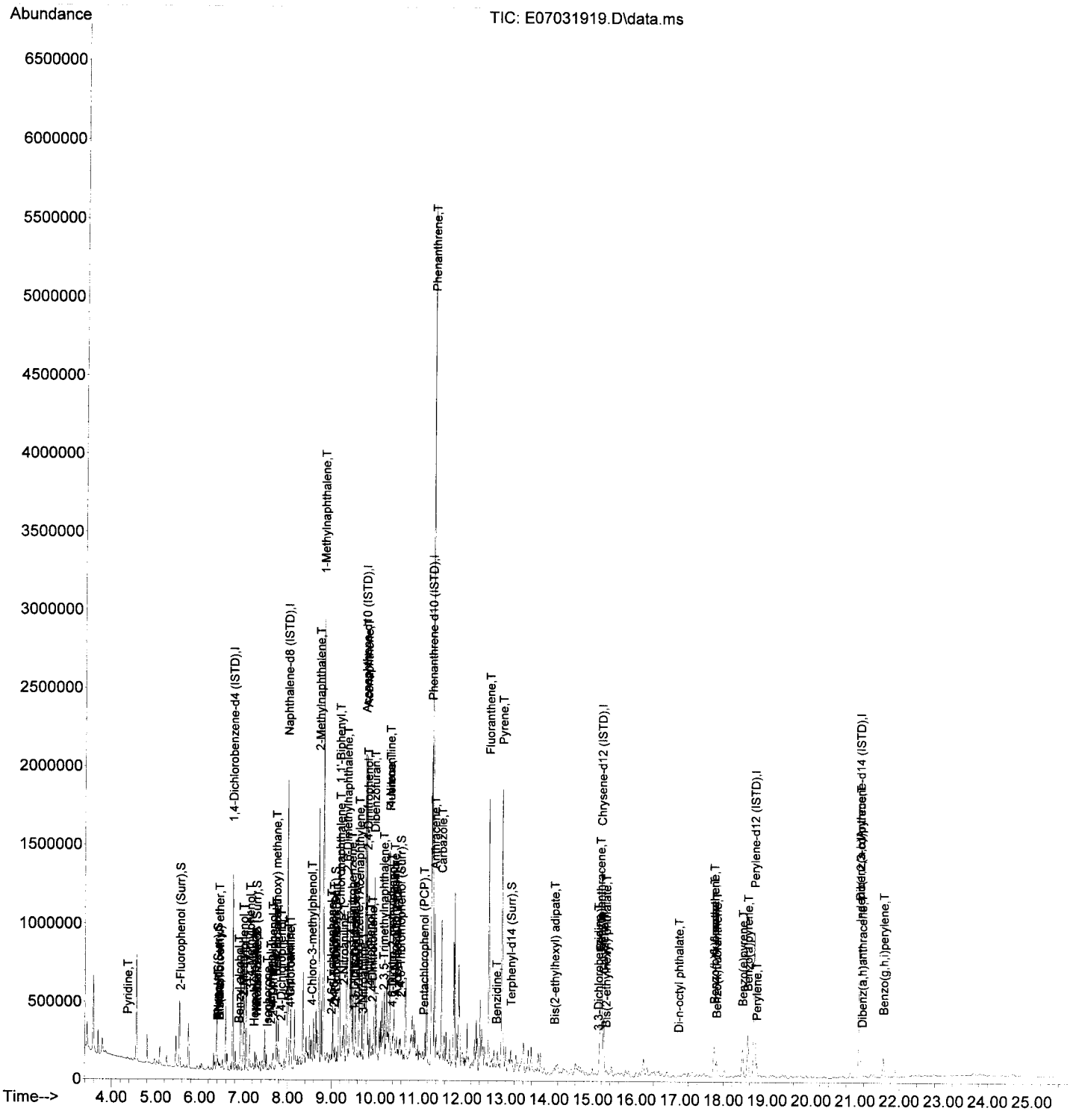
response 103613

Ion	Exp%	Act%
276.10	100.00	100.00
138.00	45.90	33.59
137.10	39.00	28.69
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031919.D
Acq On : 3 Jul 2019 6:58 pm
Operator : JK/ AMS /DTH
Sample : A9F0860-02RE2@10
Misc : 10x, 8270D Full List SVOC
ALS Vial : 15 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

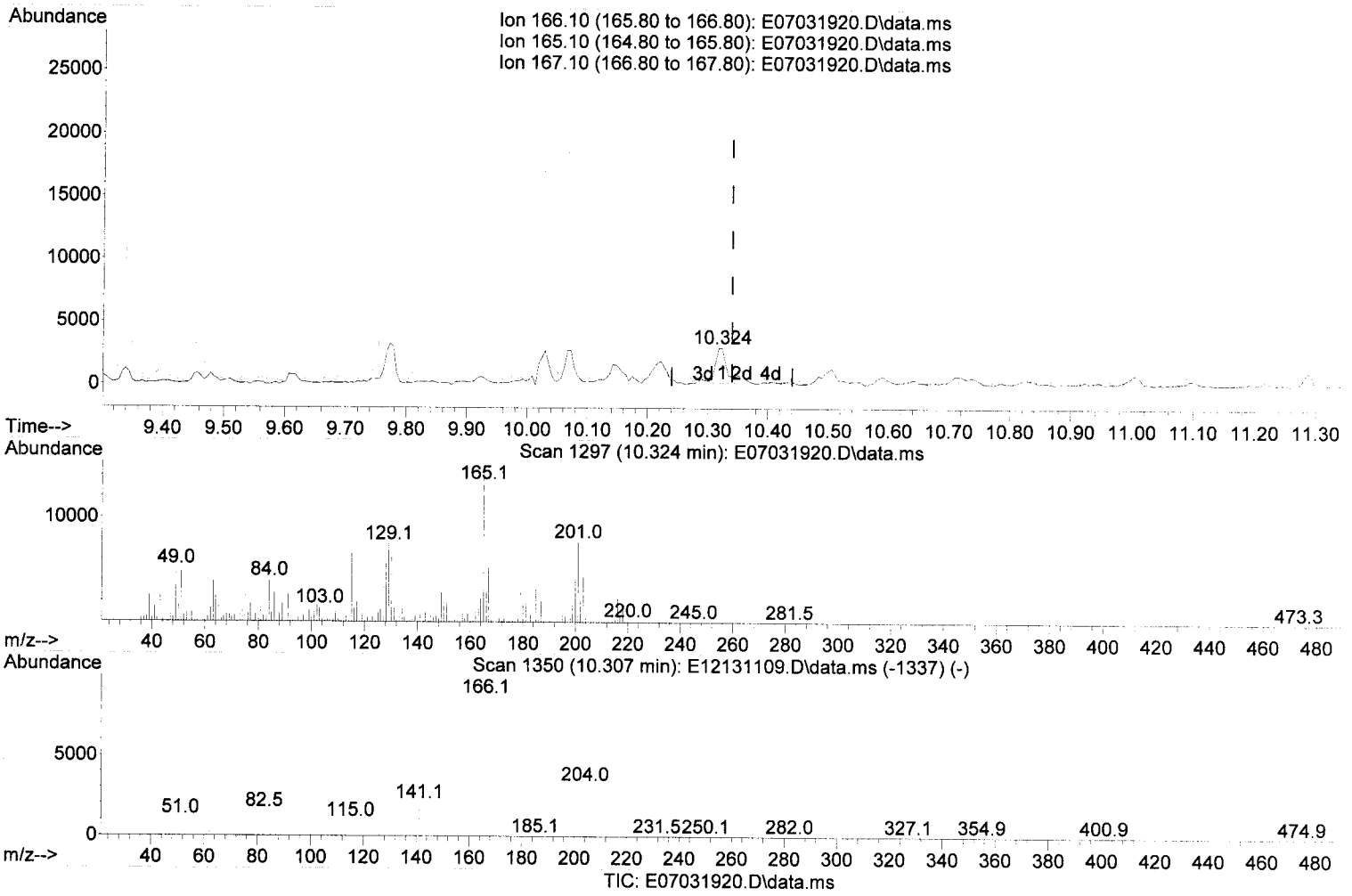
Quant Time: Jul 05 09:44:17 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031920.D
Acq On : 3 Jul 2019 7:35 pm
Operator : JK/ AMS /DTH
Sample : A9G0026-01RE1@10
Misc : 10x, 625 LL Full List (AC)
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 10:08:46 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(60) Fluorene (T)

10.324min (-0.016) 11.08 ng/ml

↑ mol-mol

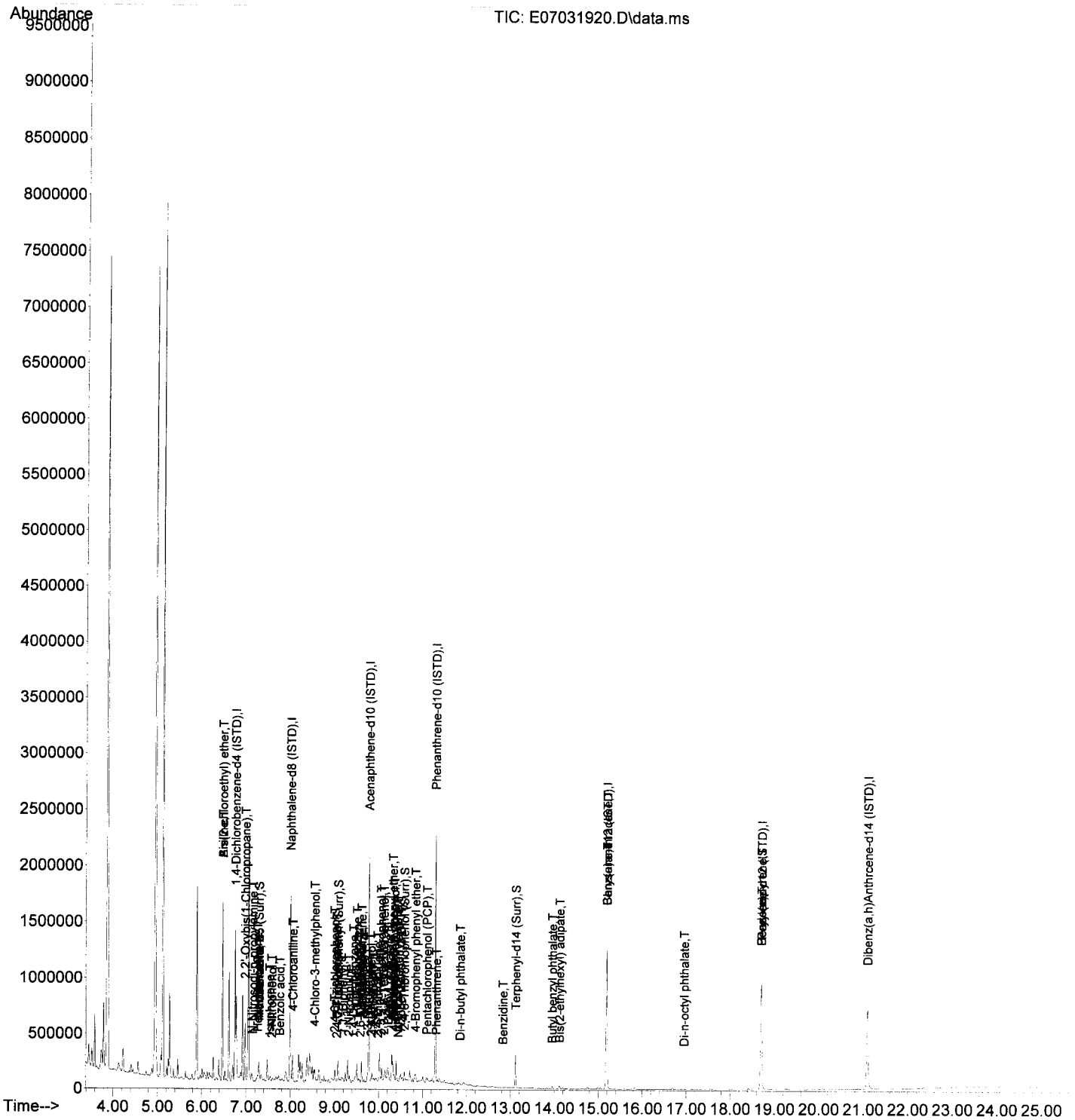
response 3471

Ion	Exp%	Act%
166.10	100.00	100.00
165.10	93.50	509.98#
167.10	13.60	172.50#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-07\9G03020\
Data File : E07031920.D
Acq On : 3 Jul 2019 7:35 pm
Operator : JK/ AMS /DTH
Sample : A9G0026-01RE1@10
Misc : 10x, 625 LL Full List (AC)
ALS Vial : 16 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jul 05 09:44:21 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019R4.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Fri May 31 15:11:51 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Semivolatile Organic Compunds By EPA 8270D
Calibration Data

Sequence 9A30046 (Cal ID A9A3103) SV-GCMS5

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9A30046**	Instrument:	**SV-GCMS5**
Date:	**01/30/19 16:37**	Calibration:	**A9A3103**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9A30046-TUN1	Water	QC	QC			A18L267	A19A180
2	9A30046-TUN2	Water	QC	QC			A18L267	A19A180
3	9A30046-ICB1	Water	QC	QC			A18L267	
4	9A30046-CAL1	Water	QC	QC			A18L267	A18L327
5	9A30046-CAL2	Water	QC	QC			A18L267	A18L328
6	9A30046-CAL3	Water	QC	QC			A18L267	A18L329
7	9A30046-CAL4	Water	QC	QC			A18L267	A18L330
8	9A30046-CAL5	Water	QC	QC			A18L267	A18L331
9	9A30046-CAL6	Water	QC	QC			A18L267	A18L332
10	9A30046-CAL7	Water	QC	QC			A18L267	A18L333
11	9A30046-CAL8	Water	QC	QC			A18L267	A18L334
12	9A30046-CAL9	Water	QC	QC			A18L267	A18L335
13	9A30046-CALA	Water	QC	QC			A18L267	A18L336
14	9A30046-IBL1	Water	QC	QC			A18L267	
15	9A30046-ICV1	Water	QC	QC			A18L267	A19A013
16	9A30046-IBL2	Water	QC	QC			A18L267	

Data Entered By: 1/31/19

Data Reviewed By: 2/1/19

Comments:

Calibration Status Report SV-GCMS5

Method Path : C:\msdchem\1\METHODS\
Method File : SV5_013019.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Thu Jan 31 10:44:49 2019
Response Via : Initial Calibration

A9A3103

1/31/19

#	ID	Conc	ISTD Conc	Path\File
1	20	20	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301914.D
2	50	50	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301915.D
3	100	100	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301916.D
4	200	200	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301917.D
5	500	500	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301918.D
6	1000	1000	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301919.D
7	2000	2000	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301920.D
8	4000	4000	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301921.D
9	6000	6000	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301922.D
10	8000	8000	2000	C:\msdchem\1\DATA\2019-01\9A30046\E01301923.D

#	ID	Update Time	Quant Time	Acquisition Time
1	20	Jan 31 10:43 2019	Jan 31 09:52 2019	30 Jan 2019 7:00 pm
2	50	Jan 31 10:44 2019	Jan 31 10:31 2019	30 Jan 2019 7:37 pm
3	100	Jan 31 10:44 2019	Jan 31 10:32 2019	30 Jan 2019 8:13 pm
4	200	Jan 31 10:44 2019	Jan 31 10:33 2019	30 Jan 2019 8:50 pm
5	500	Jan 31 10:44 2019	Jan 31 09:53 2019	30 Jan 2019 9:26 pm
6	1000	Jan 31 10:44 2019	Jan 31 09:53 2019	30 Jan 2019 10:02 pm
7	2000	Jan 31 10:44 2019	Jan 31 09:53 2019	30 Jan 2019 10:39 pm
8	4000	Jan 31 10:44 2019	Jan 31 10:36 2019	30 Jan 2019 11:15 pm
9	6000	Jan 31 10:44 2019	Jan 31 10:37 2019	30 Jan 2019 11:51 pm
10	8000	Jan 31 10:44 2019	Jan 31 10:38 2019	31 Jan 2019 12:28 am

SV5_013019.M Thu Jan 31 11:58:46 2019

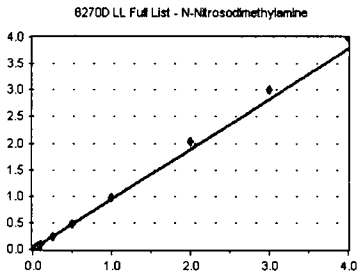
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

N-Nitrosodimethylamine

Curve Fit: **AVERAGE RF**

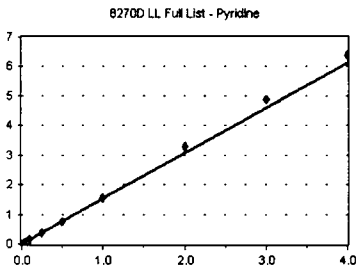


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	2349	0.878	4.40
9A30046-CAL2	50	5969	0.849	4.41
9A30046-CAL3	100	12079	0.880	4.40
9A30046-CAL4	200	26607	0.915	4.39
9A30046-CAL5	500	68738	0.975	4.39
9A30046-CAL6	1000	136572	0.954	4.39
9A30046-CAL7	2000	276378	0.976	4.38
9A30046-CAL8	4000	561142	1.013	4.38
9A30046-CAL9	6000	871542	1.000	4.39
9A30046-CALA	8000	1122619	0.999	4.39

AVE RF **0.944** RF RSD **6.24** AVE RT **4.39**

Pyridine

Curve Fit: **AVERAGE RF**

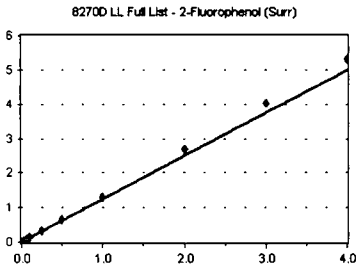


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~2510~~	~~0.938~~	~~4.47~~
9A30046-CAL2	50	9139	1.300	4.46
9A30046-CAL3	100	19576	1.427	4.45
9A30046-CAL4	200	42897	1.475	4.44
9A30046-CAL5	500	111106	1.575	4.43
9A30046-CAL6	1000	220078	1.537	4.43
9A30046-CAL7	2000	442924	1.564	4.42
9A30046-CAL8	4000	916259	1.654	4.41
9A30046-CAL9	6000	1414684	1.623	4.42
9A30046-CALA	8000	1799769	1.602	4.42

AVE RF **1.528** RF RSD **7.27** AVE RT **4.43**

2-Fluorophenol (Surr)

Curve Fit: **AVERAGE RF**

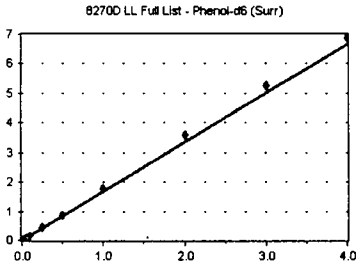


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	2703	1.010	5.63
9A30046-CAL2	50	7768	1.105	5.63
9A30046-CAL3	100	16374	1.193	5.63
9A30046-CAL4	200	35753	1.229	5.63
9A30046-CAL5	500	92637	1.313	5.63
9A30046-CAL6	1000	186079	1.299	5.63
9A30046-CAL7	2000	365609	1.291	5.63
9A30046-CAL8	4000	749425	1.352	5.63
9A30046-CAL9	6000	1170363	1.343	5.63
9A30046-CALA	8000	1496600	1.332	5.63

AVE RF **1.247** RF RSD **9.11** AVE RT **5.63**

Phenol-d6 (Surr)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	3503	1.309	6.48
9A30046-CAL2	50	10982	1.562	6.47
9A30046-CAL3	100	22782	1.661	6.47
9A30046-CAL4	200	47985	1.650	6.47
9A30046-CAL5	500	124633	1.767	6.47
9A30046-CAL6	1000	244299	1.706	6.47
9A30046-CAL7	2000	498621	1.761	6.48
9A30046-CAL8	4000	994097	1.794	6.48
9A30046-CAL9	6000	1526449	1.752	6.48
9A30046-CALA	8000	1930075	1.718	6.50

AVE RF **1.668** RF RSD **8.62** AVE RT **6.48**

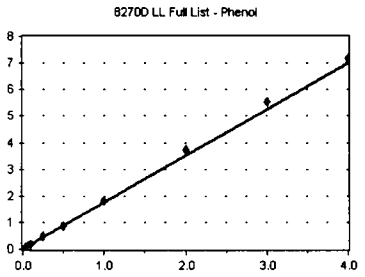
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Phenol

Curve Fit: **AVERAGE RF**

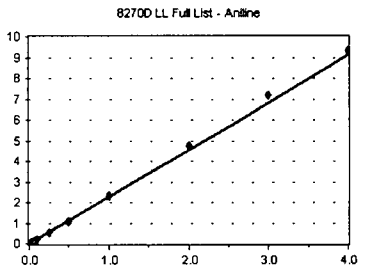


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	3623	1.353	6.49
9A30046-CAL2	50	11772	1.675	6.49
9A30046-CAL3	100	24600	1.793	6.48
9A30046-CAL4	200	50967	1.752	6.48
9A30046-CAL5	500	128306	1.819	6.48
9A30046-CAL6	1000	252632	1.764	6.49
9A30046-CAL7	2000	512010	1.808	6.49
9A30046-CAL8	4000	1035475	1.869	6.49
9A30046-CAL9	6000	1606385	1.843	6.50
9A30046-CALA	8000	2021684	1.799	6.51

AVE RF **1.748** RF RSD **8.49** AVE RT **6.49**

Aniline

Curve Fit: **AVERAGE RF**

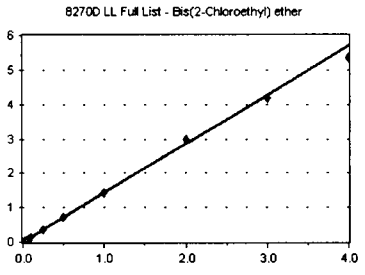


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~4076~~	~~1.523~~	~~6.53~~
9A30046-CAL2	50	15128	2.152	6.53
9A30046-CAL3	100	30756	2.242	6.53
9A30046-CAL4	200	63650	2.188	6.53
9A30046-CAL5	500	159299	2.259	6.53
9A30046-CAL6	1000	316926	2.213	6.53
9A30046-CAL7	2000	658664	2.326	6.53
9A30046-CAL8	4000	1318849	2.380	6.54
9A30046-CAL9	6000	2085810	2.394	6.54
9A30046-CALA	8000	2632489	2.343	6.55

AVE RF **2.277** RF RSD **3.81** AVE RT **6.53**

Bis(2-Chloroethyl) ether

Curve Fit: **AVERAGE RF**

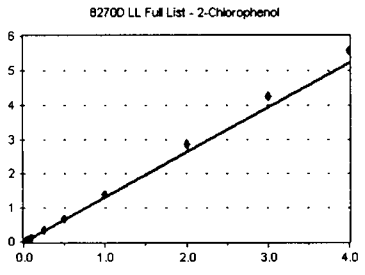


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	3961	1.480	6.58
9A30046-CAL2	50	9806	1.395	6.58
9A30046-CAL3	100	18886	1.377	6.58
9A30046-CAL4	200	42294	1.454	6.58
9A30046-CAL5	500	105210	1.492	6.58
9A30046-CAL6	1000	205585	1.435	6.58
9A30046-CAL7	2000	405853	1.433	6.58
9A30046-CAL8	4000	824988	1.489	6.59
9A30046-CAL9	6000	1215843	1.395	6.59
9A30046-CALA	8000	1499102	1.334	6.60

AVE RF **1.428** RF RSD **3.68** AVE RT **6.58**

2-Chlorophenol

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	2671	0.998	6.65
9A30046-CAL2	50	8358	1.189	6.65
9A30046-CAL3	100	17282	1.260	6.65
9A30046-CAL4	200	37904	1.303	6.64
9A30046-CAL5	500	97220	1.378	6.64
9A30046-CAL6	1000	192879	1.347	6.65
9A30046-CAL7	2000	391006	1.381	6.65
9A30046-CAL8	4000	789250	1.424	6.65
9A30046-CAL9	6000	1233532	1.416	6.66
9A30046-CALA	8000	1563047	1.391	6.66

AVE RF **1.309** RF RSD **10.08** AVE RT **6.65**

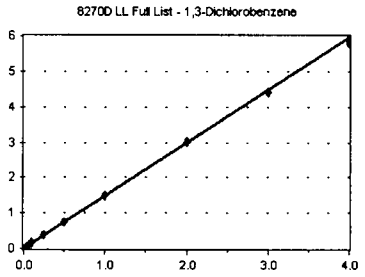
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

1,3-Dichlorobenzene

Curve Fit: **AVERAGE RF**

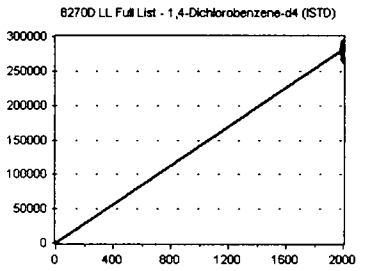


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	3951	1.476	6.80
9A30046-CAL2	50	10651	1.515	6.80
9A30046-CAL3	100	20846	1.519	6.80
9A30046-CAL4	200	44104	1.516	6.79
9A30046-CAL5	500	108871	1.544	6.79
9A30046-CAL6	1000	212750	1.485	6.80
9A30046-CAL7	2000	418520	1.478	6.80
9A30046-CAL8	4000	831375	1.500	6.80
9A30046-CAL9	6000	1285655	1.475	6.80
9A30046-CALA	8000	1629041	1.450	6.81

AVE RF **1.496** RF RSD **1.87** AVE RT **6.80**

1,4-Dichlorobenzene-d4 (ISTD)

Curve Fit: **AVERAGE RF**

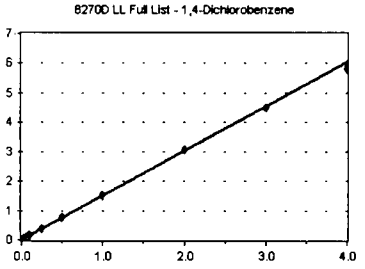


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	2000	267680	133.840	6.85
9A30046-CAL2	2000	281181	140.590	6.85
9A30046-CAL3	2000	274393	137.196	6.85
9A30046-CAL4	2000	290867	145.434	6.85
9A30046-CAL5	2000	282130	141.065	6.85
9A30046-CAL6	2000	286436	143.218	6.85
9A30046-CAL7	2000	283178	141.589	6.85
9A30046-CAL8	2000	277065	138.533	6.85
9A30046-CAL9	2000	290473	145.236	6.85
9A30046-CALA	2000	280934	140.467	6.85

AVE RF **140.717** RF RSD **2.53** AVE RT **6.85**

1,4-Dichlorobenzene

Curve Fit: **AVERAGE RF**

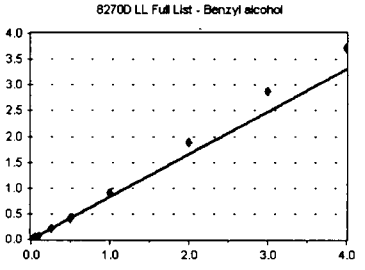


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	3880	1.449	6.86
9A30046-CAL2	50	10515	1.496	6.86
9A30046-CAL3	100	21382	1.558	6.86
9A30046-CAL4	200	44829	1.541	6.86
9A30046-CAL5	500	111060	1.575	6.86
9A30046-CAL6	1000	215651	1.506	6.86
9A30046-CAL7	2000	426556	1.506	6.86
9A30046-CAL8	4000	845971	1.527	6.86
9A30046-CAL9	6000	1303668	1.496	6.86
9A30046-CALA	8000	1640871	1.460	6.87

AVE RF **1.511** RF RSD **2.64** AVE RT **6.86**

Benzyl alcohol

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~1088~~	~~0.406~~	~~6.97~~
9A30046-CAL2	50	4308	0.613	6.97
9A30046-CAL3	100	9554	0.696	6.97
9A30046-CAL4	200	21731	0.747	6.97
9A30046-CAL5	500	59139	0.838	6.97
9A30046-CAL6	1000	119831	0.837	6.97
9A30046-CAL7	2000	255452	0.902	6.97
9A30046-CAL8	4000	520771	0.940	6.97
9A30046-CAL9	6000	832173	0.955	6.98
9A30046-CALA	8000	1046185	0.931	6.99

AVE RF **0.829** RF RSD **14.47** AVE RT **6.97**

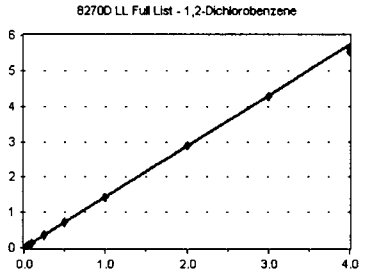
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

1,2-Dichlorobenzene

Curve Fit: **AVERAGE RF**

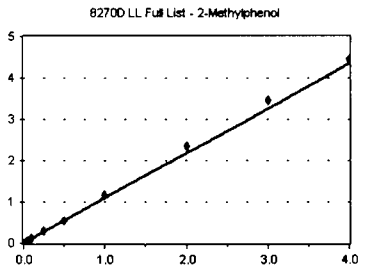


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	3694	1.380	7.01
9A30046-CAL2	50	10083	1.434	7.01
9A30046-CAL3	100	20256	1.476	7.01
9A30046-CAL4	200	42117	1.448	7.01
9A30046-CAL5	500	104161	1.477	7.01
9A30046-CAL6	1000	203885	1.424	7.01
9A30046-CAL7	2000	401451	1.418	7.01
9A30046-CAL8	4000	802569	1.448	7.01
9A30046-CAL9	6000	1239034	1.422	7.01
9A30046-CALA	8000	1561940	1.390	7.02

AVE RF **1.432** RF RSD **2.25** AVE RT **7.01**

2-Methylphenol

Curve Fit: **AVERAGE RF**

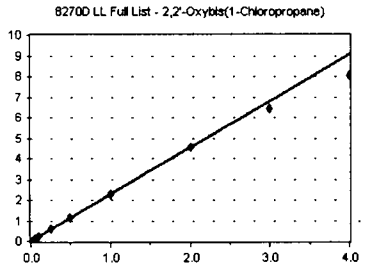


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	2376	0.888	7.07
9A30046-CAL2	50	6847	0.974	7.07
9A30046-CAL3	100	14811	1.080	7.07
9A30046-CAL4	200	31237	1.074	7.06
9A30046-CAL5	500	81540	1.156	7.07
9A30046-CAL6	1000	158539	1.107	7.07
9A30046-CAL7	2000	326863	1.154	7.07
9A30046-CAL8	4000	654892	1.182	7.07
9A30046-CAL9	6000	1006886	1.155	7.07
9A30046-CALA	8000	1251343	1.114	7.08

AVE RF **1.088** RF RSD **8.49** AVE RT **7.07**

2,2'-Oxybis(1-Chloropropane)

Curve Fit: **AVERAGE RF**

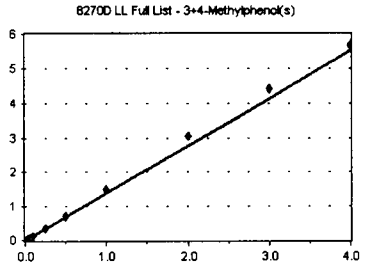


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5888	2.200	7.10
9A30046-CAL2	50	16784	2.388	7.10
9A30046-CAL3	100	32803	2.391	7.09
9A30046-CAL4	200	67804	2.331	7.09
9A30046-CAL5	500	168498	2.389	7.09
9A30046-CAL6	1000	325929	2.276	7.10
9A30046-CAL7	2000	642111	2.268	7.10
9A30046-CAL8	4000	1253005	2.261	7.10
9A30046-CAL9	6000	1862706	2.138	7.10
9A30046-CALA	8000	2259312	2.011	7.10

AVE RF **2.265** RF RSD **5.43** AVE RT **7.10**

3+4-Methylphenol(s)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	2797	1.045	7.21
9A30046-CAL2	50	8837	1.257	7.21
9A30046-CAL3	100	18073	1.317	7.21
9A30046-CAL4	200	38619	1.328	7.21
9A30046-CAL5	500	104697	1.484	7.21
9A30046-CAL6	1000	201525	1.407	7.21
9A30046-CAL7	2000	423242	1.495	7.22
9A30046-CAL8	4000	845995	1.527	7.22
9A30046-CAL9	6000	1282429	1.472	7.23
9A30046-CALA	8000	1590888	1.416	7.24

AVE RF **1.375** RF RSD **10.56** AVE RT **7.22**

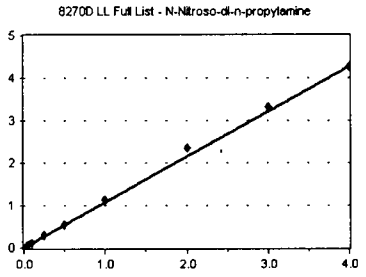
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

N-Nitroso-di-n-propylamine

Curve Fit: **AVERAGE RF**

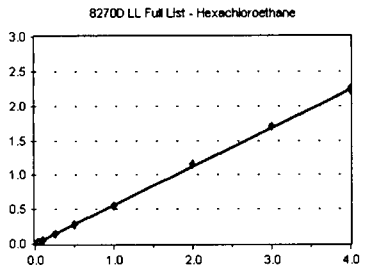


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	2415	0.902	7.22
9A30046-CAL2	50	6849	0.974	7.22
9A30046-CAL3	100	14289	1.041	7.22
9A30046-CAL4	200	30932	1.063	7.22
9A30046-CAL5	500	81082	1.150	7.22
9A30046-CAL6	1000	155529	1.086	7.22
9A30046-CAL7	2000	323691	1.143	7.23
9A30046-CAL8	4000	649377	1.172	7.23
9A30046-CAL9	6000	964528	1.107	7.24
9A30046-CALA	8000	1199931	1.068	7.25

AVE RF **1.071** RF RSD **7.74** AVE RT **7.23**

Hexachloroethane

Curve Fit: **AVERAGE RF**

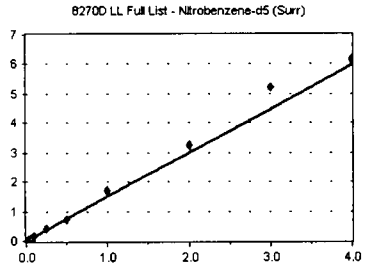


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	1366	0.510	7.35
9A30046-CAL2	50	3855	0.548	7.35
9A30046-CAL3	100	7837	0.571	7.35
9A30046-CAL4	200	16252	0.559	7.35
9A30046-CAL5	500	40316	0.572	7.35
9A30046-CAL6	1000	80048	0.559	7.35
9A30046-CAL7	2000	158301	0.559	7.35
9A30046-CAL8	4000	319170	0.576	7.35
9A30046-CAL9	6000	494803	0.568	7.35
9A30046-CALA	8000	626658	0.558	7.35

AVE RF **0.558** RF RSD **3.35** AVE RT **7.35**

Nitrobenzene-d5 (Surr)

Curve Fit: **AVERAGE RF**

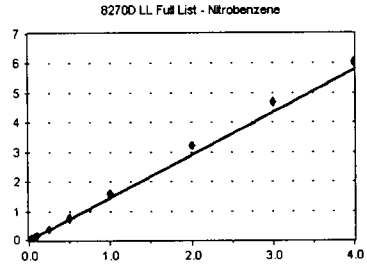


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~3003~~	~~1.122~~	~~7.38~~
9A30046-CAL2	50	7789	1.108	7.38
9A30046-CAL3	100	17308	1.262	7.38
9A30046-CAL4	200	38942	1.339	7.38
9A30046-CAL5	500	116738	1.655	7.38
9A30046-CAL6	1000	210602	1.471	7.38
9A30046-CAL7	2000	486300	1.717	7.38
9A30046-CAL8	4000	903192	1.630	7.38
9A30046-CAL9	6000	1512631	1.736	7.39
9A30046-CALA	8000	1731910	1.541	7.39

AVE RF **1.495** RF RSD **14.62** AVE RT **7.38**

Nitrobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	3065	1.145	7.40
9A30046-CAL2	50	8550	1.216	7.40
9A30046-CAL3	100	18438	1.344	7.40
9A30046-CAL4	200	41375	1.422	7.39
9A30046-CAL5	500	109635	1.554	7.39
9A30046-CAL6	1000	213695	1.492	7.40
9A30046-CAL7	2000	445401	1.573	7.40
9A30046-CAL8	4000	894143	1.614	7.40
9A30046-CAL9	6000	1366079	1.568	7.41
9A30046-CALA	8000	1701352	1.514	7.42

AVE RF **1.444** RF RSD **11.11** AVE RT **7.40**

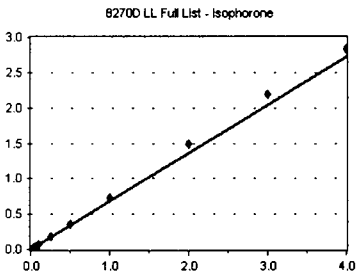
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Isophorone

Curve Fit: **AVERAGE RF**

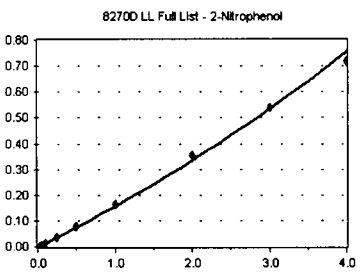


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5446	0.516	7.63
9A30046-CAL2	50	16770	0.628	7.63
9A30046-CAL3	100	35464	0.650	7.62
9A30046-CAL4	200	76306	0.676	7.62
9A30046-CAL5	500	203487	0.727	7.62
9A30046-CAL6	1000	391987	0.715	7.63
9A30046-CAL7	2000	818603	0.727	7.63
9A30046-CAL8	4000	1662743	0.749	7.64
9A30046-CAL9	6000	2507237	0.728	7.64
9A30046-CALA	8000	3162533	0.709	7.66

AVE RF **0.683** RF RSD **10.26** AVE RT **7.63**

2-Nitrophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

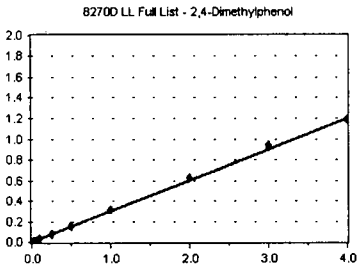


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~775~~	~~0.073~~	~~7.71~~
9A30046-CAL2	50	2288	0.086	7.71
9A30046-CAL3	100	5408	9.914	7.71
9A30046-CAL4	200	12965	0.115	7.71
9A30046-CAL5	500	40651	0.145	7.71
9A30046-CAL6	1000	83980	0.153	7.71
9A30046-CAL7	2000	184428	0.164	7.71
9A30046-CAL8	4000	394481	0.178	7.71
9A30046-CAL9	6000	619284	0.180	7.72
9A30046-CALA	8000	801876	0.180	7.73

AVE RF **0.144** RF RSD **25.03** AVE RT **7.72**

2,4-Dimethylphenol

Curve Fit: **AVERAGE RF**

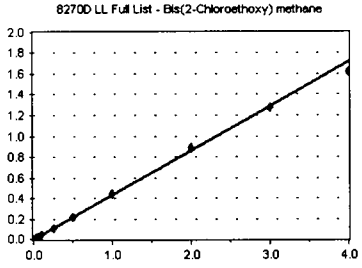


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~2085~~	~~0.197~~	~~7.74~~
9A30046-CAL2	50	7337	0.275	7.74
9A30046-CAL3	100	15179	0.278	7.74
9A30046-CAL4	200	32468	0.288	7.74
9A30046-CAL5	500	87099	0.311	7.74
9A30046-CAL6	1000	168017	0.307	7.74
9A30046-CAL7	2000	352518	0.313	7.74
9A30046-CAL8	4000	691817	0.312	7.75
9A30046-CAL9	6000	1081606	0.314	7.75
9A30046-CALA	8000	1321200	0.296	7.76

AVE RF **0.299** RF RSD **5.22** AVE RT **7.74**

Bis(2-Chloroethoxy) methane

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	4242	0.402	7.83
9A30046-CAL2	50	11626	0.435	7.83
9A30046-CAL3	100	23620	0.433	7.83
9A30046-CAL4	200	48550	0.430	7.83
9A30046-CAL5	500	126251	0.451	7.83
9A30046-CAL6	1000	237898	0.434	7.83
9A30046-CAL7	2000	493285	0.438	7.83
9A30046-CAL8	4000	982323	0.443	7.84
9A30046-CAL9	6000	1460686	0.424	7.84
9A30046-CALA	8000	1803114	0.404	7.85

AVE RF **0.429** RF RSD **3.66** AVE RT **7.84**

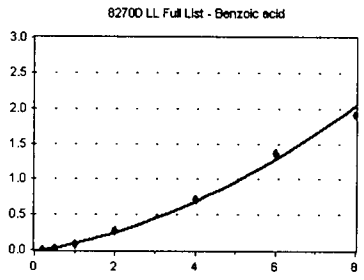
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Benzoic acid

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

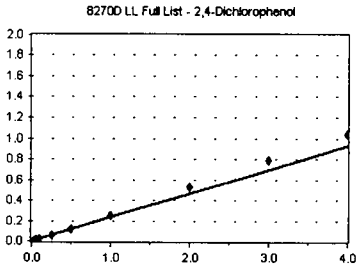


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~40~~	~~69~~	~~3.267~~	~~7.85~~
~~9A30046-CAL2~~	~~100~~	~~56~~	~~1.048~~	~~7.82~~
~~9A30046-CAL3~~	~~200~~	~~308~~	~~2.823~~	~~7.82~~
9A30046-CAL4	400	2001	8.862	7.77
9A30046-CAL5	1000	24058	0.043	7.79
9A30046-CAL6	2000	97527	8.897	7.82
9A30046-CAL7	4000	314631	0.140	7.85
9A30046-CAL8	8000	790966	0.178	7.90
9A30046-CAL9	12000	1567369	0.228	7.94
9A30046-CALA	16000	2134233	0.239	7.97

AVE RF **0.132** RF RSD **67.48** AVE RT **7.86**

2,4-Dichlorophenol

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~1557~~	~~0.147~~	~~7.95~~
9A30046-CAL2	50	4758	0.178	7.95
9A30046-CAL3	100	10325	0.189	7.95
9A30046-CAL4	200	23291	0.206	7.94
9A30046-CAL5	500	66479	0.238	7.95
9A30046-CAL6	1000	129436	0.236	7.95
9A30046-CAL7	2000	283710	0.252	7.95
9A30046-CAL8	4000	583274	0.263	7.96
9A30046-CAL9	6000	912238	0.265	7.96
9A30046-CALA	8000	1159632	0.260	7.97

AVE RF **0.232** RF RSD **14.18** AVE RT **7.95**

1,2,4-Trichlorobenzene

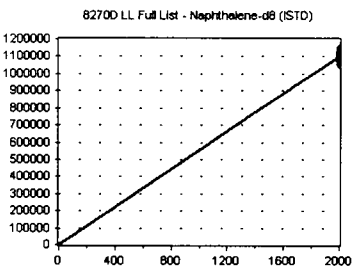
Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	2751	0.261	8.04
9A30046-CAL2	50	7910	0.296	8.04
9A30046-CAL3	100	15521	0.285	8.04
9A30046-CAL4	200	31882	0.282	8.04
9A30046-CAL5	500	78967	0.282	8.04
9A30046-CAL6	1000	151142	0.276	8.04
9A30046-CAL7	2000	307169	0.273	8.04
9A30046-CAL8	4000	617165	0.278	8.04
9A30046-CAL9	6000	947888	0.275	8.05
9A30046-CALA	8000	1206585	0.271	8.05

AVE RF **0.278** RF RSD **3.41** AVE RT **8.04**

Naphthalene-d8 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	2000	1055936	527.968	8.10
9A30046-CAL2	2000	1068309	534.154	8.10
9A30046-CAL3	2000	1090991	545.496	8.10
9A30046-CAL4	2000	1128963	564.482	8.10
9A30046-CAL5	2000	1119185	559.593	8.10
9A30046-CAL6	2000	1096117	548.058	8.10
9A30046-CAL7	2000	1126005	563.003	8.10
9A30046-CAL8	2000	1109587	554.793	8.10
9A30046-CAL9	2000	1148108	574.054	8.10
9A30046-CALA	2000	1114798	557.399	8.10

AVE RF **552.900** RF RSD **2.56** AVE RT **8.10**

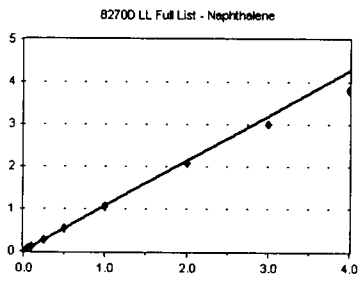
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Naphthalene

Curve Fit: **AVERAGE RF**

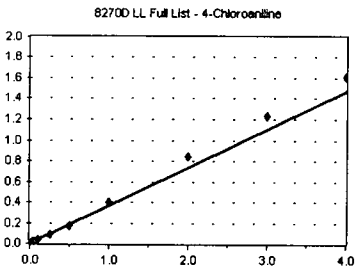


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	11917	1.129	8.12
9A30046-CAL2	50	30779	1.152	8.12
9A30046-CAL3	100	59651	1.094	8.12
9A30046-CAL4	200	122429	1.084	8.12
9A30046-CAL5	500	307927	1.101	8.12
9A30046-CAL6	1000	582708	1.063	8.12
9A30046-CAL7	2000	1180925	1.049	8.12
9A30046-CAL8	4000	2314690	1.043	8.13
9A30046-CAL9	6000	3450382	1.002	8.13
9A30046-CALA	8000	4249185	0.953	8.13

AVE RF **1.067** RF RSD **5.54** AVE RT **8.12**

4-Chloroaniline

Curve Fit: **AVERAGE RF**

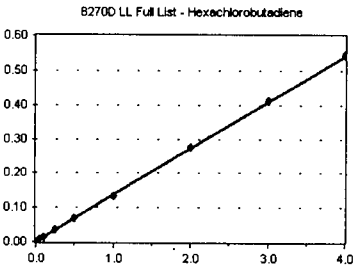


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	2975	0.282	8.16
9A30046-CAL2	50	8890	0.333	8.16
9A30046-CAL3	100	19347	0.355	8.16
9A30046-CAL4	200	39584	0.351	8.16
9A30046-CAL5	500	102663	0.367	8.16
9A30046-CAL6	1000	195519	0.357	8.16
9A30046-CAL7	2000	447643	0.398	8.16
9A30046-CAL8	4000	932245	0.420	8.16
9A30046-CAL9	6000	1415802	0.411	8.17
9A30046-CALA	8000	1793320	0.402	8.17

AVE RF **0.367** RF RSD **11.43** AVE RT **8.16**

Hexachlorobutadiene

Curve Fit: **AVERAGE RF**

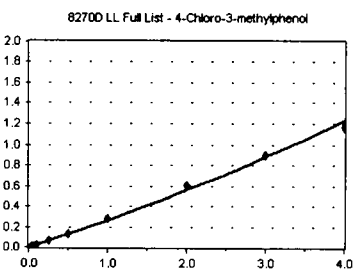


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	1290	0.122	8.24
9A30046-CAL2	50	3731	0.140	8.24
9A30046-CAL3	100	7485	0.137	8.24
9A30046-CAL4	200	15189	0.135	8.24
9A30046-CAL5	500	38478	0.138	8.24
9A30046-CAL6	1000	76109	0.139	8.24
9A30046-CAL7	2000	151477	0.135	8.24
9A30046-CAL8	4000	307584	0.139	8.25
9A30046-CAL9	6000	473675	0.138	8.25
9A30046-CALA	8000	608097	0.136	8.25

AVE RF **0.136** RF RSD **3.72** AVE RT **8.24**

4-Chloro-3-methylphenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~895~~	~~8.476~~	~~8.64~~
9A30046-CAL2	50	3536	0.132	8.64
9A30046-CAL3	100	9340	0.171	8.63
9A30046-CAL4	200	22255	0.197	8.63
9A30046-CAL5	500	69673	0.249	8.63
9A30046-CAL6	1000	137180	0.250	8.63
9A30046-CAL7	2000	317795	0.282	8.63
9A30046-CAL8	4000	668189	0.301	8.64
9A30046-CAL9	6000	1026539	0.298	8.64
9A30046-CALA	8000	1296093	0.291	8.65

AVE RF **0.241** RF RSD **25.28** AVE RT **8.64**

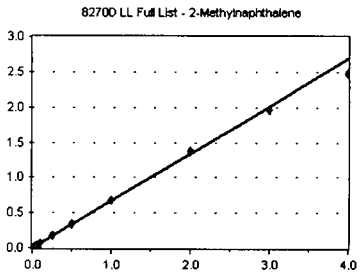
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

2-Methylnaphthalene

Curve Fit: **AVERAGE RF**

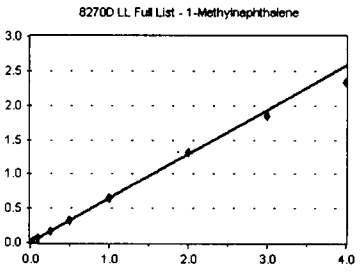


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	6941	0.657	8.82
9A30046-CAL2	50	18189	0.681	8.82
9A30046-CAL3	100	36689	0.673	8.81
9A30046-CAL4	200	76316	0.676	8.81
9A30046-CAL5	500	195835	0.700	8.81
9A30046-CAL6	1000	368916	0.673	8.82
9A30046-CAL7	2000	771341	0.685	8.82
9A30046-CAL8	4000	1531917	0.690	8.82
9A30046-CAL9	6000	2256262	0.655	8.82
9A30046-CALA	8000	2767888	0.621	8.82

AVE RF **0.671** RF RSD **3.33** AVE RT **8.82**

1-Methylnaphthalene

Curve Fit: **AVERAGE RF**

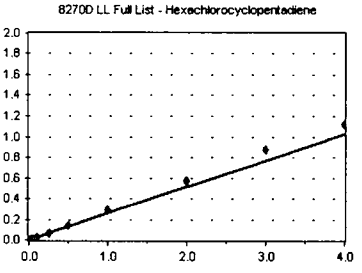


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	6831	0.647	8.91
9A30046-CAL2	50	17571	0.658	8.92
9A30046-CAL3	100	35408	0.649	8.91
9A30046-CAL4	200	72918	0.646	8.91
9A30046-CAL5	500	188716	0.674	8.91
9A30046-CAL6	1000	353069	0.644	8.92
9A30046-CAL7	2000	730943	0.649	8.92
9A30046-CAL8	4000	1454487	0.655	8.92
9A30046-CAL9	6000	2130936	0.619	8.92
9A30046-CALA	8000	2608946	0.585	8.92

AVE RF **0.643** RF RSD **3.82** AVE RT **8.92**

Hexachlorocyclopentadiene

Curve Fit: **AVERAGE RF**

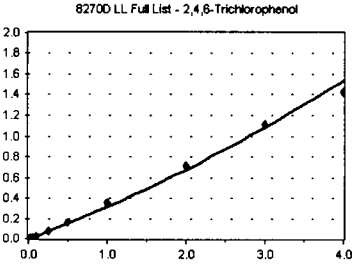


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	899	0.185	8.98
9A30046-CAL2	50	2439	0.208	8.98
9A30046-CAL3	100	5330	0.225	8.98
9A30046-CAL4	200	12226	0.246	8.98
9A30046-CAL5	500	34778	0.273	8.98
9A30046-CAL6	1000	68561	0.278	8.98
9A30046-CAL7	2000	153915	0.291	8.98
9A30046-CAL8	4000	309053	0.287	8.98
9A30046-CAL9	6000	489813	0.293	8.98
9A30046-CALA	8000	607633	0.280	8.99

AVE RF **0.257** RF RSD **14.99** AVE RT **8.98**

2,4,6-Trichlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	754	0.155	9.09
9A30046-CAL2	50	2135	0.182	9.09
9A30046-CAL3	100	5412	0.228	9.09
9A30046-CAL4	200	12662	0.254	9.09
9A30046-CAL5	500	39573	0.310	9.09
9A30046-CAL6	1000	77589	0.314	9.09
9A30046-CAL7	2000	185604	0.351	9.09
9A30046-CAL8	4000	386229	0.358	9.10
9A30046-CAL9	6000	617479	0.370	9.10
9A30046-CALA	8000	774818	0.357	9.11

AVE RF **0.288** RF RSD **27.15** AVE RT **9.10**

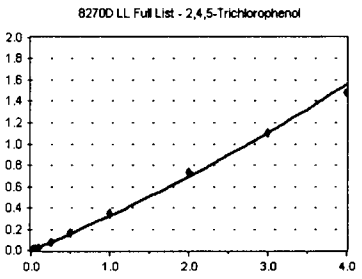
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

2,4,5-Trichlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

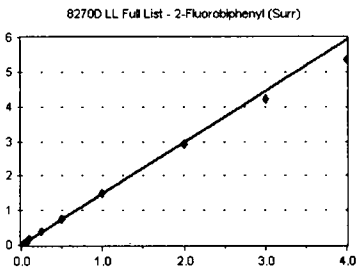


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	702	0.145	9.14
9A30046-CAL2	50	2609	0.223	9.13
9A30046-CAL3	100	6051	0.255	9.13
9A30046-CAL4	200	12964	0.260	9.13
9A30046-CAL5	500	40483	0.318	9.13
9A30046-CAL6	1000	79865	0.324	9.13
9A30046-CAL7	2000	183508	0.347	9.13
9A30046-CAL8	4000	398737	0.370	9.13
9A30046-CAL9	6000	611970	0.367	9.14
9A30046-CALA	8000	807064	0.372	9.14

AVE RF **0.298** RF RSD **25.32** AVE RT **9.13**

2-Fluorobiphenyl (Surr)

Curve Fit: **AVERAGE RF**

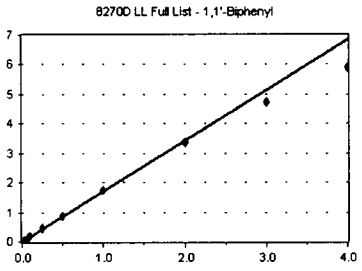


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	7112	1.465	9.18
9A30046-CAL2	50	18089	1.543	9.18
9A30046-CAL3	100	36884	1.556	9.18
9A30046-CAL4	200	77186	1.550	9.18
9A30046-CAL5	500	198705	1.559	9.18
9A30046-CAL6	1000	371894	1.507	9.18
9A30046-CAL7	2000	786718	1.490	9.18
9A30046-CAL8	4000	1579625	1.465	9.19
9A30046-CAL9	6000	2343826	1.404	9.19
9A30046-CALA	8000	2900077	1.335	9.19

AVE RF **1.487** RF RSD **4.93** AVE RT **9.18**

1,1'-Biphenyl

Curve Fit: **AVERAGE RF**

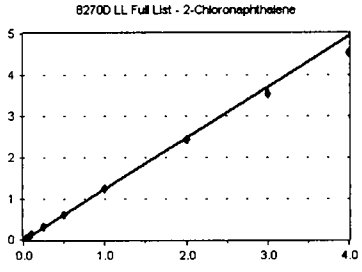


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	8419	1.734	9.28
9A30046-CAL2	50	21089	1.799	9.28
9A30046-CAL3	100	42772	1.804	9.28
9A30046-CAL4	200	88511	1.778	9.28
9A30046-CAL5	500	230563	1.809	9.28
9A30046-CAL6	1000	427889	1.734	9.28
9A30046-CAL7	2000	909543	1.722	9.29
9A30046-CAL8	4000	1815386	1.683	9.29
9A30046-CAL9	6000	2626639	1.573	9.29
9A30046-CALA	8000	3199105	1.473	9.30

AVE RF **1.711** RF RSD **6.40** AVE RT **9.28**

2-Chloronaphthalene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	6075	1.252	9.31
9A30046-CAL2	50	14859	1.268	9.31
9A30046-CAL3	100	30467	1.285	9.31
9A30046-CAL4	200	63199	1.270	9.31
9A30046-CAL5	500	163765	1.285	9.31
9A30046-CAL6	1000	302479	1.226	9.31
9A30046-CAL7	2000	650474	1.232	9.31
9A30046-CAL8	4000	1315972	1.220	9.31
9A30046-CAL9	6000	1970530	1.180	9.32
9A30046-CALA	8000	2468792	1.137	9.32

AVE RF **1.235** RF RSD **3.86** AVE RT **9.31**

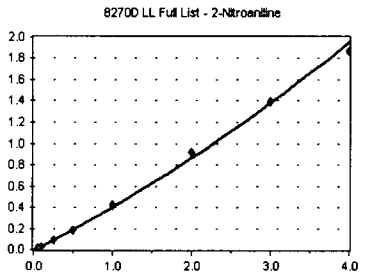
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

2-Nitroaniline

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

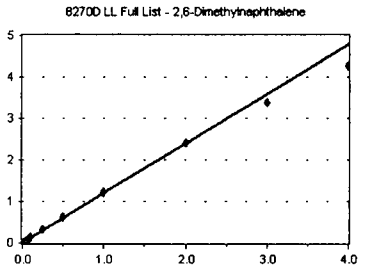


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~663~~	~~0.137~~	~~9.40~~
~~9A30046-CAL2~~	~~50~~	~~2037~~	~~0.174~~	~~9.40~~
9A30046-CAL3	100	4661	0.197	9.40
9A30046-CAL4	200	12071	0.242	9.40
9A30046-CAL5	500	43914	0.344	9.40
9A30046-CAL6	1000	89229	0.362	9.40
9A30046-CAL7	2000	225078	0.426	9.40
9A30046-CAL8	4000	493107	0.457	9.41
9A30046-CAL9	6000	778160	0.466	9.42
9A30046-CALA	8000	1014716	0.467	9.43

AVE RF **0.370** RF RSD **28.24** AVE RT **9.41**

2,6-Dimethylnaphthalene

Curve Fit: **AVERAGE RF**

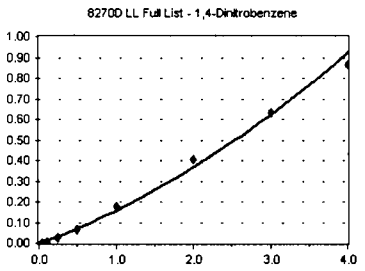


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5544	1.142	9.44
9A30046-CAL2	50	14256	1.216	9.45
9A30046-CAL3	100	29357	1.238	9.44
9A30046-CAL4	200	61710	1.240	9.44
9A30046-CAL5	500	161748	1.269	9.44
9A30046-CAL6	1000	304453	1.234	9.45
9A30046-CAL7	2000	646334	1.224	9.45
9A30046-CAL8	4000	1294122	1.200	9.45
9A30046-CAL9	6000	1873897	1.122	9.45
9A30046-CALA	8000	2321419	1.069	9.46

AVE RF **1.195** RF RSD **5.30** AVE RT **9.45**

1,4-Dinitrobenzene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

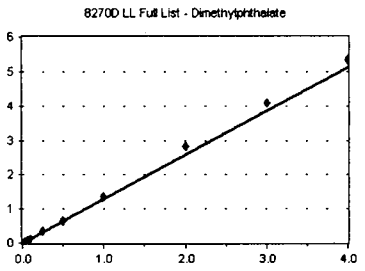


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~197~~	~~4.058~~	~~9.53~~
~~9A30046-CAL2~~	~~50~~	~~523~~	~~4.462~~	~~9.53~~
9A30046-CAL3	100	1254	5.289	9.53
9A30046-CAL4	200	3705	7.442	9.53
9A30046-CAL5	500	15009	0.118	9.53
9A30046-CAL6	1000	32964	0.134	9.53
9A30046-CAL7	2000	93455	0.177	9.53
9A30046-CAL8	4000	217979	0.202	9.54
9A30046-CAL9	6000	353235	0.212	9.54
9A30046-CALA	8000	468426	0.216	9.55

AVE RF **0.148** RF RSD **42.68** AVE RT **9.54**

Dimethylphthalate

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5420	1.117	9.58
9A30046-CAL2	50	13040	1.112	9.58
9A30046-CAL3	100	27948	1.179	9.58
9A30046-CAL4	200	63042	1.266	9.58
9A30046-CAL5	500	175061	1.373	9.58
9A30046-CAL6	1000	323675	1.312	9.58
9A30046-CAL7	2000	722554	1.368	9.59
9A30046-CAL8	4000	1516221	1.406	9.60
9A30046-CAL9	6000	2274017	1.362	9.61
9A30046-CALA	8000	2911473	1.340	9.61

AVE RF **1.284** RF RSD **8.57** AVE RT **9.59**

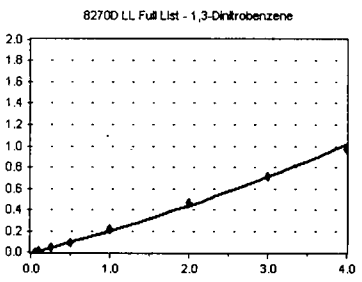
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

1,3-Dinitrobenzene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

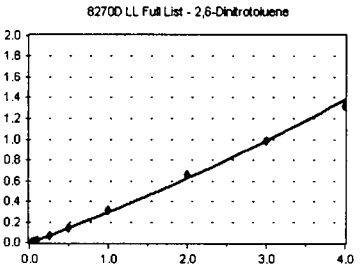


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~245~~	~~5.047~~	~~9.61~~
~~9A30046-CAL2~~	~~50~~	~~748~~	~~6.381~~	~~9.61~~
9A30046-CAL3	100	1734	7.313	9.61
9A30046-CAL4	200	5323	0.107	9.61
9A30046-CAL5	500	21039	0.165	9.61
9A30046-CAL6	1000	43195	0.175	9.61
9A30046-CAL7	2000	113932	0.216	9.62
9A30046-CAL8	4000	251848	0.234	9.62
9A30046-CAL9	6000	398456	0.239	9.63
9A30046-CALA	8000	525895	0.242	9.65

AVE RF **0.181** RF RSD **35.16** AVE RT **9.62**

2,6-Dinitrotoluene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

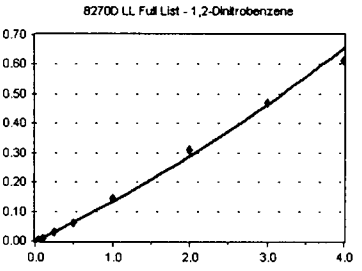


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~434~~	~~8.941~~	~~9.64~~
9A30046-CAL2	50	1439	0.123	9.64
9A30046-CAL3	100	3823	0.161	9.64
9A30046-CAL4	200	10458	0.210	9.64
9A30046-CAL5	500	35146	0.276	9.64
9A30046-CAL6	1000	69388	0.281	9.65
9A30046-CAL7	2000	164544	0.312	9.65
9A30046-CAL8	4000	358077	0.332	9.66
9A30046-CAL9	6000	550344	0.330	9.66
9A30046-CALA	8000	715275	0.329	9.67

AVE RF **0.262** RF RSD **30.01** AVE RT **9.65**

1,2-Dinitrobenzene

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

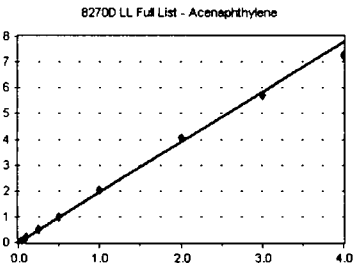


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~203~~	~~4.182~~	~~9.70~~
9A30046-CAL2	50	546	4.658	9.70
9A30046-CAL3	100	1698	7.161	9.70
9A30046-CAL4	200	4275	8.587	9.70
9A30046-CAL5	500	15598	0.122	9.70
9A30046-CAL6	1000	30555	0.124	9.70
9A30046-CAL7	2000	76738	0.145	9.71
9A30046-CAL8	4000	167602	0.155	9.72
9A30046-CAL9	6000	260513	0.156	9.73
9A30046-CALA	8000	333646	0.154	9.74

AVE RF **0.118** RF RSD **34.47** AVE RT **9.71**

Acenaphthylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	7974	1.643	9.73
9A30046-CAL2	50	22412	1.912	9.74
9A30046-CAL3	100	47041	1.984	9.73
9A30046-CAL4	200	100207	2.013	9.73
9A30046-CAL5	500	268456	2.106	9.73
9A30046-CAL6	1000	501305	2.032	9.74
9A30046-CAL7	2000	1078092	2.041	9.74
9A30046-CAL8	4000	2187965	2.029	9.74
9A30046-CAL9	6000	3178592	1.904	9.75
9A30046-CALA	8000	3948147	1.818	9.75

AVE RF **1.948** RF RSD **6.97** AVE RT **9.74**

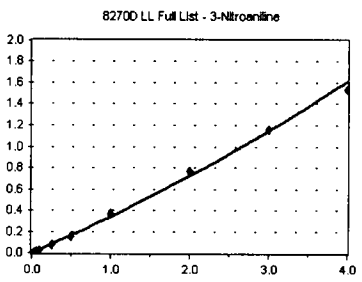
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

3-Nitroaniline

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

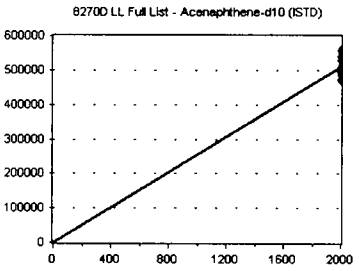


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~572~~	~~0.118~~	~~9.82~~
9A30046-CAL2	50	1785	0.152	9.82
9A30046-CAL3	100	4826	0.204	9.82
9A30046-CAL4	200	12489	0.251	9.82
9A30046-CAL5	500	40839	0.320	9.82
9A30046-CAL6	1000	75940	0.308	9.82
9A30046-CAL7	2000	193626	0.367	9.82
9A30046-CAL8	4000	413792	0.384	9.83
9A30046-CAL9	6000	645615	0.387	9.84
9A30046-CALA	8000	834824	0.384	9.85

AVE RF **0.306** RF RSD **28.22** AVE RT **9.82**

Acenaphthene-d10 (ISTD)

Curve Fit: **AVERAGE RF**

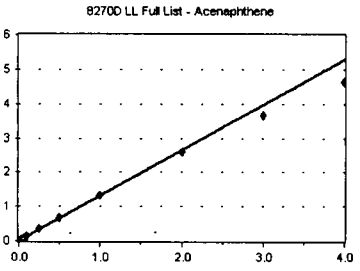


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	2000	485404	242.702	9.88
9A30046-CAL2	2000	468864	234.432	9.88
9A30046-CAL3	2000	474233	237.117	9.88
9A30046-CAL4	2000	497817	248.908	9.88
9A30046-CAL5	2000	509897	254.948	9.88
9A30046-CAL6	2000	493423	246.712	9.88
9A30046-CAL7	2000	528163	264.082	9.88
9A30046-CAL8	2000	539188	269.594	9.89
9A30046-CAL9	2000	556496	278.248	9.89
9A30046-CALA	2000	543018	271.509	9.89

AVE RF **254.825** RF RSD **6.01** AVE RT **9.88**

Acenaphthene

Curve Fit: **AVERAGE RF**

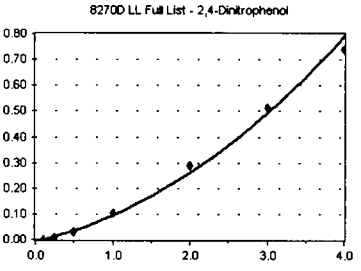


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	6866	1.414	9.91
9A30046-CAL2	50	15975	1.363	9.91
9A30046-CAL3	100	32436	1.368	9.91
9A30046-CAL4	200	67960	1.365	9.91
9A30046-CAL5	500	176086	1.381	9.91
9A30046-CAL6	1000	328378	1.331	9.91
9A30046-CAL7	2000	694436	1.315	9.91
9A30046-CAL8	4000	1394892	1.294	9.92
9A30046-CAL9	6000	2033161	1.218	9.92
9A30046-CALA	8000	2520666	1.160	9.93

AVE RF **1.321** RF RSD **5.95** AVE RT **9.91**

2,4-Dinitrophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~0~~	~~0.000~~	~~0.00~~
~~9A30046-CAL2~~	~~50~~	~~0~~	~~0.000~~	~~0.00~~
~~9A30046-CAL3~~	~~100~~	~~0~~	~~0.000~~	~~0.00~~
9A30046-CAL4	200	686	1.378	9.92
9A30046-CAL5	500	4803	0.038	9.92
9A30046-CAL6	1000	14249	5.776	9.92
9A30046-CAL7	2000	55055	0.104	9.92
9A30046-CAL8	4000	155885	0.145	9.93
9A30046-CAL9	6000	286154	0.171	9.94
9A30046-CALA	8000	400481	0.184	9.95

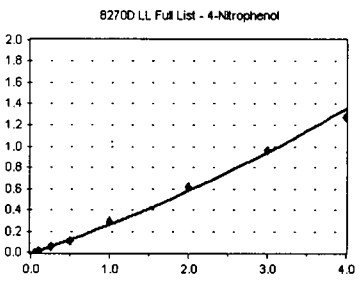
AVE RF **0.102** RF RSD **66.15** AVE RT **9.93**

Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

4-Nitrophenol

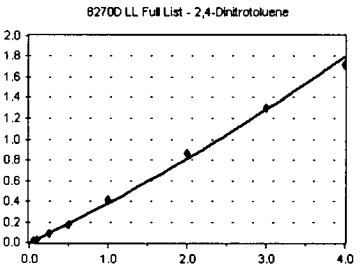


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~335~~	~~6.901~~	~~9.99~~
~~9A30046-CAL2~~	~~50~~	~~1002~~	~~8.548~~	~~9.98~~
9A30046-CAL3	100	2407	0.102	9.97
9A30046-CAL4	200	6776	0.136	9.97
9A30046-CAL5	500	27714	0.217	9.97
9A30046-CAL6	1000	55114	0.223	9.97
9A30046-CAL7	2000	153275	0.290	9.98
9A30046-CAL8	4000	332708	0.309	9.99
9A30046-CAL9	6000	535869	0.321	10.00
9A30046-CALA	8000	695415	0.320	10.01

AVE RF **0.240** RF RSD **35.58** AVE RT **9.98**

2,4-Dinitrotoluene

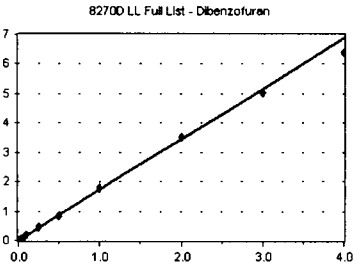


Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~575~~	~~0.118~~	~~10.05~~
~~9A30046-CAL2~~	~~50~~	~~1435~~	~~0.122~~	~~10.06~~
9A30046-CAL3	100	3832	0.162	10.05
9A30046-CAL4	200	11280	0.227	10.05
9A30046-CAL5	500	41590	0.326	10.05
9A30046-CAL6	1000	83270	0.338	10.06
9A30046-CAL7	2000	214871	0.407	10.06
9A30046-CAL8	4000	465322	0.432	10.07
9A30046-CAL9	6000	723845	0.434	10.08
9A30046-CALA	8000	930978	0.429	10.08

AVE RF **0.344** RF RSD **29.92** AVE RT **10.06**

Dibenzofuran

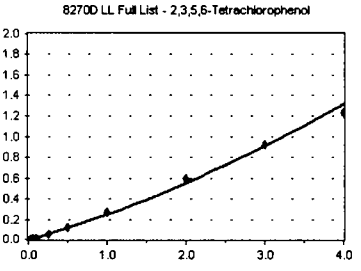


Curve Fit: **AVERAGE RF**

Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	8455	1.742	10.08
9A30046-CAL2	50	19948	1.702	10.08
9A30046-CAL3	100	40600	1.712	10.08
9A30046-CAL4	200	85176	1.711	10.08
9A30046-CAL5	500	231005	1.812	10.08
9A30046-CAL6	1000	418743	1.697	10.08
9A30046-CAL7	2000	931904	1.764	10.09
9A30046-CAL8	4000	1891403	1.754	10.09
9A30046-CAL9	6000	2796501	1.675	10.09
9A30046-CALA	8000	3482255	1.603	10.10

AVE RF **1.717** RF RSD **3.29** AVE RT **10.09**

2,3,5,6-Tetrachlorophenol



Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~340~~	~~7.004~~	~~10.16~~
9A30046-CAL2	50	1011	8.625	10.17
9A30046-CAL3	100	2714	0.114	10.16
9A30046-CAL4	200	7669	0.154	10.16
9A30046-CAL5	500	28568	0.224	10.16
9A30046-CAL6	1000	56972	0.231	10.16
9A30046-CAL7	2000	145369	0.275	10.16
9A30046-CAL8	4000	322748	0.299	10.17
9A30046-CAL9	6000	514203	0.308	10.17
9A30046-CALA	8000	669191	0.308	10.17

AVE RF **0.222** RF RSD **38.41** AVE RT **10.17**

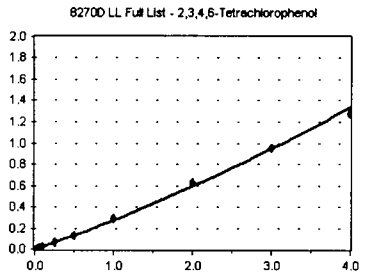
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

2,3,4,6-Tetrachlorophenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

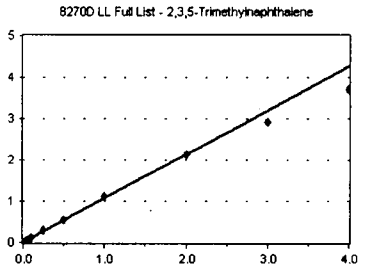


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~529~~	~~0.109~~	~~10.21~~
9A30046-CAL2	50	1812	0.155	10.21
9A30046-CAL3	100	4318	0.182	10.21
9A30046-CAL4	200	9650	0.194	10.21
9A30046-CAL5	500	33782	0.265	10.21
9A30046-CAL6	1000	64617	0.262	10.21
9A30046-CAL7	2000	156617	0.297	10.21
9A30046-CAL8	4000	339662	0.315	10.21
9A30046-CAL9	6000	530685	0.318	10.22
9A30046-CALA	8000	692769	0.319	10.22

AVE RF **0.256** RF RSD **24.93** AVE RT **10.21**

2,3,5-Trimethylnaphthalene

Curve Fit: **AVERAGE RF**

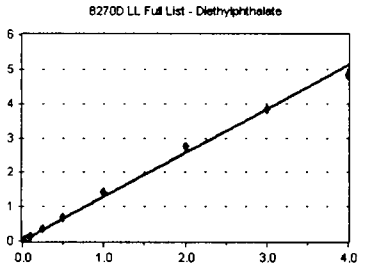


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5065	1.043	10.29
9A30046-CAL2	50	12539	1.070	10.29
9A30046-CAL3	100	25788	1.088	10.29
9A30046-CAL4	200	54877	1.102	10.29
9A30046-CAL5	500	148844	1.168	10.29
9A30046-CAL6	1000	270700	1.097	10.30
9A30046-CAL7	2000	590742	1.118	10.30
9A30046-CAL8	4000	1153744	1.070	10.30
9A30046-CAL9	6000	1629306	0.976	10.31
9A30046-CALA	8000	2005572	0.923	10.31

AVE RF **1.066** RF RSD **6.62** AVE RT **10.30**

Diethylphthalate

Curve Fit: **AVERAGE RF**

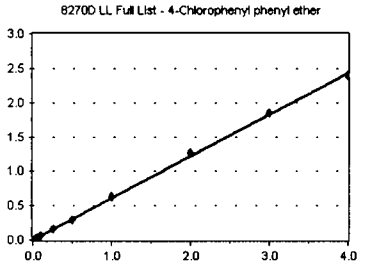


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5519	1.137	10.29
9A30046-CAL2	50	13590	1.159	10.30
9A30046-CAL3	100	27965	1.179	10.29
9A30046-CAL4	200	64179	1.289	10.29
9A30046-CAL5	500	182306	1.430	10.30
9A30046-CAL6	1000	329843	1.337	10.30
9A30046-CAL7	2000	754784	1.429	10.30
9A30046-CAL8	4000	1485515	1.378	10.31
9A30046-CAL9	6000	2138606	1.281	10.31
9A30046-CALA	8000	2624972	1.209	10.32

AVE RF **1.283** RF RSD **8.53** AVE RT **10.30**

4-Chlorophenyl phenyl ether

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	3010	0.620	10.43
9A30046-CAL2	50	6698	0.571	10.43
9A30046-CAL3	100	13730	0.579	10.43
9A30046-CAL4	200	29765	0.598	10.43
9A30046-CAL5	500	81475	0.639	10.43
9A30046-CAL6	1000	146848	0.595	10.43
9A30046-CAL7	2000	334037	0.632	10.43
9A30046-CAL8	4000	685667	0.636	10.43
9A30046-CAL9	6000	1030051	0.617	10.44
9A30046-CALA	8000	1303879	0.600	10.44

AVE RF **0.609** RF RSD **3.90** AVE RT **10.43**

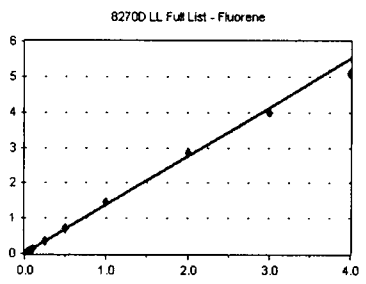
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Fluorene

Curve Fit: **AVERAGE RF**

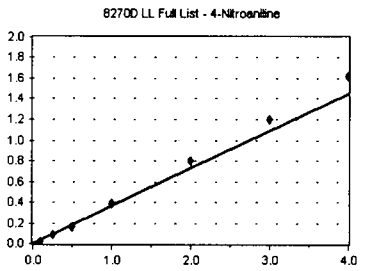


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	6383	1.315	10.44
9A30046-CAL2	50	15560	1.327	10.44
9A30046-CAL3	100	32279	1.361	10.44
9A30046-CAL4	200	69347	1.393	10.44
9A30046-CAL5	500	189023	1.483	10.44
9A30046-CAL6	1000	344351	1.396	10.44
9A30046-CAL7	2000	765816	1.450	10.44
9A30046-CAL8	4000	1531912	1.421	10.44
9A30046-CAL9	6000	2221082	1.330	10.45
9A30046-CALA	8000	2767503	1.274	10.45

AVE RF **1.375** RF RSD **4.74** AVE RT **10.44**

4-Nitroaniline

Curve Fit: **AVERAGE RF**

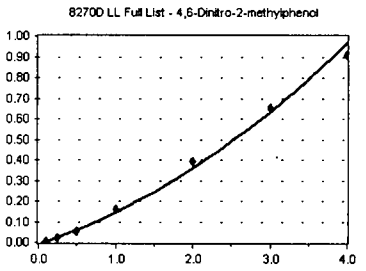


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~713~~	~~0.147~~	~~10.44~~
~~9A30046-CAL2~~	~~50~~	~~2087~~	~~0.178~~	~~10.44~~
~~9A30046-CAL3~~	~~100~~	~~5107~~	~~0.215~~	~~10.44~~
9A30046-CAL4	200	13118	0.264	10.44
9A30046-CAL5	500	45265	0.355	10.44
9A30046-CAL6	1000	79908	0.324	10.44
9A30046-CAL7	2000	207882	0.394	10.45
9A30046-CAL8	4000	430052	0.399	10.46
9A30046-CAL9	6000	669009	0.401	10.47
9A30046-CALA	8000	879385	0.405	10.49

AVE RF **0.363** RF RSD **14.62** AVE RT **10.45**

4,6-Dinitro-2-methylphenol

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

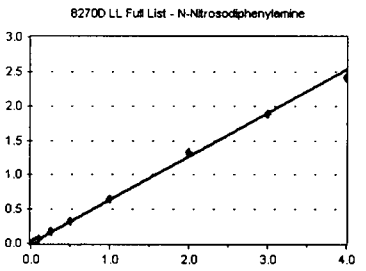


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~0~~	~~0.000~~	~~0.00~~
~~9A30046-CAL2~~	~~50~~	~~74~~	~~6.313~~	~~10.48~~
~~9A30046-CAL3~~	~~100~~	~~342~~	~~1.442~~	~~10.47~~
9A30046-CAL4	200	1644	3.302	10.47
9A30046-CAL5	500	10218	8.016	10.47
9A30046-CAL6	1000	25579	0.104	10.47
9A30046-CAL7	2000	84552	0.160	10.48
9A30046-CAL8	4000	212554	0.197	10.49
9A30046-CAL9	6000	362560	0.217	10.50
9A30046-CALA	8000	494172	0.228	10.51

AVE RF **0.146** RF RSD **51.27** AVE RT **10.49**

N-Nitrosodiphenylamine

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	4930	0.539	10.54
9A30046-CAL2	50	11920	0.606	10.54
9A30046-CAL3	100	24736	0.626	10.54
9A30046-CAL4	200	55485	0.652	10.54
9A30046-CAL5	500	159639	0.683	10.54
9A30046-CAL6	1000	278990	0.664	10.54
9A30046-CAL7	2000	652932	0.655	10.55
9A30046-CAL8	4000	1315096	0.663	10.55
9A30046-CAL9	6000	1960689	0.626	10.56
9A30046-CALA	8000	2473583	0.604	10.57

AVE RF **0.632** RF RSD **6.60** AVE RT **10.55**

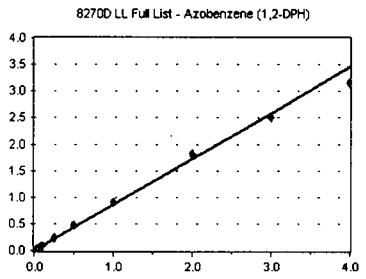
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Azobenzene (1,2-DPH)

Curve Fit: **AVERAGE RF**

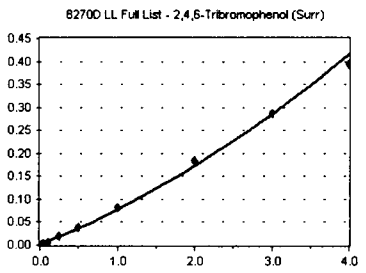


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	6350	0.694	10.59
9A30046-CAL2	50	16055	0.817	10.59
9A30046-CAL3	100	34575	0.875	10.59
9A30046-CAL4	200	76986	0.905	10.59
9A30046-CAL5	500	223701	0.957	10.59
9A30046-CAL6	1000	394223	0.938	10.59
9A30046-CAL7	2000	914026	0.917	10.59
9A30046-CAL8	4000	1800004	0.908	10.59
9A30046-CAL9	6000	2612835	0.835	10.60
9A30046-CALA	8000	3228382	0.788	10.60

AVE RF **0.863** RF RSD **9.31** AVE RT **10.59**

2,4,6-Tribromophenol (Surr)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

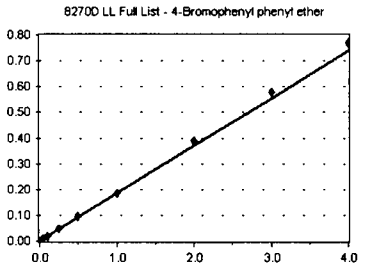


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	229	2.504	10.68
9A30046-CAL2	50	770	0.039	10.68
9A30046-CAL3	100	2028	5.130	10.68
9A30046-CAL4	200	5139	6.038	10.68
9A30046-CAL5	500	17303	7.400	10.68
9A30046-CAL6	1000	33163	7.888	10.68
9A30046-CAL7	2000	82762	8.302	10.68
9A30046-CAL8	4000	183331	9.248	10.69
9A30046-CAL9	6000	299172	0.096	10.69
9A30046-CALA	8000	403091	9.843	10.70

AVE RF **6.983** RF RSD **35.87** AVE RT **10.69**

4-Bromophenyl phenyl ether

Curve Fit: **AVERAGE RF**

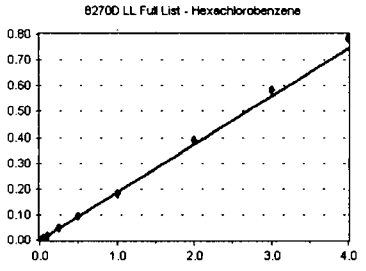


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	1566	0.171	10.93
9A30046-CAL2	50	3436	0.175	10.93
9A30046-CAL3	100	7025	0.178	10.93
9A30046-CAL4	200	15771	0.185	10.93
9A30046-CAL5	500	44122	0.189	10.92
9A30046-CAL6	1000	78242	0.186	10.93
9A30046-CAL7	2000	186018	0.187	10.93
9A30046-CAL8	4000	385860	0.195	10.93
9A30046-CAL9	6000	602434	0.192	10.93
9A30046-CALA	8000	789349	0.193	10.94

AVE RF **0.185** RF RSD **4.31** AVE RT **10.93**

Hexachlorobenzene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	1571	0.172	11.01
9A30046-CAL2	50	3548	0.180	11.01
9A30046-CAL3	100	7238	0.183	11.01
9A30046-CAL4	200	15793	0.186	11.01
9A30046-CAL5	500	42972	0.184	11.01
9A30046-CAL6	1000	79296	0.189	11.01
9A30046-CAL7	2000	182419	0.183	11.01
9A30046-CAL8	4000	387180	0.195	11.01
9A30046-CAL9	6000	606966	0.194	11.02
9A30046-CALA	8000	801760	0.196	11.03

AVE RF **0.186** RF RSD **4.03** AVE RT **11.01**

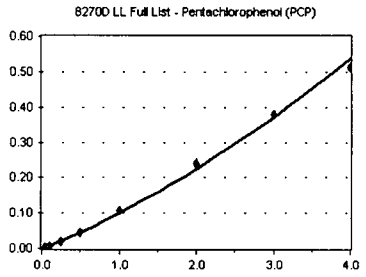
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Pentachlorophenol (PCP)

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

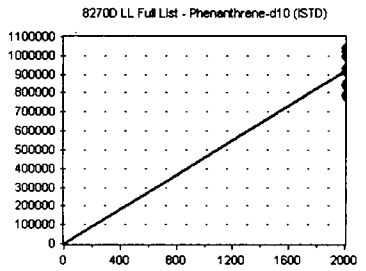


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~315~~	~~3.444~~	~~11.20~~
~~9A30046-CAL2~~	~~50~~	~~571~~	~~0.029~~	~~11.21~~
9A30046-CAL3	100	1341	3.392	11.20
9A30046-CAL4	200	4272	5.019	11.20
9A30046-CAL5	500	18186	7.778	11.20
9A30046-CAL6	1000	38085	9.059	11.20
9A30046-CAL7	2000	106556	0.107	11.20
9A30046-CAL8	4000	237575	0.120	11.21
9A30046-CAL9	6000	395292	0.126	11.21
9A30046-CALA	8000	524085	0.128	11.21

AVE RF **9.169** RF RSD **38.65** AVE RT **11.20**

Phenanthrene-d10 (ISTD)

Curve Fit: **AVERAGE RF**

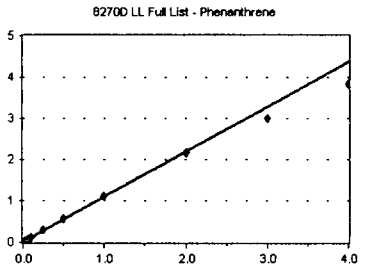


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	2000	914631	457.316	11.40
9A30046-CAL2	2000	786274	393.137	11.40
9A30046-CAL3	2000	790595	395.298	11.40
9A30046-CAL4	2000	851122	425.561	11.40
9A30046-CAL5	2000	935268	467.634	11.40
9A30046-CAL6	2000	840808	420.404	11.40
9A30046-CAL7	2000	996904	498.452	11.40
9A30046-CAL8	2000	991158	495.579	11.40
9A30046-CAL9	2000	1043364	521.682	11.40
9A30046-CALA	2000	1023802	511.901	11.41

AVE RF **458.696** RF RSD **10.46** AVE RT **11.40**

Phenanthrene

Curve Fit: **AVERAGE RF**

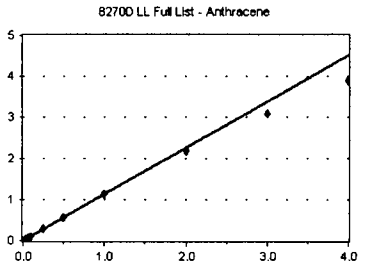


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	10388	1.136	11.42
9A30046-CAL2	50	22253	1.132	11.42
9A30046-CAL3	100	45679	1.156	11.42
9A30046-CAL4	200	96988	1.140	11.42
9A30046-CAL5	500	271509	1.161	11.42
9A30046-CAL6	1000	468364	1.114	11.42
9A30046-CAL7	2000	1092838	1.096	11.43
9A30046-CAL8	4000	2134782	1.077	11.43
9A30046-CAL9	6000	3142052	1.004	11.43
9A30046-CALA	8000	3940073	0.962	11.44

AVE RF **1.098** RF RSD **6.05** AVE RT **11.42**

Anthracene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	10748	1.175	11.47
9A30046-CAL2	50	23381	1.189	11.47
9A30046-CAL3	100	46433	1.175	11.47
9A30046-CAL4	200	99476	1.169	11.47
9A30046-CAL5	500	280169	1.198	11.47
9A30046-CAL6	1000	482023	1.147	11.47
9A30046-CAL7	2000	1119959	1.123	11.47
9A30046-CAL8	4000	2161101	1.090	11.48
9A30046-CAL9	6000	3204108	1.024	11.49
9A30046-CALA	8000	3984243	0.973	11.49

AVE RF **1.126** RF RSD **6.71** AVE RT **11.48**

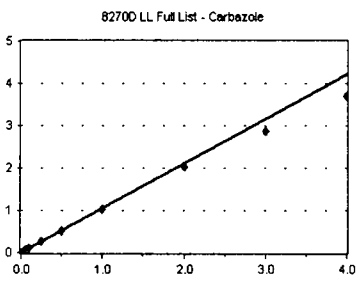
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Carbazole

Curve Fit: **AVERAGE RF**

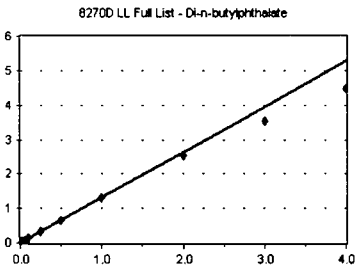


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	11056	1.209	11.63
9A30046-CAL2	50	21647	1.101	11.63
9A30046-CAL3	100	43052	1.089	11.63
9A30046-CAL4	200	91479	1.075	11.63
9A30046-CAL5	500	257322	1.101	11.63
9A30046-CAL6	1000	436227	1.038	11.63
9A30046-CAL7	2000	1032155	1.035	11.63
9A30046-CAL8	4000	2012508	1.015	11.63
9A30046-CAL9	6000	2995482	0.957	11.64
9A30046-CALA	8000	3792212	0.926	11.65

AVE RF **1.055** RF RSD **7.61** AVE RT **11.63**

Di-n-butylphthalate

Curve Fit: **AVERAGE RF**

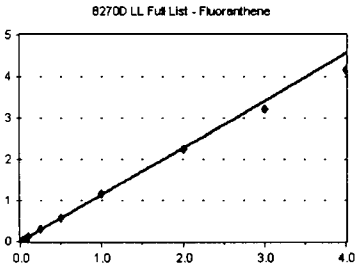


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	15373	1.681	11.97
9A30046-CAL2	50	26968	1.372	11.97
9A30046-CAL3	100	51497	1.303	11.97
9A30046-CAL4	200	111961	1.315	11.97
9A30046-CAL5	500	318442	1.362	11.97
9A30046-CAL6	1000	541942	1.289	11.97
9A30046-CAL7	2000	1296945	1.301	11.97
9A30046-CAL8	4000	2515776	1.269	11.97
9A30046-CAL9	6000	3697863	1.181	11.98
9A30046-CALA	8000	4593818	1.122	11.98

AVE RF **1.320** RF RSD **11.22** AVE RT **11.97**

Fluoranthene

Curve Fit: **AVERAGE RF**

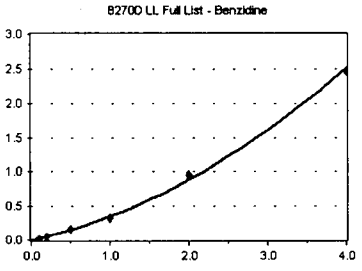


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	10781	1.179	12.74
9A30046-CAL2	50	22810	1.160	12.75
9A30046-CAL3	100	45822	1.159	12.74
9A30046-CAL4	200	98210	1.154	12.74
9A30046-CAL5	500	281703	1.205	12.74
9A30046-CAL6	1000	478274	1.138	12.75
9A30046-CAL7	2000	1147170	1.151	12.75
9A30046-CAL8	4000	2228063	1.124	12.75
9A30046-CAL9	6000	3367710	1.076	12.76
9A30046-CALA	8000	4263906	1.041	12.76

AVE RF **1.139** RF RSD **4.23** AVE RT **12.75**

Benzidine

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**



Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~40~~	~~1323~~	~~7.232~~	~~12.90~~
~~9A30046-CAL2~~	~~100~~	~~6453~~	~~0.164~~	~~12.91~~
9A30046-CAL3	200	18666	0.236	12.90
9A30046-CAL4	400	37500	0.220	12.90
9A30046-CAL5	1000	152834	0.327	12.90
9A30046-CAL6	2000	270903	0.322	12.90
9A30046-CAL7	4000	956344	0.480	12.91
9A30046-CAL8	8000	2439653	0.615	12.92
~~9A30046-CAL9~~	~~12000~~	~~3789861~~	~~0.605~~	~~12.93~~
~~9A30046-CALA~~	~~16000~~	~~4855656~~	~~0.593~~	~~12.93~~

AVE RF **0.367** RF RSD **41.65** AVE RT **12.91**

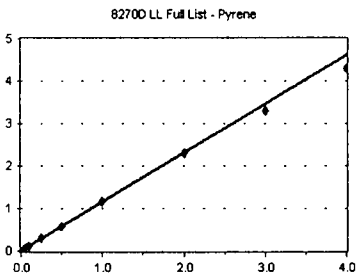
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Pyrene

Curve Fit: **AVERAGE RF**

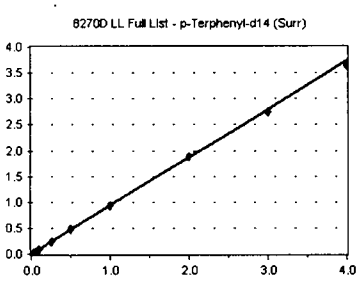


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	10777	1.178	13.06
9A30046-CAL2	50	23055	1.173	13.06
9A30046-CAL3	100	46111	1.166	13.06
9A30046-CAL4	200	100024	1.175	13.06
9A30046-CAL5	500	285718	1.222	13.06
9A30046-CAL6	1000	486318	1.157	13.06
9A30046-CAL7	2000	1167359	1.171	13.06
9A30046-CAL8	4000	2275000	1.148	13.07
9A30046-CAL9	6000	3451729	1.103	13.08
9A30046-CALA	8000	4397051	1.074	13.08

AVE RF **1.157** RF RSD **3.59** AVE RT **13.07**

p-Terphenyl-d14 (Surr)

Curve Fit: **AVERAGE RF**

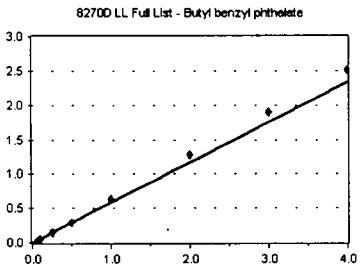


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	7570	0.891	13.28
9A30046-CAL2	50	16079	0.926	13.28
9A30046-CAL3	100	32265	0.935	13.28
9A30046-CAL4	200	69836	0.967	13.28
9A30046-CAL5	500	202060	0.963	13.28
9A30046-CAL6	1000	340885	0.964	13.28
9A30046-CAL7	2000	841709	0.932	13.28
9A30046-CAL8	4000	1664387	0.938	13.29
9A30046-CAL9	6000	2557660	0.919	13.29
9A30046-CALA	8000	3299466	0.909	13.29

AVE RF **0.934** RF RSD **2.67** AVE RT **13.28**

Butyl benzyl phthalate

Curve Fit: **AVERAGE RF**

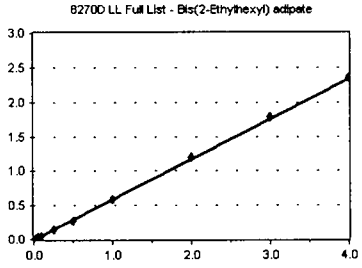


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~3108~~	~~0.366~~	~~14.15~~
~~9A30046-CAL2~~	~~50~~	~~7172~~	~~0.413~~	~~14.15~~
9A30046-CAL3	100	14773	0.428	14.16
9A30046-CAL4	200	38485	0.533	14.15
9A30046-CAL5	500	124269	0.592	14.15
9A30046-CAL6	1000	212214	0.600	14.16
9A30046-CAL7	2000	564166	0.625	14.16
9A30046-CAL8	4000	1137127	0.641	14.17
9A30046-CAL9	6000	1765700	0.634	14.18
9A30046-CALA	8000	2274562	0.627	14.18

AVE RF **0.585** RF RSD **12.35** AVE RT **14.16**

Bis(2-Ethylhexyl) adipate

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~9073~~	~~1.068~~	~~14.34~~
9A30046-CAL2	50	11698	0.674	14.34
9A30046-CAL3	100	18339	0.531	14.34
9A30046-CAL4	200	40129	0.556	14.34
9A30046-CAL5	500	118447	0.565	14.34
9A30046-CAL6	1000	197213	0.558	14.34
9A30046-CAL7	2000	522769	0.579	14.35
9A30046-CAL8	4000	1061254	0.598	14.35
9A30046-CAL9	6000	1647877	0.592	14.36
9A30046-CALA	8000	2130742	0.587	14.36

AVE RF **0.582** RF RSD **6.92** AVE RT **14.35**

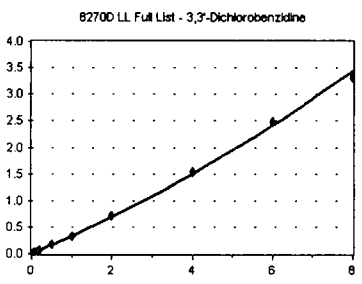
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

3,3'-Dichlorobenzidine

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

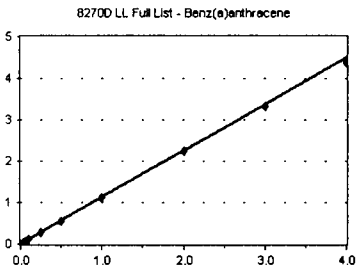


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	40	2805	0.165	15.35
9A30046-CAL2	100	8063	0.232	15.35
9A30046-CAL3	200	18339	0.266	15.34
9A30046-CAL4	400	43713	0.303	15.34
9A30046-CAL5	1000	145270	0.346	15.35
9A30046-CAL6	2000	231650	0.327	15.35
9A30046-CAL7	4000	642844	0.356	15.36
9A30046-CAL8	8000	1371474	0.386	15.38
9A30046-CAL9	12000	2297909	0.413	15.40
9A30046-CALA	16000	2995565	0.413	15.41

AVE RF **0.321** RF RSD **25.15** AVE RT **15.36**

Benz(a)anthracene

Curve Fit: **AVERAGE RF**

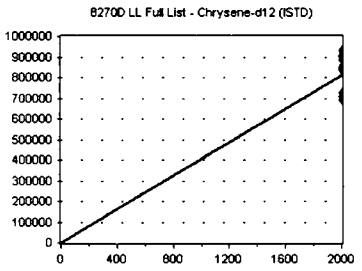


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	10870	1.280	15.39
9A30046-CAL2	50	20129	1.160	15.39
9A30046-CAL3	100	37587	1.089	15.38
9A30046-CAL4	200	79592	1.103	15.38
9A30046-CAL5	500	236770	1.129	15.39
9A30046-CAL6	1000	387630	1.096	15.39
9A30046-CAL7	2000	997082	1.104	15.40
9A30046-CAL8	4000	1987811	1.120	15.41
9A30046-CAL9	6000	3081071	1.107	15.42
9A30046-CALA	8000	3973101	1.094	15.43

AVE RF **1.128** RF RSD **5.07** AVE RT **15.40**

Chrysene-d12 (ISTD)

Curve Fit: **AVERAGE RF**

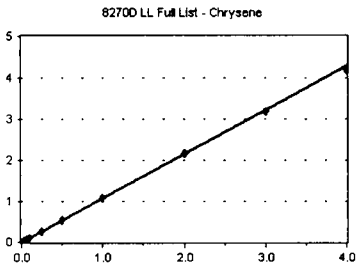


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	2000	849263	424.632	15.42
9A30046-CAL2	2000	694365	347.183	15.41
9A30046-CAL3	2000	690491	345.246	15.41
9A30046-CAL4	2000	721909	360.954	15.41
9A30046-CAL5	2000	839042	419.521	15.42
9A30046-CAL6	2000	707423	353.712	15.42
9A30046-CAL7	2000	902831	451.416	15.42
9A30046-CAL8	2000	887261	443.631	15.43
9A30046-CAL9	2000	927852	463.926	15.44
9A30046-CALA	2000	907570	453.785	15.45

AVE RF **406.400** RF RSD **12.04** AVE RT **15.42**

Chrysene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	9138	1.076	15.47
9A30046-CAL2	50	18408	1.060	15.46
9A30046-CAL3	100	36919	1.069	15.47
9A30046-CAL4	200	77934	1.080	15.47
9A30046-CAL5	500	232271	1.107	15.47
9A30046-CAL6	1000	381765	1.079	15.48
9A30046-CAL7	2000	973945	1.079	15.49
9A30046-CAL8	4000	1929550	1.087	15.50
9A30046-CAL9	6000	2949203	1.060	15.51
9A30046-CALA	8000	3809563	1.049	15.52

AVE RF **1.075** RF RSD **1.52** AVE RT **15.48**

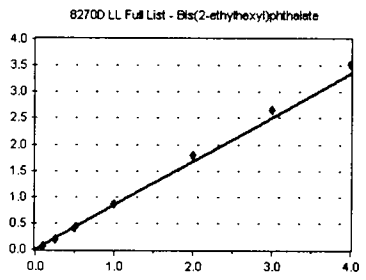
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Bis(2-ethylhexyl)phthalate

Curve Fit: **AVERAGE RF**

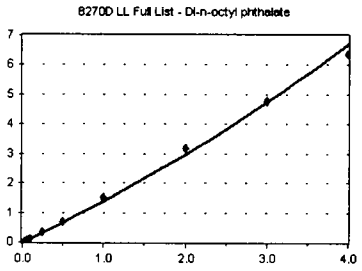


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~3944~~	~~0.464~~	~~15.54~~
~~9A30046-CAL2~~	~~50~~	~~8608~~	~~0.496~~	~~15.54~~
~~9A30046-CAL3~~	~~100~~	~~19228~~	~~0.557~~	~~15.55~~
9A30046-CAL4	200	50647	0.702	15.54
9A30046-CAL5	500	168525	0.803	15.54
9A30046-CAL6	1000	289406	0.818	15.54
9A30046-CAL7	2000	783437	0.868	15.55
9A30046-CAL8	4000	1587394	0.895	15.56
9A30046-CAL9	6000	2465950	0.886	15.56
9A30046-CALA	8000	3197212	0.881	15.57

AVE RF **0.836** RF RSD **8.23** AVE RT **15.55**

Di-n-octyl phthalate

Curve Fit: **QUADRATIC: Weighting: (1/a^2), Origin: Ignore**

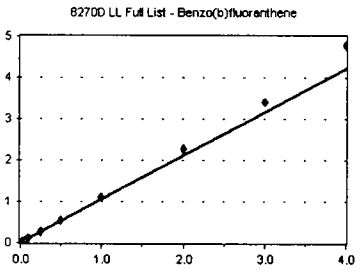


Standard	Concentration	Response	Response Factor	RT
~~9A30046-CAL1~~	~~20~~	~~3881~~	~~0.504~~	~~17.24~~
9A30046-CAL2	50	9748	0.636	17.24
9A30046-CAL3	100	21395	0.699	17.23
9A30046-CAL4	200	63652	0.991	17.23
9A30046-CAL5	500	245753	1.292	17.24
9A30046-CAL6	1000	421456	1.338	17.24
9A30046-CAL7	2000	1248768	1.504	17.24
9A30046-CAL8	4000	2594376	1.589	17.25
9A30046-CAL9	6000	4069870	1.585	17.26
9A30046-CALA	8000	5278776	1.585	17.27

AVE RF **1.247** RF RSD **30.56** AVE RT **17.24**

Benzo(b)fluoranthene

Curve Fit: **AVERAGE RF**

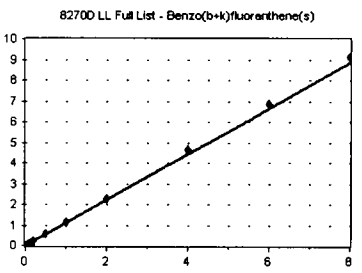


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	6730	0.874	18.02
9A30046-CAL2	50	14286	0.932	18.02
9A30046-CAL3	100	29112	0.952	18.02
9A30046-CAL4	200	66187	1.030	18.02
9A30046-CAL5	500	209622	1.102	18.02
9A30046-CAL6	1000	343841	1.091	18.02
9A30046-CAL7	2000	927026	1.116	18.03
9A30046-CAL8	4000	1854491	1.136	18.05
9A30046-CAL9	6000	2914506	1.135	18.06
9A30046-CALA	8000	3991347	1.199	18.08

AVE RF **1.057** RF RSD **9.99** AVE RT **18.03**

Benzo(b+k)fluoranthene(s)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	40	15677	1.018	18.09
9A30046-CAL2	100	31983	1.043	18.02
9A30046-CAL3	200	63728	1.041	18.08
9A30046-CAL4	400	141743	1.103	18.02
9A30046-CAL5	1000	437476	1.150	18.09
9A30046-CAL6	2000	717329	1.138	18.09
9A30046-CAL7	4000	1906416	1.148	18.10
9A30046-CAL8	8000	3805265	1.166	18.12
9A30046-CAL9	12000	5886892	1.146	18.14
9A30046-CALA	16000	7617275	1.144	18.15

AVE RF **1.110** RF RSD **4.95** AVE RT **18.09**

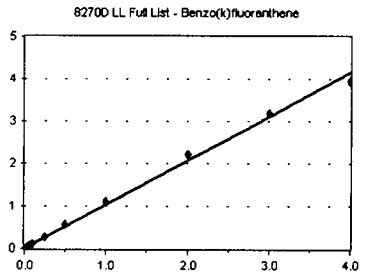
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Benzo(k)fluoranthene

Curve Fit: **AVERAGE RF**

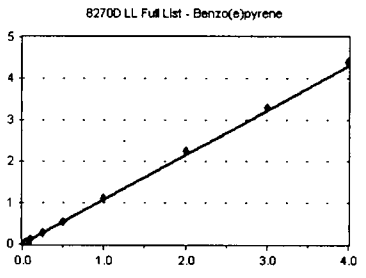


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	7026	0.912	18.09
9A30046-CAL2	50	14559	0.950	18.09
9A30046-CAL3	100	29589	0.967	18.08
9A30046-CAL4	200	67887	1.057	18.09
9A30046-CAL5	500	210325	1.106	18.09
9A30046-CAL6	1000	349392	1.109	18.09
9A30046-CAL7	2000	931062	1.121	18.10
9A30046-CAL8	4000	1814554	1.112	18.12
9A30046-CAL9	6000	2736373	1.065	18.14
9A30046-CALA	8000	3282962	0.986	18.15

AVE RF **1.038** RF RSD **7.49** AVE RT **18.10**

Benzo(e)pyrene

Curve Fit: **AVERAGE RF**

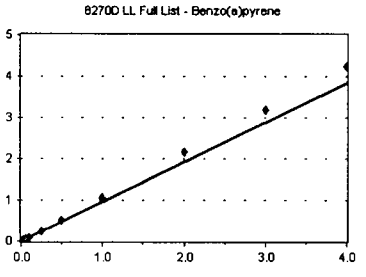


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	7648	0.993	18.68
9A30046-CAL2	50	15484	1.010	18.67
9A30046-CAL3	100	31282	1.022	18.67
9A30046-CAL4	200	68515	1.066	18.67
9A30046-CAL5	500	211572	1.112	18.68
9A30046-CAL6	1000	347001	1.101	18.68
9A30046-CAL7	2000	912421	1.099	18.70
9A30046-CAL8	4000	1835807	1.125	18.72
9A30046-CAL9	6000	2825299	1.100	18.73
9A30046-CALA	8000	3659927	1.099	18.74

AVE RF **1.073** RF RSD **4.41** AVE RT **18.69**

Benzo(a)pyrene

Curve Fit: **AVERAGE RF**

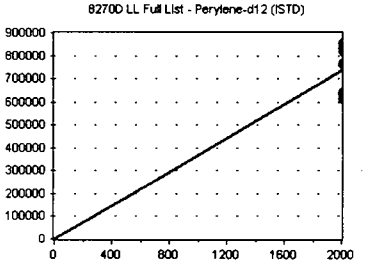


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5806	0.754	18.80
9A30046-CAL2	50	12367	0.807	18.80
9A30046-CAL3	100	25304	0.827	18.80
9A30046-CAL4	200	58935	0.917	18.80
9A30046-CAL5	500	193455	1.017	18.80
9A30046-CAL6	1000	319982	1.016	18.80
9A30046-CAL7	2000	875788	1.055	18.82
9A30046-CAL8	4000	1767067	1.083	18.84
9A30046-CAL9	6000	2720886	1.059	18.86
9A30046-CALA	8000	3529245	1.060	18.87

AVE RF **0.959** RF RSD **12.80** AVE RT **18.82**

Perylene-d12 (ISTD)

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	2000	770351	385.176	18.95
9A30046-CAL2	2000	613296	306.648	18.95
9A30046-CAL3	2000	611891	305.945	18.95
9A30046-CAL4	2000	642441	321.220	18.95
9A30046-CAL5	2000	760928	380.464	18.95
9A30046-CAL6	2000	630113	315.057	18.95
9A30046-CAL7	2000	830313	415.157	18.96
9A30046-CAL8	2000	816129	408.064	18.97
9A30046-CAL9	2000	856100	428.050	18.97
9A30046-CALA	2000	832510	416.255	18.98

AVE RF **368.204** RF RSD **13.68** AVE RT **18.96**

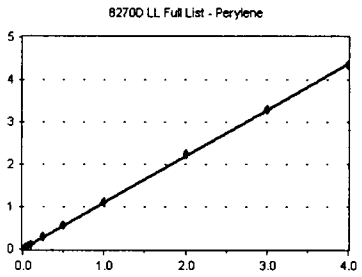
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Perylene

Curve Fit: **AVERAGE RF**

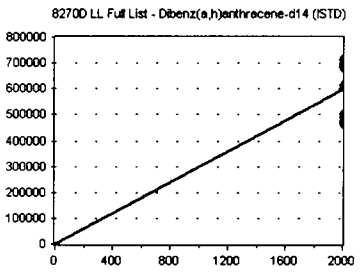


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	7762	1.008	19.00
9A30046-CAL2	50	16978	1.107	19.01
9A30046-CAL3	100	33514	1.095	19.01
9A30046-CAL4	200	70185	1.092	19.00
9A30046-CAL5	500	216816	1.140	19.01
9A30046-CAL6	1000	350972	1.114	19.01
9A30046-CAL7	2000	918814	1.107	19.02
9A30046-CAL8	4000	1826834	1.119	19.04
9A30046-CAL9	6000	2815058	1.096	19.06
9A30046-CALA	8000	3618955	1.087	19.08

AVE RF **1.097** RF RSD **3.18** AVE RT **19.02**

Dibenz(a,h)anthracene-d14 (ISTD)

Curve Fit: **AVERAGE RF**

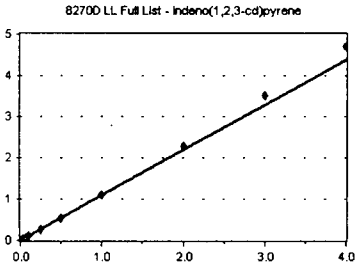


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	2000	614628	307.314	21.35
9A30046-CAL2	2000	475223	237.612	21.35
9A30046-CAL3	2000	467911	233.955	21.35
9A30046-CAL4	2000	493160	246.580	21.35
9A30046-CAL5	2000	615052	307.526	21.35
9A30046-CAL6	2000	502143	251.072	21.35
9A30046-CAL7	2000	698997	349.498	21.36
9A30046-CAL8	2000	692377	346.188	21.37
9A30046-CAL9	2000	715157	357.578	21.39
9A30046-CALA	2000	683312	341.656	21.40

AVE RF **297.898** RF RSD **17.04** AVE RT **21.36**

Indeno(1,2,3-cd)pyrene

Curve Fit: **AVERAGE RF**

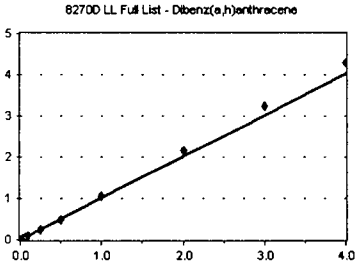


Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	6544	1.065	21.34
9A30046-CAL2	50	12358	1.040	21.34
9A30046-CAL3	100	24570	1.050	21.34
9A30046-CAL4	200	51991	1.054	21.34
9A30046-CAL5	500	166318	1.082	21.35
9A30046-CAL6	1000	270568	1.078	21.35
9A30046-CAL7	2000	772179	1.105	21.37
9A30046-CAL8	4000	1577648	1.139	21.39
9A30046-CAL9	6000	2513172	1.171	21.41
9A30046-CALA	8000	3220620	1.178	21.42

AVE RF **1.096** RF RSD **4.60** AVE RT **21.36**

Dibenz(a,h)anthracene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5352	0.871	21.41
9A30046-CAL2	50	11253	0.947	21.41
9A30046-CAL3	100	22041	0.942	21.41
9A30046-CAL4	200	48121	0.976	21.41
9A30046-CAL5	500	156689	1.019	21.41
9A30046-CAL6	1000	250339	0.997	21.41
9A30046-CAL7	2000	733789	1.050	21.43
9A30046-CAL8	4000	1499940	1.083	21.44
9A30046-CAL9	6000	2316997	1.080	21.47
9A30046-CALA	8000	2936332	1.074	21.48

AVE RF **1.004** RF RSD **7.04** AVE RT **21.43**

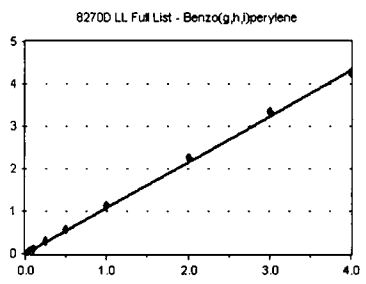
Element Calibration Review Sheet

Calibration ID: **A9A3103** Instrument: **SV-GCMS5** Calibration Date: **01/31/2019**

Analysis: **8270D LL Full List** Instrument Cal ID: **A9A3103**

Benzo(g,h,i)perylene

Curve Fit: **AVERAGE RF**



Standard	Concentration	Response	Response Factor	RT
9A30046-CAL1	20	5584	0.909	21.88
9A30046-CAL2	50	12123	1.020	21.88
9A30046-CAL3	100	24346	1.041	21.88
9A30046-CAL4	200	53734	1.090	21.89
9A30046-CAL5	500	175449	1.141	21.89
9A30046-CAL6	1000	285618	1.138	21.89
9A30046-CAL7	2000	791021	1.132	21.91
9A30046-CAL8	4000	1580720	1.142	21.93
9A30046-CAL9	6000	2394723	1.116	21.95
9A30046-CALA	8000	2911992	1.065	21.96

AVE RF **1.079** RF RSD **6.88** AVE RT **21.91**

Compound List Report SV-GCMS5

Method Path : C:\msdchem\1\METHODS\
Method File : SV5_013019.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Thu Jan 31 10:44:49 2019
Response Via : Initial Calibration

GK 1/31/19

Total Cpnds : 97

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-Dichlorobenzene-d4 (ISTD)	152	6.848	1.000	A	2	A	R
2	T	N-Nitrosodimethylamine	74	4.387	0.641	A	2	A	R
3	T	Pyridine	79	4.424	0.646	A	2	A	R
4	S	2-Fluorophenol (Surr)	112	5.628	0.822	A	1	A	R
5	S	Phenol-d6(Surr)	99	6.473	0.945	A	2	A	R
6	T	Phenol	94	6.489	0.948	A	2	A	R
7	T	Aniline	93	6.531	0.954	A	2	A	R
8	T	Bis(2-chloroethyl) ether	93	6.580	0.961	A	2	A	R
9	T	2-Chlorophenol	128	6.650	0.971	A	2	A	R
10	T	1,3-Dichlorobenzene	146	6.799	0.993	A	2	A	R
11	T	1,4-Dichlorobenzene	146	6.864	1.002	A	2	A	R
12	T	Benzyl alcohol	108	6.965	1.017	A	2	A	R
13	T	1,2-Dichlorobenzene	146	7.013	1.024	A	2	A	R
14	T	2-Methylphenol	107	7.067	1.032	A	2	A	R
15	T	2,2'-Oxybis(1-Chloropropane)	45	7.099	1.037	A	2	A	R
16	T	N-Nitrosodi-n-propylamine	70	7.222	1.055	A	2	A	R
17	T	3+4-Methylphenol	107	7.211	1.053	A	3	A	R
18	T	Hexachloroethane	117	7.345	1.073	A	2	A	R
19	S	Nitrobenzene-d5 (Surr)	82	7.377	1.077	A	2	A	R
20	T	Nitrobenzene	77	7.398	1.080	A	2	A	R
21	I	Naphthalene-d8 (ISTD)	136	8.099	1.000	A	1	A	R
22	T	Isophorone	82	7.628	0.942	A	2	A	R
23	T	2-Nitrophenol	139	7.713	0.952	Q 1/a2	2	A	R
24	T	2,4-Dimethylphenol	122	7.740	0.956	A	2	A	R
25	T	Bis(2-chloroethoxy) methane	93	7.832	0.967	A	2	A	R
26	T	Benzoic acid	105	7.815	0.965	Q 1/a2	2	A	R
27	T	2,4-Dichlorophenol	162	7.949	0.981	A	2	A	R
28	T	1,2,4-Trichlorobenzene	180	8.040	0.993	A	2	A	R
29	T	Naphthalene	128	8.120	1.003	A	1	A	R
30	T	4-Chloroaniline	127	8.163	1.008	A	2	A	R
31	T	Hexachlorobutadiene	225	8.243	1.018	A	2	A	R
32	T	4-Chloro-3-methylphenol	107	8.633	1.066	Q 1/a2	2	A	R
33	T	2-Methylnaphthalene	142	8.816	1.088	A	2	A	R
34	T	1-Methylnaphthalene	142	8.917	1.101	A	2	A	R
35	I	Acenaphthene-d10 (ISTD)	162	9.880	1.000	A	2	A	R
36	T	Hexachlorocyclopentadiene	237	8.982	0.909	A	2	A	R
37	T	2,4,6-Trichlorophenol	196	9.094	0.920	Q 1/a2	2	A	R
38	T	2,4,5-Trichlorophenol	196	9.131	0.924	Q 1/a2	2	A	R
39	T	1,1'-Biphenyl	154	9.281	0.939	A	2	A	R
40	S	2-Fluorobiphenyl (Surr)	172	9.180	0.929	A	2	A	R
41	T	2-Chloronaphthalene	162	9.308	0.942	A	2	A	R
42	T	2-Nitroaniline	138	9.404	0.952	Q 1/a2	2	A	R
43	T	2,6-Dimethylnaphthalene	156	9.447	0.956	A	2	A	R
44	T	1,4-Dinitrobenzene	168	9.532	0.965	Q 1/a2	2	A	R
45	T	Dimethyl phthalate	163	9.581	0.970	A	2	A	R
46	T	1,3-Dinitrobenzene	168	9.612	0.973	Q 1/a2	2	A	R
47	T	2,6-Dinitrotoluene	165	9.644	0.976	Q 1/a2	2	A	R
48	T	1,2-Dinitrobenzene	168	9.703	0.982	Q 1/a2	2	A	R
49	T	Acenaphthylene	152	9.736	0.985	A 1/a2	2	A	R
50	T	3-Nitroaniline	138	9.816	0.994	Q 1/a2	2	A	R
51	T	Acenaphthene	153	9.912	1.003	A 1/a2	2	A	R
52	T	2,4-Dinitrophenol	184	9.922	1.004	Q 1/a2	2	A	R
53	T	4-Nitrophenol	139	9.971	1.009	Q 1/a2	2	A	R

54	T	2,4-Dinitrotoluene	165	10.056	1.018	Q	1/a2	2	A	R
55	T	Dibenzofuran	168	10.083	1.021	A		2	A	R
56	T	2,3,5,6-Tetrachlorophenol	232	10.163	1.029	Q	1/a2	2	A	R
57	T	2,3,4,6-Tetrachlorophenol	232	10.206	1.033	Q	1/a2	2	A	R
58	T	Diethyl phthalate	149	10.297	1.042	A		2	A	R
59	T	2,3,5-Trimethylnaphthalene	170	10.297	1.042	A		2	A	R
60	T	Fluorene	166	10.436	1.056	A		2	A	R
61	T	4-Chlorophenyl phenyl ether	204	10.426	1.055	A		2	A	R
62	T	4-Nitroaniline	138	10.441	1.057	A		2	A	R
63	T	4,6-Dinitro-2-methylphenol	198	10.473	1.060	Q	1/a2	2	A	R
64	I	Phenanthrene-d10 (ISTD)	188	11.399	1.000	A		2	A	R
65	T	N-Nitrosodiphenylamine	169	10.543	0.925	A		2	A	R
66	T	Azobenzene (1,2-DPH)	77	10.586	0.929	A		2	A	R
67	S	2,4,6-Tribromophenol (Surr)	330	10.682	0.937	Q	1/a2	2	A	R
68	T	4-Bromophenyl phenyl ether	248	10.929	0.959	A		2	A	R
69	T	Hexachlorobenzene	284	11.009	0.966	A		2	A	R
70	T	Pentachlorophenol (PCP)	266	11.201	0.983	Q	1/a2	2	A	R
71	T	Phenanthrene	178	11.421	1.002	A		2	A	R
72	T	Anthracene	178	11.474	1.007	A		2	A	R
73	T	Carbazole	167	11.629	1.020	A		2	A	R
74	T	Di-n-butyl phthalate	149	11.972	1.050	A		2	A	R
75	T	Fluoranthene	202	12.747	1.118	A	1/a2	2	A	R
76	T	Benzidine	184	12.902	1.132	Q		2	A	R
77	T	Pyrene	202	13.063	1.146	A		2	A	R
78	I	Chrysene-d12 (ISTD)	240	15.416	1.000	A		2	A	R
79	S	Terphenyl-d14 (Surr)	244	13.277	0.861	A		2	A	R
80	T	Butyl benzyl phthalate	149	14.159	0.918	A		2	A	R
81	T	Bis(2-ethylhexyl) adipate	129	14.340	0.930	A	1/a2	2	A	R
82	T	3,3-Dichlorobenzidine	252	15.347	0.995	Q		2	A	R
83	T	Benz(a)anthracene	228	15.389	0.998	A		2	A	R
84	T	Chrysene	228	15.475	1.004	A		2	A	R
85	T	Bis(2-ethylhexyl) phthalate	149	15.544	1.008	A		2	A	R
86	I	Perylene-d12 (ISTD)	264	18.951	1.000	A	1/a2	2	A	R
87	T	Di-n-octyl phthalate	149	17.234	0.909	Q		2	A	R
88	T	Benzo(b)fluoranthene	252	18.020	0.951	A		2	A	R
89	T	Benzo(k)fluoranthene	252	18.090	0.955	A		2	A	R
90	T	Benzo(b+k)fluoranthene	252	18.090	0.955	A		2	A	R
91	T	Benzo(e)pyrene	252	18.679	0.986	A		2	A	R
92	T	Benzo(a)pyrene	252	18.801	0.992	A		2	A	R
93	T	Perylene	252	19.010	1.003	A		2	A	B
94	I	Dibenz(a,h)Anthrcene-d14 (I...	292	21.348	1.000	A		1	A	R
95	T	Indeno(1,2,3-cd)pyrene	276	21.348	1.000	A		1	A	R
96	T	Dibenz(a,h)anthracene	278	21.412	1.003	A		2	A	R
97	T	Benzo(g,h,i)perylene	276	21.893	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

SV5_013019.M Thu Jan 31 11:54:33 2019

Response Factor Report SV-GCMS5

Method Path : C:\msdchem\1\METHODS\
Method File : SV5_013019.M
Title : EPA 8270D: Semivolatile Organics
Last Update : Thu Jan 31 10:44:49 2019
Response Via : Initial Calibration

1/31/19

Calibration Files
20 =E01301914.D 50 =E01301915.D 100 =E01301916.D 200 =E01301917.D 500 =E01301918.D 1000=E01301919.D 2000=E01301920.D
4000=E01301921.D 6000=E01301922.D 8000=E01301923.D

		Compound	20	50	100	200	500	1000	2000	4000	6000	8000	Avg	%RSD
1)	I	1,4-Dichlorobenzen...	ISTD											7.53
2)	T	N-Nitrosodimet...	0.878	0.849	0.880	0.915	0.975	0.954	0.976	1.013	1.000	0.999	0.944	6.24
3)	T	Pyridine			1.300	1.427	1.475	1.575	1.537	1.564	1.654	1.623	1.602	1.528	7.27
4)	S	2-Fluorophenol...	1.010	1.105	1.193	1.229	1.313	1.299	1.291	1.352	1.343	1.332	1.247	9.11
5)	S	Phenol-d6(Surr)	1.309	1.562	1.661	1.650	1.767	1.706	1.761	1.794	1.752	1.718	1.668	8.62
6)	T	Phenol	1.353	1.675	1.793	1.752	1.819	1.764	1.808	1.869	1.843	1.799	1.748	8.49
7)	T	Aniline			2.152	2.242	2.188	2.259	2.213	2.326	2.380	2.394	2.343	2.277	3.81
8)	T	Bis(2-chloroet...	1.480	1.395	1.377	1.454	1.492	1.435	1.433	1.489	1.395	1.334	1.428	3.68
9)	T	2-Chlorophenol	0.998	1.189	1.260	1.303	1.378	1.347	1.381	1.424	1.416	1.391	1.309	10.08
10)	T	1,3-Dichlorobe...	1.476	1.515	1.519	1.516	1.544	1.485	1.478	1.500	1.475	1.450	1.496	1.87
11)	T	1,4-Dichlorobe...	1.449	1.496	1.558	1.541	1.575	1.506	1.506	1.527	1.496	1.460	1.511	2.64
12)	T	Benzyl alcohol			0.613	0.696	0.747	0.838	0.837	0.902	0.940	0.955	0.931	0.829	14.47
13)	T	1,2-Dichlorobe...	1.380	1.434	1.476	1.448	1.477	1.424	1.418	1.448	1.422	1.390	1.432	2.25
14)	T	2-Methylphenol	0.888	0.974	1.080	1.074	1.156	1.107	1.154	1.182	1.155	1.114	1.088	8.49
15)	T	2,2'-Oxybis(1-...	2.200	2.388	2.391	2.331	2.389	2.276	2.268	2.261	2.138	2.011	2.265	5.43
16)	T	N-Nitrosodi-n-...	0.902	0.974	1.041	1.063	1.150	1.086	1.143	1.172	1.107	1.068	1.071	7.74
17)	T	3+4-Methylphenol	1.045	1.257	1.317	1.328	1.484	1.407	1.495	1.527	1.472	1.416	1.375	10.56
18)	T	Hexachloroethane	0.510	0.548	0.571	0.559	0.572	0.559	0.559	0.576	0.568	0.558	0.558	3.35
19)	S	Nitrobenzene-d...			1.108	1.262	1.339	1.655	1.470	1.717	1.630	1.736	1.541	1.495	14.62
20)	T	Nitrobenzene	1.145	1.216	1.344	1.422	1.554	1.492	1.573	1.614	1.568	1.514	1.444	11.11
21)	I	Naphthalene-d8 (ISTD)	ISTD											2.56
22)	T	Isophorone	0.516	0.628	0.650	0.676	0.727	0.715	0.727	0.749	0.728	0.709	0.683	10.26
23)	T	2-Nitrophenol			0.086	0.099	0.115	0.145	0.153	0.164	0.178	0.180	0.180	0.144	25.03
24)	T	2,4-Dimethylph...			0.275	0.278	0.288	0.311	0.307	0.313	0.312	0.314	0.296	0.299	5.22
25)	T	Bis(2-chloroet...	0.402	0.435	0.433	0.430	0.451	0.434	0.438	0.443	0.424	0.404	0.429	3.66
26)	T	Benzoic acid					0.009	0.043	0.089	0.140	0.178	0.228	0.239	0.132	67.48
27)	T	2,4-Dichloroph...			0.178	0.189	0.206	0.238	0.236	0.252	0.263	0.265	0.260	0.232	14.18
28)	T	1,2,4-Trichlor...	0.261	0.296	0.285	0.282	0.282	0.276	0.273	0.278	0.275	0.271	0.278	3.41
29)	T	Naphthalene	1.129	1.152	1.094	1.084	1.101	1.063	1.049	1.043	1.002	0.953	1.067	5.54
30)	T	4-Chloroaniline	0.282	0.333	0.355	0.351	0.367	0.357	0.398	0.420	0.411	0.402	0.367	11.43
31)	T	Hexachlorobuta...	0.122	0.140	0.137	0.135	0.138	0.139	0.135	0.139	0.138	0.136	0.136	3.72
32)	T	4-Chloro-3-met...			0.132	0.171	0.197	0.249	0.250	0.282	0.301	0.298	0.291	0.241	25.28
33)	T	2-Methylnaphth...	0.657	0.681	0.673	0.676	0.700	0.673	0.685	0.690	0.655	0.621	0.671	3.33
34)	T	1-Methylnaphth...	0.647	0.658	0.649	0.646	0.674	0.644	0.649	0.655	0.619	0.585	0.643	3.82
35)	I	Acenaphthene-d10 (...	ISTD											6.01
36)	T	Hexachlorocycl...	0.185	0.208	0.225	0.246	0.273	0.278	0.291	0.287	0.293	0.280	0.257	14.99
37)	T	2,4,6-Trichlor...	0.155	0.182	0.228	0.254	0.310	0.314	0.351	0.358	0.370	0.357	0.288	27.15
38)	T	2,4,5-Trichlor...	0.145	0.223	0.255	0.260	0.318	0.324	0.347	0.370	0.367	0.372	0.298	25.32

Method Path : C:\msdchem\1\METHODS\
Method File : SV5_013019.M
Title : EPA 8270D: Semivolatile Organics

39)	T	1,1'-Biphenyl	1.734	1.799	1.804	1.778	1.809	1.734	1.722	1.683	1.573	1.473	1.711	6.40
40)	S	2-Fluorobiphen...	1.465	1.543	1.556	1.550	1.559	1.507	1.490	1.465	1.404	1.335	1.487	4.93
41)	T	2-Chloronaphth...	1.252	1.268	1.285	1.270	1.285	1.226	1.232	1.220	1.180	1.137	1.235	3.86
42)	T	2-Nitroaniline			0.197	0.242	0.344	0.362	0.426	0.457	0.466	0.467	0.370	28.24
43)	T	2,6-Dimethylna...	1.142	1.216	1.238	1.240	1.269	1.234	1.224	1.200	1.122	1.069	1.195	5.30
44)	T	1,4-Dinitroben...			0.053	0.074	0.118	0.134	0.177	0.202	0.212	0.216	0.148	42.68
45)	T	Dimethyl phtha...	1.117	1.112	1.179	1.266	1.373	1.312	1.368	1.406	1.362	1.340	1.284	8.57
46)	T	1,3-Dinitroben...			0.073	0.107	0.165	0.175	0.216	0.234	0.239	0.242	0.181	35.16
47)	T	2,6-Dinitrotol...		0.123	0.161	0.210	0.276	0.281	0.312	0.332	0.330	0.329	0.262	30.01
48)	T	1,2-Dinitroben...		0.047	0.072	0.086	0.122	0.124	0.145	0.155	0.156	0.154	0.118	34.47
49)	T	Acenaphthylene	1.643	1.912	1.984	2.013	2.106	2.032	2.041	2.029	1.904	1.818	1.948	6.97
50)	T	3-Nitroaniline		0.152	0.204	0.251	0.320	0.308	0.367	0.384	0.387	0.384	0.306	28.22
51)	T	Acenaphthene	1.414	1.363	1.368	1.365	1.381	1.331	1.315	1.294	1.218	1.160	1.321	5.95
52)	T	2,4-Dinitrophenol				0.014	0.038	0.058	0.104	0.145	0.171	0.184	0.102	66.15
53)	T	4-Nitrophenol			0.102	0.136	0.217	0.223	0.290	0.309	0.321	0.320	0.240	35.58
54)	T	2,4-Dinitrotol...			0.162	0.227	0.326	0.338	0.407	0.432	0.434	0.429	0.344	29.92
55)	T	Dibenzofuran	1.742	1.702	1.712	1.711	1.812	1.697	1.764	1.754	1.675	1.603	1.717	3.29
56)	T	2,3,5,6-Tetrac...		0.086	0.114	0.154	0.224	0.231	0.275	0.299	0.308	0.308	0.222	38.41
57)	T	2,3,4,6-Tetrac...		0.155	0.182	0.194	0.265	0.262	0.297	0.315	0.318	0.319	0.256	24.93
58)	T	Diethyl phthalate	1.137	1.159	1.179	1.289	1.430	1.337	1.429	1.378	1.281	1.209	1.283	8.53
59)	T	2,3,5-Trimethy...	1.043	1.070	1.088	1.102	1.168	1.097	1.118	1.070	0.976	0.923	1.066	6.62
60)	T	Fluorene	1.315	1.327	1.361	1.393	1.483	1.396	1.450	1.421	1.330	1.274	1.375	4.74
61)	T	4-Chlorophenyl...	0.620	0.571	0.579	0.598	0.639	0.595	0.632	0.636	0.617	0.600	0.609	3.90
62)	T	4-Nitroaniline				0.264	0.355	0.324	0.394	0.399	0.401	0.405	0.363	14.62
63)	T	4,6-Dinitro-2-...				0.033	0.080	0.104	0.160	0.197	0.217	0.228	0.146	51.27
														10.46
64)	I	Phenanthrene-d10 (...	----------	----------	ISTD	----------	----------							
65)	T	N-Nitrosodiphe...	0.539	0.606	0.626	0.652	0.683	0.664	0.655	0.663	0.626	0.604	0.632	6.60
66)	T	Azobenzene (1,...	0.694	0.817	0.875	0.905	0.957	0.938	0.917	0.908	0.835	0.788	0.863	9.31
67)	S	2,4,6-Tribromo...	0.025	0.039	0.051	0.060	0.074	0.079	0.083	0.092	0.096	0.098	0.070	35.87
68)	T	4-Bromophenyl ...	0.171	0.175	0.178	0.185	0.189	0.186	0.187	0.195	0.192	0.193	0.185	4.31
69)	T	Hexachlorobenzene	0.172	0.180	0.183	0.186	0.184	0.189	0.183	0.195	0.194	0.196	0.186	4.03
70)	T	Pentachlorophe...			0.034	0.050	0.078	0.091	0.107	0.120	0.126	0.128	0.092	38.65
71)	T	Phenanthrene	1.136	1.132	1.156	1.140	1.161	1.114	1.096	1.077	1.004	0.962	1.098	6.05
72)	T	Anthracene	1.175	1.189	1.175	1.169	1.198	1.147	1.123	1.090	1.024	0.973	1.126	6.71
73)	T	Carbazole	1.209	1.101	1.089	1.075	1.101	1.038	1.035	1.015	0.957	0.926	1.055	7.61
74)	T	Di-n-butyl pht...	1.681	1.372	1.303	1.315	1.362	1.289	1.301	1.269	1.181	1.122	1.320	11.22
75)	T	Fluoranthene	1.179	1.160	1.159	1.154	1.205	1.138	1.151	1.124	1.076	1.041	1.139	4.23
76)	T	Benzidine			0.236	0.220	0.327	0.322	0.480	0.615			0.367	41.65
77)	T	Pyrene	1.178	1.173	1.166	1.175	1.222	1.157	1.171	1.148	1.103	1.074	1.157	3.59
														12.04
78)	I	Chrysene-d12 (ISTD)	----------	----------	ISTD	----------	----------							
79)	S	Terphenyl-d14 ...	0.891	0.926	0.935	0.967	0.963	0.964	0.932	0.938	0.919	0.909	0.934	2.67
80)	T	Butyl benzyl p...			0.428	0.533	0.592	0.600	0.625	0.641	0.634	0.627	0.585	12.35
81)	T	Bis(2-ethylhex...		0.674	0.531	0.556	0.565	0.558	0.579	0.598	0.592	0.587	0.582	6.92
82)	T	3,3-Dichlorobe...	0.165	0.232	0.266	0.303	0.346	0.327	0.356	0.386	0.413	0.413	0.321	25.15
83)	T	Benz(a)anthracene	1.280	1.160	1.089	1.103	1.129	1.096	1.104	1.120	1.107	1.094	1.128	5.07
84)	T	Chrysene	1.076	1.060	1.069	1.080	1.107	1.079	1.079	1.087	1.060	1.049	1.075	1.52
85)	T	Bis(2-ethylhex...				0.702	0.803	0.818	0.868	0.895	0.886	0.881	0.836	8.23

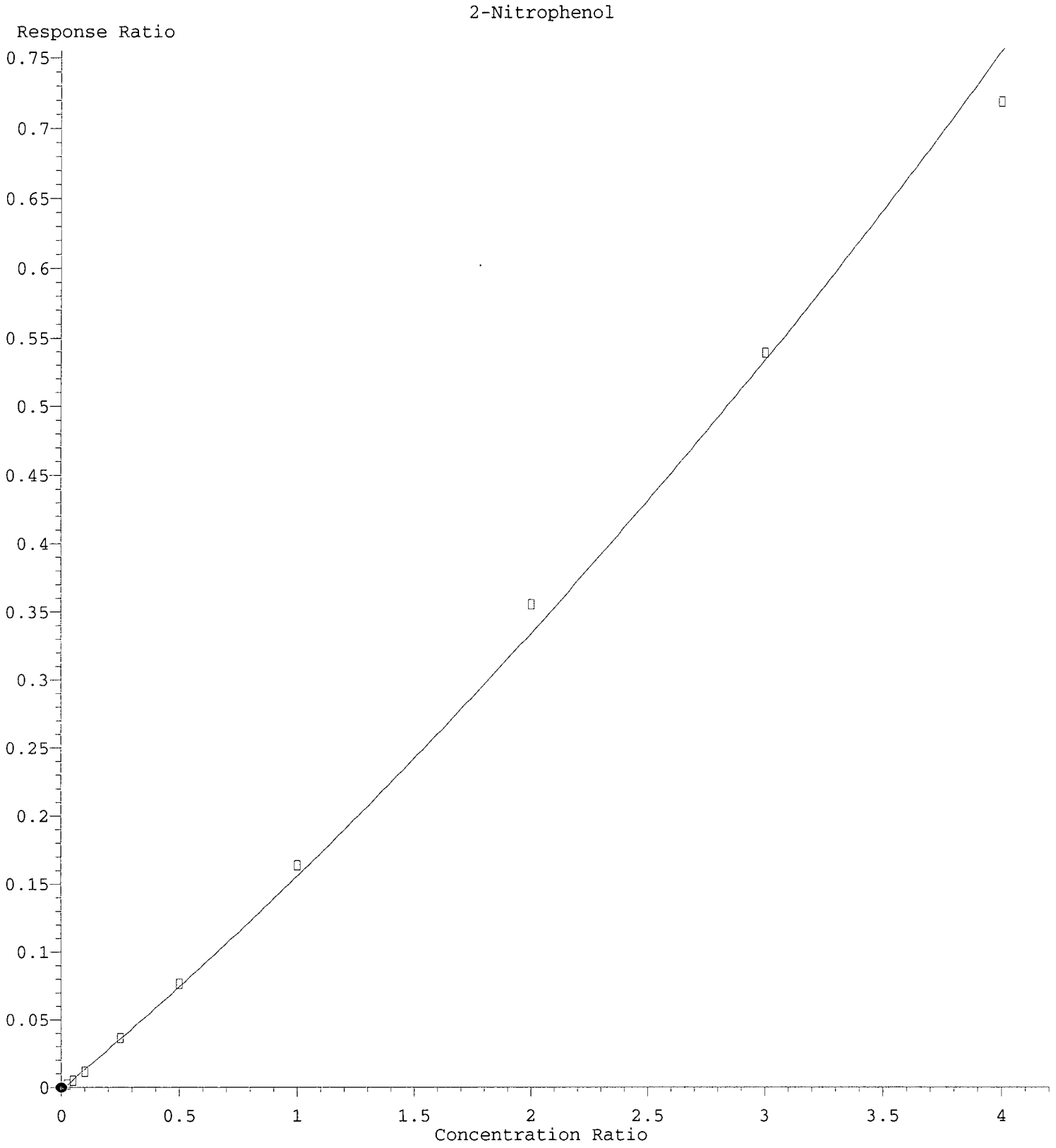
Method Path : C:\msdchem\1\METHODS\
Method File : SV5_013019.M
Title : EPA 8270D: Semivolatile Organics

13.68

86)	I	Perylene-d12 (ISTD)	----------ISTD----------										
87)	T	Di-n-octyl pht...	0.636	0.699	0.991	1.292	1.338	1.504	1.589	1.585	1.585	1.247	30.56
88)	T	Benzo(b)fluora...	0.874	0.932	0.952	1.030	1.102	1.091	1.116	1.136	1.135	1.199	1.057	9.99
89)	T	Benzo(k)fluora...	0.912	0.950	0.967	1.057	1.106	1.109	1.121	1.112	1.065	0.986	1.038	7.49
90)	T	Benzo(b+k)fluo...	1.018	1.043	1.041	1.103	1.150	1.138	1.148	1.166	1.146	1.144	1.110	4.95
91)	T	Benzo(e)pyrene	0.993	1.010	1.022	1.066	1.112	1.101	1.099	1.125	1.100	1.099	1.073	4.41
92)	T	Benzo(a)pyrene	0.754	0.807	0.827	0.917	1.017	1.016	1.055	1.083	1.059	1.060	0.959	12.80
93)	T	Perylene	1.008	1.107	1.095	1.092	1.140	1.114	1.107	1.119	1.096	1.087	1.097	3.18
94)	I	Dibenz(a,h)Anthrce...	----------ISTD----------										
95)	T	Indeno(1,2,3-c...	1.065	1.040	1.050	1.054	1.082	1.078	1.105	1.139	1.171	1.178	1.096	4.60
96)	T	Dibenz(a,h)ant...	0.871	0.947	0.942	0.976	1.019	0.997	1.050	1.083	1.080	1.074	1.004	7.04
97)	T	Benzo(g,h,i)pe...	0.909	1.020	1.041	1.090	1.141	1.138	1.132	1.142	1.116	1.065	1.079	6.88

JN 1/31/19 17.04

(#) = Out of Range

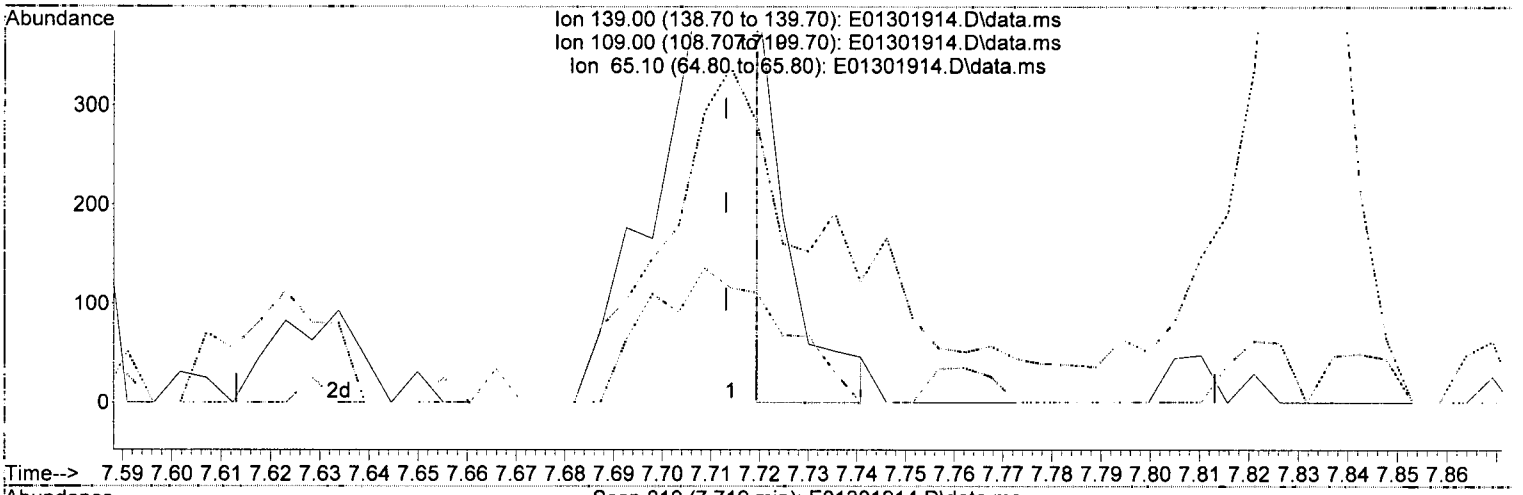


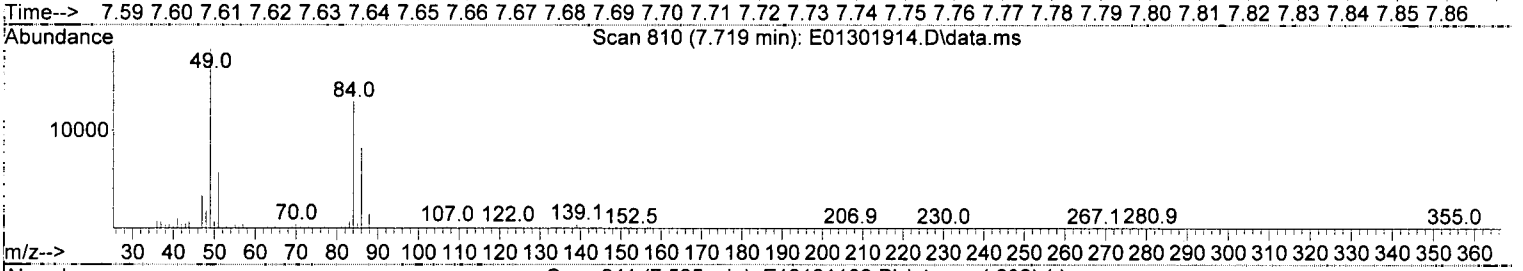
R = 1.05e-002 A*A + 1.47e-001 A - 1.78e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

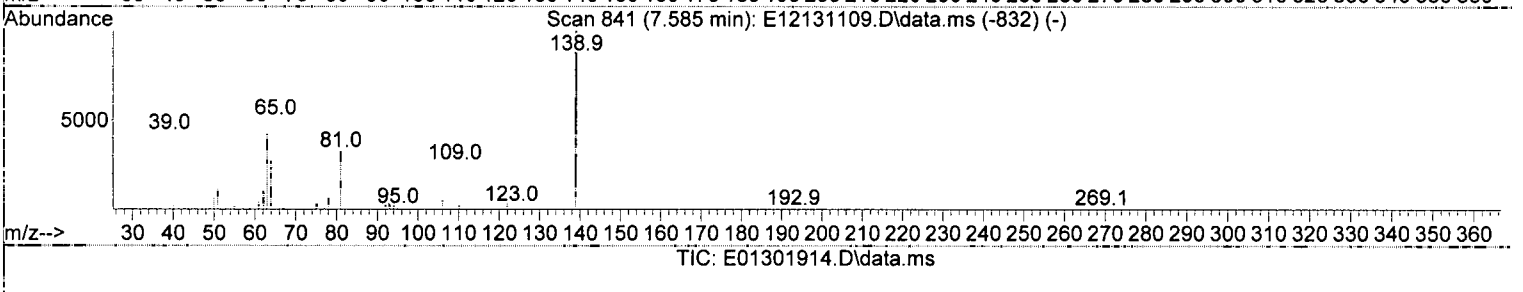
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5





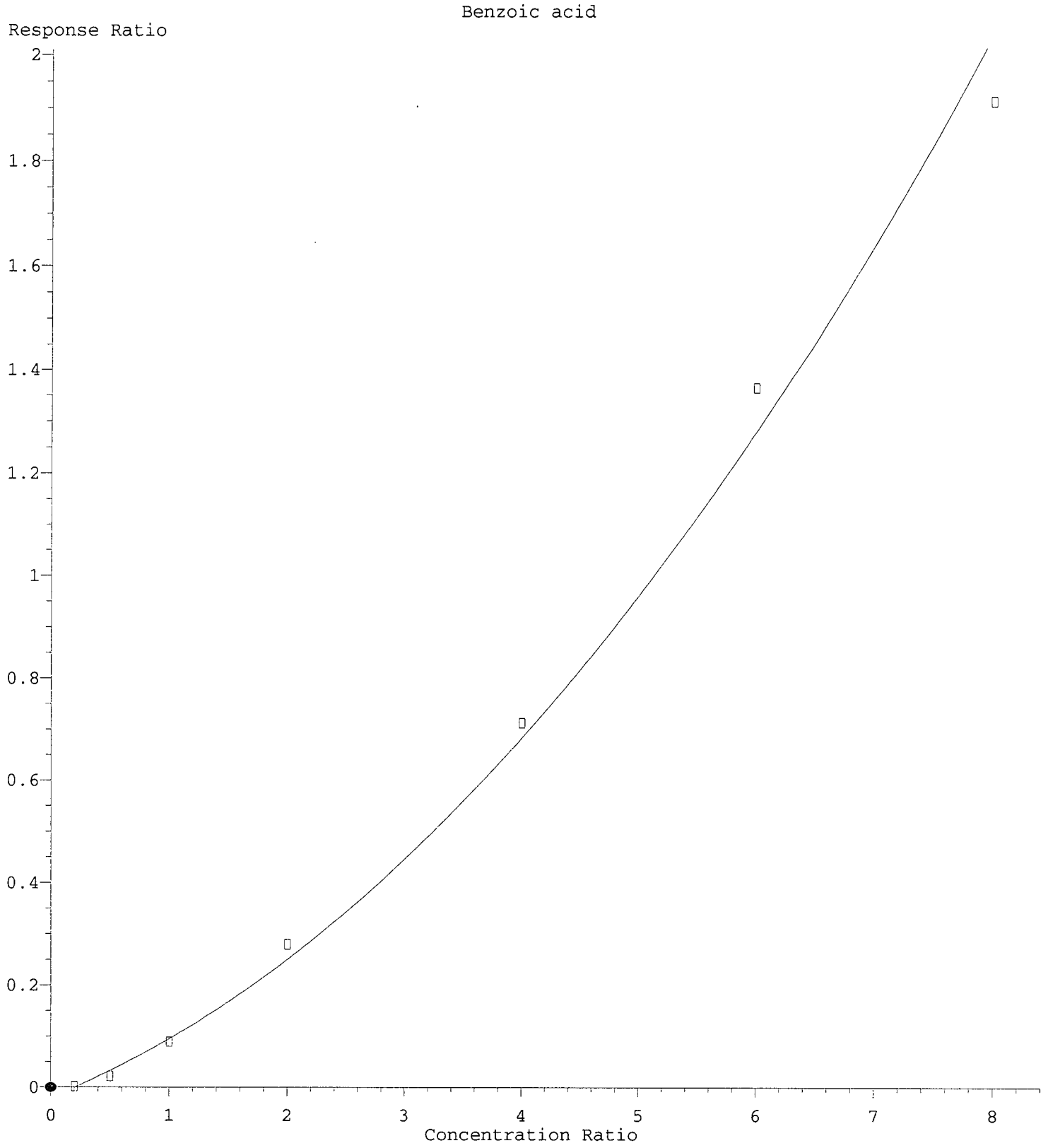


(23) 2-Nitrophenol (T)

7.719min (+ 0.006) 25.58 ng/ml m

response 111

Ion	Exp%	Act%
139.00	100.00	100.00
109.00	29.10	26.56
65.10	60.80	67.70
0.00	0.00	0.00

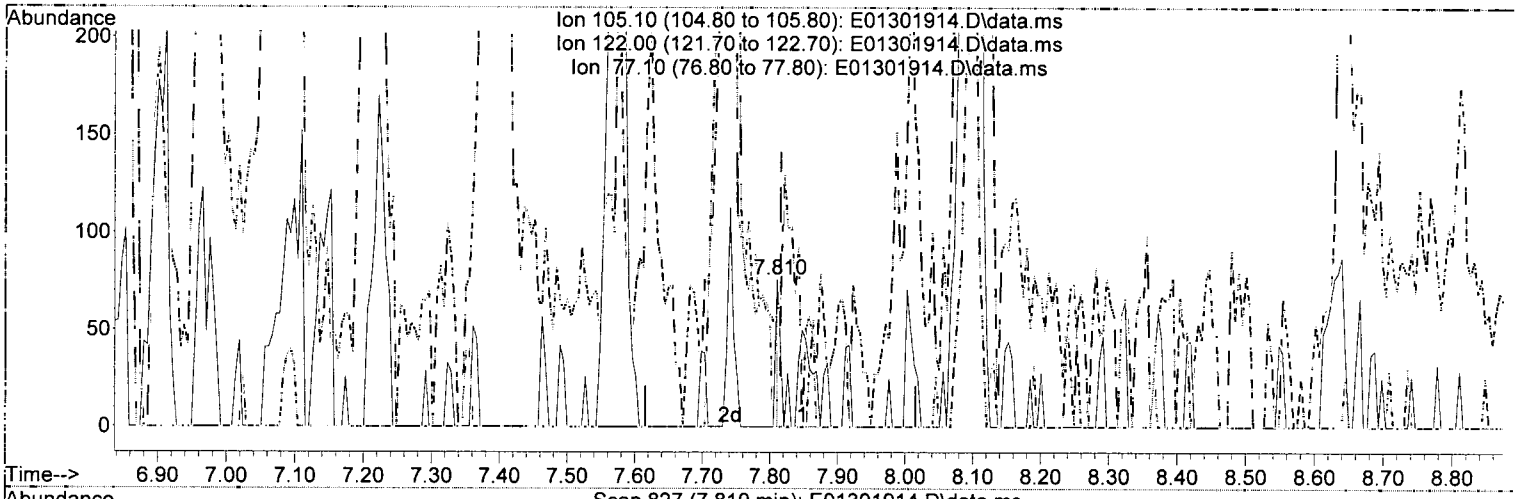


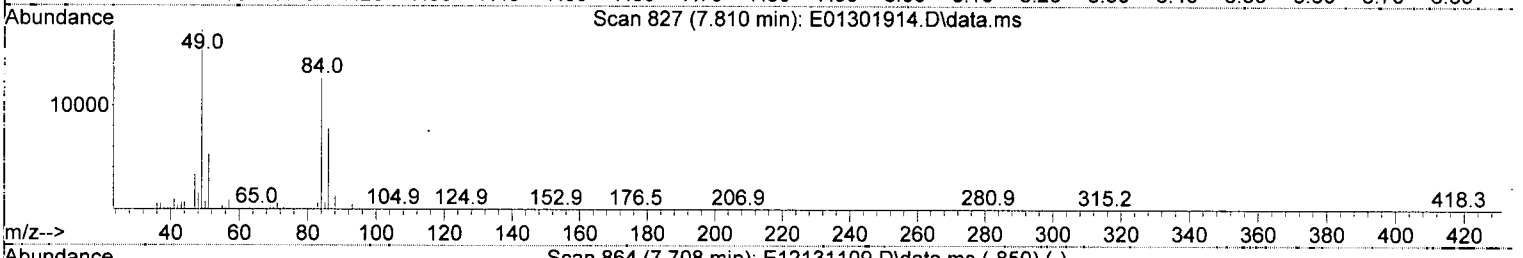
R = 2.05e-002 A*A + 9.40e-002 A - 1.95e-002
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

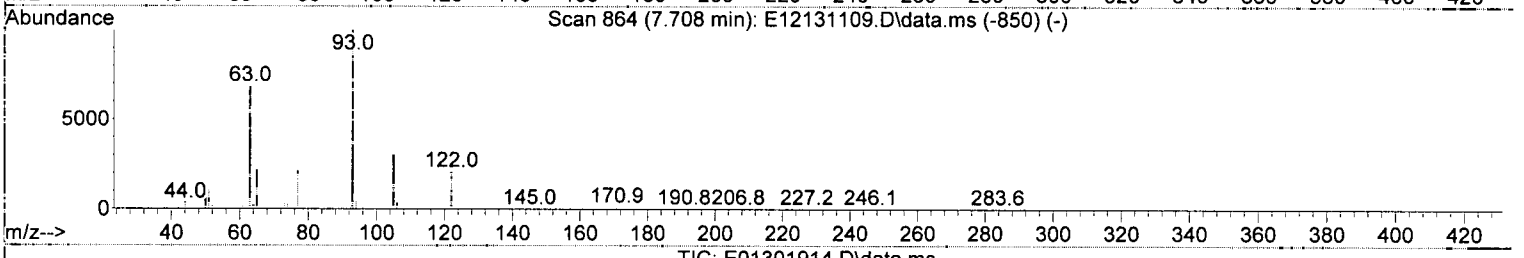
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







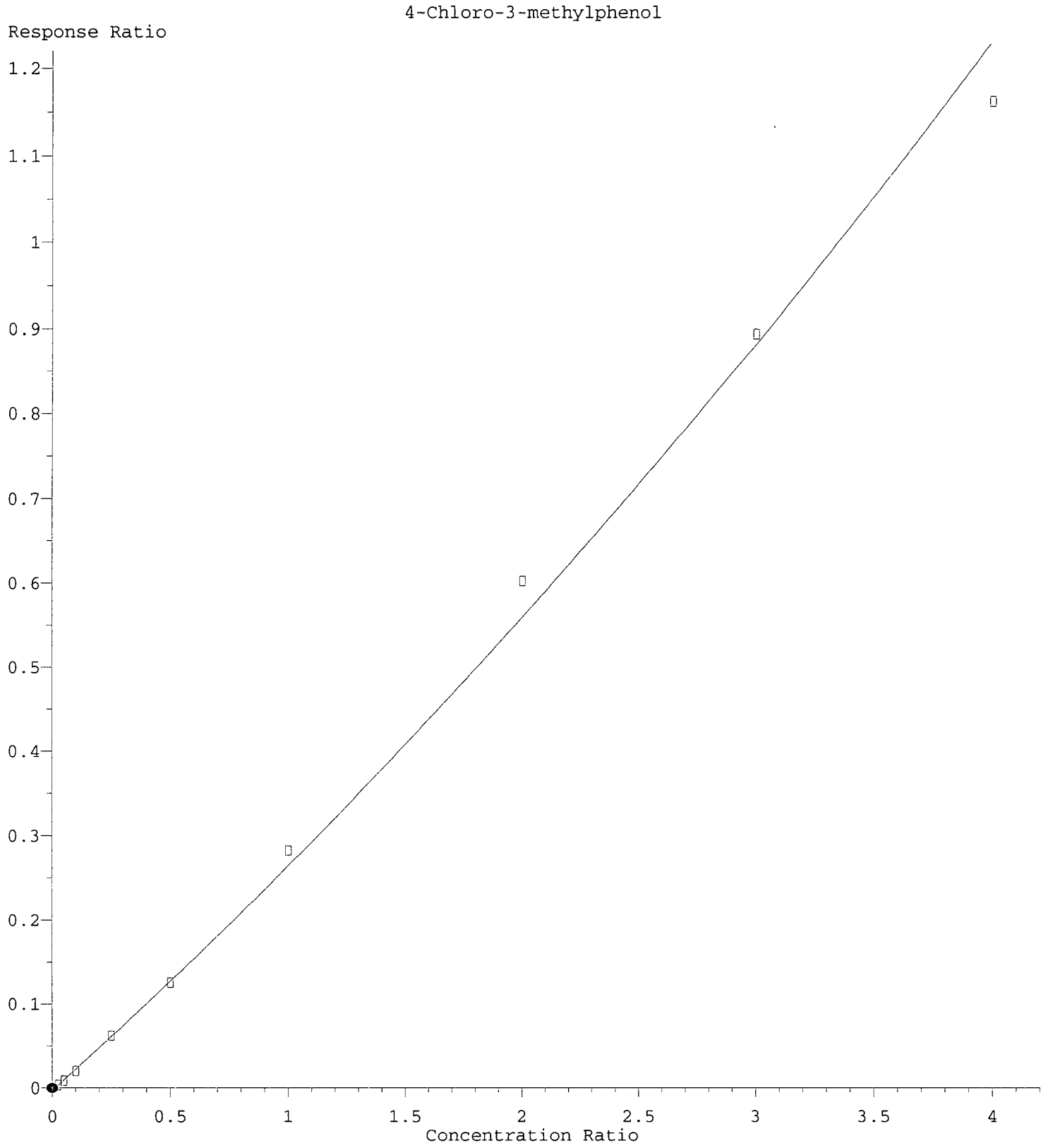
TIC: E01301914.D\data.ms

(26) Benzoic acid (T)

7.810min (-0.005) 399.93 ng/ml m

response 136

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	0.00#
77.10	85.50	77.63
0.00	0.00	0.00

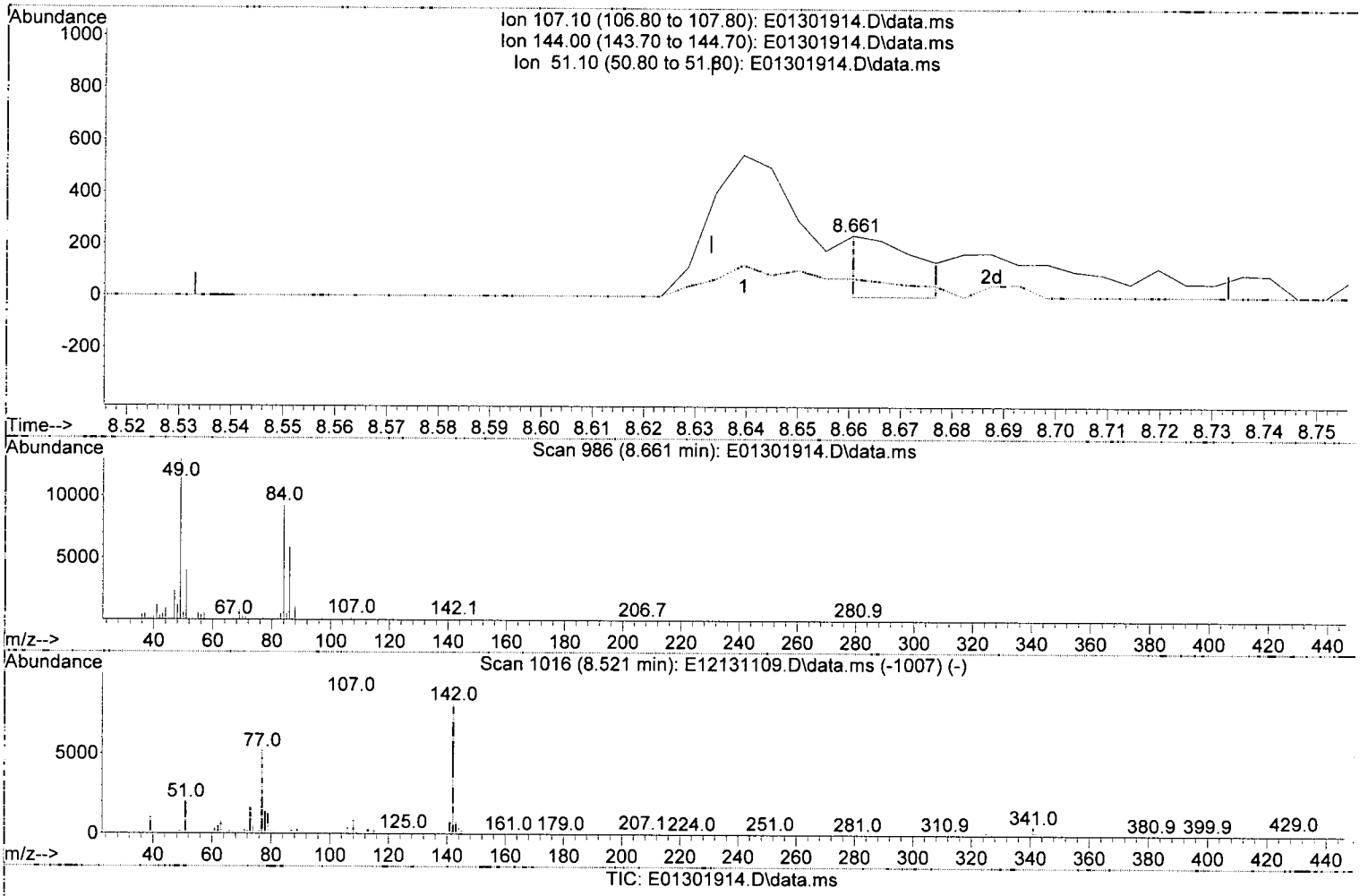


R = 1.37e-002 A*A + 2.54e-001 A - 3.38e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5



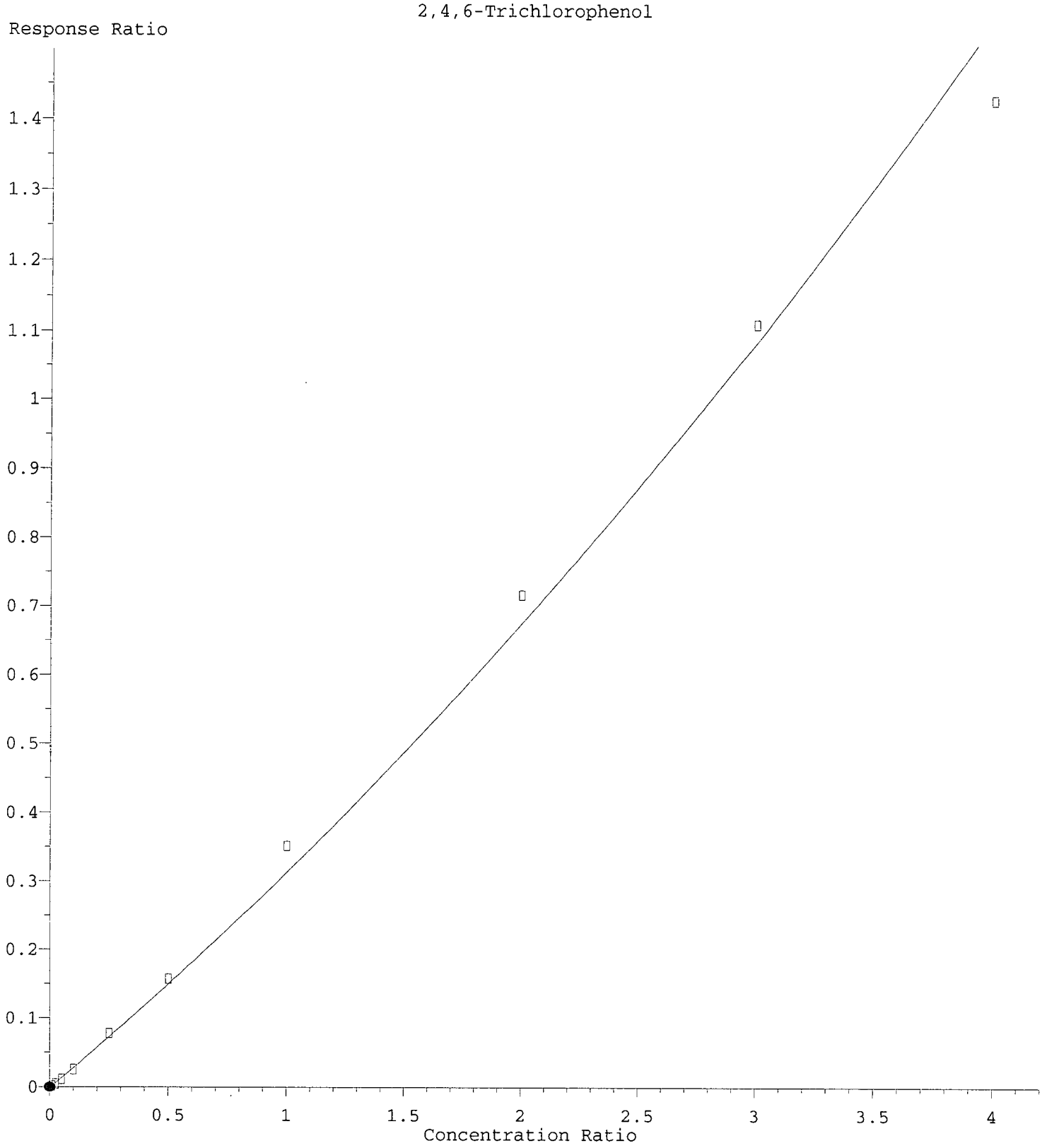
TIC: E01301914.D\data.ms

(32) 4-Chloro-3-methylphenol (T)

8.661min (+ 0.028) 27.82 ng/ml m ✓

response 167

Ion	Exp%	Act%
107.10	100.00	100.00
144.00	25.60	29.54
51.10	22.90	1701.27#
0.00	0.00	0.00

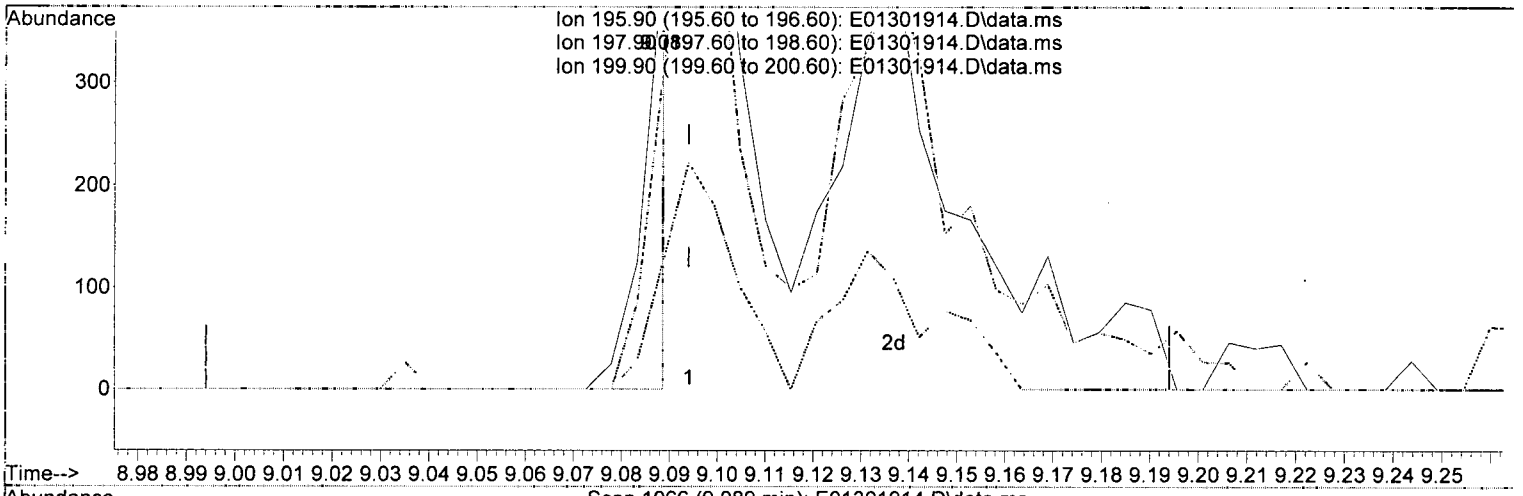


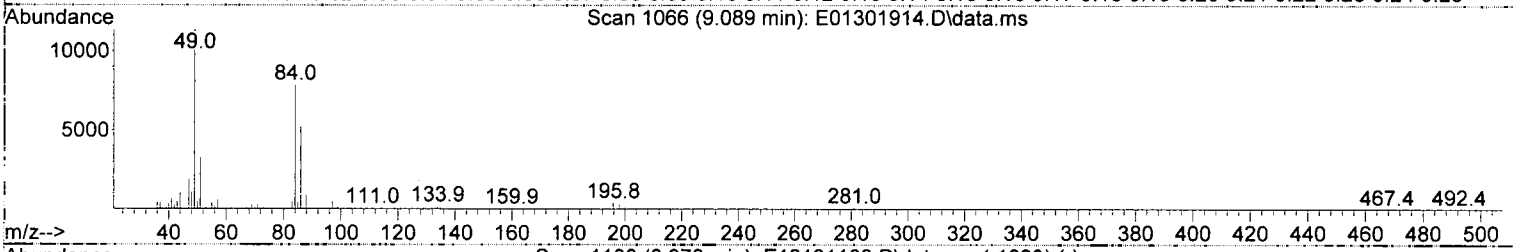
R = 2.36e-002 A*A + 2.91e-001 A - 1.61e-003
Coef of Det (r^2) = 0.990 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

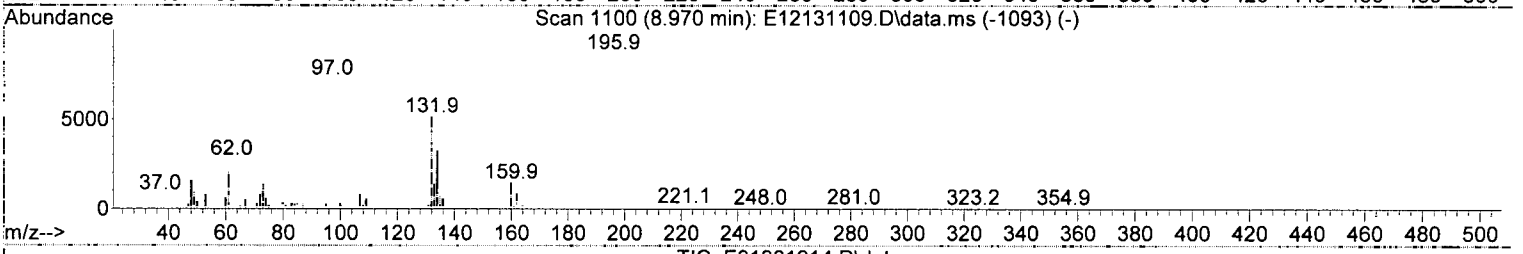
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







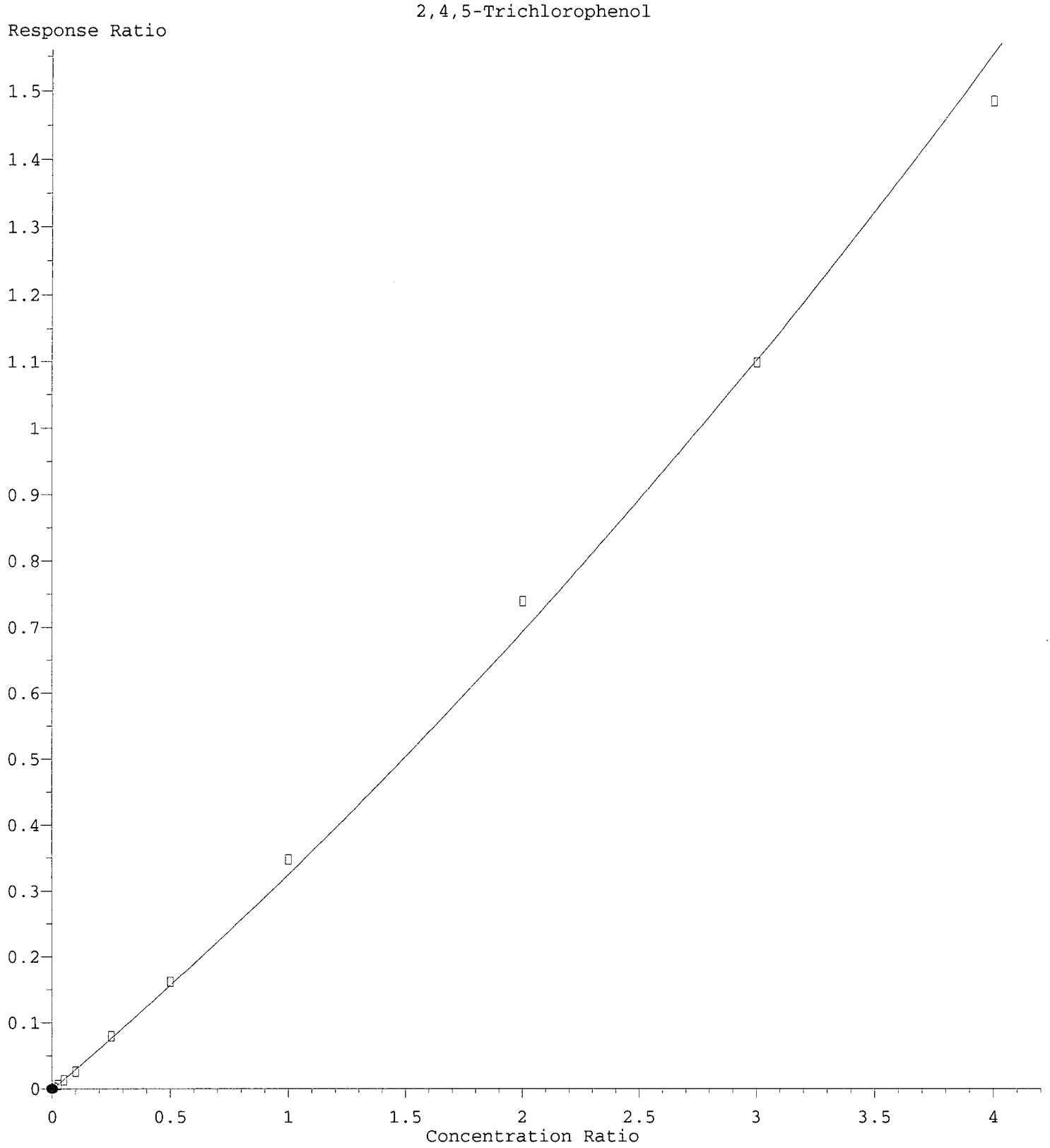
TIC: E01301914.D\data.ms

(37) 2,4,6-Trichlorophenol (T)

9.089min (-0.005) 13.66 ng/ml m

response 184

Ion	Exp%	Act%
195.90	100.00	100.00
197.90	96.30	72.64
199.90	30.90	29.48
0.00	0.00	0.00

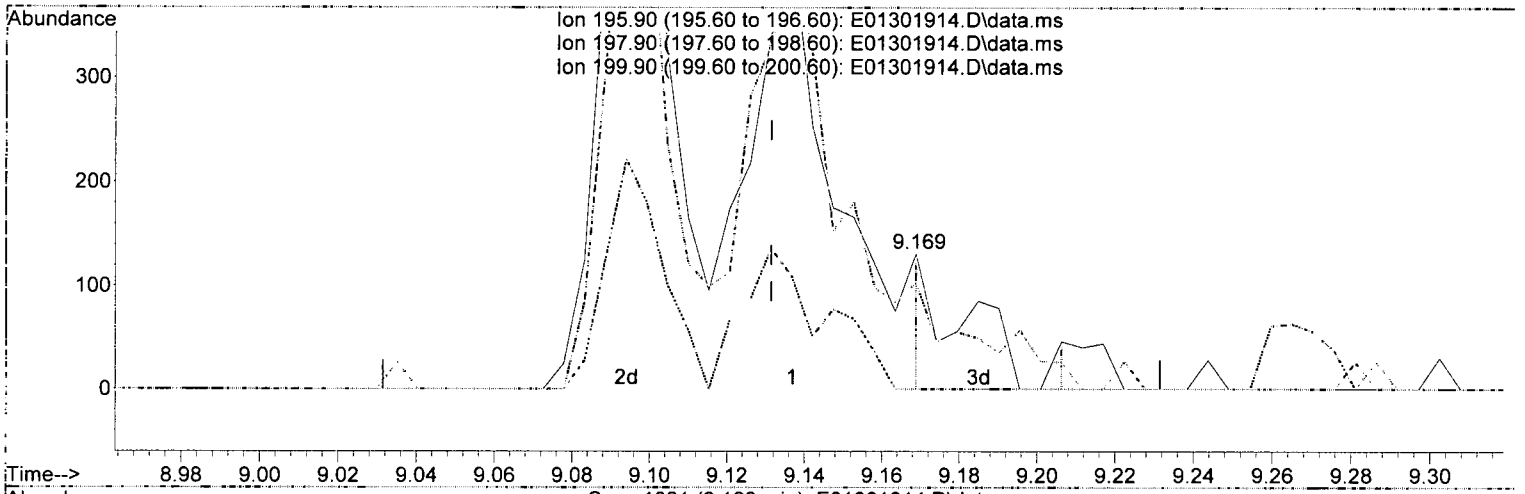


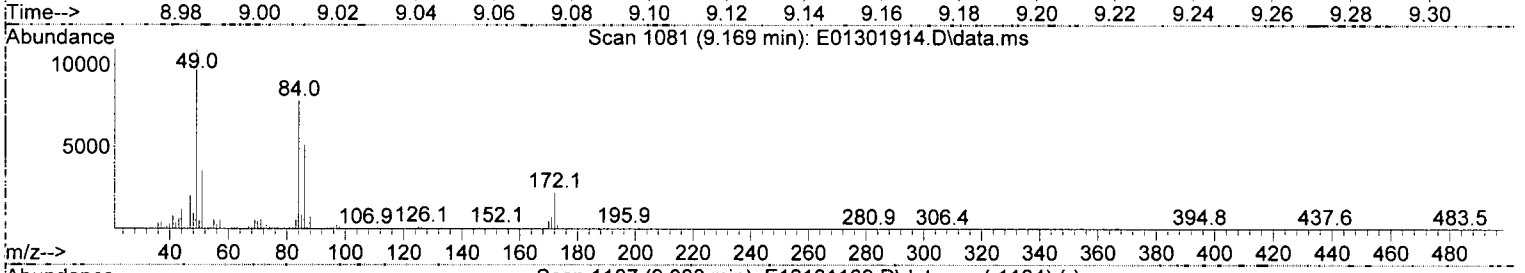
R = 2.08e-002 A*A + 3.06e-001 A - 1.73e-003
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

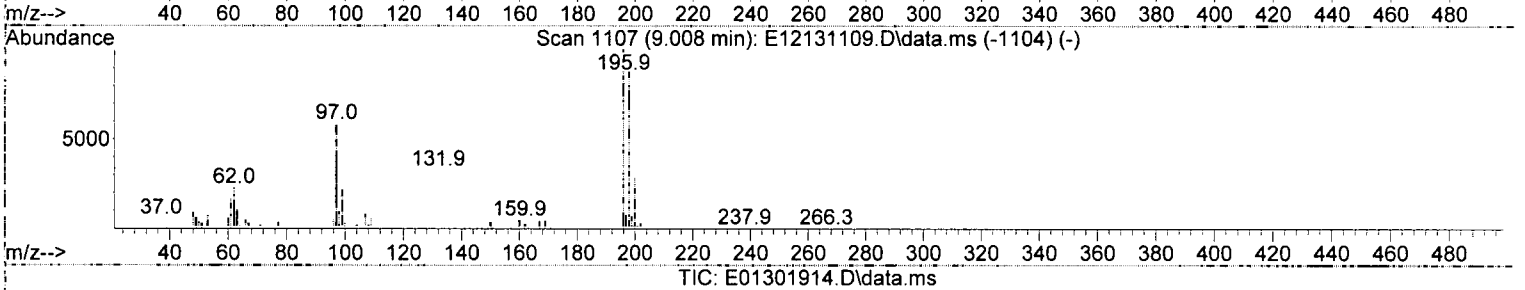
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







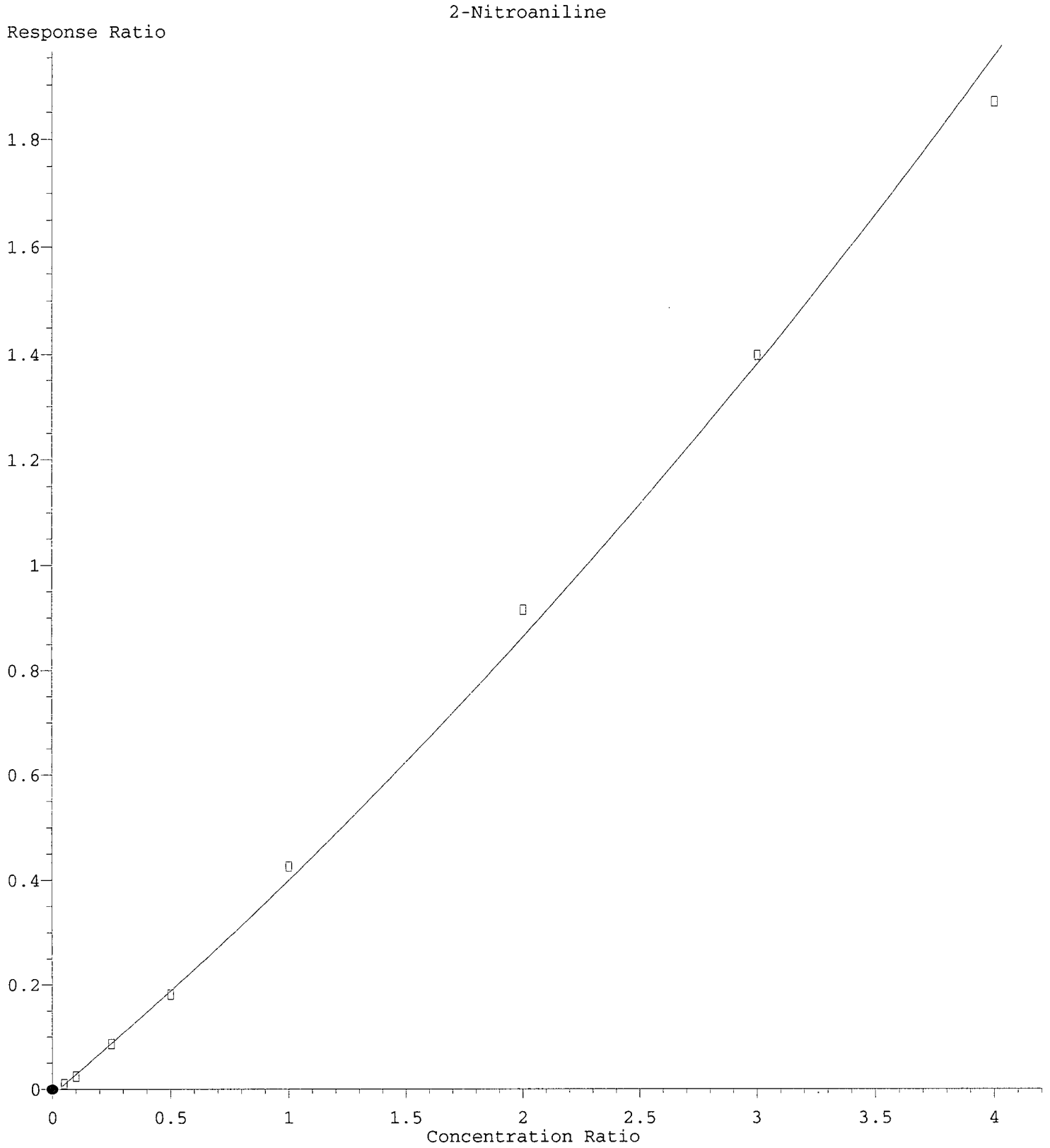
TIC: E01301914.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.169min (+ 0.037) 12.64 ng/ml m ✓

response 100

Ion	Exp%	Act%
195.90	100.00	100.00
197.90	96.30	78.63
199.90	32.40	0.00#
0.00	0.00	0.00

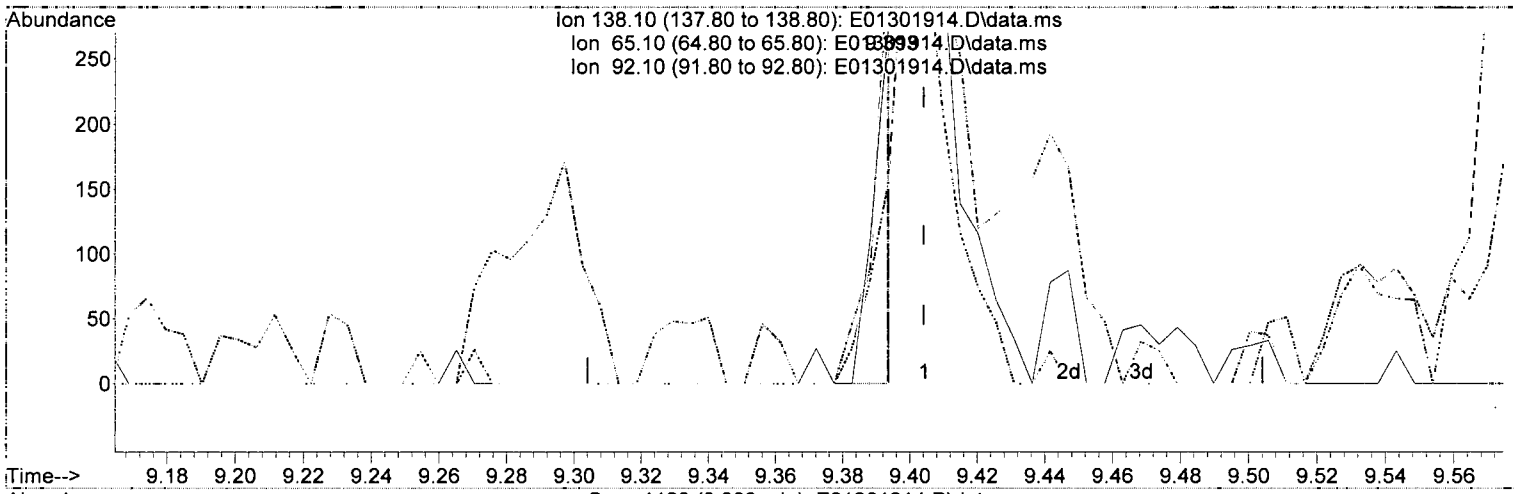


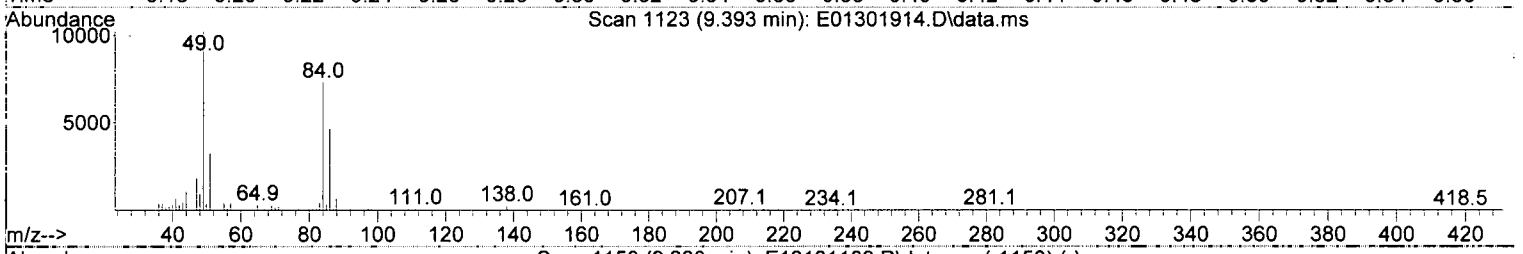
R = 2.70e-002 A*A + 3.83e-001 A - 1.04e-002
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

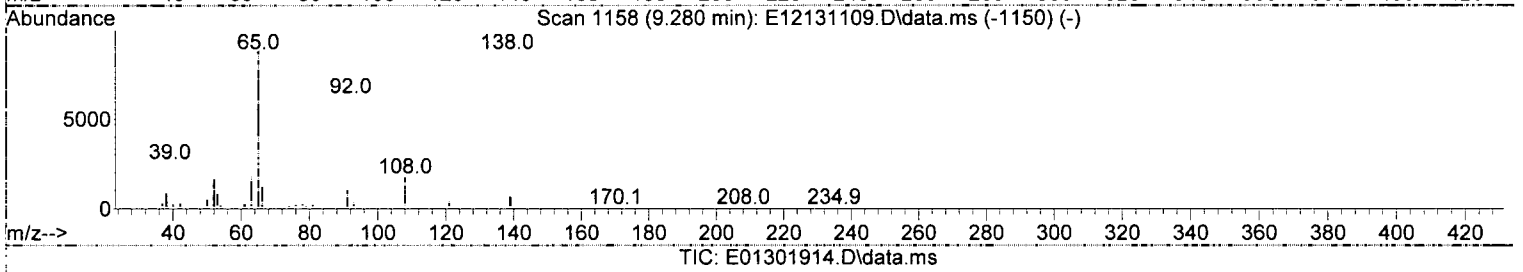
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







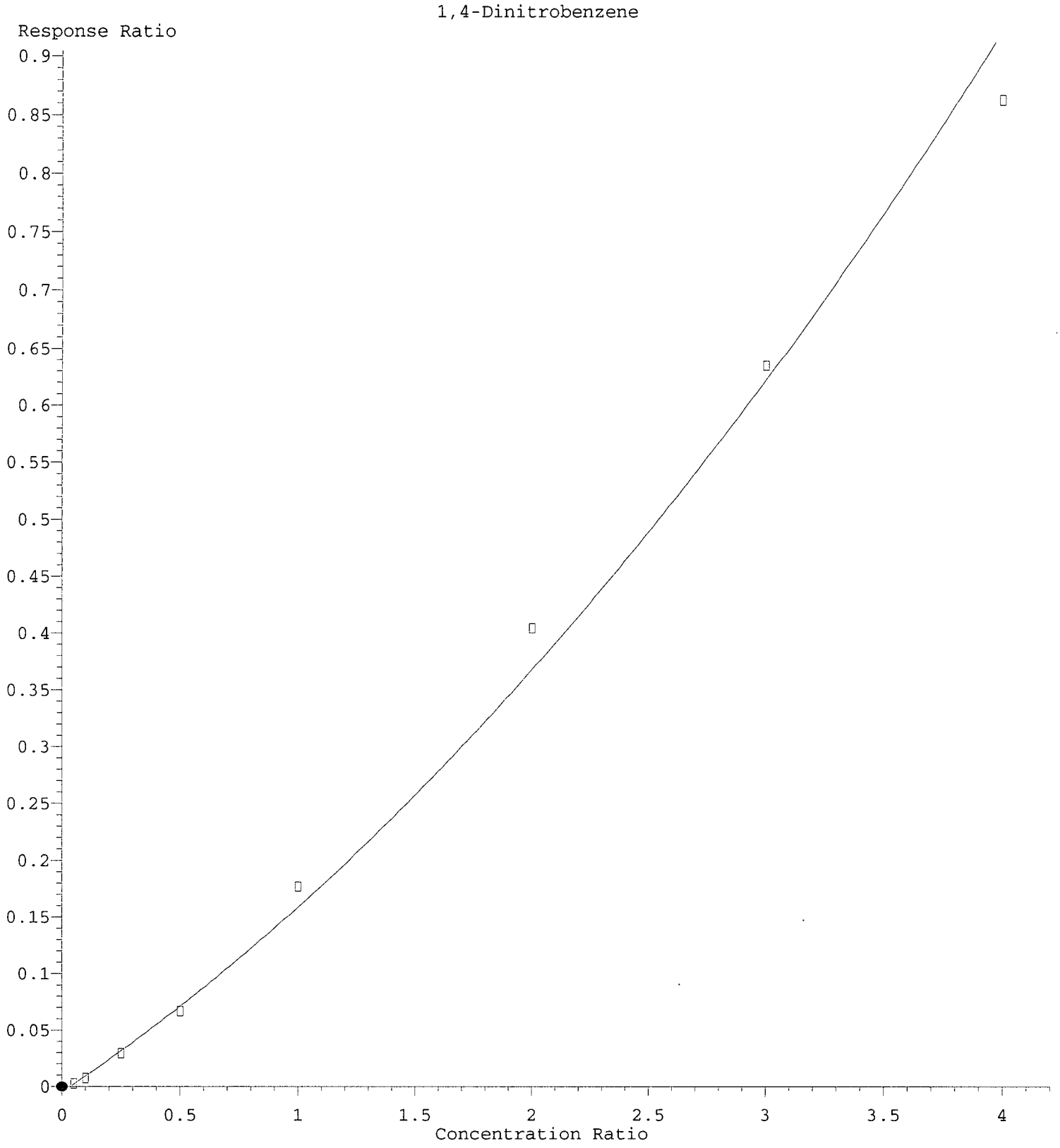
TIC: E01301914.D\data.ms

(42) 2-Nitroaniline (T)

9.393min (-0.011) 55.46 ng/ml m

response 124

Ion	Exp%	Act%
138.10	100.00	100.00
65.10	109.90	120.80
92.10	67.00	56.57
0.00	0.00	0.00

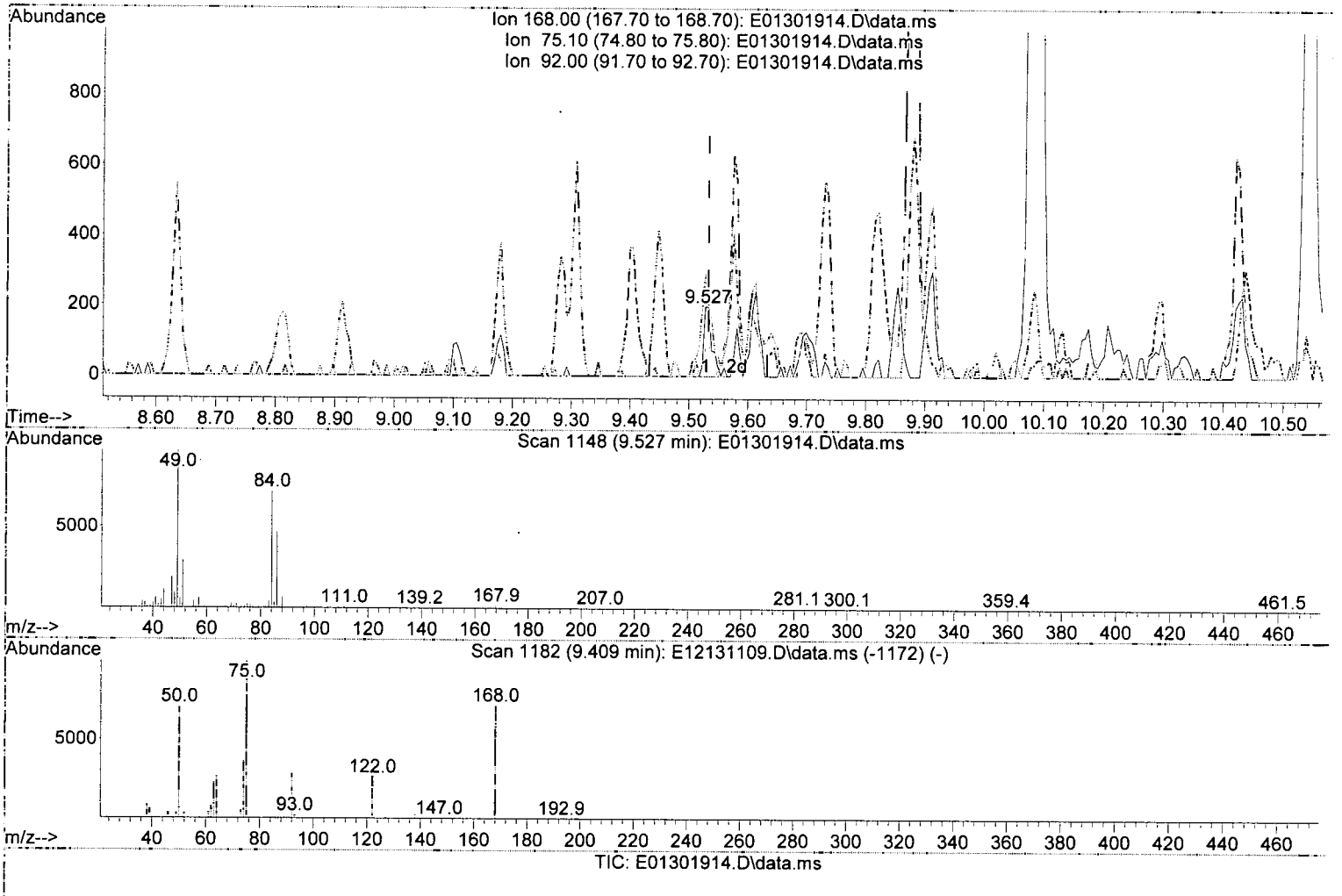


R = 2.26e-002 A*A + 1.41e-001 A - 5.01e-003
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5

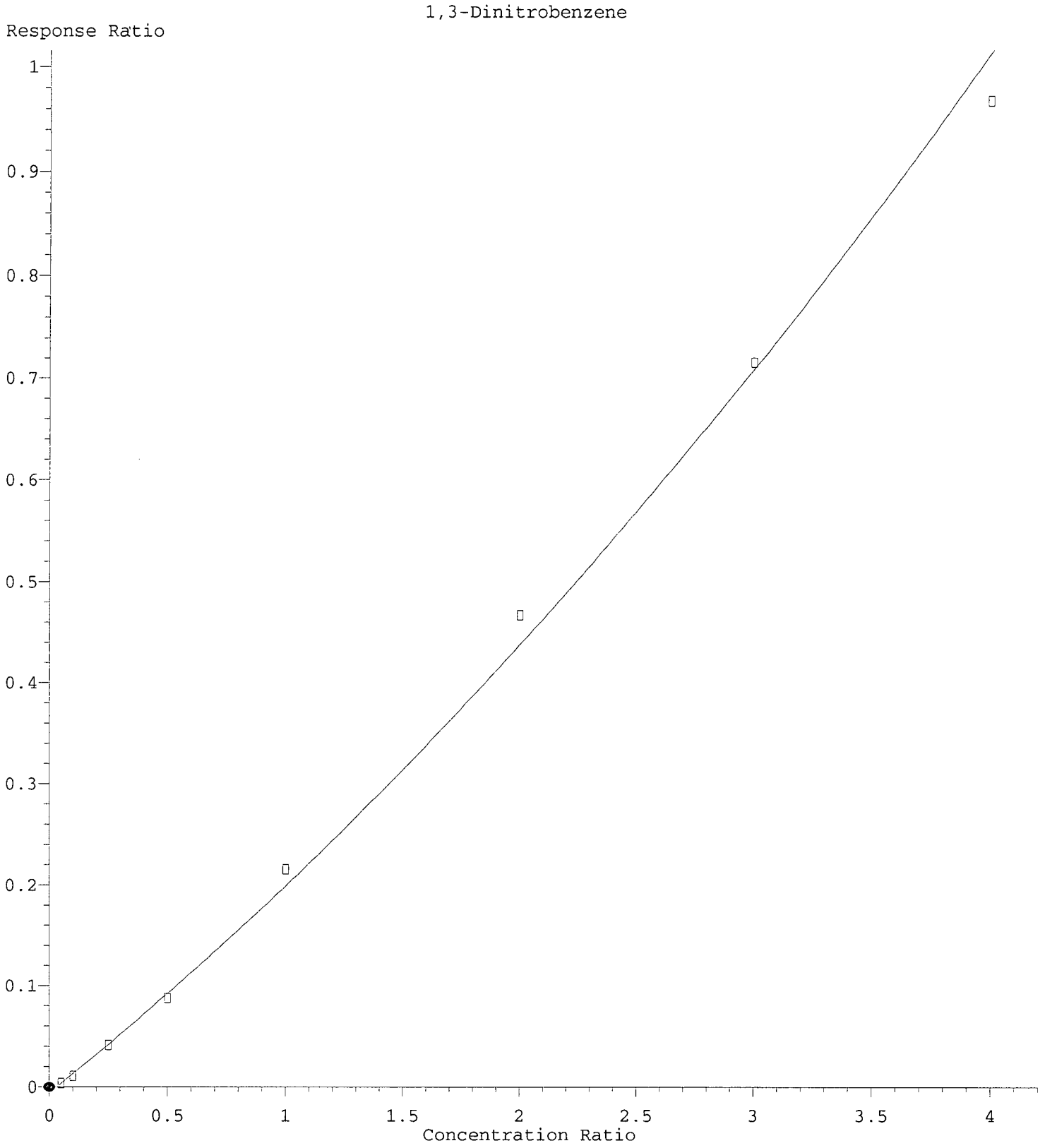


(44) 1,4-Dinitrobenzene (T)

9.527min (-0.005) 76.30 ng/ml

response 197

Ion	Exp%	Act%
168.00	100.00	100.00
75.10	147.50	148.73
92.00	40.30	42.13
0.00	0.00	0.00

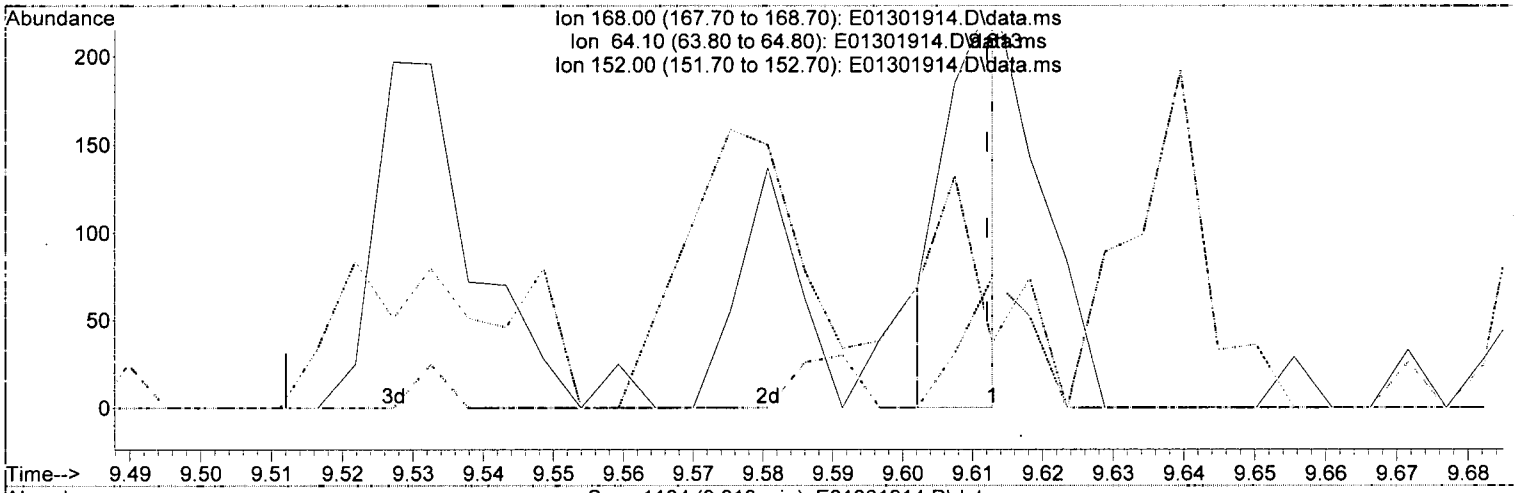


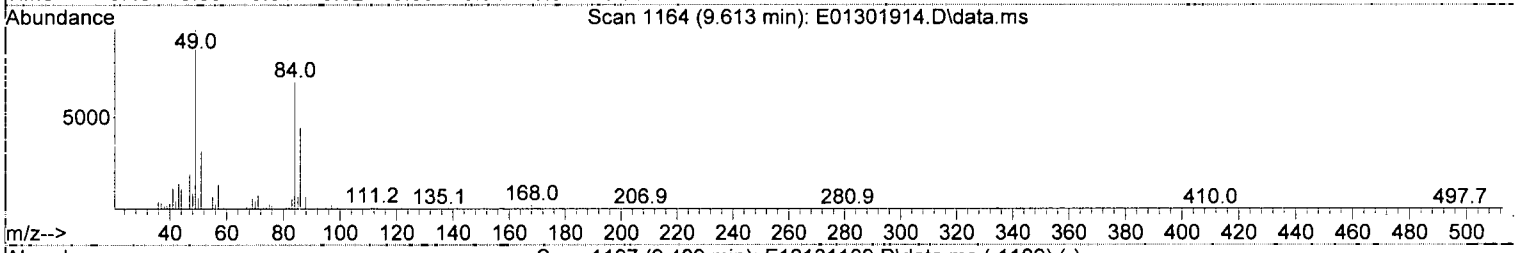
R = 1.65e-002 A*A + 1.89e-001 A - 6.37e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

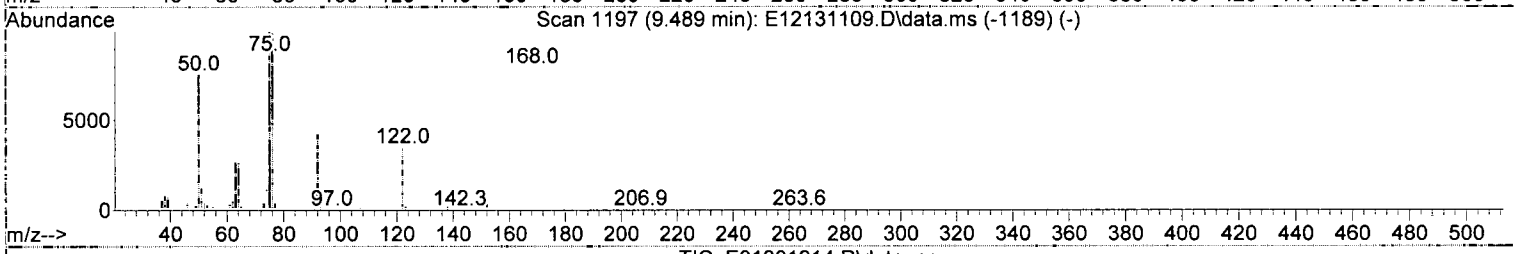
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







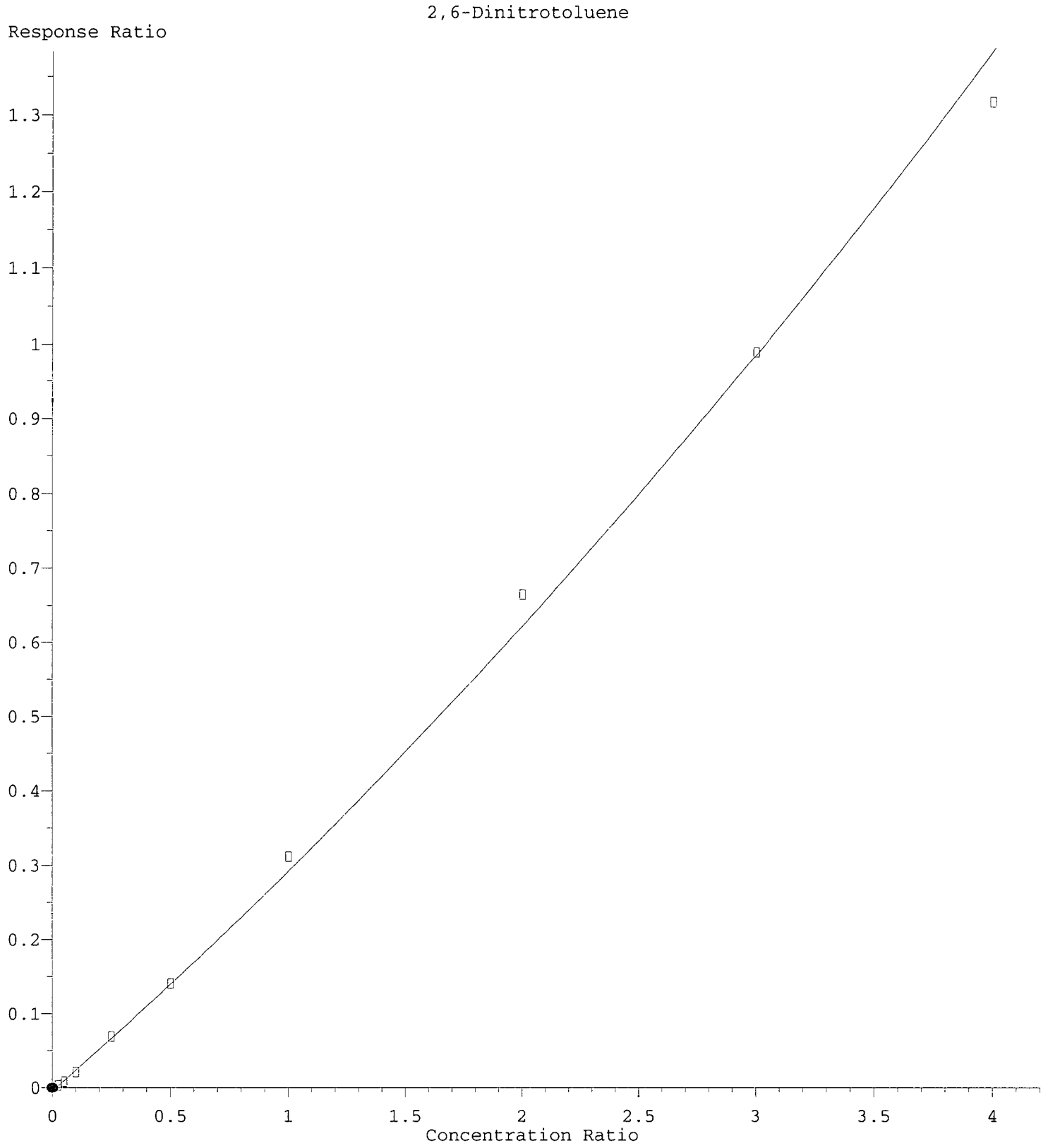
TIC: E01301914.D\data.ms

(46) 1,3-Dinitrobenzene (T)

9.613min (+ 0.001) 70.10 ng/ml m

response 137

Ion	Exp%	Act%
168.00	100.00	100.00
64.10	36.10	15.23
152.00	6.10	30.45
0.00	0.00	0.00

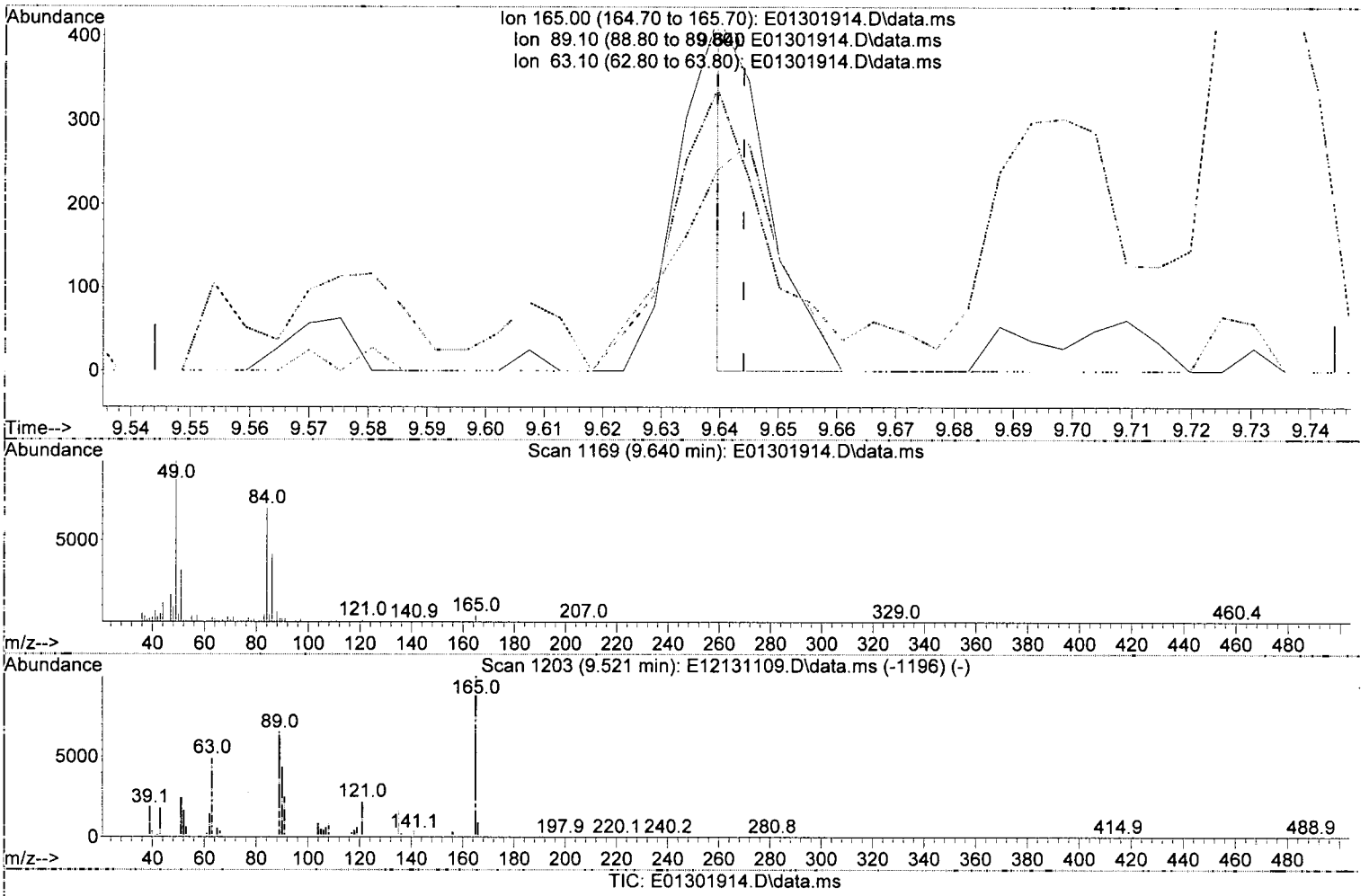


R = 1.67e-002 A*A + 2.80e-001 A - 4.44e-003
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5



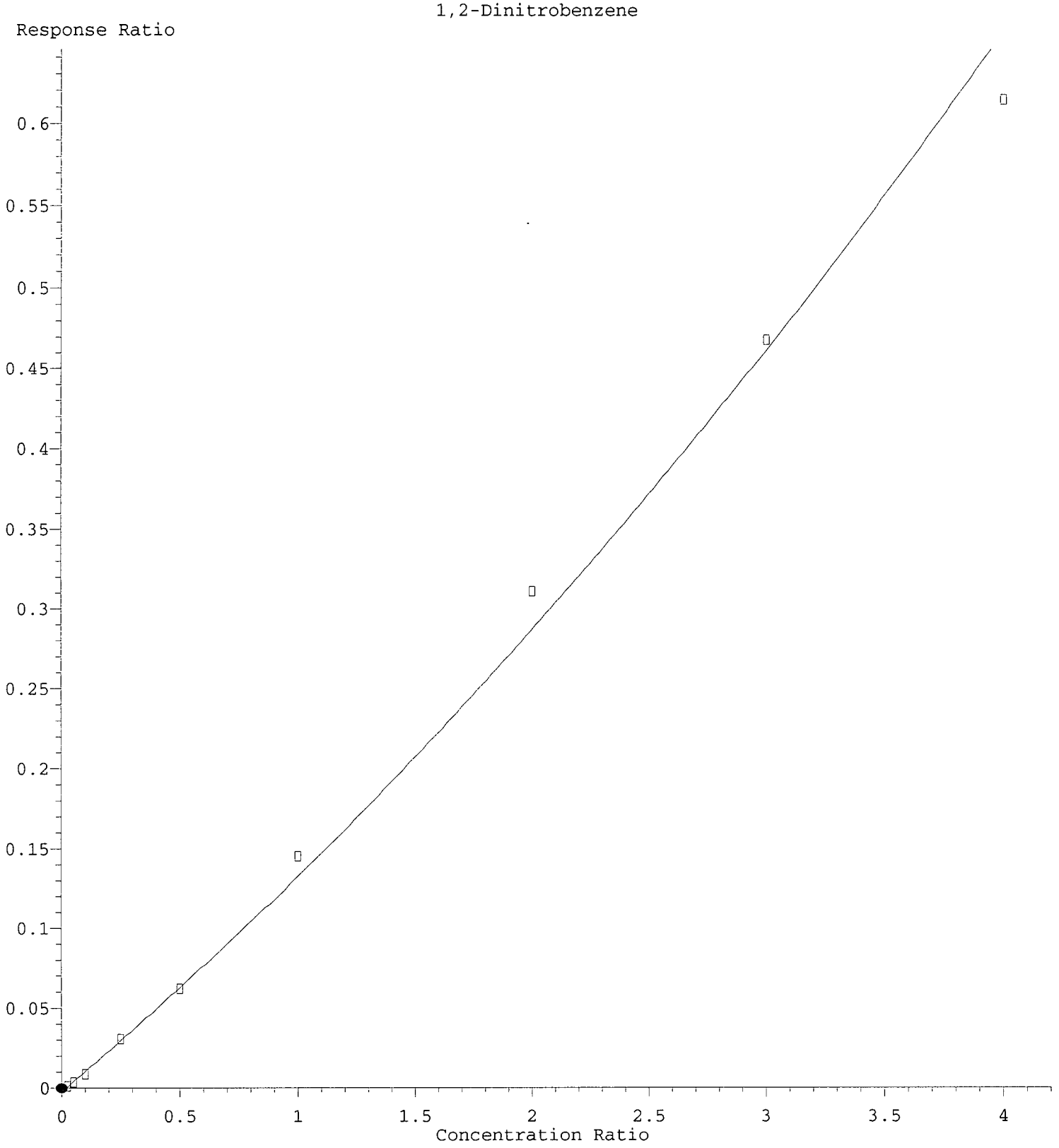
TIC: E01301914.D\data.ms

(47) 2,6-Dinitrotoluene (T)

9.640min (-0.004) 34.30 ng/ml m ✓

response 175

Ion	Exp%	Act%
165.00	100.00	100.00
89.10	71.70	56.57
63.10	68.70	79.11
0.00	0.00	0.00

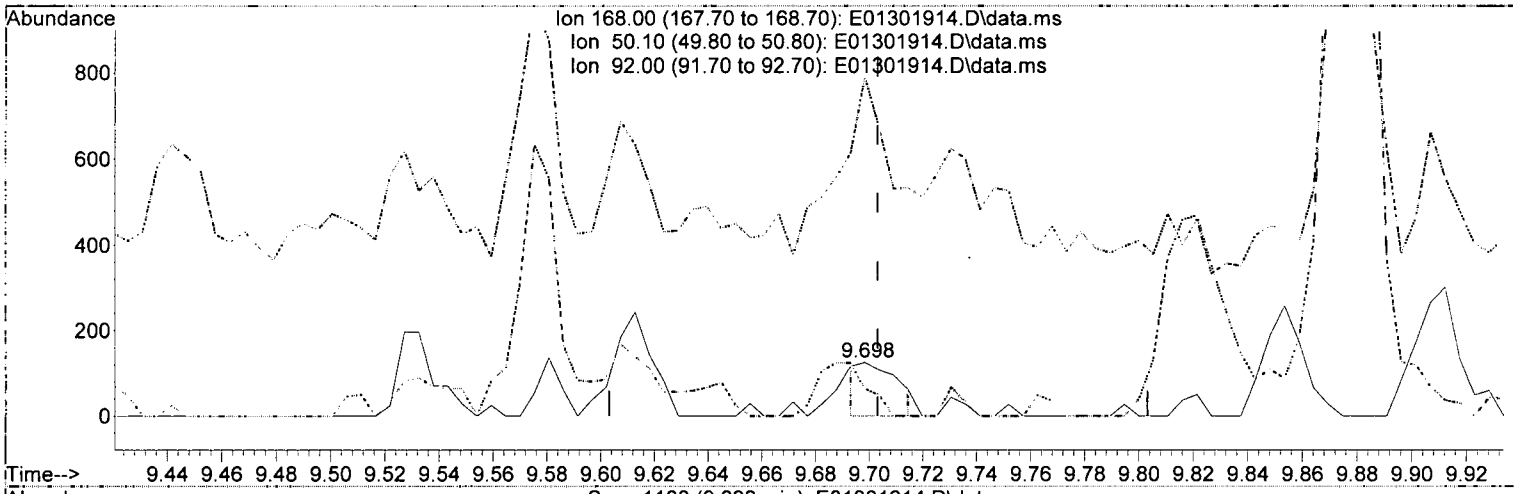


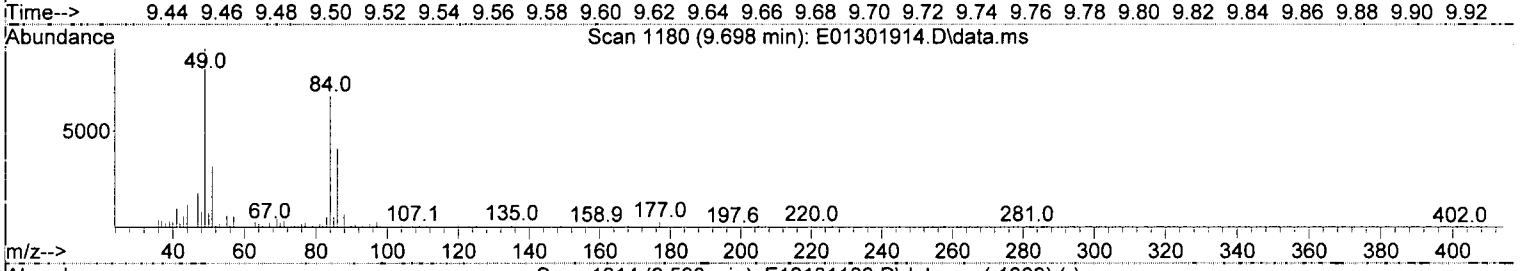
R = 9.99e-003 A*A + 1.25e-001 A - 2.17e-003
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

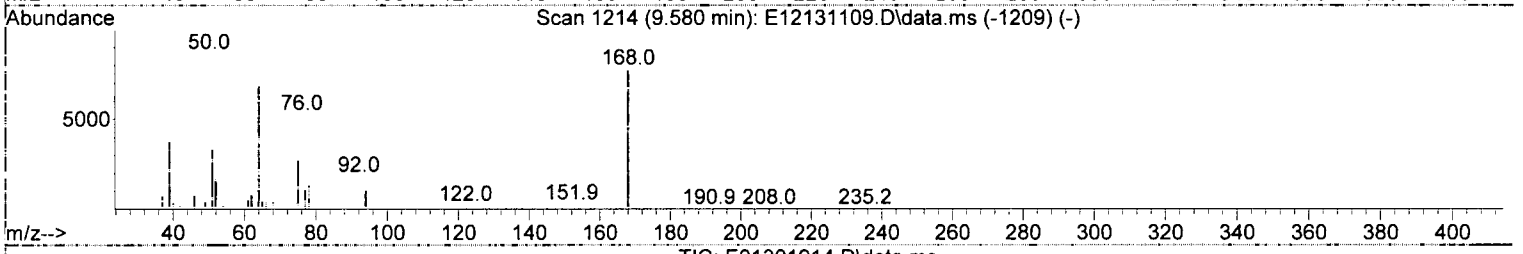
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







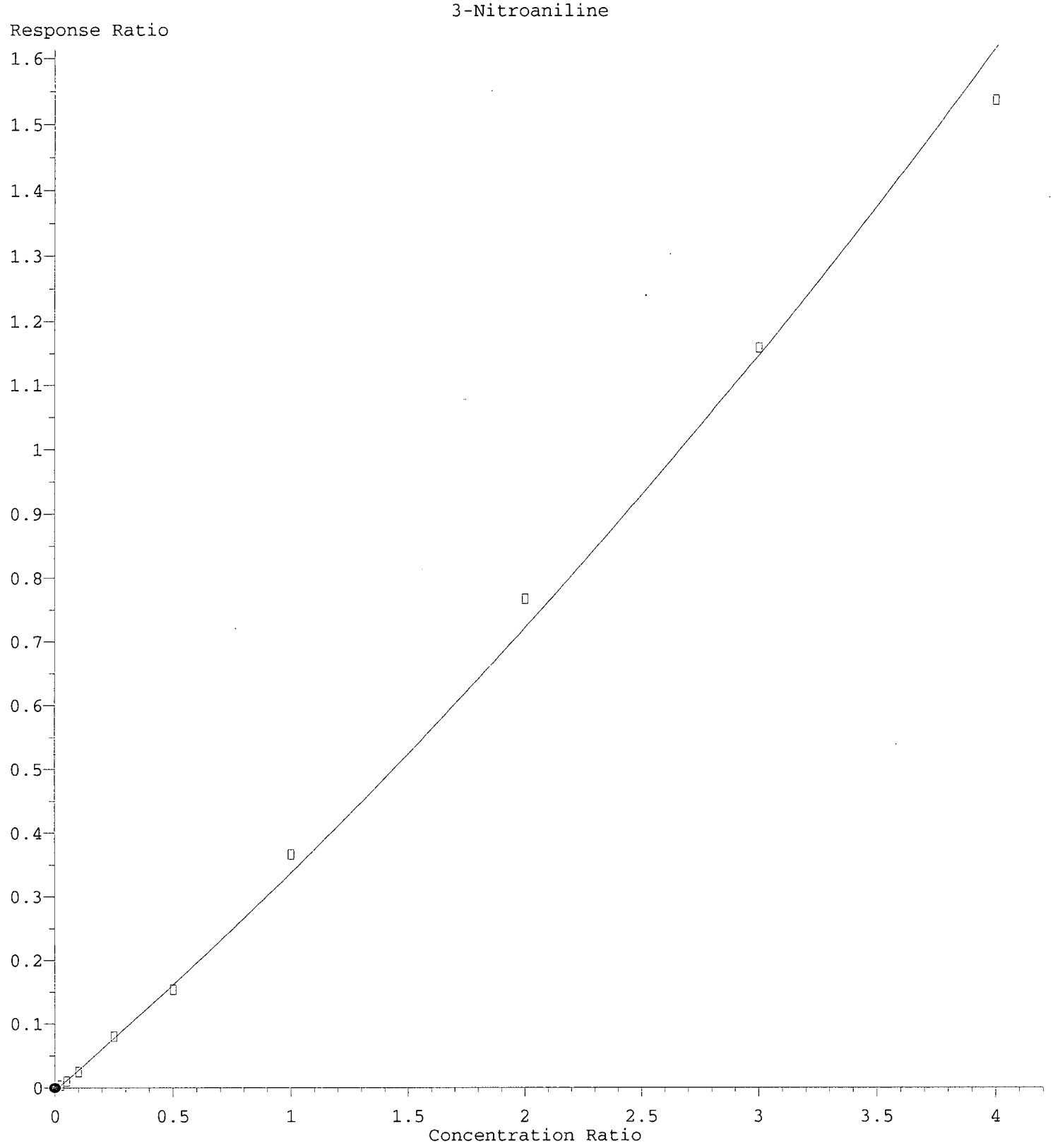
TIC: E01301914.D\data.ms

(48) 1,2-Dinitrobenzene (T)

9.698min (-0.005) 39.02 ng/ml m ✓

response 126

Ion	Exp%	Act%
168.00	100.00	100.00
50.10	166.30	627.78#
92.00	26.00	50.79
0.00	0.00	0.00

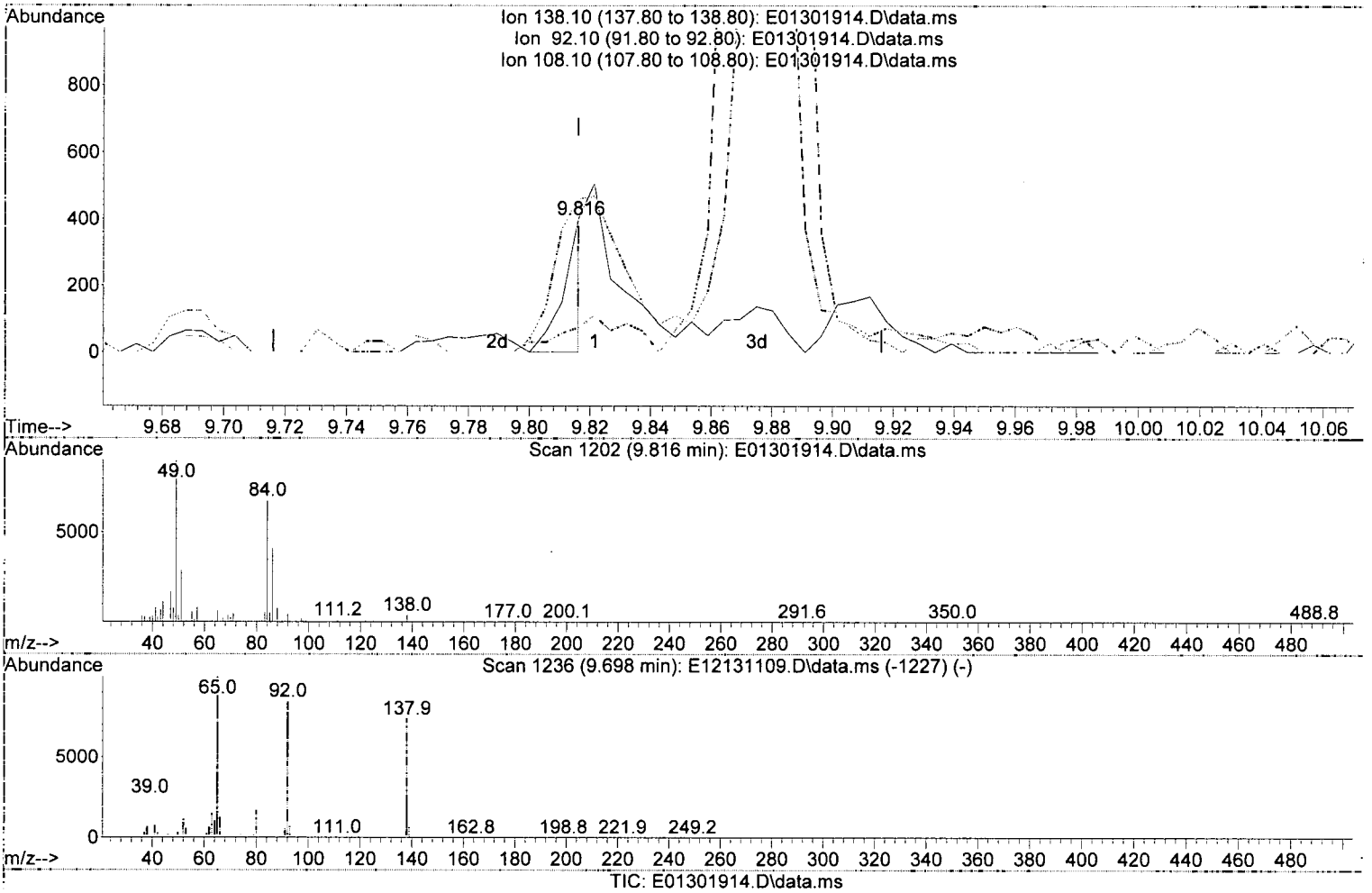


R = 2.09e-002 A*A + 3.22e-001 A - 4.69e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5



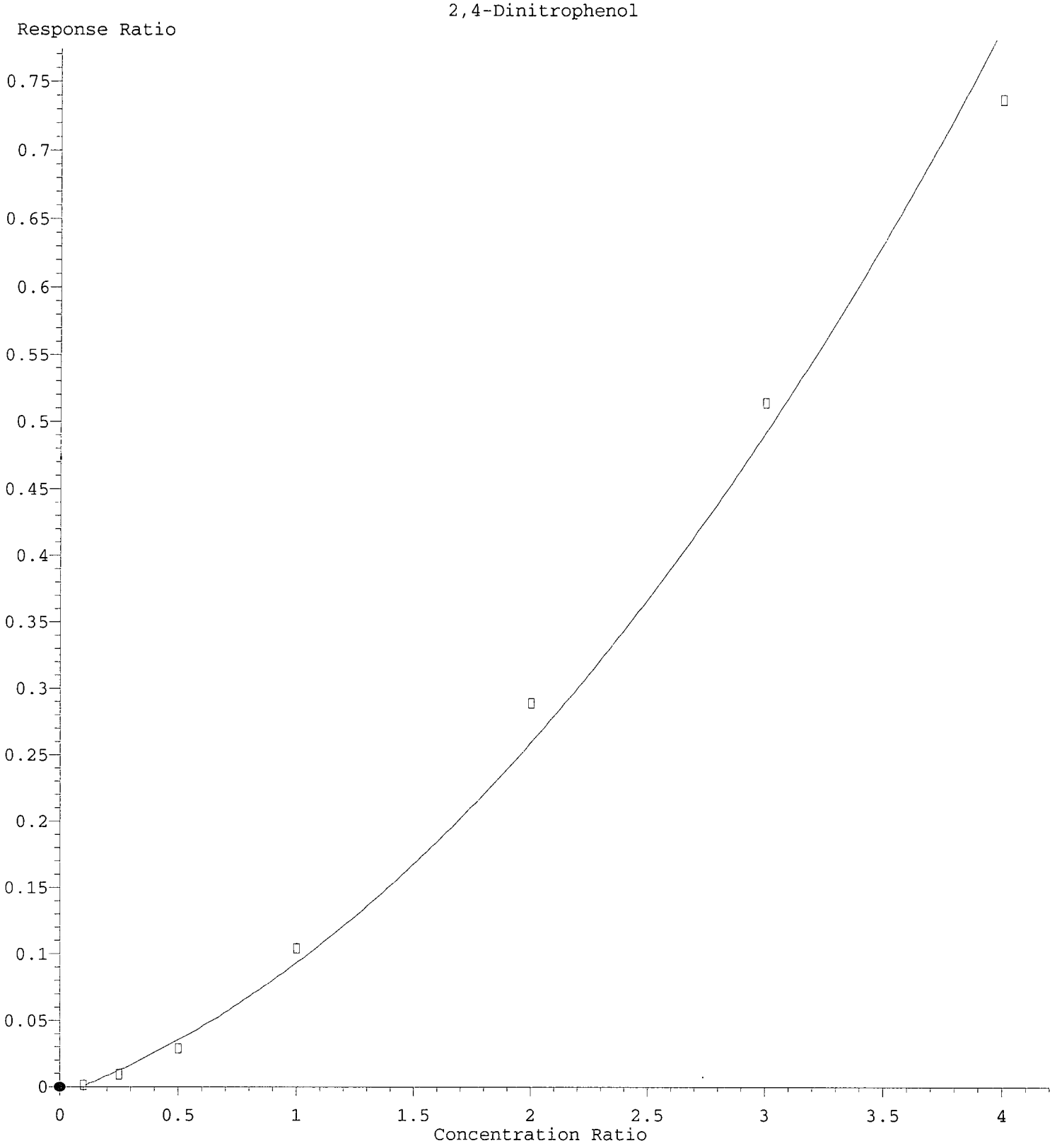
TIC: E01301914.D\data.ms

(50) 3-Nitroaniline (T)

9.816min (+ 0.000) 31.62 ng/ml m

response 195

Ion	Exp%	Act%
138.10	100.00	100.00
92.10	117.60	115.04
108.10	9.90	18.55
0.00	0.00	0.00

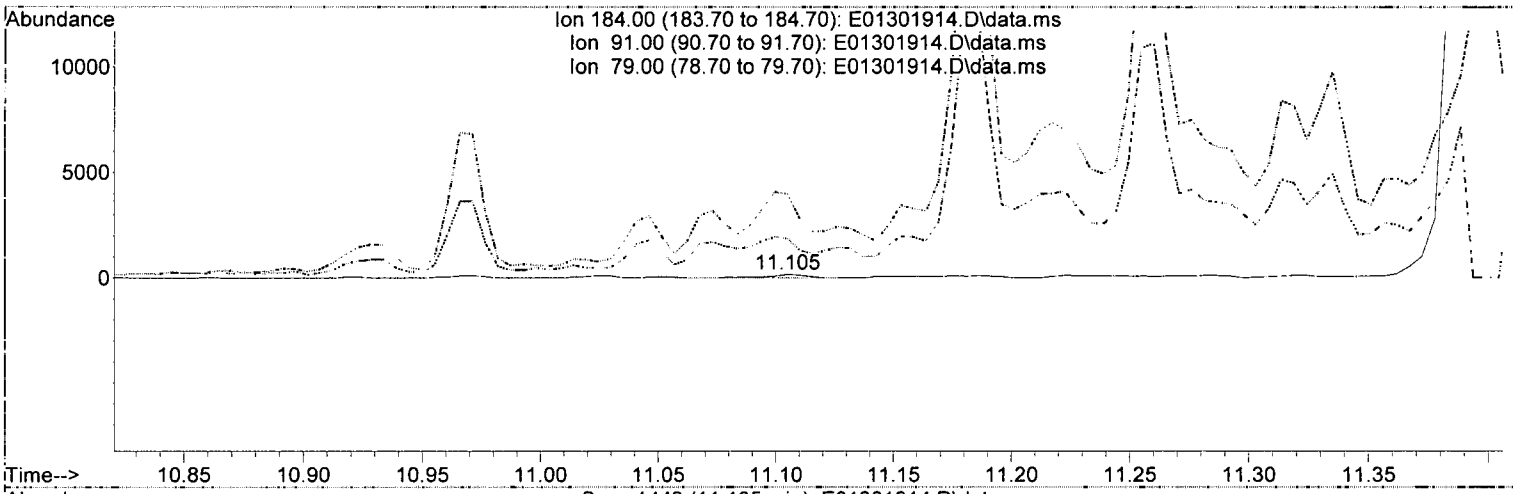


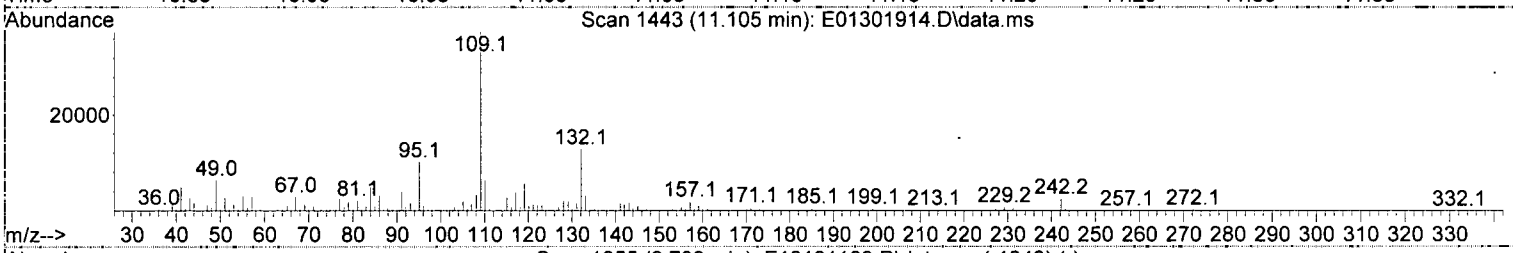
R = 3.32e-002 A*A + 6.65e-002 A - 6.19e-003
Coef of Det (r^2) = 0.990 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

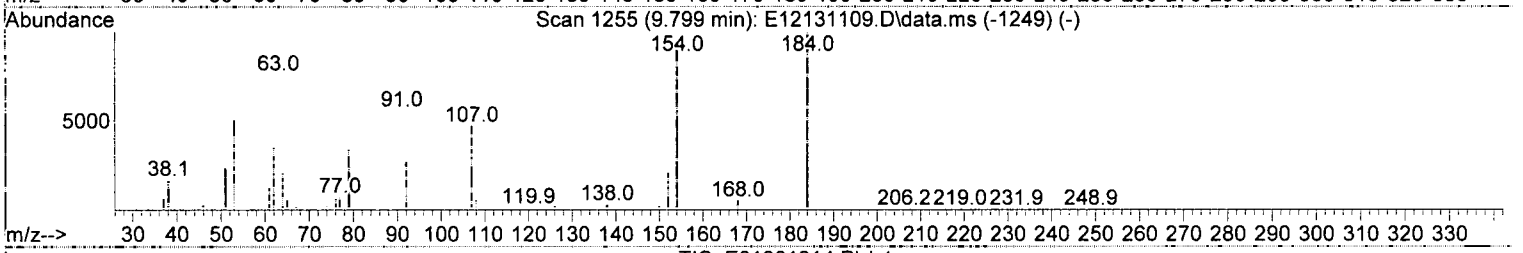
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







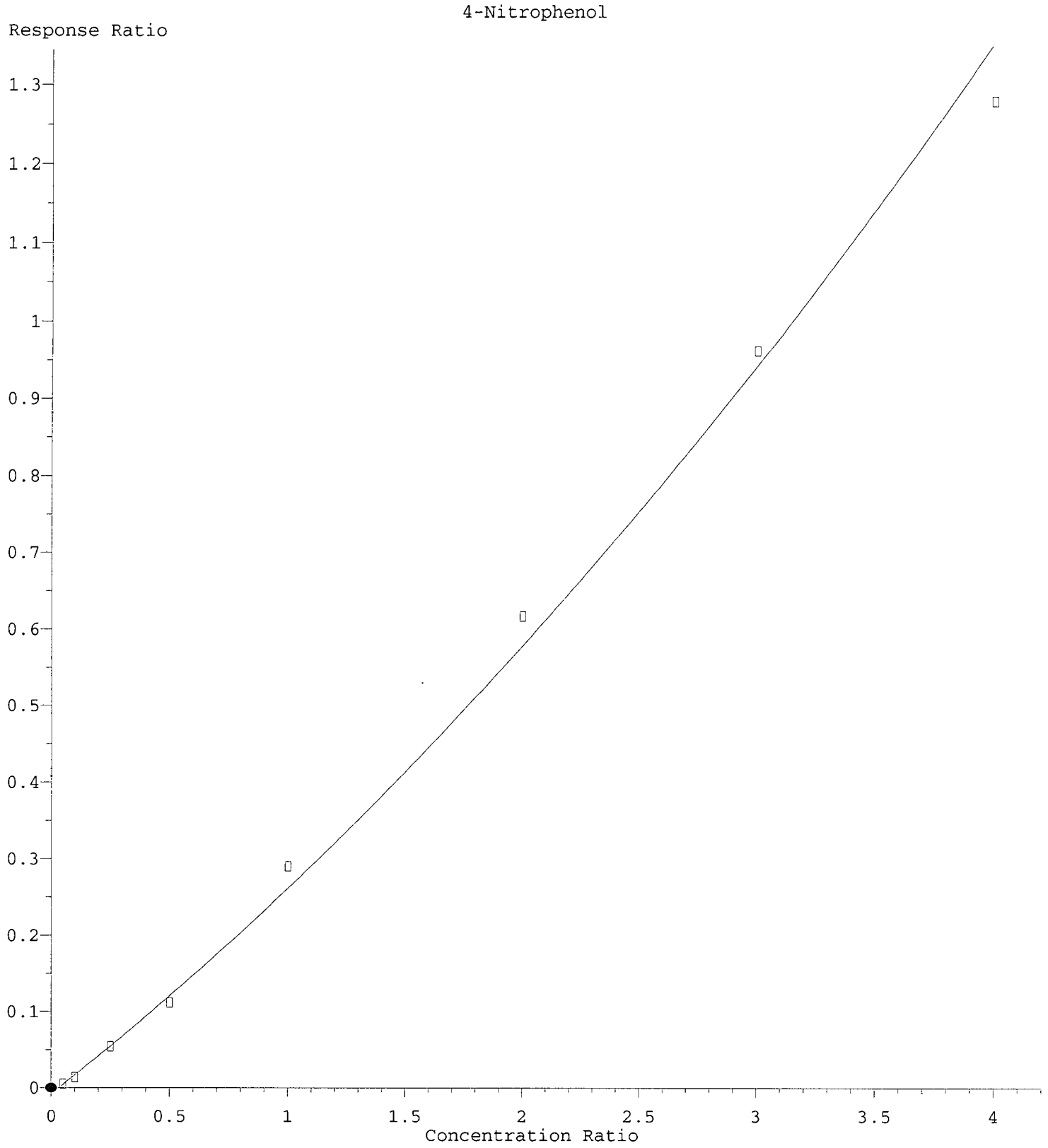
TIC: E01301914.D\data.ms

(52) 2,4-Dinitrophenol (T)

11.105min (+ 1.183) 188.23 ng/ml m

response 178

Ion	Exp%	Act%
184.00	100.00	100.00
91.00	61.90	2521.52#
79.00	44.90	1181.01#
0.00	0.00	0.00

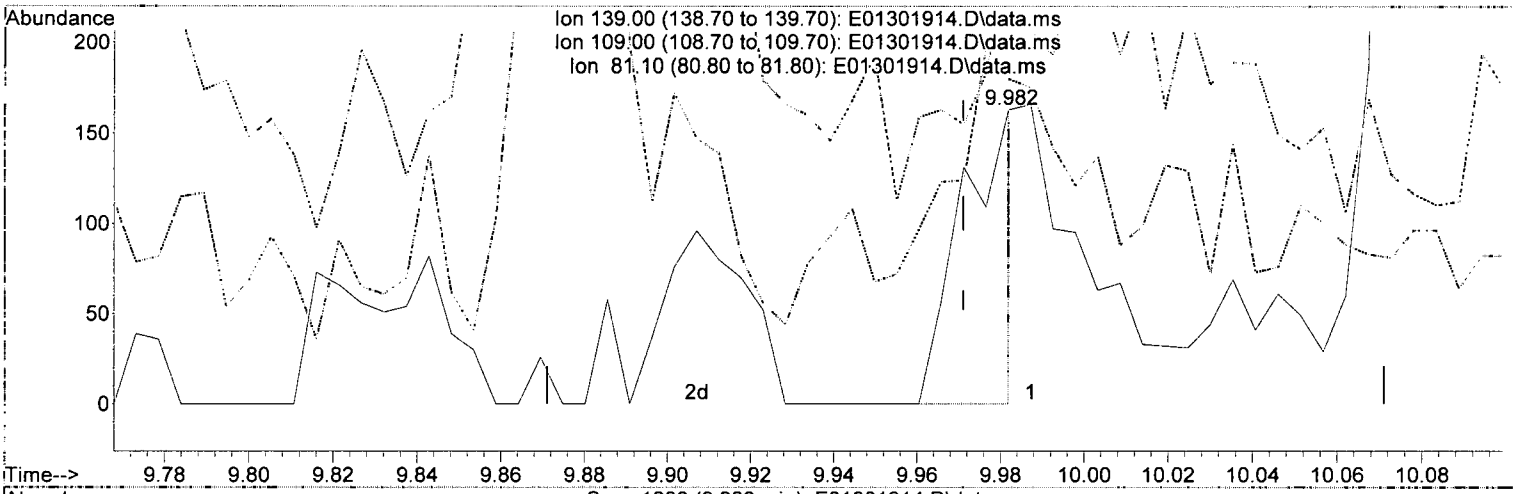


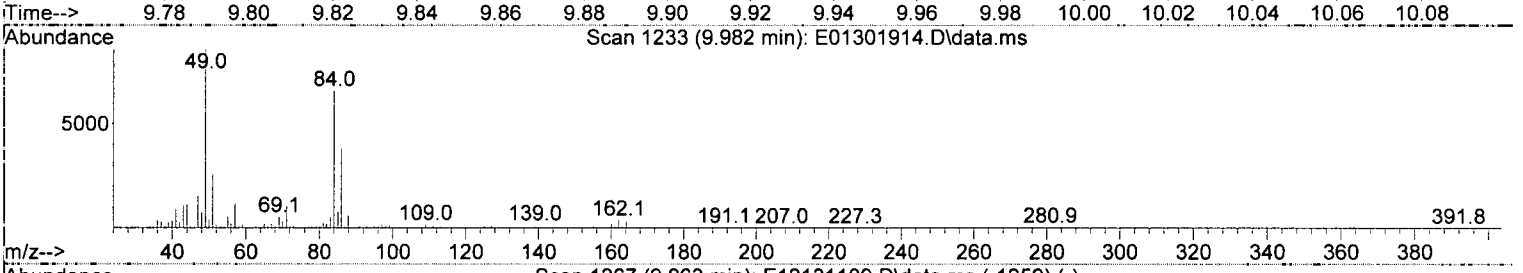
R = 2.37e-002 A*A + 2.46e-001 A - 8.09e-003
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

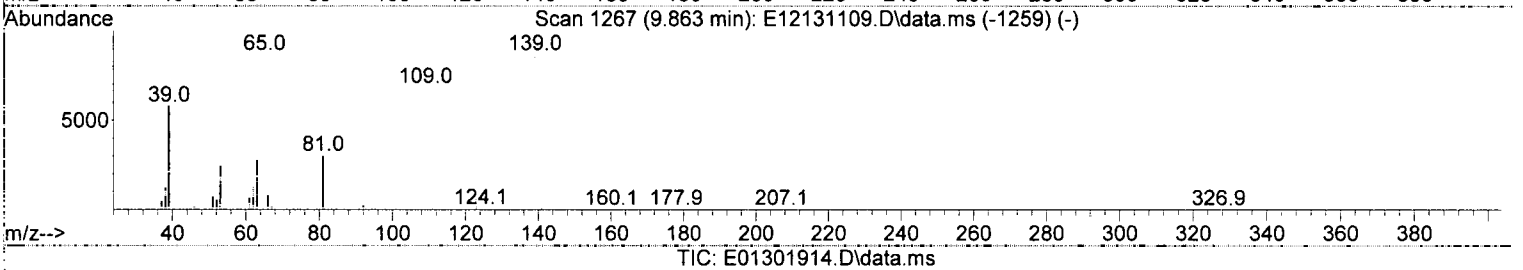
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







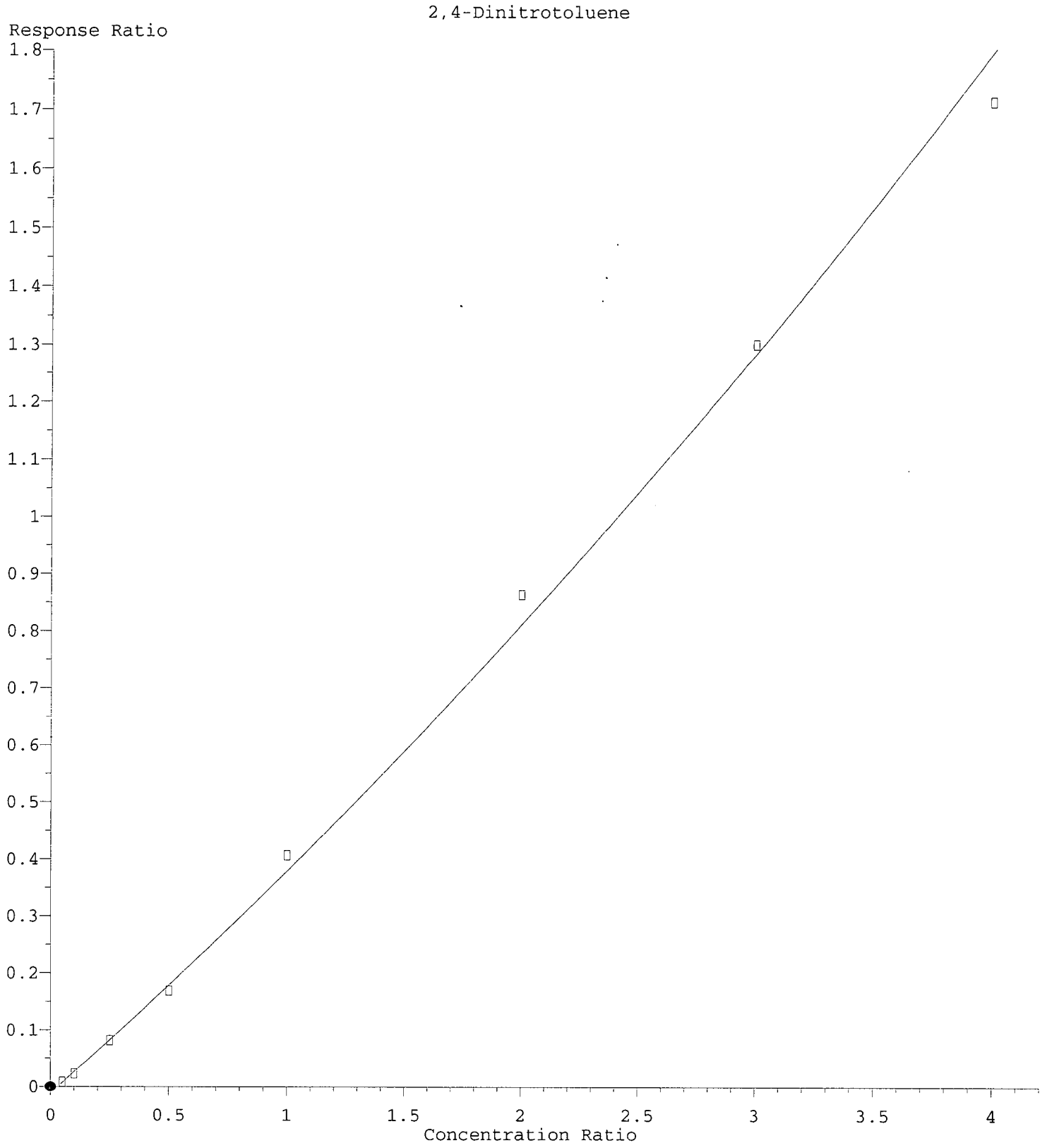
TIC: E01301914.D\data.ms

(53) 4-Nitrophenol (T)

9.982min (+ 0.011) 68.04 ng/ml m

response 148

Ion	Exp%	Act%
139.00	100.00	100.00
109.00	74.20	110.43#
81.10	37.00	152.76#
0.00	0.00	0.00

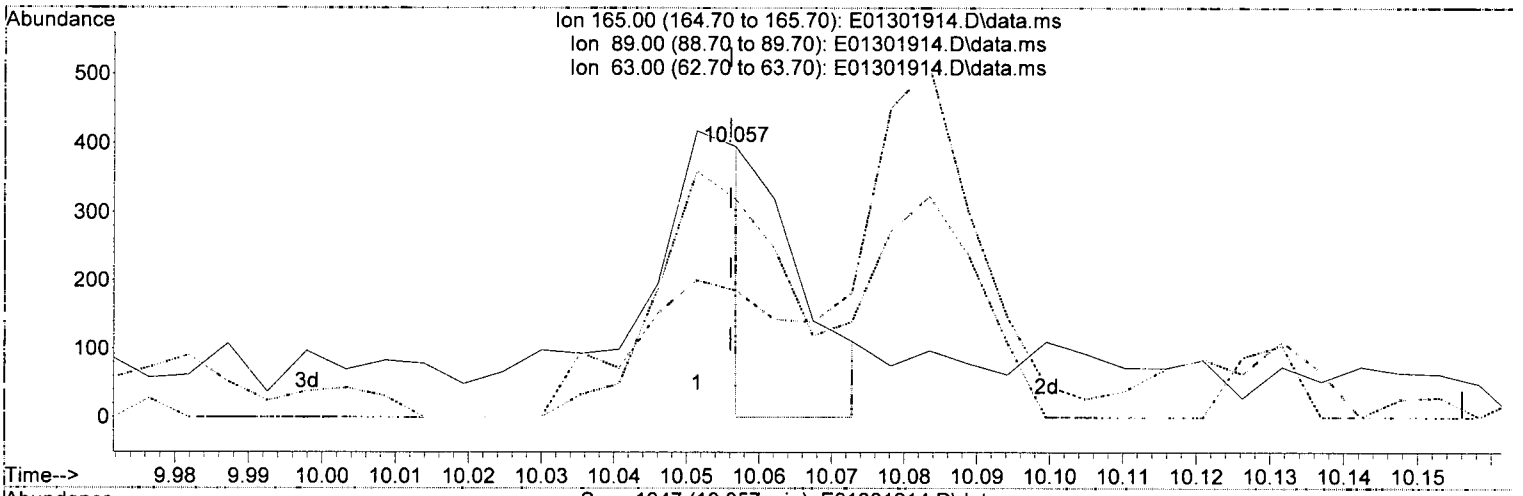


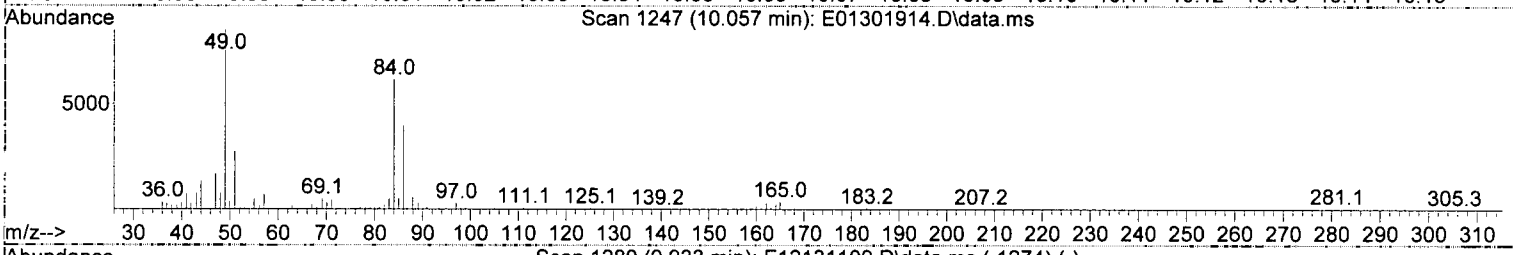
R = 2.07e-002 A*A + 3.70e-001 A - 1.13e-002
Coef of Det (r^2) = 0.996 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

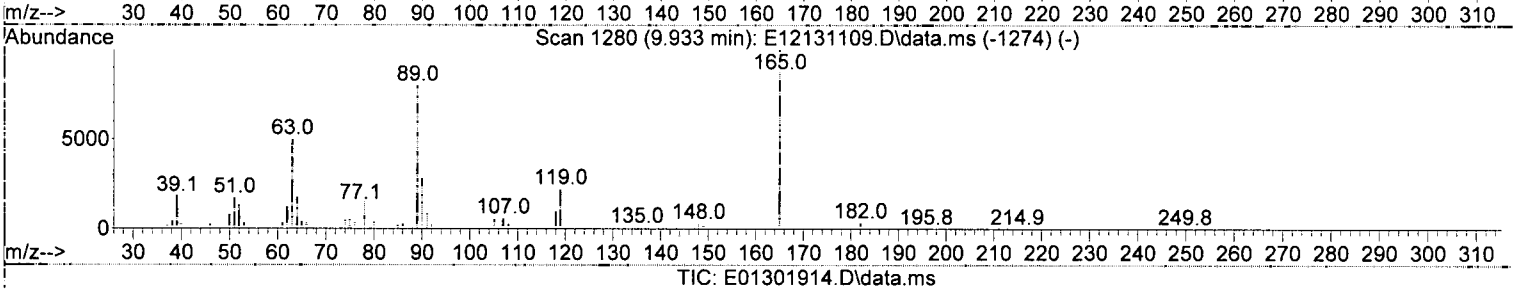
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







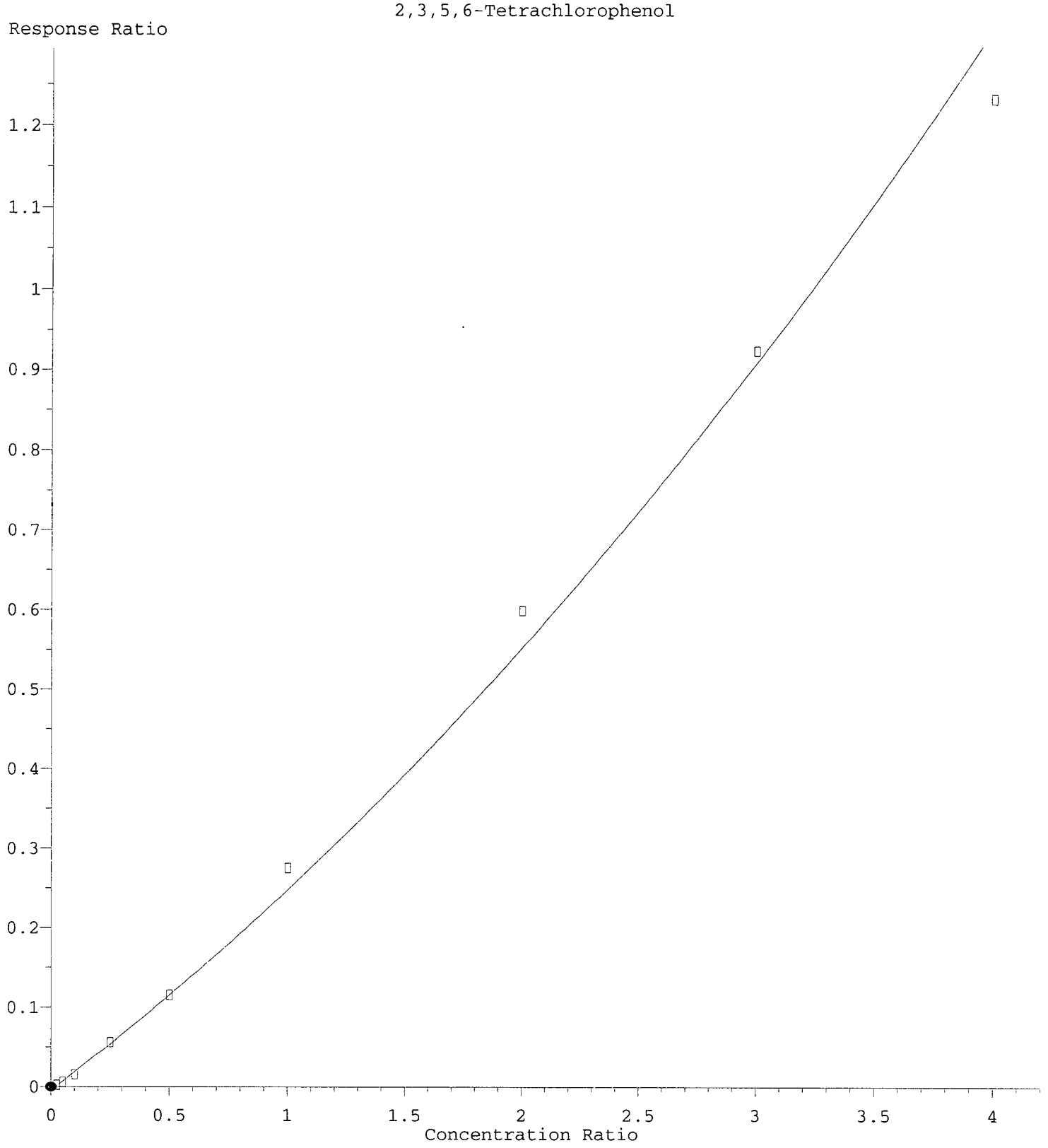
TIC: E01301914.D\data.ms

(54) 2,4-Dinitrotoluene (T)

10.057min (+ 0.001) 63.06 ng/ml m

response 183

Ion	Exp%	Act%
165.00	100.00	100.00
89.00	81.60	80.76
63.00	52.60	46.84
0.00	0.00	0.00

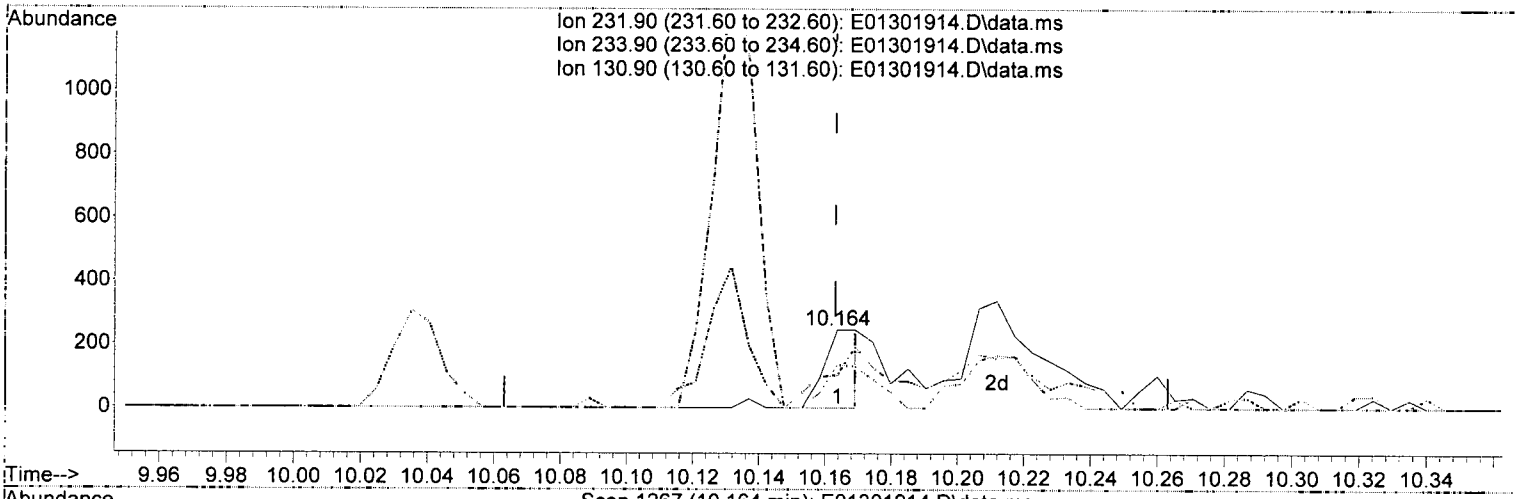


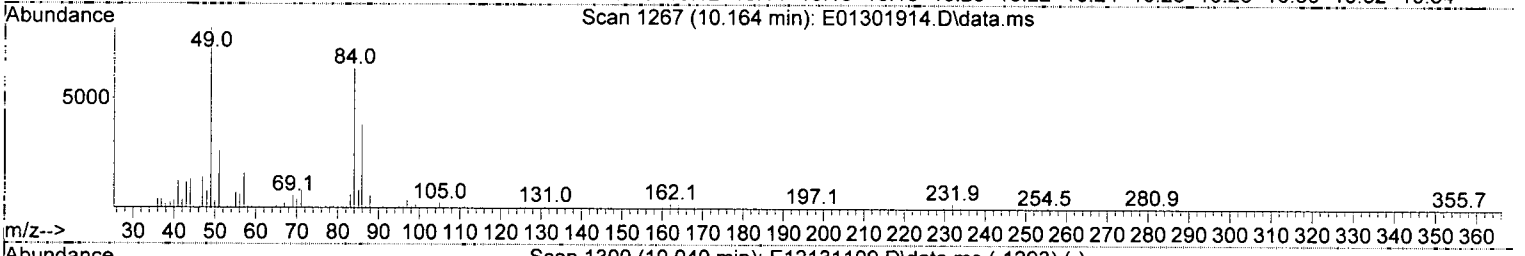
R = 2.63e-002 A*A + 2.26e-001 A - 4.06e-003
Coef of Det (r^2) = 0.990 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

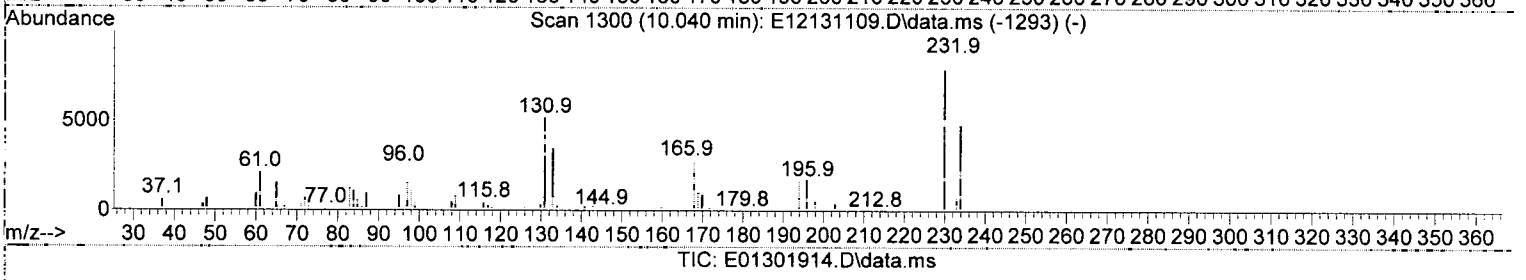
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







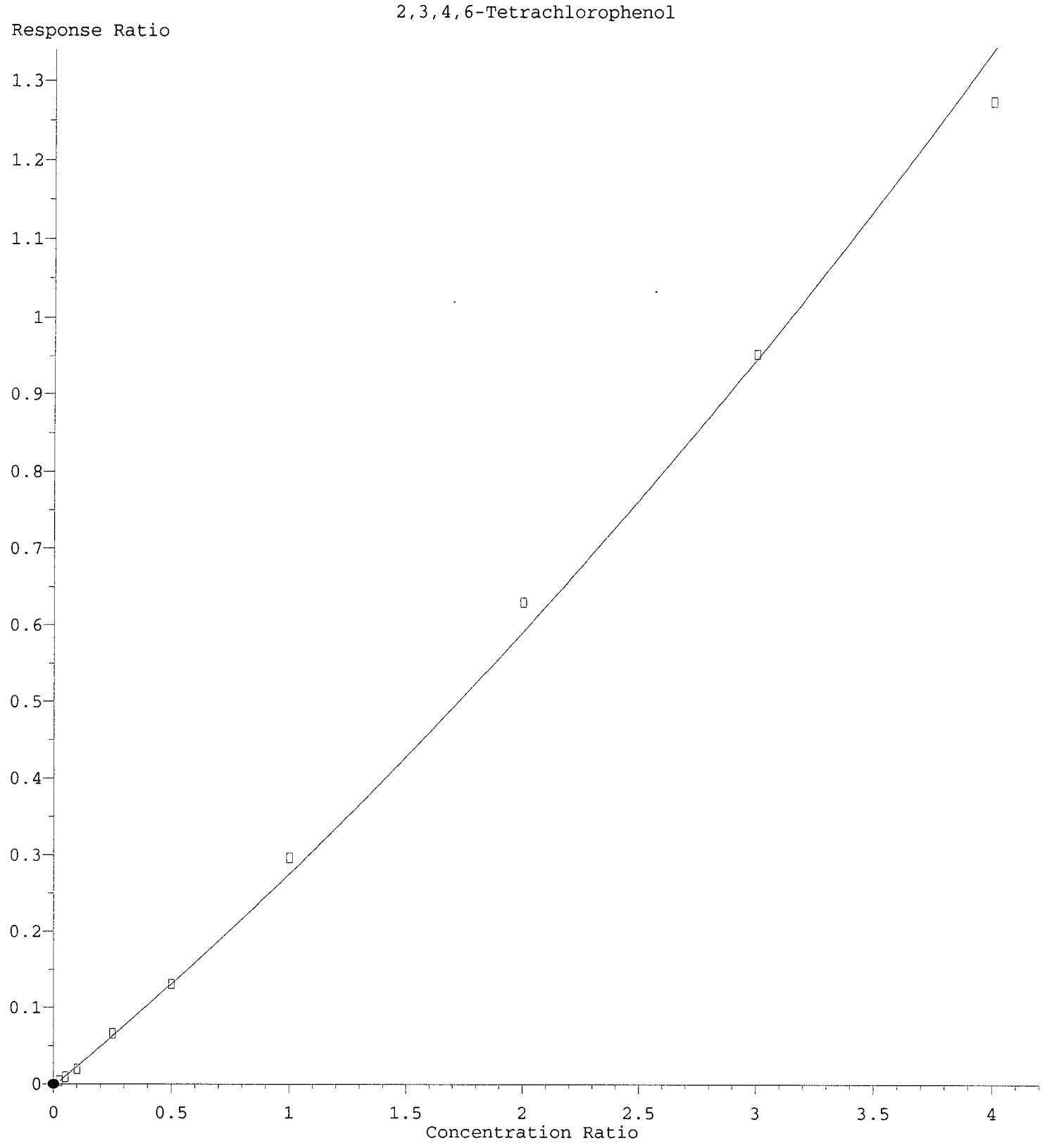
TIC: E01301914.D\data.ms

(56) 2,3,5,6-Tetrachlorophenol (T)

10.164min (+ 0.001) 39.31 ng/ml m

response 188

Ion	Exp%	Act%
231.90	100.00	100.00
233.90	46.40	55.28
130.90	52.90	42.28
0.00	0.00	0.00

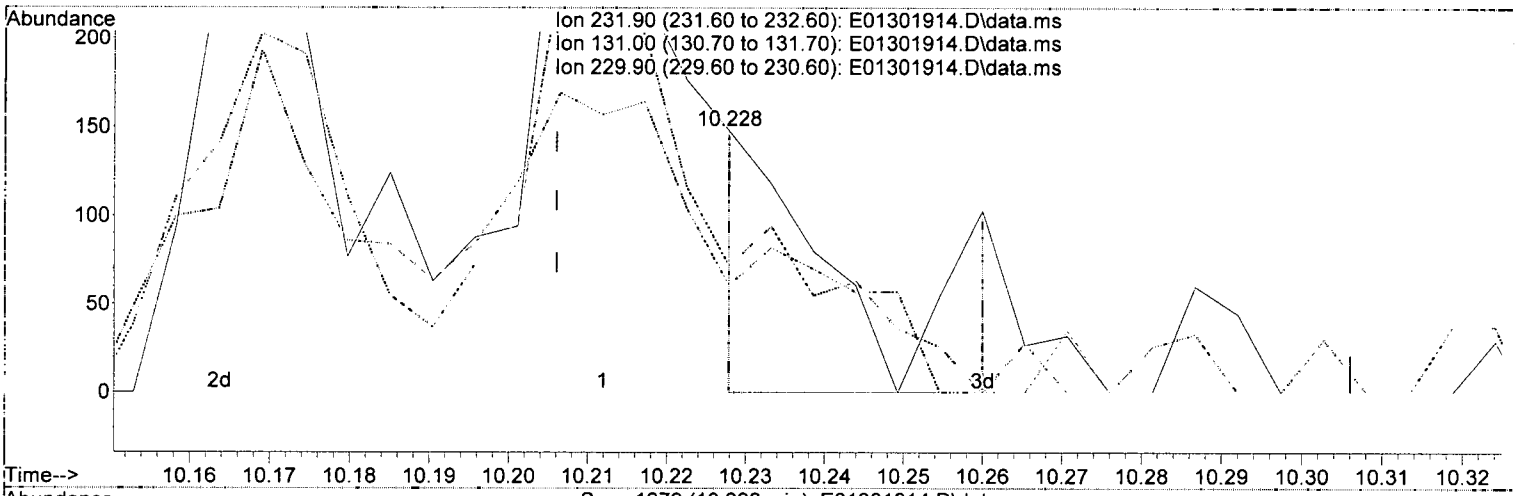


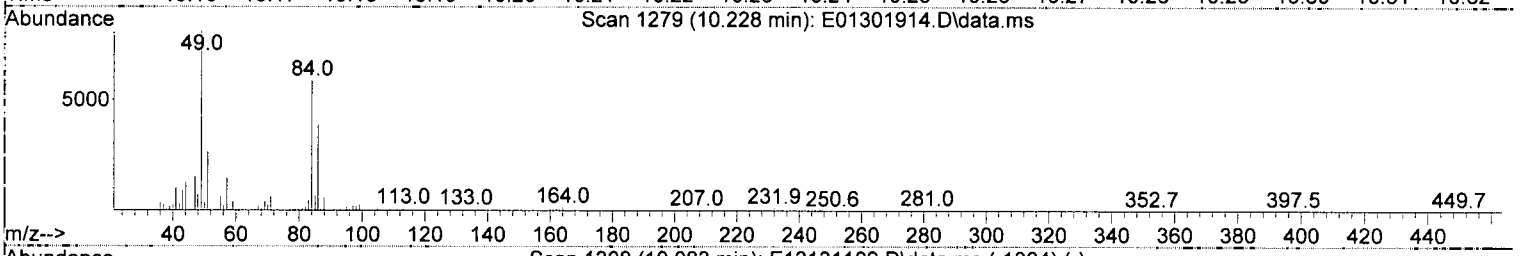
R = 1.91e-002 A*A + 2.59e-001 A - 3.03e-003
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

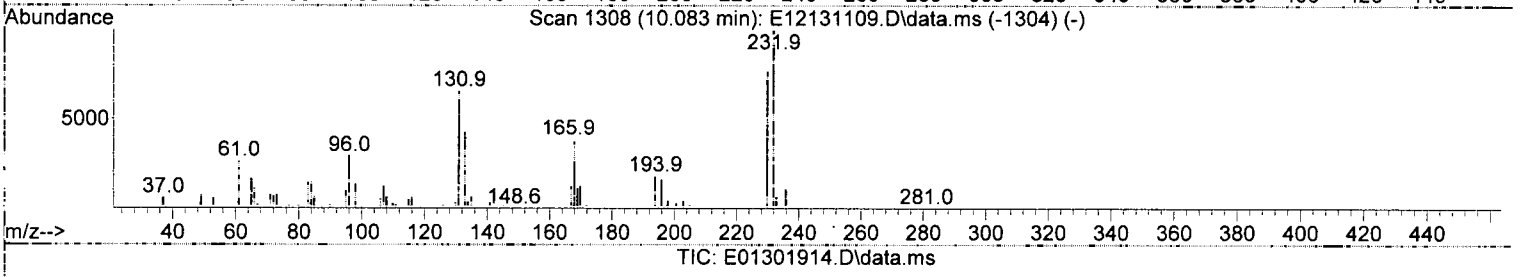
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







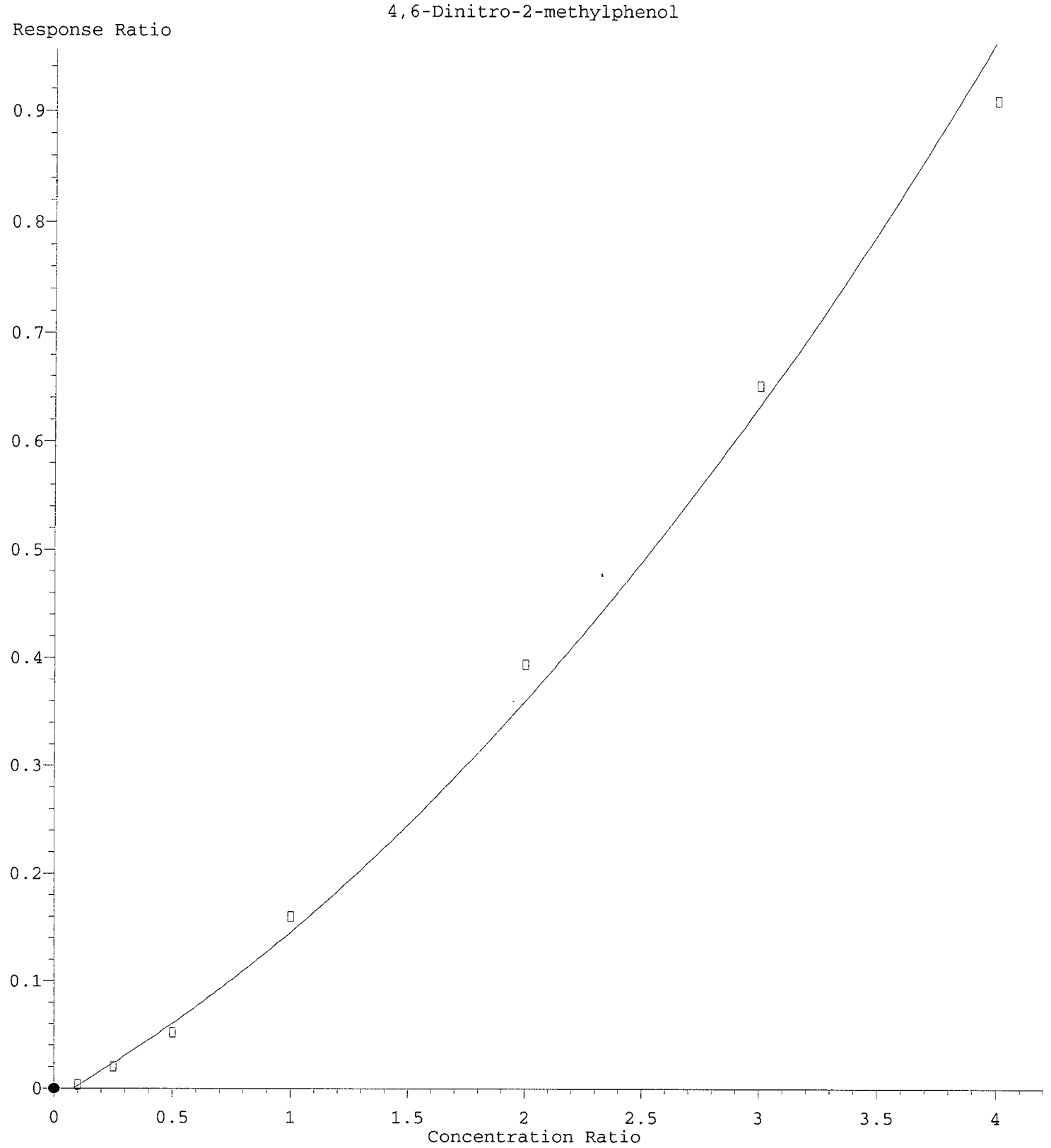
TIC: E01301914.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.228min (+ 0.022) 25.48 ng/ml m

response 134

Ion	Exp%	Act%
231.90	100.00	100.00
131.00	61.50	41.22
229.90	79.80	48.65#
0.00	0.00	0.00

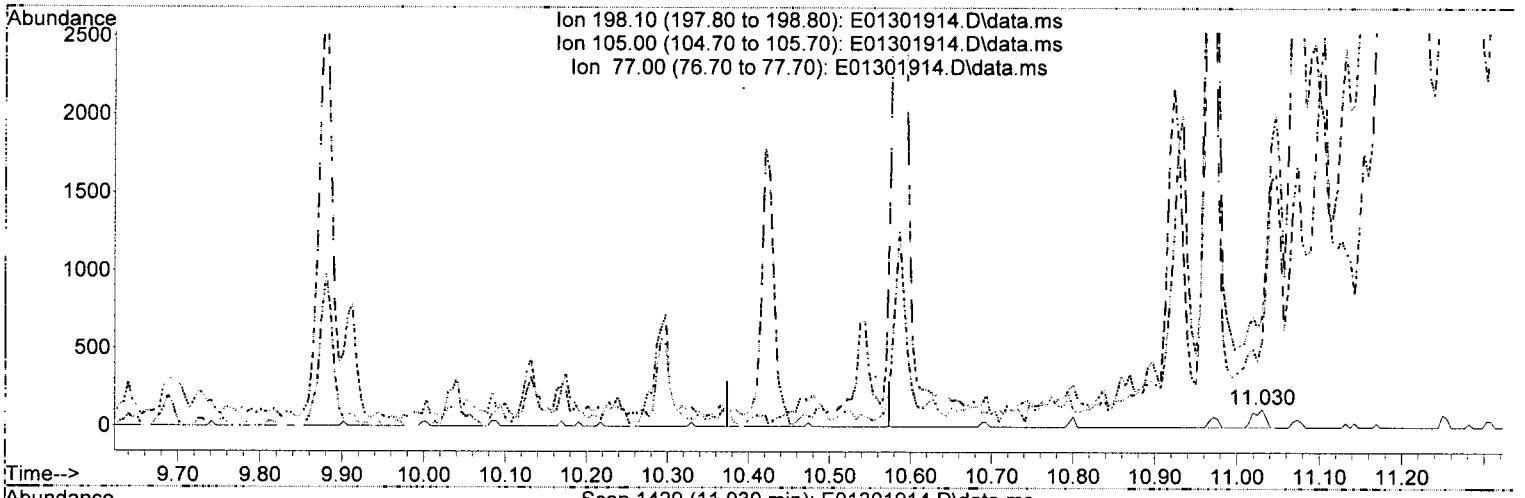


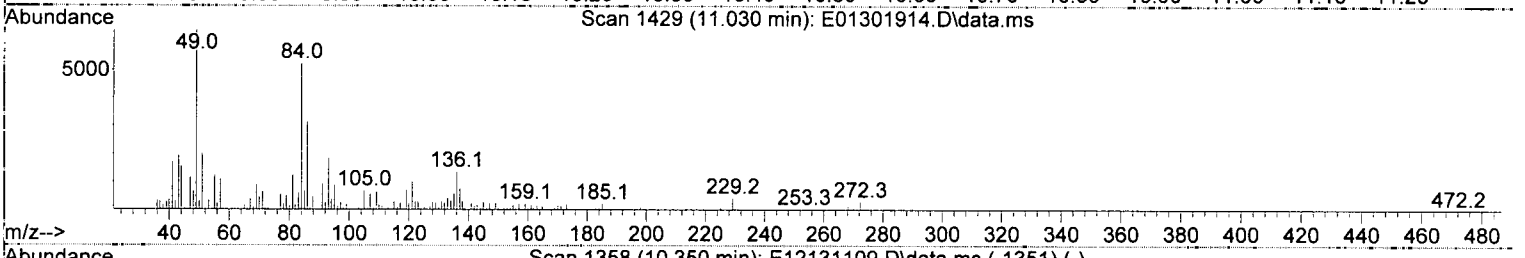
R = 2.93e-002 A*A + 1.27e-001 A - 1.03e-002
Coef of Det (r^2) = 0.993 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

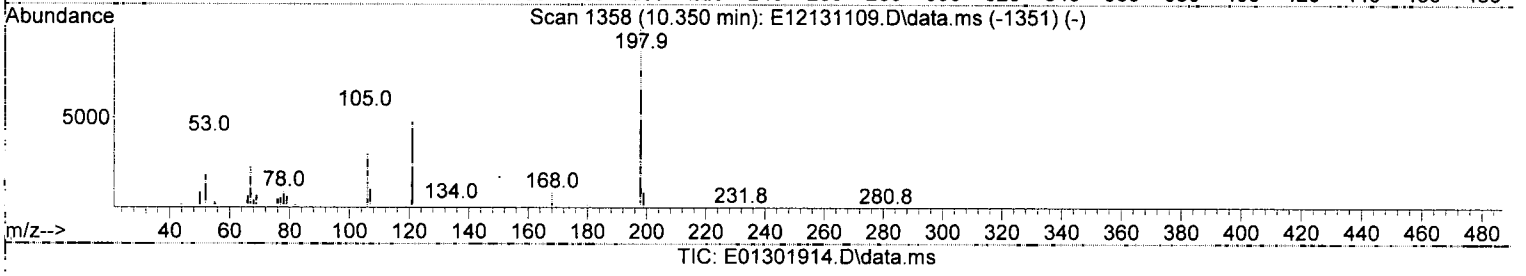
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







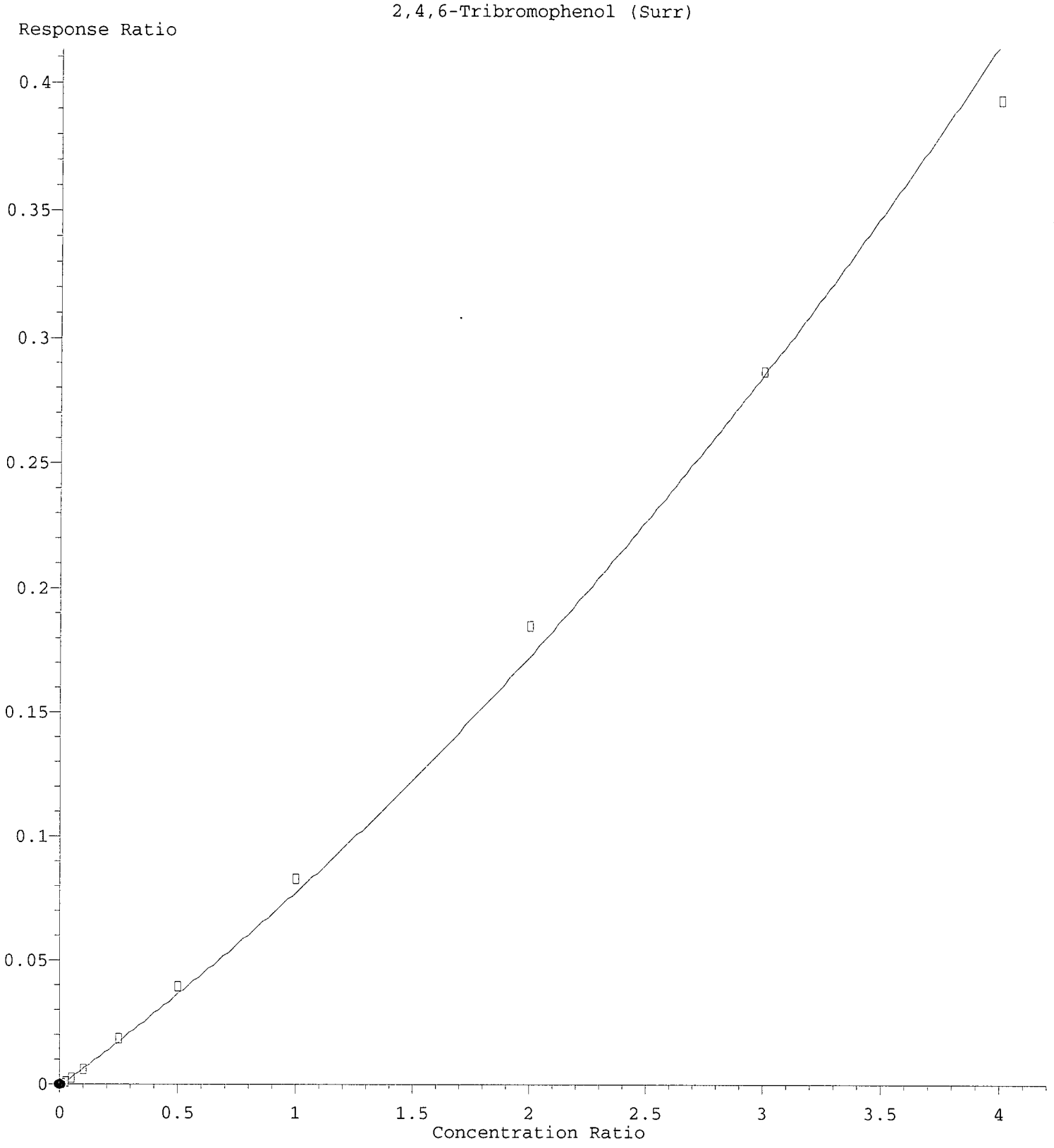
TIC: E01301914.D\data.ms

(63) 4,6-Dinitro-2-methylphenol (T)

11.030min (+ 0.557) 164.67 ng/ml m

response 160

Ion	Exp%	Act%
198.10	100.00	100.00
105.00	58.30	594.92#
77.00	33.50	466.95#
0.00	0.00	0.00

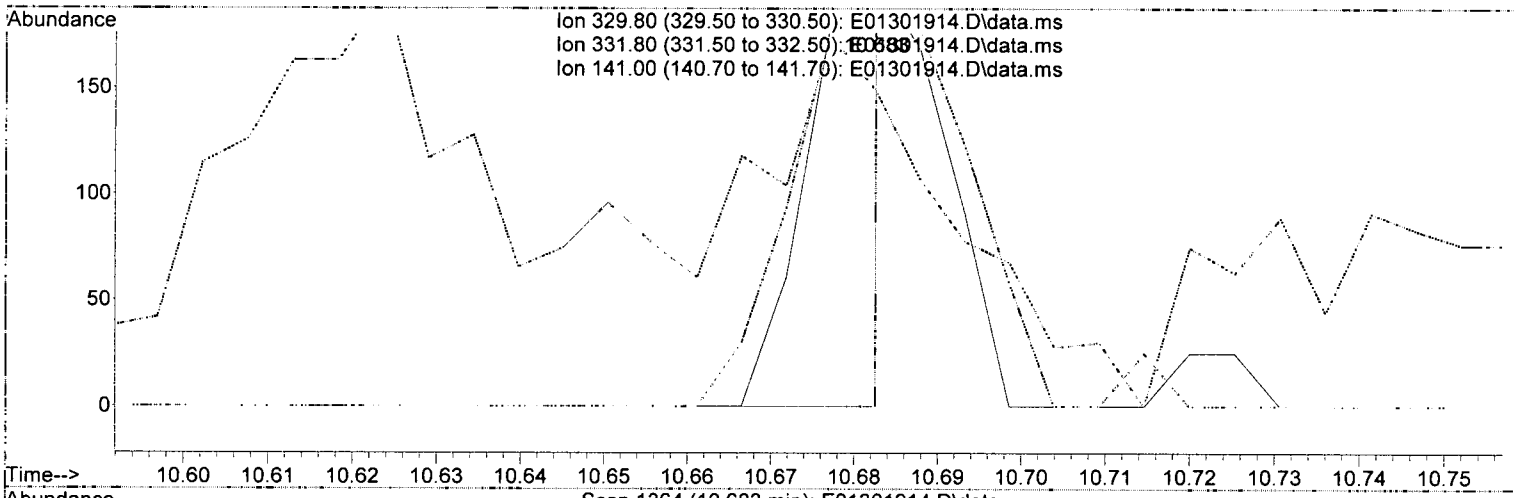


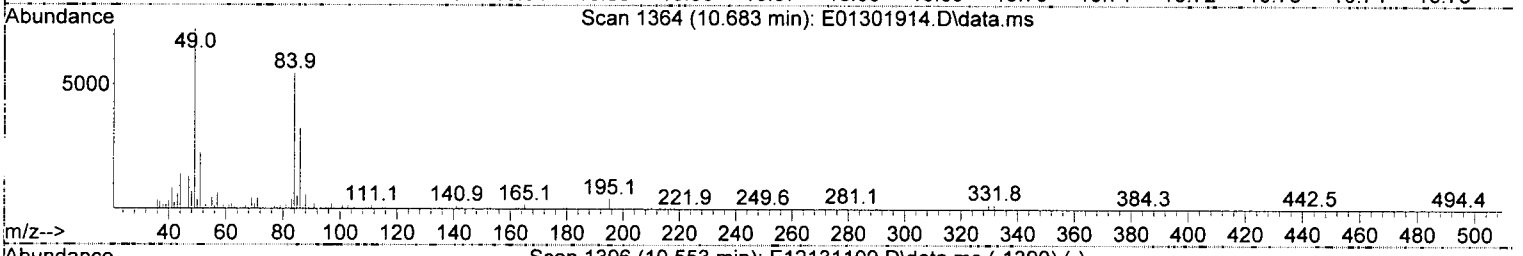
R = 8.71e-003 A*A + 6.92e-002 A - 5.01e-004
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

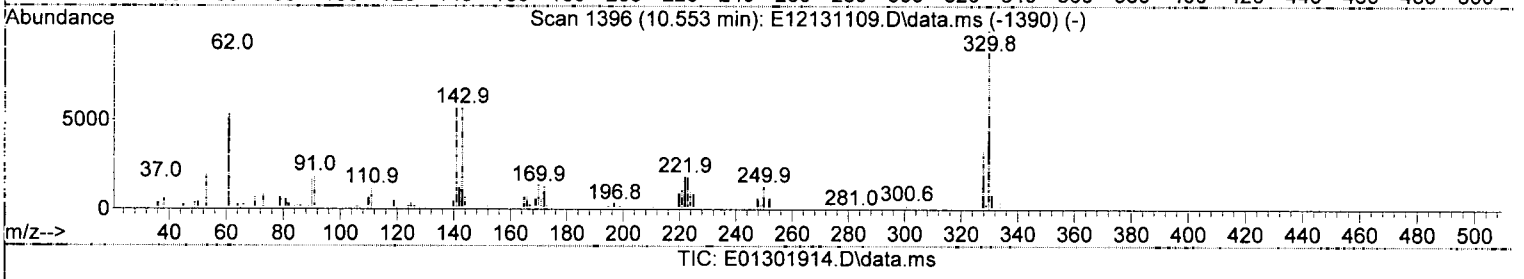
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







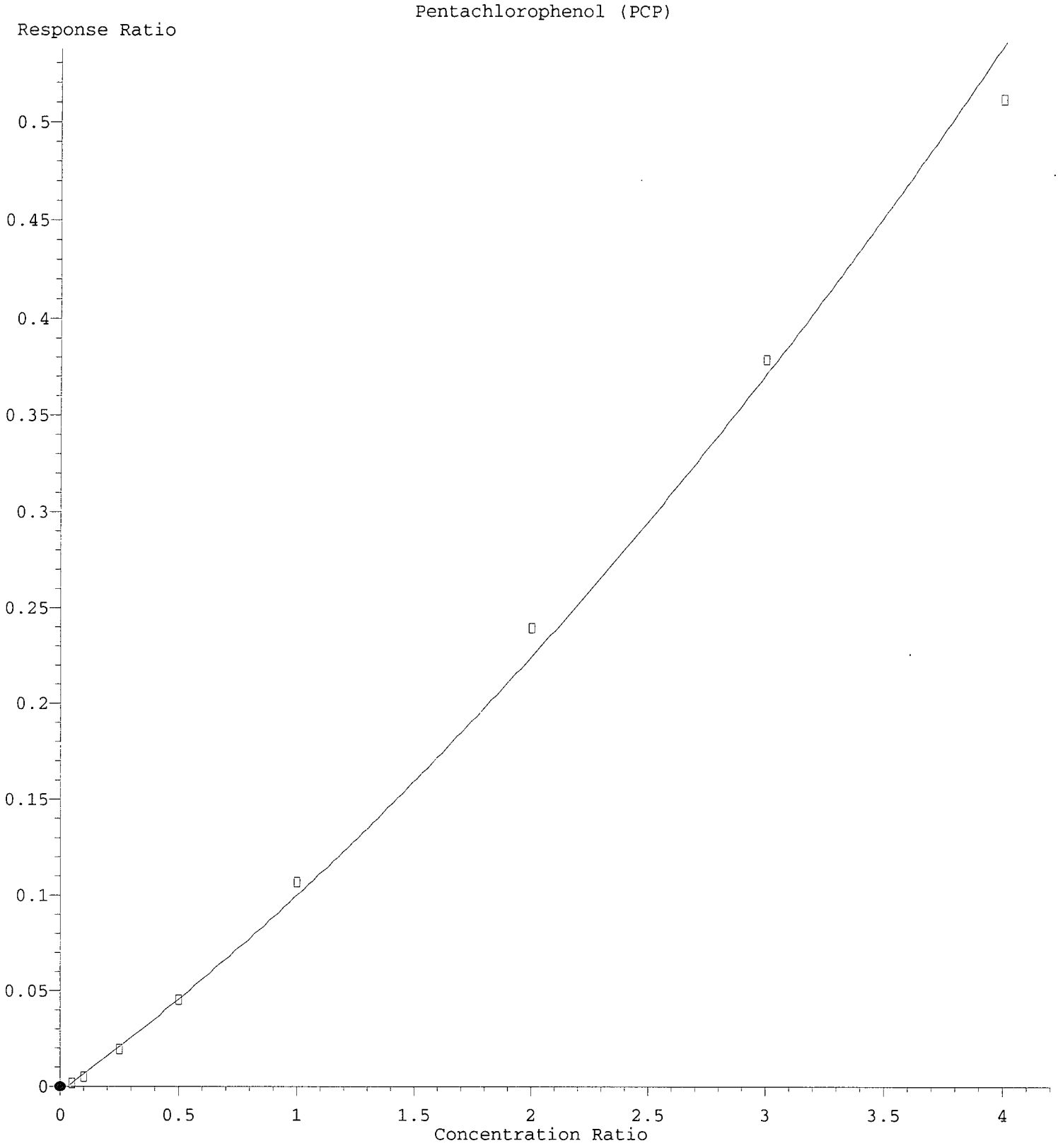
TIC: E01301914.D\data.ms

(67) 2,4,6-Tribromophenol (Surr) (S)

10.683min (+ 0.000) 19.07 ng/ml m

response 146

Ion	Exp%	Act%
329.80	100.00	100.00
331.80	93.60	103.32
141.00	55.20	70.62
0.00	0.00	0.00

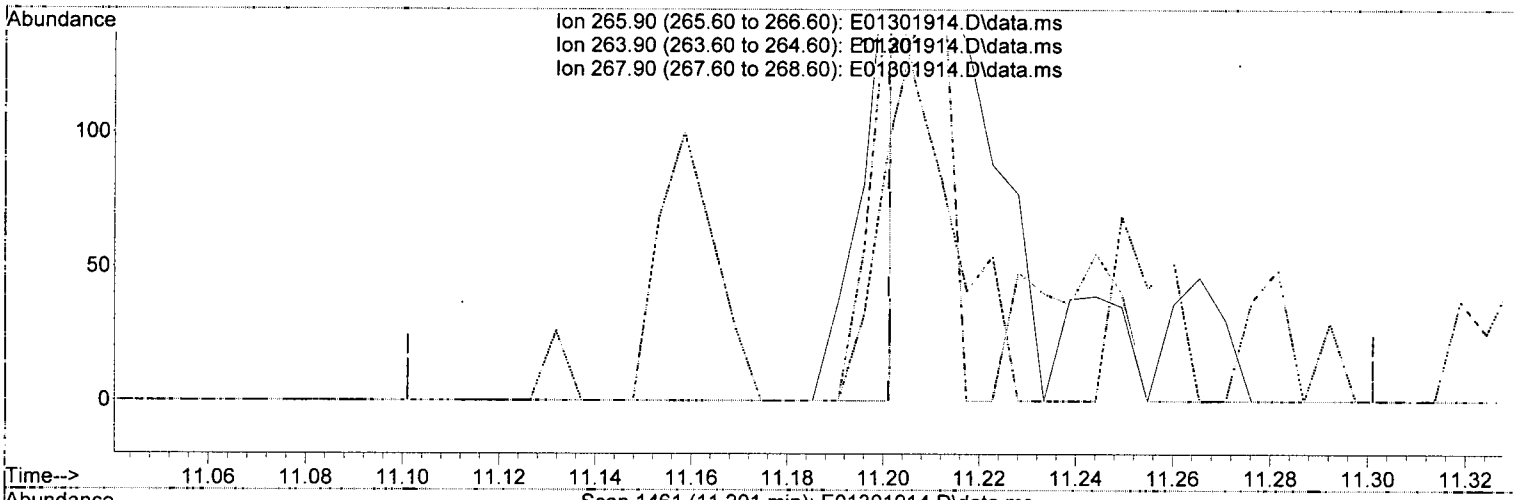


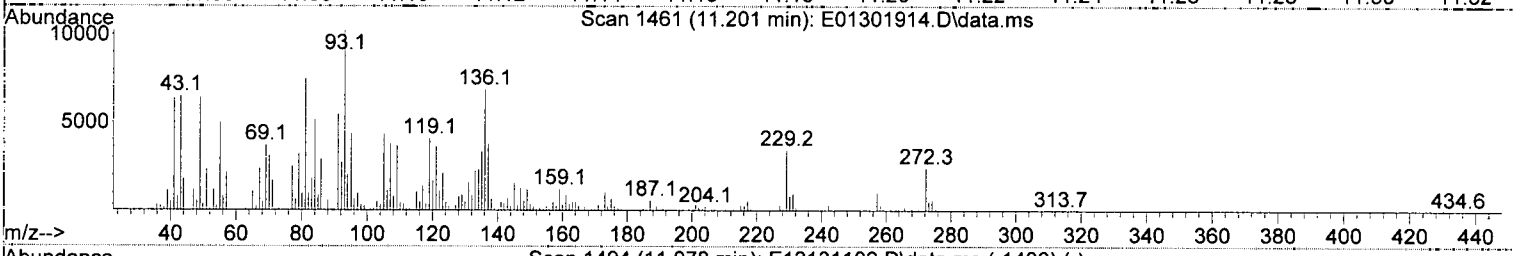
R = 1.08e-002 A*A + 9.25e-002 A - 3.25e-003
Coef of Det (r^2) = 0.995 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

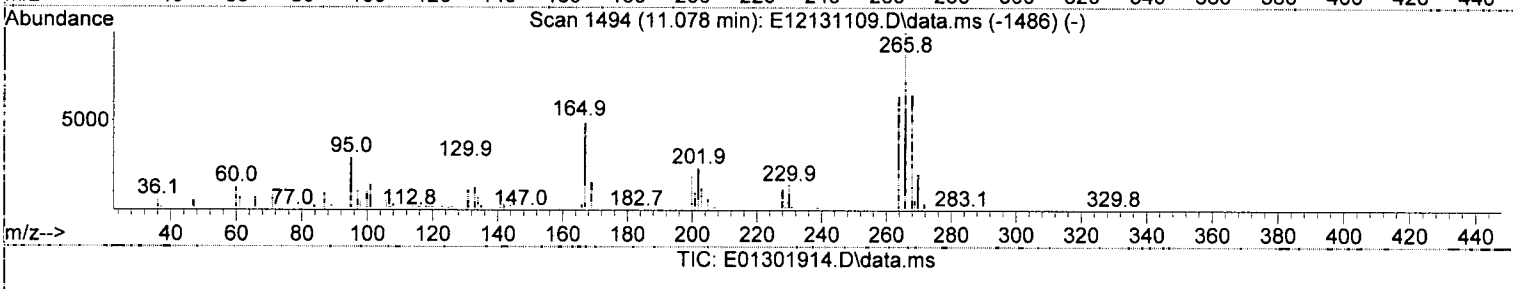
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







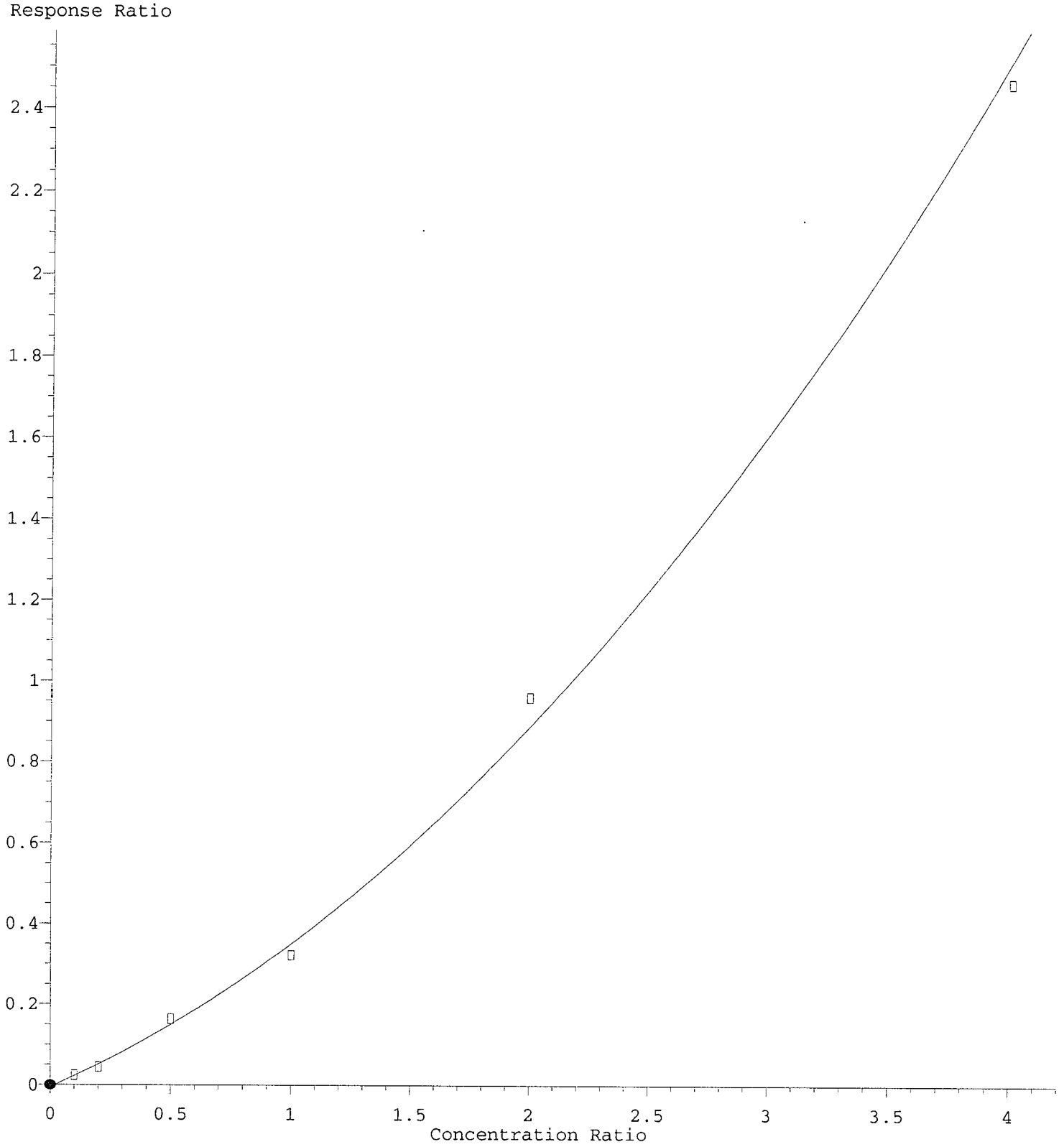
TIC: E01301914.D\data.ms

(70) Pentachlorophenol (PCP) (T)

11.201min (+ 0.000) 72.35 ng/ml m

response 101

Ion	Exp%	Act%
265.90	100.00	100.00
263.90	65.40	50.25
267.90	67.30	85.28
0.00	0.00	0.00

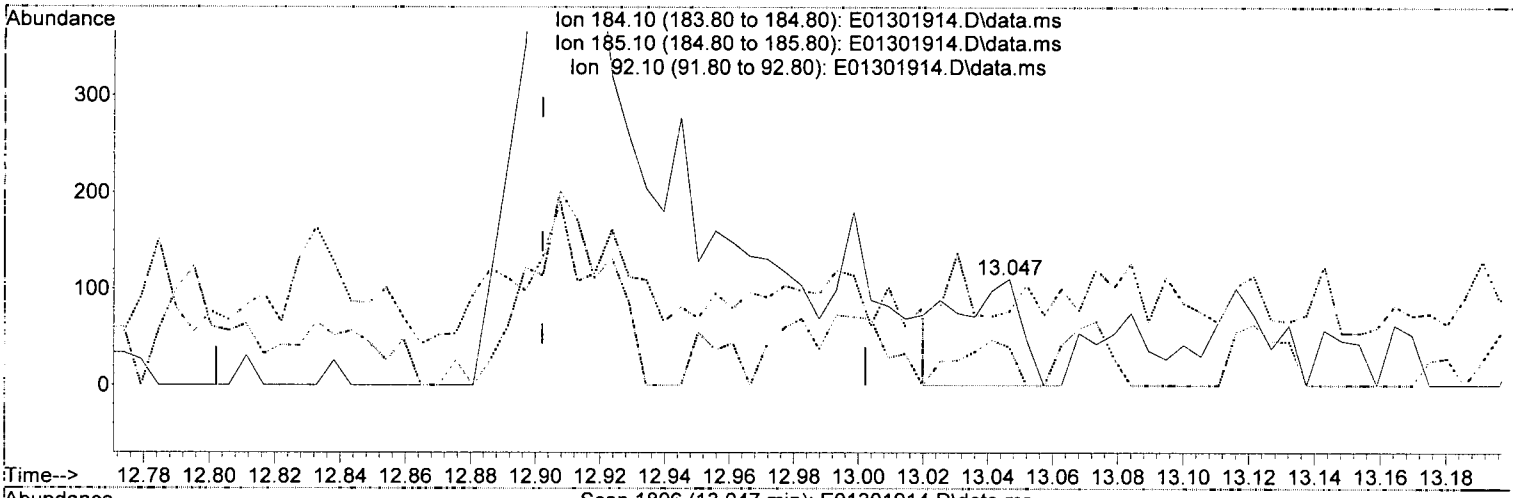


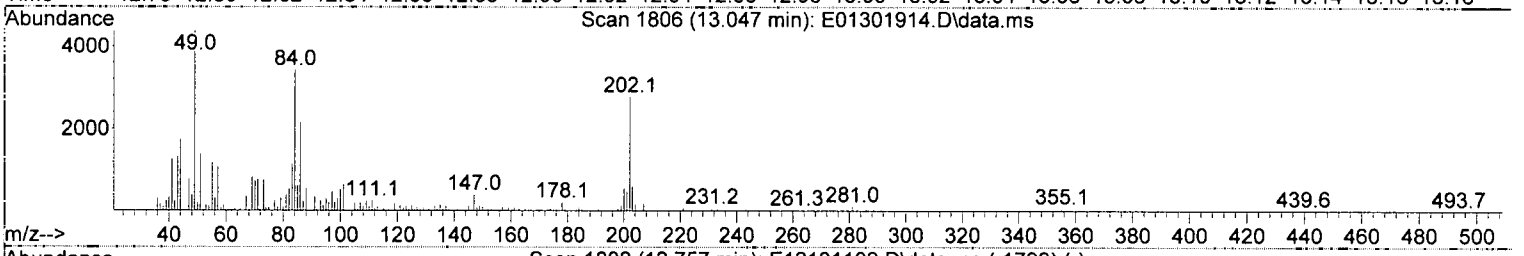
R = 9.14e-002 A*A + 2.64e-001 A - 5.09e-003
Coef of Det (r^2) = 0.994 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

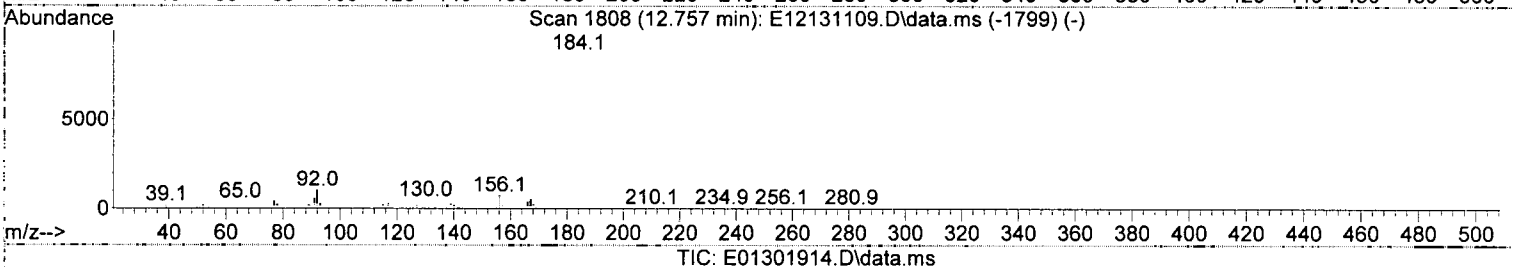
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







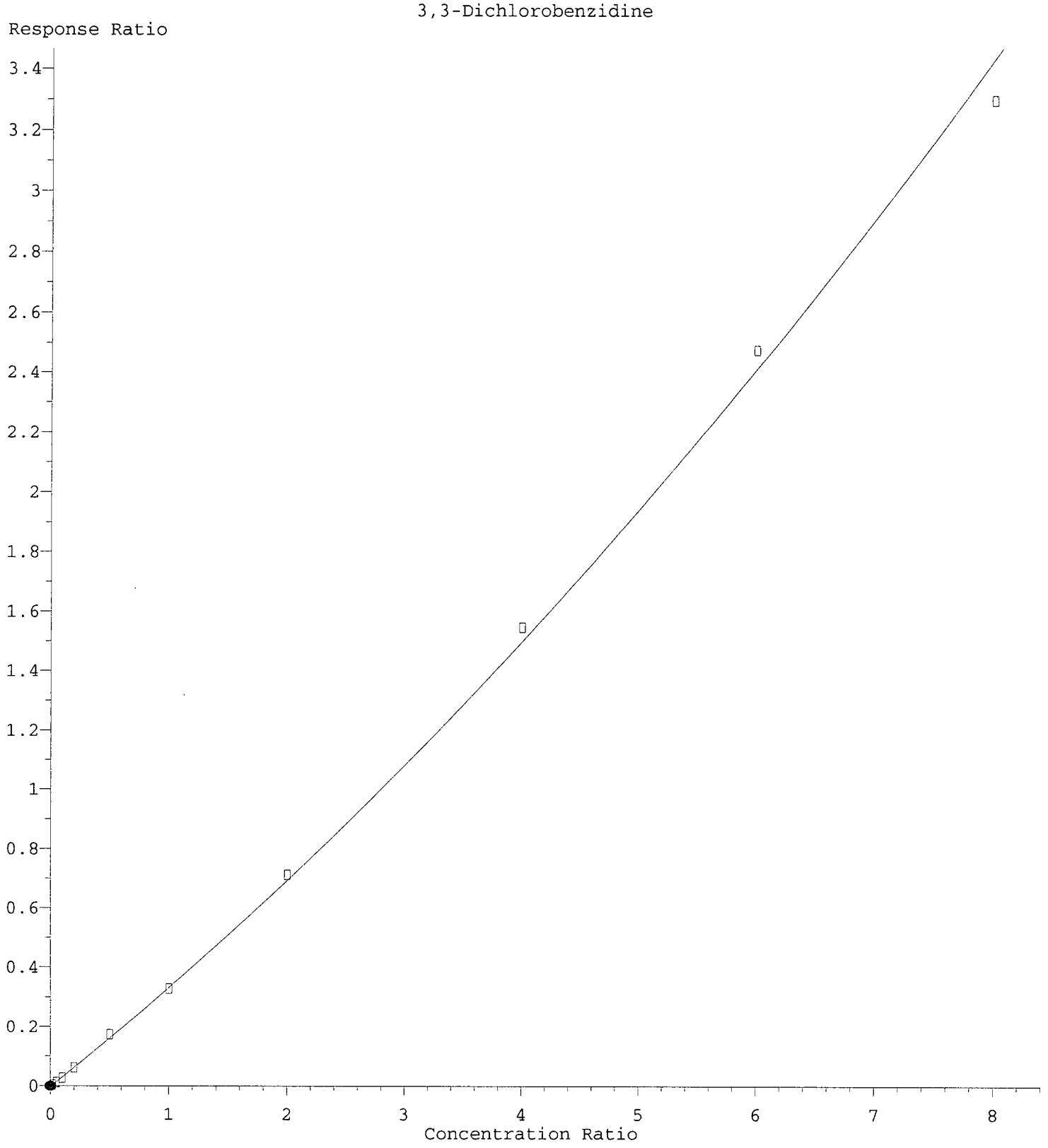
TIC: E01301914.D\data.ms

(76) Benzidine (T)

13.047min (+ 0.145) 39.61 ng/ml m

response 157

Ion	Exp%	Act%
184.10	100.00	100.00
185.10	14.50	36.36
92.10	10.50	70.00#
0.00	0.00	0.00

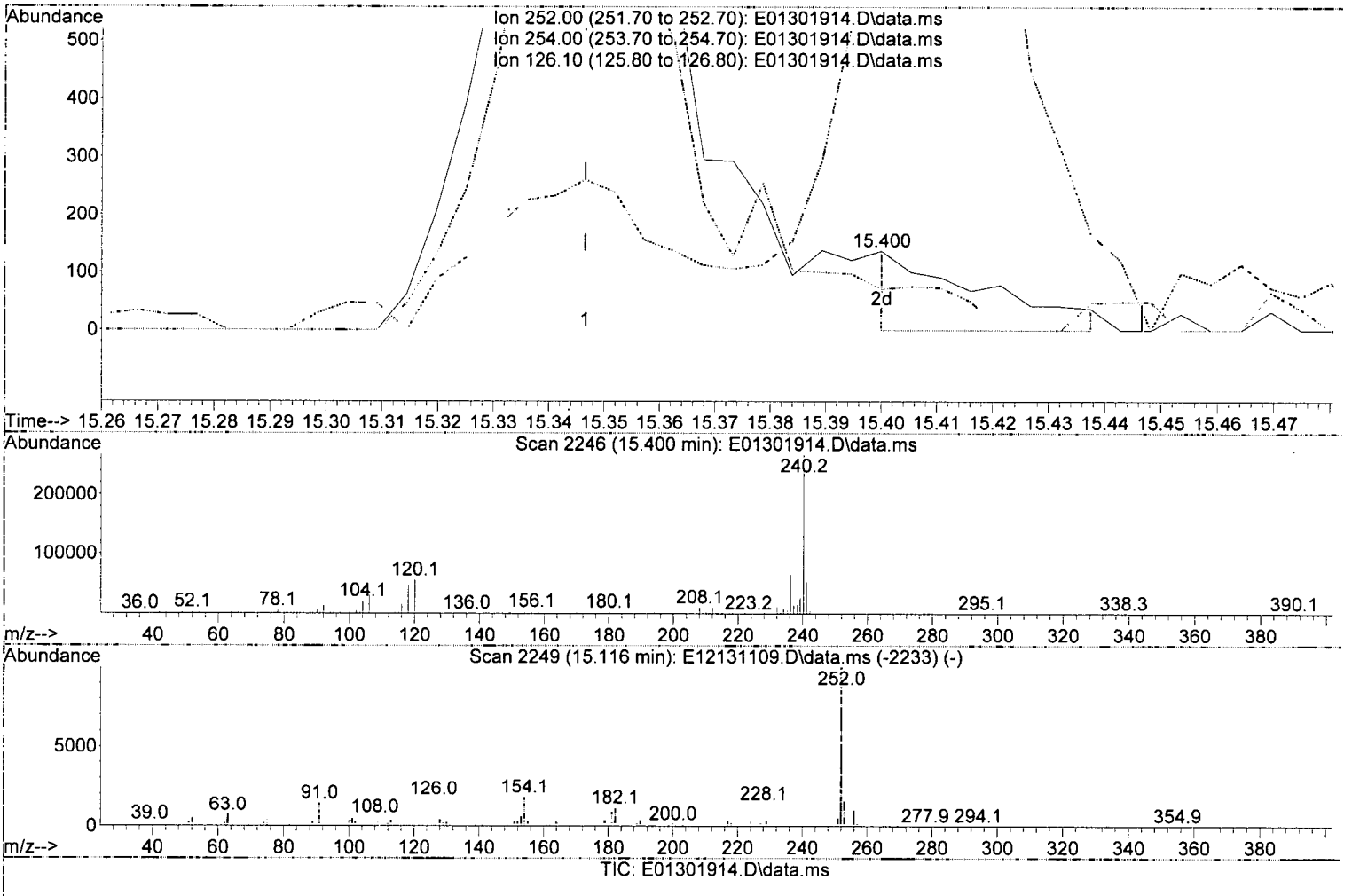


R = 1.36e-002 A*A + 3.21e-001 A - 3.38e-003
Coef of Det (r^2) = 0.997 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5



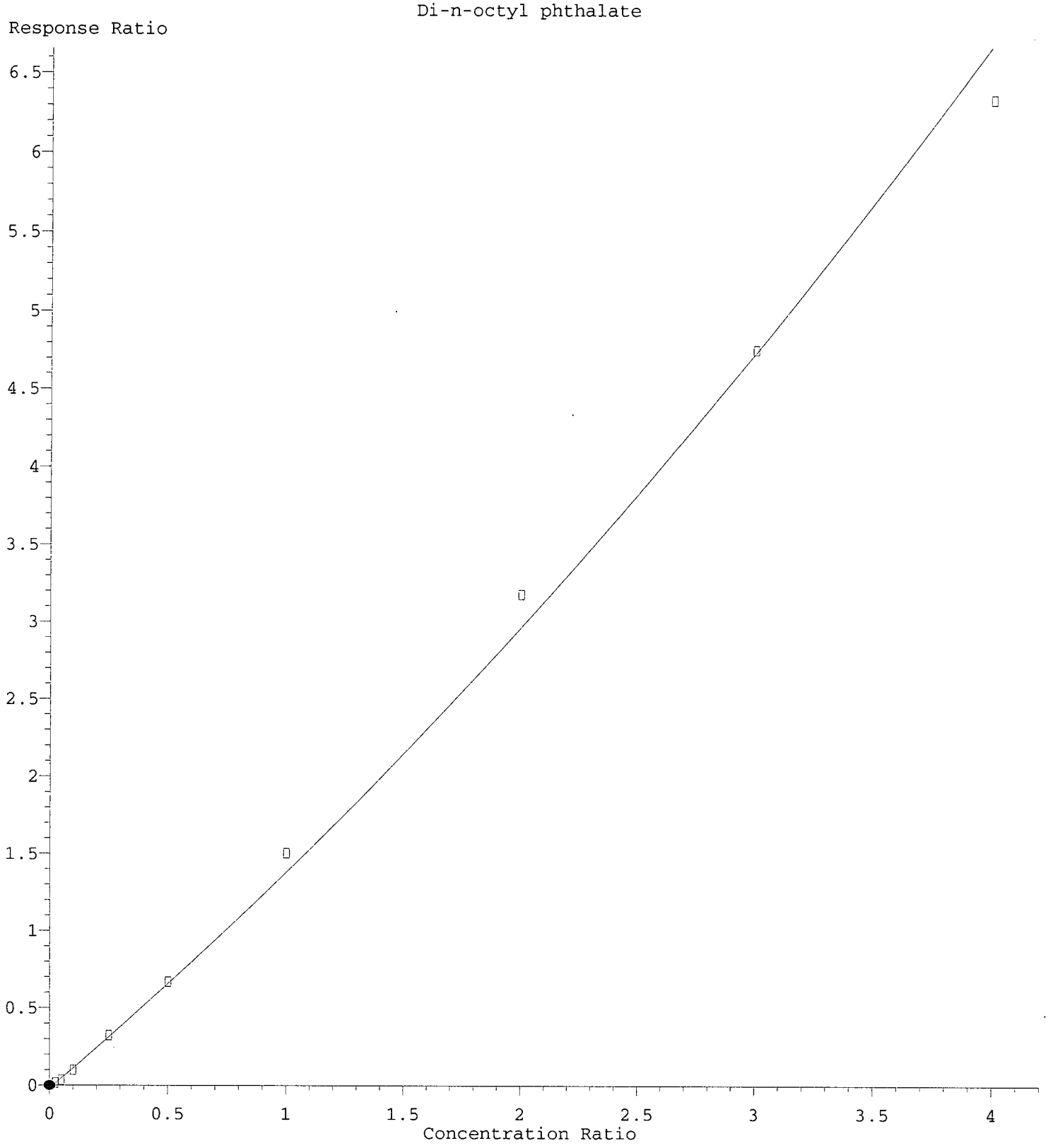
TIC: E01301914.D\data.ms

(82) 3,3-Dichlorobenzidine (T)

15.400min (+ 0.053) 22.11 ng/ml m

response 147

Ion	Exp%	Act%
252.00	100.00	100.00
254.00	63.30	51.82
126.10	16.90	608.76#
0.00	0.00	0.00

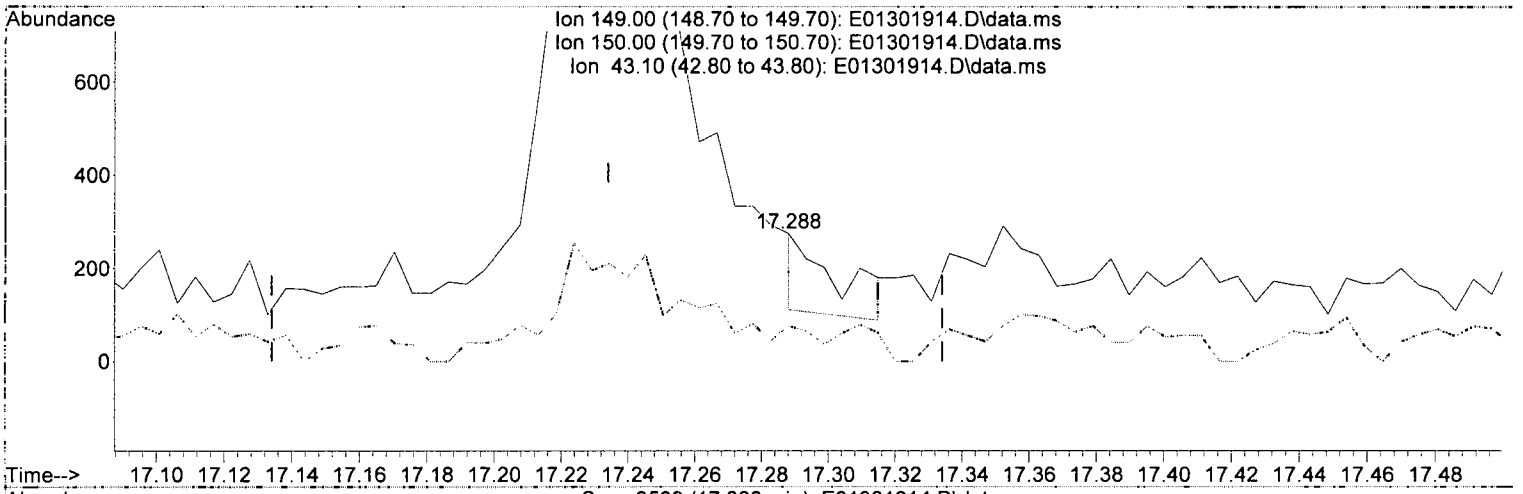


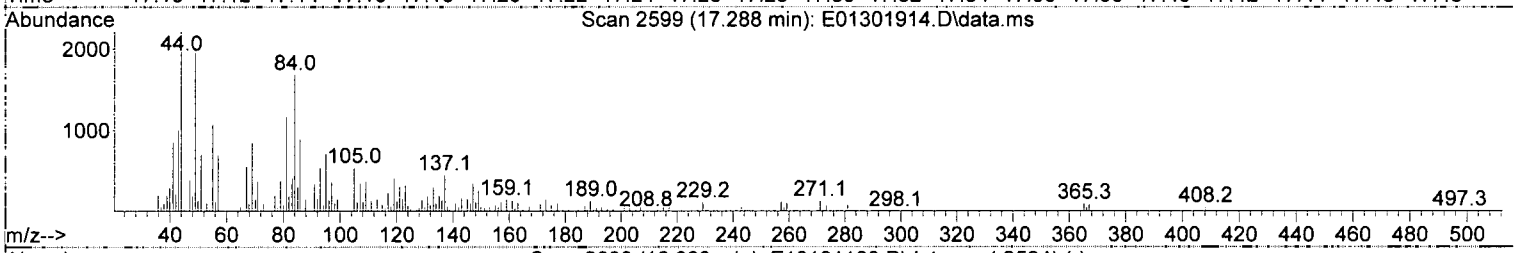
R = 9.25e-002 A*A + 1.31e+000 A - 2.01e-002
Coef of Det (r^2) = 0.992 Curve Fit: Quadratic w(1/a^2)
Method Name: C:\msdchem\1\METHODS\SV5_013019.M
Calibration Table Last Updated: Thu Jan 31 11:41:33 2019

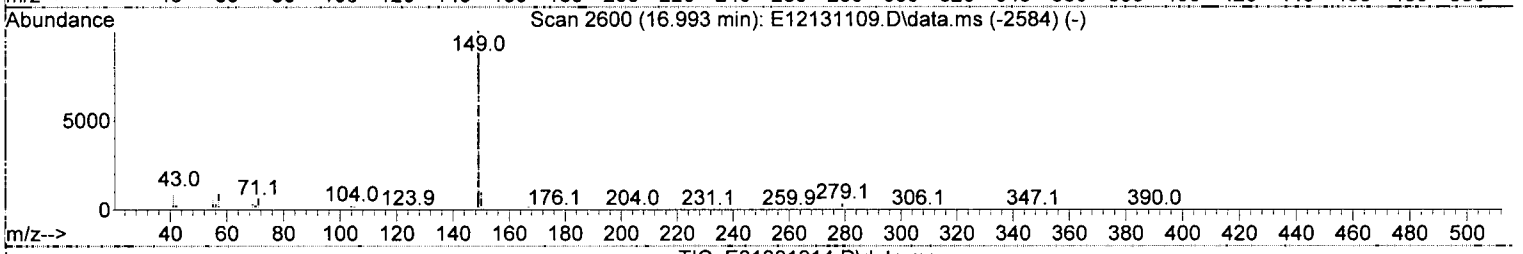
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\REQUANT\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 11:50:38 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301914.D\data.ms

(87) Di-n-octyl phthalate (T)

17.288min (+ 0.054) 30.95 ng/ml m

response 141

Ion	Exp%	Act%
149.00	100.00	100.00
150.00	9.80	27.54
43.10	11.80	365.94#
0.00	0.00	0.00

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9A30046

Analysis Included
8270D LL Full List

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9A30046-TUN1	MS Tune	Soil	A19A180	A18L267	1/30/2019 4:45:00PM
9A30046-TUN2	MS Tune	Soil	A19A180	A18L267	1/30/2019 5:18:00PM
9A30046-ICB1	Initial Cal Blank	Soil		A18L267	1/30/2019 6:24:00PM
9A30046-CAL1	Cal Standard	Soil	A18L327	"	1/30/2019 7:00:00PM
9A30046-CAL2	Cal Standard	Soil	A18L328	"	1/30/2019 7:37:00PM
9A30046-CAL3	Cal Standard	Soil	A18L329	"	1/30/2019 8:13:00PM
9A30046-CAL4	Cal Standard	Soil	A18L330	"	1/30/2019 8:50:00PM
9A30046-CAL5	Cal Standard	Soil	A18L331	"	1/30/2019 9:26:00PM
9A30046-CAL6	Cal Standard	Soil	A18L332	"	1/30/2019 10:02:00PM
9A30046-CAL7	Cal Standard	Soil	A18L333	"	1/30/2019 10:39:00PM
9A30046-CAL8	Cal Standard	Soil	A18L334	"	1/30/2019 11:15:00PM
9A30046-CAL9	Cal Standard	Soil	A18L335	"	1/30/2019 11:51:00PM
9A30046-CALA	Cal Standard	Soil	A18L336	"	1/31/2019 12:28:00AM
9A30046-ICV1	Initial Cal Check	Soil	A19A013	"	1/31/2019 1:40:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9A3103** Instrument: **SV-GCMS5**

8270D LL Full List Sequence: **9A30046** Matrix: **Soil**

9A30046-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-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: 9A30046

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: **A9A3103** Instrument: **SV-GCMS5**

8270D LL Full List Sequence: **9A30046** Matrix: **Soil**

9A30046-ICV1	Inst. MRL	ICV Level	Result	%Rec.	Qual

Compounds listed above have Initial Calibration Verification standard recoveries outside 70-130% of the true values. If no compounds are listed, all have passing recoveries.

CALIBRATION SEQUENCE REVIEW SHEET

SEQUENCE: 9A30046

Analysis Included
8270D LL Full List

INSTRUMENT SEQUENCE LOG

SampleID	SampleName	Matrix	STDID	ISTD ID	Analyzed
9A30046-TUN1	MS Tune	Water	A19A180	A18L267	1/30/2019 4:45:00PM
9A30046-TUN2	MS Tune	Water	A19A180	A18L267	1/30/2019 5:18:00PM
9A30046-ICB1	Initial Cal Blank	Water		A18L267	1/30/2019 6:24:00PM
9A30046-CAL1	Cal Standard	Water	A18L327	"	1/30/2019 7:00:00PM
9A30046-CAL2	Cal Standard	Water	A18L328	"	1/30/2019 7:37:00PM
9A30046-CAL3	Cal Standard	Water	A18L329	"	1/30/2019 8:13:00PM
9A30046-CAL4	Cal Standard	Water	A18L330	"	1/30/2019 8:50:00PM
9A30046-CAL5	Cal Standard	Water	A18L331	"	1/30/2019 9:26:00PM
9A30046-CAL6	Cal Standard	Water	A18L332	"	1/30/2019 10:02:00PM
9A30046-CAL7	Cal Standard	Water	A18L333	"	1/30/2019 10:39:00PM
9A30046-CAL8	Cal Standard	Water	A18L334	"	1/30/2019 11:15:00PM
9A30046-CAL9	Cal Standard	Water	A18L335	"	1/30/2019 11:51:00PM
9A30046-CALA	Cal Standard	Water	A18L336	"	1/31/2019 12:28:00AM
9A30046-ICV1	Initial Cal Check	Water	A19A013	"	1/31/2019 1:40:00AM

CALIBRATION STANDARD RECOVERIES

Calibration: **A9A3103** Instrument: **SV-GCMS5**

8270D LL Full List Sequence: **9A30046** Matrix: **Water**

9A30046-CAL1	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL2	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL3	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL4	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL5	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL6	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL7	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL8	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-CAL9	Inst. MRL	Recalc Res.	Cal Level	%Rec.	Qual
9A30046-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: 9A30046

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: **A9A3103** Instrument: **SV-GCMS5**

8270D LL Full List Sequence: **9A30046** Matrix: **Water**

9A30046-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 : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301925.D
Acq On : 31 Jan 2019 1:40 am
Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 12:00:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JK 1/31/19

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	1,4-Dichlorobenzene-d4 (IST	2000.000	2000.000	0.0	97	0.00
2	T	N-Nitrosodimethylamine	1000.000	1034.868	-3.5	99	-0.01
3	T	Pyridine	1000.000	1030.492	-3.0	99	-0.02
4	S	2-Fluorophenol (Surr)	1000.000	1025.738	-2.6	95	0.00
5	S	Phenol-d6(Surr)	1000.000	1038.804	-3.9	98	0.00
6	T	Phenol	1000.000	1020.994	-2.1	98	0.00
7	T	Aniline	1000.000	980.198	2.0	98	0.00
8	T	Bis(2-chloroethyl) ether	1000.000	1039.862	-4.0	100	0.00
9	T	2-Chlorophenol	1000.000	1051.713	-5.2	99	0.00
10	T	1,3-Dichlorobenzene	1000.000	1015.201	-1.5	99	0.00
11	T	1,4-Dichlorobenzene	1000.000	1023.842	-2.4	100	0.00
12	T	Benzyl alcohol	1000.000	989.088	1.1	95	0.00
13	T	1,2-Dichlorobenzene	1000.000	1030.249	-3.0	100	0.00
14	T	2-Methylphenol	1000.000	1046.965	-4.7	100	0.00
15	T	2,2'-Oxybis(1-Chloropropane	1000.000	1009.585	-1.0	97	0.00
16	T	N-Nitrosodi-n-propylamine	1000.000	1065.529	-6.6	102	0.00
17	T	3+4-Methylphenol	1000.000	1079.894	-8.0	102	0.00
18	T	Hexachloroethane	1000.000	1017.826	-1.8	98	0.00
19	S	Nitrobenzene-d5 (Surr)	1000.000	1061.227	-6.1	105	0.00
20	T	Nitrobenzene	1000.000	1093.502	-9.4	103	0.00
21	I	Naphthalene-d8 (ISTD)	2000.000	2000.000	0.0	99	0.00
22	T	Isophorone	1000.000	1076.183	-7.6	102	0.00
23	T	2-Nitrophenol	1000.000	1119.875	-12.0	109	0.00
24	T	2,4-Dimethylphenol	1000.000	1009.117	-0.9	98	0.00
25	T	Bis(2-chloroethoxy) methane	1000.000	1061.050	-6.1	104	0.00
26	T	Benzoic acid	2000.000	2255.555	-12.8	126	0.00
27	T	2,4-Dichlorophenol	1000.000	1075.182	-7.5	105	0.00
28	T	1,2,4-Trichlorobenzene	1000.000	1023.230	-2.3	103	0.00
29	T	Naphthalene	1000.000	1017.093	-1.7	102	0.00
30	T	4-Chloroaniline	1000.000	1108.762	-10.9	114	0.00
31	T	Hexachlorobutadiene	1000.000	1043.111	-4.3	101	0.00
32	T	4-Chloro-3-methylphenol	1000.000	1059.623	-6.0	107	0.00
33	T	2-Methylnaphthalene	1000.000	1077.500	-7.8	107	0.00
34	T	1-Methylnaphthalene	1000.000	1058.801	-5.9	105	0.00
35	I	Acenaphthene-d10 (ISTD)	2000.000	2000.000	0.0	107	0.00
36	T	Hexachlorocyclopentadiene	1000.000	981.409	1.9	97	0.00
37	T	2,4,6-Trichlorophenol	1000.000	1102.497	-10.2	113	0.00
38	T	2,4,5-Trichlorophenol	1000.000	1098.052	-9.8	114	0.00
39	T	1,1'-Biphenyl	1000.000	1022.172	-2.2	108	0.00
40	S	2-Fluorobiphenyl (Surr)	1000.000	1018.739	-1.9	108	0.00
41	T	2-Chloronaphthalene	1000.000	1017.014	-1.7	110	0.00
42	T	2-Nitroaniline	1000.000	1113.798	-11.4	125	0.00
43	T	2,6-Dimethylnaphthalene	1000.000	1069.017	-6.9	111	0.00
44	T	1,4-Dinitrobenzene	1000.000	1158.489	-15.8	135	0.00
45	T	Dimethyl phthalate	1000.000	1121.495	-12.1	118	0.00
46	T	1,3-Dinitrobenzene	1000.000	1152.437	-15.2	132	0.00
47	T	2,6-Dinitrotoluene	1000.000	1134.194	-13.4	122	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301925.D
Acq On : 31 Jan 2019 1:40 am
Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 12:00:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5

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)
48	T	1,2-Dinitrobenzene	1000.000	1168.425	-16.8	128	0.00
49	T	Acenaphthylene	1000.000	1068.875	-6.9	110	0.00
50	T	3-Nitroaniline	1000.000	1119.893	-12.0	127	0.00
51	T	Acenaphthene	1000.000	1033.180	-3.3	110	0.00
52	T	2,4-Dinitrophenol	1000.000	1090.025	-9.0	148	0.00
53	T	4-Nitrophenol	1000.000	1088.313	-8.8	128	0.00
54	T	2,4-Dinitrotoluene	1000.000	1137.244	-13.7	131	0.00
55	T	Dibenzofuran	1000.000	1064.708	-6.5	116	0.00
56	T	2,3,5,6-Tetrachlorophenol	1000.000	1150.756	-15.1	125	0.00
57	T	2,3,4,6-Tetrachlorophenol	1000.000	1106.823	-10.7	120	0.00
58	T	Diethyl phthalate	1000.000	1146.401	-14.6	118	0.00
59	T	2,3,5-Trimethylnaphthalene	1000.000	1096.146	-9.6	114	0.00
60	T	Fluorene	1000.000	1105.141	-10.5	117	0.00
61	T	4-Chlorophenyl phenyl ether	1000.000	1077.167	-7.7	118	0.00
62	T	4-Nitroaniline	1000.000	1078.749	-7.9	130	0.00
63	T	4,6-Dinitro-2-methylphenol	1000.000	1209.638	-21.0	160	0.00
64	I	Phenanthrene-d10 (ISTD)	2000.000	2000.000	0.0	117	0.00
65	T	N-Nitrosodiphenylamine	1000.000	1073.651	-7.4	120	0.00
66	T	Azobenzene (1,2-DPH)	1000.000	1112.477	-11.2	120	0.00
67	S	2,4,6-Tribromophenol (Surr)	1000.000	1137.965	-13.8	124	0.00
68	T	4-Bromophenyl phenyl ether	1000.000	1058.952	-5.9	124	0.00
69	T	Hexachlorobenzene	1000.000	1046.388	-4.6	121	0.00
70	T	Pentachlorophenol (PCP)	1000.000	999.557	0.0	118	0.00
71	T	Phenanthrene	1000.000	1037.200	-3.7	120	0.00
72	T	Anthracene	1000.000	1033.614	-3.4	119	0.00
73	T	Carbazole	1000.000	1002.379	-0.2	120	0.00
74	T	Di-n-butyl phthalate	1000.000	1017.760	-1.8	122	0.00
75	T	Fluoranthene	1000.000	1039.584	-4.0	122	0.00
76	T	Benzidine	2000.000	2024.852	-1.2	130	0.00
77	T	Pyrene	1000.000	1048.131	-4.8	123	0.00
78	I	Chrysene-d12 (ISTD)	2000.000	2000.000	0.0	126	0.00
79	S	Terphenyl-d14 (Surr)	1000.000	1050.253	-5.0	128	0.00
80	T	Butyl benzyl phthalate	1000.000	1055.065	-5.5	130	0.00
81	T	Bis(2-ethylhexyl) adipate	1000.000	982.141	1.8	129	0.00
82	T	3,3-Dichlorobenzidine	2000.000	2201.800	-10.1	141	0.00
83	T	Benz(a)anthracene	1000.000	1056.356	-5.6	137	0.00
84	T	Chrysene	1000.000	1030.712	-3.1	129	0.00
85	T	Bis(2-ethylhexyl) phthalate	1000.000	1009.539	-1.0	130	0.00
86	I	Perylene-d12 (ISTD)	2000.000	2000.000	0.0	129	0.00
87	T	Di-n-octyl phthalate	1000.000	1063.360	-6.3	136	0.00
88	T	Benzo(b)fluoranthene	1000.000	1081.373	-8.1	135	0.00
89	T	Benzo(k)fluoranthene	1000.000	1082.745	-8.3	131	0.00
90	T	Benzo(b+k)fluoranthene	2000.000	2106.989	-5.3	133	0.00
91	T	Benzo(e)pyrene	1000.000	1035.215	-3.5	130	0.00
92	T	Benzo(a)pyrene	1000.000	1093.769	-9.4	133	0.00
93	T	Perylene	1000.000	1064.737	-6.5	135	0.00

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301925.D
Acq On : 31 Jan 2019 1:40 am
Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 12:00:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5

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)
94	I	Dibenz(a,h)Anthrcene-d14 (I	2000.000	2000.000	0.0	133	0.00
95	T	Indeno(1,2,3-cd)pyrene	1000.000	995.259	0.5	134	0.00
96	T	Dibenz(a,h)anthracene	1000.000	1025.848	-2.6	137	0.00
97	T	Benzo(g,h,i)perylene	1000.000	1053.780	-5.4	133	0.00

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

DFTPP

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301911.D
Acq On : 30 Jan 2019 4:45 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN1
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

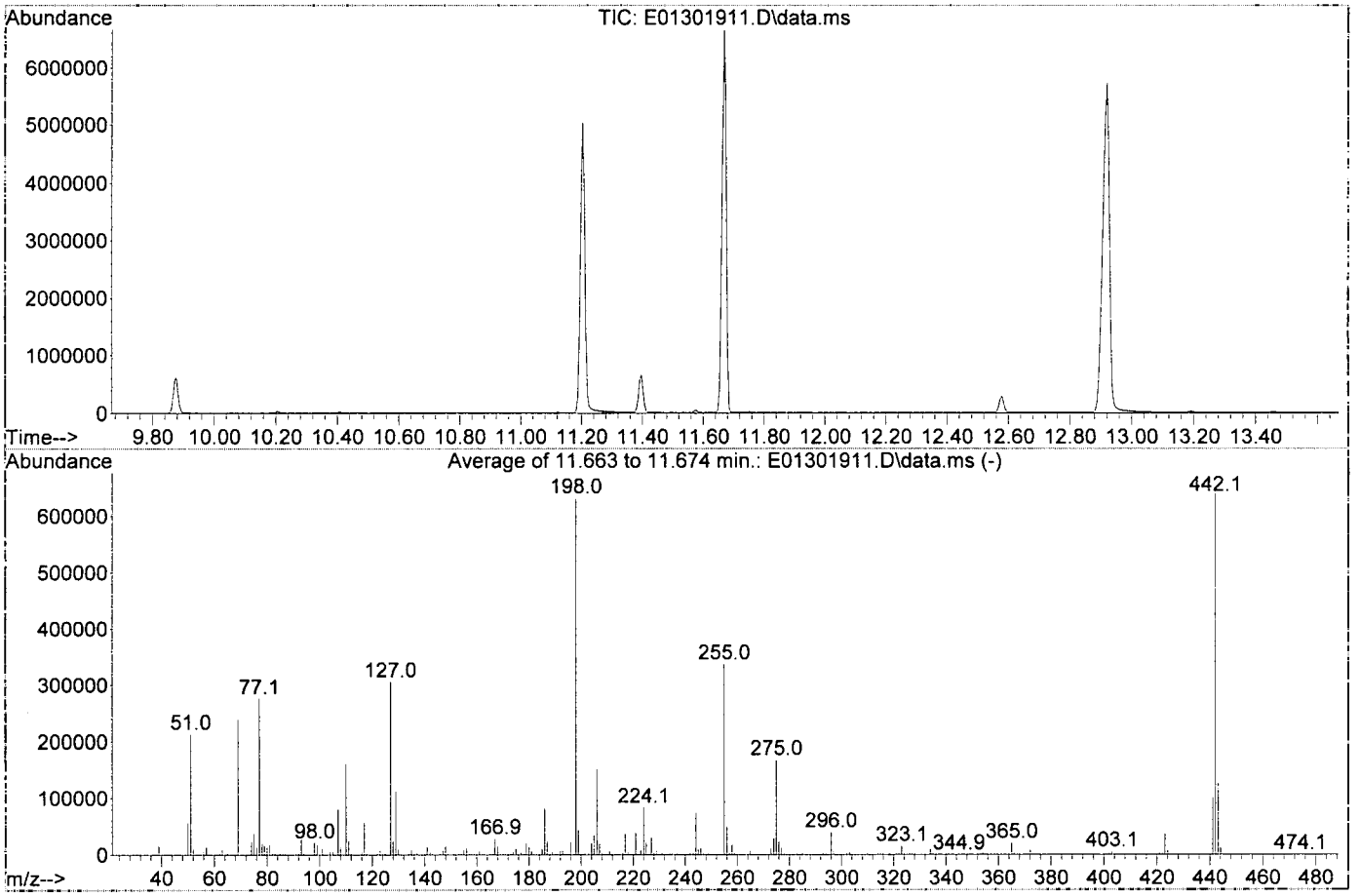
Retuned after this run

T-01

1/31/19

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP-625.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Jan 31 09:49:42 2019



AutoFind: Scans 1510, 1511, 1512; Background Corrected with Scan 1505

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	33.8	213705	PASS
68	69	0.00	2	1.1	2671	PASS
69	198	0.00	100	37.8	239097	PASS
70	69	0.00	2	0.5	1157	PASS
127	198	40	60	48.5	306325	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	632235	PASS
199	198	5	9	6.8	43123	PASS
275	198	10	30	26.6	168075	PASS
365	198	1	100	3.2	19964	PASS
441	443	0.01	100	78.9	100003	PASS
442	198	40	100	102.0	645035	FAIL*
443	442	17	23	19.6	126720	PASS

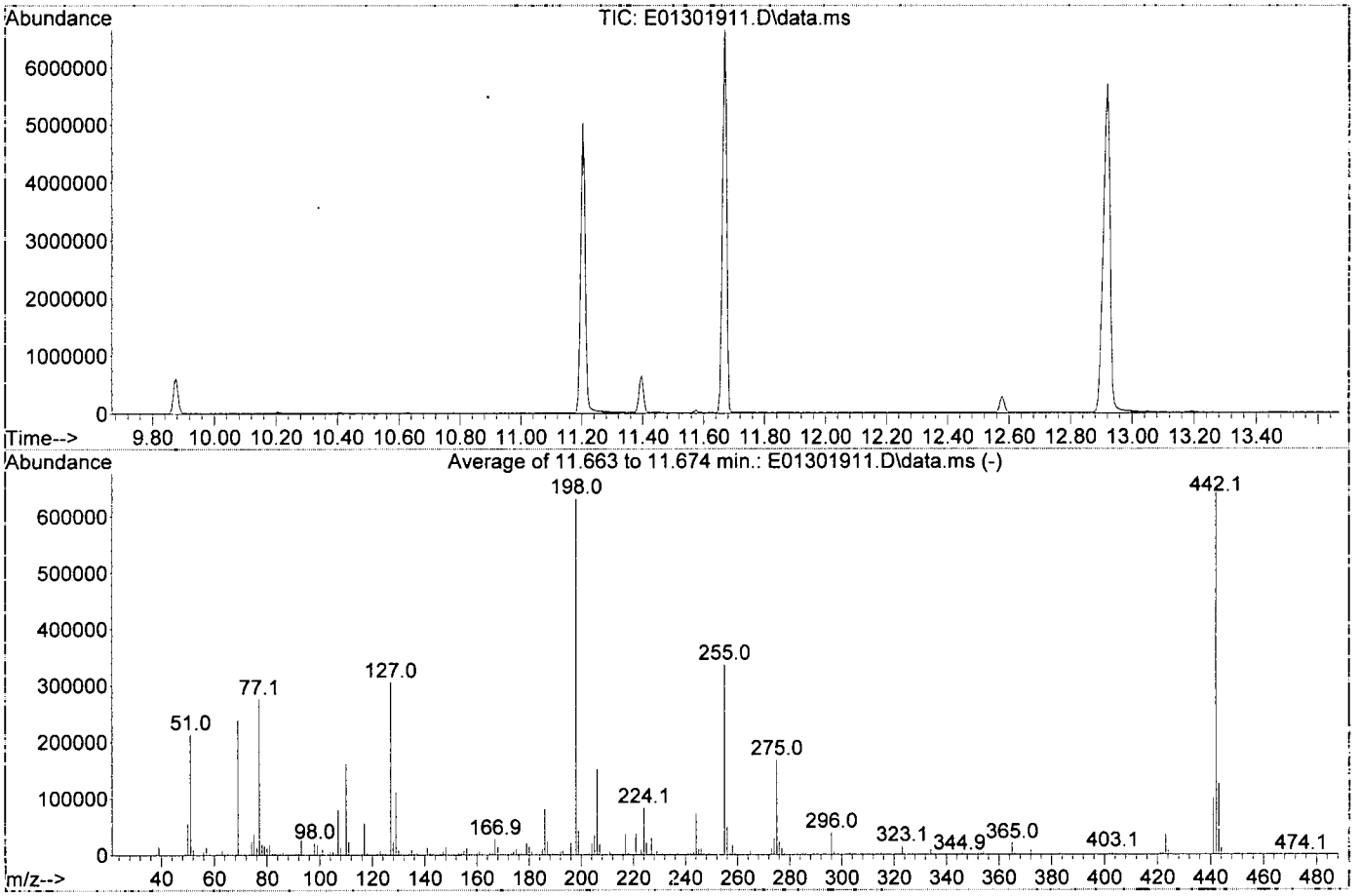
Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301911.D
Acq On : 30 Jan 2019 4:45 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN1
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

T-01

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Title : 8270 DFTPP Tune Method
Last Update : Tue Jan 29 16:12:28 2019

GL 1/31/19



AutoFind: Scans 1510, 1511, 1512; Background Corrected with Scan 1505

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.8	213705	PASS
68	69	0.00	2	1.1	2671	PASS
69	198	0.00	100	37.8	239097	PASS
70	69	0.00	2	0.5	1157	PASS
127	198	10	80	48.5	306325	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	632235	PASS
199	198	5	9	6.8	43123	PASS
275	198	10	60	26.6	168075	PASS
365	198	1	100	3.2	19964	PASS
441	442	0.01	24	15.5	100003	PASS
442	198	50	200	102.0	645035	PASS
443	442	15	24	19.6	126720	PASS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301911.D
Acq On : 30 Jan 2019 4:45 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN1
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

T-01

Quant Time: Jan 31 09:49:49 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Jan 31 09:49:42 2019
Response via : Continuing Cal File:
InstName : SV-GCMS5

JK 1/31/19

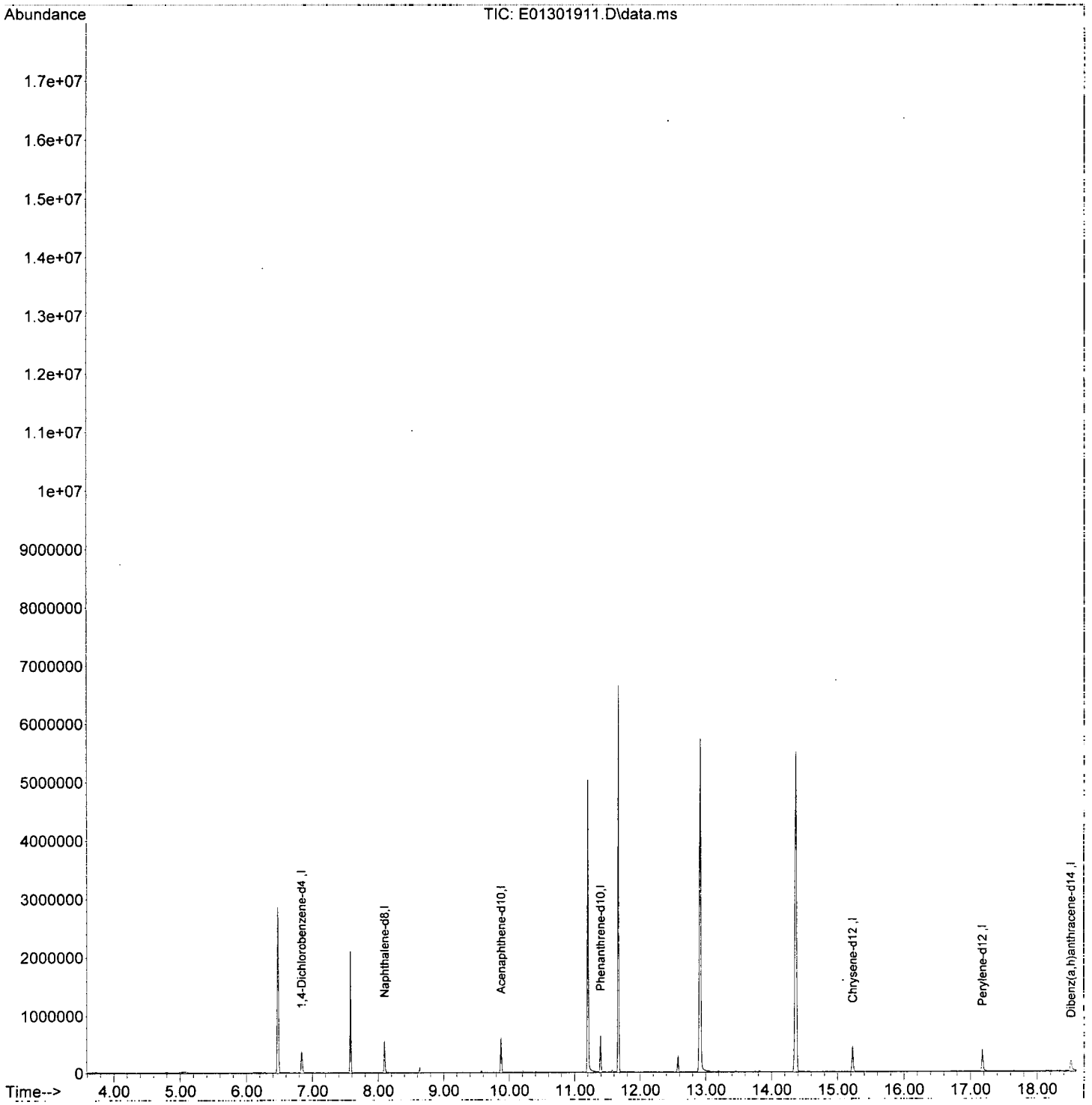
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.834	150	126132	2.00	ug/mL	0.00
2) Naphthalene-d8	8.096	136	289939	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.877	162	134988	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.396	188	238791	2.00	ug/mL	0.00
11) Chrysene-d12	15.226	240	204323	2.00	ug/mL	0.00
12) Perylene-d12	17.178	264	172332	2.00	ug/mL	0.00
13) Dibenz(a,h)anthracene-...	18.504	292	113174	2.00	ug/mL	0.00
Target Compounds						Qvalue
4) Pentachlorophenol	11.203	266	581670	No CC lev		
6) DFTPP	11.674	442	720727	No CC lev		#
7) Benzidine	12.920	184	3259461	No CC lev		
8) 4,4-DDE	13.193	TIC	27535	No CC lev		
9) 4,4-DDD	13.749	TIC	14720	No CC lev		
10) 4,4-DDT	14.375	TIC	9373183	No CC lev		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301911.D
Acq On : 30 Jan 2019 4:45 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN1
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jan 31 09:49:49 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Jan 31 09:49:42 2019
Response via : Continuing Cal File:
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301912.D
Acq On : 30 Jan 2019 5:18 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN2
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jan 31 09:50:01 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Jan 31 09:49:42 2019
Response via : Continuing Cal File:
InstName : SV-GCMS5

JK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.834	150	117666	2.00	ug/mL	0.00
2) Naphthalene-d8	8.096	136	274635	2.00	ug/mL	0.00
3) Acenaphthene-d10	9.877	162	127812	2.00	ug/mL	0.00
5) Phenanthrene-d10	11.396	188	221921	2.00	ug/mL	0.00
11) Chrysene-d12	15.226	240	182307	2.00	ug/mL	0.00
12) Perylene-d12	17.183	264	149703	2.00	ug/mL	0.00
13) Dibenz(a,h)anthracene-...	18.510	292	99850	2.00	ug/mL	0.00
Target Compounds						Qvalue
4) Pentachlorophenol	11.203	266	527569	No CC lev		
6) DFTPP	11.674	442	615356	No CC lev		#
7) Benzidine	12.920	184	3031599	No CC lev		
8) 4,4-DDE	13.193	TIC	20624	No CC lev		
9) 4,4-DDD	13.755	TIC	11420	No CC lev		
10) 4,4-DDT	14.375	TIC	8660634	No CC lev		

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

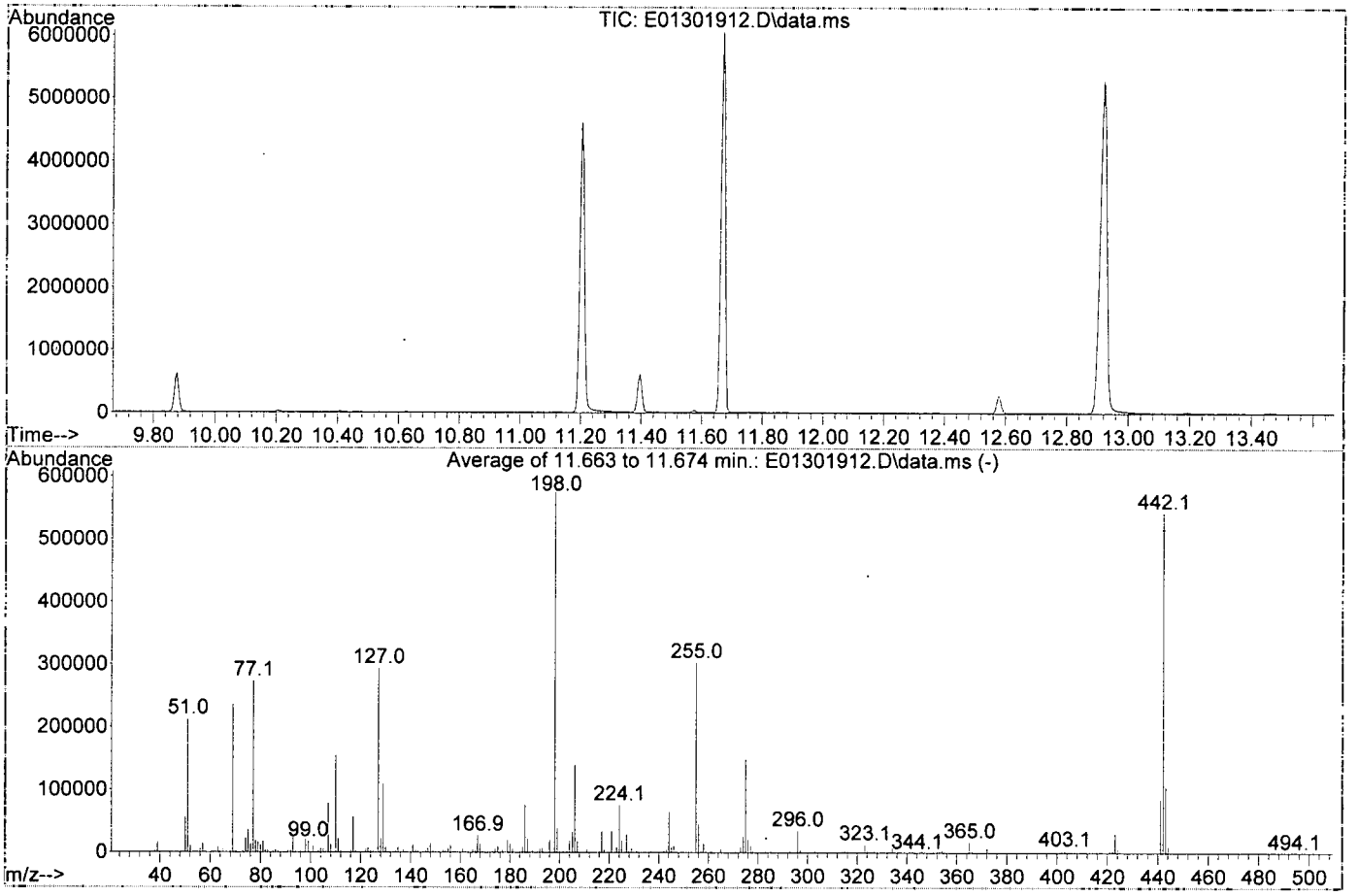
DFTPP

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301912.D
Acq On : 30 Jan 2019 5:18 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN2
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP-625.M
Title : 8270 DFTPP Tune Method
Last Update : Thu Jan 31 09:49:42 2019

JK 1/31/19



AutoFind: Scans 1510, 1511, 1512; Background Corrected with Scan 1505

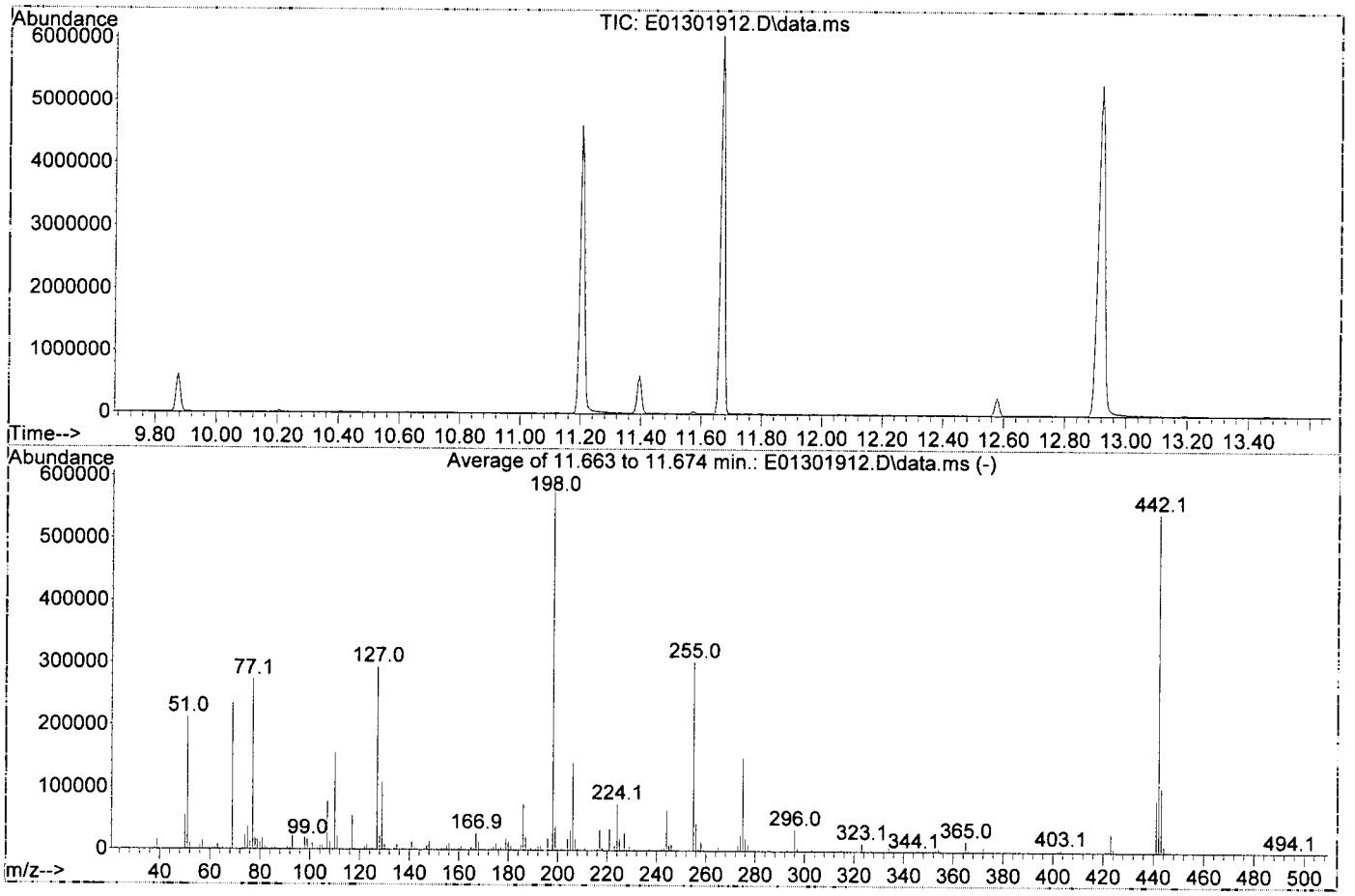
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	36.8	212856	PASS
68	69	0.00	2	1.2	2720	PASS
69	198	0.00	100	40.7	235823	PASS
70	69	0.00	2	0.5	1200	PASS
127	198	40	60	50.9	294293	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	578709	PASS
199	198	5	9	6.8	39504	PASS
275	198	10	30	25.8	149573	PASS
365	198	1	100	2.9	16879	PASS
441	443	0.01	100	80.3	84597	PASS
442	198	40	100	94.0	543808	PASS
443	442	17	23	19.4	105349	PASS

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301912.D
Acq On : 30 Jan 2019 5:18 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN2
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP-8270.M
Title : 8270 DFTPP Tune Method
Last Update : Tue Jan 29 16:12:28 2019

JK 1/31/19



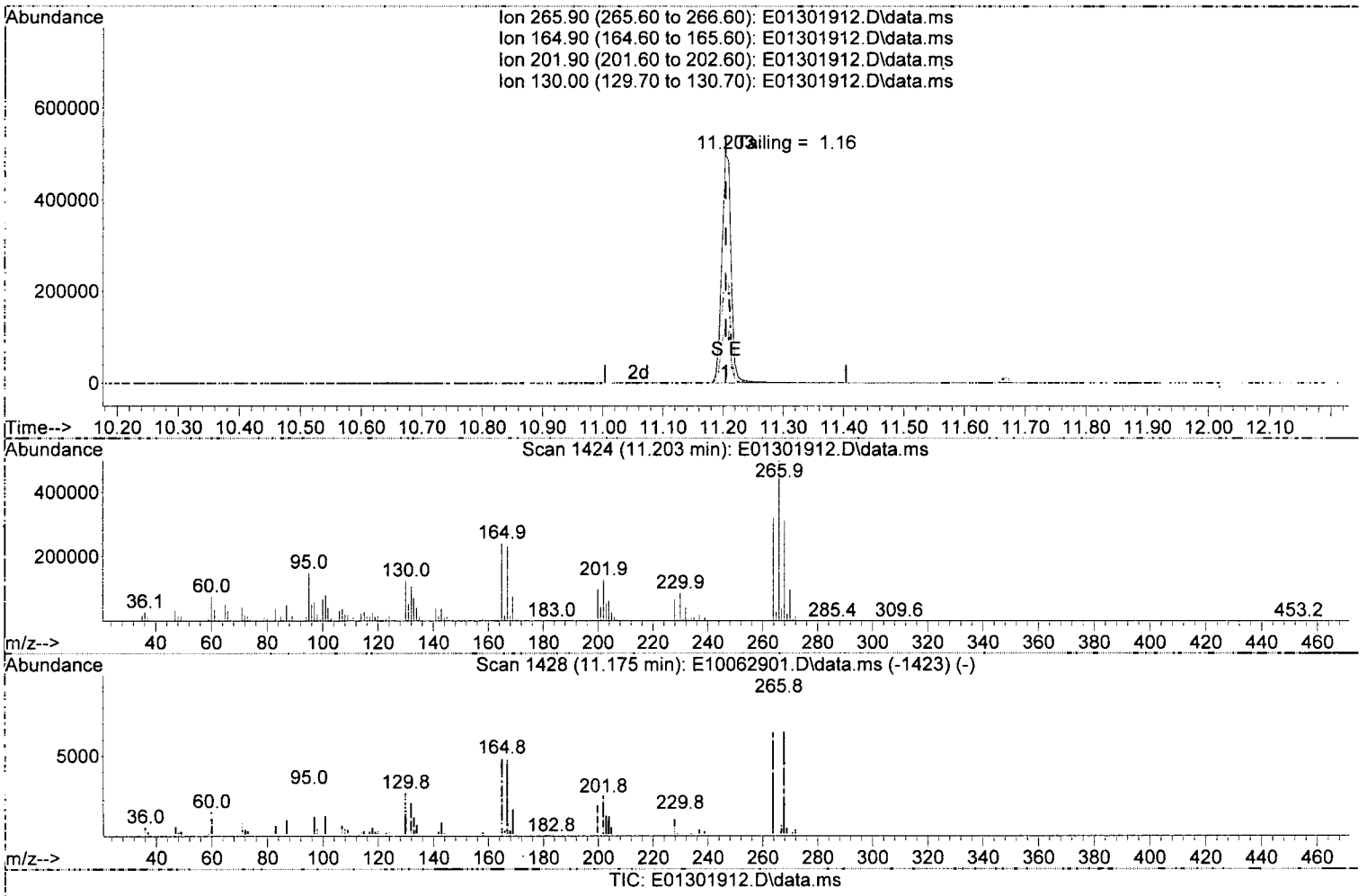
AutoFind: Scans 1510, 1511, 1512; Background Corrected with Scan 1505

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	36.8	212856	PASS
68	69	0.00	2	1.2	2720	PASS
69	198	0.00	100	40.7	235823	PASS
70	69	0.00	2	0.5	1200	PASS
127	198	10	80	50.9	294293	PASS
197	198	0.00	2	0.0	0	PASS
198	198	100	100	100.0	578709	PASS
199	198	5	9	6.8	39504	PASS
275	198	10	60	25.8	149573	PASS
365	198	1	100	2.9	16879	PASS
441	442	0.01	24	15.6	84597	PASS
442	198	50	200	94.0	543808	PASS
443	442	15	24	19.4	105349	PASS

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301912.D
Acq On : 30 Jan 2019 5:18 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN2
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jan 31 09:50:01 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Jan 31 09:49:42 2019
Response via : Continuing Cal File:
InstName : SV-GCMS5



TIC: E01301912.D\data.ms

(4) Pentachlorophenol

11.203min (0.000) 0.00 ug/mL

response 527569

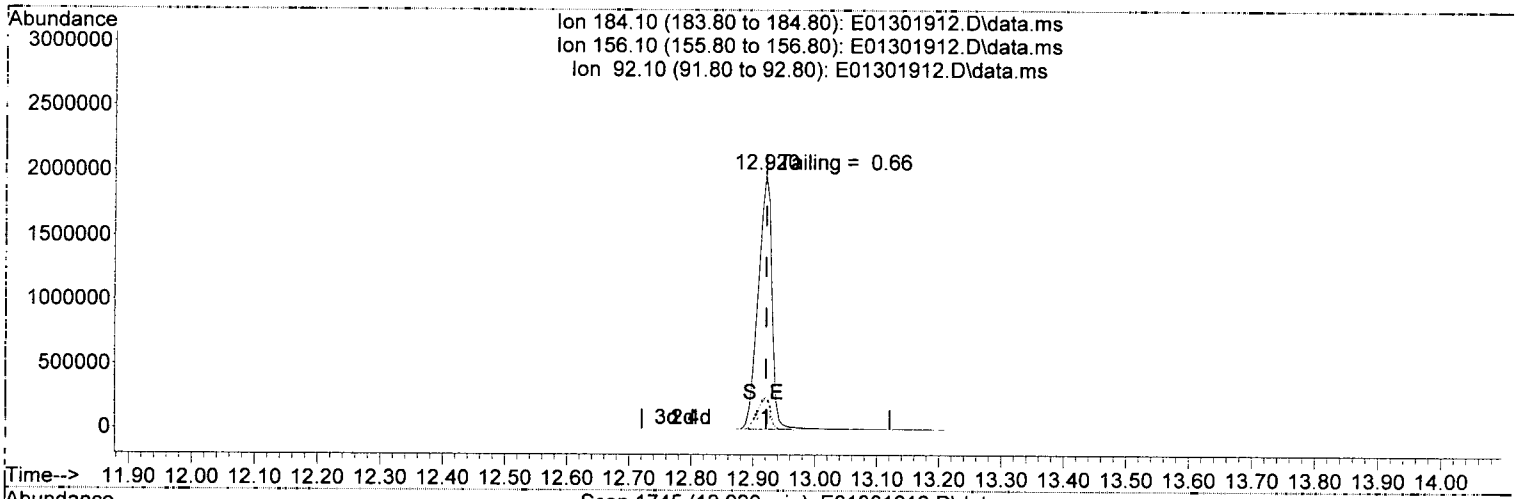
Ion	Exp%	Act%
265.90	100.00	100.00
164.90	50.80	48.40
201.90	25.10	25.64
130.00	27.20	24.92

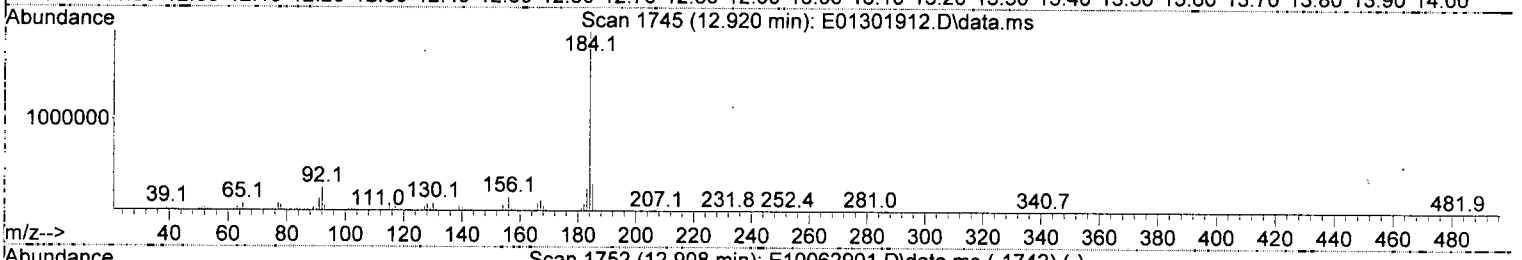
JK 1/31/19

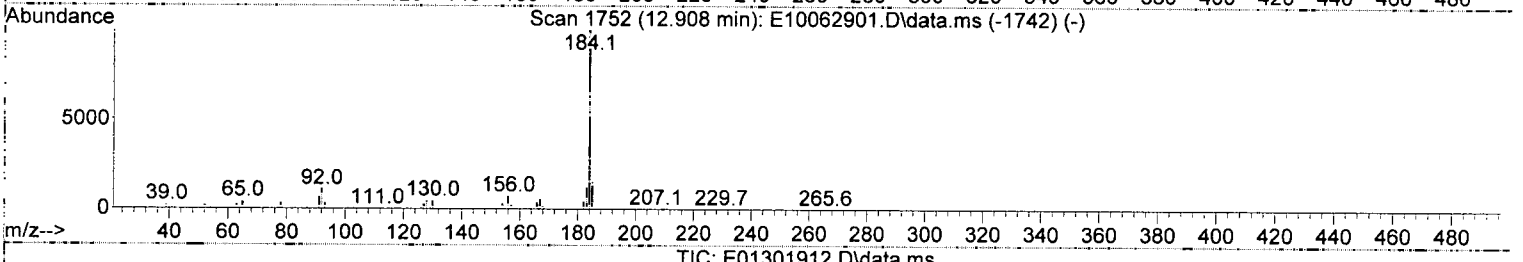
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301912.D
Acq On : 30 Jan 2019 5:18 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN2
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jan 31 09:50:01 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Jan 31 09:49:42 2019
Response via : Continuing Cal File:
InstName : SV-GCMS5







TIC: E01301912.D\data.ms

(7) Benzidine

12.920min (0.000) 0.00 ug/mL

response 3031599

Ion	Exp%	Act%
184.10	100.00	100.00
156.10	8.40	7.66
92.10	8.40	12.67
0.00	0.00	0.00

JK 1/31/19

DDT Breakdown Check (Validated 5/1/2013)

From:
9A30046-TUN2
SV-GCMS5

First Column Area Counts		Percent Breakdown	
DDE	20624		
DDD	11420		
DDT	8660634	0.37	PASS

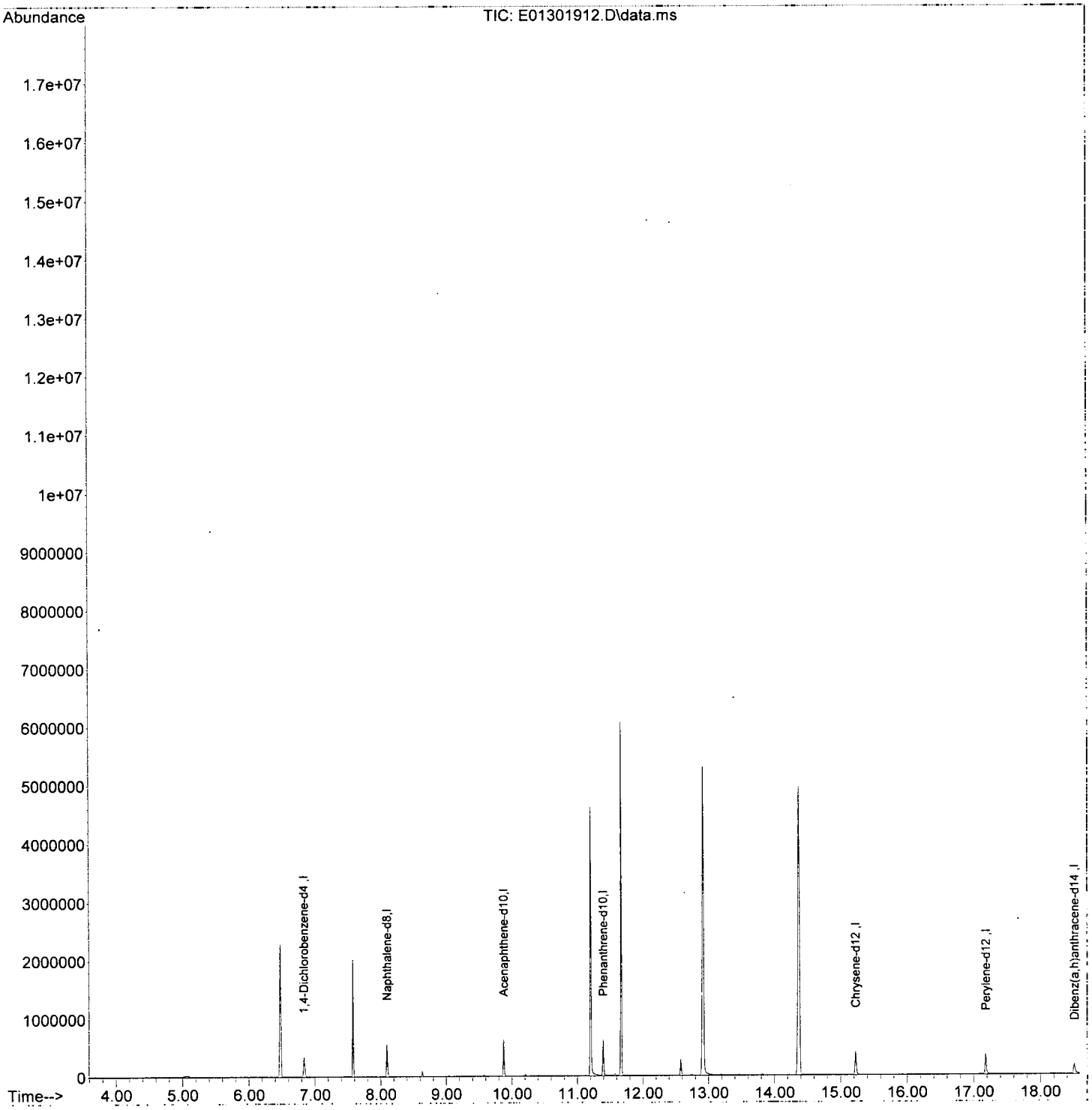
1/31/19

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301912.D
Acq On : 30 Jan 2019 5:18 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-TUN2
Misc : 1x, A19A180 DFTPP@45
ALS Vial : 1 Sample Multiplier: 1
DataAcq Meth:DFTPP-8270.M

Quant Time: Jan 31 09:50:01 2019
Quant Method : C:\msdchem\1\METHODS\DFTPP-625.M
Quant Title : 8270 DFTPP Tune Method
QLast Update : Thu Jan 31 09:49:42 2019
Response via : Continuing Cal File:
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301913.D
Acq On : 30 Jan 2019 6:24 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:40 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	268380	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1074503	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	493384	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	885116	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.416	240	713859	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.951	264	636345	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.348	292	470342	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	0.000	112	0	0.00	ng/ml	
5) Phenol-d6(Surr)	6.478	99	192	0.91	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.372	82	53	0.28	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00	ng/ml	
67) 2,4,6-Tribromophenol (...	0.000	330	0	0.00	ng/ml	
79) Terphenyl-d14 (Surr)	0.000	244	0	0.00	ng/ml	
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.398	74	54	N.D.		
3) Pyridine	0.000		0	N.D.		
6) Phenol	6.484	94	156	N.D.		
7) Aniline	0.000		0	N.D.		
8) Bis(2-chloroethyl) ether	0.000		0	N.D.		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.		
11) 1,4-Dichlorobenzene	0.000		0	N.D.		
12) Benzyl alcohol	0.000		0	N.D.		
13) 1,2-Dichlorobenzene	0.000		0	N.D.		
14) 2-Methylphenol	0.000		0	N.D.		
15) 2,2'-Oxybis(1-Chloropr...	7.088	45	69	N.D.		
16) N-Nitrosodi-n-propylamine	7.238	70	120	N.D.		
17) 3+4-Methylphenol	0.000		0	N.D.		
18) Hexachloroethane	0.000		0	N.D.		
20) Nitrobenzene	0.000		0	N.D.		
22) Isophorone	7.634	82	185	N.D.		
23) 2-Nitrophenol	0.000		0	N.D.		
24) 2,4-Dimethylphenol	0.000		0	N.D.		
25) Bis(2-chloroethoxy) me...	0.000		0	N.D.		
26) Benzoic acid	0.000		0	N.D.		
27) 2,4-Dichlorophenol	0.000		0	N.D.		
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
29) Naphthalene	8.115	128	546	N.D.		
30) 4-Chloroaniline	0.000		0	N.D.		
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	0.000		0	N.D.		
33) 2-Methylnaphthalene	0.000		0	N.D.		
34) 1-Methylnaphthalene	0.000		0	N.D.		
36) Hexachlorocyclopentadiene	0.000		0	N.D.		
37) 2,4,6-Trichlorophenol	0.000		0	N.D.		
38) 2,4,5-Trichlorophenol	0.000		0	N.D.		
39) 1,1'-Biphenyl	0.000		0	N.D.		
41) 2-Chloronaphthalene	0.000		0	N.D.		
42) 2-Nitroaniline	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301913.D
Acq On : 30 Jan 2019 6:24 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:40 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

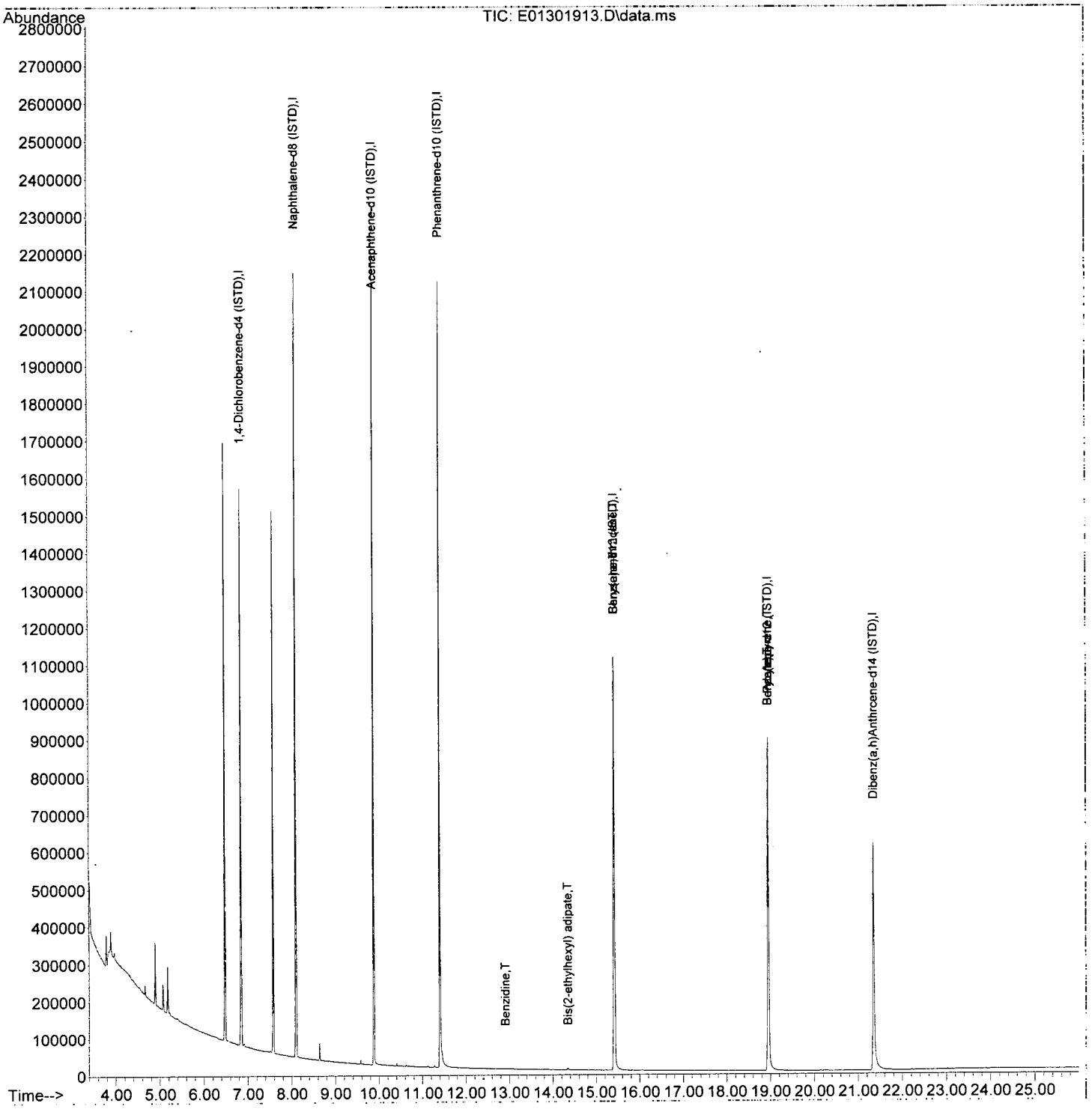
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.		
44) 1,4-Dinitrobenzene	0.000		0	N.D.		
45) Dimethyl phthalate	0.000		0	N.D.		
46) 1,3-Dinitrobenzene	0.000		0	N.D.		
47) 2,6-Dinitrotoluene	0.000		0	N.D.		
48) 1,2-Dinitrobenzene	0.000		0	N.D.		
49) Acenaphthylene	0.000		0	N.D.		
50) 3-Nitroaniline	0.000		0	N.D.		
51) Acenaphthene	9.885	153	92	N.D.		
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	0.000		0	N.D.		
54) 2,4-Dinitrotoluene	10.051	165	53	N.D.		
55) Dibenzofuran	0.000		0	N.D.		
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.		
57) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.		
58) Diethyl phthalate	0.000		0	N.D.		
59) 2,3,5-Trimethylnaphtha...	10.410	170	99	N.D.		
60) Fluorene	0.000		0	N.D.		
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.		
62) 4-Nitroaniline	0.000		0	N.D.		
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.		
65) N-Nitrosodiphenylamine	0.000		0	N.D.		
66) Azobenzene (1,2-DPH)	0.000		0	N.D.		
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.		
69) Hexachlorobenzene	0.000		0	N.D.		
70) Pentachlorophenol (PCP)	0.000		0	N.D.		
71) Phenanthrene	11.421	178	193	N.D.		
72) Anthracene	11.421	178	193	N.D.		
73) Carbazole	0.000		0	N.D.		
74) Di-n-butyl phthalate	11.971	149	152	N.D.		
75) Fluoranthene	0.000		0	N.D.		
76) Benzidine	12.902	184	114	69.06	ng/ml	68
77) Pyrene	0.000		0	N.D.		
80) Butyl benzyl phthalate	0.000		0	N.D.		
81) Bis(2-ethylhexyl) adipate	14.341	129	1045	5.36	ng/ml	90
82) 3,3-Dichlorobenzidine	0.000		0	N.D.		
83) Benz(a)anthracene	15.416	228	1753	4.26	ng/ml	71
84) Chrysene	15.416	228	1715	4.40	ng/ml	69
85) Bis(2-ethylhexyl) phth...	0.000		0	N.D.		
87) Di-n-octyl phthalate	0.000		0	N.D.		
88) Benzo(b)fluoranthene	0.000		0	N.D.		
89) Benzo(k)fluoranthene	0.000		0	N.D.		
90) Benzo(b+k)fluoranthene	0.000		0	N.D.		
91) Benzo(e)pyrene	18.946	252	2036	6.21	ng/ml#	1
92) Benzo(a)pyrene	0.000		0	N.D.		
93) Perylene	18.946	252	2036	5.59	ng/ml	72
95) Indeno(1,2,3-cd)pyrene	21.348	276	162	N.D.		
96) Dibenz(a,h)anthracene	21.342	278	95	N.D.		
97) Benzo(g,h,i)perylene	0.000		0	N.D.		

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301913.D
Acq On : 30 Jan 2019 6:24 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:40 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301913.D
Acq On : 30 Jan 2019 6:24 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Final Reqnant
1/31/19

Quant Time: Jan 31 12:00:48 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	268380	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1074503	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	493384	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	885116	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.416	240	713859	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.951	264	636345	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.348	292	470342	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	0.000	112	0	0.00	ng/ml	
5) Phenol-d6(Surr)	6.478	99	192	0.86	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.372	82	53	0.26	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	0.000	172	0	0.00	ng/ml	
67) 2,4,6-Tribromophenol (...	0.000	330	0	0.00	ng/ml	
79) Terphenyl-d14 (Surr)	0.000	244	0	0.00	ng/ml	
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.398	74	54	N.D.		
3) Pyridine	0.000		0	N.D.		
6) Phenol	6.484	94	156	N.D.		
7) Aniline	0.000		0	N.D.		
8) Bis(2-chloroethyl) ether	0.000		0	N.D.		
9) 2-Chlorophenol	0.000		0	N.D.		
10) 1,3-Dichlorobenzene	0.000		0	N.D.		
11) 1,4-Dichlorobenzene	0.000		0	N.D.		
12) Benzyl alcohol	0.000		0	N.D.		
13) 1,2-Dichlorobenzene	0.000		0	N.D.		
14) 2-Methylphenol	0.000		0	N.D.		
15) 2,2'-Oxybis(1-Chloropr...	7.088	45	69	N.D.		
16) N-Nitrosodi-n-propylamine	7.238	70	120	N.D.		
17) 3+4-Methylphenol	0.000		0	N.D.		
18) Hexachloroethane	0.000		0	N.D.		
20) Nitrobenzene	0.000		0	N.D.		
22) Isophorone	7.634	82	185	N.D.		
23) 2-Nitrophenol	0.000		0	N.D.		
24) 2,4-Dimethylphenol	0.000		0	N.D.		
25) Bis(2-chloroethoxy) me...	0.000		0	N.D.		
26) Benzoic acid	0.000		0	N.D.		
27) 2,4-Dichlorophenol	0.000		0	N.D.		
28) 1,2,4-Trichlorobenzene	0.000		0	N.D.		
29) Naphthalene	8.115	128	546	N.D.		
30) 4-Chloroaniline	0.000		0	N.D.		
31) Hexachlorobutadiene	0.000		0	N.D.		
32) 4-Chloro-3-methylphenol	0.000		0	N.D.		
33) 2-Methylnaphthalene	0.000		0	N.D.		
34) 1-Methylnaphthalene	0.000		0	N.D.		
36) Hexachlorocyclopentadiene	0.000		0	N.D.		
37) 2,4,6-Trichlorophenol	0.000		0	N.D.		
38) 2,4,5-Trichlorophenol	0.000		0	N.D.		
39) 1,1'-Biphenyl	0.000		0	N.D.		
41) 2-Chloronaphthalene	0.000		0	N.D.		
42) 2-Nitroaniline	0.000		0	N.D.		

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301913.D
Acq On : 30 Jan 2019 6:24 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 12:00:48 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5

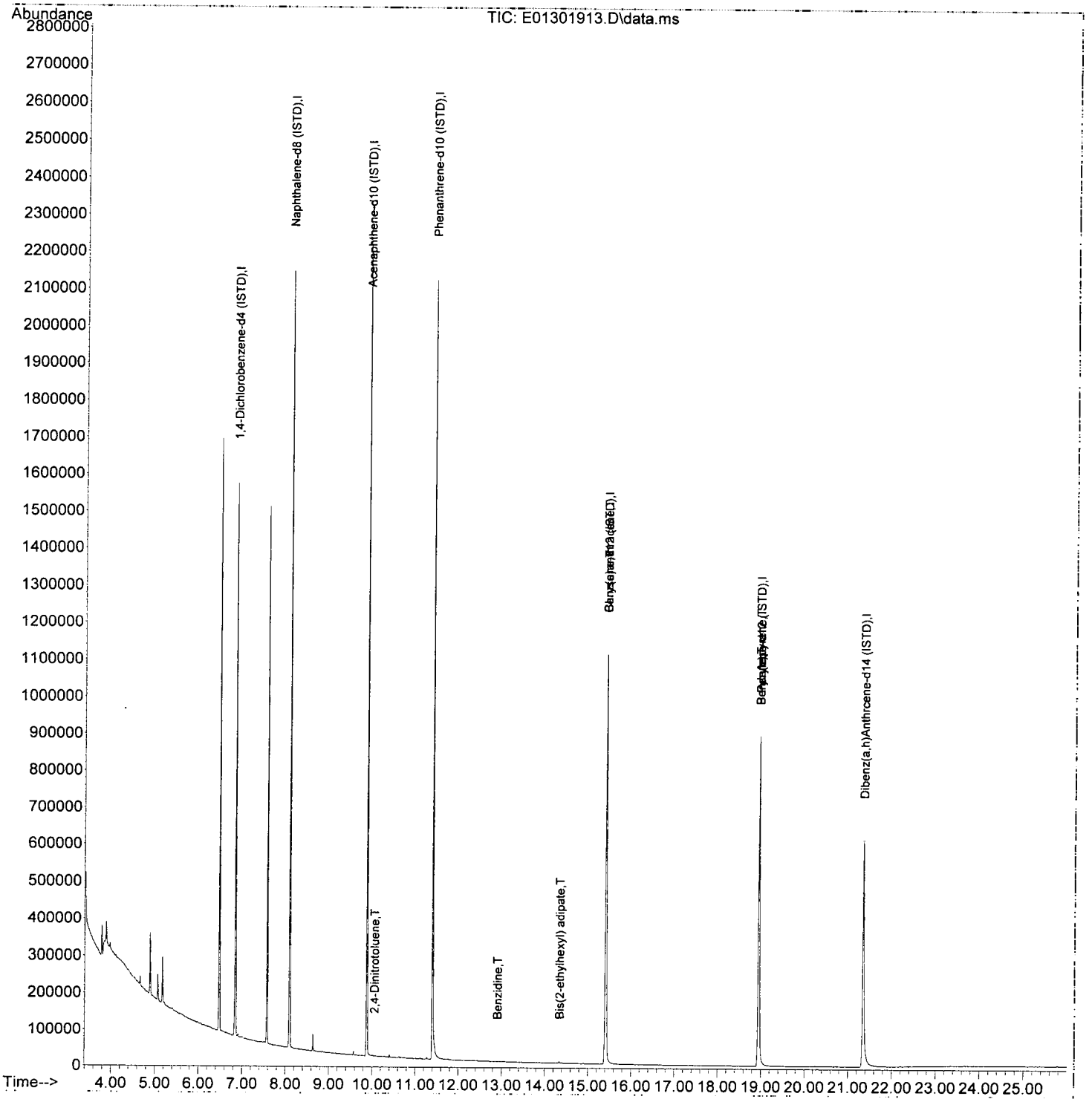
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	0.000		0	N.D.	
44) 1,4-Dinitrobenzene	0.000		0	N.D.	
45) Dimethyl phthalate	0.000		0	N.D.	
46) 1,3-Dinitrobenzene	0.000		0	N.D.	
47) 2,6-Dinitrotoluene	0.000		0	N.D.	
48) 1,2-Dinitrobenzene	0.000		0	N.D.	
49) Acenaphthylene	0.000		0	N.D.	
50) 3-Nitroaniline	0.000		0	N.D.	
51) Acenaphthene	9.885	153	92	N.D.	
52) 2,4-Dinitrophenol	0.000		0	N.D.	
53) 4-Nitrophenol	0.000		0	N.D.	
54) 2,4-Dinitrotoluene	10.051	165	53	61.61 ng/ml#	15
55) Dibenzofuran	0.000		0	N.D.	
56) 2,3,5,6-Tetrachlorophenol	0.000		0	N.D.	
57) 2,3,4,6-Tetrachlorophenol	0.000		0	N.D.	
58) Diethyl phthalate	0.000		0	N.D.	
59) 2,3,5-Trimethylnaphtha...	10.410	170	99	N.D.	
60) Fluorene	0.000		0	N.D.	
61) 4-Chlorophenyl phenyl ...	0.000		0	N.D.	
62) 4-Nitroaniline	0.000		0	N.D.	
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.	
65) N-Nitrosodiphenylamine	0.000		0	N.D.	
66) Azobenzene (1,2-DPH)	0.000		0	N.D.	
68) 4-Bromophenyl phenyl e...	0.000		0	N.D.	
69) Hexachlorobenzene	0.000		0	N.D.	
70) Pentachlorophenol (PCP)	0.000		0	N.D.	
71) Phenanthrene	11.421	178	193	N.D.	
72) Anthracene	11.421	178	193	N.D.	
73) Carbazole	0.000		0	N.D.	
74) Di-n-butyl phthalate	11.971	149	152	N.D.	
75) Fluoranthene	0.000		0	N.D.	
76) Benzidine	12.902	184	114	39.29 ng/ml	68
77) Pyrene	0.000		0	N.D.	
80) Butyl benzyl phthalate	0.000		0	N.D.	
81) Bis(2-ethylhexyl) adipate	14.341	129	1045	5.03 ng/ml	90
82) 3,3-Dichlorobenzidine	0.000		0	N.D.	
83) Benz(a)anthracene	15.416	228	1753	4.35 ng/ml	71
84) Chrysene	15.416	228	1715	4.47 ng/ml	69
85) Bis(2-ethylhexyl) phth...	0.000		0	N.D.	
87) Di-n-octyl phthalate	0.000		0	N.D.	
88) Benzo(b)fluoranthene	0.000		0	N.D.	
89) Benzo(k)fluoranthene	0.000		0	N.D.	
90) Benzo(b+k)fluoranthene	0.000		0	N.D.	
91) Benzo(e)pyrene	18.946	252	2036	5.96 ng/ml#	1
92) Benzo(a)pyrene	0.000		0	N.D.	
93) Perylene	18.946	252	2036	5.84 ng/ml	72
95) Indeno(1,2,3-cd)pyrene	21.348	276	162	N.D.	
96) Dibenz(a,h)anthracene	21.342	278	95	N.D.	
97) Benzo(g,h,i)perylene	0.000		0	N.D.	

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301913.D
Acq On : 30 Jan 2019 6:24 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-ICB1
Misc : 1x, DCM + ISTD
ALS Vial : 2 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 12:00:48 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:45 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JJK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.848	152	267680	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1055936	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	485404	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	914631	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.416	240	849263	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.951	264	770351	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.348	292	614628	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.633	112	2703	16.69	ng/ml	0.00
5) Phenol-d6(Surr)	6.478	99	3503	16.64	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.377	82	3003	15.92	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.180	172	7112	19.01	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.683	330	229	20.60	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.277	244	7570	19.70	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.403	74	2349	20.25	ng/ml#	17
3) Pyridine	4.473	79	2510	13.44	ng/ml#	1
6) Phenol	6.489	94	3623	16.07	ng/ml	97
7) Aniline	6.532	93	4076	14.74	ng/ml	98
8) Bis(2-chloroethyl) ether	6.580	93	3961	20.93	ng/ml	96
9) 2-Chlorophenol	6.650	128	2671	15.07	ng/ml	99
10) 1,3-Dichlorobenzene	6.799	146	3951	18.62	ng/ml	94
11) 1,4-Dichlorobenzene	6.864	146	3880	17.95	ng/ml	89
12) Benzyl alcohol	6.971	108	1088	35.15	ng/ml	94
13) 1,2-Dichlorobenzene	7.013	146	3694	18.13	ng/ml	95
14) 2-Methylphenol	7.067	107	2376	16.92	ng/ml	96
15) 2,2'-Oxybis(1-Chloropr...	7.099	45	5888	22.91	ng/ml	94
16) N-Nitrosodi-n-propylamine	7.222	70	2415	18.34	ng/ml	92
17) 3+4-Methylphenol	7.211	107	2797	15.39	ng/ml	96
18) Hexachloroethane	7.345	117	1366	18.01	ng/ml	90
20) Nitrobenzene	7.398	77	3065	16.34	ng/ml	99
22) Isophorone	7.628	82	5446	15.86	ng/ml	100
23) 2-Nitrophenol	7.714	139	775	8.41	ng/ml	88
24) 2,4-Dimethylphenol	7.735	122	2085	13.77	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.832	93	4242	19.32	ng/ml	97
26) Benzoic acid	7.848	105	69	841.66	ng/ml#	8
27) 2,4-Dichlorophenol	7.949	162	1557	11.67	ng/ml	84
28) 1,2,4-Trichlorobenzene	8.040	180	2751	17.58	ng/ml	99
29) Naphthalene	8.121	128	11917	20.68	ng/ml	98
30) 4-Chloroaniline	8.158	127	2975	14.05	ng/ml	95
31) Hexachlorobutadiene	8.244	225	1290	16.78	ng/ml	91
32) 4-Chloro-3-methylphenol	8.639	107	895	33.74	ng/ml#	1
33) 2-Methylnaphthalene	8.816	142	6941	18.47	ng/ml	97
34) 1-Methylnaphthalene	8.912	142	6831	18.66	ng/ml	94
36) Hexachlorocyclopentadiene	8.982	237	899	14.29	ng/ml	92
37) 2,4,6-Trichlorophenol	9.094	196	754	36.37	ng/ml	95
38) 2,4,5-Trichlorophenol	9.137	196	702	20.25	ng/ml	93
39) 1,1'-Biphenyl	9.281	154	8419	19.66	ng/ml	97
41) 2-Chloronaphthalene	9.308	162	6075	19.81	ng/ml	97
42) 2-Nitroaniline	9.404	138	663	6.26	ng/ml	90

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:45 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

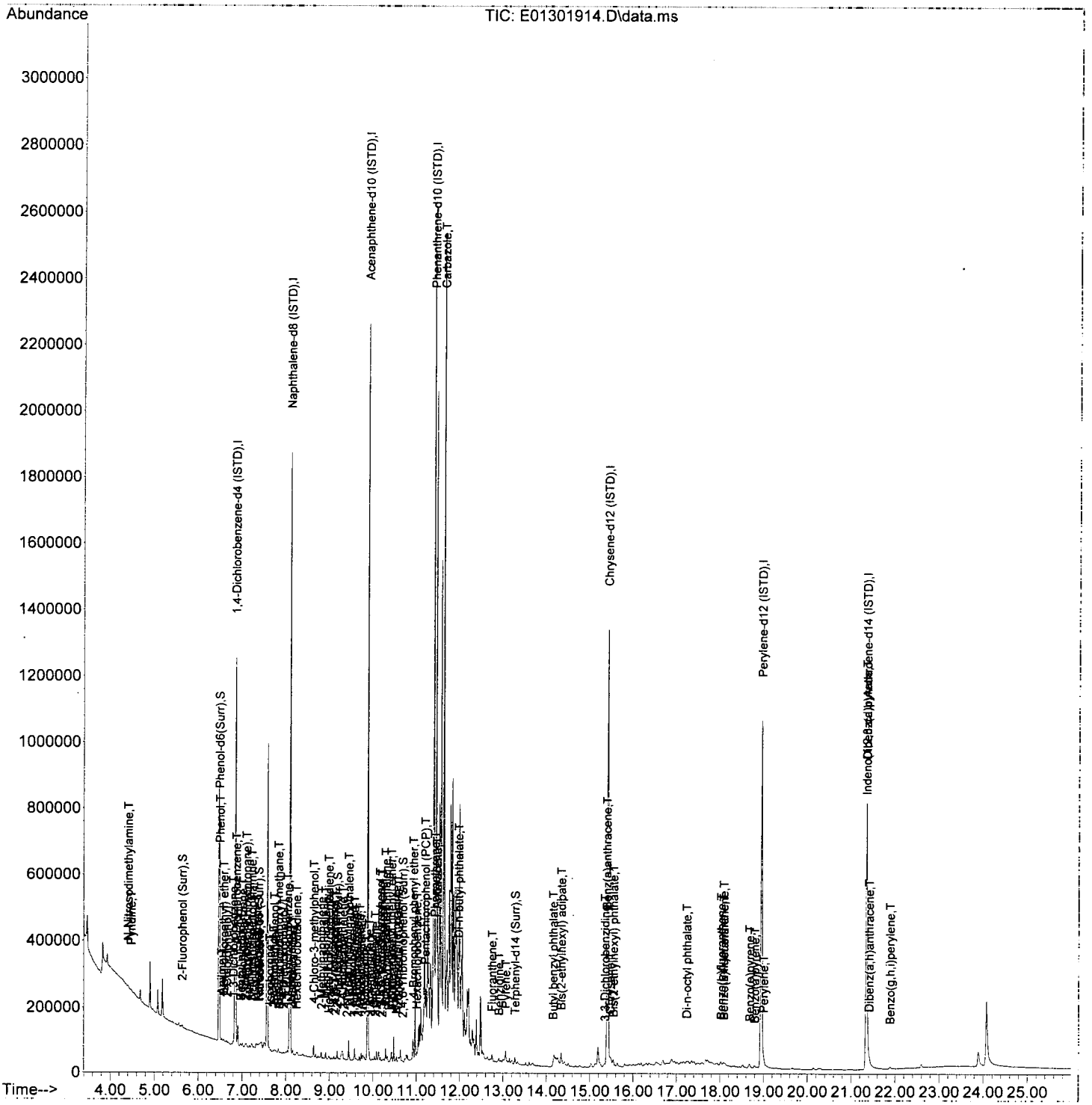
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.442	156	5544	18.54	ng/ml	98
44) 1,4-Dinitrobenzene	9.527	168	197	4.14	ng/ml	99
45) Dimethyl phthalate	9.575	163	5420	15.96	ng/ml	97
46) 1,3-Dinitrobenzene	9.613	168	245	4.61	ng/ml	59
47) 2,6-Dinitrotoluene	9.640	165	434	5.63	ng/ml	84
48) 1,2-Dinitrobenzene	9.698	168	203	6.04	ng/ml#	1
49) Acenaphthylene	9.730	152	7974	16.44	ng/ml	95
50) 3-Nitroaniline	9.821	138	572	6.50	ng/ml	77
51) Acenaphthene	9.912	153	6866	20.47	ng/ml	98
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	9.987	139	335	74.70	ng/ml#	26
54) 2,4-Dinitrotoluene	10.051	165	575	5.88	ng/ml	94
55) Dibenzofuran	10.083	168	8455	19.23	ng/ml#	55
56) 2,3,5,6-Tetrachlorophenol	10.164	232	340	43.86	ng/ml	86
57) 2,3,4,6-Tetrachlorophenol	10.212	232	529	36.13	ng/ml	85
58) Diethyl phthalate	10.292	149	5519	16.26	ng/ml	97
59) 2,3,5-Trimethylnaphtha...	10.292	170	5065	18.55	ng/ml	99
60) Fluorene	10.436	166	6383	18.15	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.426	204	3010	19.74	ng/ml	91
62) 4-Nitroaniline	10.436	138	713	7.90	ng/ml	92
63) 4,6-Dinitro-2-methylph...	0.000		0	N.D.		
65) N-Nitrosodiphenylamine	10.538	169	4930	16.70	ng/ml	91
66) Azobenzene (1,2-DPH)	10.586	77	6350	17.79	ng/ml	96
68) 4-Bromophenyl phenyl e...	10.929	248	1566	19.85	ng/ml	93
69) Hexachlorobenzene	11.009	284	1571	19.29	ng/ml	96
70) Pentachlorophenol (PCP)	11.201	266	315	75.67	ng/ml	79
71) Phenanthrene	11.421	178	10388	19.59	ng/ml	94
72) Anthracene	11.474	178	10748	20.97	ng/ml	92
73) Carbazole	11.629	167	11056	24.57	ng/ml	70
74) Di-n-butyl phthalate	11.972	149	15373	27.84	ng/ml	86
75) Fluoranthene	12.742	202	10781	21.15	ng/ml	92
76) Benzidine	12.902	184	1323	73.45	ng/ml	88
77) Pyrene	13.057	202	10777	20.51	ng/ml	98
80) Butyl benzyl phthalate	14.154	149	3108	38.84	ng/ml	84
81) Bis(2-ethylhexyl) adipate	14.341	129	9073	39.11	ng/ml	93
82) 3,3-Dichlorobenzidine	15.347	252	2805	47.65	ng/ml	95
83) Benz(a)anthracene	15.389	228	10870	22.19	ng/ml	98
84) Chrysene	15.470	228	9138	19.72	ng/ml	97
85) Bis(2-ethylhexyl) phth...	15.544	149	3944	10.93	ng/ml	98
87) Di-n-octyl phthalate	17.235	149	3881	76.75	ng/ml#	14
88) Benzo(b)fluoranthene	18.021	252	6730	25.15	ng/ml	98
89) Benzo(k)fluoranthene	18.085	252	7026	25.66	ng/ml	95
90) Benzo(b+k)fluoranthene	18.085	252	15677	52.15	ng/ml	95
91) Benzo(e)pyrene	18.679	252	7648	19.26	ng/ml	98
92) Benzo(a)pyrene	18.796	252	5806	26.47	ng/ml	96
93) Perylene	19.000	252	7762	17.60	ng/ml	97
95) Indeno(1,2,3-cd)pyrene	21.342	276	6544	17.34	ng/ml#	24
96) Dibenz(a,h)anthracene	21.407	278	5352	14.83	ng/ml	86
97) Benzo(g,h,i)perylene	21.883	276	5584	14.69	ng/ml	92

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301914.D
Acq On : 30 Jan 2019 7:00 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL1
Misc : 1x, A18L327@20
ALS Vial : 3 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:45 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301915.D
Acq On : 30 Jan 2019 7:37 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL2
Misc : 1x, A18L328@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:50 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	281181	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1068309	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	468864	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	786274	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.411	240	694365	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.951	264	613296	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.348	292	475223	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.633	112	7768	45.67	ng/ml	0.00
5) Phenol-d6(Surr)	6.473	99	10982	49.66	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.377	82	7789	39.30	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.179	172	18089	50.05	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.682	330	770	43.72	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.277	244	16079	51.18	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.408	74	5969	48.98	ng/ml	84
3) Pyridine	4.462	79	9139	46.59	ng/ml#	72
6) Phenol	6.489	94	11772	49.71	ng/ml	94
7) Aniline	6.532	93	15128	52.07	ng/ml	96
8) Bis(2-chloroethyl) ether	6.580	93	9806	49.33	ng/ml	96
9) 2-Chlorophenol	6.650	128	8358	44.89	ng/ml	96
10) 1,3-Dichlorobenzene	6.799	146	10651	47.79	ng/ml	94
11) 1,4-Dichlorobenzene	6.864	146	10515	46.31	ng/ml	97
12) Benzyl alcohol	6.965	108	4308	63.18	ng/ml	98
13) 1,2-Dichlorobenzene	7.013	146	10083	47.23	ng/ml	98
14) 2-Methylphenol	7.067	107	6847	46.42	ng/ml	93
15) 2,2'-Oxybis(1-Chloropr...	7.099	45	16784	62.17	ng/ml	96
16) N-Nitrosodi-n-propylamine	7.222	70	6849	49.51	ng/ml	96
17) 3+4-Methylphenol	7.211	107	8837	46.28	ng/ml	95
18) Hexachloroethane	7.345	117	3855	48.38	ng/ml	86
20) Nitrobenzene	7.398	77	8550	43.39	ng/ml	99
22) Isophorone	7.628	82	16770	48.27	ng/ml	97
23) 2-Nitrophenol	7.714	139	2288	24.55	ng/ml	96
24) 2,4-Dimethylphenol	7.735	122	7337	47.89	ng/ml	93
25) Bis(2-chloroethoxy) me...	7.832	93	11626	52.34	ng/ml	98
26) Benzoic acid	7.816	105	56	841.51	ng/ml#	55
27) 2,4-Dichlorophenol	7.949	162	4758	35.24	ng/ml	98
28) 1,2,4-Trichlorobenzene	8.035	180	7910	49.96	ng/ml	93
29) Naphthalene	8.120	128	30779	52.80	ng/ml	99
30) 4-Chloroaniline	8.163	127	8890	41.48	ng/ml	95
31) Hexachlorobutadiene	8.243	225	3731	47.97	ng/ml	95
32) 4-Chloro-3-methylphenol	8.639	107	3536	52.52	ng/ml#	1
33) 2-Methylnaphthalene	8.816	142	18189	47.83	ng/ml	96
34) 1-Methylnaphthalene	8.917	142	17571	47.44	ng/ml	98
36) Hexachlorocyclopentadiene	8.982	237	2439	40.14	ng/ml	96
37) 2,4,6-Trichlorophenol	9.094	196	2135	53.91	ng/ml	97
38) 2,4,5-Trichlorophenol	~~9.131~~	~~196~~	~~2141~~	~~40.01~~	~~ng/ml~~	89
39) 1,1'-Biphenyl	9.281	154	21089	50.98	ng/ml	98
41) 2-Chloronaphthalene	9.308	162	14859	50.16	ng/ml	99
42) 2-Nitroaniline	9.404	138	2037	19.91	ng/ml	89

See MS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301915.D
Acq On : 30 Jan 2019 7:37 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL2
Misc : 1x, A18L328@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:50 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

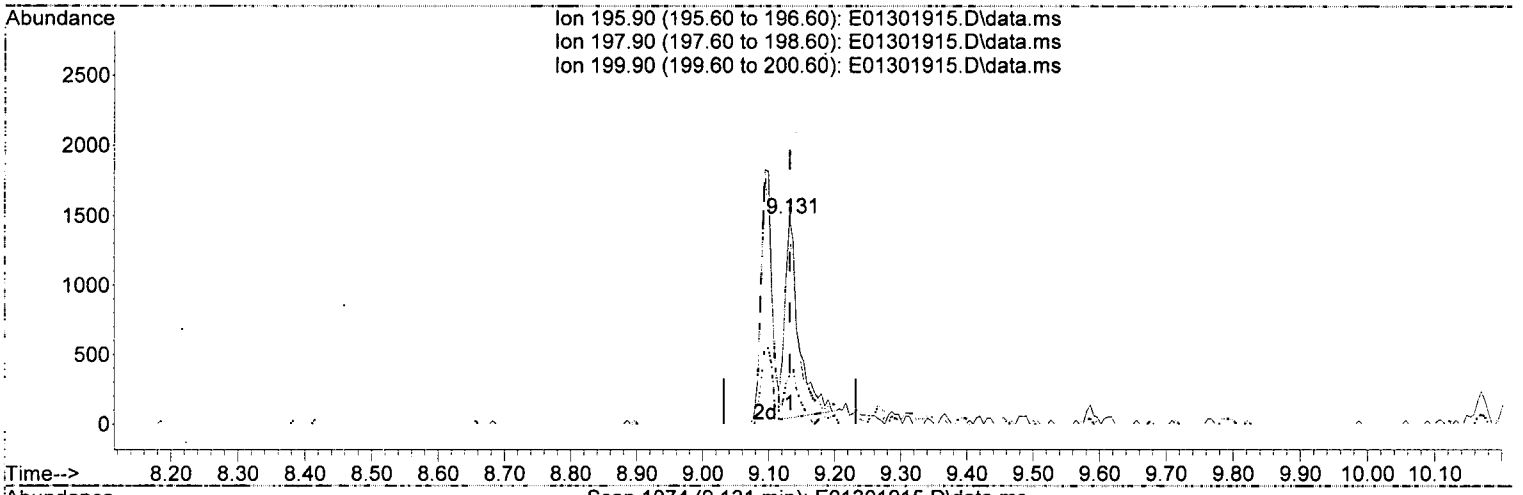
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.447	156	14256	49.36	ng/ml	98
44) 1,4-Dinitrobenzene	9.527	168	523	11.39	ng/ml#	65
45) Dimethyl phthalate	9.575	163	13040	39.75	ng/ml	97
46) 1,3-Dinitrobenzene	9.613	168	748	14.56	ng/ml	71
47) 2,6-Dinitrotoluene	9.639	165	1439	19.33	ng/ml	88
48) 1,2-Dinitrobenzene	9.698	168	546	16.81	ng/ml#	18
49) Acenaphthylene	9.736	152	22412	47.82	ng/ml	99
50) 3-Nitroaniline	9.816	138	1785	21.00	ng/ml	83
51) Acenaphthene	9.912	153	15975	49.32	ng/ml	97
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	9.976	139	1002	85.58	ng/ml#	76
54) 2,4-Dinitrotoluene	10.057	165	1435	15.18	ng/ml	96
55) Dibenzofuran	10.083	168	19948	46.96	ng/ml#	78
56) 2,3,5,6-Tetrachlorophenol	10.169	232	1011	55.13	ng/ml	85
57) 2,3,4,6-Tetrachlorophenol	~~10.212~~	~~232~~	~~1470~~	~~50.67~~	~~ng/ml~~	80 see MS
58) Diethyl phthalate	10.297	149	13590	41.44	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.292	170	12539	47.54	ng/ml	93
60) Fluorene	10.436	166	15560	45.81	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.426	204	6698	45.47	ng/ml	88
62) 4-Nitroaniline	10.436	138	2087	23.93	ng/ml	87
63) 4,6-Dinitro-2-methylph...	10.479	198	74	77.83	ng/ml#	1
65) N-Nitrosodiphenylamine	10.543	169	11920	46.96	ng/ml	98
66) Azobenzene (1,2-DPH)	10.586	77	16055	52.33	ng/ml	98
68) 4-Bromophenyl phenyl e...	10.928	248	3436	50.67	ng/ml	93
69) Hexachlorobenzene	11.009	284	3548	50.68	ng/ml	99
70) Pentachlorophenol (PCP)	11.207	266	571	83.26	ng/ml	91
71) Phenanthrene	11.421	178	22253	48.83	ng/ml	99
72) Anthracene	11.474	178	23381	53.07	ng/ml	97
73) Carbazole	11.629	167	21647	55.95	ng/ml	93
74) Di-n-butyl phthalate	11.971	149	26968	56.81	ng/ml	96
75) Fluoranthene	12.747	202	22810	52.04	ng/ml	99
76) Benzidine	12.907	184	6453	95.98	ng/ml	90
77) Pyrene	13.057	202	23055	51.04	ng/ml	97
80) Butyl benzyl phthalate	14.154	149	7172	61.13	ng/ml	98
81) Bis(2-ethylhexyl) adipate	14.341	129	11698	61.67	ng/ml	97
82) 3,3-Dichlorobenzidine	15.346	252	8063	100.49	ng/ml	96
83) Benz(a)anthracene	15.389	228	20129	50.25	ng/ml	95
84) Chrysene	15.464	228	18408	48.59	ng/ml	95
85) Bis(2-ethylhexyl) phth...	15.544	149	8608	29.16	ng/ml	99
87) Di-n-octyl phthalate	17.235	149	9748	92.86	ng/ml	83
88) Benzo(b)fluoranthene	18.015	252	14286	52.97	ng/ml	98
89) Benzo(k)fluoranthene	18.085	252	14559	52.66	ng/ml	97
90) Benzo(b+k)fluoranthene	18.015	252	31983	108.94	ng/ml	98
91) Benzo(e)pyrene	18.673	252	15484	48.98	ng/ml	99
92) Benzo(a)pyrene	18.802	252	12367	52.44	ng/ml	97
93) Perylene	19.005	252	16978	48.35	ng/ml	98
95) Indeno(1,2,3-cd)pyrene	21.342	276	12358	42.35	ng/ml	80
96) Dibenz(a,h)anthracene	21.412	278	11253	40.33	ng/ml	93
97) Benzo(g,h,i)perylene	21.882	276	12123	41.24	ng/ml	87

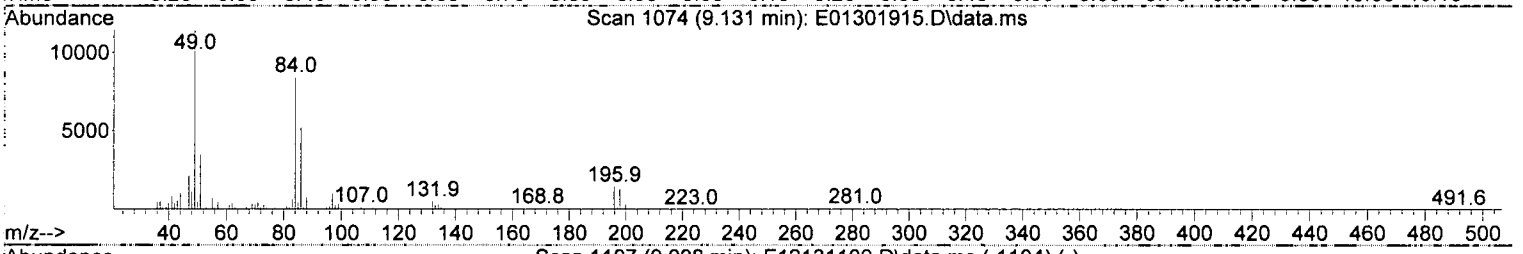
(#) = qualifier out of range (m) = manual integration (+) = signals summed

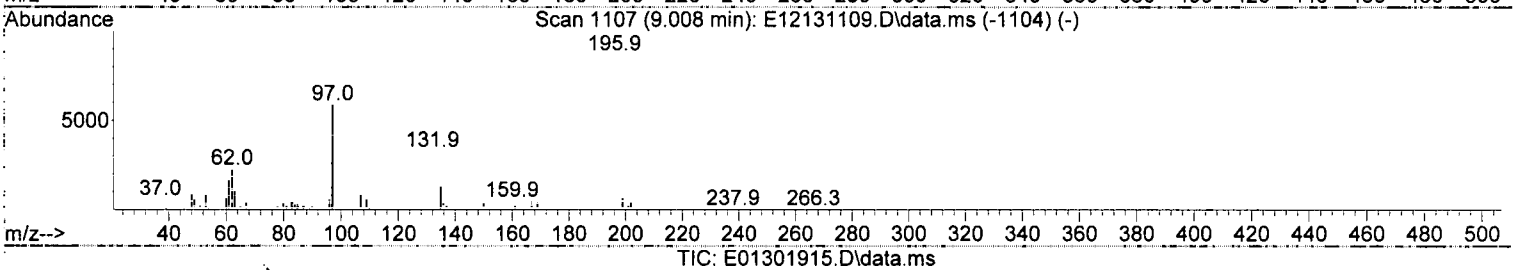
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301915.D
Acq On : 30 Jan 2019 7:37 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL2
Misc : 1x, A18L328@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:50 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301915.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.131min (-0.000) 40.01 ng/ml

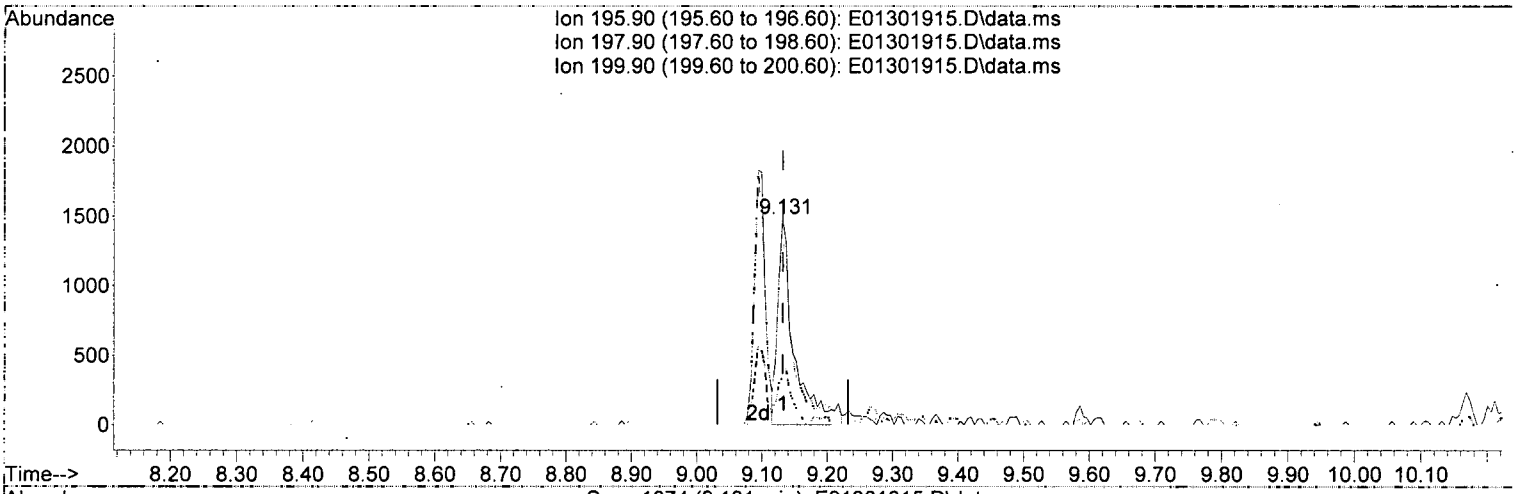
response 2141

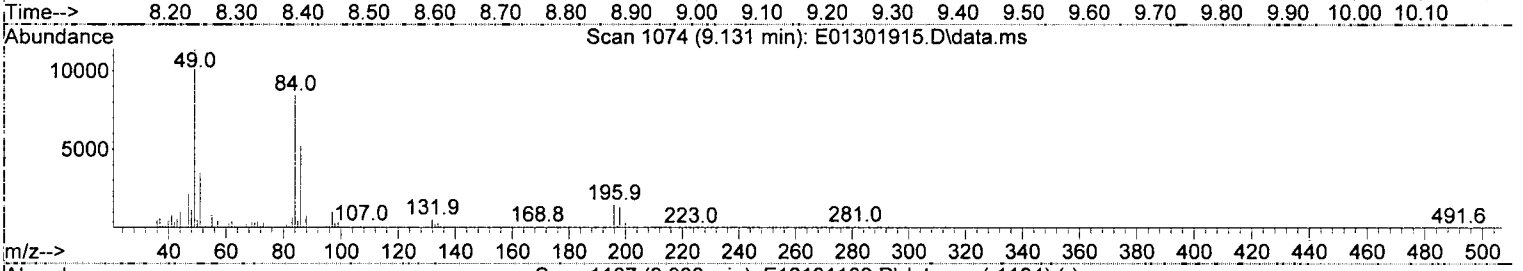
Ion	Exp%	Act%
195.90	100.00	100.00
197.90	96.30	87.77
199.90	32.40	23.38
0.00	0.00	0.00

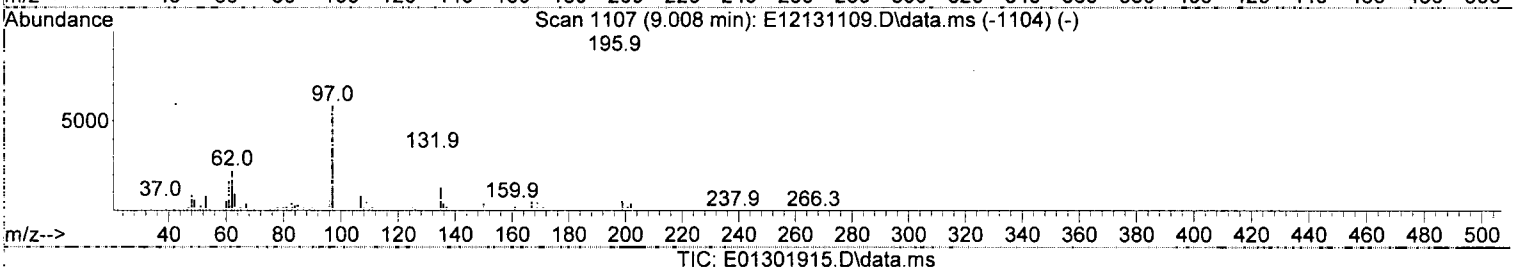
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301915.D
Acq On : 30 Jan 2019 7:37 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL2
Misc : 1x, A18L328@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:50 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301915.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.131min (-0.000) 46.32 ng/ml m

response 2609

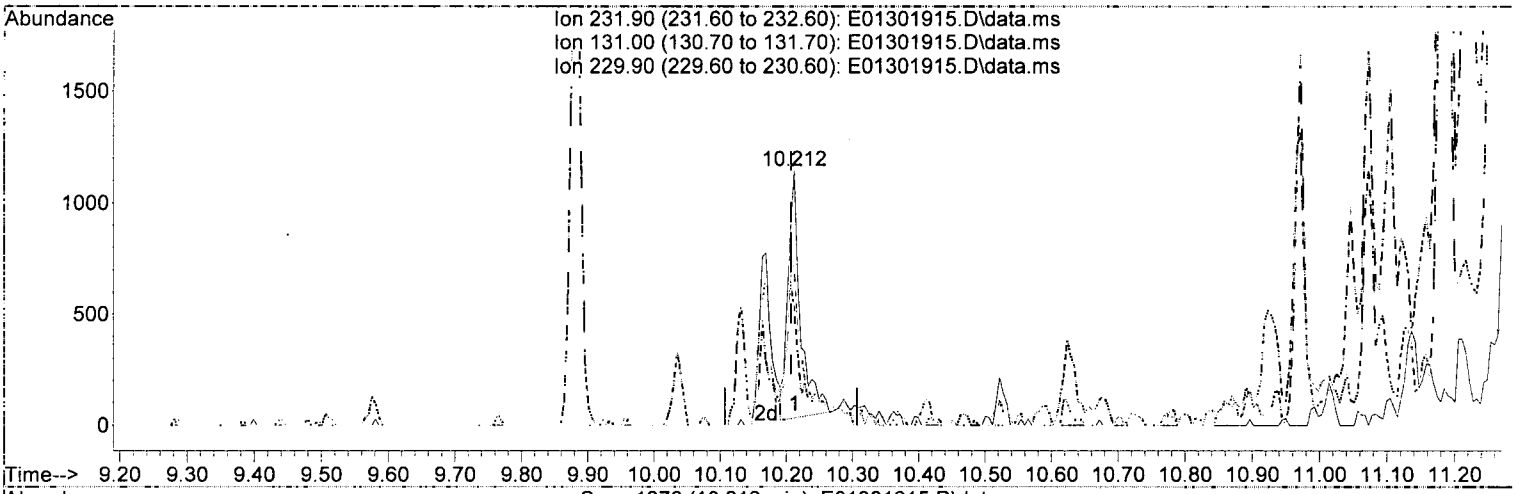
Ion	Exp%	Act%
195.90	100.00	100.00
197.90	96.30	87.77
199.90	32.40	23.38
0.00	0.00	0.00

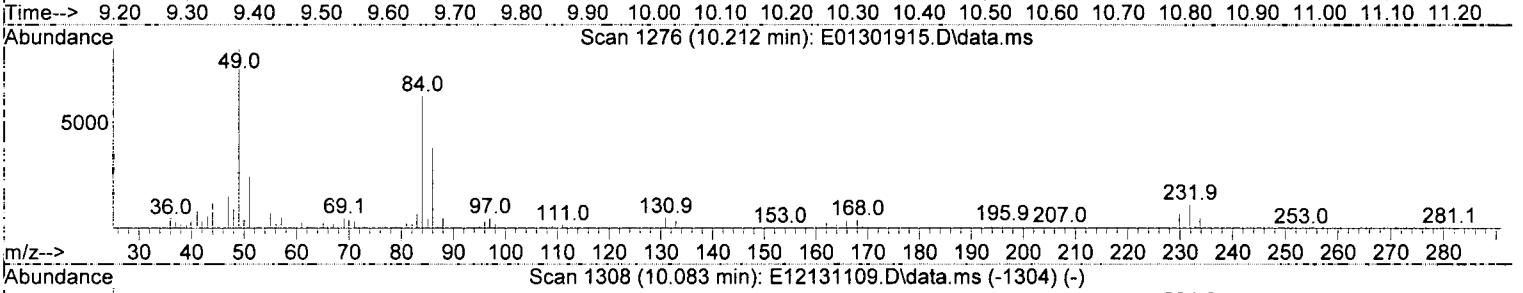
JK 1/31/19

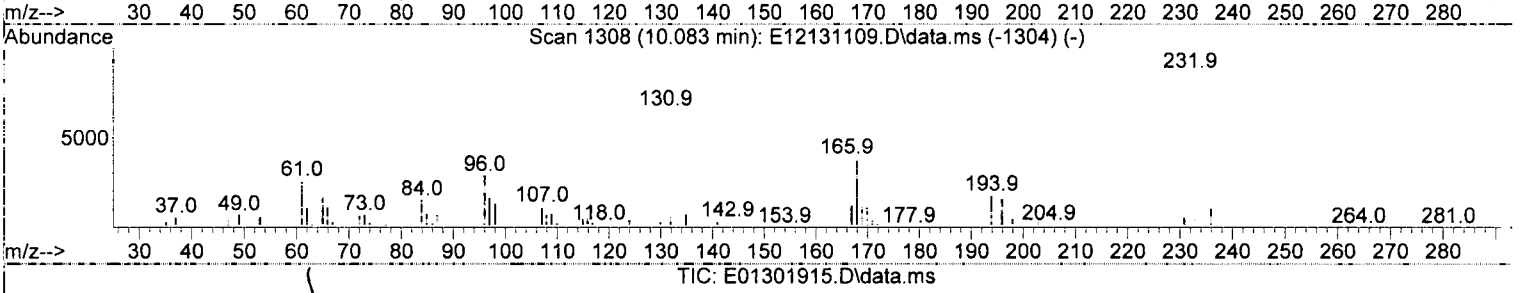
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301915.D
Acq On : 30 Jan 2019 7:37 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL2
Misc : 1x, A18L328@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:50 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301915.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.212min (+ 0.005) 50.67 ng/ml

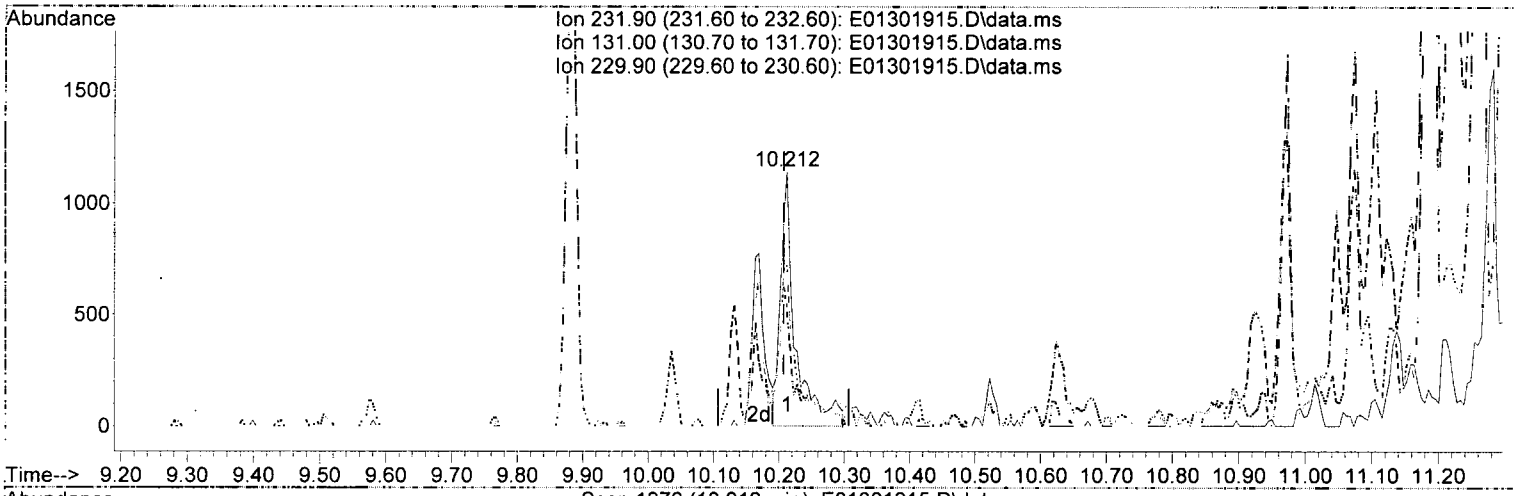
response 1470

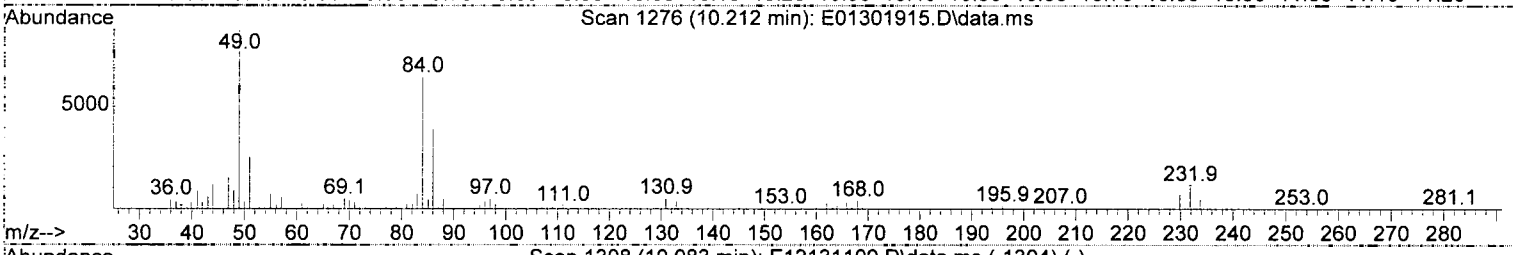
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	61.50	45.49
229.90	79.80	62.82
0.00	0.00	0.00

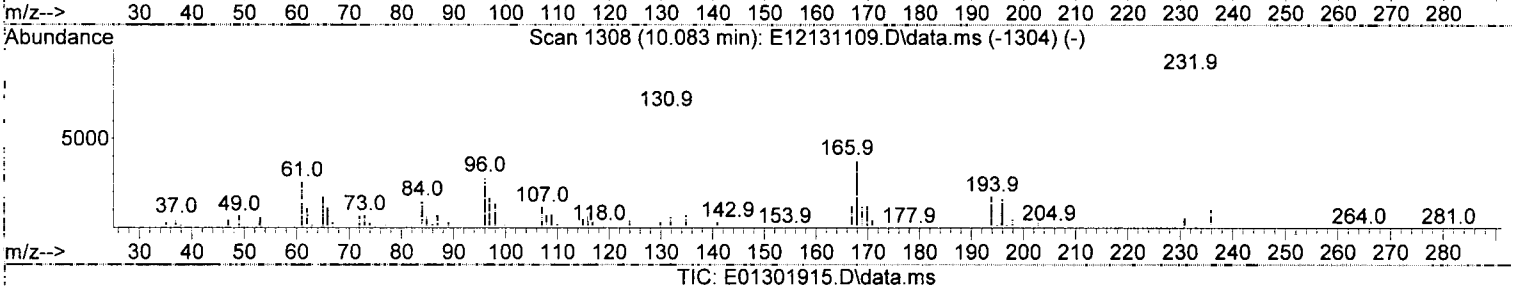
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301915.D
Acq On : 30 Jan 2019 7:37 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL2
Misc : 1x, A18L328@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:50 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301915.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.212min (+ 0.005) 55.86 ng/ml m

response 1812

Ion	Exp%	Act%
231.90	100.00	100.00
131.00	61.50	45.49
229.90	79.80	62.82
0.00	0.00	0.00

1/31/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301915.D
Acq On : 30 Jan 2019 7:37 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL2
Misc : 1x, A18L328@50
ALS Vial : 4 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:50 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
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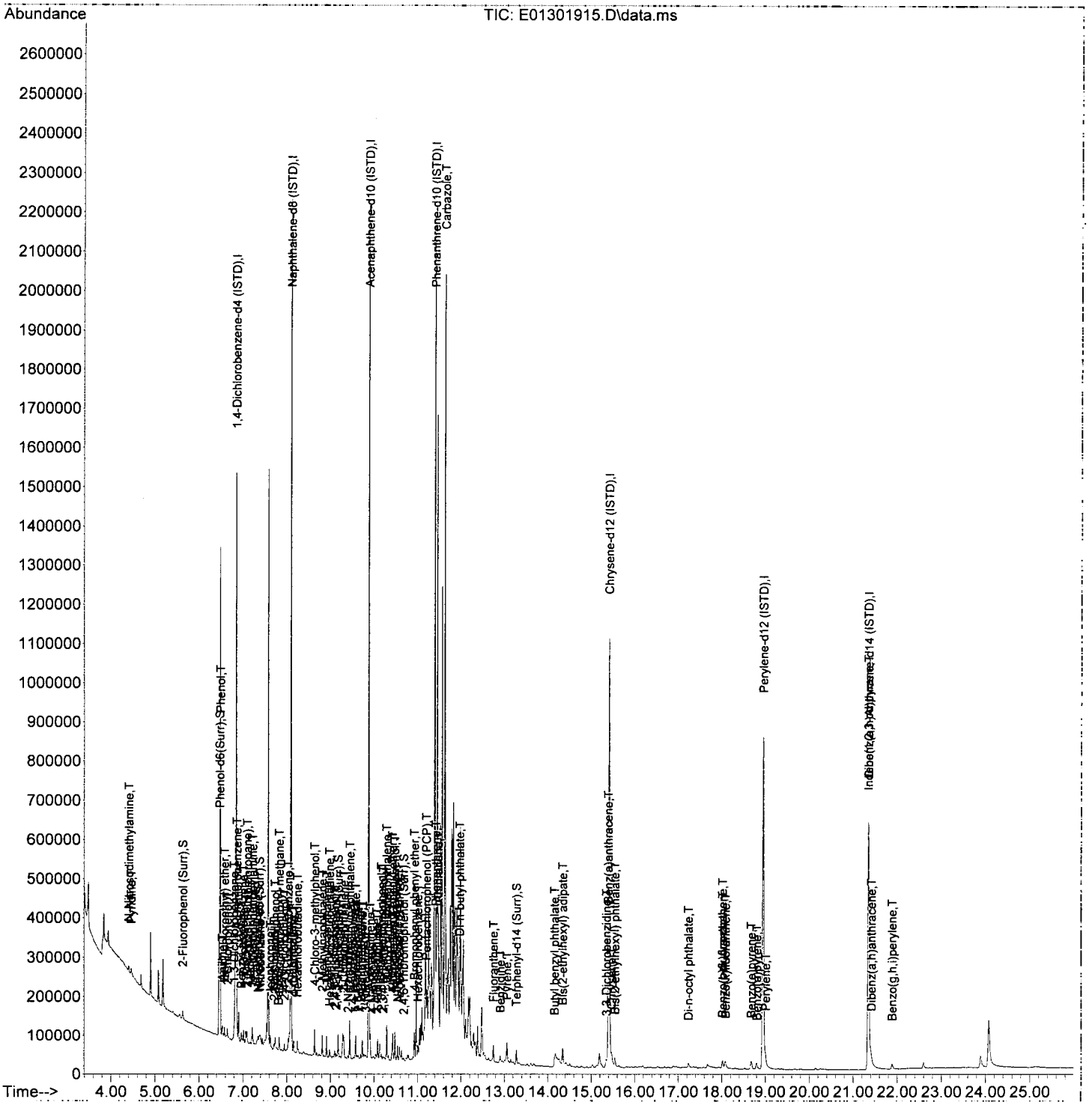
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301916.D
Acq On : 30 Jan 2019 8:13 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL3
Misc : 1x, A18L329@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	274393	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1090991	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	474233	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	790595	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.410	240	690491	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.946	264	611891	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.347	292	467911	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.633	112	16374	98.64	ng/ml	0.00
5) Phenol-d6(Surr)	6.473	99	22782	105.57	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.377	82	17308	89.48	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.179	172	36884	100.90	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.682	330	2028	93.89	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.276	244	32265	103.27	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.403	74	12079	101.56	ng/ml	96
3) Pyridine	4.451	79	19576	102.26	ng/ml	85
6) Phenol	6.484	94	24600	106.45	ng/ml	93
7) Aniline	6.532	93	30756	108.47	ng/ml	99
8) Bis(2-chloroethyl) ether	6.580	93	18886	97.36	ng/ml	97
9) 2-Chlorophenol	6.649	128	17282	95.13	ng/ml	98
10) 1,3-Dichlorobenzene	6.799	146	20846	95.85	ng/ml	96
11) 1,4-Dichlorobenzene	6.863	146	21382	96.50	ng/ml	98
12) Benzyl alcohol	6.965	108	9554	111.61	ng/ml	95
13) 1,2-Dichlorobenzene	7.013	146	20256	97.24	ng/ml	97
14) 2-Methylphenol	7.067	107	14811	102.90	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.093	45	32803	124.52	ng/ml	95
16) N-Nitrosodi-n-propylamine	7.222	70	14289	105.84	ng/ml	98
17) 3+4-Methylphenol	7.211	107	18073	96.98	ng/ml	95
18) Hexachloroethane	7.345	117	7837	100.79	ng/ml	90
20) Nitrobenzene	7.398	77	18438	95.89	ng/ml	98
22) Isophorone	7.623	82	35464	99.96	ng/ml	97
23) 2-Nitrophenol	7.714	139	5408	56.82	ng/ml	88
24) 2,4-Dimethylphenol	7.735	122	15179	97.01	ng/ml	92
25) Bis(2-chloroethoxy) me...	7.831	93	23620	104.13	ng/ml	97
26) Benzoic acid	7.821	105	308	844.21	ng/ml#	74
27) 2,4-Dichlorophenol	7.949	162	10325	74.89	ng/ml	97
28) 1,2,4-Trichlorobenzene	8.035	180	15521	95.99	ng/ml	95
29) Naphthalene	8.115	128	59651	100.20	ng/ml	100
30) 4-Chloroaniline	8.158	127	19347	88.40	ng/ml	98
31) Hexachlorobutadiene	8.243	225	7485	94.24	ng/ml	96
32) 4-Chloro-3-methylphenol	8.634	107	9340	92.53	ng/ml#	44
33) 2-Methylnaphthalene	8.810	142	36689	94.47	ng/ml	96
34) 1-Methylnaphthalene	8.912	142	35408	93.61	ng/ml	98
36) Hexachlorocyclopentadiene	8.981	237	5330	86.72	ng/ml	96
37) 2,4,6-Trichlorophenol	9.094	196	5412	94.00	ng/ml	98
38) 2,4,5-Trichlorophenol	9.131	196	5163	79.94	ng/ml	93
39) 1,1'-Biphenyl	9.281	154	42772	102.22	ng/ml	100
41) 2-Chloronaphthalene	9.308	162	30467	101.69	ng/ml	99
42) 2-Nitroaniline	9.399	138	4661	45.04	ng/ml	96

See MS

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301916.D
Acq On : 30 Jan 2019 8:13 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL3
Misc : 1x, A18L329@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.441	156	29357	100.49	ng/ml	98
44) 1,4-Dinitrobenzene	9.527	168	1254	26.99	ng/ml	76
45) Dimethyl phthalate	9.575	163	27948	84.22	ng/ml	98
46) 1,3-Dinitrobenzene	9.607	168	1734	33.37	ng/ml	90
47) 2,6-Dinitrotoluene	9.639	165	3823	50.77	ng/ml	95
48) 1,2-Dinitrobenzene	9.698	168	1698	51.70	ng/ml	88
49) Acenaphthylene	9.730	152	47041	99.24	ng/ml	100
50) 3-Nitroaniline	9.816	138	4826	56.15	ng/ml	84
51) Acenaphthene	9.907	153	32436	99.00	ng/ml	99
52) 2,4-Dinitrophenol	0.000		0	N.D.		
53) 4-Nitrophenol	9.971	139	2407	107.66	ng/ml	95
54) 2,4-Dinitrotoluene	10.051	165	3832	40.09	ng/ml	91
55) Dibenzofuran	10.083	168	40600	94.50	ng/ml	86
56) 2,3,5,6-Tetrachlorophenol	10.163	232	2714	82.70	ng/ml	97
57) 2,3,4,6-Tetrachlorophenol	10.206	232	3745	84.51	ng/ml	89
58) Diethyl phthalate	10.292	149	27965	84.31	ng/ml	97
59) 2,3,5-Trimethylnaphtha...	10.292	170	25788	96.67	ng/ml	95
60) Fluorene	10.436	166	32279	93.97	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.426	204	13730	92.14	ng/ml	92
62) 4-Nitroaniline	10.436	138	5107	57.89	ng/ml	86
63) 4,6-Dinitro-2-methylph...	10.474	198	342	83.78	ng/ml#	1
65) N-Nitrosodiphenylamine	10.543	169	24736	96.92	ng/ml	98
66) Azobenzene (1,2-DPH)	10.586	77	34575	112.09	ng/ml	98
68) 4-Bromophenyl phenyl e...	10.928	248	7025	103.04	ng/ml	99
69) Hexachlorobenzene	11.009	284	7238	102.83	ng/ml	98
70) Pentachlorophenol (PCP)	11.201	266	1341	102.51	ng/ml	91
71) Phenanthrene	11.420	178	45679	99.68	ng/ml	99
72) Anthracene	11.474	178	46433	104.82	ng/ml	99
73) Carbazole	11.629	167	43052	110.66	ng/ml	97
74) Di-n-butyl phthalate	11.966	149	51497	107.89	ng/ml	98
75) Fluoranthene	12.742	202	45822	103.97	ng/ml	97
76) Benzidine	12.902	184	18666	147.24	ng/ml	95
77) Pyrene	13.057	202	46111	101.53	ng/ml	99
80) Butyl benzyl phthalate	14.159	149	14773	98.07	ng/ml	95
81) Bis(2-ethylhexyl) adipate	14.341	129	18339	97.22	ng/ml	95
82) 3,3-Dichlorobenzidine	15.341	252	18339	195.28	ng/ml	98
83) Benz(a)anthracene	15.384	228	37587	94.36	ng/ml	100
84) Chrysene	15.469	228	36919	97.99	ng/ml	100
85) Bis(2-ethylhexyl) phth...	15.550	149	19228	65.51	ng/ml	97
87) Di-n-octyl phthalate	17.234	149	21395	121.10	ng/ml	92
88) Benzo(b)fluoranthene	18.015	252	29112	99.29	ng/ml	96
89) Benzo(k)fluoranthene	18.079	252	29589	98.12	ng/ml	99
90) Benzo(b+k)fluoranthene	18.079	252	63728	201.74	ng/ml	99
91) Benzo(e)pyrene	18.673	252	31282	99.19	ng/ml	97
92) Benzo(a)pyrene	18.796	252	25304	95.97	ng/ml	97
93) Perylene	19.005	252	33514	95.67	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.342	276	24570	85.51	ng/ml	86
96) Dibenz(a,h)anthracene	21.406	278	22041	80.24	ng/ml	90
97) Benzo(g,h,i)perylene	21.882	276	24346	84.12	ng/ml	85

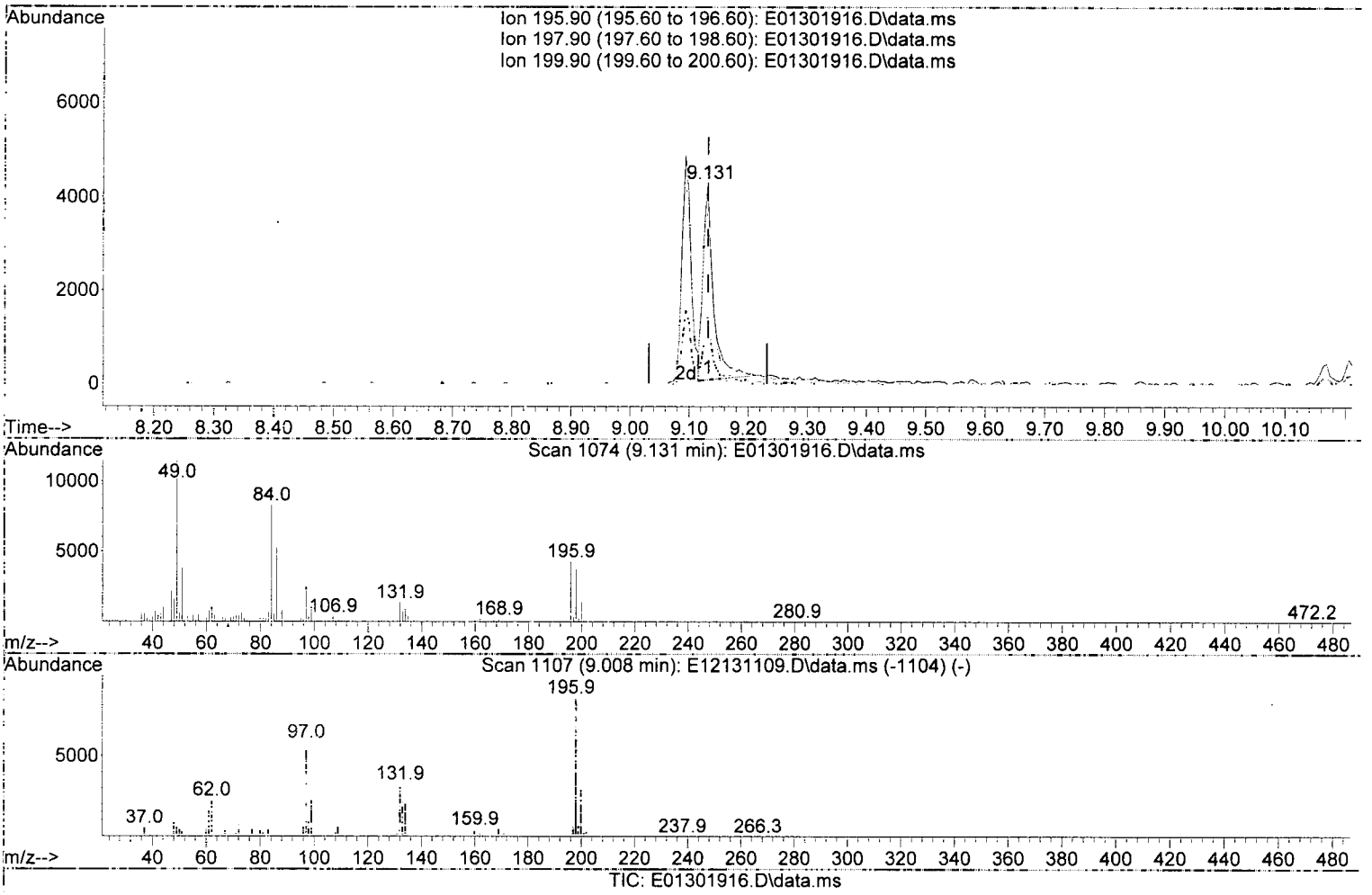
See M.I

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301916.D
Acq On : 30 Jan 2019 8:13 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL3
Misc : 1x, A18L329@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E01301916.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.131min (-0.000) 79.94 ng/ml

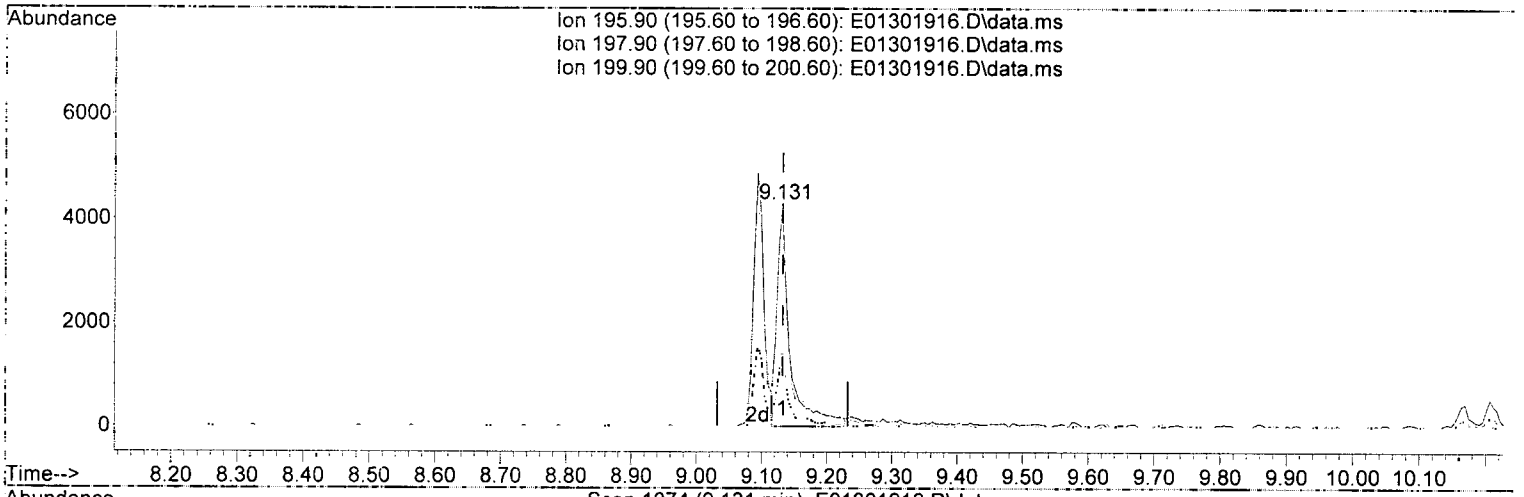
response 5163

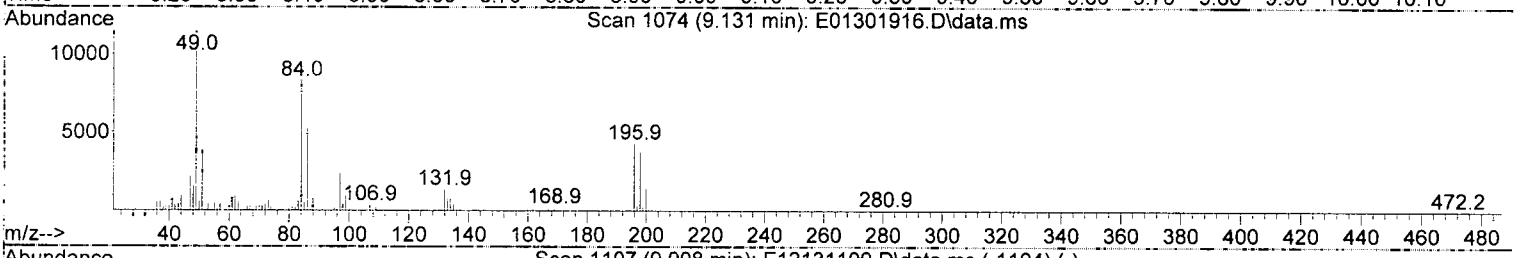
Ion	Exp%	Act%
195.90	100.00	100.00
197.90	96.30	87.47
199.90	32.40	33.06
0.00	0.00	0.00

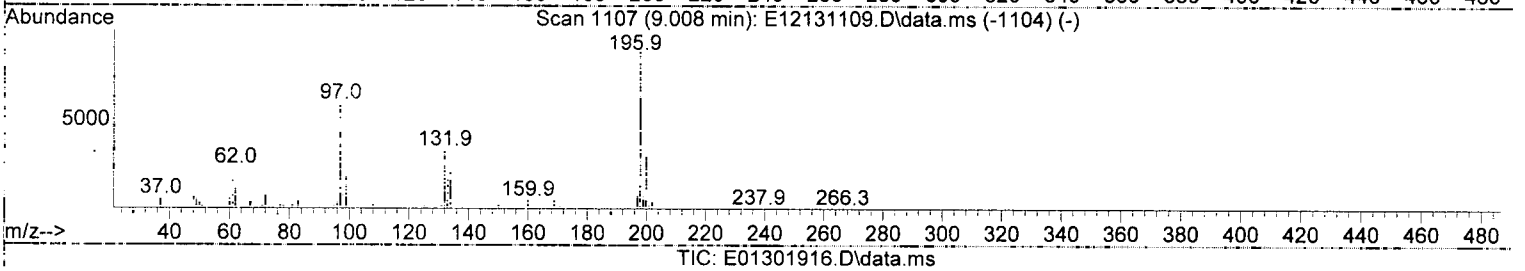
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301916.D
Acq On : 30 Jan 2019 8:13 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL3
Misc : 1x, A18L329@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301916.D\data.ms

(38) 2,4,5-Trichlorophenol (T)

9.131min (-0.000) 91.76 ng/ml m

response 6051

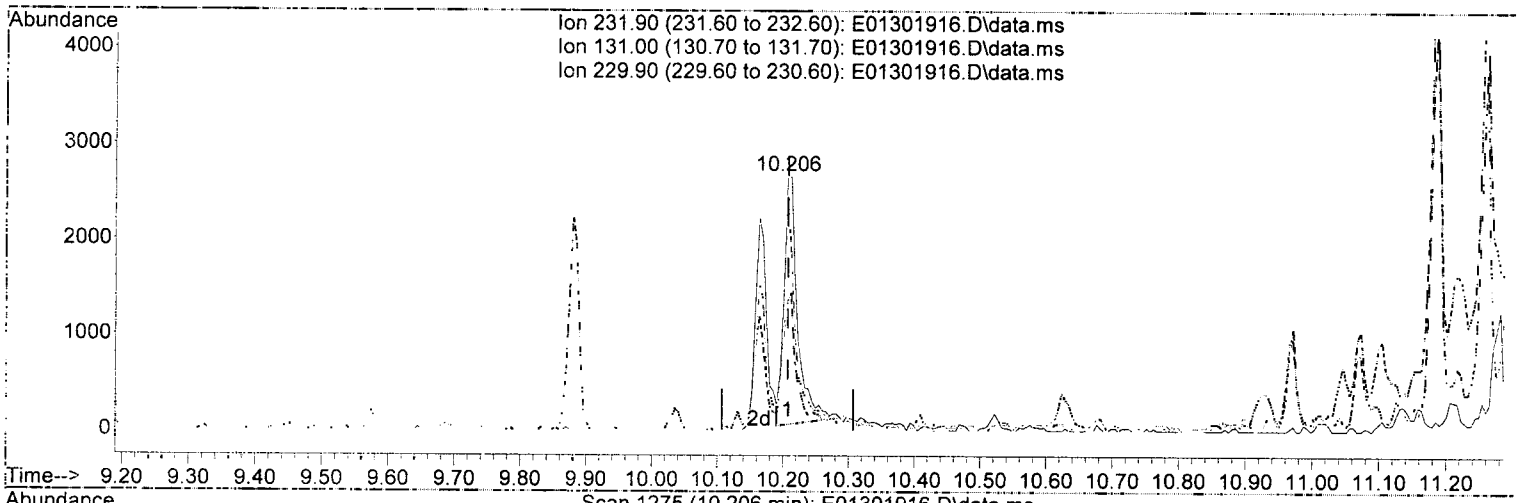
Ion	Exp%	Act%
195.90	100.00	100.00
197.90	96.30	87.47
199.90	32.40	33.06
0.00	0.00	0.00

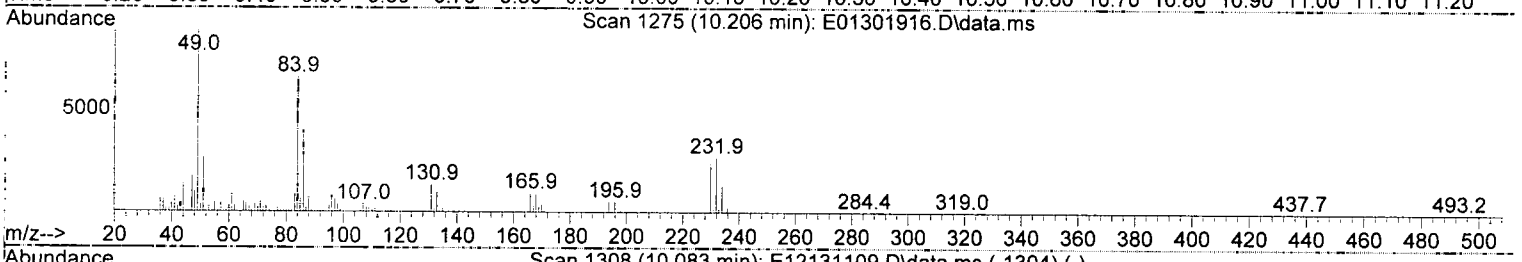
1/31/19

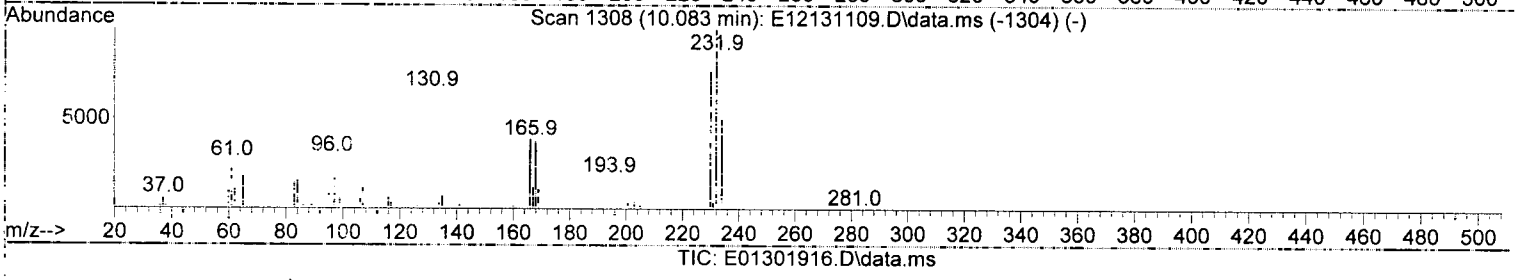
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301916.D
Acq On : 30 Jan 2019 8:13 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL3
Misc : 1x, A18L329@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301916.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.206min (-0.000) 84.51 ng/ml

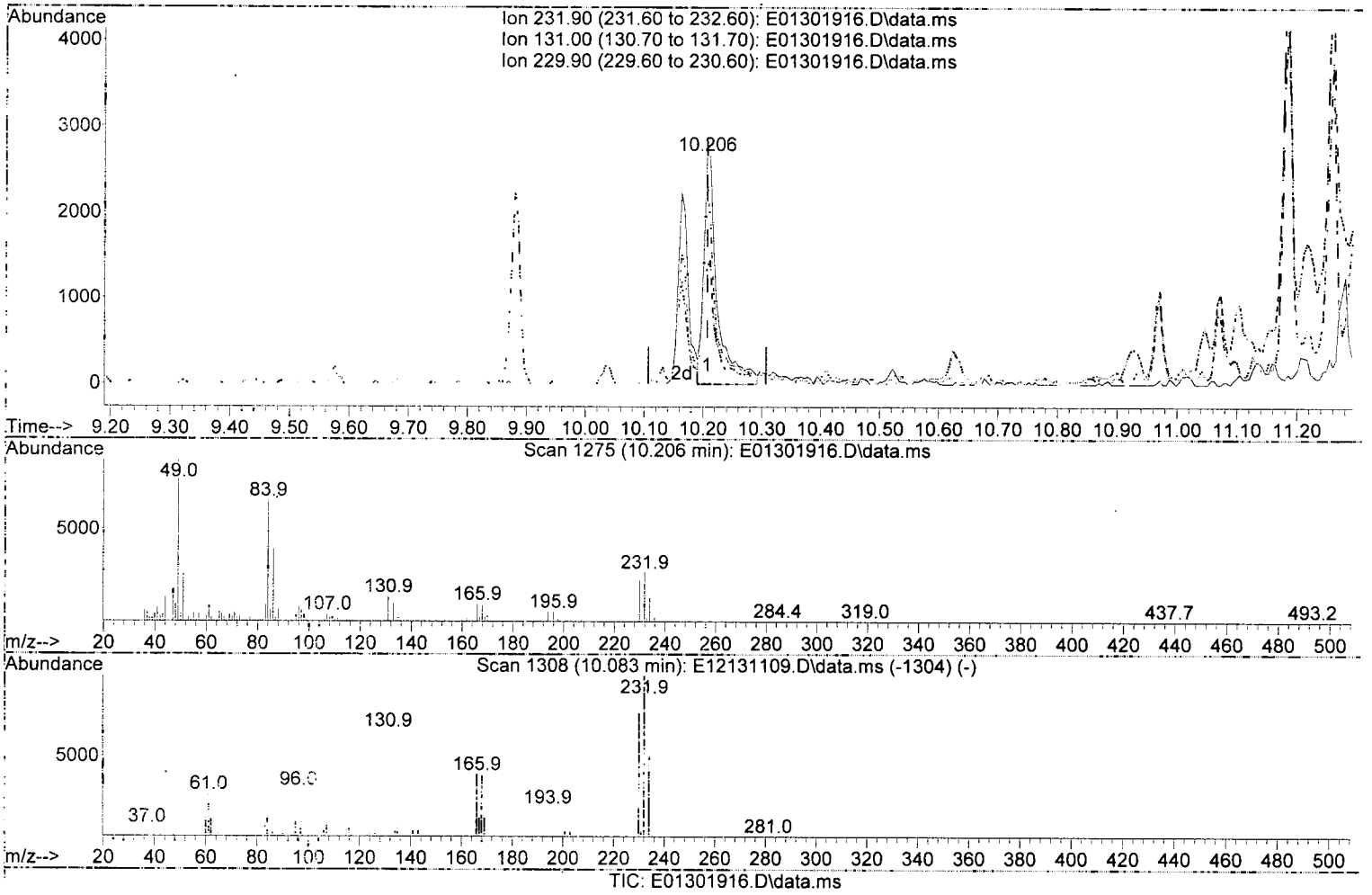
response 3745

Ion	Exp%	Act%
231.90	100.00	100.00
131.00	61.50	50.43
229.90	79.80	86.85
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301916.D
Acq On : 30 Jan 2019 8:13 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL3
Misc : 1x, A18L329@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E01301916.D\data.ms

(57) 2,3,4,6-Tetrachlorophenol (T)

10.206min (-0.000) 93.09 ng/ml m

response 4318

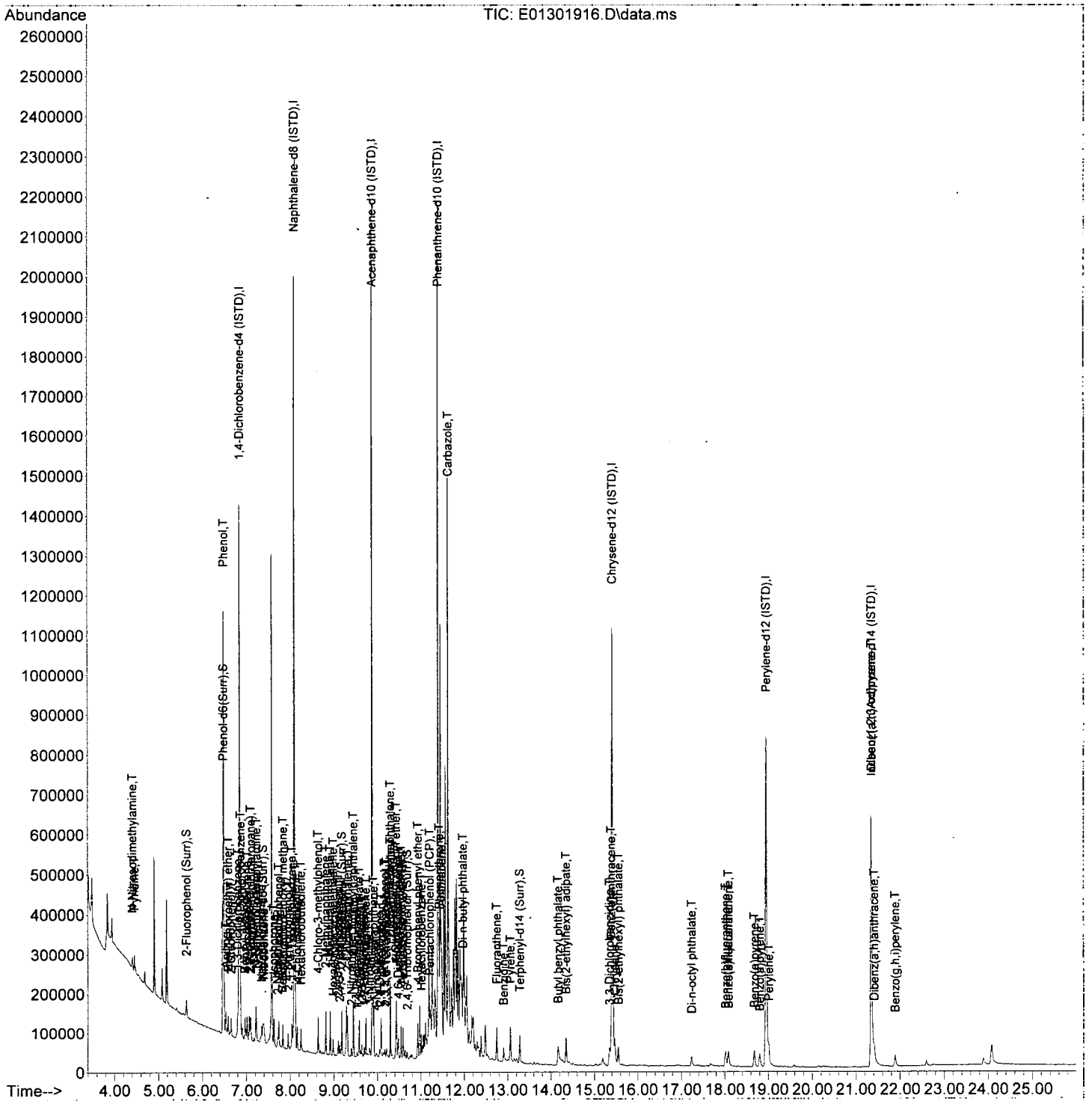
Ion	Exp%	Act%
231.90	100.00	100.00
131.00	61.50	50.43
229.90	79.80	86.85
0.00	0.00	0.00

1/31/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301916.D
Acq On : 30 Jan 2019 8:13 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL3
Misc : 1x, A18L329@100
ALS Vial : 5 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:52:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301917.D
Acq On : 30 Jan 2019 8:50 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL4
Misc : 1x, A18L330@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	290867	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1128963	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	497817	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	851122	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.411	240	721909	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.946	264	642441	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.348	292	493160	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.628	112	35753	203.19	ng/ml	0.00
5) Phenol-d6(Surr)	6.473	99	47985	209.76	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.377	82	38942	189.93	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.179	172	77186	201.16	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.682	330	5139	203.22	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.276	244	69836	213.79	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.392	74	26607	211.04	ng/ml	93
3) Pyridine	4.441	79	42897	211.40	ng/ml	93
6) Phenol	6.484	94	50967	208.05	ng/ml	93
7) Aniline	6.526	93	63650	211.77	ng/ml	98
8) Bis(2-chloroethyl) ether	6.580	93	42294	205.69	ng/ml	96
9) 2-Chlorophenol	6.644	128	37904	196.82	ng/ml	97
10) 1,3-Dichlorobenzene	6.794	146	44104	191.30	ng/ml	97
11) 1,4-Dichlorobenzene	6.863	146	44829	190.86	ng/ml	99
12) Benzyl alcohol	6.965	108	21731	210.30	ng/ml	96
13) 1,2-Dichlorobenzene	7.013	146	42117	190.72	ng/ml	98
14) 2-Methylphenol	7.061	107	31237	204.73	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.093	45	67804	242.80	ng/ml	98
16) N-Nitrosodi-n-propylamine	7.222	70	30932	216.14	ng/ml	96
17) 3+4-Methylphenol	7.211	107	38619	195.49	ng/ml	97
18) Hexachloroethane	7.345	117	16252	197.18	ng/ml	84
20) Nitrobenzene	7.393	77	41375	202.98	ng/ml	96
22) Isophorone	7.623	82	76306	207.85	ng/ml	99
23) 2-Nitrophenol	7.714	139	12965	131.64	ng/ml	91
24) 2,4-Dimethylphenol	7.735	122	32468	200.53	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.832	93	48550	206.85	ng/ml	99
26) Benzoic acid	7.810	105	538	846.50	ng/ml	92
27) 2,4-Dichlorophenol	7.944	162	23291	163.25	ng/ml	99
28) 1,2,4-Trichlorobenzene	8.035	180	31882	190.55	ng/ml	95
29) Naphthalene	8.115	128	122429	198.73	ng/ml	99
30) 4-Chloroaniline	8.158	127	39584	174.79	ng/ml	98
31) Hexachlorobutadiene	8.243	225	15189	184.81	ng/ml	99
32) 4-Chloro-3-methylphenol	8.634	107	22255	177.28	ng/ml	78
33) 2-Methylnaphthalene	8.810	142	76316	189.90	ng/ml	97
34) 1-Methylnaphthalene	8.912	142	72918	186.29	ng/ml	97
36) Hexachlorocyclopentadiene	8.982	237	12226	189.50	ng/ml	94
37) 2,4,6-Trichlorophenol	9.094	196	12662	175.88	ng/ml	97
38) 2,4,5-Trichlorophenol	9.131	196	12964	175.26	ng/ml	98
39) 1,1'-Biphenyl	9.281	154	88511	201.52	ng/ml	98
41) 2-Chloronaphthalene	9.308	162	63199	200.94	ng/ml	98
42) 2-Nitroaniline	9.399	138	12071	111.12	ng/ml	98

See MJ

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301917.D
Acq On : 30 Jan 2019 8:50 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL4
Misc : 1x, A18L330@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

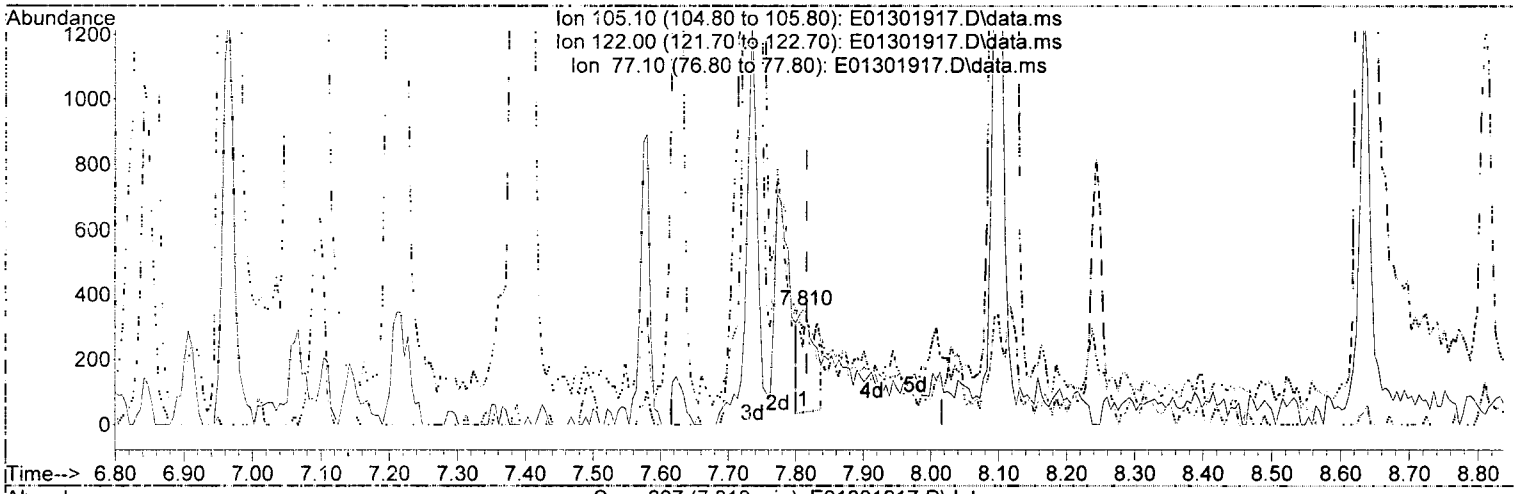
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.441	156	61710	201.24	ng/ml	99
44) 1,4-Dinitrobenzene	9.527	168	3705	75.97	ng/ml	93
45) Dimethyl phthalate	9.575	163	63042	180.98	ng/ml	99
46) 1,3-Dinitrobenzene	9.607	168	5323	97.57	ng/ml	96
47) 2,6-Dinitrotoluene	9.639	165	10458	132.30	ng/ml	97
48) 1,2-Dinitrobenzene	9.698	168	4275	123.99	ng/ml	88
49) Acenaphthylene	9.730	152	100207	201.39	ng/ml	99
50) 3-Nitroaniline	9.816	138	12489	138.41	ng/ml	94
51) Acenaphthene	9.912	153	67960	197.59	ng/ml	99
52) 2,4-Dinitrophenol	9.923	184	686	185.31	ng/ml	69
53) 4-Nitrophenol	9.971	139	6776	171.64	ng/ml	89
54) 2,4-Dinitrotoluene	10.051	165	11280	112.41	ng/ml	95
55) Dibenzofuran	10.083	168	85176	188.87	ng/ml	90
56) 2,3,5,6-Tetrachlorophenol	10.164	232	7669	157.36	ng/ml	95
57) 2,3,4,6-Tetrachlorophenol	10.206	232	9650	166.04	ng/ml	97
58) Diethyl phthalate	10.292	149	64179	184.32	ng/ml	97
59) 2,3,5-Trimethylnaphtha...	10.292	170	54877	195.96	ng/ml	98
60) Fluorene	10.436	166	69347	192.31	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.426	204	29765	190.29	ng/ml	91
62) 4-Nitroaniline	10.436	138	13118	141.64	ng/ml	82
63) 4,6-Dinitro-2-methylph...	10.474	198	1644	110.99	ng/ml	91
65) N-Nitrosodiphenylamine	10.543	169	55485	201.93	ng/ml	97
66) Azobenzene (1,2-DPH)	10.586	77	76986	231.83	ng/ml	98
68) 4-Bromophenyl phenyl e...	10.928	248	15771	214.87	ng/ml	94
69) Hexachlorobenzene	11.009	284	15793	208.42	ng/ml	98
70) Pentachlorophenol (PCP)	11.201	266	4272	168.33	ng/ml	94
71) Phenanthrene	11.420	178	96988	196.59	ng/ml	100
72) Anthracene	11.474	178	99476	208.60	ng/ml	100
73) Carbazole	11.629	167	91479	218.42	ng/ml	99
74) Di-n-butyl phthalate	11.966	149	111961	217.89	ng/ml	98
75) Fluoranthene	12.742	202	98210	207.00	ng/ml	97
76) Benzidine	12.902	184	37500	215.15	ng/ml	96
77) Pyrene	13.057	202	100024	204.57	ng/ml	99
80) Butyl benzyl phthalate	14.154	149	38485	204.24	ng/ml	98
81) Bis(2-ethylhexyl) adipate	14.341	129	40129	203.48	ng/ml	99
82) 3,3-Dichlorobenzidine	15.341	252	43713	409.50	ng/ml	99
83) Benz(a)anthracene	15.384	228	79592	191.12	ng/ml	98
84) Chrysene	15.469	228	77934	197.85	ng/ml	98
85) Bis(2-ethylhexyl) phth...	15.544	149	50647	165.05	ng/ml	98
87) Di-n-octyl phthalate	17.234	149	63652	215.44	ng/ml	95
88) Benzo(b)fluoranthene	18.015	252	66187	204.64	ng/ml	98
89) Benzo(k)fluoranthene	18.085	252	67887	203.84	ng/ml	98
90) Benzo(b+k)fluoranthene	18.015	252	141743	409.23	ng/ml	99
91) Benzo(e)pyrene	18.673	252	68515	206.91	ng/ml	99
92) Benzo(a)pyrene	18.796	252	58935	199.15	ng/ml	99
93) Perylene	19.000	252	70185	190.82	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.342	276	51991	171.67	ng/ml	92
96) Dibenz(a,h)anthracene	21.412	278	48121	166.21	ng/ml	98
97) Benzo(g,h,i)perylene	21.888	276	53734	176.15	ng/ml	87

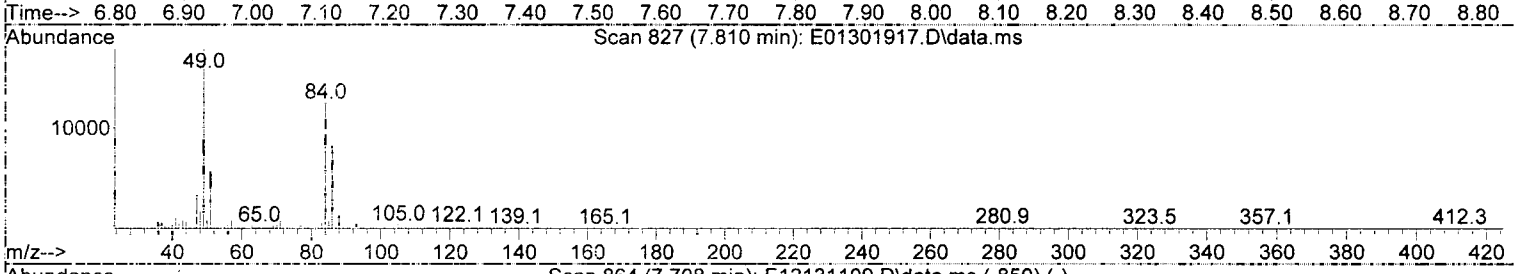
(#) = qualifier out of range (m) = manual integration (+) = signals summed

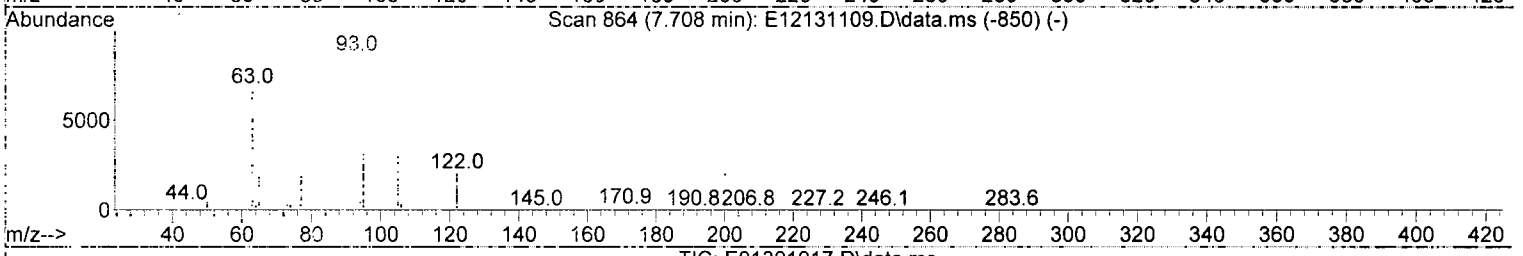
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301917.D
Acq On : 30 Jan 2019 8:50 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL4
Misc : 1x, A18L330@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301917.D\data.ms

(26) Benzoic acid (T)

7.810min (-0.005) 846.50 ng/ml

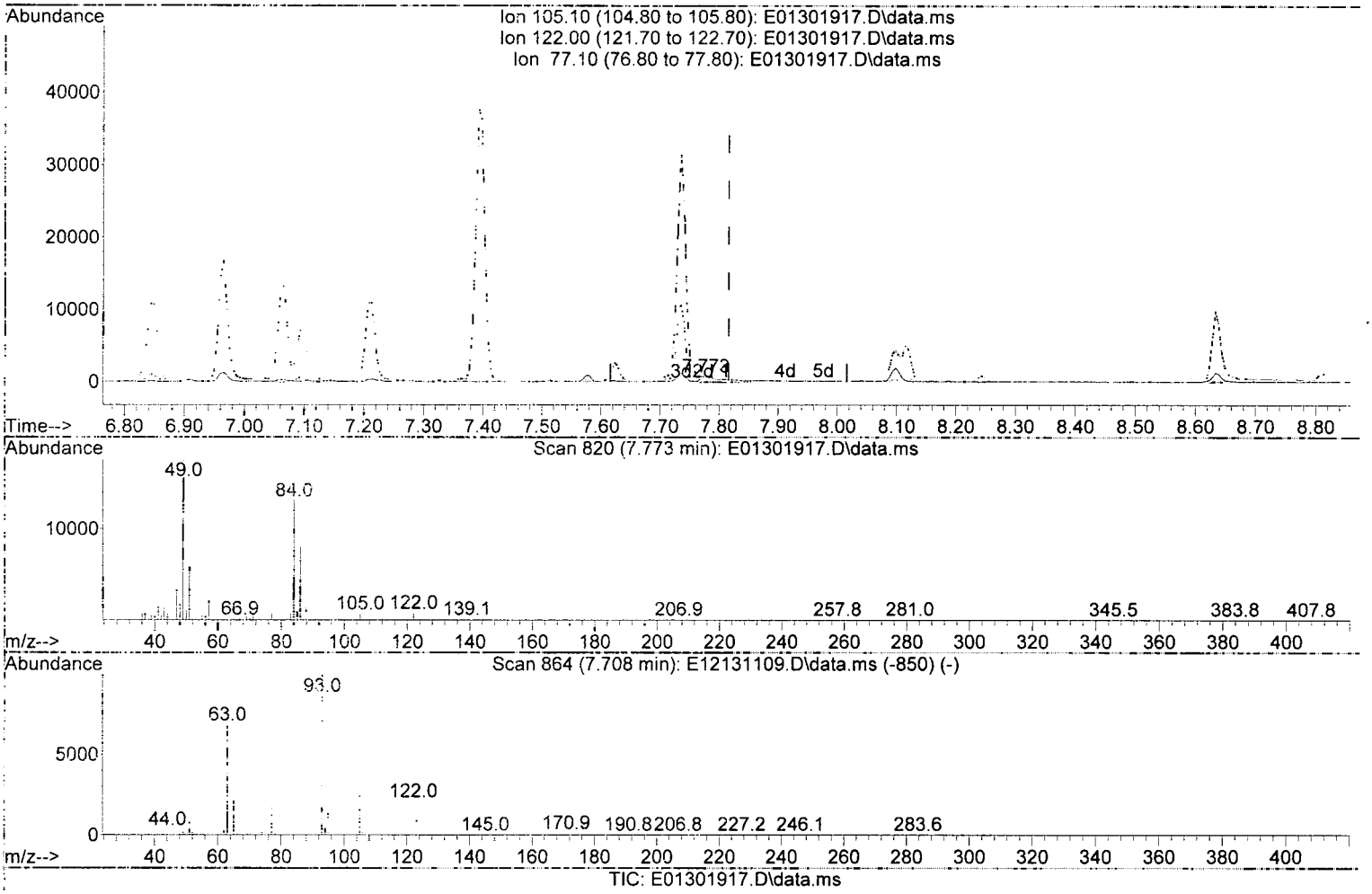
response 538

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	66.76
77.10	85.50	83.24
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301917.D
Acq On : 30 Jan 2019 8:50 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL4
Misc : 1x, A18L330@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(26) Benzoic acid (T)

7.773min (-0.043) 861.74 ng/ml (m) 1/31/19

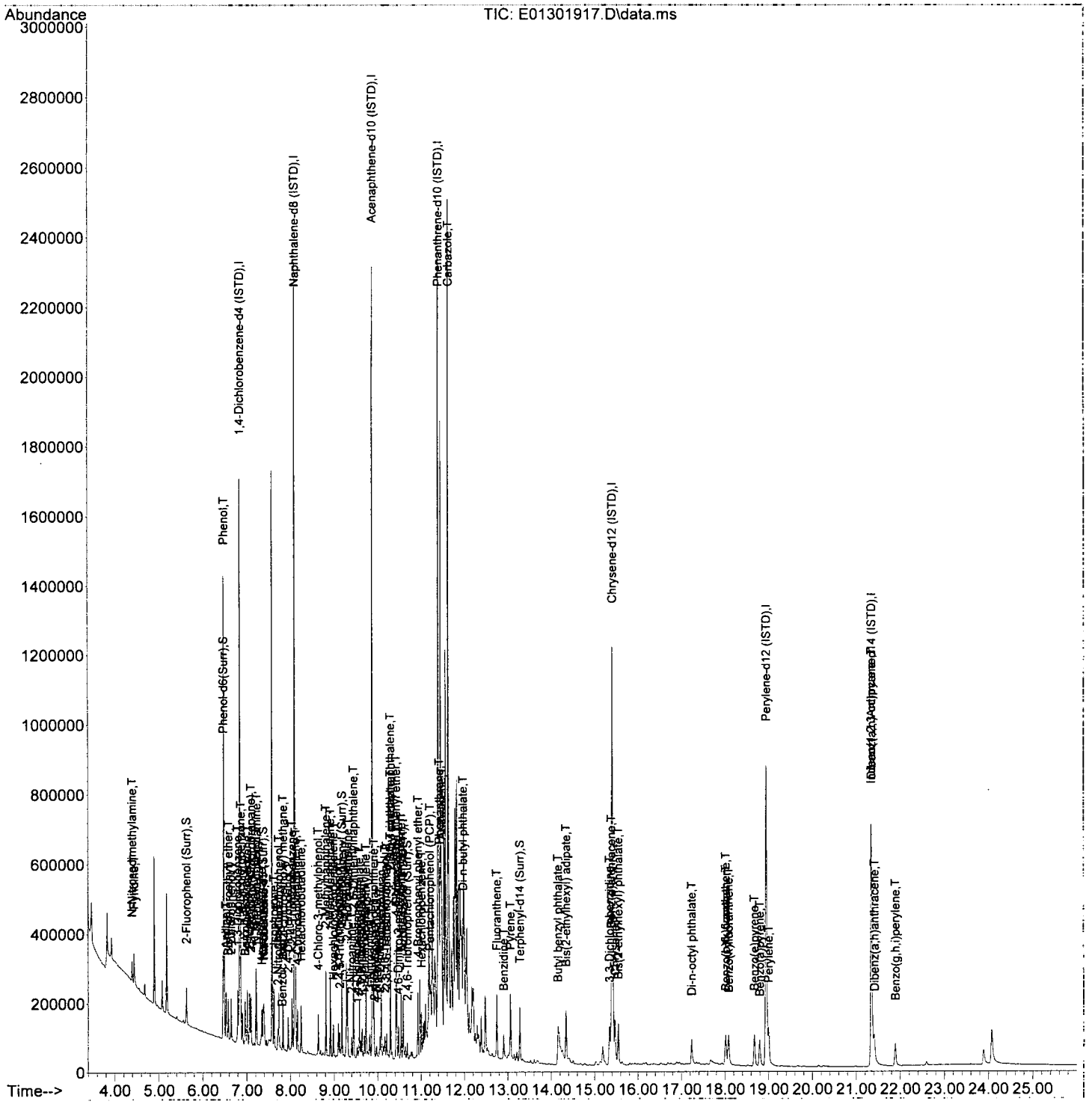
response 2001

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	110.73#
77.10	85.50	106.21
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301917.D
Acq On : 30 Jan 2019 8:50 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL4
Misc : 1x, A18L330@200
ALS Vial : 6 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:02 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301918.D
Acq On : 30 Jan 2019 9:26 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL5
Misc : 1x, A18L331@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:08 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	282130	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1119185	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	509897	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	935268	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.416	240	839042	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.951	264	760928	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.348	292	615052	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.628	112	92637	542.77	ng/ml	0.00
5) Phenol-d6(Surr)	6.473	99	124633	561.68	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.377	82	116738	587.00	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.179	172	198705	505.58	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.682	330	17303	589.77	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.277	244	202060	532.22	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.387	74	68738	562.11	ng/ml	89
3) Pyridine	4.430	79	111106	564.50	ng/ml	96
6) Phenol	6.484	94	128306	539.97	ng/ml	93
7) Aniline	6.527	93	159299	546.41	ng/ml	97
8) Bis(2-chloroethyl) ether	6.580	93	105210	527.51	ng/ml	96
9) 2-Chlorophenol	6.644	128	97220	520.45	ng/ml	99
10) 1,3-Dichlorobenzene	6.794	146	108871	486.86	ng/ml	98
11) 1,4-Dichlorobenzene	6.864	146	111060	487.49	ng/ml	99
12) Benzyl alcohol	6.965	108	59139	540.17	ng/ml	93
13) 1,2-Dichlorobenzene	7.013	146	104161	486.29	ng/ml	97
14) 2-Methylphenol	7.067	107	81540	550.97	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.093	45	168498	622.05	ng/ml	96
16) N-Nitrosodi-n-propylamine	7.222	70	81082	584.12	ng/ml	96
17) 3+4-Methylphenol	7.211	107	104697	546.40	ng/ml	94
18) Hexachloroethane	7.345	117	40316	504.28	ng/ml	86
20) Nitrobenzene	7.393	77	109635	554.52	ng/ml	95
22) Isophorone	7.623	82	203487	559.11	ng/ml	99
23) 2-Nitrophenol	7.714	139	40651	416.35	ng/ml	91
24) 2,4-Dimethylphenol	7.735	122	87099	542.65	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.832	93	126251	542.59	ng/ml	98
26) Benzoic acid	7.789	105	24058	1091.25	ng/ml	94
27) 2,4-Dichlorophenol	7.949	162	66479	470.03	ng/ml	100
28) 1,2,4-Trichlorobenzene	8.040	180	78967	476.08	ng/ml	95
29) Naphthalene	8.120	128	307927	504.19	ng/ml	98
30) 4-Chloroaniline	8.158	127	102663	457.29	ng/ml	97
31) Hexachlorobutadiene	8.243	225	38478	472.27	ng/ml	99
32) 4-Chloro-3-methylphenol	8.634	107	69673	497.87	ng/ml	94
33) 2-Methylnaphthalene	8.810	142	195835	491.55	ng/ml	97
34) 1-Methylnaphthalene	8.912	142	188716	486.34	ng/ml	98
36) Hexachlorocyclopentadiene	8.982	237	34778	526.29	ng/ml	96
37) 2,4,6-Trichlorophenol	9.094	196	39573	479.41	ng/ml	99
38) 2,4,5-Trichlorophenol	9.126	196	40483	506.08	ng/ml	97
39) 1,1'-Biphenyl	9.281	154	230563	512.49	ng/ml	99
41) 2-Chloronaphthalene	9.308	162	163765	508.35	ng/ml	100
42) 2-Nitroaniline	9.404	138	43914	394.68	ng/ml	89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301918.D
Acq On : 30 Jan 2019 9:26 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL5
Misc : 1x, A18L331@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:08 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

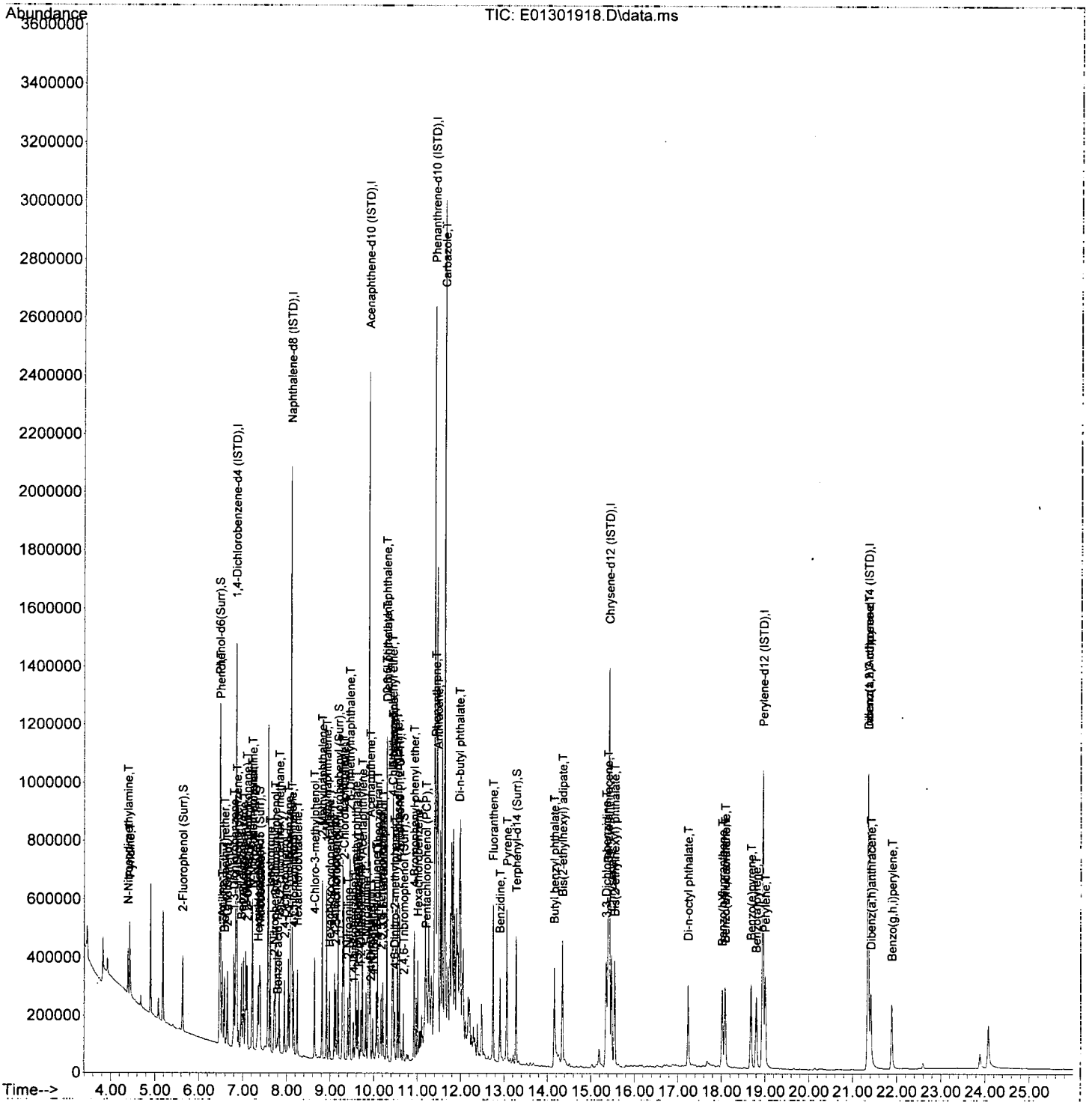
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.442	156	161748	514.96	ng/ml	97
44) 1,4-Dinitrobenzene	9.532	168	15009	300.45	ng/ml	87
45) Dimethyl phthalate	9.581	163	175061	490.67	ng/ml	100
46) 1,3-Dinitrobenzene	9.613	168	21039	376.51	ng/ml	92
47) 2,6-Dinitrotoluene	9.639	165	35146	434.09	ng/ml	95
48) 1,2-Dinitrobenzene	9.698	168	15598	441.67	ng/ml	85
49) Acenaphthylene	9.730	152	268456	526.73	ng/ml	99
50) 3-Nitroaniline	9.816	138	40839	441.89	ng/ml	94
51) Acenaphthene	9.912	153	176086	499.84	ng/ml	99
52) 2,4-Dinitrophenol	9.923	184	4803	303.29	ng/ml	93
53) 4-Nitrophenol	9.971	139	27714	474.08	ng/ml	87
54) 2,4-Dinitrotoluene	10.051	165	41590	404.63	ng/ml	97
55) Dibenzofuran	10.083	168	231005	500.10	ng/ml	92
56) 2,3,5,6-Tetrachlorophenol	10.164	232	28568	467.61	ng/ml	95
57) 2,3,4,6-Tetrachlorophenol	10.206	232	33782	497.12	ng/ml	96
58) Diethyl phthalate	10.297	149	182306	511.19	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.292	170	148844	518.92	ng/ml	97
60) Fluorene	10.436	166	189023	511.77	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.426	204	81475	508.54	ng/ml	91
62) 4-Nitroaniline	10.436	138	45265	477.18	ng/ml	84
63) 4,6-Dinitro-2-methylph...	10.474	198	10218	285.80	ng/ml	91
65) N-Nitrosodiphenylamine	10.543	169	159639	528.72	ng/ml	97
66) Azobenzene (1,2-DPH)	10.586	77	223701	613.02	ng/ml	98
68) 4-Bromophenyl phenyl e...	10.923	248	44122	547.04	ng/ml	95
69) Hexachlorobenzene	11.009	284	42972	516.08	ng/ml	95
70) Pentachlorophenol (PCP)	11.201	266	18186	451.52	ng/ml	97
71) Phenanthrene	11.421	178	271509	500.82	ng/ml	99
72) Anthracene	11.474	178	280169	534.65	ng/ml	99
73) Carbazole	11.629	167	257322	559.12	ng/ml	99
74) Di-n-butyl phthalate	11.966	149	318442	563.97	ng/ml	99
75) Fluoranthene	12.742	202	281703	540.32	ng/ml	97
76) Benzidine	12.902	184	152834	608.56	ng/ml	95
77) Pyrene	13.063	202	285718	531.77	ng/ml	99
80) Butyl benzyl phthalate	14.154	149	124269	516.51	ng/ml	98
81) Bis(2-ethylhexyl) adipate	14.341	129	118447	516.75	ng/ml	97
82) 3,3-Dichlorobenzidine	15.346	252	145270	1106.24	ng/ml	99
83) Benz(a)anthracene	15.389	228	236770	489.18	ng/ml	98
84) Chrysene	15.469	228	232271	507.34	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.544	149	168525	472.51	ng/ml	98
87) Di-n-octyl phthalate	17.235	149	245753	538.14	ng/ml	98
88) Benzo(b)fluoranthene	18.015	252	209622	528.78	ng/ml	99
89) Benzo(k)fluoranthene	18.085	252	210325	517.81	ng/ml	97
90) Benzo(b+k)fluoranthene	18.085	252	437476	1037.22	ng/ml	97
91) Benzo(e)pyrene	18.679	252	211572	539.44	ng/ml	100
92) Benzo(a)pyrene	18.796	252	193455	529.09	ng/ml	98
93) Perylene	19.005	252	216816	497.70	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.348	276	166318	440.34	ng/ml	95
96) Dibenz(a,h)anthracene	21.412	278	156689	433.95	ng/ml	97
97) Benzo(g,h,i)perylene	21.888	276	175449	461.18	ng/ml	88

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301918.D
Acq On : 30 Jan 2019 9:26 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL5
Misc : 1x, A18L331@500
ALS Vial : 7 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:08 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301919.D
Acq On : 30 Jan 2019 10:02 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL6
Misc : 1x, A18L332@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:13 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.848	152	286436	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1096117	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	493423	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	840808	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.416	240	707423	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.951	264	630113	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.348	292	502143	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.628	112	186079	1073.87	ng/ml	0.00
5) Phenol-d6(Surr)	6.473	99	244299	1084.42	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.377	82	210602	1043.06	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.180	172	371894	977.83	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.682	330	33163	1220.16	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.277	244	340885	1064.94	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.387	74	136572	1100.04	ng/ml	88
3) Pyridine	4.425	79	220078	1101.34	ng/ml	95
6) Phenol	6.489	94	252632	1047.20	ng/ml	91
7) Aniline	6.532	93	316926	1070.75	ng/ml	97
8) Bis(2-chloroethyl) ether	6.580	93	205585	1015.27	ng/ml	96
9) 2-Chlorophenol	6.650	128	192879	1017.03	ng/ml	98
10) 1,3-Dichlorobenzene	6.799	146	212750	937.09	ng/ml	97
11) 1,4-Dichlorobenzene	6.864	146	215651	932.36	ng/ml	99
12) Benzyl alcohol	6.965	108	119831	1039.39	ng/ml	95
13) 1,2-Dichlorobenzene	7.013	146	203885	937.56	ng/ml	98
14) 2-Methylphenol	7.067	107	158539	1055.15	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.099	45	325929	1185.16	ng/ml	96
16) N-Nitrosodi-n-propylamine	7.222	70	155529	1103.61	ng/ml	96
17) 3+4-Methylphenol	7.211	107	201525	1035.93	ng/ml	94
18) Hexachloroethane	7.345	117	80048	986.21	ng/ml	85
20) Nitrobenzene	7.398	77	213695	1064.59	ng/ml	93
22) Isophorone	7.628	82	391987	1099.71	ng/ml	97
23) 2-Nitrophenol	7.714	139	83980	878.23	ng/ml	89
24) 2,4-Dimethylphenol	7.741	122	168017	1068.32	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.832	93	237898	1043.93	ng/ml	98
26) Benzoic acid	7.816	105	97527	1844.98	ng/ml	97
27) 2,4-Dichlorophenol	7.949	162	129436	934.42	ng/ml	99
28) 1,2,4-Trichlorobenzene	8.040	180	151142	930.38	ng/ml	96
29) Naphthalene	8.120	128	582708	974.20	ng/ml	99
30) 4-Chloroaniline	8.163	127	195519	889.22	ng/ml	97
31) Hexachlorobutadiene	8.243	225	76109	953.81	ng/ml	99
32) 4-Chloro-3-methylphenol	8.634	107	137180	964.28	ng/ml	97
33) 2-Methylnaphthalene	8.816	142	368916	945.47	ng/ml	97
34) 1-Methylnaphthalene	8.917	142	353069	929.05	ng/ml	97
36) Hexachlorocyclopentadiene	8.982	237	68561	1072.15	ng/ml	97
37) 2,4,6-Trichlorophenol	9.094	196	77589	939.42	ng/ml	99
38) 2,4,5-Trichlorophenol	9.131	196	79865	1003.71	ng/ml	98
39) 1,1'-Biphenyl	9.281	154	427889	982.86	ng/ml	99
41) 2-Chloronaphthalene	9.308	162	302479	970.29	ng/ml	99
42) 2-Nitroaniline	9.404	138	89229	828.74	ng/ml	89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301919.D
Acq On : 30 Jan 2019 10:02 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL6
Misc : 1x, A18L332@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:13 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

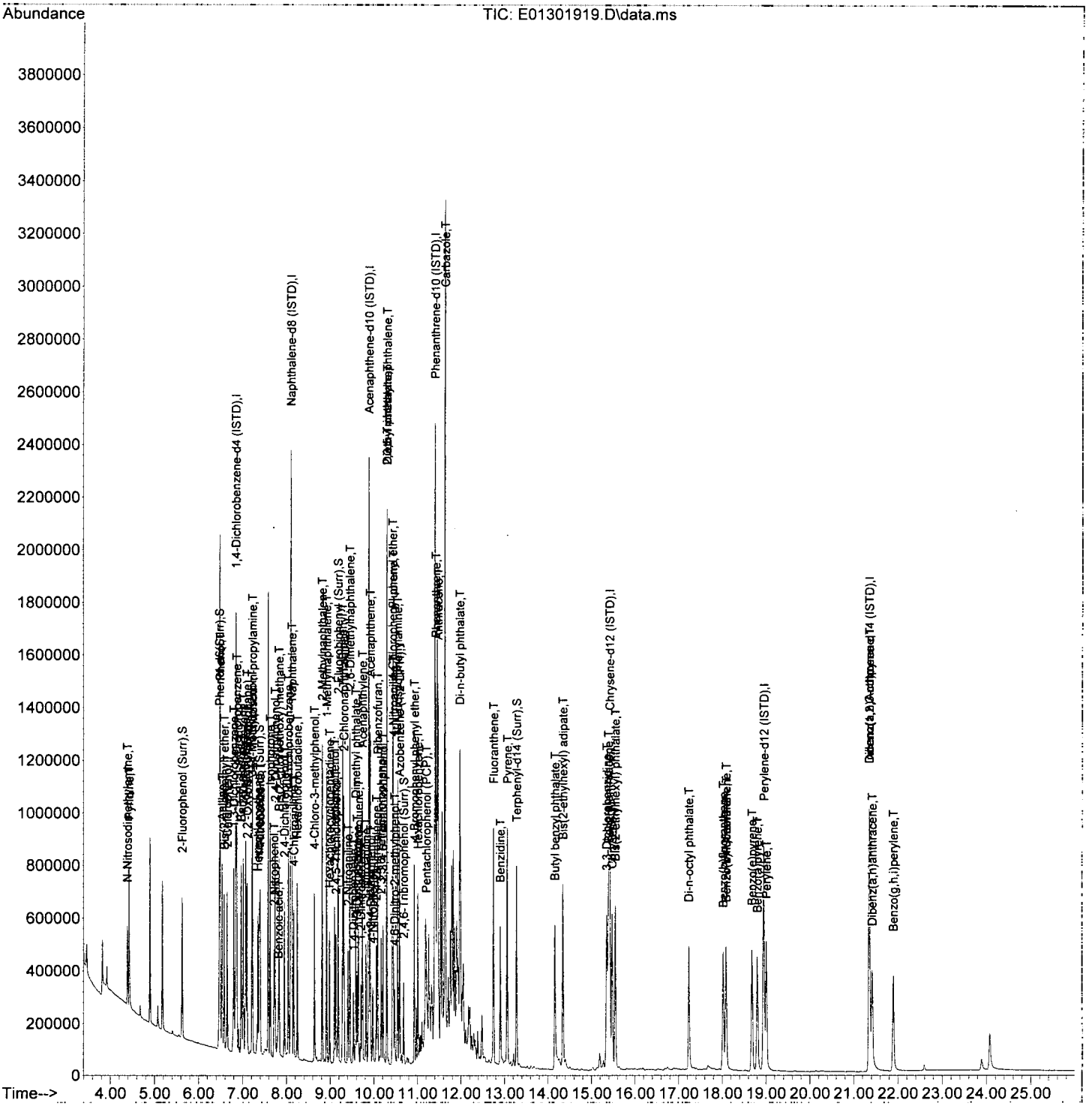
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.447	156	304453	1001.66	ng/ml	96
44) 1,4-Dinitrobenzene	9.533	168	32964	681.90	ng/ml	89
45) Dimethyl phthalate	9.581	163	323675	937.49	ng/ml	99
46) 1,3-Dinitrobenzene	9.613	168	43195	798.83	ng/ml	95
47) 2,6-Dinitrotoluene	9.645	165	69388	885.62	ng/ml	87
48) 1,2-Dinitrobenzene	9.704	168	30555	894.08	ng/ml#	73
49) Acenaphthylene	9.736	152	501305	1016.44	ng/ml	99
50) 3-Nitroaniline	9.816	138	75940	849.12	ng/ml	99
51) Acenaphthene	9.912	153	328378	963.27	ng/ml	100
52) 2,4-Dinitrophenol	9.923	184	14249	579.44	ng/ml	87
53) 4-Nitrophenol	9.971	139	55114	891.96	ng/ml	86
54) 2,4-Dinitrotoluene	10.057	165	83270	837.18	ng/ml	93
55) Dibenzofuran	10.083	168	418743	936.80	ng/ml	93
56) 2,3,5,6-Tetrachlorophenol	10.164	232	56972	913.28	ng/ml	96
57) 2,3,4,6-Tetrachlorophenol	10.206	232	64617	950.20	ng/ml	97
58) Diethyl phthalate	10.297	149	329843	955.76	ng/ml	97
59) 2,3,5-Trimethylnaphtha...	10.297	170	270700	975.26	ng/ml	96
60) Fluorene	10.436	166	344351	963.44	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.426	204	146848	947.17	ng/ml	92
62) 4-Nitroaniline	10.442	138	79908	870.50	ng/ml	80
63) 4,6-Dinitro-2-methylph...	10.474	198	25579	610.47	ng/ml	90
65) N-Nitrosodiphenylamine	10.543	169	278990	1027.82	ng/ml	97
66) Azobenzene (1,2-DPH)	10.586	77	394223	1201.67	ng/ml	99
68) 4-Bromophenyl phenyl e...	10.929	248	78242	1079.06	ng/ml	92
69) Hexachlorobenzene	11.009	284	79296	1059.30	ng/ml	98
70) Pentachlorophenol (PCP)	11.201	266	38085	949.12	ng/ml	98
71) Phenanthrene	11.421	178	468364	960.99	ng/ml	99
72) Anthracene	11.474	178	482023	1023.20	ng/ml	99
73) Carbazole	11.629	167	436227	1054.35	ng/ml	99
74) Di-n-butyl phthalate	11.972	149	541942	1067.62	ng/ml	99
75) Fluoranthene	12.747	202	478274	1020.42	ng/ml	97
76) Benzidine	12.902	184	270903	1124.28	ng/ml	96
77) Pyrene	13.063	202	486318	1006.81	ng/ml	99
80) Butyl benzyl phthalate	14.159	149	212214	1007.60	ng/ml	97
81) Bis(2-ethylhexyl) adipate	14.341	129	197213	1020.46	ng/ml	99
82) 3,3-Dichlorobenzidine	15.347	252	231650	2031.62	ng/ml	99
83) Benz(a)anthracene	15.389	228	387630	949.87	ng/ml	98
84) Chrysene	15.475	228	381765	989.01	ng/ml	100
85) Bis(2-ethylhexyl) phth...	15.544	149	289406	962.42	ng/ml	96
87) Di-n-octyl phthalate	17.235	149	421456	1017.79	ng/ml	99
88) Benzo(b)fluoranthene	18.021	252	343841	1026.35	ng/ml	99
89) Benzo(k)fluoranthene	18.090	252	349392	1026.13	ng/ml	98
90) Benzo(b+k)fluoranthene	18.090	252	717329	2026.59	ng/ml	98
91) Benzo(e)pyrene	18.679	252	347001	1068.42	ng/ml	99
92) Benzo(a)pyrene	18.802	252	319982	1035.50	ng/ml	99
93) Perylene	19.010	252	350972	972.91	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.348	276	270568	877.43	ng/ml	94
96) Dibenz(a,h)anthracene	21.412	278	250339	849.20	ng/ml	94
97) Benzo(g,h,i)perylene	21.893	276	285618	919.58	ng/ml	86

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301919.D
Acq On : 30 Jan 2019 10:02 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL6
Misc : 1x, A18L332@1000
ALS Vial : 8 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:13 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301920.D
Acq On : 30 Jan 2019 10:39 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL7
Misc : 1x, A18L333@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:18 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	283178	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1126005	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	528163	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	996904	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.421	240	902831	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.962	264	830313	2000.00	ng/ml	0.01
94) Dibenz(a,h)Anthrcene-d...	21.364	292	698997	2000.00	ng/ml	0.02
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.633	112	365609	2134.22	ng/ml	0.00
5) Phenol-d6(Surr)	6.478	99	498621	2238.79	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.382	82	486300	2436.22	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.179	172	786718	1932.48	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.682	330	82762	2464.32	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.282	244	841709	2060.40	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.382	74	276378	2251.74	ng/ml	88
3) Pyridine	4.419	79	442924	2242.04	ng/ml	95
6) Phenol	6.489	94	512010	2146.79	ng/ml	94
7) Aniline	6.532	93	658664	2250.92	ng/ml	97
8) Bis(2-chloroethyl) ether	6.580	93	405853	2027.35	ng/ml	98
9) 2-Chlorophenol	6.650	128	391006	2085.45	ng/ml	99
10) 1,3-Dichlorobenzene	6.799	146	418520	1864.65	ng/ml	97
11) 1,4-Dichlorobenzene	6.864	146	426556	1865.42	ng/ml	99
12) Benzyl alcohol	6.971	108	255452	2149.09	ng/ml	92
13) 1,2-Dichlorobenzene	7.013	146	401451	1867.31	ng/ml	99
14) 2-Methylphenol	7.067	107	326863	2200.45	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.099	45	642111	2361.75	ng/ml	96
16) N-Nitrosodi-n-propylamine	7.227	70	323691	2323.28	ng/ml	96
17) 3+4-Methylphenol	7.217	107	423242	2200.69	ng/ml	94
18) Hexachloroethane	7.345	117	158301	1972.74	ng/ml	85
20) Nitrobenzene	7.398	77	445401	2244.44	ng/ml	95
22) Isophorone	7.628	82	818603	2235.62	ng/ml	98
23) 2-Nitrophenol	7.714	139	184428	1877.49	ng/ml	89
24) 2,4-Dimethylphenol	7.741	122	352518	2182.99	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.832	93	493285	2107.14	ng/ml	98
26) Benzoic acid	7.853	105	314631	3763.21	ng/ml	96
27) 2,4-Dichlorophenol	7.949	162	283710	1993.78	ng/ml	99
28) 1,2,4-Trichlorobenzene	8.040	180	307169	1840.64	ng/ml	95
29) Naphthalene	8.120	128	1180925	1921.92	ng/ml	99
30) 4-Chloroaniline	8.163	127	447643	1981.81	ng/ml	97
31) Hexachlorobutadiene	8.243	225	151477	1847.95	ng/ml	97
32) 4-Chloro-3-methylphenol	8.634	107	317795	2092.52	ng/ml	99
33) 2-Methylnaphthalene	8.816	142	771341	1924.35	ng/ml	97
34) 1-Methylnaphthalene	8.917	142	730943	1872.31	ng/ml	97
36) Hexachlorocyclopentadiene	8.982	237	153915	2248.60	ng/ml	97
37) 2,4,6-Trichlorophenol	9.094	196	185604	2044.99	ng/ml	98
38) 2,4,5-Trichlorophenol	9.131	196	183508	2069.74	ng/ml	98
39) 1,1'-Biphenyl	9.286	154	909543	1951.81	ng/ml	99
41) 2-Chloronaphthalene	9.313	162	650474	1949.34	ng/ml	99
42) 2-Nitroaniline	9.404	138	225078	1952.96	ng/ml	94

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301920.D
Acq On : 30 Jan 2019 10:39 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL7
Misc : 1x, A18L333@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:18 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

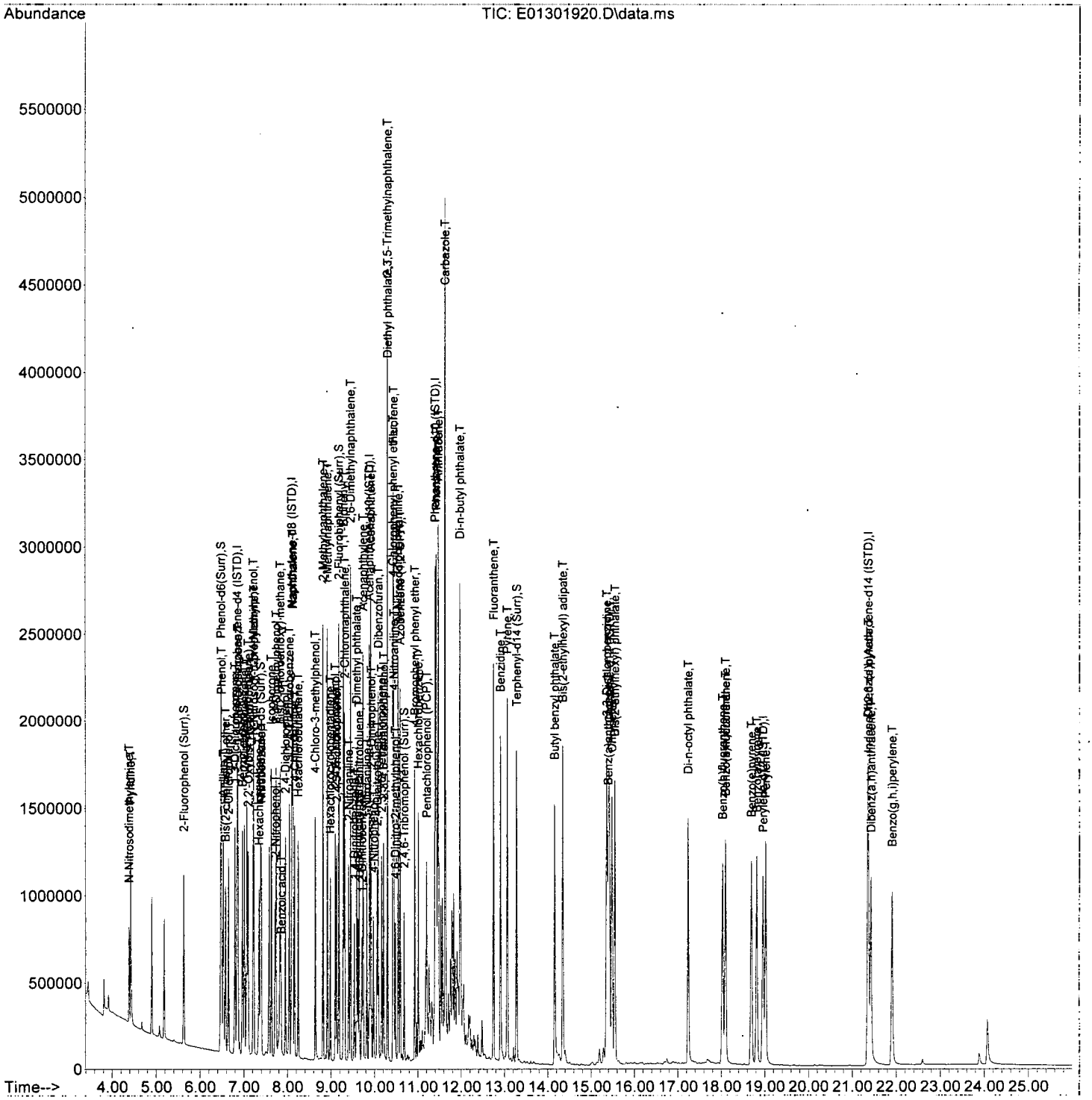
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.447	156	646334	1986.59	ng/ml	98
44) 1,4-Dinitrobenzene	9.533	168	93455	1806.07	ng/ml	94
45) Dimethyl phthalate	9.586	163	722554	1955.16	ng/ml	99
46) 1,3-Dinitrobenzene	9.618	168	113932	1968.41	ng/ml	91
47) 2,6-Dinitrotoluene	9.645	165	164544	1961.99	ng/ml	91
48) 1,2-Dinitrobenzene	9.709	168	76738	2097.77	ng/ml#	73
49) Acenaphthylene	9.736	152	1078092	2042.15	ng/ml	99
50) 3-Nitroaniline	9.821	138	193626	2022.62	ng/ml	98
51) Acenaphthene	9.912	153	694436	1903.08	ng/ml	99
52) 2,4-Dinitrophenol	9.923	184	55055	1548.65	ng/ml	93
53) 4-Nitrophenol	9.976	139	153275	2139.66	ng/ml	85
54) 2,4-Dinitrotoluene	10.062	165	214871	2018.19	ng/ml	92
55) Dibenzofuran	10.089	168	931904	1947.71	ng/ml	93
56) 2,3,5,6-Tetrachlorophenol	10.164	232	145369	2066.79	ng/ml	97
57) 2,3,4,6-Tetrachlorophenol	10.212	232	156617	2089.38	ng/ml	94
58) Diethyl phthalate	10.303	149	754784	2043.22	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.297	170	590742	1988.29	ng/ml	98
60) Fluorene	10.436	166	765816	2001.69	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.426	204	334037	2012.83	ng/ml	94
62) 4-Nitroaniline	10.447	138	207882	2115.67	ng/ml	81
63) 4,6-Dinitro-2-methylph...	10.479	198	84552	1651.66	ng/ml	90
65) N-Nitrosodiphenylamine	10.549	169	652932	2028.80	ng/ml	98
66) Azobenzene (1,2-DPH)	10.592	77	914026	2349.88	ng/ml	96
68) 4-Bromophenyl phenyl e...	10.928	248	186018	2163.73	ng/ml	93
69) Hexachlorobenzene	11.009	284	182419	2055.83	ng/ml	99
70) Pentachlorophenol (PCP)	11.201	266	106556	2088.13	ng/ml	96
71) Phenanthrene	11.426	178	1092838	1891.20	ng/ml	99
72) Anthracene	11.474	178	1119959	2005.11	ng/ml	100
73) Carbazole	11.629	167	1032155	2104.07	ng/ml	100
74) Di-n-butyl phthalate	11.971	149	1296945	2154.90	ng/ml	99
75) Fluoranthene	12.747	202	1147170	2064.30	ng/ml	97
76) Benzidine	12.907	184	956344	3113.49	ng/ml	97
77) Pyrene	13.063	202	1167359	2038.33	ng/ml	100
80) Butyl benzyl phthalate	14.159	149	564166	2023.16	ng/ml	98
81) Bis(2-ethylhexyl) adipate	14.346	129	522769	2119.55	ng/ml	98
82) 3,3-Dichlorobenzidine	15.363	252	642844	4208.60	ng/ml	99
83) Benz(a)anthracene	15.395	228	997082	1914.49	ng/ml	99
84) Chrysene	15.486	228	973945	1977.02	ng/ml	100
85) Bis(2-ethylhexyl) phth...	15.550	149	783437	2041.42	ng/ml	96
87) Di-n-octyl phthalate	17.240	149	1248768	2096.42	ng/ml	100
88) Benzo(b)fluoranthene	18.031	252	927026	2039.75	ng/ml	98
89) Benzo(k)fluoranthene	18.101	252	931062	2050.87	ng/ml	97
90) Benzo(b+k)fluoranthene	18.101	252	1906416	4024.25	ng/ml	97
91) Benzo(e)pyrene	18.695	252	912421	2131.99	ng/ml	99
92) Benzo(a)pyrene	18.818	252	875788	2095.22	ng/ml	99
93) Perylene	19.021	252	918814	1932.87	ng/ml	100
95) Indeno(1,2,3-cd)pyrene	21.369	276	772179	1798.90	ng/ml	95
96) Dibenz(a,h)anthracene	21.428	278	733789	1788.16	ng/ml	94
97) Benzo(g,h,i)perylene	21.909	276	791021	1829.56	ng/ml	87

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301920.D
Acq On : 30 Jan 2019 10:39 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL7
Misc : 1x, A18L333@2000
ALS Vial : 9 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:18 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301921.D
Acq On : 30 Jan 2019 11:15 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL8
Misc : 1x, A18L334@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:25 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JJ 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	277065	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1109587	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.885	162	539188	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	991158	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.432	240	887261	2000.00	ng/ml	0.02
86) Perylene-d12 (ISTD)	18.967	264	816129	2000.00	ng/ml	0.02
94) Dibenz(a,h)Anthrcene-d...	21.374	292	692377	2000.00	ng/ml	0.03
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.628	112	749425	4471.24	ng/ml	0.00
5) Phenol-d6(Surr)	6.484	99	994097	4561.94	ng/ml	0.01
19) Nitrobenzene-d5 (Surr)	7.382	82	903192	4624.56	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.185	172	1579625	3800.81	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.688	330	183331	5094.74	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.287	244	1664387	4145.71	ng/ml	0.01
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.376	74	561142	4672.66	ng/ml	86
3) Pyridine	4.408	79	916259	4740.35	ng/ml	94
6) Phenol	6.494	94	1035475	4437.40	ng/ml	93
7) Aniline	6.537	93	1318849	4606.48	ng/ml	96
8) Bis(2-chloroethyl) ether	6.585	93	824988	4211.97	ng/ml	97
9) 2-Chlorophenol	6.649	128	789250	4302.39	ng/ml	98
10) 1,3-Dichlorobenzene	6.799	146	831375	3785.78	ng/ml	97
11) 1,4-Dichlorobenzene	6.863	146	845971	3781.24	ng/ml	100
12) Benzyl alcohol	6.970	108	520771	4223.92	ng/ml	94
13) 1,2-Dichlorobenzene	7.013	146	802569	3815.43	ng/ml	99
14) 2-Methylphenol	7.072	107	654892	4506.03	ng/ml	100
15) 2,2'-Oxybis(1-Chloropr...	7.099	45	1253005	4710.36	ng/ml	94
16) N-Nitrosodi-n-propylamine	7.232	70	649377	4763.71	ng/ml	95
17) 3+4-Methylphenol	7.222	107	845995	4495.88	ng/ml	95
18) Hexachloroethane	7.345	117	319170	4065.24	ng/ml	85
20) Nitrobenzene	7.404	77	894143	4605.13	ng/ml	93
22) Isophorone	7.639	82	1662743	4608.17	ng/ml	97
23) 2-Nitrophenol	7.714	139	394481	4075.25	ng/ml	90
24) 2,4-Dimethylphenol	7.746	122	691817	4347.50	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.837	93	982323	4258.23	ng/ml	99
26) Benzoic acid	7.746	105	25997	1113.51	ng/ml#	1
27) 2,4-Dichlorophenol	7.955	162	583274	4159.62	ng/ml	99
28) 1,2,4-Trichlorobenzene	8.040	180	617165	3752.95	ng/ml	95
29) Naphthalene	8.126	128	2314690	3822.82	ng/ml	100
30) 4-Chloroaniline	8.163	127	932245	4188.37	ng/ml	97
31) Hexachlorobutadiene	8.249	225	307584	3807.90	ng/ml	97
32) 4-Chloro-3-methylphenol	8.639	107	668189	4250.95	ng/ml	98
33) 2-Methylnaphthalene	8.816	142	1531917	3878.40	ng/ml	97
34) 1-Methylnaphthalene	8.917	142	1454487	3780.80	ng/ml	98
36) Hexachlorocyclopentadiene	8.981	237	309053	4422.75	ng/ml	98
37) 2,4,6-Trichlorophenol	9.099	196	386229	4065.05	ng/ml	99
38) 2,4,5-Trichlorophenol	9.131	196	398737	4124.50	ng/ml	98
39) 1,1'-Biphenyl	9.286	154	1815386	3816.01	ng/ml	99
41) 2-Chloronaphthalene	9.313	162	1315972	3863.07	ng/ml	99
42) 2-Nitroaniline	9.409	138	493107	4191.12	ng/ml	92

see ML

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301921.D
Acq On : 30 Jan 2019 11:15 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL8
Misc : 1x, A18L334@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:25 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

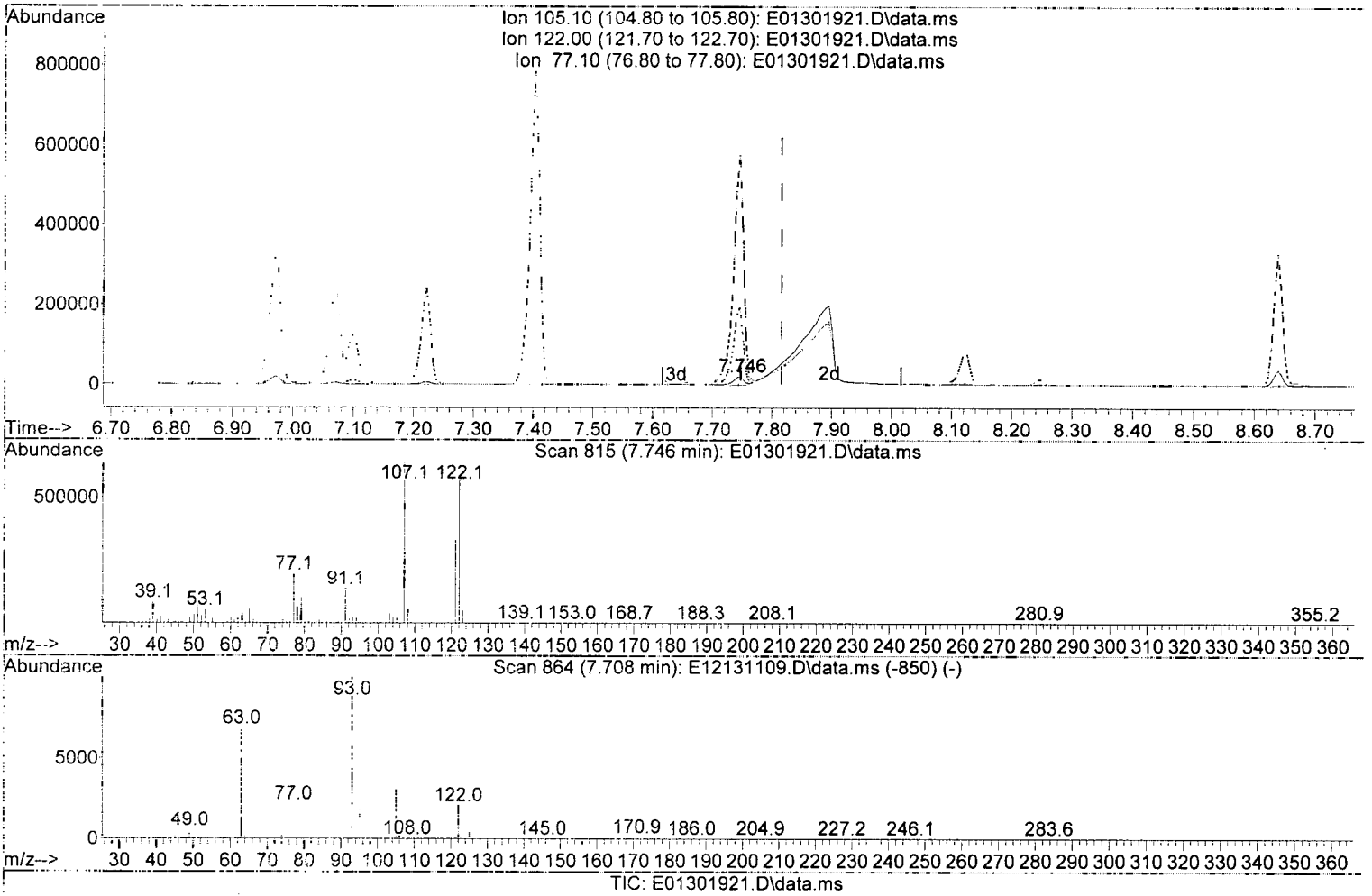
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	2,6-Dimethylnaphthalene	9.452	156	1294122	3896.32	ng/ml	98
44)	1,4-Dinitrobenzene	9.538	168	217979	4126.43	ng/ml	94
45)	Dimethyl phthalate	9.597	163	1516221	4018.85	ng/ml	100
46)	1,3-Dinitrobenzene	9.623	168	251848	4262.23	ng/ml	93
47)	2,6-Dinitrotoluene	9.655	165	358077	4182.35	ng/ml	83
48)	1,2-Dinitrobenzene	9.720	168	167602	4488.01	ng/ml#	70
49)	Acenaphthylene	9.741	152	2187965	4069.76	ng/ml	98
50)	3-Nitroaniline	9.832	138	413792	4234.09	ng/ml	99
51)	Acenaphthene	9.917	153	1394892	3744.49	ng/ml	99
52)	2,4-Dinitrophenol	9.934	184	155885	3497.95	ng/ml	84
53)	4-Nitrophenol	9.987	139	332708	4250.50	ng/ml	84
54)	2,4-Dinitrotoluene	10.067	165	465322	4281.20	ng/ml	96
55)	Dibenzofuran	10.089	168	1891403	3872.25	ng/ml	94
56)	2,3,5,6-Tetrachlorophenol	10.169	232	322748	4234.05	ng/ml	95
57)	2,3,4,6-Tetrachlorophenol	10.212	232	339662	4302.14	ng/ml	97
58)	Diethyl phthalate	10.308	149	1485515	3939.10	ng/ml	96
59)	2,3,5-Trimethylnaphtha...	10.303	170	1153744	3803.82	ng/ml	98
60)	Fluorene	10.442	166	1531912	3922.25	ng/ml	99
61)	4-Chlorophenyl phenyl ...	10.431	204	685667	4047.20	ng/ml	90
62)	4-Nitroaniline	10.463	138	430052	4287.27	ng/ml	80
63)	4,6-Dinitro-2-methylph...	10.490	198	212554	3646.85	ng/ml	88
65)	N-Nitrosodiphenylamine	10.554	169	1315096	4109.98	ng/ml	98
66)	Azobenzene (1,2-DPH)	10.591	77	1800004	4654.49	ng/ml	97
68)	4-Bromophenyl phenyl e...	10.934	248	385860	4514.28	ng/ml	89
69)	Hexachlorobenzene	11.014	284	387180	4387.67	ng/ml	97
70)	Pentachlorophenol (PCP)	11.207	266	237575	4358.53	ng/ml	97
71)	Phenanthrene	11.426	178	2134782	3715.73	ng/ml	98
72)	Anthracene	11.479	178	2161101	3891.54	ng/ml	99
73)	Carbazole	11.634	167	2012508	4126.32	ng/ml	99
74)	Di-n-butyl phthalate	11.971	149	2515776	4204.25	ng/ml	99
75)	Fluoranthene	12.752	202	2228063	4032.58	ng/ml	98
76)	Benzidine	12.918	184	2439653	7389.22	ng/ml	97
77)	Pyrene	13.073	202	2275000	3995.42	ng/ml	99
80)	Butyl benzyl phthalate	14.170	149	1137127	3950.39	ng/ml	95
81)	Bis(2-ethylhexyl) adipate	14.352	129	1061254	4378.32	ng/ml	98
82)	3,3-Dichlorobenzidine	15.378	252	1371474	8438.71	ng/ml	99
83)	Benz(a)anthracene	15.405	228	1987811	3883.75	ng/ml	99
84)	Chrysene	15.496	228	1929550	3985.56	ng/ml	99
85)	Bis(2-ethylhexyl) phth...	15.555	149	1587394	4208.90	ng/ml	96
87)	Di-n-octyl phthalate	17.245	149	2594376	4008.11	ng/ml	99
88)	Benzo(b)fluoranthene	18.047	252	1854491	3958.20	ng/ml	98
89)	Benzo(k)fluoranthene	18.122	252	1814554	4001.36	ng/ml	97
90)	Benzo(b+k)fluoranthene	18.122	252	3805265	7973.36	ng/ml	97
91)	Benzo(e)pyrene	18.716	252	1835807	4364.14	ng/ml	100
92)	Benzo(a)pyrene	18.839	252	1767067	4127.08	ng/ml	99
93)	Perylene	19.042	252	1826834	3909.82	ng/ml	100
95)	Indeno(1,2,3-cd)pyrene	21.390	276	1577648	3710.50	ng/ml	95
96)	Dibenz(a,h)anthracene	21.444	278	1499940	3690.13	ng/ml	95
97)	Benzo(g,h,i)perylene	21.931	276	1580720	3691.01	ng/ml	88

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

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301921.D
Acq On : 30 Jan 2019 11:15 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL8
Misc : 1x, A18L334@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:25 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



(26) Benzoic acid (T)

7.746min (-0.070) 1113.51 ng/ml

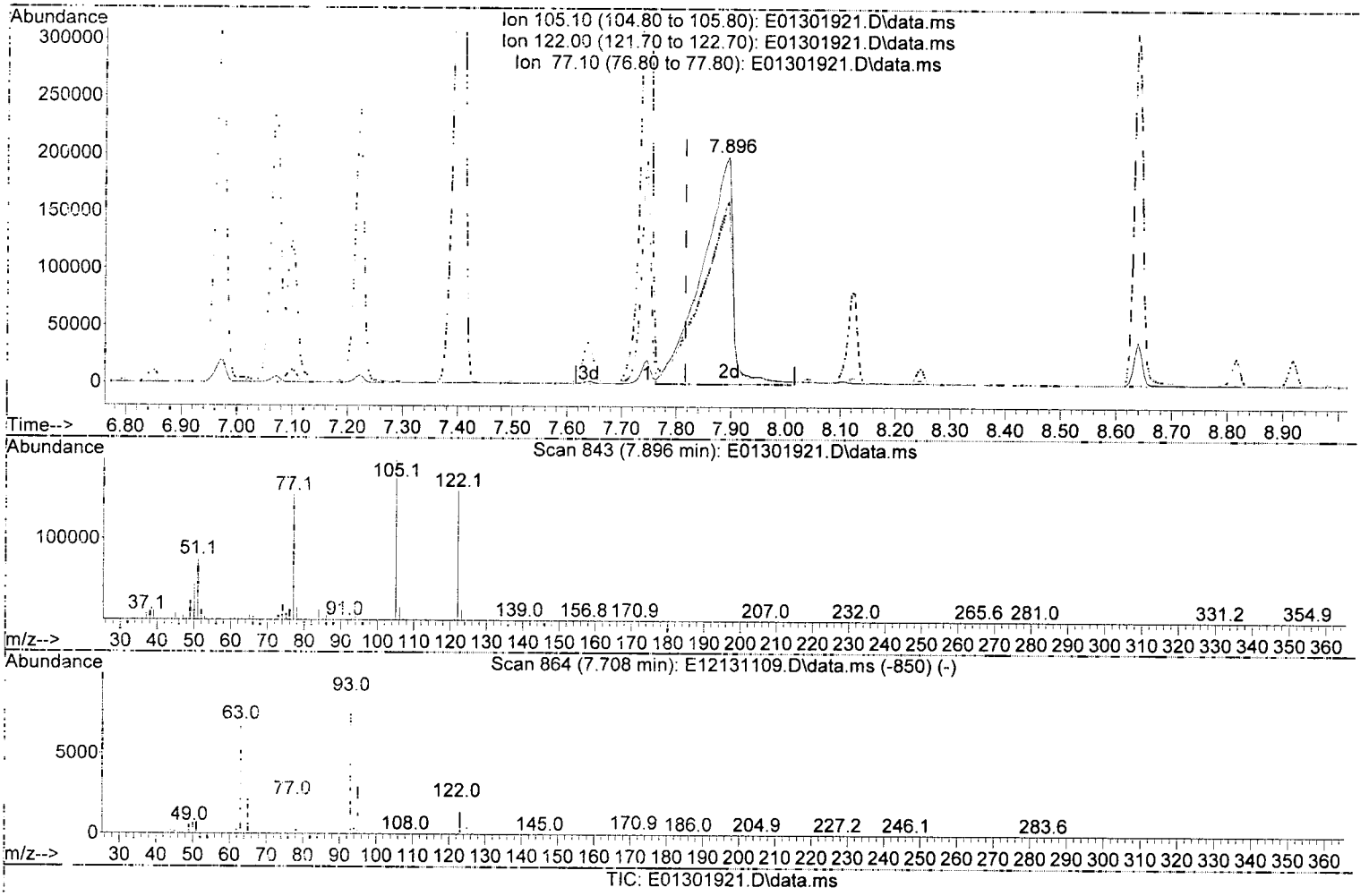
response 25997

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	2760.05#
77.10	85.50	931.34#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301921.D
Acq On : 30 Jan 2019 11:15 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL8
Misc : 1x, A18L334@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:25 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E01301921.D\data.ms

(26) Benzoic acid (T)

7.896min (+ 0.080) 7389.38 ng/ml m

response 790966

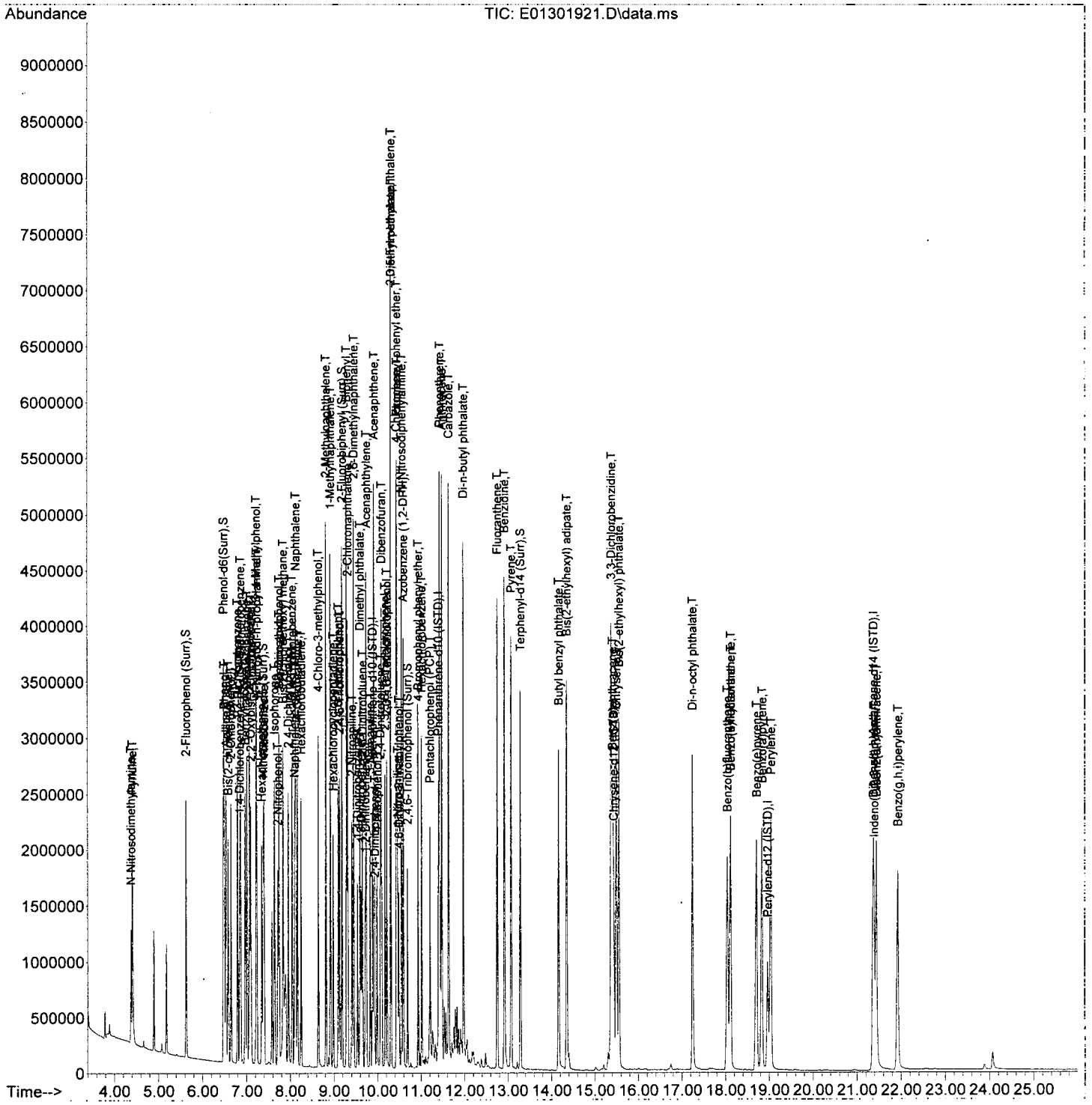
Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	80.54
77.10	85.50	78.13
0.00	0.00	0.00

1/31/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301921.D
Acq On : 30 Jan 2019 11:15 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL8
Misc : 1x, A18L334@4000
ALS Vial : 10 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:25 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301922.D
Acq On : 30 Jan 2019 11:51 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL9
Misc : 1x, A18L335@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

GK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	290473	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.104	136	1148108	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.885	162	556496	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.404	188	1043364	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.443	240	927852	2000.00	ng/ml	0.03
86) Perylene-d12 (ISTD)	18.973	264	856100	2000.00	ng/ml	0.02
94) Dibenz(a,h)Anthrcene-d...	21.385	292	715157	2000.00	ng/ml	0.04
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.633	112	1170363	6660.34	ng/ml	0.00
5) Phenol-d6(Surr)	6.484	99	1526449	6681.57	ng/ml	0.01
19) Nitrobenzene-d5 (Surr)	7.387	82	1512631	7387.54	ng/ml	0.01
40) 2-Fluorobiphenyl (Surr)	9.185	172	2343826	5464.20	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.693	330	299172	7432.08	ng/ml	0.01
79) Terphenyl-d14 (Surr)	13.292	244	2557660	6092.00	ng/ml	0.02
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.387	74	871542	6922.39	ng/ml	85
3) Pyridine	4.419	79	1414684	6981.16	ng/ml	93
6) Phenol	6.500	94	1606385	6566.21	ng/ml	93
7) Aniline	6.542	93	2085810	6949.04	ng/ml	96
8) Bis(2-chloroethyl) ether	6.591	93	1215843	5920.94	ng/ml	95
9) 2-Chlorophenol	6.655	128	1233532	6413.88	ng/ml	97
10) 1,3-Dichlorobenzene	6.799	146	1285655	5584.18	ng/ml	97
11) 1,4-Dichlorobenzene	6.863	146	1303668	5558.04	ng/ml	99
12) Benzyl alcohol	6.981	108	832173	6136.30	ng/ml	91
13) 1,2-Dichlorobenzene	7.013	146	1239034	5618.50	ng/ml	99
14) 2-Methylphenol	7.072	107	1006886	6608.16	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.104	45	1862706	6679.16	ng/ml	92
16) N-Nitrosodi-n-propylamine	7.243	70	964528	6748.99	ng/ml	94
17) 3+4-Methylphenol	7.227	107	1282429	6500.65	ng/ml	94
18) Hexachloroethane	7.345	117	494803	6011.35	ng/ml	85
20) Nitrobenzene	7.409	77	1366079	6710.99	ng/ml	92
22) Isophorone	7.644	82	2507237	6715.49	ng/ml	97
23) 2-Nitrophenol	7.719	139	619284	6182.97	ng/ml	88
24) 2,4-Dimethylphenol	7.751	122	1081606	6568.96	ng/ml	95
25) Bis(2-chloroethoxy) me...	7.842	93	1460686	6119.43	ng/ml	99
26) Benzoic acid	~~7.751~~	105	40451	1248.51	ng/ml#	1
27) 2,4-Dichlorophenol	7.960	162	912238	6287.36	ng/ml	99
28) 1,2,4-Trichlorobenzene	8.045	180	947888	5570.66	ng/ml	95
29) Naphthalene	8.126	128	3450382	5507.27	ng/ml	100
30) 4-Chloroaniline	8.168	127	1415802	6147.46	ng/ml	97
31) Hexachlorobutadiene	8.249	225	473675	5667.36	ng/ml	98
32) 4-Chloro-3-methylphenol	8.644	107	1026539	6084.76	ng/ml	97
33) 2-Methylnaphthalene	8.821	142	2256262	5520.59	ng/ml	97
34) 1-Methylnaphthalene	8.923	142	2130936	5353.31	ng/ml	98
36) Hexachlorocyclopentadiene	8.981	237	489813	6791.53	ng/ml	99
37) 2,4,6-Trichlorophenol	9.099	196	617479	6165.33	ng/ml	98
38) 2,4,5-Trichlorophenol	9.136	196	611970	5831.75	ng/ml	97
39) 1,1'-Biphenyl	9.292	154	2626639	5349.58	ng/ml	98
41) 2-Chloronaphthalene	9.318	162	1970530	5604.63	ng/ml	99
42) 2-Nitroaniline	9.420	138	778160	6408.20	ng/ml	84

See MJ

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301922.D
Acq On : 30 Jan 2019 11:51 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL9
Misc : 1x, A18L335@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

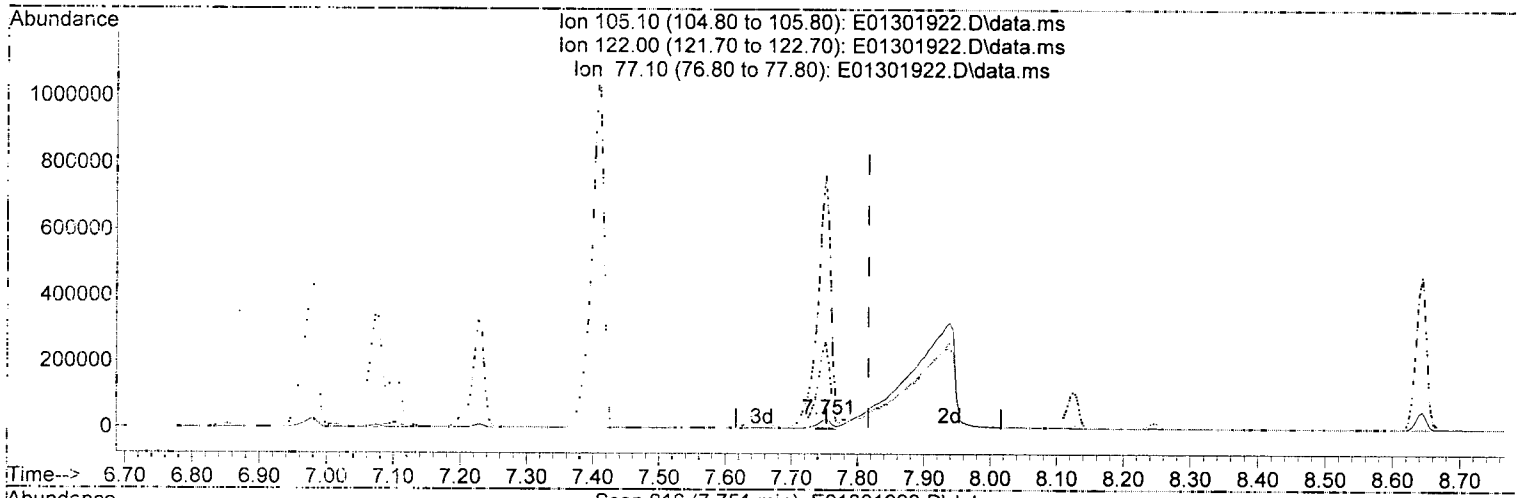
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.452	156	1873897	5466.42	ng/ml	99
44) 1,4-Dinitrobenzene	9.543	168	353235	6478.90	ng/ml	93
45) Dimethyl phthalate	9.607	163	2274017	5839.97	ng/ml	100
46) 1,3-Dinitrobenzene	9.634	168	398456	6533.67	ng/ml	91
47) 2,6-Dinitrotoluene	9.661	165	550344	6228.11	ng/ml	84
48) 1,2-Dinitrobenzene	9.725	168	260513	6758.99	ng/ml#	74
49) Acenaphthylene	9.746	152	3178592	5714.43	ng/ml	98
50) 3-Nitroaniline	9.843	138	645615	6400.74	ng/ml	96
51) Acenaphthene	9.923	153	2033161	5288.13	ng/ml	99
52) 2,4-Dinitrophenol	9.939	184	286154	5414.16	ng/ml	85
53) 4-Nitrophenol	9.998	139	535869	6292.27	ng/ml	83
54) 2,4-Dinitrotoluene	10.078	165	723845	6452.61	ng/ml	93
55) Dibenzofuran	10.094	168	2796501	5547.19	ng/ml	95
56) 2,3,5,6-Tetrachlorophenol	10.174	232	514203	6235.27	ng/ml	93
57) 2,3,4,6-Tetrachlorophenol	10.217	232	530685	6357.49	ng/ml	95
58) Diethyl phthalate	10.313	149	2138606	5494.51	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.308	170	1629306	5204.64	ng/ml	98
60) Fluorene	10.447	166	2221082	5509.90	ng/ml	99
61) 4-Chlorophenyl phenyl ...	10.436	204	1030051	5890.85	ng/ml	88
62) 4-Nitroaniline	10.474	138	669009	6462.04	ng/ml	80
63) 4,6-Dinitro-2-methylph...	10.500	198	362560	5558.92	ng/ml	85
65) N-Nitrosodiphenylamine	10.559	169	1960689	5821.00	ng/ml	99
66) Azobenzene (1,2-DPH)	10.597	77	2612835	6418.26	ng/ml	94
68) 4-Bromophenyl phenyl e...	10.934	248	602434	6695.38	ng/ml	91
69) Hexachlorobenzene	11.019	284	606966	6534.21	ng/ml	95
70) Pentachlorophenol (PCP)	11.206	266	395292	6524.62	ng/ml	97
71) Phenanthrene	11.431	178	3142052	5195.31	ng/ml	98
72) Anthracene	11.485	178	3204108	5481.01	ng/ml	99
73) Carbazole	11.640	167	2995482	5834.43	ng/ml	99
74) Di-n-butyl phthalate	11.977	149	3697863	5870.49	ng/ml	99
75) Fluoranthene	12.758	202	3367710	5790.24	ng/ml	97
76) Benzidine	12.929	184	3789861	10411.39	ng/ml	98
77) Pyrene	13.078	202	3451729	5758.71	ng/ml	99
80) Butyl benzyl phthalate	14.175	149	1765700	5646.23	ng/ml	94
81) Bis(2-ethylhexyl) adipate	14.357	129	1647877	6501.08	ng/ml	99
82) 3,3-Dichlorobenzidine	15.400	252	2297909	12597.23	ng/ml	99
83) Benz(a)anthracene	15.421	228	3081071	5756.40	ng/ml	99
84) Chrysene	15.512	228	2949203	5825.19	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.560	149	2465950	6252.31	ng/ml	95
87) Di-n-octyl phthalate	17.256	149	4069870	5590.76	ng/ml	98
88) Benzo(b)fluoranthene	18.063	252	2914506	5696.15	ng/ml	99
89) Benzo(k)fluoranthene	18.138	252	2736373	5680.51	ng/ml	97
90) Benzo(b+k)fluoranthene	18.138	252	5886892	11520.04	ng/ml	97
91) Benzo(e)pyrene	18.727	252	2825299	6402.81	ng/ml	99
92) Benzo(a)pyrene	18.855	252	2720886	5863.18	ng/ml	98
93) Perylene	19.064	252	2815058	5743.54	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.406	276	2513172	5722.50	ng/ml	94
96) Dibenz(a,h)anthracene	21.465	278	2316997	5518.68	ng/ml	96
97) Benzo(g,h,i)perylene	21.952	276	2394723	5413.62	ng/ml	85

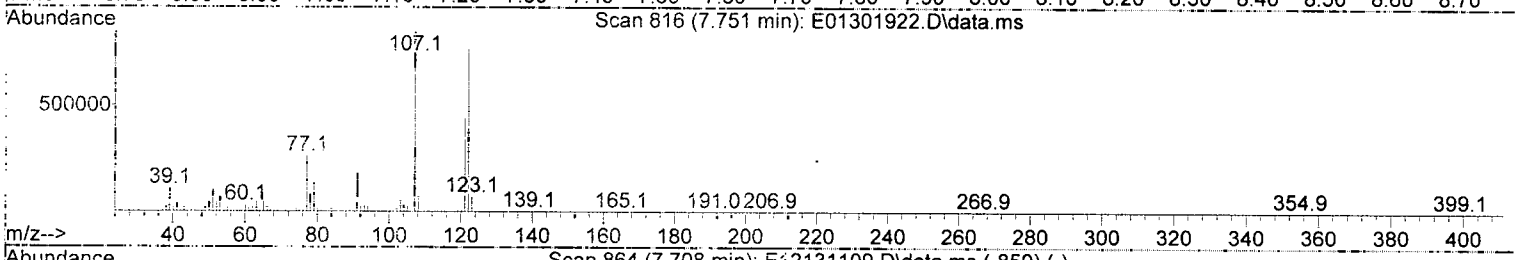
(#) = qualifier out of range (m) = manual integration (+) = signals summed

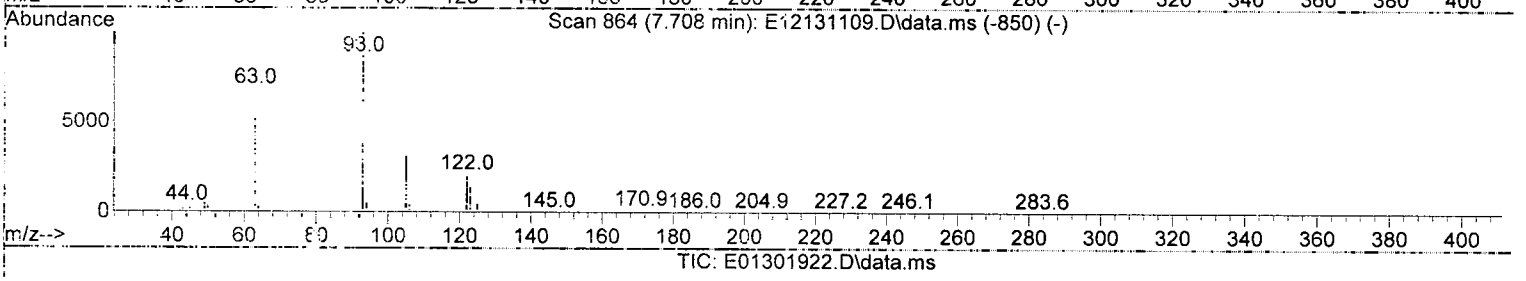
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301922.D
Acq On : 30 Jan 2019 11:51 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL9
Misc : 1x, A18L335@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301922.D\data.ms

(26) Benzoic acid (T)

7.751min (-0.064) 1248.51 ng/ml

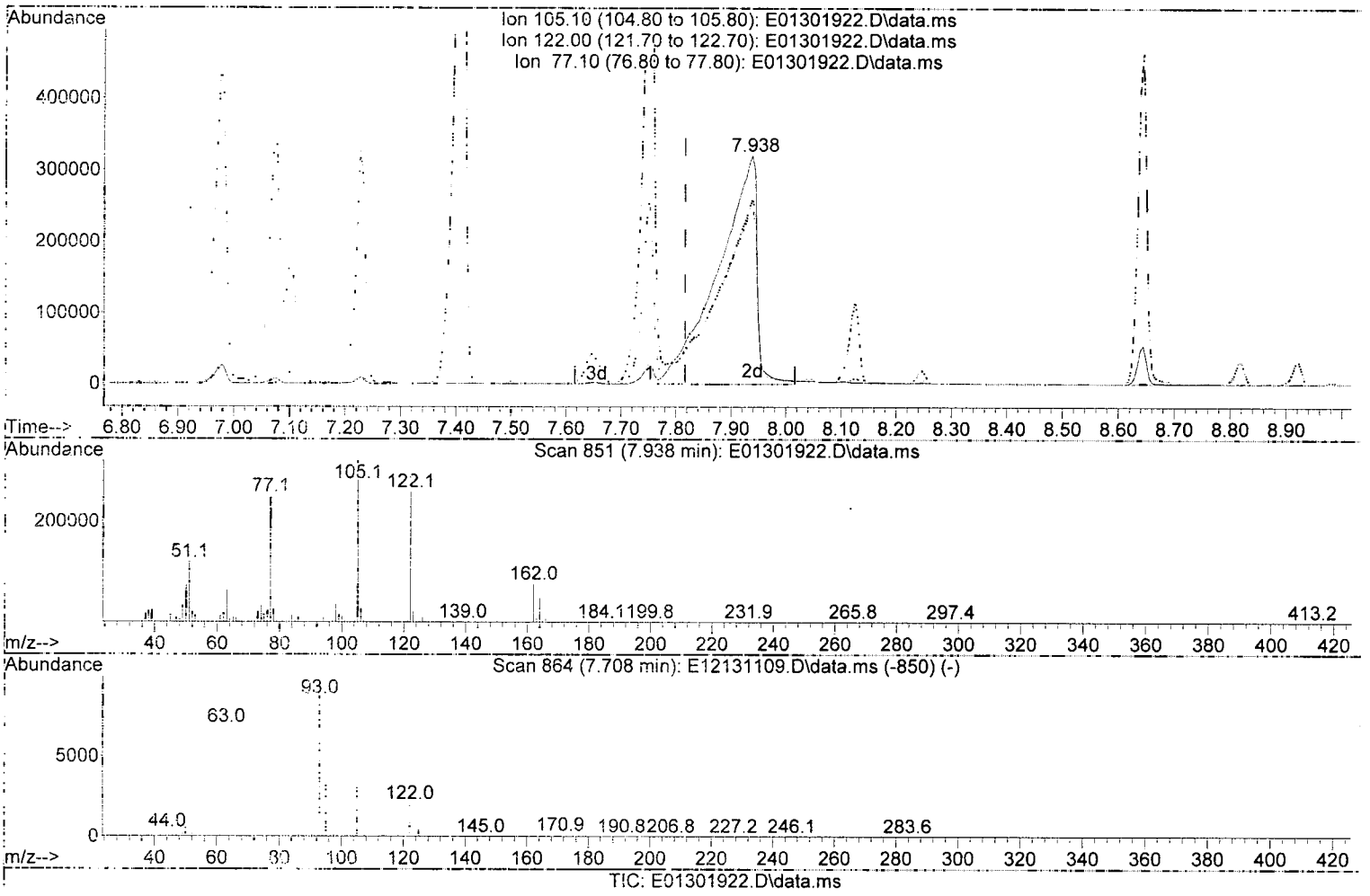
response 40451

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	2724.94#
77.10	85.50	925.17#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301922.D
Acq On : 30 Jan 2019 11:51 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL9
Misc : 1x, A18L335@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E01301922.D\data.ms

(26) Benzoic acid (T)

7.938min (+ 0.123) 11774.00 ng/ml m JK 1/31/19

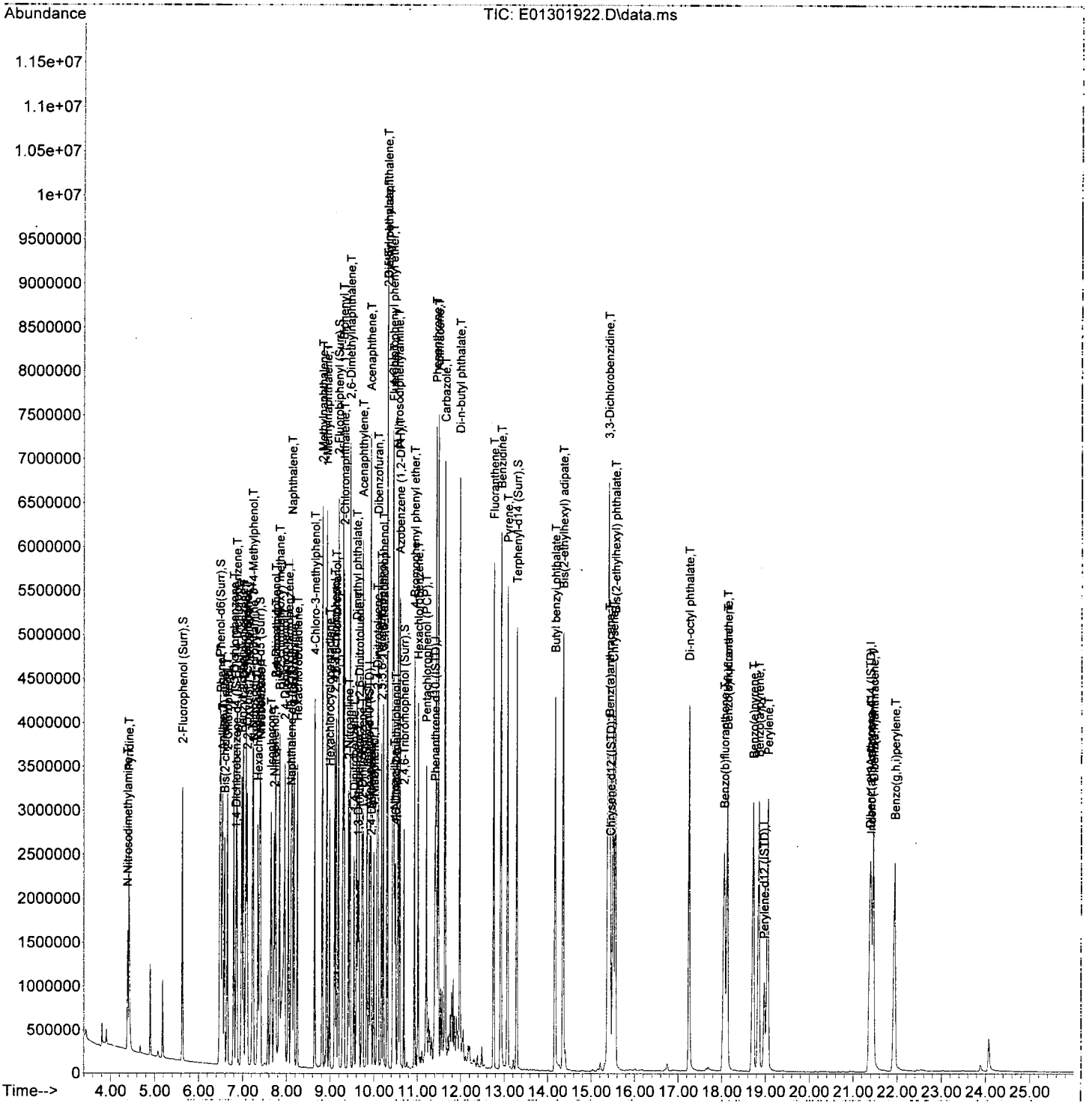
response 1567369

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	81.01
77.10	85.50	78.27
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301922.D
Acq On : 30 Jan 2019 11:51 pm
Operator : JK/ AMS /DTH
Sample : 9A30046-CAL9
Misc : 1x, A18L335@6000
ALS Vial : 11 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:30 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301923.D
Acq.On : 31 Jan 2019 12:28 am
Operator : JK/ AMS /DTH
Sample : 9A30046-CALA
Misc : 1x, A18L336@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:36 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

JK 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.853	152	280934	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.104	136	1114798	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.886	162	543018	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.405	188	1023802	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.454	240	907570	2000.00	ng/ml	0.04
86) Perylene-d12 (ISTD)	18.978	264	832510	2000.00	ng/ml	0.03
94) Dibenz(a,h)Anthrcene-d...	21.396	292	683312	2000.00	ng/ml	0.05
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.633	112	1496600	8806.09	ng/ml	0.00
5) Phenol-d6(Surr)	6.495	99	1930075	8735.18	ng/ml	0.02
19) Nitrobenzene-d5 (Surr)	7.393	82	1731910	8745.68	ng/ml	0.02
40) 2-Fluorobiphenyl (Surr)	9.190	172	2900077	6928.80	ng/ml	0.01
67) 2,4,6-Tribromophenol (...	10.699	330	403091	9663.57	ng/ml	0.02
79) Terphenyl-d14 (Surr)	13.293	244	3299466	8034.51	ng/ml	0.02
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.393	74	1122619	9219.37	ng/ml	83
3) Pyridine	4.419	79	1799769	9183.04	ng/ml	93
6) Phenol	6.511	94	2021684	8544.36	ng/ml	94
7) Aniline	6.548	93	2632489	9068.14	ng/ml	96
8) Bis(2-chloroethyl) ether	6.596	93	1499102	7548.25	ng/ml	95
9) 2-Chlorophenol	6.655	128	1563047	8403.19	ng/ml	97
10) 1,3-Dichlorobenzene	6.805	146	1629041	7315.91	ng/ml	97
11) 1,4-Dichlorobenzene	6.869	146	1640871	7233.20	ng/ml	100
12) Benzyl alcohol	6.987	108	1046185	7688.30	ng/ml	91
13) 1,2-Dichlorobenzene	7.019	146	1561940	7323.23	ng/ml	99
14) 2-Methylphenol	7.078	107	1251343	8491.37	ng/ml	99
15) 2,2'-Oxybis(1-Chloropr...	7.104	45	2259312	8376.35	ng/ml	90
16) N-Nitrosodi-n-propylamine	7.249	70	1199931	8681.24	ng/ml	94
17) 3+4-Methylphenol	7.238	107	1590888	8338.05	ng/ml	95
18) Hexachloroethane	7.350	117	626658	7871.76	ng/ml	83
20) Nitrobenzene	7.415	77	1701352	8641.84	ng/ml	90
22) Isophorone	7.655	82	3162533	8723.77	ng/ml	96
23) 2-Nitrophenol	7.725	139	801876	8245.20	ng/ml	86
24) 2,4-Dimethylphenol	7.757	122	1321200	8263.85	ng/ml	96
25) Bis(2-chloroethoxy) me...	7.848	93	1803114	7779.71	ng/ml	100
26) Benzoic acid	~~7.757~~	~~105~~	48296	1340.17	~~ng/ml#~~	1
27) 2,4-Dichlorophenol	7.965	162	1159632	8231.27	ng/ml	99
28) 1,2,4-Trichlorobenzene	8.046	180	1206585	7302.88	ng/ml	95
29) Naphthalene	8.131	128	4249185	6984.92	ng/ml	99
30) 4-Chloroaniline	8.174	127	1793320	8019.32	ng/ml	96
31) Hexachlorobutadiene	8.249	225	608097	7493.07	ng/ml	97
32) 4-Chloro-3-methylphenol	8.645	107	1296093	7677.52	ng/ml	98
33) 2-Methylnaphthalene	8.821	142	2767888	6974.79	ng/ml	97
34) 1-Methylnaphthalene	8.923	142	2608946	6750.00	ng/ml	98
36) Hexachlorocyclopentadiene	8.987	237	607633	8634.28	ng/ml	98
37) 2,4,6-Trichlorophenol	9.105	196	774818	7807.23	ng/ml	98
38) 2,4,5-Trichlorophenol	9.142	196	807064	7518.74	ng/ml	98
39) 1,1'-Biphenyl	9.297	154	3199105	6677.22	ng/ml	97
41) 2-Chloronaphthalene	9.324	162	2468792	7196.08	ng/ml	100
42) 2-Nitroaniline	9.426	138	1014716	8563.66	ng/ml	83

see NJ

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Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301923.D
Acq On : 31 Jan 2019 12:28 am
Operator : JK/ AMS /DTH
Sample : 9A30046-CALA
Misc : 1x, A18L336@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:36 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

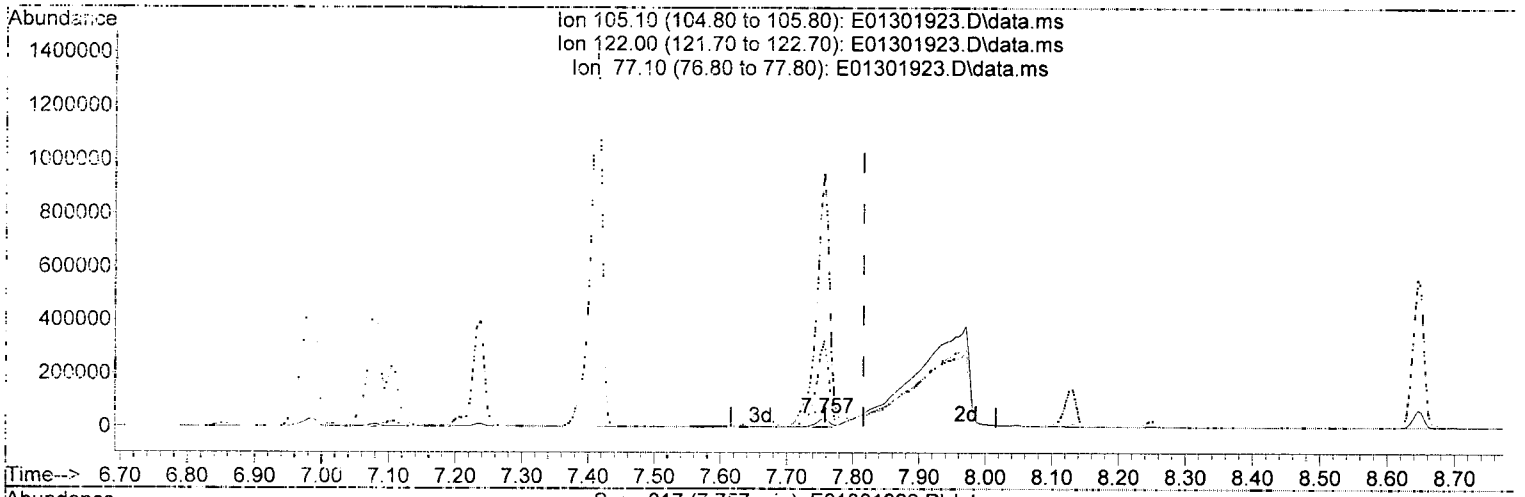
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.458	156	2321419	6939.99	ng/ml	98
44) 1,4-Dinitrobenzene	9.549	168	468426	8804.95	ng/ml	89
45) Dimethyl phthalate	9.613	163	2911473	7662.63	ng/ml	99
46) 1,3-Dinitrobenzene	9.645	168	525895	8837.38	ng/ml	95
47) 2,6-Dinitrotoluene	9.666	165	715275	8295.50	ng/ml	82
48) 1,2-Dinitrobenzene	9.736	168	333646	8871.28	ng/ml#	70
49) Acenaphthylene	9.747	152	3948147	7274.10	ng/ml	97
50) 3-Nitroaniline	9.848	138	834824	8482.01	ng/ml	97
51) Acenaphthene	9.928	153	2520666	6718.82	ng/ml	99
52) 2,4-Dinitrophenol	9.950	184	400481	7030.55	ng/ml	79
53) 4-Nitrophenol	10.009	139	695415	8031.66	ng/ml	82
54) 2,4-Dinitrotoluene	10.083	165	930978	8505.05	ng/ml	93
55) Dibenzofuran	10.100	168	3482255	7078.91	ng/ml	95
56) 2,3,5,6-Tetrachlorophenol	10.174	232	669191	8000.00	ng/ml	95
57) 2,3,4,6-Tetrachlorophenol	10.223	232	692769	8323.33	ng/ml	94
58) Diethyl phthalate	10.319	149	2624972	6911.48	ng/ml	95
59) 2,3,5-Trimethylnaphtha...	10.308	170	2005572	6565.60	ng/ml	99
60) Fluorene	10.453	166	2767503	7035.83	ng/ml	98
61) 4-Chlorophenyl phenyl ...	10.436	204	1303879	7641.95	ng/ml	90
62) 4-Nitroaniline	10.485	138	879385	8704.92	ng/ml	80
63) 4,6-Dinitro-2-methylph...	10.506	198	494172	7276.17	ng/ml	86
65) N-Nitrosodiphenylamine	10.565	169	2473583	7484.03	ng/ml	99
66) Azobenzene (1,2-DPH)	10.602	77	3228382	8081.84	ng/ml	91
68) 4-Bromophenyl phenyl e...	10.939	248	789349	8940.36	ng/ml	88
69) Hexachlorobenzene	11.025	284	801760	8796.15	ng/ml	92
70) Pentachlorophenol (PCP)	11.212	266	524085	8437.76	ng/ml	97
71) Phenanthrene	11.437	178	3940073	6639.30	ng/ml	98
72) Anthracene	11.490	178	3984243	6945.75	ng/ml	99
73) Carbazole	11.645	167	3792212	7527.39	ng/ml	99
74) Di-n-butyl phthalate	11.977	149	4593818	7432.19	ng/ml	99
75) Fluoranthene	12.763	202	4263906	7471.19	ng/ml	97
76) Benzidine	12.934	184	4855656	13082.99	ng/ml	99
77) Pyrene	13.084	202	4397051	7476.01	ng/ml	98
80) Butyl benzyl phthalate	14.181	149	2274562	7195.35	ng/ml	94
81) Bis(2-ethylhexyl) adipate	14.362	129	2130742	8593.90	ng/ml	98
82) 3,3-Dichlorobenzidine	15.411	252	2995565	15923.87	ng/ml	99
83) Benz(a)anthracene	15.432	228	3973101	7588.88	ng/ml	99
84) Chrysene	15.523	228	3809563	7692.71	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.566	149	3197212	8287.55	ng/ml	95
87) Di-n-octyl phthalate	17.267	149	5278776	7035.45	ng/ml	98
88) Benzo(b)fluoranthene	18.080	252	3991347	7678.49	ng/ml	99
89) Benzo(k)fluoranthene	18.149	252	3282962	6944.39	ng/ml	96
90) Benzo(b+k)fluoranthene	18.149	252	7617275	15030.09	ng/ml	96
91) Benzo(e)pyrene	18.743	252	3659927	8529.31	ng/ml	99
92) Benzo(a)pyrene	18.871	252	3529245	7581.59	ng/ml	99
93) Perylene	19.075	252	3618955	7592.94	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.417	276	3220620	7675.13	ng/ml	95
96) Dibenz(a,h)anthracene	21.476	278	2936332	7319.76	ng/ml	96
97) Benzo(g,h,i)perylene	21.963	276	2911992	6889.77	ng/ml	85

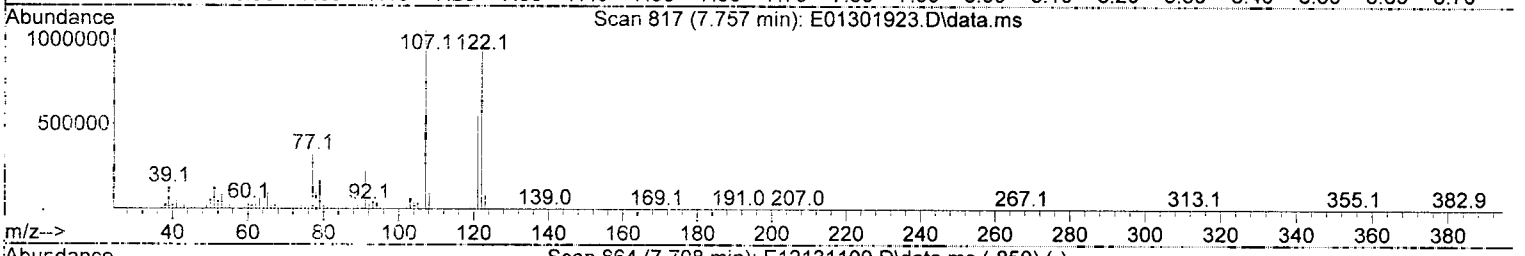
(#) = qualifier out of range (m) = manual integration (+) = signals summed

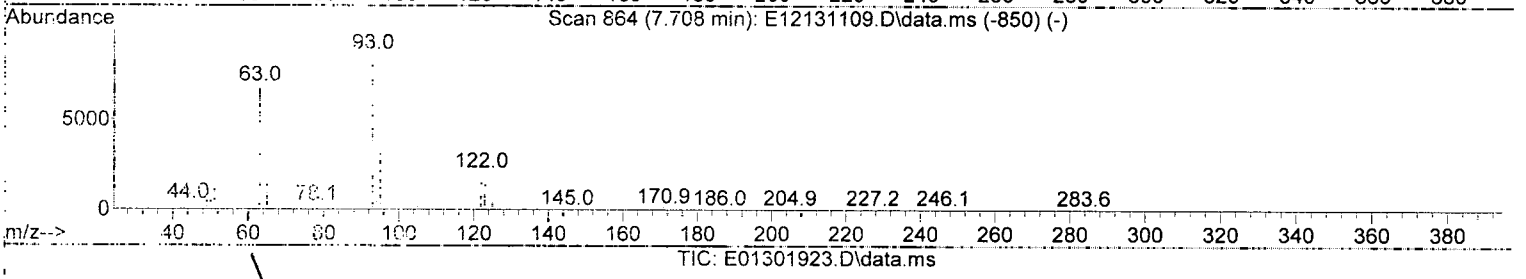
Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301923.D
Acq On : 31 Jan 2019 12:28 am
Operator : JK/ AMS /DTH
Sample : 9A30046-CALA
Misc : 1x, A18L336@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:36 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5







TIC: E01301923.D\data.ms

(26) Benzoic acid (T)

7.757min (-0.059) 1340.17 ng/ml

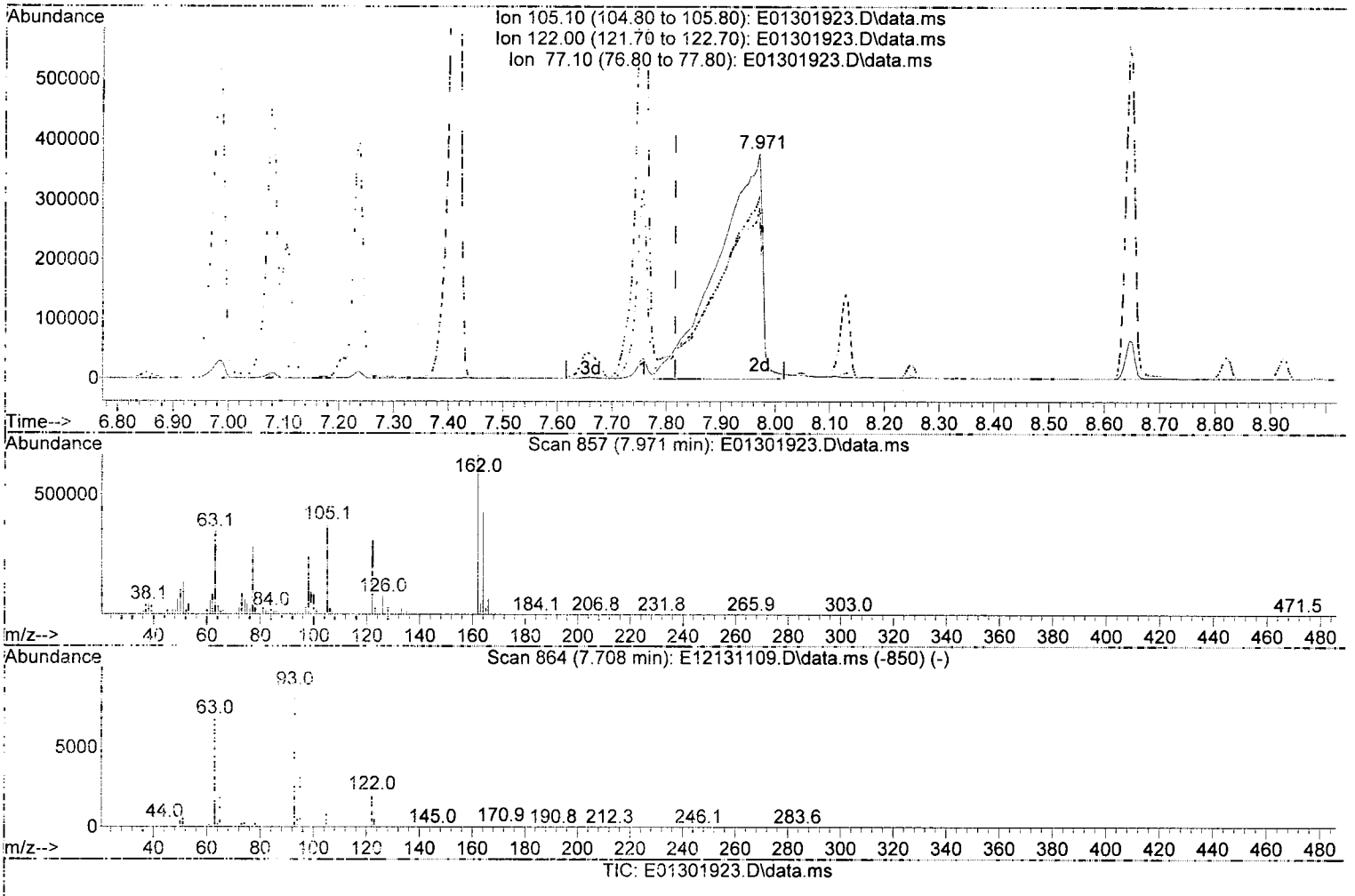
response 48296

Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	2734.05#
77.10	85.50	927.68#
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301923.D
Acq On : 31 Jan 2019 12:28 am
Operator : JK/ AMS /DTH
Sample : 9A30046-CALA
Misc : 1x, A18L336@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:36 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



TIC: E01301923.D\data.ms

(26) Benzoic acid (T)

7.971min (+ 0.155) 14891.92 ng/ml m

response 2134233

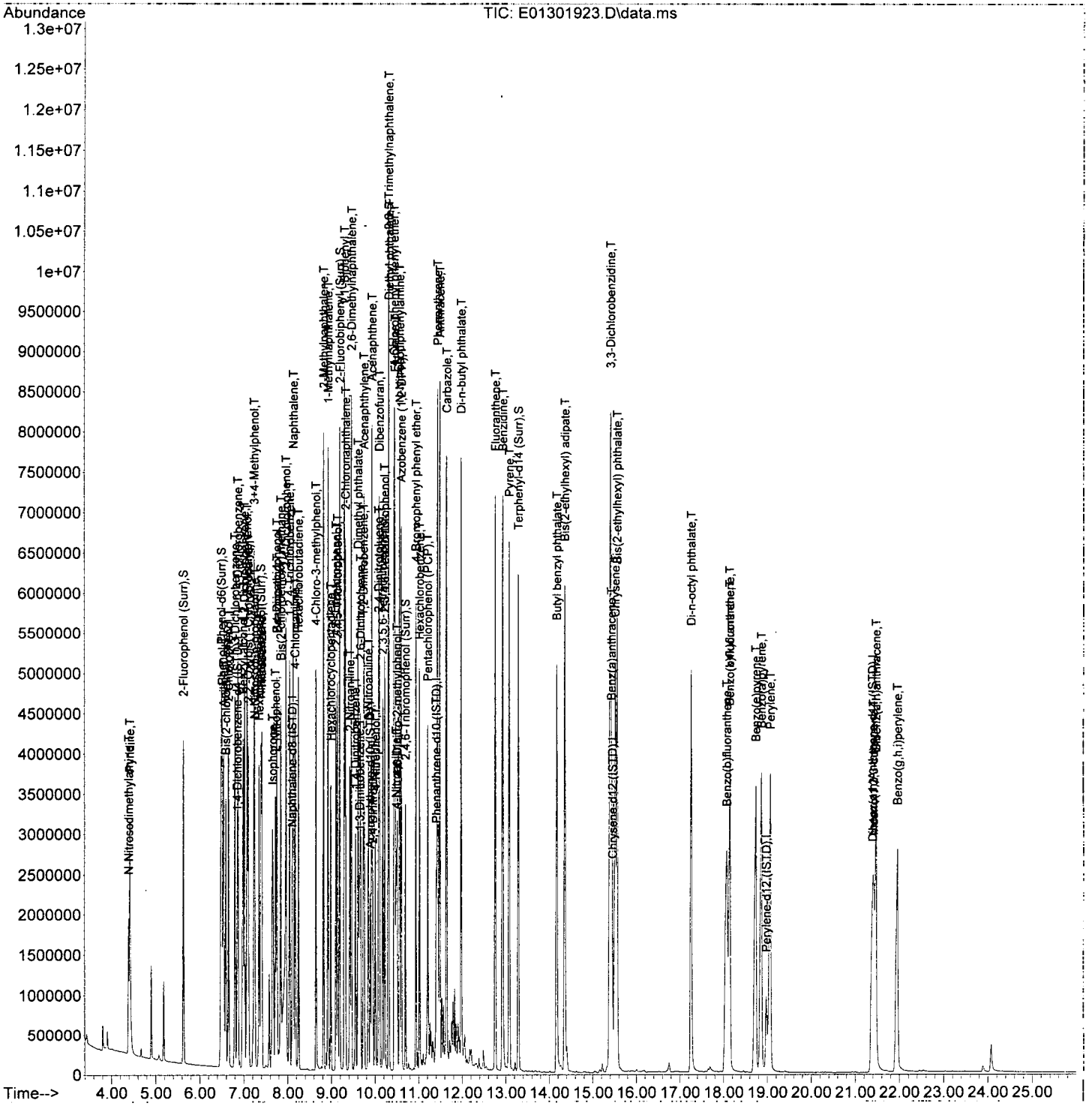
Ion	Exp%	Act%
105.10	100.00	100.00
122.00	79.60	80.84
77.10	85.50	75.70
0.00	0.00	0.00

1/31/19

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301923.D
Acq On : 31 Jan 2019 12:28 am
Operator : JK/ AMS /DTH
Sample : 9A30046-CALA
Misc : 1x, A18L336@8000
ALS Vial : 12 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:36 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301925.D
Acq On : 31 Jan 2019 1:40 am
Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:48 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

GJ 1/31/19

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	277641	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1090359	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	529225	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	987863	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.416	240	891477	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.951	264	813758	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.353	292	665943	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.628	112	177544	1057.07	ng/ml	0.00
5) Phenol-d6(Surr)	6.473	99	240509	1101.41	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.377	82	220297	1125.63	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.179	172	400961	982.93	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.682	330	41202	1287.03	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.277	244	437453	1084.47	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.376	74	135584	1126.67	ng/ml	86
3) Pyridine	4.409	79	218654	1128.88	ng/ml	95
6) Phenol	6.489	94	247692	1059.25	ng/ml	91
7) Aniline	6.532	93	309908	1080.20	ng/ml	95
8) Bis(2-chloroethyl) ether	6.580	93	206192	1050.53	ng/ml	96
9) 2-Chlorophenol	6.650	128	191059	1039.35	ng/ml	96
10) 1,3-Dichlorobenzene	6.799	146	210822	958.02	ng/ml	96
11) 1,4-Dichlorobenzene	6.864	146	214824	958.21	ng/ml	99
12) Benzyl alcohol	6.965	108	113801	1019.39	ng/ml	94
13) 1,2-Dichlorobenzene	7.013	146	204761	971.42	ng/ml	99
14) 2-Methylphenol	7.067	107	158178	1086.10	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.099	45	317454	1190.91	ng/ml	94
16) N-Nitrosodi-n-propylamine	7.222	70	158369	1159.36	ng/ml	96
17) 3+4-Methylphenol	7.211	107	206087	1092.94	ng/ml	94
18) Hexachloroethane	7.345	117	78838	1002.07	ng/ml	85
20) Nitrobenzene	7.398	77	219235	1126.79	ng/ml	92
22) Isophorone	7.628	82	400466	1129.44	ng/ml	96
23) 2-Nitrophenol	7.714	139	91410	960.98	ng/ml	87
24) 2,4-Dimethylphenol	7.741	122	164651	1052.94	ng/ml	93
25) Bis(2-chloroethoxy) me...	7.832	93	248424	1095.87	ng/ml	99
26) Benzoic acid	7.821	105	122981	2100.46	ng/ml	96
27) 2,4-Dichlorophenol	7.949	162	135939	986.55	ng/ml	100
28) 1,2,4-Trichlorobenzene	8.040	180	154987	959.09	ng/ml	96
29) Naphthalene	8.120	128	591606	994.30	ng/ml	99
30) 4-Chloroaniline	8.163	127	222109	1015.48	ng/ml	96
31) Hexachlorobutadiene	8.243	225	77172	972.24	ng/ml	98
32) 4-Chloro-3-methylphenol	8.634	107	147250	1036.87	ng/ml	98
33) 2-Methylnaphthalene	8.816	142	394231	1015.69	ng/ml	96
34) 1-Methylnaphthalene	8.917	142	370979	981.33	ng/ml	97
36) Hexachlorocyclopentadiene	8.982	237	66625	971.40	ng/ml	98
37) 2,4,6-Trichlorophenol	9.094	196	87821	989.42	ng/ml	99
38) 2,4,5-Trichlorophenol	9.131	196	91305	1066.93	ng/ml	99
39) 1,1'-Biphenyl	9.281	154	462795	991.18	ng/ml	98
41) 2-Chloronaphthalene	9.308	162	332442	994.26	ng/ml	99
42) 2-Nitroaniline	9.404	138	111786	968.00	ng/ml	89

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301925.D
Acq On : 31 Jan 2019 1:40 am
Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:48 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5

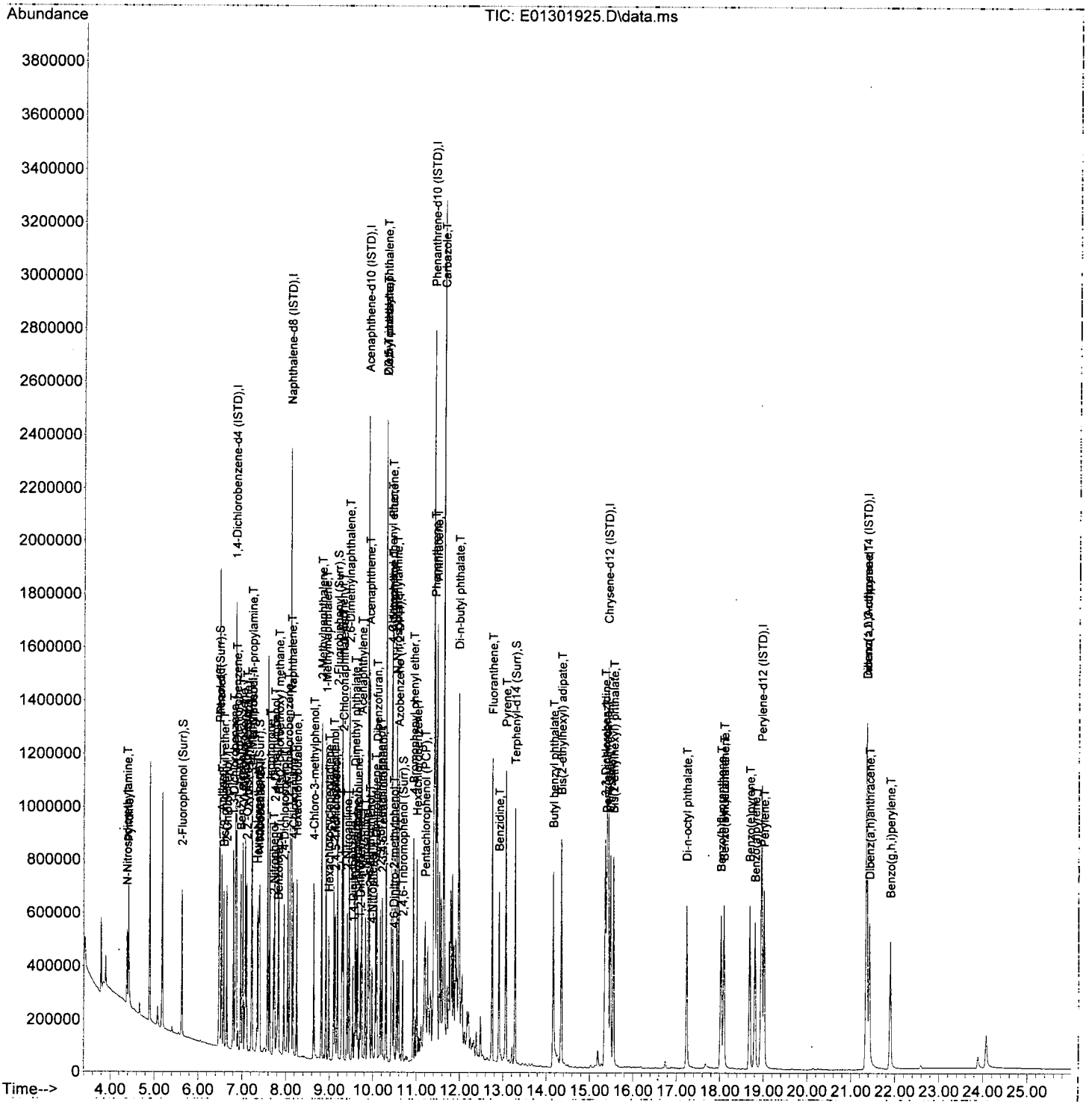
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43)	2,6-Dimethylnaphthalene	9.447	156	338148	1037.26	ng/ml	97
44)	1,4-Dinitrobenzene	9.533	168	44630	860.77	ng/ml	88
45)	Dimethyl phthalate	9.581	163	380922	1028.67	ng/ml	99
46)	1,3-Dinitrobenzene	9.613	168	57201	986.28	ng/ml	93
47)	2,6-Dinitrotoluene	9.645	165	84450	1004.95	ng/ml	86
48)	1,2-Dinitrobenzene	9.704	168	39174	1068.74	ng/ml#	72
49)	Acenaphthylene	9.736	152	551004	1041.63	ng/ml	99
50)	3-Nitroaniline	9.821	138	96272	1003.64	ng/ml	97
51)	Acenaphthene	9.912	153	361137	987.70	ng/ml	100
52)	2,4-Dinitrophenol	9.923	184	21125	730.73	ng/ml	87
53)	4-Nitrophenol	9.971	139	70280	1043.52	ng/ml	84
54)	2,4-Dinitrotoluene	10.057	165	108807	1019.92	ng/ml	93
55)	Dibenzofuran	10.089	168	483823	1009.17	ng/ml	92
56)	2,3,5,6-Tetrachlorophenol	10.164	232	71138	1053.44	ng/ml	96
57)	2,3,4,6-Tetrachlorophenol	10.212	232	77430	1057.03	ng/ml	92
58)	Diethyl phthalate	10.297	149	389146	1051.31	ng/ml	96
59)	2,3,5-Trimethylnaphtha...	10.297	170	309071	1038.17	ng/ml	97
60)	Fluorene	10.436	166	402110	1048.93	ng/ml	100
61)	4-Chlorophenyl phenyl ...	10.426	204	173539	1043.61	ng/ml	92
62)	4-Nitroaniline	10.442	138	103597	1052.22	ng/ml	79
63)	4,6-Dinitro-2-methylph...	10.474	198	40799	861.78	ng/ml	91
65)	N-Nitrosodiphenylamine	10.543	169	335063	1050.64	ng/ml	97
66)	Azobenzene (1,2-DPH)	10.586	77	474353	1230.68	ng/ml	99
68)	4-Bromophenyl phenyl e...	10.929	248	96780	1136.03	ng/ml	94
69)	Hexachlorobenzene	11.009	284	96201	1093.82	ng/ml	96
70)	Pentachlorophenol (PCP)	11.201	266	45098	955.89	ng/ml	97
71)	Phenanthrene	11.421	178	562373	982.11	ng/ml	99
72)	Anthracene	11.474	178	575013	1038.89	ng/ml	99
73)	Carbazole	11.629	167	522125	1074.10	ng/ml	99
74)	Di-n-butyl phthalate	11.971	149	663326	1112.22	ng/ml	99
75)	Fluoranthene	12.747	202	584676	1061.74	ng/ml	98
76)	Benzidine	12.907	184	351382	1232.02	ng/ml	99
77)	Pyrene	13.063	202	598814	1055.16	ng/ml	99
80)	Butyl benzyl phthalate	14.159	149	275114	1035.16	ng/ml	96
81)	Bis(2-ethylhexyl) adipate	14.341	129	254845	1046.42	ng/ml	99
82)	3,3-Dichlorobenzidine	15.352	252	326783	2261.07	ng/ml	98
83)	Benz(a)anthracene	15.389	228	531189	1032.92	ng/ml	98
84)	Chrysene	15.475	228	493746	1015.03	ng/ml	99
85)	Bis(2-ethylhexyl) phth...	15.544	149	376198	992.75	ng/ml	96
87)	Di-n-octyl phthalate	17.235	149	571095	1062.37	ng/ml	100
88)	Benzo(b)fluoranthene	18.021	252	464912	1072.93	ng/ml	99
89)	Benzo(k)fluoranthene	18.090	252	457480	1040.14	ng/ml	97
90)	Benzo(b+k)fluoranthene	18.090	252	951323	2080.05	ng/ml	97
91)	Benzo(e)pyrene	18.684	252	451868	1077.33	ng/ml	99
92)	Benzo(a)pyrene	18.807	252	426958	1068.81	ng/ml	100
93)	Perylene	19.010	252	475033	1019.64	ng/ml	99
95)	Indeno(1,2,3-cd)pyrene	21.353	276	363284	888.38	ng/ml	96
96)	Dibenz(a,h)anthracene	21.417	278	342915	877.12	ng/ml	96
97)	Benzo(g,h,i)perylene	21.893	276	378686	919.34	ng/ml	86

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301925.D
Acq On : 31 Jan 2019 1:40 am
Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 09:53:48 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 09:52:26 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301925.D
Acq On : 31 Jan 2019 1:40 am
Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Final Reqmnt
1/31/19

Quant Time: Jan 31 12:00:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4...	6.847	152	277641	2000.00	ng/ml	0.00
21) Naphthalene-d8 (ISTD)	8.099	136	1090359	2000.00	ng/ml	0.00
35) Acenaphthene-d10 (ISTD)	9.880	162	529225	2000.00	ng/ml	0.00
64) Phenanthrene-d10 (ISTD)	11.399	188	987863	2000.00	ng/ml	0.00
78) Chrysene-d12 (ISTD)	15.416	240	891477	2000.00	ng/ml	0.00
86) Perylene-d12 (ISTD)	18.951	264	813758	2000.00	ng/ml	0.00
94) Dibenz(a,h)Anthrcene-d...	21.353	292	665943	2000.00	ng/ml	0.00
System Monitoring Compounds						
4) 2-Fluorophenol (Surr)	5.628	112	177544	1025.74	ng/ml	0.00
5) Phenol-d6(Surr)	6.473	99	240509	1038.80	ng/ml	0.00
19) Nitrobenzene-d5 (Surr)	7.377	82	220297	1061.23	ng/ml	0.00
40) 2-Fluorobiphenyl (Surr)	9.179	172	400961	1018.74	ng/ml	0.00
67) 2,4,6-Tribromophenol (...	10.682	330	41202	1137.97	ng/ml	0.00
79) Terphenyl-d14 (Surr)	13.277	244	437453	1050.25	ng/ml	0.00
Target Compounds						Qvalue
2) N-Nitrosodimethylamine	4.376	74	135584	1034.87	ng/ml	86
3) Pyridine	4.409	79	218654	1030.49	ng/ml	95
6) Phenol	6.489	94	247692	1020.99	ng/ml	91
7) Aniline	6.532	93	309876	980.20	ng/ml	95
8) Bis(2-chloroethyl) ether	6.580	93	206192	1039.86	ng/ml	96
9) 2-Chlorophenol	6.650	128	191059	1051.71	ng/ml	96
10) 1,3-Dichlorobenzene	6.799	146	210822	1015.20	ng/ml	96
11) 1,4-Dichlorobenzene	6.864	146	214824	1023.84	ng/ml	99
12) Benzyl alcohol	6.965	108	113801	989.09	ng/ml	94
13) 1,2-Dichlorobenzene	7.013	146	204761	1030.25	ng/ml	99
14) 2-Methylphenol	7.067	107	158178	1046.97	ng/ml	98
15) 2,2'-Oxybis(1-Chloropr...	7.099	45	317454	1009.58	ng/ml	94
16) N-Nitrosodi-n-propylamine	7.222	70	158369	1065.53	ng/ml	96
17) 3+4-Methylphenol	7.211	107	206087	1079.89	ng/ml	94
18) Hexachloroethane	7.345	117	78838	1017.83	ng/ml	85
20) Nitrobenzene	7.398	77	219235	1093.50	ng/ml	92
22) Isophorone	7.628	82	400466	1076.18	ng/ml	96
23) 2-Nitrophenol	7.714	139	91410	1119.87	ng/ml	87
24) 2,4-Dimethylphenol	7.741	122	164651	1009.12	ng/ml	93
25) Bis(2-chloroethoxy) me...	7.832	93	248424	1061.05	ng/ml	99
26) Benzoic acid	7.821	105	122679	2255.56	ng/ml	96
27) 2,4-Dichlorophenol	7.949	162	135939	1075.18	ng/ml	100
28) 1,2,4-Trichlorobenzene	8.040	180	154987	1023.23	ng/ml	96
29) Naphthalene	8.120	128	591606	1017.09	ng/ml	99
30) 4-Chloroaniline	8.163	127	222109	1108.76	ng/ml	96
31) Hexachlorobutadiene	8.243	225	77172	1043.11	ng/ml	98
32) 4-Chloro-3-methylphenol	8.634	107	147250	1059.62	ng/ml	98
33) 2-Methylnaphthalene	8.816	142	394231	1077.50	ng/ml	96
34) 1-Methylnaphthalene	8.917	142	370979	1058.80	ng/ml	97
36) Hexachlorocyclopentadiene	8.982	237	66625	981.41	ng/ml	98
37) 2,4,6-Trichlorophenol	9.094	196	87821	1102.50	ng/ml	99
38) 2,4,5-Trichlorophenol	9.131	196	91305	1098.05	ng/ml	99
39) 1,1'-Biphenyl	9.281	154	462795	1022.17	ng/ml	98
41) 2-Chloronaphthalene	9.308	162	332442	1017.01	ng/ml	99
42) 2-Nitroaniline	9.404	138	111786	1113.80	ng/ml	89

Quantitation Report (Not Reviewed)

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Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 12:00:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5

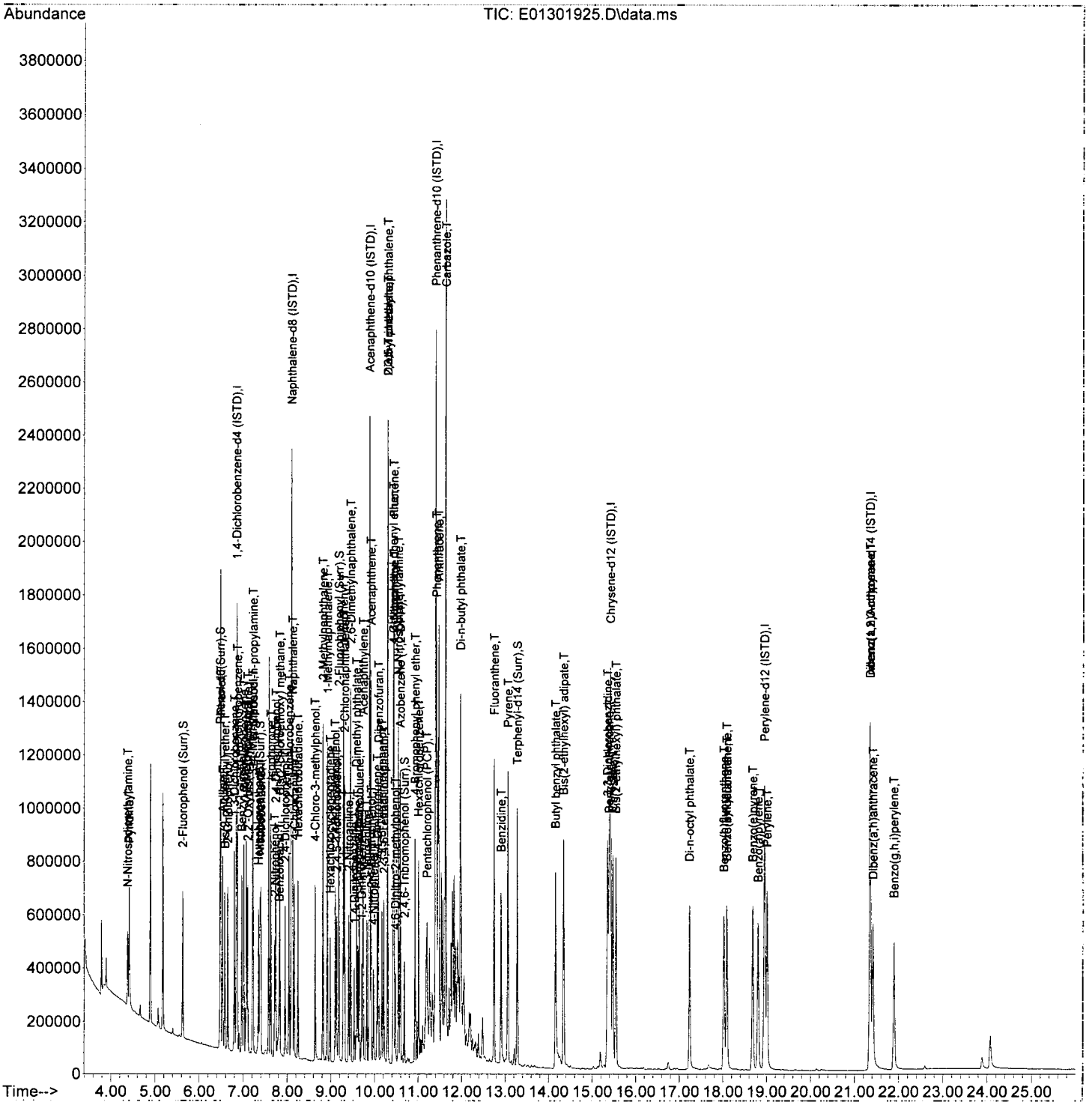
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) 2,6-Dimethylnaphthalene	9.447	156	338148	1069.02	ng/ml	97
44) 1,4-Dinitrobenzene	9.533	168	44630	1158.49	ng/ml	88
45) Dimethyl phthalate	9.581	163	380922	1121.50	ng/ml	99
46) 1,3-Dinitrobenzene	9.613	168	57201	1152.44	ng/ml	93
47) 2,6-Dinitrotoluene	9.645	165	84450	1134.19	ng/ml	86
48) 1,2-Dinitrobenzene	9.704	168	39174	1168.42	ng/ml#	72
49) Acenaphthylene	9.736	152	551004	1068.88	ng/ml	99
50) 3-Nitroaniline	9.821	138	96272	1119.89	ng/ml	97
51) Acenaphthene	9.912	153	361137	1033.18	ng/ml	100
52) 2,4-Dinitrophenol	9.923	184	21125	1090.03	ng/ml	87
53) 4-Nitrophenol	9.971	139	70280	1088.31	ng/ml	84
54) 2,4-Dinitrotoluene	10.057	165	108807	1137.24	ng/ml	93
55) Dibenzofuran	10.089	168	483823	1064.71	ng/ml	92
56) 2,3,5,6-Tetrachlorophenol	10.164	232	71138	1150.76	ng/ml	96
57) 2,3,4,6-Tetrachlorophenol	10.212	232	77430	1106.82	ng/ml	92
58) Diethyl phthalate	10.297	149	389146	1146.40	ng/ml	96
59) 2,3,5-Trimethylnaphtha...	10.297	170	309071	1096.15	ng/ml	97
60) Fluorene	10.436	166	402110	1105.14	ng/ml	100
61) 4-Chlorophenyl phenyl ...	10.426	204	173539	1077.17	ng/ml	92
62) 4-Nitroaniline	10.442	138	103597	1078.75	ng/ml	79
63) 4,6-Dinitro-2-methylph...	10.474	198	40799	1209.64	ng/ml	91
65) N-Nitrosodiphenylamine	10.543	169	335063	1073.65	ng/ml	97
66) Azobenzene (1,2-DPH)	10.586	77	474353	1112.48	ng/ml	99
68) 4-Bromophenyl phenyl e...	10.929	248	96780	1058.95	ng/ml	94
69) Hexachlorobenzene	11.009	284	96201	1046.39	ng/ml	96
70) Pentachlorophenol (PCP)	11.201	266	45098	999.56	ng/ml	97
71) Phenanthrene	11.421	178	562373	1037.20	ng/ml	99
72) Anthracene	11.474	178	575013	1033.61	ng/ml	99
73) Carbazole	11.629	167	522125	1002.38	ng/ml	99
74) Di-n-butyl phthalate	11.971	149	663326	1017.76	ng/ml	99
75) Fluoranthene	12.747	202	584676	1039.58	ng/ml	98
76) Benzidine	12.907	184	351382	2024.85	ng/ml	99
77) Pyrene	13.063	202	598814	1048.13	ng/ml	99
80) Butyl benzyl phthalate	14.159	149	275114	1055.06	ng/ml	96
81) Bis(2-ethylhexyl) adipate	14.341	129	254845	982.14	ng/ml	99
82) 3,3-Dichlorobenzidine	15.352	252	326783	2201.80	ng/ml	98
83) Benz(a)anthracene	15.389	228	531189	1056.36	ng/ml	98
84) Chrysene	15.475	228	493746	1030.71	ng/ml	99
85) Bis(2-ethylhexyl) phth...	15.544	149	376198	1009.54	ng/ml	96
87) Di-n-octyl phthalate	17.235	149	571095	1063.36	ng/ml	100
88) Benzo(b)fluoranthene	18.021	252	464912	1081.37	ng/ml	99
89) Benzo(k)fluoranthene	18.090	252	457480	1082.75	ng/ml	97
90) Benzo(b+k)fluoranthene	18.090	252	951323	2106.99	ng/ml	97
91) Benzo(e)pyrene	18.684	252	451868	1035.22	ng/ml	99
92) Benzo(a)pyrene	18.807	252	426958	1093.77	ng/ml	100
93) Perylene	19.010	252	475033	1064.74	ng/ml	99
95) Indeno(1,2,3-cd)pyrene	21.353	276	363284	995.26	ng/ml	96
96) Dibenz(a,h)anthracene	21.417	278	342915	1025.85	ng/ml	96
97) Benzo(g,h,i)perylene	21.893	276	378686	1053.78	ng/ml	86

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

Quantitation Report (Not Reviewed)

Data Path : C:\msdchem\1\DATA\2019-01\9A30046\
Data File : E01301925.D
Acq On : 31 Jan 2019 1:40 am
Operator : JK/ AMS /DTH
Sample : 9A30046-ICV1
Misc : 1x, A19A013@1000
ALS Vial : 13 Sample Multiplier: 1
DataAcq Meth:SV5_AQUISITION.M

Quant Time: Jan 31 12:00:55 2019
Quant Method : C:\msdchem\1\METHODS\SV5_013019.M
Quant Title : EPA 8270D: Semivolatile Organics
QLast Update : Thu Jan 31 10:44:49 2019
Response via : Initial Calibration
InstName : SV-GCMS5



Total Metals by EPA 6020 A (ICPMS)
Benchsheet & Analysis Sequence Data (including calibration)

Batch 9070523

Sequence 9G02057

APEX LABORATORIES

Ag (Silver) - 6020 - Total
Ag (Silver) - 200.8 - Total
Al (Aluminum) - 6020 - Total
As (Arsenic) - 6020 - Total
Ba (Barium) - 6020 - Total
Be (Beryllium) - 6020 - Total
Ca (Calcium) - 200.8 - Total
Cd (Cadmium) - 6020 - Total

PREPARATION BENCH SHEET

9070523

JUL 10 2019

7/05/19 Sample due on page 2 SB 07/02/19

Apex Laboratories

BATCH #: 9070523 (Water)

Prep Method: EPA 3015A

Lab Number	Due	Prepared	Initial (mL)	Final (mL)	Client	ClientID / Sample	Extraction Comments
9070523-BLK1	7/3/19 ---	07/01/19 14:41	45	50	*QC Sample*		
9070523-BS1	---	07/01/19 14:41	45	50	*QC Sample*		
	Spike 1: 500 uL of A19F268	Spike 2: 50 uL of A19E299					
A9F0860-02	*07/11/19*	07/01/19 14:41	45	50	Hahn and Associates	2708-190626-MULT802-10S	Total
☐ Ag (Silver) - 6020 - Total ☐ Al (Aluminum) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Be (Beryllium) - 6020 - Total ☐ Cd (Cadmium) - 6020 - Total ☐ Cr (Chromium) - 6020 - Total ☐ Cu (Copper) - 6020 - Total ☐ Fe (Iron) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Mn (Manganese) - 6020 - Total ☐ Ni (Nickel) - 6020 - Total ☐ Pb (Lead) - 6020 - Total ☐ Sb (Antimony) - 6020 - Total ☐ Se (Selenium) - 6020 - Total ☐ Tl (Thallium) - 6020 - Total ☐ V (Vanadium) - 6020 - Total ☐ Zn (Zinc) - 6020 - Total							
A9F0898-03	*07/11/19*	07/01/19 14:41	45	50	Contech Engineered Solutions, LI	ARX-A-3	
☐ Ca (Calcium) - 200.8 - Total ☐ Cu (Copper) - 200.8 - Total ☐ Mg (Magnesium) - 200.8 - Total ☐ Zn (Zinc) - 200.8 - Total							
A9F0898-10	*07/11/19*	07/01/19 14:41	45	50	Contech Engineered Solutions, LI	ARX-B-3	
☐ Ca (Calcium) - 200.8 - Total ☐ Cu (Copper) - 200.8 - Total ☐ Mg (Magnesium) - 200.8 - Total ☐ Zn (Zinc) - 200.8 - Total							
A9F0904-01	*07/11/19*	07/01/19 14:41	45	50	Cor Environmental	SP2	Added for BatchQC in: 9070523
☐ Cu (Copper) - 200.8 - Total Batch QC: ☐ Ag (Silver) - 6020 - Total ☐ Ag (Silver) - 200.8 - Total ☐ Al (Aluminum) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Be (Beryllium) - 6020 - Total ☐ Ca (Calcium) - 200.8 - Total ☐ Cd (Cadmium) - 6020 - Total ☐ Cd (Cadmium) - 200.8 - Total ☐ Cr (Chromium) - 6020 - Total ☐ Cr (Chromium) - 200.8 - Total ☐ Cu (Copper) - 6020 - Total ☐ Fe (Iron) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Mg (Magnesium) - 200.8 - Total ☐ Mn (Manganese) - 6020 - Total ☐ Ni (Nickel) - 6020 - Total ☐ Pb (Lead) - 6020 - Total ☐ Pb (Lead) - 200.8 - Total ☐ Sb (Antimony) - 6020 - Total ☐ Se (Selenium) - 6020 - Total ☐ Tl (Thallium) - 6020 - Total ☐ V (Vanadium) - 6020 - Total ☐ Zn (Zinc) - 6020 - Total ☐ Zn (Zinc) - 200.8 - Total							
9070523-DUP1	---	07/01/19 14:41	45	50	*QC Sample*		
	Source: A9F0904-01						
9070523-MS1	---	07/01/19 14:41	45	50	*QC Sample*		
	Source: A9F0904-01	Spike 1: 500 uL of A19F268		Spike 2: 50 uL of A19E299			
A9F0904-02	*07/11/19*	07/01/19 14:41	45	50	Cor Environmental	SP2 Inlet	
☐ Cu (Copper) - 200.8 - Total ☐ Zn (Zinc) - 200.8 - Total							
A9F0904-03	*07/11/19*	07/01/19 14:41	45	50	Cor Environmental	CB6	
☐ Cu (Copper) - 200.8 - Total ☐ Zn (Zinc) - 200.8 - Total							
A9F0904-04	*07/11/19*	07/01/19 14:41	45	50	Cor Environmental	CB30	
☐ Cu (Copper) - 200.8 - Total ☐ Zn (Zinc) - 200.8 - Total							
A9F0904-05	*07/11/19*	07/01/19 14:41	45	50	Cor Environmental	CB29	
☐ Cu (Copper) - 200.8 - Total ☐ Zn (Zinc) - 200.8 - Total							
A9F0909-01	*07/11/19*	07/01/19 14:41	45	50	PCC Structurals	ML-001	
☐ Zn (Zinc) - 200.8 - Total							

TEMP

CRL 7/1/19
Prepared By: Date

JS 07/03/19
Reviewed By: Date

APEX LABORATORIES

Apex Laboratories
BATCH #: 9070523 (Water)
Prep Method: EPA 3015A

Lab Number	Due	Prepared	Initial (mL)	Final (mL)	Client	ClientID / Sample	Extraction Comments
A9F0910-01	*07/11/19*	**07/01/19 14:41**	**45**	**50**	**PCC Structurals**	**ML-001**	
☐ Cu (Copper) - 200.8 - Total ☐ Pb (Lead) - 200.8 - Total ☐ Zn (Zinc) - 200.8 - Total							
A9G0008-01	*07/08/19*	**07/01/19 14:41**	**45**	**50**	**Sevenson Environmental Services**	**RD-070119-288**	MDL; 6020 Total Cu, Fe, Hg, Pb ug/L
☐ Cu (Copper) - 6020 - Total ☐ Fe (Iron) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Pb (Lead) - 6020 - Total							
A9G0016-01 5x	*07/05/19*	**07/01/19 14:41**	**45**	**50**	**Sapa-Main Plant-1 NE 21st**	**POC#2B**	Added for BatchQC in: 9070523 MDL, mg/L, - Ag, Cd, Cr, Cu, Pb, Zn 200.8 Total
☐ Ag (Silver) - 200.8 - Total ☐ Cd (Cadmium) - 200.8 - Total ☐ Cr (Chromium) - 200.8 - Total ☐ Cu (Copper) - 200.8 - Total ☐ Pb (Lead) - 200.8 - Total ☐ Zn (Zinc) - 200.8 - Total							
Batch QC:							
☐ Ag (Silver) - 6020 - Total ☐ Al (Aluminum) - 6020 - Total ☐ As (Arsenic) - 6020 - Total ☐ Ba (Barium) - 6020 - Total ☐ Be (Beryllium) - 6020 - Total ☐ Ca (Calcium) - 200.8 - Total ☐ Cd (Cadmium) - 6020 - Total							
☐ Cr (Chromium) - 6020 - Total ☐ Cu (Copper) - 6020 - Total ☐ Fe (Iron) - 6020 - Total ☐ Hg (Mercury) - 6020 - Total ☐ Mg (Magnesium) - 200.8 - Total ☐ Mn (Manganese) - 6020 - Total ☐ Ni (Nickel) - 6020 - Total							
☐ Pb (Lead) - 6020 - Total ☐ Sb (Antimony) - 6020 - Total ☐ Se (Selenium) - 6020 - Total ☐ Tl (Thallium) - 6020 - Total ☐ V (Vanadium) - 6020 - Total ☐ Zn (Zinc) - 6020 - Total							
9070523-MS2 5x	---	**07/01/19 14:41**	**45**	**50**	*QC Sample*		
Source: **A9G0016-01** Spike 1: **500 uL of A19F268** Spike 2: **50 uL of A19E299**							

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A13L213	11/30/23	Metals Prep Balance 2
A15E001	05/01/20	Mars-1 Microwave
A19F073	06/07/20	Conc. HNO3 - Omnitrace
A19F075	06/07/20	Conc. HCl - Omnitrace

Analyte Spike(s)

CRL 7/1/19

Std ID	Exp. Date	Description
A19E299	11/20/19	Hg Spiking Standard
A19F268	08/02/19	**Combo Spike** A+B+C

A) A19F265 - 250 µL CRL 7/1/19
B) A19F112 - 125 µL
C) A19F116 - 125 µL

Digestion time and temperature achieved? yes, I witnessed for 10 min.
Initials: CRL

CRL 7/1/19
Prepared By: Date

Reviewed By: Date

Batch #: 9070523

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: 07/01/19 Prepared by: CRL

#	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	W72	9070523-BLK1	209.64	209.63	n/a
2	W64	9070523-BS1	209.14	209.12	n/a
3	W18	A9F0860-02	208.77	208.74	n/a
4	W88	A9F0898-03	207.28	207.26	n/a
5	W111	A9F0898-10	208.98 CRL	208.96	n/a
6	W30	A9F0904-01	210.47	210.45	n/a
7	W93	9070523-DUP1	208.65	208.63	n/a
8	W59	9070523-MS1	207.44	207.43	n/a
9	W97	A9F0904-02	209.87	209.85	n/a
10	W46	A9F0904-03	206.02	206.01	n/a
11	W70	A9F0904-04	209.54	209.52	n/a
12	W99	A9F0904-05	206.32	206.29	n/a
13	W22	A9F0909-01	209.91	209.90	n/a
14	W16	A9F0910-01	211.38	211.37	n/a
15	W34	A9G0008-01	208.97	208.95	n/a
16	W27	A9G0016-01	210.93	210.92	n/a
17	W74	9070523-MS2	209.82	209.81	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: **9G02057** Instrument: **ICPMS5**

Date: **07/02/19 13:04** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9G02057-CAL1	Water	QC	QC			A19F327	A19F223
2	9G02057-CAL2	Water	QC	QC			A19F327	A19F224
3	9G02057-CAL3	Water	QC	QC			A19F327	A19F225
4	9G02057-CAL4	Water	QC	QC			A19F327	A19F226
5	9G02057-CAL5	Water	QC	QC			A19F327	A19F359
6	9G02057-CAL6	Water	QC	QC			A19F327	A19F227
7	9G02057-CAL7	Water	QC	QC			A19F327	A19F360
8	9G02057-CAL8	Water	QC	QC			A19F327	A19E307
9	9G02057-CAL9	Water	QC	QC			A19F327	A19F228
10	9G02057-ICV1	Water	QC	QC			A19F327	A19F305
11	9G02057-ICB1	Water	QC	QC			A19F327	
12	9G02057-CRL1	Water	QC	QC			A19F327	A19F223
13	9G02057-CRL2	Water	QC	QC			A19F327	A19F224
14	9G02057-CRL3	Water	QC	QC			A19F327	A19F225
15	9G02057-IFA1	Water	QC	QC			A19F327	A19G007
16	9G02057-IFB1	Water	QC	QC			A19F327	A19G008
17	9070557-BLK1	Soil	QC	QC		9070557	A19F327	
18	9070557-BS1	Soil	QC	QC		9070557	A19F327	
19	A9G0010-01	Soil	Ag (Silver) - 6020 - Total		07/12/19	9070557	A19F327	
20	"	Soil	As (Arsenic) - 6020 - Total	"	07/12/19	9070557	A19F327	
21	"	Soil	Ba (Barium) - 6020 - Total	"	07/12/19	9070557	A19F327	
22	"	Soil	Cd (Cadmium) - 6020 - Total	"	07/12/19	9070557	A19F327	
23	"	Soil	Cr (Chromium) - 6020 - Total	"	07/12/19	9070557	A19F327	
24	"	Soil	Hg (Mercury) - 6020 - Total	"	07/12/19	9070557	A19F327	
25	"	Soil	Pb (Lead) - 6020 - Total	"	07/12/19	9070557	A19F327	
26	"	Soil	Se (Selenium) - 6020 - Total	"	07/12/19	9070557	A19F327	
27	A9G0038-05	Soil	Ag (Silver) - 6020 - Total		07/09/19	9070557	A19F327	
28	"	Soil	As (Arsenic) - 6020 - Total	"	07/09/19	9070557	A19F327	
29	"	Soil	Ba (Barium) - 6020 - Total	"	07/09/19	9070557	A19F327	
30	"	Soil	Cd (Cadmium) - 6020 - Total	"	07/09/19	9070557	A19F327	
31	"	Soil	Cr (Chromium) - 6020 - Total	"	07/09/19	9070557	A19F327	
32	"	Soil	Hg (Mercury) - 6020 - Total	"	07/09/19	9070557	A19F327	
33	"	Soil	Pb (Lead) - 6020 - Total	"	07/09/19	9070557	A19F327	
34	"	Soil	Se (Selenium) - 6020 - Total	"	07/09/19	9070557	A19F327	
35	A9G0038-10	Soil	Ag (Silver) - 6020 - Total		07/09/19	9070557	A19F327	
36	"	Soil	As (Arsenic) - 6020 - Total	"	07/09/19	9070557	A19F327	
37	"	Soil	Ba (Barium) - 6020 - Total	"	07/09/19	9070557	A19F327	
38	"	Soil	Cd (Cadmium) - 6020 - Total	"	07/09/19	9070557	A19F327	
39	"	Soil	Cr (Chromium) - 6020 - Total	"	07/09/19	9070557	A19F327	
40	"	Soil	Hg (Mercury) - 6020 - Total	"	07/09/19	9070557	A19F327	
41	"	Soil	Pb (Lead) - 6020 - Total	"	07/09/19	9070557	A19F327	
42	"	Soil	Se (Selenium) - 6020 - Total	"	07/09/19	9070557	A19F327	
43	A9G0038-12	Soil	Ag (Silver) - 6020 - Total		07/09/19	9070557	A19F327	
44	"	Soil	As (Arsenic) - 6020 - Total	"	07/09/19	9070557	A19F327	
45	"	Soil	Ba (Barium) - 6020 - Total	"	07/09/19	9070557	A19F327	
46	"	Soil	Cd (Cadmium) - 6020 - Total	"	07/09/19	9070557	A19F327	
47	"	Soil	Cr (Chromium) - 6020 - Total	"	07/09/19	9070557	A19F327	
48	"	Soil	Hg (Mercury) - 6020 - Total	"	07/09/19	9070557	A19F327	
49	"	Soil	Pb (Lead) - 6020 - Total	"	07/09/19	9070557	A19F327	
50	"	Soil	Se (Selenium) - 6020 - Total	"	07/09/19	9070557	A19F327	
51	9070557-DUP1	Soil	QC	QC		9070557	A19F327	

Sequence: **9G02057** Instrument: **ICPMS5**

Date: **07/02/19 13:04** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
52	9070557-MS1	Soil	QC	QC		9070557	A19F327	
53	A9G0038-14	Soil	Ag (Silver) - 6020 - Total		07/09/19	9070557	A19F327	
54	"	Soil	As (Arsenic) - 6020 - Total	"	07/09/19	9070557	A19F327	
55	"	Soil	Ba (Barium) - 6020 - Total	"	07/09/19	9070557	A19F327	
56	"	Soil	Cd (Cadmium) - 6020 - Total	"	07/09/19	9070557	A19F327	
57	"	Soil	Cr (Chromium) - 6020 - Total	"	07/09/19	9070557	A19F327	
58	"	Soil	Hg (Mercury) - 6020 - Total	"	07/09/19	9070557	A19F327	
59	"	Soil	Pb (Lead) - 6020 - Total	"	07/09/19	9070557	A19F327	
60	"	Soil	Se (Selenium) - 6020 - Total	"	07/09/19	9070557	A19F327	
61	9G02057-CCV1	Water	QC	QC			A19F327	A19F305
62	9G02057-CCB1	Water	QC	QC			A19F327	
63	A9G0042-03	Soil	Pb (Lead) - 6020 - Total		07/05/19	9070557	A19F327	
64	A9G0060-01	Soil	Ag (Silver) - 6020 - Total		07/03/19	9070557	A19F327	
65	"	Soil	As (Arsenic) - 6020 - Total	"	07/03/19	9070557	A19F327	
66	"	Soil	Ba (Barium) - 6020 - Total	"	07/03/19	9070557	A19F327	
67	"	Soil	Cd (Cadmium) - 6020 - Total	"	07/03/19	9070557	A19F327	
68	"	Soil	Cr (Chromium) - 6020 - Total	"	07/03/19	9070557	A19F327	
69	"	Soil	Hg (Mercury) - 6020 - Total	"	07/03/19	9070557	A19F327	
70	"	Soil	Pb (Lead) - 6020 - Total	"	07/03/19	9070557	A19F327	
71	"	Soil	Se (Selenium) - 6020 - Total	"	07/03/19	9070557	A19F327	
72	9070557-MSD1	Soil	QC	QC		9070557	A19F327	
73	A9F0802-01RE2	Solid	Ag (Silver) - 6020 - Total		07/10/19	9070519	A19F327	
74	"	Solid	Cd (Cadmium) - 6020 - Total	"	07/10/19	9070519	A19F327	
75	A9F0937-01RE1	Soil	Pb (Lead) - 6020 - Total		07/05/19	9070485	A19F327	
76	A9F0937-24RE1	Soil	Pb (Lead) - 6020 - Total		07/05/19	9070506	A19F327	
77	9070541-BLK1	Water	QC	QC		9070541	A19F327	
78	9070541-BS1	Water	QC	QC		9070541	A19F327	
79	A9F0865-01	Water	Cu (Copper) - 200.8 - Dissolved		07/11/19	9070541	A19F327	
80	"	Water	Pb (Lead) - 200.8 - Dissolved	"	07/11/19	9070541	A19F327	
81	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	07/11/19	9070541	A19F327	
82	9070541-DUP1	Water	QC	QC		9070541	A19F327	
83	9G02057-CCV2	Water	QC	QC			A19F327	A19F305
84	9G02057-CCB2	Water	QC	QC			A19F327	
85	9070541-MS1	Water	QC	QC		9070541	A19F327	
86	A9F0898-04	Water	Cu (Copper) - 200.8 - Dissolved		07/11/19	9070541	A19F327	
87	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	07/11/19	9070541	A19F327	
88	A9F0898-11	Water	Cu (Copper) - 200.8 - Dissolved		07/11/19	9070541	A19F327	
89	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	07/11/19	9070541	A19F327	
90	A9F0935-04	Water	Cu (Copper) - 200.8 - Dissolved		07/12/19	9070541	A19F327	
91	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	07/12/19	9070541	A19F327	
92	A9F0935-10	Water	Cu (Copper) - 200.8 - Dissolved		07/12/19	9070541	A19F327	
93	"	Water	Zn (Zinc) - 200.8 - Dissolved	"	07/12/19	9070541	A19F327	
94	9070550-BLK1	Solid	QC	QC		9070550	A19F327	
95	9070550-BS1	Solid	QC	QC		9070550	A19F327	
96	A9F0079-07	Solid	Ag (Silver) - 6020 - TCLP	(QC Source)		9070550	A19F327	
97	"	Solid	As (Arsenic) - 6020 - TCLP	(QC Source)		9070550	A19F327	
98	"	Solid	Ba (Barium) - 6020 - TCLP	(QC Source)		9070550	A19F327	
99	"	Solid	Cd (Cadmium) - 6020 - TCLP	(QC Source)		9070550	A19F327	
100	"	Solid	Cr (Chromium) - 6020 - TCLP	(QC Source)		9070550	A19F327	
101	"	Solid	Hg (Mercury) - 6020 - TCLP	(QC Source)		9070550	A19F327	
102	"	Solid	Pb (Lead) - 6020 - TCLP	"	07/05/19	9070550	A19F327	
103	"	Solid	Se (Selenium) - 6020 - TCLP	(QC Source)		9070550	A19F327	
104	9070550-MS1	Solid	QC	QC		9070550	A19F327	
105	A9F0777-02	Solid	Ag (Silver) - 6020 - TCLP		07/08/19	9070550	A19F327	
106	"	Solid	As (Arsenic) - 6020 - TCLP	"	07/08/19	9070550	A19F327	

Sequence: **9G02057** Instrument: **ICPMS5**

Date: **07/02/19 13:04** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
107	"	Solid	Ba (Barium) - 6020 - TCLP	"	07/08/19	9070550	A19F327	
108	"	Solid	Cd (Cadmium) - 6020 - TCLP	"	07/08/19	9070550	A19F327	
109	"	Solid	Cr (Chromium) - 6020 - TCLP	"	07/08/19	9070550	A19F327	
110	"	Solid	Hg (Mercury) - 6020 - TCLP	"	07/08/19	9070550	A19F327	
111	"	Solid	Pb (Lead) - 6020 - TCLP	"	07/08/19	9070550	A19F327	
112	"	Solid	Se (Selenium) - 6020 - TCLP	"	07/08/19	9070550	A19F327	
113	9G02057-CCV3	Water	QC	QC			A19F327	A19F305
114	9G02057-CCB3	Water	QC	QC			A19F327	
115	9070550-MS2	Solid	QC	QC		9070550	A19F327	
116	9061490-BLK1	Water	QC	QC		9061490	A19F327	
117	9061490-BSD1	Water	QC	QC		9061490	A19F327	
118	9061490-BS1	Water	QC	QC		9061490	A19F327	
119	A9F0704-01	Water	As (Arsenic) - 200.8 - Dissolved		07/05/19	9061490	A19F327	
120	"	Water	Fe (Iron) - 200.8 - Dissolved	"	07/05/19	9061490	A19F327	
121	"	Water	Mn (Manganese) - 200.8 - Dissolved	"	07/05/19	9061490	A19F327	
122	9061510-BLK1	Water	QC	QC		9061510	A19F327	
123	9061510-BS1	Water	QC	QC		9061510	A19F327	
124	A9F0903-01	Water	Pb (Lead) - 200.8 - Dissolved		07/05/19	9061510	A19F327	
125	A9F0903-02	Water	Pb (Lead) - 200.8 - Dissolved		07/05/19	9061510	A19F327	
126	9061510-DUP1	Water	QC	QC		9061510	A19F327	
127	9G02057-CCV4	Water	QC	QC			A19F327	A19F305
128	9G02057-CCB4	Water	QC	QC			A19F327	
129	9G02057-CRL4	Water	QC	QC			A19F327	A19F223
130	9G02057-CRL5	Water	QC	QC			A19F327	A19F224
131	9G02057-CRL6	Water	QC	QC			A19F327	A19F225
132	9G02057-CRL7	Water	QC	QC			A19F327	A19F226
133	A9F0903-03	Water	Pb (Lead) - 200.8 - Dissolved		07/05/19	9061510	A19F327	
134	9061510-MS1	Water	QC	QC		9061510	A19F327	
135	9070540-BLK1	Water	QC	QC		9070540	A19F327	
136	9070540-BS1	Water	QC	QC		9070540	A19F327	
137	A9G0024-01	Water	As (Arsenic) - 6020 - Total		07/03/19	9070540	A19F327	
138	"	Water	Pb (Lead) - 6020 - Total	(QC Source)		9070540	A19F327	
139	9070540-DUP1	Water	QC	QC		9070540	A19F327	
140	9070540-MS1	Water	QC	QC		9070540	A19F327	
141	A9G0042-10	Water	Pb (Lead) - 6020 - Total		07/05/19	9070540	A19F327	
142	A9G0042-11	Water	Pb (Lead) - 6020 - Total		07/05/19	9070540	A19F327	
143	9G02057-CCV5	Water	QC	QC			A19F327	A19F305
144	9G02057-CCB5	Water	QC	QC			A19F327	
145	9070523-BLK1	Water	QC	QC		9070523	A19F327	
146	9070523-BS1	Water	QC	QC		9070523	A19F327	
147	A9F0860-02	Water	Ag (Silver) - 6020 - Total	Hahn and Associates	07/11/19	9070523	A19F327	
148	"	Water	Al (Aluminum) - 6020 - Total	"	07/11/19	9070523	A19F327	
149	"	Water	As (Arsenic) - 6020 - Total	"	07/11/19	9070523	A19F327	
150	"	Water	Ba (Barium) - 6020 - Total	"	07/11/19	9070523	A19F327	
151	"	Water	Be (Beryllium) - 6020 - Total	"	07/11/19	9070523	A19F327	
152	"	Water	Cd (Cadmium) - 6020 - Total	"	07/11/19	9070523	A19F327	
153	"	Water	Cr (Chromium) - 6020 - Total	"	07/11/19	9070523	A19F327	
154	"	Water	Cu (Copper) - 6020 - Total	"	07/11/19	9070523	A19F327	
155	"	Water	Fe (Iron) - 6020 - Total	"	07/11/19	9070523	A19F327	
156	"	Water	Hg (Mercury) - 6020 - Total	"	07/11/19	9070523	A19F327	
157	"	Water	Mn (Manganese) - 6020 - Total	"	07/11/19	9070523	A19F327	
158	"	Water	Ni (Nickel) - 6020 - Total	"	07/11/19	9070523	A19F327	
159	"	Water	Pb (Lead) - 6020 - Total	"	07/11/19	9070523	A19F327	
160	"	Water	Sb (Antimony) - 6020 - Total	"	07/11/19	9070523	A19F327	
161	"	Water	Se (Selenium) - 6020 - Total	"	07/11/19	9070523	A19F327	

Sequence: **9G02057** Instrument: **ICPMS5**

Date: **07/02/19 13:04** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
162	"	Water	Tl (Thallium) - 6020 - Total	"	07/11/19	9070523	A19F327	
163	"	Water	V (Vanadium) - 6020 - Total	"	07/11/19	9070523	A19F327	
164	"	Water	Zn (Zinc) - 6020 - Total	"	07/11/19	9070523	A19F327	
165	A9F0898-03	Water	Ca (Calcium) - 200.8 - Total		07/11/19	9070523	A19F327	
166	"	Water	Cu (Copper) - 200.8 - Total	"	07/11/19	9070523	A19F327	
167	"	Water	Mg (Magnesium) - 200.8 - Total	"	07/11/19	9070523	A19F327	
168	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070523	A19F327	
169	A9F0898-10	Water	Ca (Calcium) - 200.8 - Total		07/11/19	9070523	A19F327	
170	"	Water	Cu (Copper) - 200.8 - Total	"	07/11/19	9070523	A19F327	
171	"	Water	Mg (Magnesium) - 200.8 - Total	"	07/11/19	9070523	A19F327	
172	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070523	A19F327	
173	A9F0904-01	Water	Ag (Silver) - 6020 - Total	(QC Source)		9070523	A19F327	
174	"	Water	Ag (Silver) - 200.8 - Total	(QC Source)		9070523	A19F327	
175	"	Water	Al (Aluminum) - 6020 - Total	(QC Source)		9070523	A19F327	
176	"	Water	As (Arsenic) - 6020 - Total	(QC Source)		9070523	A19F327	
177	"	Water	Ba (Barium) - 6020 - Total	(QC Source)		9070523	A19F327	
178	"	Water	Be (Beryllium) - 6020 - Total	(QC Source)		9070523	A19F327	
179	"	Water	Ca (Calcium) - 200.8 - Total	(QC Source)		9070523	A19F327	
180	"	Water	Cd (Cadmium) - 6020 - Total	(QC Source)		9070523	A19F327	
181	"	Water	Cd (Cadmium) - 200.8 - Total	(QC Source)		9070523	A19F327	
182	"	Water	Cr (Chromium) - 6020 - Total	(QC Source)		9070523	A19F327	
183	"	Water	Cr (Chromium) - 200.8 - Total	(QC Source)		9070523	A19F327	
184	"	Water	Cu (Copper) - 6020 - Total	(QC Source)		9070523	A19F327	
185	"	Water	Cu (Copper) - 200.8 - Total	"	07/11/19	9070523	A19F327	
186	"	Water	Fe (Iron) - 6020 - Total	(QC Source)		9070523	A19F327	
187	"	Water	Hg (Mercury) - 6020 - Total	(QC Source)		9070523	A19F327	
188	"	Water	Mg (Magnesium) - 200.8 - Total	(QC Source)		9070523	A19F327	
189	"	Water	Mn (Manganese) - 6020 - Total	(QC Source)		9070523	A19F327	
190	"	Water	Ni (Nickel) - 6020 - Total	(QC Source)		9070523	A19F327	
191	"	Water	Pb (Lead) - 6020 - Total	(QC Source)		9070523	A19F327	
192	"	Water	Pb (Lead) - 200.8 - Total	(QC Source)		9070523	A19F327	
193	"	Water	Sb (Antimony) - 6020 - Total	(QC Source)		9070523	A19F327	
194	"	Water	Se (Selenium) - 6020 - Total	(QC Source)		9070523	A19F327	
195	"	Water	Tl (Thallium) - 6020 - Total	(QC Source)		9070523	A19F327	
196	"	Water	V (Vanadium) - 6020 - Total	(QC Source)		9070523	A19F327	
197	"	Water	Zn (Zinc) - 6020 - Total	(QC Source)		9070523	A19F327	
198	"	Water	Zn (Zinc) - 200.8 - Total	(QC Source)		9070523	A19F327	
199	9070523-DUP1	Water	QC	QC		9070523	A19F327	
200	9070523-MS1	Water	QC	QC		9070523	A19F327	
201	A9F0904-02	Water	Cu (Copper) - 200.8 - Total		07/11/19	9070523	A19F327	
202	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070523	A19F327	
203	A9F0904-03	Water	Cu (Copper) - 200.8 - Total		07/11/19	9070523	A19F327	
204	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070523	A19F327	
205	9G02057-CCV6	Water	QC	QC			A19F327	A19F305
206	9G02057-CCB6	Water	QC	QC			A19F327	
207	A9F0904-04	Water	Cu (Copper) - 200.8 - Total		07/11/19	9070523	A19F327	
208	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070523	A19F327	
209	A9F0904-05	Water	Cu (Copper) - 200.8 - Total		07/11/19	9070523	A19F327	
210	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070523	A19F327	
211	A9F0909-01	Water	Zn (Zinc) - 200.8 - Total		07/11/19	9070523	A19F327	
212	A9F0910-01	Water	Cu (Copper) - 200.8 - Total		07/11/19	9070523	A19F327	
213	"	Water	Pb (Lead) - 200.8 - Total	"	07/11/19	9070523	A19F327	
214	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070523	A19F327	
215	A9G0008-01	Water	Cu (Copper) - 6020 - Total		07/08/19	9070523	A19F327	
216	"	Water	Fe (Iron) - 6020 - Total	"	07/08/19	9070523	A19F327	

Sequence: **9G02057** Instrument: **ICPMS5**

Date: **07/02/19 13:04** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
217	"	Water	Hg (Mercury) - 6020 - Total	"	07/08/19	9070523	A19F327	
218	"	Water	Pb (Lead) - 6020 - Total	"	07/08/19	9070523	A19F327	
219	A9G0016-01	Water	Ag (Silver) - 6020 - Total	(QC Source)		9070523	A19F327	
220	"	Water	Ag (Silver) - 200.8 - Total	"	07/05/19	9070523	A19F327	
221	"	Water	Al (Aluminum) - 6020 - Total	(QC Source)		9070523	A19F327	
222	"	Water	As (Arsenic) - 6020 - Total	(QC Source)		9070523	A19F327	
223	"	Water	Ba (Barium) - 6020 - Total	(QC Source)		9070523	A19F327	
224	"	Water	Be (Beryllium) - 6020 - Total	(QC Source)		9070523	A19F327	
225	"	Water	Ca (Calcium) - 200.8 - Total	(QC Source)		9070523	A19F327	
226	"	Water	Cd (Cadmium) - 6020 - Total	(QC Source)		9070523	A19F327	
227	"	Water	Cd (Cadmium) - 200.8 - Total	"	07/05/19	9070523	A19F327	
228	"	Water	Cr (Chromium) - 6020 - Total	(QC Source)		9070523	A19F327	
229	"	Water	Cr (Chromium) - 200.8 - Total	"	07/05/19	9070523	A19F327	
230	"	Water	Cu (Copper) - 6020 - Total	(QC Source)		9070523	A19F327	
231	"	Water	Cu (Copper) - 200.8 - Total	"	07/05/19	9070523	A19F327	
232	"	Water	Fe (Iron) - 6020 - Total	(QC Source)		9070523	A19F327	
233	"	Water	Hg (Mercury) - 6020 - Total	(QC Source)		9070523	A19F327	
234	"	Water	Mg (Magnesium) - 200.8 - Total	(QC Source)		9070523	A19F327	
235	"	Water	Mn (Manganese) - 6020 - Total	(QC Source)		9070523	A19F327	
236	"	Water	Ni (Nickel) - 6020 - Total	(QC Source)		9070523	A19F327	
237	"	Water	Pb (Lead) - 6020 - Total	(QC Source)		9070523	A19F327	
238	"	Water	Pb (Lead) - 200.8 - Total	"	07/05/19	9070523	A19F327	
239	"	Water	Sb (Antimony) - 6020 - Total	(QC Source)		9070523	A19F327	
240	"	Water	Se (Selenium) - 6020 - Total	(QC Source)		9070523	A19F327	
241	"	Water	Tl (Thallium) - 6020 - Total	(QC Source)		9070523	A19F327	
242	"	Water	V (Vanadium) - 6020 - Total	(QC Source)		9070523	A19F327	
243	"	Water	Zn (Zinc) - 6020 - Total	(QC Source)		9070523	A19F327	
244	"	Water	Zn (Zinc) - 200.8 - Total	"	07/05/19	9070523	A19F327	
245	9070523-MS2	Water	QC	QC		9070523	A19F327	
246	9070487-BLK1	Water	QC	QC		9070487	A19F327	
247	9070487-BS1	Water	QC	QC		9070487	A19F327	
248	A9F0854-01	Water	As (Arsenic) - 200.8 - Total		07/11/19	9070487	A19F327	
249	"	Water	Cu (Copper) - 200.8 - Total	"	07/11/19	9070487	A19F327	
250	"	Water	Fe (Iron) - 200.8 - Total	"	07/11/19	9070487	A19F327	
251	"	Water	Pb (Lead) - 200.8 - Total	"	07/11/19	9070487	A19F327	
252	"	Water	Tl (Thallium) - 200.8 - Total	"	07/11/19	9070487	A19F327	
253	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070487	A19F327	
254	9G02057-CCV7	Water	QC	QC			A19F327	A19F305
255	9G02057-CCV8	Water	QC	QC			A19F327	A19F305
256	9G02057-CCB7	Water	QC	QC			A19F327	
257	A9F0865-01	Water	As (Arsenic) - 200.8 - Total		07/11/19	9070487	A19F327	
258	"	Water	Cu (Copper) - 200.8 - Total	"	07/11/19	9070487	A19F327	
259	"	Water	Fe (Iron) - 200.8 - Total	"	07/11/19	9070487	A19F327	
260	"	Water	Pb (Lead) - 200.8 - Total	"	07/11/19	9070487	A19F327	
261	"	Water	Tl (Thallium) - 200.8 - Total	"	07/11/19	9070487	A19F327	
262	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070487	A19F327	
263	A9F0865-02	Water	Cu (Copper) - 200.8 - Total		07/11/19	9070487	A19F327	
264	"	Water	Pb (Lead) - 200.8 - Total	"	07/11/19	9070487	A19F327	
265	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070487	A19F327	
266	A9F0866-01	Water	As (Arsenic) - 200.8 - Total	(QC Source)		9070487	A19F327	
267	"	Water	Ca (Calcium) - 200.8 - Total	"	07/11/19	9070487	A19F327	
268	"	Water	Co (Cobalt) - 200.8 - Total	(QC Source)		9070487	A19F327	
269	"	Water	Cr (Chromium) - 200.8 - Total	(QC Source)		9070487	A19F327	
270	"	Water	Cu (Copper) - 200.8 - Total	"	07/11/19	9070487	A19F327	
271	"	Water	Fe (Iron) - 200.8 - Total	(QC Source)		9070487	A19F327	

Sequence: **9G02057** Instrument: **ICPMS5**

Date: **07/02/19 13:04** Calibration: **UNASSIGNED**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
272	"	Water	Mg (Magnesium) - 200.8 - Total	"	07/11/19	9070487	A19F327	
273	"	Water	Mo (Molybdenum) - 200.8 - Total	(QC Source)		9070487	A19F327	
274	"	Water	Ni (Nickel) - 200.8 - Total	(QC Source)		9070487	A19F327	
275	"	Water	Pb (Lead) - 200.8 - Total	"	07/11/19	9070487	A19F327	
276	"	Water	Tl (Thallium) - 200.8 - Total	(QC Source)		9070487	A19F327	
277	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070487	A19F327	
278	9070487-DUP1	Water	QC	QC		9070487	A19F327	
279	9070487-MS1	Water	QC	QC		9070487	A19F327	
280	A9F0869-01	Water	Cu (Copper) - 200.8 - Total		07/11/19	9070487	A19F327	
281	"	Water	Fe (Iron) - 200.8 - Total	"	07/11/19	9070487	A19F327	
282	"	Water	Pb (Lead) - 200.8 - Total	"	07/11/19	9070487	A19F327	
283	"	Water	Zn (Zinc) - 200.8 - Total	"	07/11/19	9070487	A19F327	
284	A9F0892-01	Water	Co (Cobalt) - 200.8 - Total		07/05/19	9070487	A19F327	
285	"	Water	Cr (Chromium) - 200.8 - Total	"	07/05/19	9070487	A19F327	
286	"	Water	Cu (Copper) - 200.8 - Total	"	07/05/19	9070487	A19F327	
287	"	Water	Mo (Molybdenum) - 200.8 - Total	"	07/05/19	9070487	A19F327	
288	"	Water	Ni (Nickel) - 200.8 - Total	"	07/05/19	9070487	A19F327	
289	"	Water	Pb (Lead) - 200.8 - Total	"	07/05/19	9070487	A19F327	
290	"	Water	Zn (Zinc) - 200.8 - Total	"	07/05/19	9070487	A19F327	
291	A9F0920-01	Water	Zn (Zinc) - 200.8 - Total		07/05/19	9070487	A19F327	
292	A9F0936-01	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
293	A9F0936-02	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
294	9G02057-CCV9	Water	QC	QC			A19F327	A19F305
295	9G02057-CCB8	Water	QC	QC			A19F327	
296	9G02057-CCB9	Water	QC	QC			A19F327	
297	A9F0936-03	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
298	A9F0936-04	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
299	A9F0936-05	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
300	A9F0936-06	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
301	A9F0936-07	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
302	A9F0936-08	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
303	A9F0936-09	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
304	A9F0936-10	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
305	A9F0936-11	Water	Pb (Lead) - 200.8 - Total		07/05/19	9070487	A19F327	
306	A9F0936-12	Water	As (Arsenic) - 200.8 - Total	(QC Source)		9070487	A19F327	
307	"	Water	Ca (Calcium) - 200.8 - Total	(QC Source)		9070487	A19F327	
308	"	Water	Co (Cobalt) - 200.8 - Total	(QC Source)		9070487	A19F327	
309	"	Water	Cr (Chromium) - 200.8 - Total	(QC Source)		9070487	A19F327	
310	"	Water	Cu (Copper) - 200.8 - Total	(QC Source)		9070487	A19F327	
311	"	Water	Fe (Iron) - 200.8 - Total	(QC Source)		9070487	A19F327	
312	"	Water	Mg (Magnesium) - 200.8 - Total	(QC Source)		9070487	A19F327	
313	"	Water	Mo (Molybdenum) - 200.8 - Total	(QC Source)		9070487	A19F327	
314	"	Water	Ni (Nickel) - 200.8 - Total	(QC Source)		9070487	A19F327	
315	"	Water	Pb (Lead) - 200.8 - Total	"	07/05/19	9070487	A19F327	
316	"	Water	Tl (Thallium) - 200.8 - Total	(QC Source)		9070487	A19F327	
317	"	Water	Zn (Zinc) - 200.8 - Total	(QC Source)		9070487	A19F327	
318	9G02057-CCVA	Water	QC	QC			A19F327	A19F305
319	9G02057-CCBA	Water	QC	QC			A19F327	
320	9070487-MS2	Water	QC	QC		9070487	A19F327	
321	9G02057-CCVB	Water	QC	QC			A19F327	A19F305
322	9G02057-CCBB	Water	QC	QC			A19F327	
323	9G02057-CCBC	Water	QC	QC			A19F327	
324	9G02057-CRL8	Water	QC	QC			A19F327	A19F223
325	9G02057-CRL9	Water	QC	QC			A19F327	A19F224
326	9G02057-CRLA	Water	QC	QC			A19F327	A19F225

Sequence:	9G02057	Instrument:	ICPMS5
Date:	07/02/19 13:04	Calibration:	UNASSIGNED

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
327	9G02057-CRLB	Water	QC	QC			A19F327	A19F226

Data Entered By: 07/03/19

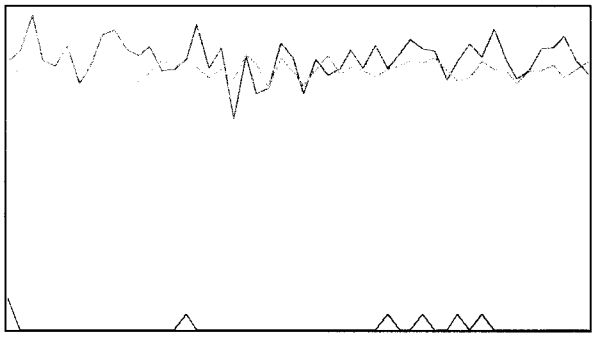
Comments:

Data Reviewed By: 07/03/19

Tune Report

Batch Folder	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq. Date-Time	7/2/2019 18:56
Report Comment	9G02057A General Multi-mode Tune Report A19E047
Instrument Name	7700x JP09240003

[H2]



Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59	500	421	4211.60	1000.00	
89	2000	1617	16168.72	1000.00	
78	20	0			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
78		-	

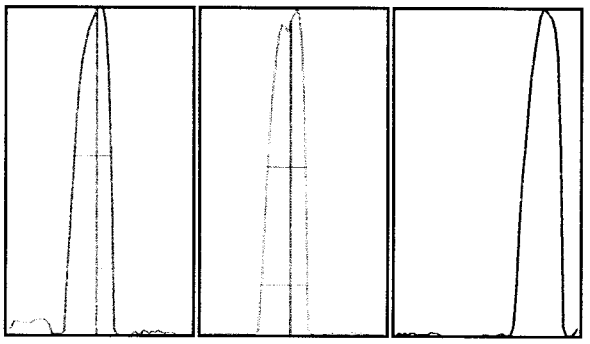
Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	6.92	5.00	[F]
89	2.98	5.00	
78	288.98		

See EMA tune for RSD
07/02/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
78			

Integration Time [sec]	0.1	**Sampling Period [sec]**	0.306

Tune Report



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-10% (Actual)	W-10% (Required)	W-10% (Flag)
59	430.57	59.00	58.9 - 59.1		0.57	0.730	0.900	
89	1593.06	89.00	88.9 - 89.1		0.60	0.733	0.900	
78			-					

Integration Time [sec] 0.1 **Acquisition Time [sec]** 22.14 **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	1.15 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-20 V
Extract 2	-170.0 V	Cell Exit	-40 V
Omega Bias	-105 V	Deflect	1.5 V
Omega Lens	7.2 V	Plate Bias	-70 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	0.0 mL/min	OctP RF	170 V
H2 Flow	3.1 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	500	381	3810.81	1000.00	
89	500	416	4158.90	1000.00	
205	1000	664	6640.39	1000.00	
75	20	1			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	

Tune Report

89		-
205		-
75		-

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	6.75	5.00	[F]
89	5.82	5.00	[F]
205	4.29	5.00	
75	112.93		

See EPA tune for RSD
B07/02/19

Mass	Background (Actual)	Background (Required)	Background (Flag)
59			
89			
205			
75			

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.412

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-10% (Actual)	W-10% (Required)	W-10% (Flag)
59	398.56	59.00	58.9 - 59.1		0.59	0.732	0.900	
89	423.32	89.00	88.9 - 89.1		0.58	0.728	0.900	
205	703.93	205.05	204.9 - 205.1		0.53	0.744	0.900	
75	2.00	74.80	-		0.05	0.090		

Integration Time [sec] 0.1 **Acquisition Time [sec]** 29.92 **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	1.15 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-20 V
Extract 2	-170.0 V	Cell Exit	-40 V
Omega Bias	-105 V	Deflect	-0.2 V
Omega Lens	7.2 V	Plate Bias	-70 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	3.4 mL/min	OctP RF	170 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

[NoGas]

Tune Report

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
7	2000	1030	10304.65	1000.00	
89	5000	2153	21534.53	1000.00	
205	2000	1577	15773.62	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	3.96	5.00	
89	2.94	5.00	
205	3.44	5.00	
102	707.11		

Mass	Background (Actual)	Background (Required)	Background (Flag)
7	0.60	10	
89	0.60	10	
205	1.90	30	
102	0.50		

Ratio (oxide) 156/140 1.648 %
Ratio (2+) 69/138 2.421 %

Integration Time [sec] 0.1 **Sampling Period [sec]** 0.413

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-10% (Actual)	W-10% (Required)	W-10% (Flag)
7	1004.31	7.05	6.9 - 7.1		0.64	0.784	0.900	
89	2178.19	89.00	88.9 - 89.1		0.61	0.736	0.900	
205	1627.41	205.00	204.9 - 205.1		0.56	0.750	0.900	
102			-					

Integration Time [sec] 0.1 **Acquisition Time [sec]** 30.12 **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	1.15 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-20 V

Tune Report

Extract 2	-170.0 V	Cell Exit	-40 V
Omega Bias	-105 V	Deflect	12.5 V
Omega Lens	7.2 V	Plate Bias	-70 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V
He Flow	0.0 mL/min	OctP RF	170 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\9G02057A.b
Acq. Date-Time	7/2/2019 19:06
Report Comment	9G02057A EPA Multi-mode Tune Report A19E047
Instrument Name	7700x JP09240003

[H2]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)
59		2466	24660.61	1000.00	
89		9770	97696.93	1000.00	
78		18			

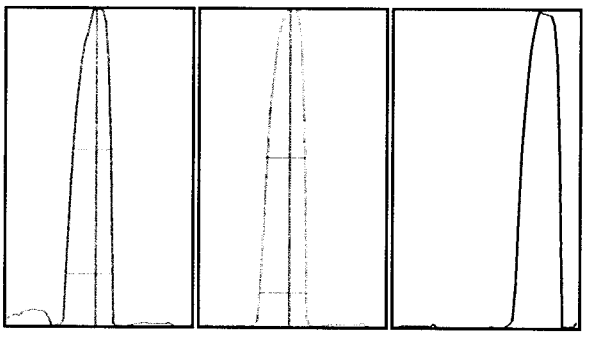
Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
78		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	1.06	5.00	
89	1.04	5.00	
78	30.20		

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	2434	2507	2464	2464	2462
89	9607	9745	9820	9869	9807
78	18	20	21	9	22

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	426.21	59.00	58.9 - 59.1		0.60	0.749	0.900	

Tune Report

89	1700.47	89.00	88.9 - 89.1	0.59	0.752	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	1.15 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-20 V
Extract 2	-170.0 V	Cell Exit	-40 V
Omega Bias	-105 V	Deflect	1.5 V
Omega Lens	7.2 V	Plate Bias	-70 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	0.0 mL/min	OctP RF	170 V
H2 Flow	3.1 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		2288	22880.71	1000.00	
89		2442	24417.18	1000.00	
205		3723	37225.83	1000.00	
75		6			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
59		-	
89		-	
205		-	
75		-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
59	2.78	5.00	
89	1.59	5.00	
205	1.22	5.00	
75	64.64		

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	2267	2230	2385	2316	2242
89	2432	2468	2402	2412	2495
205	3672	3683	3728	3780	3749
75	4	6	3	12	5

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	405.45	59.00	58.9 - 59.1		0.59	0.747	0.900	
89	438.57	89.05	88.9 - 89.1		0.58	0.746	0.900	
205	713.33	205.05	204.9 - 205.1		0.54	0.778	0.900	
75	0.90	74.75	-		0.30	0.556		

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	1.15 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-20 V
Extract 2	-170.0 V	Cell Exit	-40 V
Omega Bias	-105 V	Deflect	-0.2 V
Omega Lens	7.2 V	Plate Bias	-70 V

Cell Parameters

Use Gas	true	OctP Bias	-18.0 V
He Flow	3.4 mL/min	OctP RF	170 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		6492	64921.82	1000.00	
89		13303	133032.88	1000.00	
205		9121	91209.44	1000.00	
102		0			

Mass	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
7		-	

Tune Report

89		-
205		-
102		-

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)
7	1.96	5.00	
89	2.50	5.00	
205	2.11	5.00	
102	104.58		

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	6326	6399	6630	6584	6522
89	12802	13125	13461	13558	13570
205	8842	9018	9160	9302	9282
102	1	0	1	0	1

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	1062.57	7.00	6.9 - 7.1		0.63	0.803	0.900	
89	2307.79	89.00	88.9 - 89.1		0.60	0.753	0.900	
205	1696.19	205.00	204.9 - 205.1		0.55	0.781	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	1.15 L/min	Makeup/Dilution Gas	0.00 L/min
Option Gas	0.0 %		

Lenses Parameters

Extract 1	0.0 V	Cell Entrance	-20 V
Extract 2	-170.0 V	Cell Exit	-40 V
Omega Bias	-105 V	Deflect	12.5 V
Omega Lens	7.2 V	Plate Bias	-70 V

Cell Parameters

Use Gas	false	OctP Bias	-8.0 V

Tune Report

He Flow	0.0 mL/min	OctP RF	170 V
H2 Flow	0.0 mL/min	Energy Discrimination	5.0 V
3rd Gas Flow	0 %		

Quantitation Report ICPMS5

File Name	001RINS.d		
File Path	C:\Agilent\ICPMH\1\DATA\9G02057A.b		
Acq Time	7/2/2019 19:23:05	Sample Type	
Sample Name	**rinse**		Rinse
Comment	**rinse blank**	Last Calib	N/A
Prep Dilution	1.0000	Vial:	3
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			ppb			
Na	23	45	H2			ppb			
Mg	24	45	He			ppb		22.5	
Al	27	45	He			ppb		22.5	
K	39	45	He			ppb			
Ca	44	45	H2			ppb			
Ti	47	45	NoGas			ppb			
V	51	74	He			ppb			
Cr	52	74	He			ppb			
Mn	55	74	He			ppb		1	
Fe	56	74	H2			ppb			
Fe	57	74	H2			ppb			
Co	59	74	NoGas			ppb			
Ni	60	74	He			ppb			
Cu	65	74	He			ppb		1	
Cu	65	74	NoGas			ppb			
Zn	66	74	He			ppb			
As	75	74	He			ppb			
Se	78	74	H2			ppb			
Mo	95	103	He			ppb			
Ag	107	103	He			ppb			
Cd	111	103	NoGas			ppb			
Sb	121	103	He			ppb			
Ba	138	159	He			ppb			
W	182	159	NoGas			ppb			
Hg	201	159	NoGas			ppt			
Tl	205	159	He			ppb		1	
Pb	208	159	NoGas			ppb			

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	777705	0.6	0	Pulse		
Sc	45	H2	1310378	1.0	0	Analog		
Sc	45	He	191484	0.9	0	Pulse		
Sc	45	NoGas	2197262	2.2	0	Analog		
Ge	74	H2	409200	1.4	0	Pulse		
Ge	74	He	119120	1.3	0	Pulse		
Ge	74	NoGas	605081	0.8	0	Pulse		
Rh	103	He	302785	0.9	0	Pulse		
Rh	103	NoGas	708928	0.9	0	Pulse		
Tb	159	He	460207	1.1	0	Pulse		
Tb	159	NoGas	1264751	1.3	0	Pulse		
Bi	209	He	282768	1.3	0	Pulse		
Bi	209	NoGas	707589	1.0	0	Pulse		

Quantitation Report ICPMS5

File Name	002RINS.d		
File Path	C:\Agilent\ICPMH\1\DATA\9G02057A.b		
Acq Time	7/2/2019 19:27:23	Sample Type	
Sample Name	**rinse**		Rinse
Comment	**rinse blank**	Last Calib	N/A
Prep Dilution	1.0000	Vial:	3
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			ppb			
Na	23	45	H2			ppb			
Mg	24	45	He			ppb		22.5	
Al	27	45	He			ppb		22.5	
K	39	45	He			ppb			
Ca	44	45	H2			ppb			
Ti	47	45	NoGas			ppb			
V	51	74	He			ppb			
Cr	52	74	He			ppb			
Mn	55	74	He			ppb		1	
Fe	56	74	H2			ppb			
Fe	57	74	H2			ppb			
Co	59	74	NoGas			ppb			
Ni	60	74	He			ppb			
Cu	65	74	He			ppb		1	
Cu	65	74	NoGas			ppb			
Zn	66	74	He			ppb			
As	75	74	He			ppb			
Se	78	74	H2			ppb			
Mo	95	103	He			ppb			
Ag	107	103	He			ppb			
Cd	111	103	NoGas			ppb			
Sb	121	103	He			ppb			
Ba	138	159	He			ppb			
W	182	159	NoGas			ppb			
Hg	201	159	NoGas			ppt			
Tl	205	159	He			ppb		1	
Pb	208	159	NoGas			ppb			

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	812881	0.3	0	Pulse		
Sc	45	H2	1402423	2.0	0	Analog		
Sc	45	He	193246	1.0	0	Pulse		
Sc	45	NoGas	2277953	0.9	0	Analog		
Ge	74	H2	426634	0.4	0	Pulse		
Ge	74	He	118954	0.5	0	Pulse		
Ge	74	NoGas	616588	0.4	0	Pulse		
Rh	103	He	297877	0.6	0	Pulse		
Rh	103	NoGas	722224	0.3	0	Pulse		
Tb	159	He	454248	0.8	0	Pulse		
Tb	159	NoGas	1273472	0.9	0	Pulse		
Bi	209	He	277888	0.8	0	Pulse		
Bi	209	NoGas	705741	0.6	0	Pulse		

Quantitation Report ICPMS5

File Name	003RINS.d		
File Path	C:\Agilent\ICPMH\1\DATA\9G02057A.b		
Acq Time	7/2/2019 19:31:42	Sample Type	
Sample Name	**cal blk**		
Comment	**cal blk check**	Rinse Last Calib	N/A
Prep Dilution	1.0000	Vial:	1
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			ppb			
Na	23	45	H2			ppb			
Mg	24	45	He			ppb		22.5	
Al	27	45	He			ppb		22.5	
K	39	45	He			ppb			
Ca	44	45	H2			ppb			
Ti	47	45	NoGas			ppb			
V	51	74	He			ppb			
Cr	52	74	He			ppb			
Mn	55	74	He			ppb		1	
Fe	56	74	H2			ppb			
Fe	57	74	H2			ppb			
Co	59	74	NoGas			ppb			
Ni	60	74	He			ppb			
Cu	65	74	He			ppb		1	
Cu	65	74	NoGas			ppb			
Zn	66	74	He			ppb			
As	75	74	He			ppb			
Se	78	74	H2			ppb			
Mo	95	103	He			ppb			
Ag	107	103	He			ppb			
Cd	111	103	NoGas			ppb			
Sb	121	103	He			ppb			
Ba	138	159	He			ppb			
W	182	159	NoGas			ppb			
Hg	201	159	NoGas			ppt			
Tl	205	159	He			ppb		1	
Pb	208	159	NoGas			ppb			

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	833412	0.4	0	Pulse		
Sc	45	H2	1464002	0.4	0	Analog		
Sc	45	He	198611	0.7	0	Pulse		
Sc	45	NoGas	2341179	1.0	0	Analog		
Ge	74	H2	442370	0.8	0	Pulse		
Ge	74	He	123158	0.5	0	Pulse		
Ge	74	NoGas	631778	0.9	0	Pulse		
Rh	103	He	303733	0.4	0	Pulse		
Rh	103	NoGas	733041	0.3	0	Pulse		
Tb	159	He	463592	0.3	0	Pulse		
Tb	159	NoGas	1293205	0.6	0	Pulse		
Bi	209	He	283402	0.5	0	Pulse		
Bi	209	NoGas	711455	1.0	0	Pulse		

Sample Name	9G02057-CAL0	Vial	1
File Name	004CALB.d		
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b		
Acq Time	7/2/2019 19:36:01		
Sample Type	CalBlk		
Total Dilution	1.0000		
Comment	3.5%HNO3+0.4%HCl		
ISTD Ref FileName	004CALB.d		
Sample QC Pass/Fial	Pass		
ISTD QC Pass/Fail	Pass		
Operator	**ICPMS Analyst**		

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2		ppb	Pulse	17017	1.3	0.012	0.2001	3
Ca	44	45	1	H2		ppb	Pulse	598	11.7	0.000	0.2001	3
Fe	56	74	1	H2		ppb	Pulse	9120	4.5	0.021	0.3000	3
Fe	57	74	1	H2		ppb	Pulse	770	17.8	0.002	0.3000	3
Se	78	74	1	H2		ppb	Pulse	3	66.7	0.000	0.9999	3
Mg	24	45	2	He		ppb	Pulse	187	8.2	0.001	0.0999	3
Al	27	45	2	He		ppb	Pulse	77	52.7	0.000	0.0999	3
K	39	45	2	He		ppb	Pulse	10775	4.0	0.054	0.0999	3
V	51	74	2	He		ppb	Pulse	1171	10.1	0.009	0.3000	3
Cr	52	74	2	He		ppb	Pulse	186	8.5	0.001	0.3000	3
Mn	55	74	2	He		ppb	Pulse	38	35.7	0.000	0.3000	3
Ni	60	74	2	He		ppb	Pulse	37	48.1	0.000	0.3000	3
Cu	65	74	2	He		ppb	Pulse	148	13.2	0.001	0.3000	3
Zn	66	74	2	He		ppb	Pulse	181	2.8	0.001	0.3000	3
As	75	74	2	He		ppb	Pulse	14	17.6	0.000	0.9999	3
Mo	95	103	2	He		ppb	Pulse	10	33.3	0.000	0.3000	3
Ag	107	103	2	He		ppb	Pulse	3	100.1	0.000	0.3000	3
Sb	121	103	2	He		ppb	Pulse	11	96.4	0.000	0.3000	3
Ba	138	159	2	He		ppb	Pulse	147	2.3	0.000	0.3000	3
Tl	205	159	2	He		ppb	Pulse	54	9.4	0.000	0.3000	3
Be	9	6	3	NoGas		ppb	Pulse	2	173.2	0.000	0.3000	3
Ti	47	45	3	NoGas		ppb	Pulse	43	17.6	0.000	0.2001	3
Co	59	74	3	NoGas		ppb	Pulse	503	12.0	0.001	0.2001	3
Cu	65	74	3	NoGas		ppb	Pulse	368	15.6	0.001	0.2001	3
Cd	111	103	3	NoGas		ppb	Pulse	21	58.5	0.000	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	26	39.8	0.000	0.3000	3
Hg	201	159	3	NoGas		ppt	Pulse	4	34.3	0.000	2.0001	3
Pb	208	159	3	NoGas		ppb	Pulse	598	16.6	0.000	0.2001	3

QC ISTD Table

Name	Mass	Det.	Tune Mode	CPS	CPS RSD
Sc	45	Analog	H2	1473676	1.3
Ge	74	Pulse	H2	444313	0.3
Sc	45	Pulse	He	199999	0.2
Ge	74	Pulse	He	124034	0.2
Rh	103	Pulse	He	306617	0.6
Tb	159	Pulse	He	466140	0.3
Bi	209	Pulse	He	284384	0.8
Li	6	Analog	NoGas	870133	0.4
Sc	45	Analog	NoGas	2371045	0.9
Ge	74	Pulse	NoGas	639985	0.1
Rh	103	Pulse	NoGas	743164	0.6
Tb	159	Pulse	NoGas	1301548	1.2
Bi	209	Pulse	NoGas	715662	0.9

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL1	1102
File Name	005CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/2/2019 19:40:19	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19F223 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	9.000	ppb	Pulse	46880	1.3	0.032	0.2001	3
Ca	44	45	1	H2	9.000	ppb	Pulse	1878	6.7	0.001	0.2001	3
Fe	56	74	1	H2	9.000	ppb	Pulse	78779	0.9	0.174	0.3000	3
Fe	57	74	1	H2	9.000	ppb	Pulse	2466	3.1	0.005	0.3000	3
Se	78	74	1	H2	0.180	ppb	Pulse	47	8.9	0.000	0.9999	3
Mg	24	45	2	He	9.000	ppb	Pulse	3120	9.1	0.015	0.0999	3
Al	27	45	2	He	9.000	ppb	Pulse	1722	5.1	0.008	0.0999	3
K	39	45	2	He	9.000	ppb	Pulse	14608	0.5	0.072	0.0999	3
V	51	74	2	He	0.180	ppb	Pulse	1515	2.3	0.012	0.3000	3
Cr	52	74	2	He	0.180	ppb	Pulse	611	3.5	0.005	0.3000	3
Mn	55	74	2	He	0.180	ppb	Pulse	338	15.1	0.003	0.3000	3
Ni	60	74	2	He	0.180	ppb	Pulse	168	30.8	0.001	0.3000	3
Cu	65	74	2	He	0.180	ppb	Pulse	382	9.6	0.003	0.3000	3
Zn	66	74	2	He	0.180	ppb	Pulse	282	22.1	0.002	0.3000	3
As	75	74	2	He	0.180	ppb	Pulse	55	23.0	0.000	0.9999	3
Mo	95	103	2	He	0.180	ppb	Pulse	251	23.3	0.001	0.3000	3
Ag	107	103	2	He	0.180	ppb	Pulse	654	5.0	0.002	0.3000	3
Sb	121	103	2	He	0.180	ppb	Pulse	227	10.6	0.001	0.3000	3
Ba	138	159	2	He	0.180	ppb	Pulse	916	6.8	0.002	0.3000	3
Tl	205	159	2	He	0.180	ppb	Pulse	1198	0.6	0.003	0.3000	3
Be	9	6	3	NoGas	0.180	ppb	Pulse	429	11.4	0.000	0.3000	3
Ti	47	45	3	NoGas	0.180	ppb	Pulse	177	13.4	0.000	0.2001	3
Co	59	74	3	NoGas	0.180	ppb	Pulse	2779	4.3	0.004	0.2001	3
Cu	65	74	3	NoGas	0.180	ppb	Pulse	1081	10.4	0.002	0.2001	3
Cd	111	103	3	NoGas	0.180	ppb	Pulse	307	20.4	0.000	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	39	71.4	0.000	0.3000	3
Hg	201	159	3	NoGas		ppt	Pulse	13	14.4	0.000	2.0001	3
Pb	208	159	3	NoGas	0.180	ppb	Pulse	3922	2.6	0.003	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1456870	1.0	Analog	98.9	
Ge	74	H2	444312.95	452842	0.3	Pulse	101.9	
Sc	45	He	199999.48	203070	0.7	Pulse	101.5	
Ge	74	He	124033.623333333	125484	0.2	Pulse	101.2	
Rh	103	He	306616.713333333	313811	0.6	Pulse	102.3	
Tb	159	He	466139.666666667	471183	0.2	Pulse	101.1	
Bi	209	He	284384.236666667	287040	0.6	Pulse	100.9	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	886079	0.8	Analog	101.8	
Sc	45	NoGas	2371044.6	2412252	1.8	Analog	101.7	
Ge	74	NoGas	639984.78	650770	0.9	Pulse	101.7	
Rh	103	NoGas	743164.04	756069	0.5	Pulse	101.7	
Tb	159	NoGas	1301548.45333333	1326510	1.1	Pulse	101.9	
Bi	209	NoGas	715661.563333333	728666	1.3	Pulse	101.8	

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL2	1103
File Name	006CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/2/2019 19:44:56	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19F224 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	45.022	ppb	Pulse	173767	1.8	0.116	0.2001	3
Ca	44	45	1	H2	45.122	ppb	Pulse	7720	2.2	0.005	0.2001	3
Fe	56	74	1	H2	45.001	ppb	Pulse	361021	0.6	0.788	0.3000	3
Fe	57	74	1	H2	44.989	ppb	Pulse	9243	1.7	0.020	0.3000	3
Se	78	74	1	H2	0.894	ppb	Pulse	192	13.3	0.000	0.9999	3
Mg	24	45	2	He	44.937	ppb	Pulse	14504	2.5	0.071	0.0999	3
Al	27	45	2	He	44.957	ppb	Pulse	8197	1.8	0.040	0.0999	3
K	39	45	2	He	44.676	ppb	Pulse	26701	3.1	0.130	0.0999	3
V	51	74	2	He	0.901	ppb	Pulse	2911	2.4	0.023	0.3000	3
Cr	52	74	2	He	0.902	ppb	Pulse	2456	3.7	0.019	0.3000	3
Mn	55	74	2	He	0.903	ppb	Pulse	1700	5.8	0.013	0.3000	3
Ni	60	74	2	He	0.906	ppb	Pulse	844	3.2	0.007	0.3000	3
Cu	65	74	2	He	0.894	ppb	Pulse	1141	5.4	0.009	0.3000	3
Zn	66	74	2	He	0.887	ppb	Pulse	547	7.5	0.004	0.3000	3
As	75	74	2	He	0.901	ppb	Pulse	226	2.7	0.002	0.9999	3
Mo	95	103	2	He	0.895	ppb	Pulse	1077	11.5	0.003	0.3000	3
Ag	107	103	2	He	0.900	ppb	Pulse	3296	10.4	0.010	0.3000	3
Sb	121	103	2	He	0.901	ppb	Pulse	1119	6.3	0.004	0.3000	3
Ba	138	159	2	He	0.893	ppb	Pulse	3368	2.8	0.007	0.3000	3
Tl	205	159	2	He	0.898	ppb	Pulse	5465	2.5	0.012	0.3000	3
Be	9	6	3	NoGas	0.903	ppb	Pulse	2399	3.2	0.003	0.3000	3
Ti	47	45	3	NoGas	0.907	ppb	Pulse	888	5.7	0.000	0.2001	3
Co	59	74	3	NoGas	0.901	ppb	Pulse	12212	0.6	0.019	0.2001	3
Cu	65	74	3	NoGas	0.888	ppb	Pulse	3009	5.7	0.005	0.2001	3
Cd	111	103	3	NoGas	0.902	ppb	Pulse	1572	4.1	0.002	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	36	53.3	0.000	0.3000	3
Hg	201	159	3	NoGas	36.000	ppt	Pulse	32	17.4	0.000	2.0001	3
Pb	208	159	3	NoGas	0.901	ppb	Pulse	17882	2.3	0.013	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1497546	1.0	Analog	101.6	
Ge	74	H2	444312.95	458117	0.1	Pulse	103.1	
Sc	45	He	199999.48	205591	1.0	Pulse	102.8	
Ge	74	He	124033.623333333	126865	0.3	Pulse	102.3	
Rh	103	He	306616.713333333	315611	0.5	Pulse	102.9	
Tb	159	He	466139.666666667	475066	0.7	Pulse	101.9	
Bi	209	He	284384.236666667	286410	0.9	Pulse	100.7	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	902225	0.5	Analog	103.7	
Sc	45	NoGas	2371044.6	2450041	1.6	Analog	103.3	
Ge	74	NoGas	639984.78	659818	1.0	Pulse	103.1	
Rh	103	NoGas	743164.04	762842	0.3	Pulse	102.6	
Tb	159	NoGas	1301548.45333333	1336900	1.0	Pulse	102.7	
Bi	209	NoGas	715661.563333333	733406	0.9	Pulse	102.5	

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL3	1104
File Name	007CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/2/2019 19:49:39	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19F225 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	89.120	ppb	Pulse	320579	0.7	0.211	0.2001	3
Ca	44	45	1	H2	88.653	ppb	Pulse	14031	1.3	0.009	0.2001	3
Fe	56	74	1	H2	90.048	ppb	Pulse	722556	0.3	1.560	0.3000	3
Fe	57	74	1	H2	90.500	ppb	Pulse	18367	1.2	0.040	0.3000	3
Se	78	74	1	H2	1.799	ppb	Pulse	387	4.7	0.001	0.9999	3
Mg	24	45	2	He	90.068	ppb	Pulse	29134	4.6	0.141	0.0999	3
Al	27	45	2	He	88.963	ppb	Pulse	15563	4.1	0.075	0.0999	3
K	39	45	2	He	87.365	ppb	Pulse	38763	2.7	0.187	0.0999	3
V	51	74	2	He	1.827	ppb	Pulse	4955	2.3	0.039	0.3000	3
Cr	52	74	2	He	1.774	ppb	Pulse	4473	3.9	0.035	0.3000	3
Mn	55	74	2	He	1.838	ppb	Pulse	3767	3.3	0.029	0.3000	3
Ni	60	74	2	He	1.802	ppb	Pulse	1670	8.9	0.013	0.3000	3
Cu	65	74	2	He	1.802	ppb	Pulse	2186	2.7	0.017	0.3000	3
Zn	66	74	2	He	1.784	ppb	Pulse	900	7.1	0.007	0.3000	3
As	75	74	2	He	1.818	ppb	Pulse	465	6.7	0.004	0.9999	3
Mo	95	103	2	He	1.760	ppb	Pulse	1971	9.7	0.006	0.3000	3
Ag	107	103	2	He	1.797	ppb	Pulse	6645	3.1	0.021	0.3000	3
Sb	121	103	2	He	1.805	ppb	Pulse	2289	0.8	0.007	0.3000	3
Ba	138	159	2	He	1.786	ppb	Pulse	6424	1.2	0.013	0.3000	3
Tl	205	159	2	He	1.809	ppb	Pulse	11210	0.9	0.023	0.3000	3
Be	9	6	3	NoGas	1.785	ppb	Pulse	4655	3.8	0.005	0.3000	3
Ti	47	45	3	NoGas	1.755	ppb	Pulse	1538	4.5	0.001	0.2001	3
Co	59	74	3	NoGas	1.791	ppb	Pulse	23515	1.4	0.035	0.2001	3
Cu	65	74	3	NoGas	1.808	ppb	Pulse	5877	1.5	0.009	0.2001	3
Cd	111	103	3	NoGas	1.801	ppb	Pulse	3145	2.4	0.004	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	37	63.6	0.000	0.3000	3
Hg	201	159	3	NoGas	72.234	ppt	Pulse	61	1.7	0.000	2.0001	3
Pb	208	159	3	NoGas	1.800	ppb	Pulse	35157	1.3	0.026	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1520176	0.1	Analog	103.2	
Ge	74	H2	444312.95	463330	0.5	Pulse	104.3	
Sc	45	He	199999.48	206872	1.1	Pulse	103.4	
Ge	74	He	124033.623333333	128580	0.8	Pulse	103.7	
Rh	103	He	306616.713333333	320572	0.6	Pulse	104.6	
Tb	159	He	466139.666666667	477420	0.4	Pulse	102.4	
Bi	209	He	284384.236666667	290405	0.7	Pulse	102.1	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	915486	1.2	Analog	105.2	
Sc	45	NoGas	2371044.6	2458596	0.1	Analog	103.7	
Ge	74	NoGas	639984.78	664863	0.9	Pulse	103.9	
Rh	103	NoGas	743164.04	767848	0.6	Pulse	103.3	
Tb	159	NoGas	1301548.45333333	1340396	0.9	Pulse	103.0	
Bi	209	NoGas	715661.563333333	735959	1.2	Pulse	102.8	

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL4	1105
File Name	008CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/2/2019 19:54:13	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19F226 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	179.533	ppb	Pulse	633417	0.2	0.410	0.2001	3
Ca	44	45	1	H2	180.532	ppb	Pulse	28659	3.2	0.019	0.2001	3
Fe	56	74	1	H2	181.447	ppb	Analog	1501801	1.9	3.203	0.3000	3
Fe	57	74	1	H2	179.117	ppb	Pulse	35454	2.0	0.076	0.3000	3
Se	78	74	1	H2	3.600	ppb	Pulse	780	4.4	0.002	0.9999	3
Mg	24	45	2	He	179.994	ppb	Pulse	59007	0.4	0.281	0.0999	3
Al	27	45	2	He	180.406	ppb	Pulse	32229	0.7	0.153	0.0999	3
K	39	45	2	He	180.171	ppb	Pulse	69436	1.1	0.330	0.0999	3
V	51	74	2	He	3.627	ppb	Pulse	8924	1.5	0.069	0.3000	3
Cr	52	74	2	He	3.629	ppb	Pulse	9284	1.8	0.071	0.3000	3
Mn	55	74	2	He	3.535	ppb	Pulse	6904	4.9	0.053	0.3000	3
Ni	60	74	2	He	3.590	ppb	Pulse	3300	1.3	0.025	0.3000	3
Cu	65	74	2	He	3.588	ppb	Pulse	4208	3.4	0.032	0.3000	3
Zn	66	74	2	He	3.617	ppb	Pulse	1672	4.8	0.013	0.3000	3
As	75	74	2	He	3.542	ppb	Pulse	859	3.6	0.007	0.9999	3
Mo	95	103	2	He	3.599	ppb	Pulse	4034	5.2	0.013	0.3000	3
Ag	107	103	2	He	3.580	ppb	Pulse	13056	0.9	0.041	0.3000	3
Sb	121	103	2	He	3.584	ppb	Pulse	4490	4.1	0.014	0.3000	3
Ba	138	159	2	He	3.595	ppb	Pulse	12826	1.7	0.027	0.3000	3
Tl	205	159	2	He	3.602	ppb	Pulse	22480	1.6	0.047	0.3000	3
Be	9	6	3	NoGas	3.571	ppb	Pulse	9181	3.2	0.010	0.3000	3
Ti	47	45	3	NoGas	3.649	ppb	Pulse	3312	1.5	0.001	0.2001	3
Co	59	74	3	NoGas	3.597	ppb	Pulse	46892	0.6	0.070	0.2001	3
Cu	65	74	3	NoGas	3.551	ppb	Pulse	10797	3.4	0.016	0.2001	3
Cd	111	103	3	NoGas	3.623	ppb	Pulse	6434	1.2	0.008	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	37	9.1	0.000	0.3000	3
Hg	201	159	3	NoGas	138.939	ppt	Pulse	98	13.6	0.000	2.0001	3
Pb	208	159	3	NoGas	3.609	ppb	Pulse	70362	0.7	0.053	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1545770	1.3	Analog	104.9	
Ge	74	H2	444312.95	468880	0.4	Pulse	105.5	
Sc	45	He	199999.48	210335	0.5	Pulse	105.2	
Ge	74	He	124033.623333333	130092	0.8	Pulse	104.9	
Rh	103	He	306616.713333333	321963	0.4	Pulse	105.0	
Tb	159	He	466139.666666667	481188	0.5	Pulse	103.2	
Bi	209	He	284384.236666667	290730	1.0	Pulse	102.2	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	925221	0.6	Analog	106.3	
Sc	45	NoGas	2371044.6	2476701	1.2	Analog	104.5	
Ge	74	NoGas	639984.78	669203	0.6	Pulse	104.6	
Rh	103	NoGas	743164.04	768244	0.6	Pulse	103.4	
Tb	159	NoGas	1301548.45333333	1339629	1.1	Pulse	102.9	
Bi	209	NoGas	715661.563333333	739406	0.5	Pulse	103.3	

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL5	1106
File Name	009CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/2/2019 19:58:47	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19F359 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	403.417	ppb	Analog	1433936	0.7	0.936	0.2001	3
Ca	44	45	1	H2	400.351	ppb	Pulse	62438	1.1	0.041	0.2001	3
Fe	56	74	1	H2	400.694	ppb	Analog	3310585	0.3	7.094	0.3000	3
Fe	57	74	1	H2	399.634	ppb	Pulse	77468	0.8	0.166	0.3000	3
Se	78	74	1	H2	9.984	ppb	Pulse	2130	4.4	0.005	0.9999	3
Mg	24	45	2	He	399.466	ppb	Pulse	128129	1.1	0.618	0.0999	3
Al	27	45	2	He	397.723	ppb	Pulse	68446	1.0	0.330	0.0999	3
K	39	45	2	He	399.734	ppb	Pulse	137859	0.7	0.665	0.0999	3
V	51	74	2	He	20.007	ppb	Pulse	43360	0.9	0.339	0.3000	3
Cr	52	74	2	He	20.010	ppb	Pulse	50147	0.5	0.392	0.3000	3
Mn	55	74	2	He	19.988	ppb	Pulse	37725	2.1	0.295	0.3000	3
Ni	60	74	2	He	20.001	ppb	Pulse	17945	2.1	0.140	0.3000	3
Cu	65	74	2	He	20.009	ppb	Pulse	22654	1.6	0.177	0.3000	3
Zn	66	74	2	He	19.989	ppb	Pulse	8157	4.5	0.064	0.3000	3
As	75	74	2	He	19.994	ppb	Pulse	4674	3.2	0.036	0.9999	3
Mo	95	103	2	He	10.030	ppb	Pulse	11275	2.7	0.035	0.3000	3
Ag	107	103	2	He	9.989	ppb	Pulse	35719	0.5	0.112	0.3000	3
Sb	121	103	2	He	10.019	ppb	Pulse	12499	2.1	0.039	0.3000	3
Ba	138	159	2	He	19.981	ppb	Pulse	68903	1.2	0.144	0.3000	3
Tl	205	159	2	He	9.987	ppb	Pulse	61622	0.1	0.128	0.3000	3
Be	9	6	3	NoGas	10.021	ppb	Pulse	25647	1.3	0.028	0.3000	3
Ti	47	45	3	NoGas	19.983	ppb	Pulse	17634	0.9	0.007	0.2001	3
Co	59	74	3	NoGas	20.008	ppb	Pulse	256562	0.7	0.390	0.2001	3
Cu	65	74	3	NoGas	20.008	ppb	Pulse	58620	1.6	0.089	0.2001	3
Cd	111	103	3	NoGas	20.004	ppb	Pulse	35230	1.4	0.046	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	39	38.7	0.000	0.3000	3
Hg	201	159	3	NoGas	402.814	ppt	Pulse	292	5.5	0.000	2.0001	3
Pb	208	159	3	NoGas	20.000	ppb	Pulse	387457	1.2	0.289	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1531771	1.0	Analog	103.9	
Ge	74	H2	444312.95	466675	0.8	Pulse	105.0	
Sc	45	He	199999.48	207286	2.4	Pulse	103.6	
Ge	74	He	124033.623333333	128111	1.5	Pulse	103.3	
Rh	103	He	306616.713333333	317763	1.8	Pulse	103.6	
Tb	159	He	466139.666666667	480124	1.9	Pulse	103.0	
Bi	209	He	284384.236666667	291089	1.3	Pulse	102.4	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	909642	0.9	Analog	104.5	
Sc	45	NoGas	2371044.6	2481712	1.2	Analog	104.7	
Ge	74	NoGas	639984.78	658160	1.2	Pulse	102.8	
Rh	103	NoGas	743164.04	760679	0.6	Pulse	102.4	
Tb	159	NoGas	1301548.45333333	1339711	1.0	Pulse	102.9	
Bi	209	NoGas	715661.563333333	732886	1.2	Pulse	102.4	

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL6
File Name	010CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 20:03:21
Sample Type	CalStd
Total Dilution	1.0000
Comment	A19F227
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

1107

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	2500.011	ppb	Analog	8380648	0.2	5.742	0.2001	3
Ca	44	45	1	H2	2500.414	ppb	Pulse	370325	0.4	0.254	0.2001	3
Fe	56	74	1	H2	2498.698	ppb	Analog	19551576	0.7	43.433	0.3000	3
Fe	57	74	1	H2	2499.069	ppb	Pulse	457950	0.5	1.017	0.3000	3
Se	78	74	1	H2	50.011	ppb	Pulse	10324	0.7	0.023	0.9999	3
Mg	24	45	2	He	2499.542	ppb	Pulse	768218	0.7	3.843	0.0999	3
Al	27	45	2	He	2499.667	ppb	Pulse	412900	0.5	2.065	0.0999	3
K	39	45	2	He	2498.558	ppb	Pulse	761387	0.2	3.809	0.0999	3
V	51	74	2	He	49.944	ppb	Pulse	101388	1.1	0.825	0.3000	3
Cr	52	74	2	He	49.893	ppb	Pulse	118107	0.8	0.962	0.3000	3
Mn	55	74	2	He	50.051	ppb	Pulse	91093	0.4	0.742	0.3000	3
Ni	60	74	2	He	49.889	ppb	Pulse	42302	1.3	0.344	0.3000	3
Cu	65	74	2	He	49.850	ppb	Pulse	52942	0.2	0.431	0.3000	3
Zn	66	74	2	He	49.968	ppb	Pulse	19204	0.3	0.156	0.3000	3
As	75	74	2	He	50.031	ppb	Pulse	11232	0.4	0.091	0.9999	3
Mo	95	103	2	He	50.016	ppb	Pulse	53819	2.0	0.178	0.3000	3
Ag	107	103	2	He	49.983	ppb	Pulse	168807	0.5	0.558	0.3000	3
Sb	121	103	2	He	49.979	ppb	Pulse	58761	0.7	0.194	0.3000	3
Ba	138	159	2	He	50.000	ppb	Pulse	166791	0.2	0.359	0.3000	3
Tl	205	159	2	He	49.991	ppb	Pulse	297350	0.3	0.640	0.3000	3
Be	9	6	3	NoGas	50.007	ppb	Pulse	125989	0.9	0.141	0.3000	3
Ti	47	45	3	NoGas	49.940	ppb	Pulse	41846	0.4	0.018	0.2001	3
Co	59	74	3	NoGas	49.864	ppb	Pulse	601389	0.5	0.955	0.2001	3
Cu	65	74	3	NoGas	49.746	ppb	Pulse	134876	0.4	0.214	0.2001	3
Cd	111	103	3	NoGas	49.922	ppb	Pulse	82126	0.4	0.114	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	78	35.7	0.000	0.3000	3
Hg	201	159	3	NoGas	1999.320	ppt	Pulse	1380	3.8	0.001	2.0001	3
Pb	208	159	3	NoGas	49.879	ppb	Pulse	927721	0.6	0.710	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1459801	1.8	Analog	99.1	
Ge	74	H2	444312.95	450152	0.2	Pulse	101.3	
Sc	45	He	199999.48	199925	0.8	Pulse	100.0	
Ge	74	He	124033.623333333	122826	0.4	Pulse	99.0	
Rh	103	He	306616.713333333	302301	0.3	Pulse	98.6	
Tb	159	He	466139.666666667	464864	0.2	Pulse	99.7	
Bi	209	He	284384.236666667	278029	0.6	Pulse	97.8	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	892921	1.2	Analog	102.6	
Sc	45	NoGas	2371044.6	2377463	1.7	Analog	100.3	
Ge	74	NoGas	639984.78	629832	0.6	Pulse	98.4	
Rh	103	NoGas	743164.04	717446	0.9	Pulse	96.5	
Tb	159	NoGas	1301548.45333333	1306235	1.2	Pulse	100.4	
Bi	209	NoGas	715661.563333333	708646	0.9	Pulse	99.0	

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL7	1108
File Name	011CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/2/2019 20:08:15	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19F360	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	3991.533	ppb	Analog	12877316	0.4	9.113	0.2001	3
Ca	44	45	1	H2	3981.141	ppb	Pulse	563960	0.4	0.399	0.2001	3
Fe	56	74	1	H2	4006.011	ppb	Analog	29770263	0.4	69.882	0.3000	3
Fe	57	74	1	H2	4003.607	ppb	Pulse	695419	0.5	1.632	0.3000	3
Se	78	74	1	H2	99.731	ppb	Pulse	19283	1.0	0.045	0.9999	3
Mg	24	45	2	He	4028.776	ppb	Analog	1187846	1.6	6.306	0.0999	3
Al	27	45	2	He	3994.531	ppb	Pulse	619622	0.5	3.289	0.0999	3
K	39	45	2	He	4010.139	ppb	Pulse	1152574	0.8	6.118	0.0999	3
V	51	74	2	He	199.964	ppb	Pulse	381972	0.5	3.269	0.3000	3
Cr	52	74	2	He	199.948	ppb	Pulse	448214	0.4	3.836	0.3000	3
Mn	55	74	2	He	199.936	ppb	Pulse	344588	0.2	2.949	0.3000	3
Ni	60	74	2	He	199.885	ppb	Pulse	159898	0.2	1.368	0.3000	3
Cu	65	74	2	He	199.864	ppb	Pulse	199672	0.5	1.709	0.3000	3
Zn	66	74	2	He	199.874	ppb	Pulse	71956	1.3	0.616	0.3000	3
As	75	74	2	He	199.952	ppb	Pulse	42528	0.5	0.364	0.9999	3
Mo	95	103	2	He	100.101	ppb	Pulse	103503	0.8	0.358	0.3000	3
Ag	107	103	2	He	99.901	ppb	Pulse	321760	0.2	1.112	0.3000	3
Sb	121	103	2	He	100.458	ppb	Pulse	115067	0.7	0.398	0.3000	3
Ba	138	159	2	He	199.819	ppb	Pulse	638930	0.6	1.415	0.3000	3
Tl	205	159	2	He	99.921	ppb	Pulse	575377	0.2	1.275	0.3000	3
Be	9	6	3	NoGas	99.437	ppb	Pulse	240967	0.4	0.275	0.3000	3
Ti	47	45	3	NoGas	199.892	ppb	Pulse	159748	1.2	0.070	0.2001	3
Co	59	74	3	NoGas	200.203	ppb	Analog	2347529	1.0	3.885	0.2001	3
Cu	65	74	3	NoGas	199.758	ppb	Pulse	510089	0.6	0.844	0.2001	3
Cd	111	103	3	NoGas	200.139	ppb	Pulse	319490	0.5	0.463	0.3000	3
W	182	159	3	NoGas		ppb	Pulse	108	27.0	0.000	0.3000	3
Hg	201	159	3	NoGas	4011.102	ppt	Pulse	2730	1.2	0.002	2.0001	3
Pb	208	159	3	NoGas	200.123	ppb	Analog	3663089	0.9	2.873	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1413101	1.0	Analog	95.9	
Ge	74	H2	444312.95	426012	0.3	Pulse	95.9	
Sc	45	He	199999.48	188396	0.7	Pulse	94.2	
Ge	74	He	124033.623333333	116860	0.3	Pulse	94.2	
Rh	103	He	306616.713333333	289390	0.7	Pulse	94.4	
Tb	159	He	466139.666666667	451436	0.3	Pulse	96.8	
Bi	209	He	284384.236666667	270276	0.0	Pulse	95.0	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	877358	1.3	Analog	100.8	
Sc	45	NoGas	2371044.6	2285651	1.5	Analog	96.4	
Ge	74	NoGas	639984.78	604240	0.7	Pulse	94.4	
Rh	103	NoGas	743164.04	689638	0.3	Pulse	92.8	
Tb	159	NoGas	1301548.45333333	1275173	0.8	Pulse	98.0	
Bi	209	NoGas	715661.563333333	680309	0.9	Pulse	95.1	

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL8	1109
File Name	012CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/2/2019 20:12:46	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19E307	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	9994.680	ppb	Analog	30276388	0.3	22.748	0.2001	3
Ca	44	45	1	H2	10036.819	ppb	Analog	1360668	1.2	1.022	0.2001	3
Fe	56	74	1	H2	9992.833	ppb	Analog	70203818	0.1	173.733	0.3000	3
Fe	57	74	1	H2	10099.166	ppb	Analog	1739666	1.4	4.305	0.3000	3
Se	78	74	1	H2	0.103	ppb	Pulse	22	41.9	0.000	0.9999	3
Mg	24	45	2	He	10034.694	ppb	Analog	2852022	0.4	15.951	0.0999	3
Al	27	45	2	He	10055.131	ppb	Analog	1517539	0.1	8.487	0.0999	3
K	39	45	2	He	10054.378	ppb	Analog	2795726	0.4	15.636	0.0999	3
V	51	74	2	He	498.841	ppb	Pulse	899929	0.4	8.032	0.3000	3
Cr	52	74	2	He	498.230	ppb	Pulse	1049005	0.2	9.362	0.3000	3
Mn	55	74	2	He	498.257	ppb	Pulse	806963	0.0	7.202	0.3000	3
Ni	60	74	2	He	497.351	ppb	Pulse	370015	0.4	3.302	0.3000	3
Cu	65	74	2	He	496.345	ppb	Pulse	455854	0.4	4.068	0.3000	3
Zn	66	74	2	He	499.421	ppb	Pulse	170993	0.2	1.526	0.3000	3
As	75	74	2	He	499.520	ppb	Pulse	101284	0.3	0.904	0.9999	3
Mo	95	103	2	He	0.191	ppb	Pulse	196	14.7	0.001	0.3000	3
Ag	107	103	2	He	0.044	ppb	Pulse	138	19.6	0.001	0.3000	3
Sb	121	103	2	He	0.121	ppb	Pulse	141	9.8	0.001	0.3000	3
Ba	138	159	2	He	498.641	ppb	Analog	1515521	0.6	3.476	0.3000	3
Tl	205	159	2	He	0.048	ppb	Pulse	316	6.9	0.001	0.3000	3
Be	9	6	3	NoGas	0.023	ppb	Pulse	57	21.2	0.000	0.3000	3
Ti	47	45	3	NoGas	498.269	ppb	Pulse	378409	1.0	0.171	0.2001	3
Co	59	74	3	NoGas	498.401	ppb	Analog	5514248	0.2	9.495	0.2001	3
Cu	65	74	3	NoGas	496.145	ppb	Pulse	1164992	0.5	2.006	0.2001	3
Cd	111	103	3	NoGas	499.827	ppb	Pulse	760629	0.1	1.155	0.3000	3
W	182	159	3	NoGas	100.000	ppb	Pulse	604805	1.0	0.485	0.3000	3
Hg	201	159	3	NoGas	119.254	ppt	Pulse	82	4.9	0.000	2.0001	3
Pb	208	159	3	NoGas	498.066	ppb	Analog	8708918	0.7	6.991	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1330935	0.2	Analog	90.3	
Ge	74	H2	444312.95	404094	0.4	Pulse	90.9	
Sc	45	He	199999.48	178804	0.3	Pulse	89.4	
Ge	74	He	124033.623333333	112050	0.4	Pulse	90.3	
Rh	103	He	306616.713333333	273415	0.3	Pulse	89.2	
Tb	159	He	466139.666666667	435955	0.7	Pulse	93.5	
Bi	209	He	284384.236666667	257176	0.6	Pulse	90.4	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	856157	0.7	Analog	98.4	
Sc	45	NoGas	2371044.6	2216238	1.5	Analog	93.5	
Ge	74	NoGas	639984.78	580831	1.1	Pulse	90.8	
Rh	103	NoGas	743164.04	658795	0.7	Pulse	88.6	
Tb	159	NoGas	1301548.45333333	1245718	0.7	Pulse	95.7	
Bi	209	NoGas	715661.563333333	648018	0.5	Pulse	90.5	

Calibration Standard Report ICPMS5

Sample Name	9G02057-CAL9	1110
File Name	013CALS.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/2/2019 20:17:13	
Sample Type	CalStd	
Total Dilution	1.0000	
Comment	A19F228	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	T #	Tune	Conc.	Units	Det.	CPS	CPS RSD	Ratio	Integ Time	Reps
Na	23	45	1	H2	50060.675	ppb	Analog	133929076	0.4	116.787	0.2001	3
Ca	44	45	1	H2	50061.539	ppb	Analog	5996436	0.3	5.229	0.2001	3
Fe	56	74	1	H2	50052.965	ppb	Analog	301969878	0.5	889.360	0.3000	3
Fe	57	74	1	H2	50035.102	ppb	Analog	7345028	0.4	21.633	0.3000	3
Se	78	74	1	H2	0.145	ppb	Pulse	25	10.2	0.000	0.9999	3
Mg	24	45	2	He	49955.450	ppb	Analog	13335241	0.1	77.984	0.0999	3
Al	27	45	2	He	49993.023	ppb	Analog	7195183	0.7	42.076	0.0999	3
K	39	45	2	He	49940.825	ppb	Analog	12932017	0.5	75.625	0.0999	3
V	51	74	2	He	-0.152	ppb	Pulse	701	2.9	0.007	0.3000	3
Cr	52	74	2	He	1020.425	ppb	Analog	2062638	0.8	20.610	0.3000	3
Mn	55	74	2	He	2507.666	ppb	Analog	3881227	0.5	38.783	0.3000	3
Ni	60	74	2	He	997.662	ppb	Pulse	657637	0.2	6.571	0.3000	3
Cu	65	74	2	He	994.010	ppb	Pulse	798922	0.1	7.983	0.3000	3
Zn	66	74	2	He	2492.847	ppb	Pulse	717912	0.2	7.174	0.3000	3
As	75	74	2	He	0.154	ppb	Pulse	39	22.2	0.000	0.9999	3
Mo	95	103	2	He	0.173	ppb	Pulse	156	6.9	0.001	0.3000	3
Ag	107	103	2	He	0.115	ppb	Pulse	308	16.8	0.001	0.3000	3
Sb	121	103	2	He	0.049	ppb	Pulse	56	22.7	0.000	0.3000	3
Ba	138	159	2	He	2497.374	ppb	Analog	6800675	0.6	17.028	0.3000	3
Tl	205	159	2	He	0.007	ppb	Pulse	81	15.6	0.000	0.3000	3
Be	9	6	3	NoGas	0.012	ppb	Pulse	29	24.0	0.000	0.3000	3
Ti	47	45	3	NoGas	2504.143	ppb	Analog	1897526	1.6	0.890	0.2001	3
Co	59	74	3	NoGas	0.343	ppb	Pulse	3912	3.1	0.007	0.2001	3
Cu	65	74	3	NoGas	999.602	ppb	Analog	2157886	1.5	4.035	0.2001	3
Cd	111	103	3	NoGas	1003.291	ppb	Mix	1378557	0.3	2.344	0.3000	3
W	182	159	3	NoGas	0.185	ppb	Pulse	1079	10.9	0.001	0.3000	3
Hg	201	159	3	NoGas	43.488	ppt	Pulse	29	5.2	0.000	2.0001	3
Pb	208	159	3	NoGas	0.193	ppb	Pulse	3715	1.0	0.003	0.2001	3

QC ISTD Table

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Sc	45	H2	1473675.55333333	1146788	0.4	Pulse	77.8	
Ge	74	H2	444312.95	339541	0.8	Pulse	76.4	
Sc	45	He	199999.48	171005	0.7	Pulse	85.5	
Ge	74	He	124033.623333333	100080	0.8	Pulse	80.7	
Rh	103	He	306616.713333333	239615	0.6	Pulse	78.1	
Tb	159	He	466139.666666667	399381	0.1	Pulse	85.7	
Bi	209	He	284384.236666667	219381	0.2	Pulse	77.1	

Calibration Standard Report ICPMS5

Name	Mass	Tune Mode	ISTD Ref CPS	CPS	CPS RSD	Det.	ISTD Recovery %	QC flag
Li	6	NoGas	870133.443333333	832420	0.8	Mix	95.7	
Sc	45	NoGas	2371044.6	2133414	1.9	Analog	90.0	
Ge	74	NoGas	639984.78	534774	1.0	Pulse	83.6	
Rh	103	NoGas	743164.04	588141	0.3	Pulse	79.1	
Tb	159	NoGas	1301548.45333333	1173177	0.5	Pulse	90.1	
Bi	209	NoGas	715661.563333333	575546	1.0	Pulse	80.4	

P/A Factor Tuning Report

Current Sample

Sample Name: 9G02057-ICV1
Data File: 014_ICV.d
Acquired: 7/2/2019 20:30:09

Detector Parameters and P/A Factors

Discriminator: 4.5 mV
AnalogHV: 1900 V
PulseHV: 1658 V

Acquired: 7/2/2019 19:15:53

Mass[u]	Element	P/A Factor
23	Na	0.111542
24	Mg	0.116344
27	Al	0.120970
39	K	0.125501
44	Ca	0.125343
45	Sc	0.124924
47	Ti	0.127061
52	Cr	0.130359
55	Mn	0.131435
57	Fe	0.133511
60	Ni	0.139225
65	Cu	0.142065
66	Zn	0.141060
111	Cd	0.147775
138	Ba	0.144987
159	Tb	0.149350
6	Li	Signal too low
7	Li	Signal too low
9	Be	Signal too low
51	V	Signal too low
59	Co	Signal too low
74	Ge	Signal too low
75	As	Signal too low
78	Se	Signal too low
95	Mo	Signal too low
103	Rh	Signal too low
106	[Cd]	Signal too low
107	Ag	Signal too low
108	[Cd]	Signal too low
121	Sb	Signal too low
182	W	Signal too low
201	Hg	Signal too low
205	Tl	Signal too low
206	[Pb]	Signal too low
207	[Pb]	Signal too low
208	Pb	Signal too low

Independent Detector Parameters and P/A Factors

Tune Mode Name: H2
Discriminator: 4.5 mV
AnalogHV: 1900 V
PulseHV: 1658 V

Acquired: 7/2/2019 20:12:48

Mass[u]	Element	P/A Factor
23	Na	0.113647
44	Ca	0.127265
45	Sc	0.125853
56	Fe	0.135048
57	Fe	0.133655
74	Ge	Signal too low
78	Se	Signal too low

Tune Mode Name: He
Discriminator: 4.5 mV
AnalogHV: 1900 V
PulseHV: 1658 V

Acquired: 7/2/2019 20:18:06

Mass[u]	Element	P/A Factor
24	Mg	0.119093
27	Al	0.122378
39	K	0.127097
51	V	0.129562
52	Cr	0.131497
55	Mn	0.133618
60	Ni	0.138955
65	Cu	0.141593
66	Zn	0.141813
138	Ba	0.145573
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
121	Sb	Signal too low
159	Tb	Signal too low
205	Tl	Signal too low
209	Bi	Signal too low

Tune Mode Name: NoGas
Discriminator: 4.5 mV
AnalogHV: 1900 V
PulseHV: 1658 V

Acquired: 7/2/2019 20:19:16

Mass[u]	Element	P/A Factor
6	Li	0.087773
45	Sc	0.125165
47	Ti	0.125372
59	Co	0.136855
65	Cu	0.139795
74	Ge	0.140891
103	Rh	0.143585
111	Cd	0.145672
159	Tb	0.147138
182	W	0.148053
206	Pb	0.151941
207	Pb	0.152896
208	Pb	0.151478
209	Bi	0.153985
7	Li	Signal too low
9	Be	Signal too low
106	[Cd]	Signal too low
108	[Cd]	Signal too low
201	Hg	Signal too low

Created: 7/3/2019 12:58:07

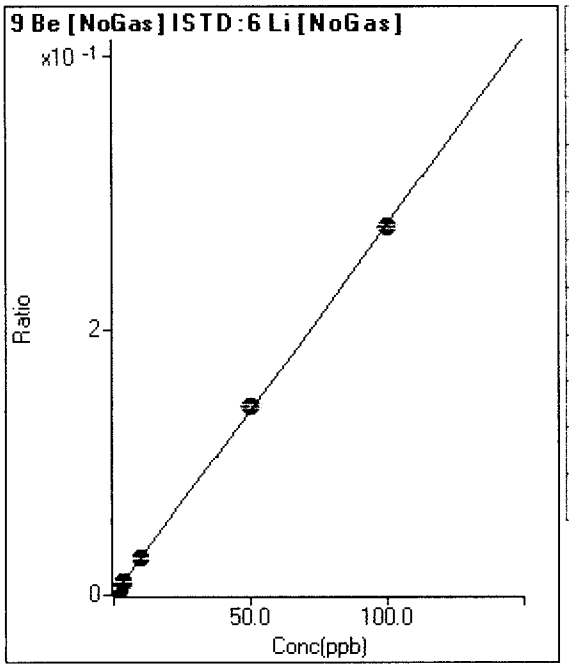
Calibration for 014_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\9G02057A.b\
Analysis File: 9G02057A.batch.bin
DA Date-Time: 7/2/2019 20:32:34
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	9G02057-CAL0	7/2/2019 19:36:01
2	005CALS.d	9G02057-CAL1	7/2/2019 19:40:19
3	006CALS.d	9G02057-CAL2	7/2/2019 19:44:56
4	007CALS.d	9G02057-CAL3	7/2/2019 19:49:39
5	008CALS.d	9G02057-CAL4	7/2/2019 19:54:13
6	009CALS.d	9G02057-CAL5	7/2/2019 19:58:47
7	010CALS.d	9G02057-CAL6	7/2/2019 20:03:21
8	011CALS.d	9G02057-CAL7	7/2/2019 20:08:15
9	012CALS.d	9G02057-CAL8	7/2/2019 20:12:46
10	013CALS.d	9G02057-CAL9	7/2/2019 20:17:13

Cr @ 500ppb LDR this sequence
7/03/19

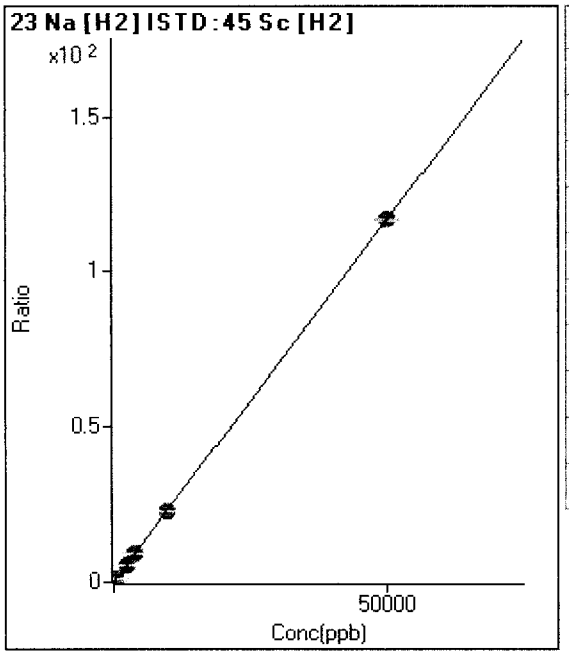
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2	0.000	P	173.2
2	☐	0.180	0.174	429	0.000	P	10.6
3	☐	0.900	0.962	2399	0.003	P	2.8
4	☐	1.800	1.841	4655	0.005	P	4.9
5	☐	3.600	3.592	9181	0.010	P	3.7
6	☐	10.000	10.206	25647	0.028	P	0.6
7	☐	50.000	51.083	125989	0.141	P	1.2
8	☐	100.000	99.437	240967	0.275	P	0.9
9	☐			57	0.000	P	20.5
10	☐			29	0.000	P	23.2

y = 0.0028 * x + 2.5481E-006
R = 0.9999
DL = 0.004793
BEC = 0.0009225

Weight: <None>
Min Conc: <None>

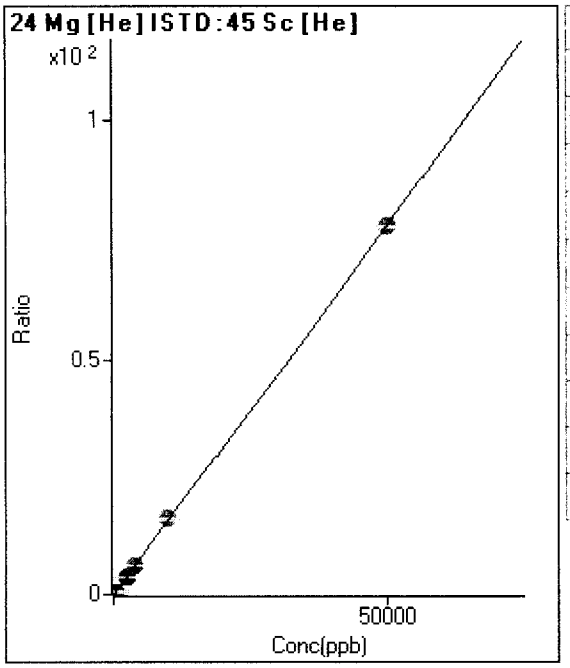


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	17017	0.012	P	2.4
2	☐	9.000	8.844	46880	0.032	P	0.9
3	☐	45.000	44.793	173767	0.116	P	1.6
4	☐	90.000	85.453	320579	0.211	P	0.8
5	☐	180.000	170.740	633417	0.410	P	1.6
6	☐	400.000	396.372	1433936	0.936	A	0.8
7	☐	2500.000	2456.676	8380648	5.742	A	1.8
8	☐	4000.000	3901.867	12877316	9.113	A	1.0
9	☐	10000.000	9747.064	30276388	22.748	A	0.5
10	☐	50000.000	50060.675	133929076	116.787	A	0.5

y = 0.0023 * x + 0.0115
R = 1.0000
DL = 0.3512
BEC = 4.951

Weight: <None>
Min Conc: <None>

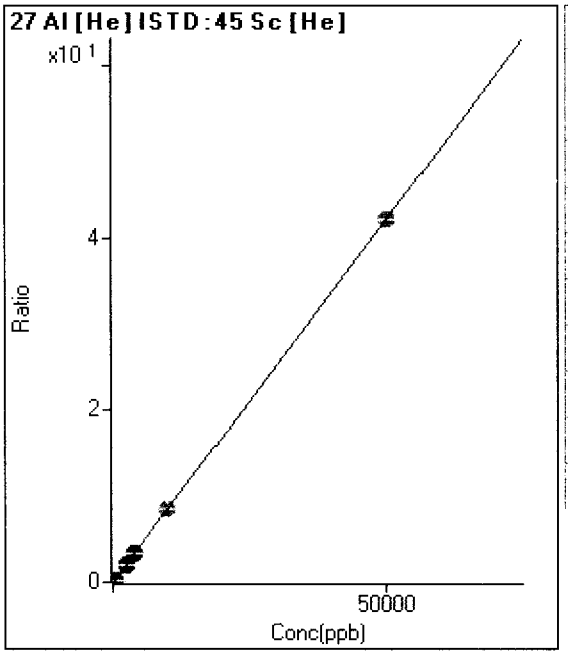
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	187	0.001	P	8.0
2		9.000	9.244	3120	0.015	P	9.0
3		45.000	44.591	14504	0.071	P	1.7
4		90.000	89.635	29134	0.141	P	5.0
5		180.000	179.112	59007	0.281	P	0.4
6		400.000	395.525	128129	0.618	P	2.7
7		2500.000	2460.989	768218	3.843	P	1.0
8		4000.000	4038.678	1187846	6.306	A	2.2
9		10000.000	10217.233	2852022	15.951	A	0.5
10		50000.000	49955.450	13335241	77.984	A	0.7

y = 0.0016 * x + 9.3423E-004
R = 1.0000
DL = 0.1437
BEC = 0.5985

Weight: <None>
Min Conc: <None>

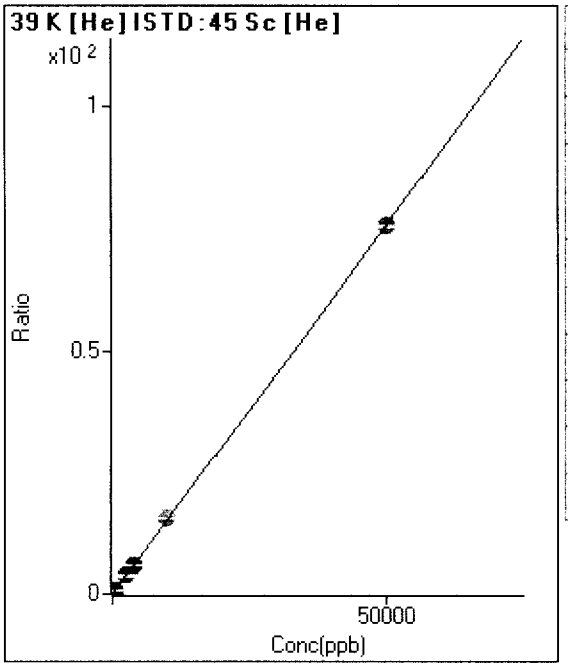


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	77	0.000	P	52.7
2		9.000	9.620	1722	0.008	P	5.1
3		45.000	46.923	8197	0.040	P	2.2
4		90.000	88.912	15563	0.075	P	3.1
5		180.000	181.605	32229	0.153	P	0.6
6		400.000	391.986	68446	0.330	P	1.8
7		2500.000	2453.525	412900	2.065	P	0.8
8		4000.000	3907.548	619622	3.289	P	1.1
9		10000.000	10083.776	1517539	8.487	A	0.2
10		50000.000	49993.023	7195183	42.076	A	0.1

y = 8.4163E-004 * x + 3.8360E-004
R = 1.0000
DL = 0.7201
BEC = 0.4558

Weight: <None>
Min Conc: <None>

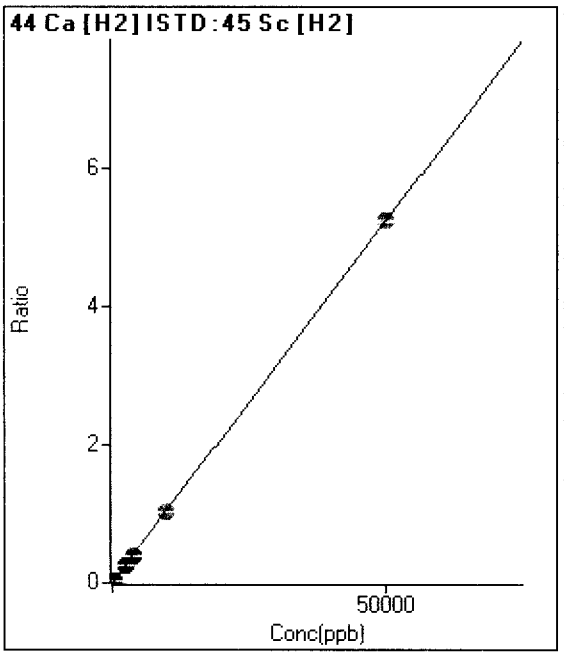
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10775	0.054	P	4.0
2	☑	9.000		14608	0.072	P	0.6
3	☐	45.000	50.214	26701	0.130	P	2.1
4	☐	90.000	88.257	38763	0.187	P	3.8
5	☐	180.000	182.563	69436	0.330	P	1.4
6	☐	400.000	404.032	137859	0.665	P	1.8
7	☐	2500.000	2481.259	761387	3.809	P	0.9
8	☐	4000.000	4007.564	1152574	6.118	P	1.4
9	☐	10000.000	10297.315	2795726	15.636	A	0.7
10	☐	50000.000	49940.826	12932017	75.625	A	0.5

y = 0.0015 * x + 0.0539
R = 1.0000
DL = 4.28
BEC = 35.6

Weight: <None>
Min Conc: <None>

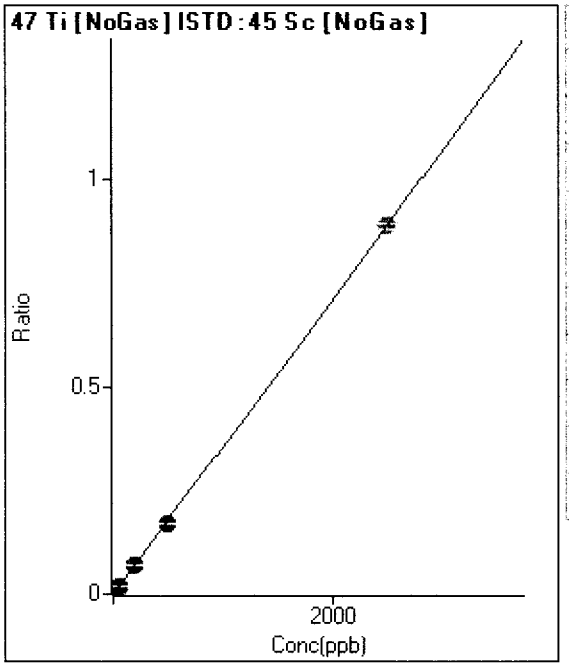


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	598	0.000	P	13.0
2	☐	9.000	8.453	1878	0.001	P	7.2
3	☐	45.000	45.474	7720	0.005	P	2.9
4	☐	90.000	84.479	14031	0.009	P	1.2
5	☐	180.000	173.663	28659	0.019	P	3.7
6	☐	400.000	386.393	62438	0.041	P	0.8
7	☐	2500.000	2425.642	370325	0.254	P	2.1
8	☐	4000.000	3817.458	563960	0.399	P	0.7
9	☐	10000.000	9784.616	1360668	1.022	A	1.1
10	☐	50000.000	50061.539	5996436	5.229	A	0.6

y = 1.0444E-004 * x + 4.0627E-004
R = 1.0000
DL = 1.514
BEC = 3.89

Weight: <None>
Min Conc: <None>

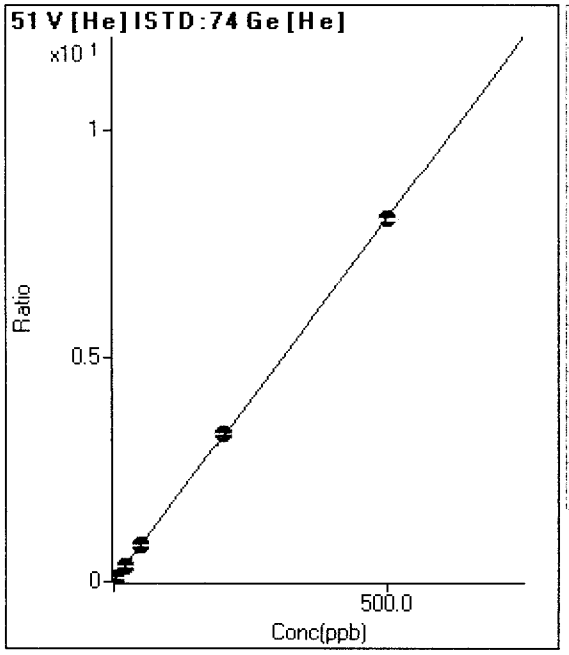
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43	0.000	P	17.4
2	☐	0.180	0.155	177	0.000	P	12.8
3	☐	0.900	0.970	888	0.000	P	7.0
4	☐	1.800	1.709	1538	0.001	P	4.6
5	☐	3.600	3.714	3312	0.001	P	2.7
6	☐	20.000	19.953	17634	0.007	P	1.2
7	☐	50.000	49.510	41846	0.018	P	2.1
8	☐	200.000	196.711	159748	0.070	P	0.3
9	☐	500.000	480.649	378409	0.171	P	0.6
10	☐	2500.000	2504.143	1897526	0.890	A	1.6

y = 3.5522E-004 * x + 1.8265E-005
R = 1.0000
DL = 0.02688
BEC = 0.05142

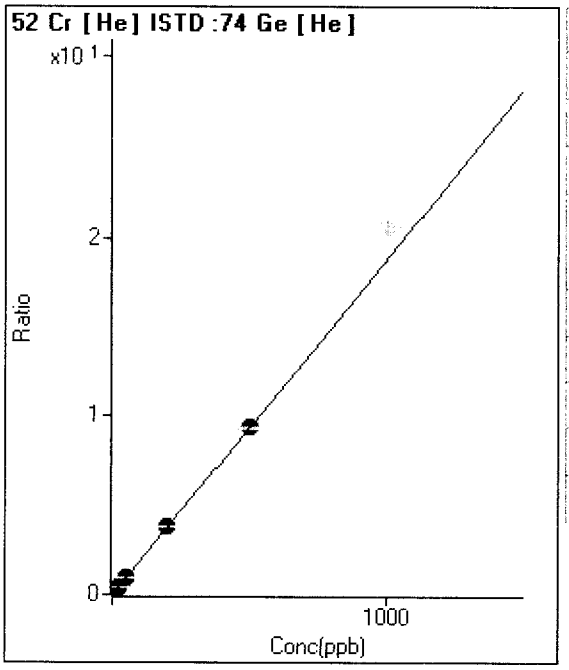
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1171	0.009	P	10.3
2	☐	0.180	0.163	1515	0.012	P	2.1
3	☐	0.900	0.840	2911	0.023	P	2.4
4	☐	1.800	1.809	4955	0.039	P	3.0
5	☐	3.600	3.679	8924	0.069	P	2.3
6	☐	20.000	20.464	43360	0.339	P	2.3
7	☐	50.000	50.742	101388	0.825	P	1.0
8	☐	200.000	202.664	381972	3.269	P	0.2
9	☐	500.000	498.841	899929	8.032	P	0.8
10	☐			701	0.007	P	3.2

y = 0.0161 * x + 0.0094
R = 1.0000
DL = 0.1817
BEC = 0.5872

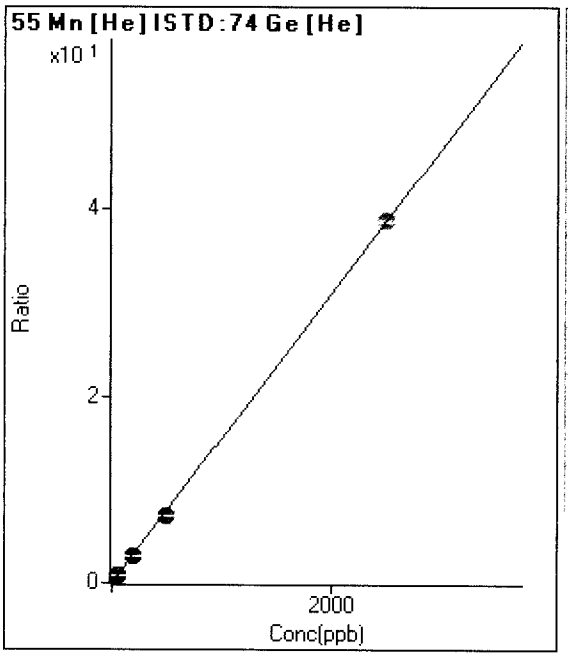
Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	186	0.001	P	8.7
2	☐	0.180	0.180	611	0.005	P	3.3
3	☐	0.900	0.951	2456	0.019	P	3.7
4	☐	1.800	1.772	4473	0.035	P	4.2
5	☐	3.600	3.719	9284	0.071	P	2.0
6	☐	20.000	20.759	50147	0.392	P	1.9
7	☐	50.000	51.101	118107	0.962	P	0.4
8	☐	200.000	204.071	448214	3.836	P	0.5
9	☐	500.000	498.230	1049005	9.362	P	0.6
10	☑	1000.000		2062638	20.610	A	0.3

y = 0.0188 * x + 0.0015
R = 1.0000
DL = 0.02073
BEC = 0.07964

Weight: <None>
Min Conc: <None>

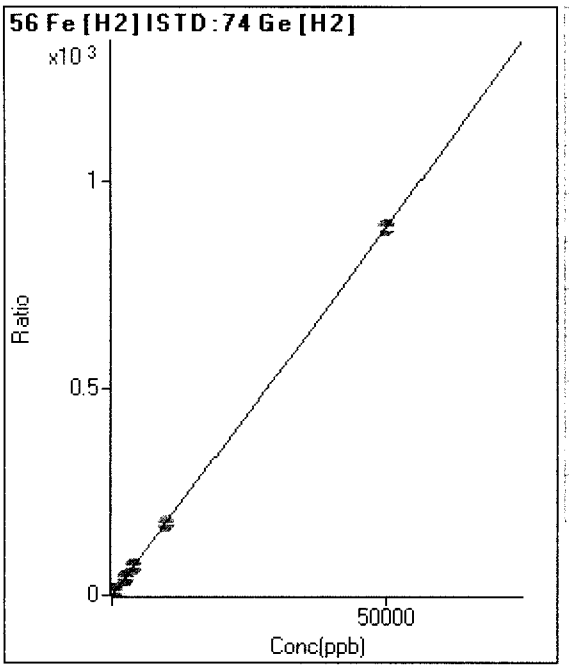


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38	0.000	P	35.6
2	☐	0.180	0.154	338	0.003	P	15.2
3	☐	0.900	0.847	1700	0.013	P	5.5
4	☐	1.800	1.875	3767	0.029	P	4.1
5	☐	3.600	3.411	6904	0.053	P	4.3
6	☐	20.000	19.027	37725	0.295	P	3.3
7	☐	50.000	47.936	91093	0.742	P	0.7
8	☐	200.000	190.648	344588	2.949	P	0.5
9	☐	500.000	465.655	806963	7.202	P	0.4
10	☐	2500.000	2507.666	3881227	38.783	A	0.8

y = 0.0155 * x + 3.0456E-004
R = 0.9999
DL = 0.02105
BEC = 0.01969

Weight: <None>
Min Conc: <None>

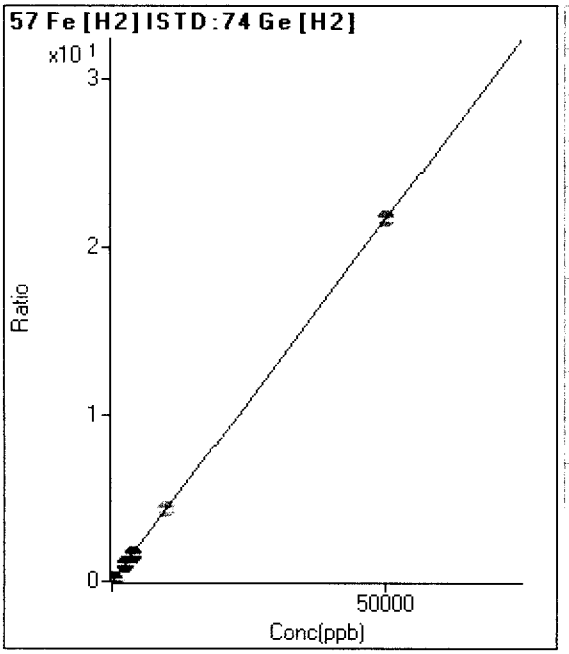
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9120	0.021	P	4.5
2	☐	9.000	8.636	78779	0.174	P	1.0
3	☐	45.000	43.197	361021	0.788	P	0.5
4	☐	90.000	86.616	722556	1.560	P	0.7
5	☐	180.000	179.103	1501801	3.203	A	1.5
6	☐	400.000	398.111	3310585	7.094	A	0.5
7	☐	2500.000	2443.324	19551576	43.433	A	0.7
8	☐	4000.000	3931.885	29770263	69.882	A	0.7
9	☐	10000.000	9776.723	70203818	173.733	A	0.4
10	☐	50000.000	50052.965	301969878	889.360	A	0.4

y = 0.0178 * x + 0.0205
R = 1.0000
DL = 0.1575
BEC = 1.155

Weight: <None>
Min Conc: <None>

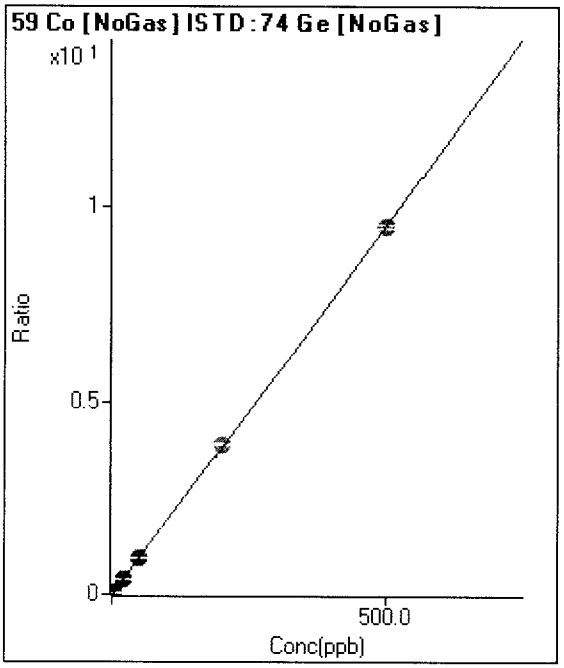


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	770	0.002	P	17.6
2	☐	9.000	8.588	2466	0.005	P	3.4
3	☐	45.000	42.660	9243	0.020	P	1.7
4	☐	90.000	87.689	18367	0.040	P	1.6
5	☐	180.000	170.893	35454	0.076	P	1.8
6	☐	400.000	379.980	77468	0.166	P	0.8
7	☐	2500.000	2349.192	457950	1.017	P	0.6
8	☐	4000.000	3771.931	695419	1.632	P	0.6
9	☐	10000.000	9954.415	1739666	4.305	A	1.6
10	☐	50000.000	50035.102	7345028	21.633	A	0.6

y = 4.3232E-004 * x + 0.0017
R = 1.0000
DL = 2.111
BEC = 4.008

Weight: <None>
Min Conc: <None>

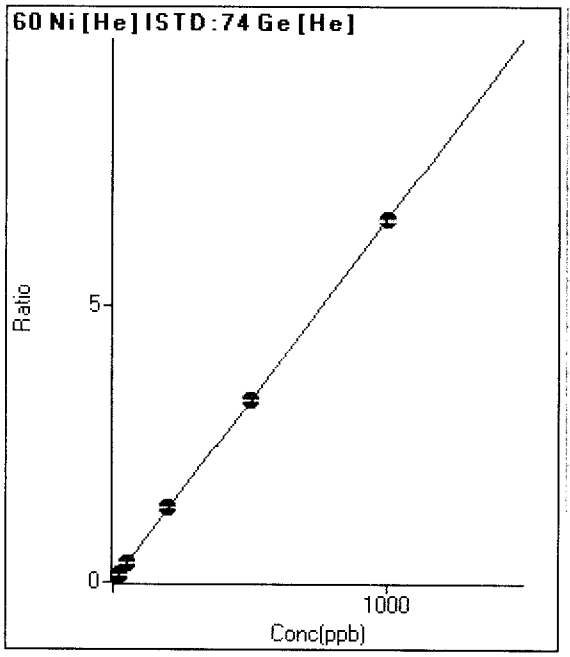
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	503	0.001	P	12.1
2		0.180	0.183	2779	0.004	P	3.7
3		0.900	0.930	12212	0.019	P	1.1
4		1.800	1.815	23515	0.035	P	0.8
5		3.600	3.637	46892	0.070	P	1.0
6		20.000	20.424	256562	0.390	P	0.9
7		50.000	50.086	601389	0.955	P	0.3
8		200.000	203.933	2347529	3.885	A	1.7
9		500.000	498.401	5514248	9.495	A	1.2
10				3912	0.007	P	2.4

y = 0.0190 * x + 7.8616E-004
R = 1.0000
DL = 0.01496
BEC = 0.04127

Weight: <None>
Min Conc: <None>

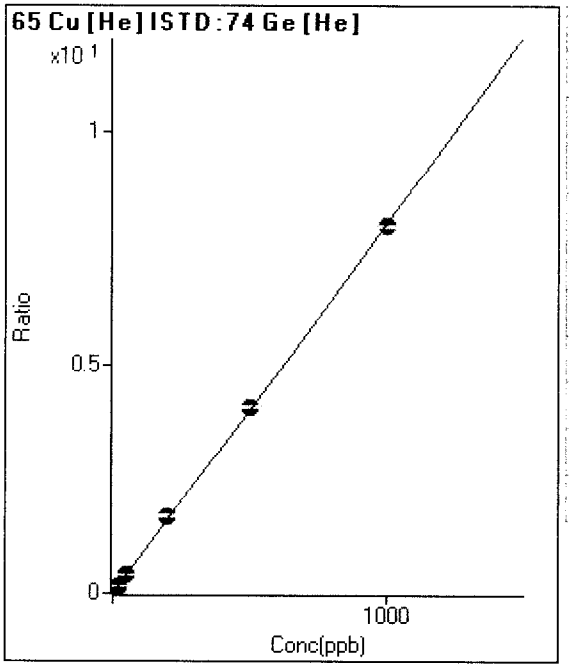


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	37	0.000	P	48.0
2		0.180	0.158	168	0.001	P	31.0
3		0.900	0.966	844	0.007	P	2.9
4		1.800	1.927	1670	0.013	P	8.7
5		3.600	3.807	3300	0.025	P	1.0
6		20.000	21.225	17945	0.140	P	2.6
7		50.000	52.247	42302	0.344	P	1.6
8		200.000	207.699	159898	1.368	P	0.3
9		500.000	501.321	370015	3.302	P	0.3
10		1000.000	997.662	657637	6.571	P	0.8

y = 0.0066 * x + 2.9554E-004
R = 1.0000
DL = 0.06461
BEC = 0.04487

Weight: <None>
Min Conc: <None>

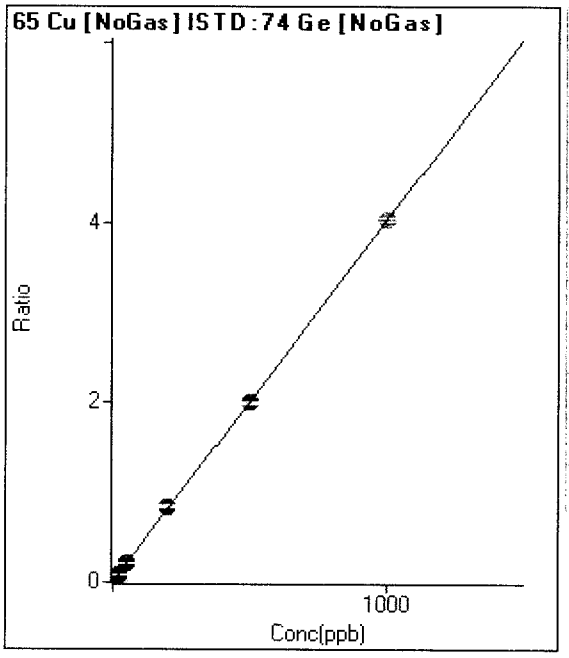
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	148	0.001	P	13.1
2	☐	0.180	0.231	382	0.003	P	9.6
3	☐	0.900	0.972	1141	0.009	P	5.7
4	☐	1.800	1.969	2186	0.017	P	2.7
5	☐	3.600	3.881	4208	0.032	P	3.9
6	☐	20.000	21.874	22654	0.177	P	1.5
7	☐	50.000	53.530	52942	0.431	P	0.6
8	☐	200.000	212.636	199672	1.709	P	0.7
9	☐	500.000	506.495	455854	4.068	P	0.8
10	☐	1000.000	994.010	798922	7.983	P	0.8

y = 0.0080 * x + 0.0012
R = 0.9999
DL = 0.05842
BEC = 0.1484

Weight: <None>
Min Conc: <None>

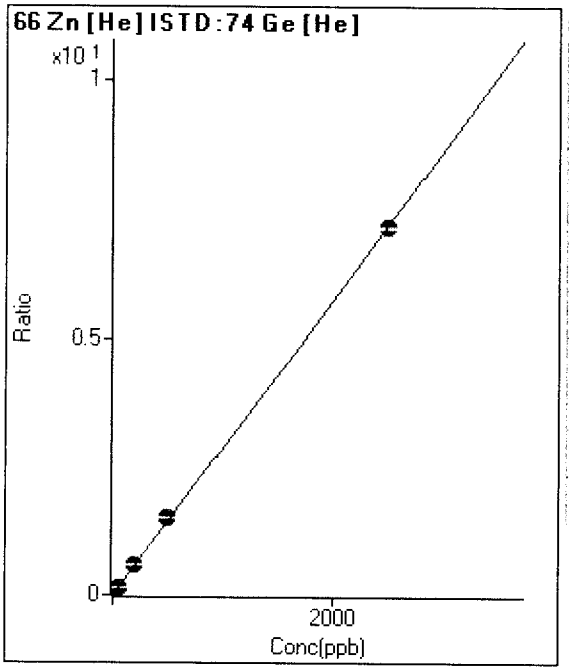


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	368	0.001	P	15.5
2	☐	0.180	0.269	1081	0.002	P	9.5
3	☐	0.900	0.988	3009	0.005	P	6.7
4	☐	1.800	2.048	5877	0.009	P	2.4
5	☐	3.600	3.855	10797	0.016	P	3.3
6	☐	20.000	21.930	58620	0.089	P	2.8
7	☐	50.000	52.915	134876	0.214	P	0.3
8	☐	200.000	209.013	510089	0.844	P	0.3
9	☐	500.000	496.820	1164992	2.006	P	0.6
10	☐	1000.000	999.602	2157886	4.035	A	1.0

y = 0.0040 * x + 5.7521E-004
R = 1.0000
DL = 0.06639
BEC = 0.1425

Weight: <None>
Min Conc: <None>

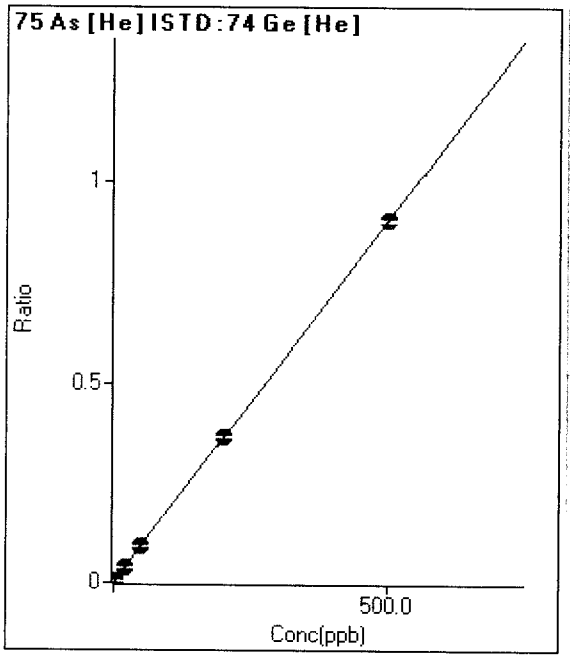
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	181	0.001	P	3.0
2	☑	0.180		282	0.002	P	22.3
3	☐	0.900	0.990	547	0.004	P	7.7
4	☐	1.800	1.925	900	0.007	P	6.3
5	☐	3.600	3.962	1672	0.013	P	5.4
6	☐	20.000	21.620	8157	0.064	P	4.0
7	☐	50.000	53.837	19204	0.156	P	0.2
8	☐	200.000	213.507	71956	0.616	P	1.0
9	☐	500.000	529.909	170993	1.526	P	0.3
10	☐	2500.000	2492.847	717912	7.174	P	0.6

y = 0.0029 * x + 0.0015
R = 0.9999
DL = 0.04528
BEC = 0.5076

Weight: <None>
Min Conc: <None>

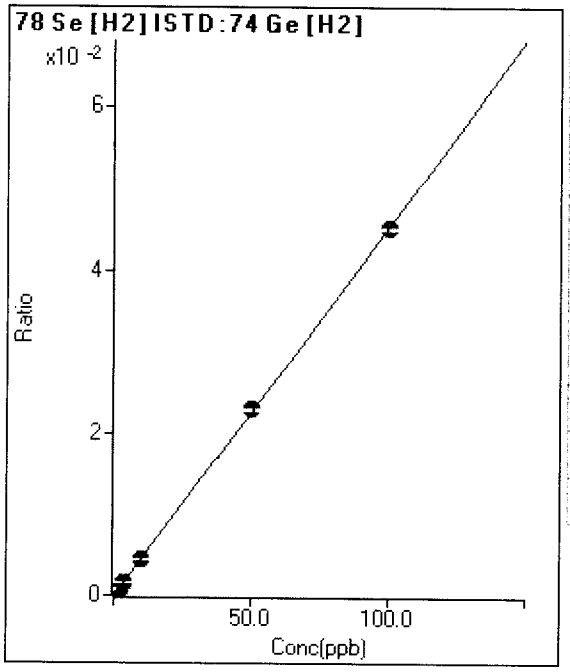


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14	0.000	P	17.7
2	☐	0.180	0.177	55	0.000	P	22.8
3	☐	0.900	0.922	226	0.002	P	2.5
4	☐	1.800	1.933	465	0.004	P	6.4
5	☐	3.600	3.584	859	0.007	P	3.5
6	☐	20.000	20.098	4674	0.036	P	2.5
7	☐	50.000	50.476	11232	0.091	P	0.3
8	☐	200.000	201.071	42528	0.364	P	0.7
9	☐	500.000	499.520	101284	0.904	P	0.7
10	☐			39	0.000	P	22.8

y = 0.0018 * x + 1.1558E-004
R = 1.0000
DL = 0.03396
BEC = 0.06388

Weight: <None>
Min Conc: <None>

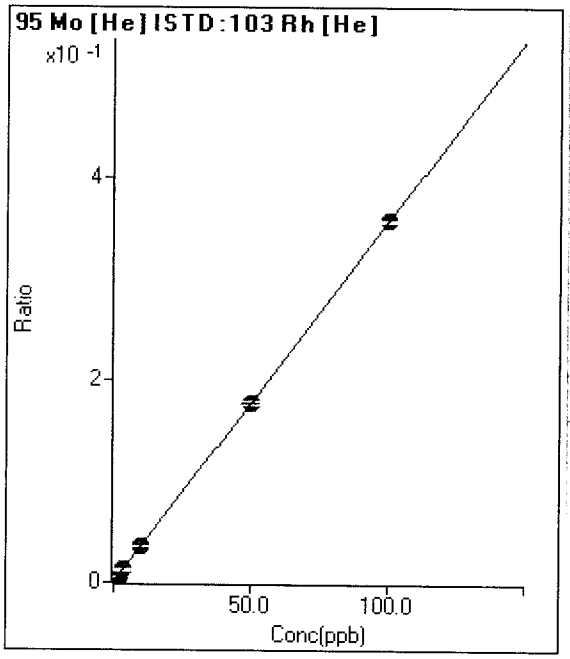
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3	0.000	P	66.6
2	☐	0.180	0.212	47	0.000	P	9.2
3	☐	0.900	0.910	192	0.000	P	13.2
4	☐	1.800	1.826	387	0.001	P	4.5
5	☐	3.600	3.653	780	0.002	P	4.5
6	☐	10.000	10.041	2130	0.005	P	4.2
7	☐	50.000	50.525	10324	0.023	P	0.9
8	☐	100.000	99.731	19283	0.045	P	0.9
9	☐			22	0.000	P	42.0
10	☐			25	0.000	P	9.6

y = 4.5379E-004 * x + 6.7457E-006
R = 1.0000
DL = 0.0297
BEC = 0.01487

Weight: <None>
Min Conc: <None>

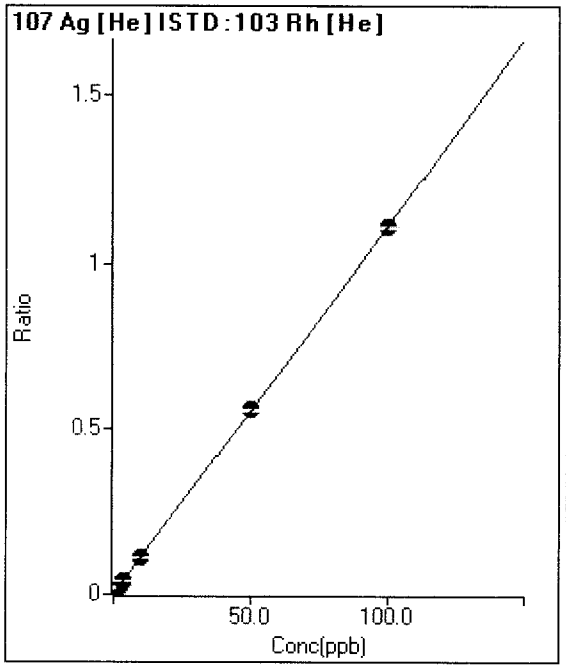


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10	0.000	P	32.8
2	☐	0.180	0.215	251	0.001	P	23.8
3	☐	0.900	0.945	1077	0.003	P	11.0
4	☐	1.800	1.712	1971	0.006	P	9.4
5	☐	3.600	3.497	4034	0.013	P	4.8
6	☐	10.000	9.923	11275	0.035	P	2.0
7	☐	50.000	49.823	53819	0.178	P	2.1
8	☐	100.000	100.101	103503	0.358	P	0.4
9	☐			196	0.001	P	14.4
10	☐			156	0.001	P	7.3

y = 0.0036 * x + 3.2578E-005
R = 1.0000
DL = 0.008964
BEC = 0.009119

Weight: <None>
Min Conc: <None>

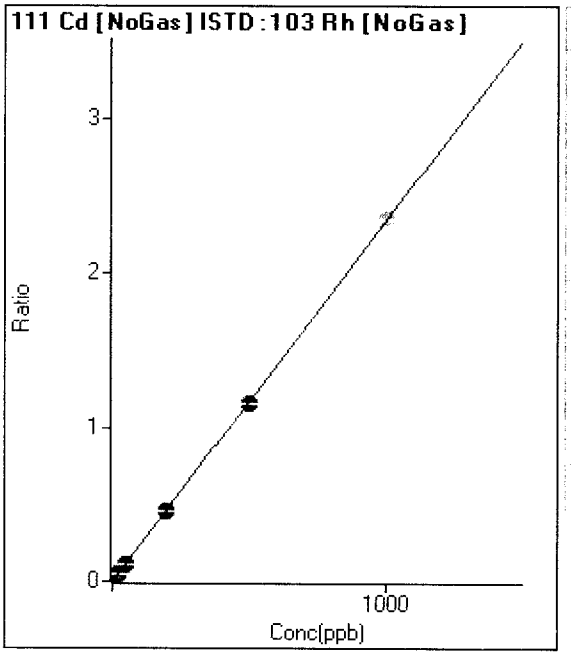
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3	0.000	P	100.4
2	☐	0.180	0.186	654	0.002	P	4.6
3	☐	0.900	0.937	3296	0.010	P	10.7
4	☐	1.800	1.861	6645	0.021	P	2.5
5	☐	3.600	3.643	13056	0.041	P	1.1
6	☐	10.000	10.101	35719	0.112	P	2.0
7	☐	50.000	50.171	168807	0.558	P	0.7
8	☐	100.000	99.901	321760	1.112	P	0.8
9	☐			138	0.001	P	19.2
10	☐			308	0.001	P	17.3

y = 0.0111 * x + 1.0867E-005
R = 1.0000
DL = 0.00294
BEC = 0.0009764

Weight: <None>
Min Conc: <None>

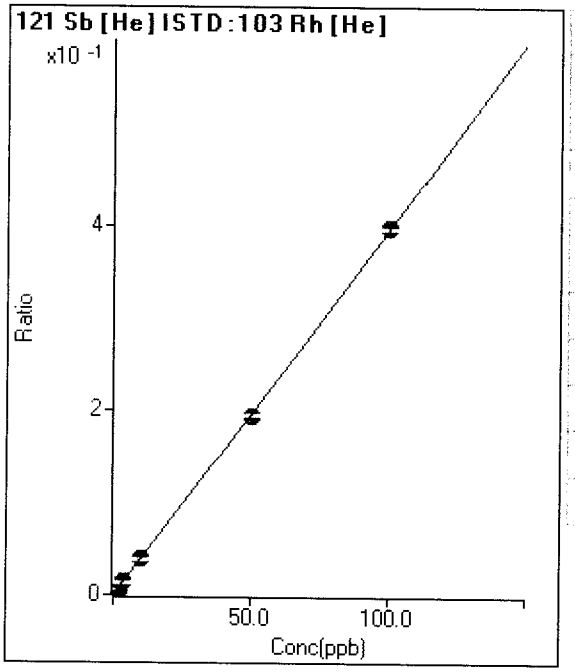


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	21	0.000	P	58.5
2	☐	0.180	0.162	307	0.000	P	20.2
3	☐	0.900	0.870	1572	0.002	P	4.4
4	☐	1.800	1.741	3145	0.004	P	3.1
5	☐	3.600	3.573	6434	0.008	P	1.5
6	☐	20.000	19.813	35230	0.046	P	1.7
7	☐	50.000	48.988	82126	0.114	P	0.8
8	☐	200.000	198.289	319490	0.463	P	0.4
9	☐	500.000	494.212	760629	1.155	P	0.7
10	☐	1000.000	1003.291	1378557	2.344	M	0.2

y = 0.0023 * x + 2.8028E-005
R = 1.0000
DL = 0.02104
BEC = 0.012

Weight: <None>
Min Conc: <None>

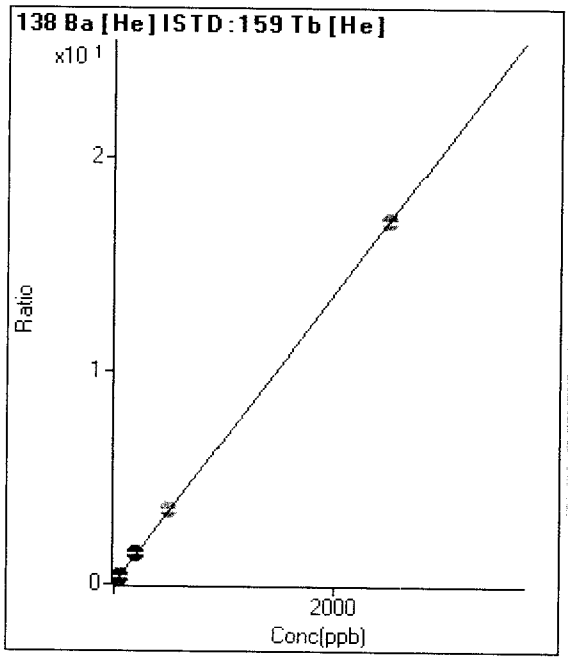
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11	0.000	P	96.7
2	☐	0.180	0.173	227	0.001	P	10.5
3	☐	0.900	0.887	1119	0.004	P	6.5
4	☐	1.800	1.795	2289	0.007	P	0.3
5	☐	3.600	3.514	4490	0.014	P	4.4
6	☐	10.000	9.933	12499	0.039	P	3.3
7	☐	50.000	49.104	58761	0.194	P	0.7
8	☐	100.000	100.458	115067	0.398	P	0.6
9	☐			141	0.001	P	10.1
10	☐			56	0.000	P	22.6

y = 0.0040 * x + 3.6338E-005
R = 0.9999
DL = 0.02664
BEC = 0.009181

Weight: <None>
Min Conc: <None>

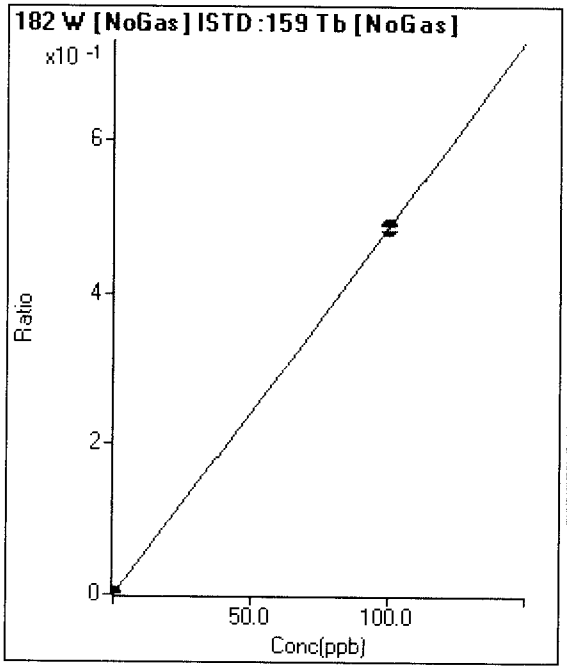


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	147	0.000	P	2.0
2	☑	0.180		916	0.002	P	7.0
3	☐	0.900	0.994	3368	0.007	P	3.0
4	☐	1.800	1.927	6424	0.013	P	1.4
5	☐	3.600	3.864	12826	0.027	P	2.1
6	☐	20.000	21.010	68903	0.144	P	3.0
7	☐	50.000	52.577	166791	0.359	P	0.4
8	☐	200.000	207.532	638930	1.415	P	0.5
9	☐	500.000	509.815	1515521	3.476	A	0.5
10	☐	2500.000	2497.374	6800675	17.028	A	0.6

y = 0.0068 * x + 3.1464E-004
R = 1.0000
DL = 0.00272
BEC = 0.04615

Weight: <None>
Min Conc: <None>

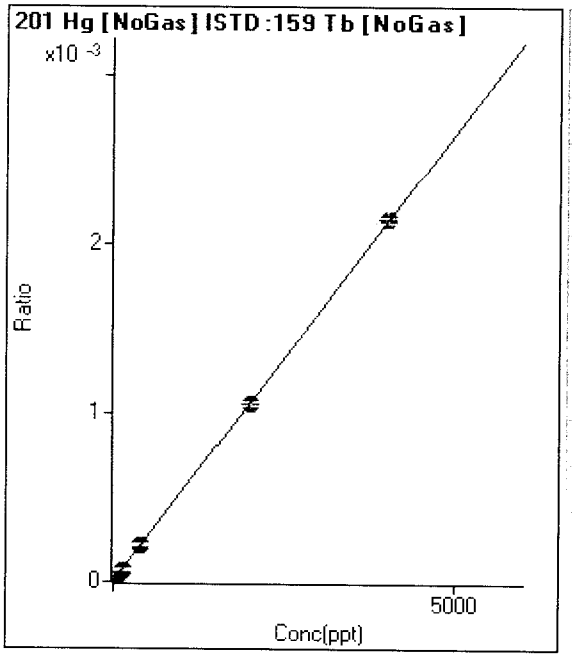
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	26	0.000	P	40.0
2				39	0.000	P	71.3
3				36	0.000	P	54.2
4				37	0.000	P	64.4
5				37	0.000	P	10.1
6				39	0.000	P	38.4
7				78	0.000	P	36.2
8				108	0.000	P	27.2
9		100.000	100.000	604805	0.485	P	0.4
10				1079	0.001	P	11.4

y = 0.0049 * x + 1.9655E-005
R = 1.0000
DL = 0.004856
BEC = 0.004049

Weight: <None>
Min Conc: <None>

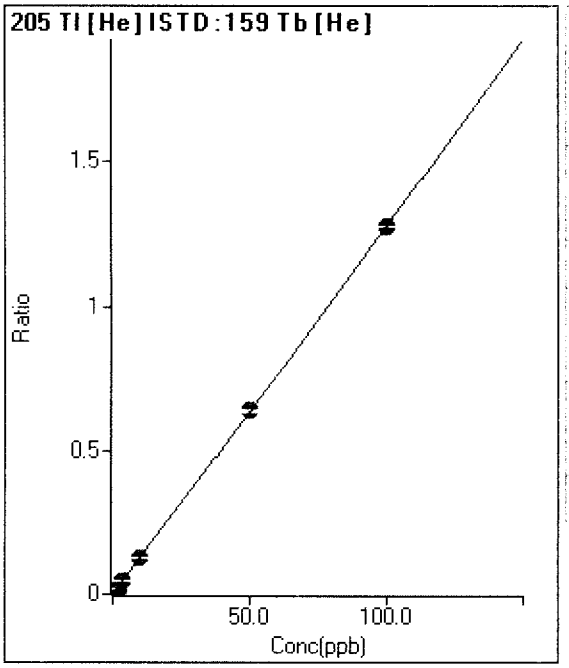


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		0.000	0.000	4	0.000	P	33.5
2				13	0.000	P	14.9
3		36.000	39.158	32	0.000	P	17.3
4		72.000	79.877	61	0.000	P	2.4
5		144.000	132.444	98	0.000	P	13.6
6		400.000	403.320	292	0.000	P	5.0
7		2000.000	1976.408	1380	0.001	P	2.8
8		4000.000	4011.710	2730	0.002	P	1.4
9				82	0.000	P	4.2
10				29	0.000	P	4.9

y = 5.3303E-007 * x + 2.8132E-006
R = 1.0000
DL = 5.303
BEC = 5.278

Weight: <None>
Min Conc: <None>

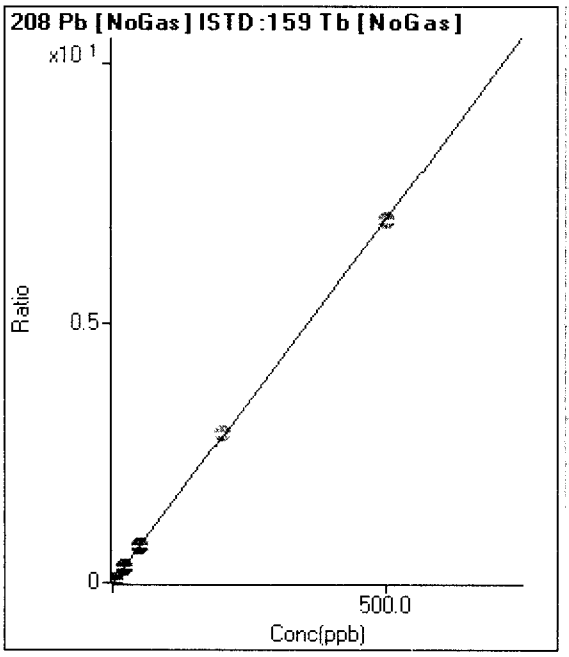
Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	54	0.000	P	9.5
2	☐	0.180	0.190	1198	0.003	P	0.5
3	☐	0.900	0.893	5465	0.012	P	2.1
4	☐	1.800	1.832	11210	0.023	P	1.3
5	☐	3.600	3.654	22480	0.047	P	1.9
6	☐	10.000	10.056	61622	0.128	P	1.9
7	☐	50.000	50.142	297350	0.640	P	0.4
8	☐	100.000	99.921	575377	1.275	P	0.1
9	☐			316	0.001	P	6.7
10	☐			81	0.000	P	15.7

y = 0.0128 * x + 1.1681E-004
R = 1.0000
DL = 0.002612
BEC = 0.009158

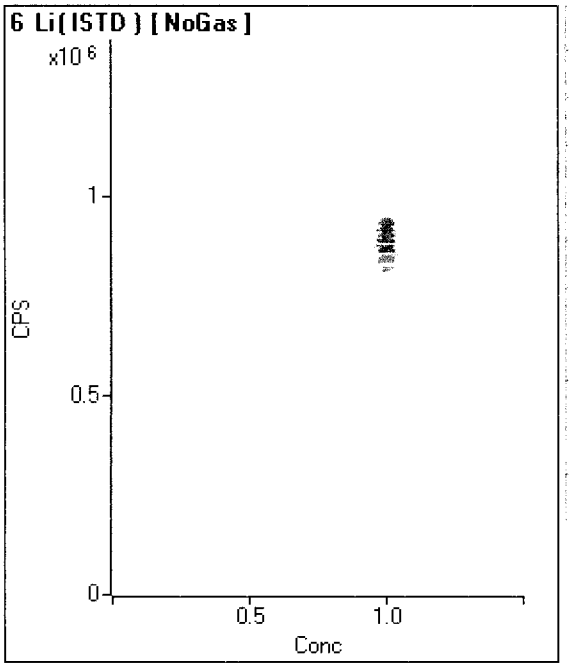
Weight: <None>
Min Conc: <None>



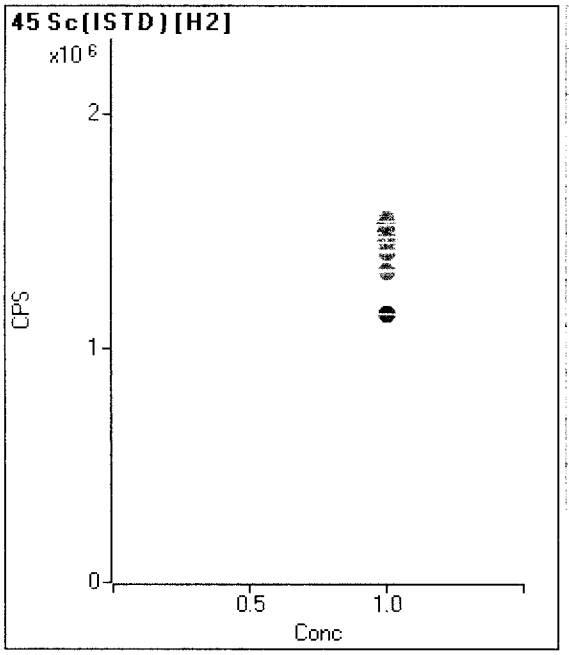
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	598	0.000	P	15.6
2	☐	0.180	0.178	3922	0.003	P	3.6
3	☐	0.900	0.920	17882	0.013	P	1.7
4	☐	1.800	1.836	35157	0.026	P	1.2
5	☐	3.600	3.710	70362	0.053	P	0.4
6	☐	20.000	20.572	387457	0.289	P	0.2
7	☐	50.000	50.571	927721	0.710	P	0.7
8	☐	200.000	204.634	3663089	2.873	A	0.4
9	☐	500.000	498.066	8708918	6.991	A	0.3
10	☐			3715	0.003	P	1.3

y = 0.0140 * x + 4.5897E-004
R = 0.9999
DL = 0.01528
BEC = 0.0327

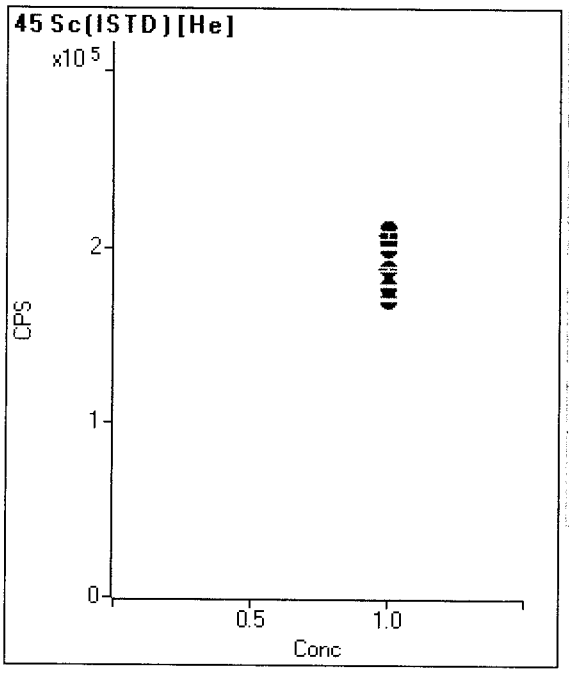
Weight: <None>
Min Conc: <None>



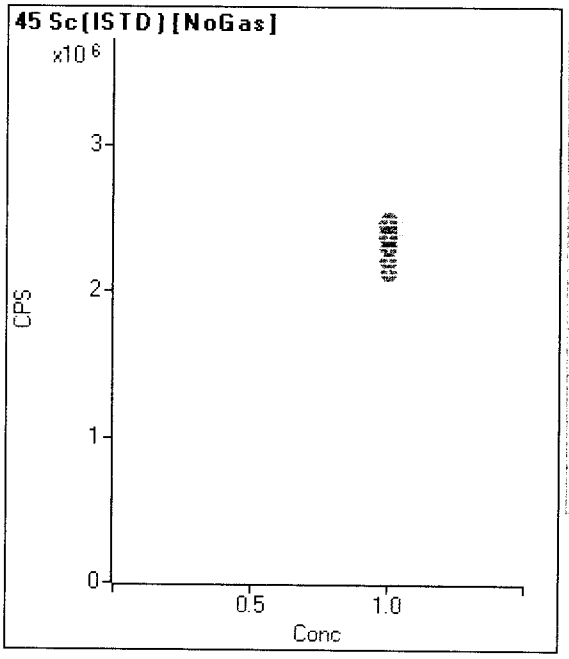
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		870133		A	0.4
2		1.000		886079		A	0.8
3		1.000		902225		A	0.5
4		1.000		915486		A	1.2
5		1.000		925221		A	0.6
6		1.000		909642		A	0.9
7		1.000		892921		A	1.2
8		1.000		877358		A	1.3
9		1.000		856157		A	0.7
10		1.000		832420		M	0.8



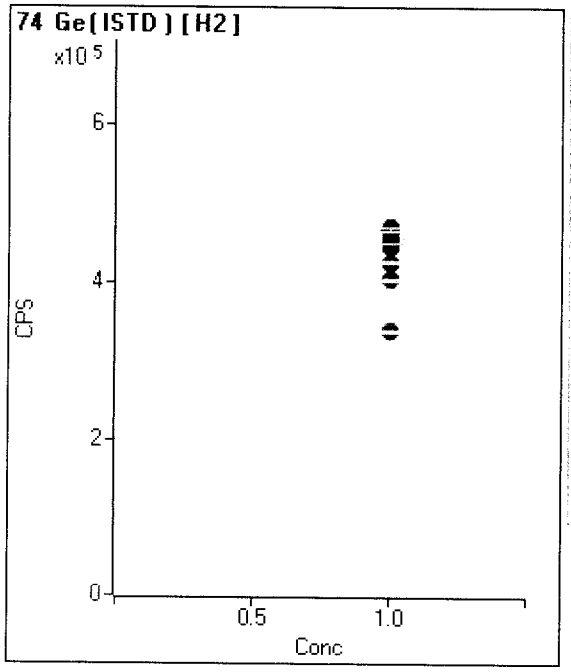
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		1473676		A	1.3
2		1.000		1456870		A	1.0
3		1.000		1497546		A	1.0
4		1.000		1520176		A	0.1
5		1.000		1545770		A	1.3
6		1.000		1531771		A	1.0
7		1.000		1459801		A	1.8
8		1.000		1413101		A	1.0
9		1.000		1330935		A	0.2
10		1.000		1146788		P	0.4



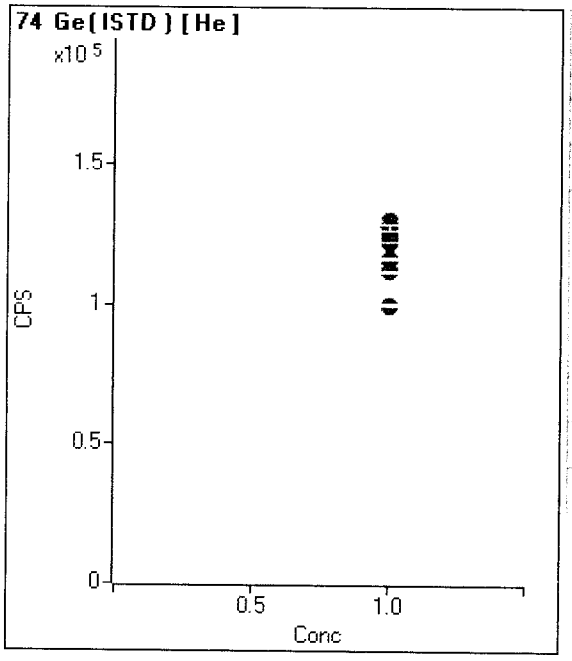
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		199999		P	0.2
2		1.000		203070		P	0.7
3		1.000		205591		P	1.0
4		1.000		206872		P	1.1
5		1.000		210335		P	0.5
6		1.000		207286		P	2.4
7		1.000		199925		P	0.8
8		1.000		188396		P	0.7
9		1.000		178804		P	0.3
10		1.000		171005		P	0.7



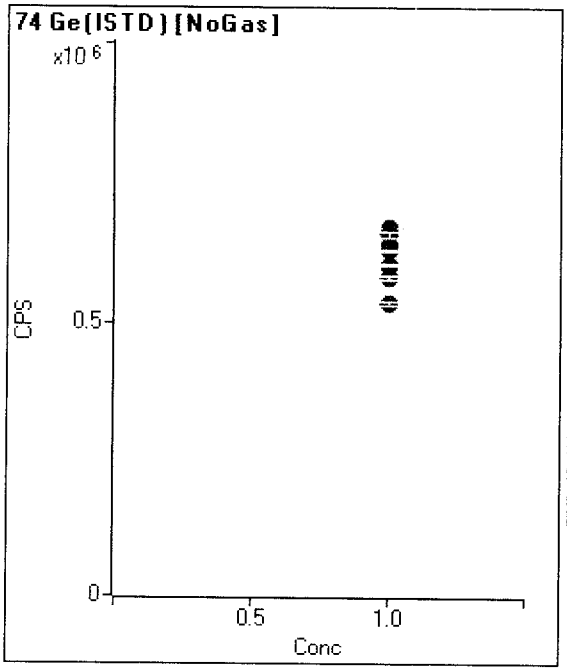
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1		1.000		2371045		A	0.9
2		1.000		2412252		A	1.8
3		1.000		2450041		A	1.6
4		1.000		2458596		A	0.1
5		1.000		2476701		A	1.2
6		1.000		2481712		A	1.2
7		1.000		2377463		A	1.7
8		1.000		2285651		A	1.5
9		1.000		2216238		A	1.5
10		1.000		2133414		A	1.9



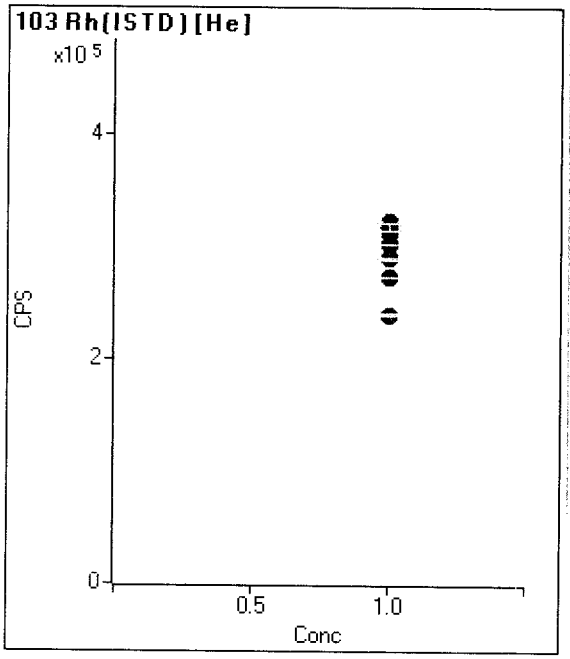
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		444313		P	0.3
2	☐	1.000		452842		P	0.3
3	☐	1.000		458117		P	0.1
4	☐	1.000		463330		P	0.5
5	☐	1.000		468880		P	0.4
6	☐	1.000		466675		P	0.8
7	☐	1.000		450152		P	0.2
8	☐	1.000		426012		P	0.3
9	☐	1.000		404094		P	0.4
10	☐	1.000		339541		P	0.8



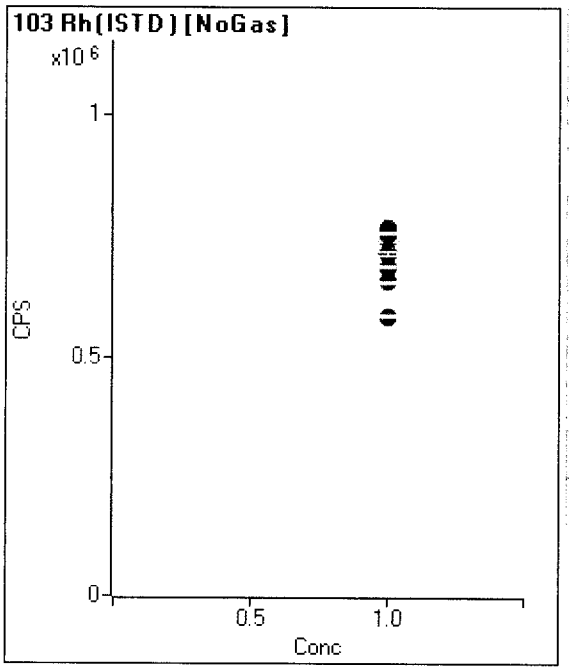
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		124034		P	0.2
2	☐	1.000		125484		P	0.2
3	☐	1.000		126865		P	0.3
4	☐	1.000		128580		P	0.8
5	☐	1.000		130092		P	0.8
6	☐	1.000		128111		P	1.5
7	☐	1.000		122826		P	0.4
8	☐	1.000		116860		P	0.3
9	☐	1.000		112050		P	0.4
10	☐	1.000		100080		P	0.8



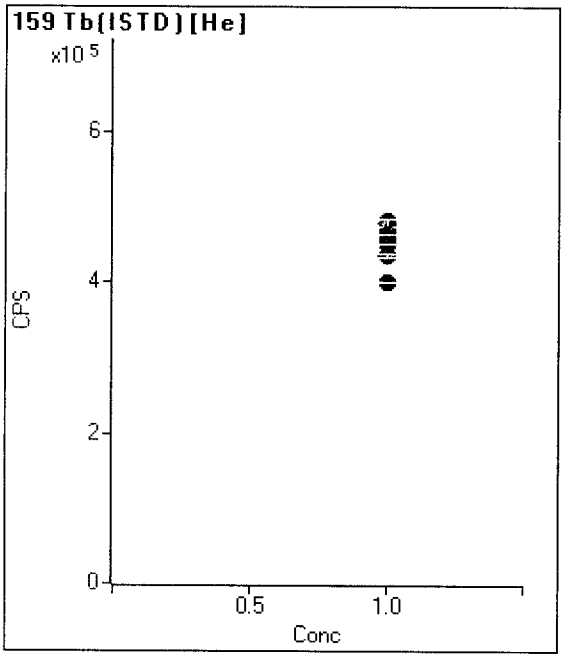
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		639985		P	0.1
2	☐	1.000		650770		P	0.9
3	☐	1.000		659818		P	1.0
4	☐	1.000		664863		P	0.9
5	☐	1.000		669203		P	0.6
6	☐	1.000		658160		P	1.2
7	☐	1.000		629832		P	0.6
8	☐	1.000		604240		P	0.7
9	☐	1.000		580831		P	1.1
10	☐	1.000		534774		P	1.0



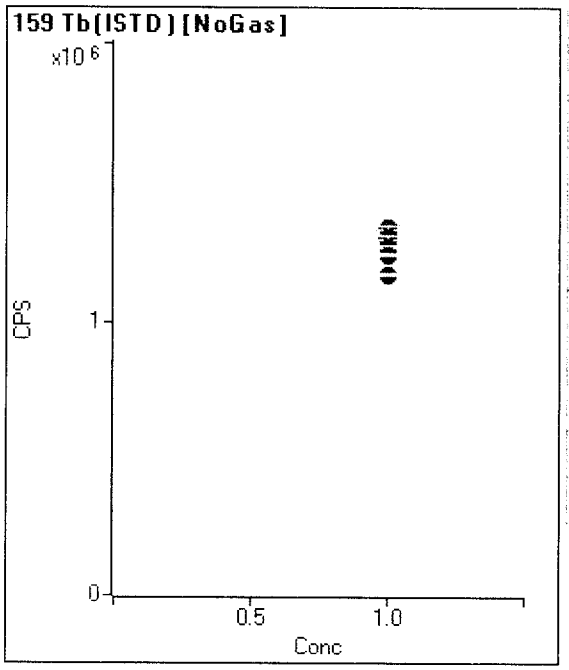
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		306617		P	0.6
2	☐	1.000		313811		P	0.6
3	☐	1.000		315611		P	0.5
4	☐	1.000		320572		P	0.6
5	☐	1.000		321963		P	0.4
6	☐	1.000		317763		P	1.8
7	☐	1.000		302301		P	0.3
8	☐	1.000		289390		P	0.7
9	☐	1.000		273415		P	0.3
10	☐	1.000		239615		P	0.6



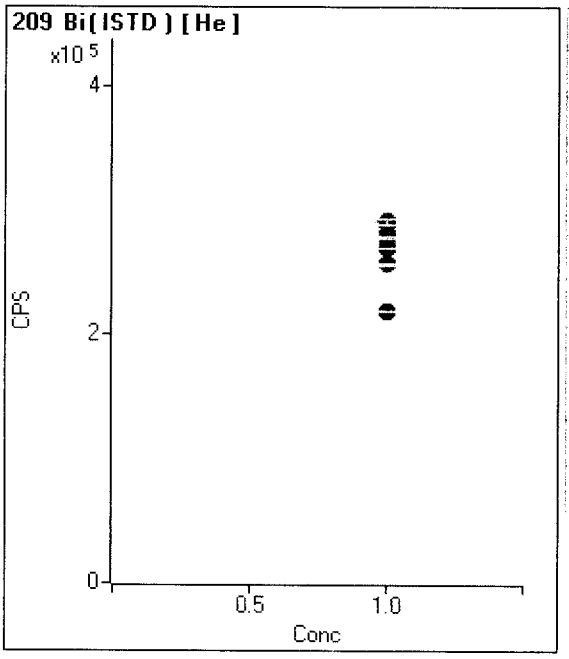
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		743164		P	0.6
2	☐	1.000		756069		P	0.5
3	☐	1.000		762842		P	0.3
4	☐	1.000		767848		P	0.6
5	☐	1.000		768244		P	0.6
6	☐	1.000		760679		P	0.6
7	☐	1.000		717446		P	0.9
8	☐	1.000		689638		P	0.3
9	☐	1.000		658795		P	0.7
10	☐	1.000		588141		P	0.3



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		466140		P	0.3
2	☐	1.000		471183		P	0.2
3	☐	1.000		475066		P	0.7
4	☐	1.000		477420		P	0.4
5	☐	1.000		481188		P	0.5
6	☐	1.000		480124		P	1.9
7	☐	1.000		464864		P	0.2
8	☐	1.000		451436		P	0.3
9	☐	1.000		435955		P	0.7
10	☐	1.000		399381		P	0.1

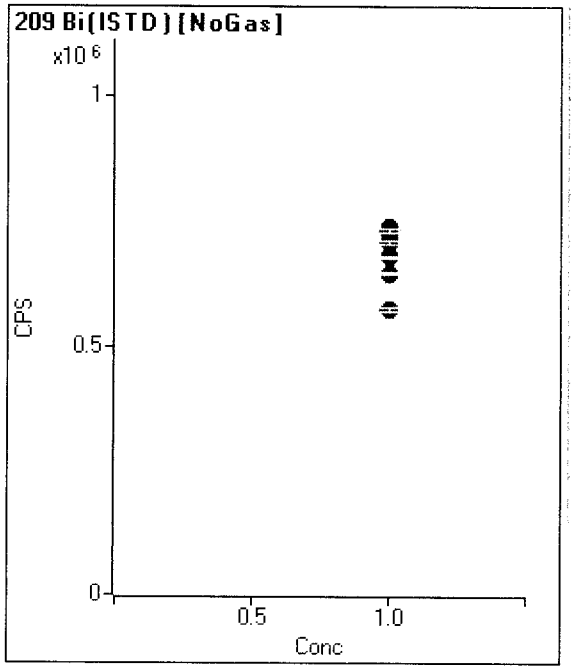


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1301548		P	1.2
2	☐	1.000		1326510		P	1.1
3	☐	1.000		1336900		P	1.0
4	☐	1.000		1340396		P	0.9
5	☐	1.000		1339629		P	1.1
6	☐	1.000		1339711		P	1.0
7	☐	1.000		1306235		P	1.2
8	☐	1.000		1275173		P	0.8
9	☐	1.000		1245718		P	0.7
10	☐	1.000		1173177		P	0.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		284384		P	0.8
2	☐	1.000		287040		P	0.6
3	☐	1.000		286410		P	0.9
4	☐	1.000		290405		P	0.7
5	☐	1.000		290730		P	1.0
6	☐	1.000		291089		P	1.3
7	☐	1.000		278029		P	0.6
8	☐	1.000		270276		P	0.0
9	☐	1.000		257176		P	0.6
10	☐	1.000		219381		P	0.2

Calibration for 014_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		715662		P	0.9
2	☐	1.000		728666		P	1.3
3	☐	1.000		733406		P	0.9
4	☐	1.000		735959		P	1.2
5	☐	1.000		739406		P	0.5
6	☐	1.000		732886		P	1.2
7	☐	1.000		708646		P	0.9
8	☐	1.000		680309		P	0.9
9	☐	1.000		648018		P	0.5
10	☐	1.000		575546		P	1.0

Initial Calibration Verification (ICV) Report ICPMS5

Sample Name	9G02057-ICV1
File Name	014_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 20:30:09
Sample Type	ICV
Total Dilution	1.0000
Comment	A19E305 JPB 07/02
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	Det.	CPS	Ratio	Integ Time	QC Flag
Na	23	45	1	H2	3831.808	ppb	Analog	12660398	8.950	0.2001	
Ca	44	45	1	H2	3893.198	ppb	Pulse	575758	0.407	0.2001	
Fe	56	74	1	H2	3905.278	ppb	Analog	29485880	69.409	0.3000	
Fe	57	74	1	H2	3757.025	ppb	Pulse	690727	1.626	0.3000	
Se	78	74	1	H2	40.136	ppb	Pulse	7740	0.018	0.9999	
Mg	24	45	2	He	4172.534	ppb	Analog	1272182	6.515	0.0999	
Al	27	45	2	He	3954.230	ppb	Pulse	649969	3.328	0.0999	
K	39	45	2	He	4062.619	ppb	Mix	1210968	6.201	0.0999	
V	51	74	2	He	101.020	ppb	Pulse	194527	1.634	0.3000	
Cr	52	74	2	He	103.825	ppb	Pulse	232398	1.952	0.3000	
Mn	55	74	2	He	96.497	ppb	Pulse	177701	1.493	0.3000	
Ni	60	74	2	He	105.638	ppb	Pulse	82866	0.696	0.3000	
Cu	65	74	2	He	108.992	ppb	Pulse	104335	0.876	0.3000	
Zn	66	74	2	He	107.641	ppb	Pulse	37043	0.311	0.3000	
As	75	74	2	He	100.766	ppb	Pulse	21720	0.182	0.9999	
Mo	95	103	2	He	41.022	ppb	Pulse	42626	0.147	0.3000	
Ag	107	103	2	He	42.042	ppb	Pulse	136075	0.468	0.3000	
Sb	121	103	2	He	38.193	ppb	Pulse	43967	0.151	0.3000	
Ba	138	159	2	He	104.950	ppb	Pulse	326276	0.716	0.3000	
Tl	205	159	2	He	40.368	ppb	Pulse	234716	0.515	0.3000	
Be	9	6	3	NoGas	41.016	ppb	Pulse	98229	0.113	0.3000	
Ti	47	45	3	NoGas	98.318	ppb	Pulse	81358	0.035	0.2001	
Co	59	74	3	NoGas	101.568	ppb	Pulse	1180106	1.935	0.2001	
Cu	65	74	3	NoGas	108.181	ppb	Pulse	266583	0.437	0.2001	
Cd	111	103	3	NoGas	98.809	ppb	Pulse	159087	0.231	0.3000	
W	182	159	3	NoGas	0.036	ppb	Pulse	246	0.000	0.3000	
Hg	201	159	3	NoGas	800.709	ppt	Pulse	543	0.000	2.0001	
Pb	208	159	3	NoGas	101.881	ppb	Pulse	1807613	1.430	0.2001	

QC ISTD Table

Name	Mass	Det.	Tune Mode	CPS RSD	ISTD Ref CPS	CPS	ISTD Recovery %	QC flag
Sc	45	Analog	H2	1.0	1473675.55333333	1414714	96.0	
Ge	74	Pulse	H2	0.2	444312.95	424812	95.6	
Sc	45	Pulse	He	0.5	199999.48	195284	97.6	
Ge	74	Pulse	He	0.2	124033.623333333	119049	96.0	
Rh	103	Pulse	He	0.7	306616.713333333	290795	94.8	
Tb	159	Pulse	He	0.4	466139.666666667	455768	97.8	
Bi	209	Pulse	He	1.0	284384.236666667	272561	95.8	
Li	6	Analog	NoGas	0.5	870133.443333333	866983	99.6	

Initial Calibration Verification (ICV) Report ICPMS5

Name	Mass	Det.	Tune Mode	CPS RSD	ISTD Ref CPS	CPS	ISTD Recovery %	QC flag
Sc	45	Analog	NoGas	1.6	2371044.6	2328457	98.2	
Ge	74	Pulse	NoGas	1.1	639984.78	609765	95.3	
Rh	103	Pulse	NoGas	0.5	743164.04	689074	92.7	
Tb	159	Pulse	NoGas	0.9	1301548.45333333	1263714	97.1	
Bi	209	Pulse	NoGas	1.0	715661.563333333	680217	95.0	

Initial Calibration Blank (ICB) Report ICPMS5

Sample Name	9G02057-ICB1
File Name	015_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 20:34:26
Sample Type	ICB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune Step	Tune Mode	Conc.	Units	Det.	CPS	Ratio	Integ Time	QC flag
Na	23	45	1	H2	3.577	ppb	Pulse	29066	0.020	0.2001	
Ca	44	45	1	H2	4.481	ppb	Pulse	1276	0.001	0.2001	
Fe	56	74	1	H2	3.916	ppb	Pulse	39929	0.090	0.3000	
Fe	57	74	1	H2	3.818	ppb	Pulse	1499	0.003	0.3000	
Se	78	74	1	H2	0.040	ppb	Pulse	11	0.000	0.9999	
Mg	24	45	2	He	1.572	ppb	Pulse	677	0.003	0.0999	
Al	27	45	2	He	1.746	ppb	Pulse	370	0.002	0.0999	
K	39	45	2	He	2.224	ppb	Pulse	11442	0.057	0.0999	
V	51	74	2	He	-0.123	ppb	Pulse	920	0.007	0.3000	
Cr	52	74	2	He	0.030	ppb	Pulse	253	0.002	0.3000	
Mn	55	74	2	He	0.063	ppb	Pulse	158	0.001	0.3000	
Ni	60	74	2	He	0.033	ppb	Pulse	63	0.001	0.3000	
Cu	65	74	2	He	0.058	ppb	Pulse	204	0.002	0.3000	
Zn	66	74	2	He	0.223	ppb	Pulse	259	0.002	0.3000	
As	75	74	2	He	0.015	ppb	Pulse	18	0.000	0.9999	
Mo	95	103	2	He	0.036	ppb	Pulse	49	0.000	0.3000	
Ag	107	103	2	He	0.007	ppb	Pulse	27	0.000	0.3000	
Sb	121	103	2	He	0.284	ppb	Pulse	354	0.001	0.3000	
Ba	138	159	2	He	0.064	ppb	Pulse	350	0.001	0.3000	
Tl	205	159	2	He	0.008	ppb	Pulse	103	0.000	0.3000	
Be	9	6	3	NoGas	0.003	ppb	Pulse	9	0.000	0.3000	
Ti	47	45	3	NoGas	0.068	ppb	Pulse	102	0.000	0.2001	
Co	59	74	3	NoGas	0.012	ppb	Pulse	640	0.001	0.2001	
Cu	65	74	3	NoGas	0.019	ppb	Pulse	413	0.001	0.2001	
Cd	111	103	3	NoGas	0.027	ppb	Pulse	66	0.000	0.3000	
W	182	159	3	NoGas	0.015	ppb	Pulse	119	0.000	0.3000	
Hg	201	159	3	NoGas	14.799	ppt	Pulse	14	0.000	2.0001	
Pb	208	159	3	NoGas	0.029	ppb	Pulse	1116	0.001	0.2001	

QC ISTD Table

Name	Mass	Det.	Tune Mode	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	Analog	H2	2.1	1461793	1473675.55333333	99.2	
Ge	74	Pulse	H2	0.3	443107	444312.95	99.7	
Sc	45	Pulse	He	0.2	199916	199999.48	100.0	
Ge	74	Pulse	He	0.3	123198	124033.623333333	99.3	
Rh	103	Pulse	He	0.4	305399	306616.713333333	99.6	
Tb	159	Pulse	He	0.7	464568	466139.666666667	99.7	
Bi	209	Pulse	He	0.4	280649	284384.236666667	98.7	

Initial Calibration Blank (ICB) Report ICPMS5

Name	Mass	Det.	Tune Mode	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Li	6	Analog	NoGas	0.7	905807	870133.443333333	104.1	
Sc	45	Analog	NoGas	1.6	2387019	2371044.6	100.7	
Ge	74	Pulse	NoGas	0.9	633579	639984.78	99.0	
Rh	103	Pulse	NoGas	0.9	729807	743164.04	98.2	
Tb	159	Pulse	NoGas	1.1	1292068	1301548.45333333	99.3	
Bi	209	Pulse	NoGas	0.8	705990	715661.563333333	98.6	

CRL Verification ICPMS5

Sample Name	9G02057-CRL1
File Name	016CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 20:38:45
Sample Type	CRL1
Total Dilution	1.0000
Comment	A19F223 JPB 07/02
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	11.385	ppb	2.0	56952	126.5	70	130	
Ca	44	45	H2	11.930	ppb	9.2	2469	132.56	70	130	<>CRL1 NR<MRL<R-11
Fe	56	74	H2	11.763	ppb	0.8	103200	130.7	70	130	<>CRL1 NR<MRL<R-11
Fe	57	74	H2	11.680	ppb	6.8	3049	129.78	70	130	
Se	78	74	H2	0.194	ppb	33.1	43	107.78	70	130	
Mg	24	45	He	10.965	ppb	6.2	3664	121.83	70	130	
Al	27	45	He	11.148	ppb	6.6	1982	123.87	70	130	
K	39	45	He	14.670	ppb	3.5	15443	163	70	130	<>CRL1 NR<MRL<R-11
V	51	74	He	0.142	ppb	14.6	1473	78.89	70	130	
Cr	52	74	He	0.213	ppb	23.5	690	118.33	70	130	
Mn	55	74	He	0.216	ppb	11.4	458	120	70	130	
Ni	60	74	He	0.197	ppb	16.6	200	109.44	70	130	
Cu	65	74	He	0.293	ppb	8.9	446	162.78	70	130	<>CRL1 NR<MRL<R-11
Zn	66	74	He	0.291	ppb	48.5	289	161.67	70	130	<>CRL1 NR<MRL<R-11
As	75	74	He	0.278	ppb	9.2	78	154.44	70	130	<>CRL1 NR<MRL<R-11
Mo	95	103	He	0.181	ppb	11.7	211	100.56	70	130	
Ag	107	103	He	0.191	ppb	6.2	667	106.11	70	130	
Sb	121	103	He	0.199	ppb	16.6	257	110.56	70	130	
Ba	138	159	He	0.243	ppb	12.5	923	135	70	130	<>CRL1 NR<MRL<R-11
Tl	205	159	He	0.181	ppb	5.4	1139	100.56	70	130	
Be	9	6	NoGas	0.183	ppb	6.5	467	101.67	70	130	
Ti	47	45	NoGas	0.248	ppb	39.9	258	137.78	70	130	<>CRL1 NR<MRL<R-11
Co	59	74	NoGas	0.188	ppb	1.9	2812	104.44	70	130	
Cu	65	74	NoGas	0.314	ppb	12.4	1186	174.44	70	130	<>CRL1 NR<MRL<R-11
Cd	111	103	NoGas	0.190	ppb	13.8	349	105.56	70	130	
Hg	201	159	NoGas	16.074	ppt	17.1	15	223.25	70	130	<>CRL1 NR<MRL<R-11
Pb	208	159	NoGas	0.215	ppb	3.3	4541	119.44	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.4	1494563	1473675.55333333	101.4	
Ge	74	H2	Pulse	0.5	449619	444312.95	101.2	
Sc	45	He	Pulse	0.4	202999	199999.48	101.5	
Ge	74	He	Pulse	0.3	125687	124033.623333333	101.3	
Rh	103	He	Pulse	0.1	311497	306616.713333333	101.6	

JB 07/03/19

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	0.0	468806	466139.666666667	100.6	
Bi	209	He	Pulse	0.3	284372	284384.236666667	100.0	
Li	6	NoGas	Analog	1.8	916735	870133.443333333	105.4	
Sc	45	NoGas	Analog	1.6	2425734	2371044.6	102.3	
Ge	74	NoGas	Pulse	0.9	644117	639984.78	100.6	
Rh	103	NoGas	Pulse	0.6	740016	743164.04	99.6	
Tb	159	NoGas	Pulse	1.1	1304563	1301548.45333333	100.2	
Bi	209	NoGas	Pulse	1.2	711300	715661.563333333	99.4	

CRL Verification ICPMS5

Sample Name	9G02057-CRL2
File Name	017_CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 20:43:03
Sample Type	CRL2
Total Dilution	1.0000
Comment	A19F224 JPB 07/02
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	47.375	ppb	1.1	185091	105.28	70	130	
Ca	44	45	H2	47.506	ppb	2.9	8140	105.57	70	130	
Fe	57	74	H2	46.297	ppb	1.8	9932	102.88	70	130	
Se	78	74	H2	0.908	ppb	5.5	191	100.89	70	130	
Mg	24	45	He	46.343	ppb	1.8	14999	102.98	70	130	
Al	27	45	He	46.129	ppb	5.2	8024	102.51	70	130	
K	39	45	He	52.354	ppb	3.8	27239	116.34	70	130	
V	51	74	He	0.820	ppb	4.8	2864	91.11	70	130	
Cr	52	74	He	0.957	ppb	3.2	2466	106.33	70	130	
Mn	55	74	He	0.921	ppb	5.8	1840	102.33	70	130	
Ni	60	74	He	0.918	ppb	3.9	802	102	70	130	
Cu	65	74	He	1.072	ppb	7.0	1240	119.11	70	130	
Zn	66	74	He	0.976	ppb	15.1	540	108.44	70	130	
As	75	74	He	0.890	ppb	10.4	218	98.89	70	130	
Mo	95	103	He	0.821	ppb	7.7	931	91.22	70	130	
Ag	107	103	He	0.925	ppb	1.6	3234	102.78	70	130	
Sb	121	103	He	0.937	ppb	3.3	1176	104.11	70	130	
Ba	138	159	He	1.013	ppb	5.5	3415	112.56	70	130	
Tl	205	159	He	0.916	ppb	1.6	5578	101.78	70	130	
Be	9	6	NoGas	0.905	ppb	7.0	2332	100.56	70	130	
Ti	47	45	NoGas	0.908	ppb	7.2	836	100.89	70	130	
Co	59	74	NoGas	0.936	ppb	4.7	12062	104	70	130	
Cu	65	74	NoGas	1.014	ppb	3.2	3024	112.67	70	130	
Cd	111	103	NoGas	0.860	ppb	5.2	1518	95.56	70	130	
Hg	201	159	NoGas	38.514	ppt	19.9	31	106.98	70	130	
Pb	208	159	NoGas	0.929	ppb	2.2	17649	103.22	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.5	1516436	1473675.55333333	102.9	
Ge	74	H2	Pulse	0.3	456675	444312.95	102.8	
Sc	45	He	Pulse	0.5	204672	199999.48	102.3	
Ge	74	He	Pulse	0.4	126553	124033.623333333	102.0	
Rh	103	He	Pulse	0.4	313920	306616.713333333	102.4	
Tb	159	He	Pulse	0.3	472787	466139.666666667	101.4	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	0.0	283537	284384.236666667	99.7	
Li	6	NoGas	Analog	1.5	932426	870133.443333333	107.2	
Sc	45	NoGas	Analog	1.5	2452273	2371044.6	103.4	
Ge	74	NoGas	Pulse	0.7	647650	639984.78	101.2	
Rh	103	NoGas	Pulse	0.9	745012	743164.04	100.2	
Tb	159	NoGas	Pulse	0.8	1307386	1301548.45333333	100.4	
Bi	209	NoGas	Pulse	1.7	716557	715661.563333333	100.1	

CRL Verification ICPMS5

Sample Name	9G02057-CRL3
File Name	018CRL_.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 20:47:40
Sample Type	CRL3
Total Dilution	1.0000
Comment	A19F225 JPB 07/02
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	88.649	ppb	1.4	333897	98.5	70	130	
Ca	44	45	H2	91.096	ppb	2.1	15173	101.22	70	130	
Fe	57	74	H2	89.866	ppb	2.1	18638	99.85	70	130	
Se	78	74	H2	1.769	ppb	1.7	372	98.28	70	130	
Mg	24	45	He	92.669	ppb	5.3	29829	102.97	70	130	
Al	27	45	He	92.489	ppb	4.0	16031	102.77	70	130	
K	39	45	He	93.125	ppb	1.5	39926	103.47	70	130	
V	51	74	He	1.887	ppb	2.4	5014	104.83	70	130	
Cr	52	74	He	1.937	ppb	3.4	4775	107.61	70	130	
Mn	55	74	He	1.864	ppb	6.2	3674	103.56	70	130	
Ni	60	74	He	1.839	ppb	6.0	1563	102.17	70	130	
Cu	65	74	He	2.275	ppb	20.8	2451	126.39	70	130	
Zn	66	74	He	2.147	ppb	8.6	962	119.28	70	130	
As	75	74	He	1.831	ppb	9.1	432	101.72	70	130	
Mo	95	103	He	1.918	ppb	5.6	2151	106.56	70	130	
Ag	107	103	He	1.889	ppb	2.6	6570	104.94	70	130	
Sb	121	103	He	1.809	ppb	5.9	2248	100.5	70	130	
Ba	138	159	He	2.030	ppb	2.9	6606	112.78	70	130	
Tl	205	159	He	1.842	ppb	3.2	11015	102.33	70	130	
Be	9	6	NoGas	1.781	ppb	4.8	4541	98.94	70	130	
Ti	47	45	NoGas	2.059	ppb	10.0	1816	114.39	70	130	
Co	59	74	NoGas	1.889	ppb	2.5	23543	104.94	70	130	
Cu	65	74	NoGas	1.966	ppb	5.3	5445	109.22	70	130	
Cd	111	103	NoGas	1.849	ppb	5.3	3185	102.72	70	130	
Hg	201	159	NoGas	85.258	ppt	8.0	62	118.41	70	130	
Pb	208	159	NoGas	1.917	ppb	2.4	35303	106.5	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.0	1529382	1473675.55333333	103.8	
Ge	74	H2	Pulse	0.5	459269	444312.95	103.4	
Sc	45	He	Pulse	1.0	204953	199999.48	102.5	
Ge	74	He	Pulse	0.9	126044	124033.623333333	101.6	
Rh	103	He	Pulse	0.9	312448	306616.713333333	101.9	
Tb	159	He	Pulse	0.4	466634	466139.666666667	100.1	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	0.6	282742	284384.236666667	99.4	
Li	6	NoGas	Analog	1.6	922729	870133.443333333	106.0	
Sc	45	NoGas	Analog	1.6	2421109	2371044.6	102.1	
Ge	74	NoGas	Pulse	1.9	640285	639984.78	100.0	
Rh	103	NoGas	Pulse	1.6	732678	743164.04	98.6	
Tb	159	NoGas	Pulse	1.6	1290622	1301548.45333333	99.2	
Bi	209	NoGas	Pulse	1.8	697900	715661.563333333	97.5	

Quantitation Report ICPMS5

File Name	019ICSA.d		
File Path	C:\Agilent\ICPMH\1\DATA\9G02057A.b		
Acq Time	7/2/2019 20:52:14	Sample Type	
Sample Name	**9G02057-IFA1**	ICSA	
Comment	**A19G007**	Last Calib	07/02/2019 20:28:49
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	0.01	0.010	ppb	35.5		
Na	23	45	H2	245153.809	245153.809	ppb	0.5		
Mg	24	45	He	99719.906	99719.906	ppb	1.5	100000	
Al	27	45	He	99461.419	99461.419	ppb	1.7	100000	
K	39	45	He	97194.655	97194.655	ppb	1.9	100000	
Ca	44	45	H2	291795.711	291795.711	ppb	1.0		
Ti	47	45	NoGas	2073.891	2073.891	ppb	2.8		
V	51	74	He	0.135	0.135	ppb	40.2	2	
Cr	52	74	He	2.089	2.089	ppb	1.7	2	> CRI
Mn	55	74	He	8.587	8.587	ppb	2.0	2	> CRI
Fe	56	74	H2	252107.852	252107.852	ppb	0.4		
Fe	57	74	H2	251220.69	251220.690	ppb	0.5		
Co	59	74	NoGas	1.543	1.543	ppb	5.8		
Ni	60	74	He	1.055	1.055	ppb	12.5	2	
Cu	65	74	He	0.654	0.654	ppb	13.4	2	
Cu	65	74	NoGas	2.514	2.514	ppb	4.9		
Zn	66	74	He	2.926	2.926	ppb	9.0	2	> CRI
As	75	74	He	0.274	0.274	ppb	29.3	0.9	
Se	78	74	H2	0.282	0.282	ppb	18.4	0.9	
Mo	95	103	He	2367.726	2367.726	ppb	0.9	2000	
Ag	107	103	He	0.271	0.271	ppb	11.2		
Cd	111	103	NoGas	0.457	0.457	ppb	54.3		
Sb	121	103	He	0.162	0.162	ppb	18.0	0.9	
Ba	138	159	He	1.639	1.639	ppb	3.7	2	
W	182	159	NoGas	95.359	95.359	ppb	0.4		
Hg	201	159	NoGas	127.714	127.714	ppt	7.7		
Tl	205	159	He	0	0.000	ppb	N/A	0.9	
Pb	208	159	NoGas	0.769	0.769	ppb	1.4		

watch for low Mn in high matrix samples

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	861608	1.2	870133.443333333	Analog	99.0	
Sc	45	H2	1005810	0.5	1473675.55333333	Pulse	68.3	IS Q-06
Sc	45	He	156126	1.1	199999.48	Pulse	78.1	
Sc	45	NoGas	2066829	1.2	2371044.6	Analog	87.2	
Ge	74	H2	279527	0.6	444312.95	Pulse	62.9	IS Q-06
Ge	74	He	85031	0.5	124033.623333333	Pulse	68.6	IS Q-06
Ge	74	NoGas	488259	0.4	639984.78	Pulse	76.3	
Rh	103	He	193486	0.1	306616.713333333	Pulse	63.1	IS Q-06
Rh	103	NoGas	515274	0.5	743164.04	Pulse	69.3	IS Q-06
Tb	159	He	335822	0.1	466139.666666667	Pulse	72.0	
Tb	159	NoGas	1048699	0.6	1301548.45333333	Pulse	80.6	
Bi	209	He	167320	0.7	284384.236666667	Pulse	58.8	IS Q-06
Bi	209	NoGas	471361	0.3	715661.563333333	Pulse	65.9	IS Q-06

IFA OK
JB 07/03/19

Quantitation Report ICPMS5

File Name	020ICSB.d		
File Path	C:\Agilent\ICPMH\1\DATA\9G02057A.b		
Acq Time	7/2/2019 20:58:20	Sample Type	
Sample Name	**9G02057-IFB1**		ICSB
Comment	**A19G008**	Last Calib	07/02/2019 20:28:49
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	0.011	0.011	ppb	39.1		
Na	23	45	H2	244310.879	244310.879	ppb	0.4		
Mg	24	45	He	101683.65	101683.650	ppb	0.9	100000	
Al	27	45	He	100294.086	100294.086	ppb	0.4	100000	
K	39	45	He	96393.198	96393.198	ppb	0.7	100000	
Ca	44	45	H2	287888.855	287888.855	ppb	0.3		
Ti	47	45	NoGas	2063.22	2063.220	ppb	1.3		
V	51	74	He	231.445	231.445	ppb	0.7	200	
Cr	52	74	He	221.954	221.954	ppb	0.8	200	
Mn	55	74	He	206.564	206.564	ppb	0.7	200	
Fe	56	74	H2	248884.909	248884.909	ppb	0.3		
Fe	57	74	H2	248207.211	248207.211	ppb	0.5		
Co	59	74	NoGas	207.704	207.704	ppb	0.9		
Ni	60	74	He	198.026	198.026	ppb	1.2	200	
Cu	65	74	He	193.917	193.917	ppb	0.7	200	
Cu	65	74	NoGas	187.311	187.311	ppb	1.0		
Zn	66	74	He	91.532	91.532	ppb	1.3	100	
As	75	74	He	94.561	94.561	ppb	1.1	100	
Se	78	74	H2	91.42	91.420	ppb	1.0	100	
Mo	95	103	He	2353.713	2353.713	ppb	1.2	2000	
Ag	107	103	He	46.73	46.730	ppb	0.7	50	
Cd	111	103	NoGas	92.186	92.186	ppb	0.5		
Sb	121	103	He	0.137	0.137	ppb	18.9	0.9	
Ba	138	159	He	2.25	2.250	ppb	3.4	2	> +/- 10%
W	182	159	NoGas	93.972	93.972	ppb	0.1		
Hg	201	159	NoGas	1878.502	1878.502	ppt	3.6		
Tl	205	159	He	0.001	0.001	ppb	315.7	0.9	
Pb	208	159	NoGas	0.755	0.755	ppb	0.3		

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD Recovery %	QC Flag
Li	6	NoGas	890618	1.8	870133.443333333	Analog	102.4	
Sc	45	H2	1073038	0.5	1473675.55333333	Pulse	72.8	
Sc	45	He	159476	0.8	199999.48	Pulse	79.7	
Sc	45	NoGas	2069824	2.1	2371044.6	Analog	87.3	
Ge	74	H2	296731	0.6	444312.95	Pulse	66.8	IS Q-06
Ge	74	He	86809	0.6	124033.623333333	Pulse	70.0	IS Q-06
Ge	74	NoGas	493940	0.4	639984.78	Pulse	77.2	
Rh	103	He	195214	0.2	306616.713333333	Pulse	63.7	IS Q-06
Rh	103	NoGas	517268	0.3	743164.04	Pulse	69.6	IS Q-06
Tb	159	He	335743	0.3	466139.666666667	Pulse	72.0	
Tb	159	NoGas	1050707	0.1	1301548.45333333	Pulse	80.7	
Bi	209	He	166891	0.4	284384.236666667	Pulse	58.7	IS Q-06
Bi	209	NoGas	469029	0.2	715661.563333333	Pulse	65.5	IS Q-06

IFB ok 07/03/19

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV	**Total Dilution**	1.0000
File Name	031_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/2/2019 21:55:27	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3887.876	ppb	0.3	14514447	4000	90	110	97.2	
Ca	44	45	H2	3888.040	ppb	0.7	649702	4000	90	110	97.2	
Fe	56	74	H2	4045.217	ppb	0.6	34245602	4000	90	110	101.13	
Fe	57	74	H2	3859.295	ppb	0.6	795535	4000	90	110	96.48	
Se	78	74	H2	40.115	ppb	0.8	8674	40	90	110	100.29	
Mg	24	45	He	4293.288	ppb	0.7	1377294	4000	90	110	107.33	
Al	27	45	He	3933.616	ppb	1.1	680307	4000	90	110	98.34	
K	39	45	He	4154.132	ppb	1.5	1302616	4000	90	110	103.85	
V	51	74	He	102.792	ppb	0.7	209349	100	90	110	102.79	
Cr	52	74	He	105.231	ppb	0.8	249146	100	90	110	105.23	
Mn	55	74	He	96.228	ppb	0.9	187438	100	90	110	96.23	
Ni	60	74	He	107.799	ppb	1.3	89442	100	90	110	107.8	
Cu	65	74	He	109.896	ppb	1.1	111276	100	90	110	109.9	
Zn	66	74	He	105.931	ppb	0.9	38562	100	90	110	105.93	
As	75	74	He	99.502	ppb	0.4	22686	100	90	110	99.5	
Mo	95	103	He	41.220	ppb	1.1	45267	40	90	110	103.05	
Ag	107	103	He	42.016	ppb	0.3	143716	40	90	110	105.04	
Sb	121	103	He	37.330	ppb	0.7	45415	40	90	110	93.32	
Ba	138	159	He	105.109	ppb	0.6	333065	100	90	110	105.11	
Tl	205	159	He	39.711	ppb	0.7	235343	40	90	110	99.28	
Be	9	6	NoGas	39.464	ppb	0.8	105471	40	90	110	98.66	
Ti	47	45	NoGas	98.556	ppb	2.1	85994	100	90	110	98.56	
Co	59	74	NoGas	102.737	ppb	0.6	1246776	100	90	110	102.74	
Cu	65	74	NoGas	108.014	ppb	0.4	278008	100	90	110	108.01	
Cd	111	103	NoGas	97.946	ppb	0.8	165290	100	90	110	97.95	
Hg	201	159	NoGas	796.070	ppt	0.5	555	800	90	110	99.51	
Pb	208	159	NoGas	101.075	ppb	0.2	1843216	100	90	110	101.08	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.6	1598392	1473675.55333333	108.5	
Ge	74	H2	Pulse	0.6	476330	444312.95	107.2	
Sc	45	He	Pulse	1.0	205481	199999.48	102.7	
Ge	74	He	Pulse	0.5	125926	124033.623333333	101.5	
Rh	103	He	Pulse	0.2	307320	306616.713333333	100.2	
Tb	159	He	Pulse	0.3	464548	466139.666666667	99.7	
Bi	209	He	Pulse	0.7	272423	284384.236666667	95.8	
Li	6	NoGas	Analog	0.8	967526	870133.443333333	111.2	
Sc	45	NoGas	Analog	2.8	2456028	2371044.6	103.6	
Ge	74	NoGas	Pulse	0.6	636854	639984.78	99.5	
Rh	103	NoGas	Pulse	0.3	722253	743164.04	97.2	
Tb	159	NoGas	Pulse	0.8	1298874	1301548.45333333	99.8	
Bi	209	NoGas	Pulse	1.2	694071	715661.563333333	97.0	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB
File Name	032_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 21:59:44
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

07/03/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	0.624	ppb	17.8	20375	45	
Ca	44	45	H2	0.935	ppb	51.2	790	45	
Fe	56	74	H2	2.397	ppb	8.5	29979	22.5	
Fe	57	74	H2	2.389	ppb	7.9	1313	22.5	
Se	78	74	H2	0.005	ppb	135.4	4	0.45	
Mg	24	45	He	0.659	ppb	32.3	410	45	
Al	27	45	He	0.853	ppb	46.8	230	22.5	
K	39	45	He	1.647	ppb	111.9	11786	45	
V	51	74	He	-0.072	ppb	N/A	1061	0.45	
Cr	52	74	He	0.003	ppb	603.5	198	0.45	
Mn	55	74	He	0.036	ppb	22.0	111	0.45	
Ni	60	74	He	-0.005	ppb	N/A	33	0.45	
Cu	65	74	He	0.018	ppb	75.5	171	0.45	
Zn	66	74	He	0.035	ppb	129.0	200	1.8	
As	75	74	He	-0.012	ppb	N/A	12	0.45	
Mo	95	103	He	0.025	ppb	66.3	39	0.45	
Ag	107	103	He	0.008	ppb	18.5	31	0.09	
Sb	121	103	He	0.187	ppb	8.2	248	0.45	
Ba	138	159	He	0.025	ppb	34.4	227	0.45	
Tl	205	159	He	0.011	ppb	61.5	119	0.09	
Be	9	6	NoGas	0.005	ppb	39.0	16	0.09	
Ti	47	45	NoGas	0.080	ppb	11.0	118	0.45	
Co	59	74	NoGas	0.002	ppb	363.9	548	0.09	
Cu	65	74	NoGas	0.034	ppb	52.4	470	0.45	
Cd	111	103	NoGas	0.008	ppb	121.0	36	0.09	
Hg	201	159	NoGas	9.723	ppt	28.3	11	36	
Pb	208	159	NoGas	0.021	ppb	31.5	996	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	0.9	1566884	1473675.55333333	106.3	
Ge	74	H2	Pulse	0.5	475004	444312.95	106.9	
Sc	45	He	Pulse	0.1	209098	199999.48	104.5	
Ge	74	He	Pulse	0.1	128120	124033.623333333	103.3	
Rh	103	He	Pulse	0.2	318941	306616.713333333	104.0	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.4	469301	466139.666666667	100.7	
Bi	209	He	Pulse	1.1	280467	284384.236666667	98.6	
Li	6	NoGas	Analog	0.5	966463	870133.443333333	111.1	
Sc	45	NoGas	Analog	1.8	2530649	2371044.6	106.7	
Ge	74	NoGas	Pulse	0.6	660281	639984.78	103.2	
Rh	103	NoGas	Pulse	0.5	767693	743164.04	103.3	
Tb	159	NoGas	Pulse	0.7	1332999	1301548.45333333	102.4	
Bi	209	NoGas	Pulse	0.8	721413	715661.563333333	100.8	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV 2 JM 07/03/19	**Total Dilution**	1.0000
File Name	043_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/2/2019 22:47:02	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3814.290	ppb	0.3	13046637	4000	90	110	95.36	
Ca	44	45	H2	3849.181	ppb	1.2	589281	4000	90	110	96.23	
Fe	56	74	H2	4047.141	ppb	0.4	31248828	4000	90	110	101.18	
Fe	57	74	H2	3833.704	ppb	0.5	720781	4000	90	110	95.84	
Se	78	74	H2	40.149	ppb	1.5	7918	40	90	110	100.37	
Mg	24	45	He	4282.862	ppb	3.3	1273299	4000	90	110	107.07	
Al	27	45	He	3888.441	ppb	1.2	623344	4000	90	110	97.21	
K	39	45	He	4055.326	ppb	2.2	1179039	4000	90	110	101.38	
V	51	74	He	101.874	ppb	0.5	193376	100	90	110	101.87	
Cr	52	74	He	103.670	ppb	0.9	228754	100	90	110	103.67	
Mn	55	74	He	95.915	ppb	0.4	174120	100	90	110	95.92	
Ni	60	74	He	106.683	ppb	0.6	82498	100	90	110	106.68	
Cu	65	74	He	109.172	ppb	0.7	103023	100	90	110	109.17	
Zn	66	74	He	105.472	ppb	1.4	35784	100	90	110	105.47	
As	75	74	He	98.713	ppb	0.3	20975	100	90	110	98.71	
Mo	95	103	He	40.424	ppb	1.3	41513	40	90	110	101.06	
Ag	107	103	He	41.959	ppb	0.5	134202	40	90	110	104.9	
Sb	121	103	He	37.514	ppb	0.8	42676	40	90	110	93.79	
Ba	138	159	He	103.738	ppb	0.4	312517	100	90	110	103.74	
Tl	205	159	He	40.057	ppb	0.4	225685	40	90	110	100.14	
Be	9	6	NoGas	39.979	ppb	0.6	98734	40	90	110	99.95	
Ti	47	45	NoGas	97.619	ppb	0.9	79887	100	90	110	97.62	
Co	59	74	NoGas	101.508	ppb	0.5	1162839	100	90	110	101.51	
Cu	65	74	NoGas	106.685	ppb	1.0	259214	100	90	110	106.68	
Cd	111	103	NoGas	99.076	ppb	1.3	157161	100	90	110	99.08	
Hg	201	159	NoGas	817.705	ppt	1.3	547	800	90	110	102.21	
Pb	208	159	NoGas	102.152	ppb	0.7	1789412	100	90	110	102.15	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.0	1464430	1473675.55333333	99.4	
Ge	74	H2	Pulse	0.4	434437	444312.95	97.8	
Sc	45	He	Pulse	1.0	190466	199999.48	95.2	
Ge	74	He	Pulse	0.2	117358	124033.623333333	94.6	
Rh	103	He	Pulse	0.6	287366	306616.713333333	93.7	
Tb	159	He	Pulse	0.6	441637	466139.666666667	94.7	
Bi	209	He	Pulse	0.4	261615	284384.236666667	92.0	
Li	6	NoGas	Analog	0.2	894051	870133.443333333	102.7	
Sc	45	NoGas	Analog	1.9	2302520	2371044.6	97.1	
Ge	74	NoGas	Pulse	0.7	601160	639984.78	93.9	
Rh	103	NoGas	Pulse	0.6	678893	743164.04	91.4	
Tb	159	NoGas	Pulse	0.8	1247676	1301548.45333333	95.9	
Bi	209	NoGas	Pulse	0.9	672602	715661.563333333	94.0	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB
File Name	044_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 22:51:20
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

2 JB 07/03/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	-0.650	ppb	N/A	14866	45	
Ca	44	45	H2	1.239	ppb	49.3	795	45	
Fe	56	74	H2	0.796	ppb	12.0	15425	22.5	
Fe	57	74	H2	0.385	ppb	121.8	844	22.5	
Se	78	74	H2	0.038	ppb	32.5	11	0.45	
Mg	24	45	He	0.153	ppb	111.8	230	45	
Al	27	45	He	0.437	ppb	103.6	147	22.5	
K	39	45	He	0.011	ppb	22140.4	10564	45	
V	51	74	He	-0.028	ppb	N/A	1083	0.45	
Cr	52	74	He	0.006	ppb	137.6	194	0.45	
Mn	55	74	He	0.008	ppb	164.8	51	0.45	
Ni	60	74	He	-0.003	ppb	N/A	33	0.45	
Cu	65	74	He	0.000	ppb	N/A	143	0.45	
Zn	66	74	He	0.031	ppb	250.5	187	1.8	
As	75	74	He	0.016	ppb	17.5	17	0.45	
Mo	95	103	He	0.024	ppb	7.2	36	0.45	
Ag	107	103	He	0.007	ppb	55.2	28	0.09	
Sb	121	103	He	0.281	ppb	12.6	347	0.45	
Ba	138	159	He	0.014	ppb	81.1	187	0.45	
Tl	205	159	He	0.005	ppb	128.7	80	0.09	
Be	9	6	NoGas	0.003	ppb	77.6	9	0.09	
Ti	47	45	NoGas	-0.010	ppb	N/A	35	0.45	
Co	59	74	NoGas	-0.003	ppb	N/A	451	0.09	
Cu	65	74	NoGas	0.033	ppb	50.9	438	0.45	
Cd	111	103	NoGas	-0.006	ppb	N/A	10	0.09	
Hg	201	159	NoGas	8.799	ppt	23.8	10	36	
Pb	208	159	NoGas	0.017	ppb	32.1	880	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	1.7	1482062	1473675.55333333	100.6	
Ge	74	H2	Pulse	0.6	444927	444312.95	100.1	
Sc	45	He	Pulse	1.4	196139	199999.48	98.1	
Ge	74	He	Pulse	0.4	120473	124033.623333333	97.1	
Rh	103	He	Pulse	0.3	301354	306616.713333333	98.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.5	452074	466139.666666667	97.0	
Bi	209	He	Pulse	0.8	272724	284384.236666667	95.9	
Li	6	NoGas	Analog	2.2	913004	870133.443333333	104.9	
Sc	45	NoGas	Analog	2.1	2369956	2371044.6	100.0	
Ge	74	NoGas	Pulse	1.0	617397	639984.78	96.5	
Rh	103	NoGas	Pulse	0.8	709341	743164.04	95.4	
Tb	159	NoGas	Pulse	1.1	1267221	1301548.45333333	97.4	
Bi	209	NoGas	Pulse	0.8	695271	715661.563333333	97.2	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV 3	**Total Dilution**	1.0000
File Name	055_CCV.d 7/03/19	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/2/2019 23:38:47	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3914.100	ppb	0.6	12176893	4000	90	110	97.85	
Ca	44	45	H2	3885.098	ppb	0.8	541017	4000	90	110	97.13	
Fe	56	74	H2	4006.921	ppb	0.3	28441237	4000	90	110	100.17	
Fe	57	74	H2	3835.345	ppb	0.5	662872	4000	90	110	95.88	
Se	78	74	H2	39.938	ppb	1.7	7241	40	90	110	99.84	
Mg	24	45	He	4207.701	ppb	1.6	1160368	4000	90	110	105.19	
Al	27	45	He	3932.206	ppb	0.9	584625	4000	90	110	98.31	
K	39	45	He	4011.545	ppb	0.4	1081748	4000	90	110	100.29	
V	51	74	He	100.307	ppb	0.5	176924	100	90	110	100.31	
Cr	52	74	He	102.988	ppb	1.1	211141	100	90	110	102.99	
Mn	55	74	He	96.408	ppb	1.0	162610	100	90	110	96.41	
Ni	60	74	He	105.856	ppb	0.7	76057	100	90	110	105.86	
Cu	65	74	He	107.467	ppb	0.6	94228	100	90	110	107.47	
Zn	66	74	He	107.197	ppb	1.1	33791	100	90	110	107.2	
As	75	74	He	97.748	ppb	1.6	19297	100	90	110	97.75	
Mo	95	103	He	40.495	ppb	0.8	39037	40	90	110	101.24	
Ag	107	103	He	42.286	ppb	0.6	126967	40	90	110	105.72	
Sb	121	103	He	37.881	ppb	1.0	40455	40	90	110	94.7	
Ba	138	159	He	103.389	ppb	0.2	298442	100	90	110	103.39	
Tl	205	159	He	40.746	ppb	0.1	219973	40	90	110	101.86	
Be	9	6	NoGas	41.019	ppb	0.1	93415	40	90	110	102.55	
Ti	47	45	NoGas	96.125	ppb	0.8	73675	100	90	110	96.12	
Co	59	74	NoGas	100.496	ppb	1.8	1067762	100	90	110	100.5	
Cu	65	74	NoGas	105.796	ppb	1.5	238414	100	90	110	105.8	
Cd	111	103	NoGas	100.762	ppb	0.9	148550	100	90	110	100.76	
Hg	201	159	NoGas	803.097	ppt	1.8	515	800	90	110	100.39	
Pb	208	159	NoGas	103.647	ppb	0.2	1737814	100	90	110	103.65	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.9	1332034	1473675.55333333	90.4	
Ge	74	H2	Pulse	0.3	399368	444312.95	89.9	
Sc	45	He	Pulse	0.4	176637	199999.48	88.3	
Ge	74	He	Pulse	0.6	109043	124033.623333333	87.9	
Rh	103	He	Pulse	0.1	269768	306616.713333333	88.0	
Tb	159	He	Pulse	0.6	423179	466139.666666667	90.8	
Bi	209	He	Pulse	0.5	253487	284384.236666667	89.1	
Li	6	NoGas	Pulse	0.2	824443	870133.443333333	94.7	
Sc	45	NoGas	Analog	1.3	2156369	2371044.6	90.9	
Ge	74	NoGas	Pulse	2.0	557688	639984.78	87.1	
Rh	103	NoGas	Pulse	1.0	631005	743164.04	84.9	
Tb	159	NoGas	Pulse	1.2	1194218	1301548.45333333	91.8	
Bi	209	NoGas	Pulse	1.2	648798	715661.563333333	90.7	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB 3 JSO 7/03/19
File Name	056_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/2/2019 23:43:06
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	4.188	ppb	7.3	28736	45	
Ca	44	45	H2	2.000	ppb	49.3	828	45	
Fe	56	74	H2	1.602	ppb	4.4	19900	22.5	
Fe	57	74	H2	1.212	ppb	52.5	917	22.5	
Se	78	74	H2	0.023	ppb	130.7	7	0.45	
Mg	24	45	He	0.743	ppb	9.3	374	45	
Al	27	45	He	0.520	ppb	118.2	147	22.5	
K	39	45	He	-0.806	ppb	N/A	9392	45	
V	51	74	He	-0.177	ppb	N/A	728	0.45	
Cr	52	74	He	0.013	ppb	88.6	191	0.45	
Mn	55	74	He	0.019	ppb	35.3	67	0.45	
Ni	60	74	He	-0.005	ppb	N/A	29	0.45	
Cu	65	74	He	-0.009	ppb	N/A	123	0.45	
Zn	66	74	He	0.137	ppb	52.2	204	1.8	
As	75	74	He	0.045	ppb	110.0	22	0.45	
Mo	95	103	He	0.032	ppb	53.3	41	0.45	
Ag	107	103	He	0.007	ppb	55.7	26	0.09	
Sb	121	103	He	0.288	ppb	11.8	326	0.45	
Ba	138	159	He	0.038	ppb	29.9	246	0.45	
Tl	205	159	He	0.010	ppb	15.6	107	0.09	
Be	9	6	NoGas	0.005	ppb	41.0	14	0.09	
Ti	47	45	NoGas	0.036	ppb	60.9	67	0.45	
Co	59	74	NoGas	-0.002	ppb	N/A	421	0.09	
Cu	65	74	NoGas	-0.019	ppb	N/A	280	0.45	
Cd	111	103	NoGas	-0.003	ppb	N/A	14	0.09	
Hg	201	159	NoGas	16.672	ppt	10.9	14	36	
Pb	208	159	NoGas	0.024	ppb	18.0	953	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	1.7	1348163	1473675.55333333	91.5	
Ge	74	H2	Pulse	0.1	406258	444312.95	91.4	
Sc	45	He	Pulse	0.4	178399	199999.48	89.2	
Ge	74	He	Pulse	0.3	110262	124033.623333333	88.9	
Rh	103	He	Pulse	0.2	277197	306616.713333333	90.4	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.2	430002	466139.666666667	92.2	
Bi	209	He	Pulse	0.3	262152	284384.236666667	92.2	
Li	6	NoGas	Pulse	0.2	818783	870133.443333333	94.1	
Sc	45	NoGas	Analog	1.0	2141916	2371044.6	90.3	
Ge	74	NoGas	Pulse	1.3	559674	639984.78	87.5	
Rh	103	NoGas	Pulse	0.6	646651	743164.04	87.0	
Tb	159	NoGas	Pulse	1.3	1195886	1301548.45333333	91.9	
Bi	209	NoGas	Pulse	1.0	671328	715661.563333333	93.8	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV	**Total Dilution**	1.0000
File Name	067_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/3/2019 00:30:27	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3897.263	ppb	1.1	13291651	4000	90	110	97.43	
Ca	44	45	H2	3861.218	ppb	0.5	589470	4000	90	110	96.53	
Fe	56	74	H2	4071.890	ppb	0.2	30829966	4000	90	110	101.8	
Fe	57	74	H2	3857.958	ppb	0.0	711260	4000	90	110	96.45	
Se	78	74	H2	40.063	ppb	1.4	7748	40	90	110	100.16	
Mg	24	45	He	4280.638	ppb	0.6	1271986	4000	90	110	107.02	
Al	27	45	He	3957.144	ppb	0.6	633938	4000	90	110	98.93	
K	39	45	He	4062.565	ppb	1.0	1180268	4000	90	110	101.56	
V	51	74	He	101.899	ppb	0.6	190183	100	90	110	101.9	
Cr	52	74	He	104.504	ppb	0.4	226733	100	90	110	104.5	
Mn	55	74	He	96.914	ppb	0.7	172990	100	90	110	96.91	
Ni	60	74	He	106.193	ppb	0.4	80743	100	90	110	106.19	
Cu	65	74	He	108.251	ppb	1.1	100443	100	90	110	108.25	
Zn	66	74	He	105.970	ppb	1.9	35348	100	90	110	105.97	
As	75	74	He	99.693	ppb	1.0	20828	100	90	110	99.69	
Mo	95	103	He	41.143	ppb	2.1	41506	40	90	110	102.86	
Ag	107	103	He	41.964	ppb	2.0	131862	40	90	110	104.91	
Sb	121	103	He	37.890	ppb	0.3	42350	40	90	110	94.72	
Ba	138	159	He	104.321	ppb	0.4	313200	100	90	110	104.32	
Tl	205	159	He	39.903	ppb	0.4	224054	40	90	110	99.76	
Be	9	6	NoGas	41.148	ppb	2.2	98730	40	90	110	102.87	
Ti	47	45	NoGas	98.196	ppb	2.3	79249	100	90	110	98.2	
Co	59	74	NoGas	103.459	ppb	1.0	1138342	100	90	110	103.46	
Cu	65	74	NoGas	108.641	ppb	1.6	253508	100	90	110	108.64	
Cd	111	103	NoGas	100.342	ppb	1.2	152965	100	90	110	100.34	
Hg	201	159	NoGas	830.429	ppt	4.0	536	800	90	110	103.8	
Pb	208	159	NoGas	104.529	ppb	1.6	1766593	100	90	110	104.53	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.5	1460247	1473675.55333333	99.1	
Ge	74	H2	Pulse	0.3	426007	444312.95	95.9	
Sc	45	He	Pulse	0.1	190324	199999.48	95.2	
Ge	74	He	Pulse	0.4	115392	124033.623333333	93.0	
Rh	103	He	Pulse	0.9	282349	306616.713333333	92.1	
Tb	159	He	Pulse	0.3	440134	466139.666666667	94.4	
Bi	209	He	Pulse	0.4	259352	284384.236666667	91.2	
Li	6	NoGas	Analog	2.6	868927	870133.443333333	99.9	
Sc	45	NoGas	Analog	0.2	2270868	2371044.6	95.8	
Ge	74	NoGas	Pulse	0.8	577422	639984.78	90.2	
Rh	103	NoGas	Pulse	1.2	652508	743164.04	87.8	
Tb	159	NoGas	Pulse	0.8	1203845	1301548.45333333	92.5	
Bi	209	NoGas	Pulse	0.8	647654	715661.563333333	90.5	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB 4
File Name	068_CCB.d 07/03/19
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 00:34:45
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	2.935	ppb	5.9	26106	45	
Ca	44	45	H2	1.980	ppb	27.6	870	45	
Fe	56	74	H2	0.691	ppb	6.1	13957	22.5	
Fe	57	74	H2	0.602	ppb	44.6	848	22.5	
Se	78	74	H2	0.013	ppb	46.6	5	0.45	
Mg	24	45	He	0.412	ppb	61.6	300	45	
Al	27	45	He	0.440	ppb	86.0	143	22.5	
K	39	45	He	0.061	ppb	4089.9	10277	45	
V	51	74	He	0.079	ppb	72.7	1259	0.45	
Cr	52	74	He	0.010	ppb	101.5	197	0.45	
Mn	55	74	He	0.018	ppb	14.8	69	0.45	
Ni	60	74	He	-0.006	ppb	N/A	30	0.45	
Cu	65	74	He	0.008	ppb	493.9	148	0.45	
Zn	66	74	He	0.032	ppb	376.6	182	1.8	
As	75	74	He	0.032	ppb	22.3	20	0.45	
Mo	95	103	He	0.027	ppb	35.9	38	0.45	
Ag	107	103	He	0.004	ppb	74.0	17	0.09	
Sb	121	103	He	0.276	ppb	10.3	329	0.45	
Ba	138	159	He	0.010	ppb	50.4	170	0.45	
Tl	205	159	He	0.008	ppb	37.1	94	0.09	
Be	9	6	NoGas	0.006	ppb	44.3	17	0.09	
Ti	47	45	NoGas	0.037	ppb	76.7	73	0.45	
Co	59	74	NoGas	-0.004	ppb	N/A	433	0.09	
Cu	65	74	NoGas	-0.002	ppb	N/A	350	0.45	
Cd	111	103	NoGas	0.006	ppb	90.7	30	0.09	
Hg	201	159	NoGas	15.153	ppt	23.6	14	36	
Pb	208	159	NoGas	0.018	ppb	36.2	905	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	0.6	1419134	1473675.55333333	96.3	
Ge	74	H2	Pulse	0.4	425532	444312.95	95.8	
Sc	45	He	Pulse	0.4	190445	199999.48	95.2	
Ge	74	He	Pulse	0.3	117442	124033.623333333	94.7	
Rh	103	He	Pulse	0.1	290905	306616.713333333	94.9	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.5	443919	466139.666666667	95.2	
Bi	209	He	Pulse	0.5	269244	284384.236666667	94.7	
Li	6	NoGas	Analog	2.1	912612	870133.443333333	104.9	
Sc	45	NoGas	Analog	3.9	2351324	2371044.6	99.2	
Ge	74	NoGas	Pulse	2.5	617182	639984.78	96.4	
Rh	103	NoGas	Pulse	2.8	709109	743164.04	95.4	
Tb	159	NoGas	Mix	4.5	1275450	1301548.45333333	98.0	
Bi	209	NoGas	Pulse	2.9	694950	715661.563333333	97.1	

CRL Verification ICPMS5

Sample Name	9G02057-CRL4
File Name	069CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 00:39:04
Sample Type	CRL1
Total Dilution	1.0000
Comment	A19F223 JPB 07/02
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	10.467	ppb	1.7	51124	116.3	70	130	
Ca	44	45	H2	8.567	ppb	12.1	1849	95.19	70	130	
Fe	56	74	H2	8.791	ppb	0.6	75483	97.68	70	130	
Fe	57	74	H2	8.017	ppb	6.0	2220	89.08	70	130	
Se	78	74	H2	0.162	ppb	13.2	34	90	70	130	
Mg	24	45	He	9.436	ppb	7.1	2990	104.84	70	130	
Al	27	45	He	9.441	ppb	12.8	1592	104.9	70	130	
K	39	45	He	12.507	ppb	10.8	13903	138.97	70	130	<>CRL1 NR<MRL<R-11
V	51	74	He	0.278	ppb	15.7	1660	154.44	70	130	<>CRL1 NR<MRL<R-11
Cr	52	74	He	0.164	ppb	15.1	547	91.11	70	130	
Mn	55	74	He	0.181	ppb	10.0	370	100.56	70	130	
Ni	60	74	He	0.179	ppb	17.2	176	99.44	70	130	
Cu	65	74	He	0.245	ppb	13.5	377	136.11	70	130	<>CRL1 NR<MRL<R-11
Zn	66	74	He	0.221	ppb	93.0	250	122.78	70	130	
As	75	74	He	0.209	ppb	15.1	59	116.11	70	130	
Mo	95	103	He	0.164	ppb	25.0	181	91.11	70	130	
Ag	107	103	He	0.191	ppb	13.2	623	106.11	70	130	
Sb	121	103	He	0.255	ppb	12.0	306	141.67	70	130	<>CRL1 NR<MRL<R-11
Ba	138	159	He	0.221	ppb	13.7	808	122.78	70	130	
Tl	205	159	He	0.180	ppb	6.1	1072	100	70	130	
Be	9	6	NoGas	0.194	ppb	6.4	472	107.78	70	130	
Ti	47	45	NoGas	0.147	ppb	12.9	165	81.67	70	130	
Co	59	74	NoGas	0.171	ppb	4.8	2454	95	70	130	
Cu	65	74	NoGas	0.270	ppb	15.5	1011	150	70	130	<>CRL1 NR<MRL<R-11
Cd	111	103	NoGas	0.168	ppb	14.9	293	93.33	70	130	
Hg	201	159	NoGas	21.014	ppt	10.9	18	291.86	70	130	<>CRL1 NR<MRL<R-11
Pb	208	159	NoGas	0.188	ppb	6.4	3870	104.44	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.1	1421500	1473675.55333333	96.5	
Ge	74	H2	Pulse	0.4	427127	444312.95	96.1	
Sc	45	He	Pulse	0.9	190966	199999.48	95.5	
Ge	74	He	Pulse	0.3	119292	124033.623333333	96.2	
Rh	103	He	Pulse	0.1	292240	306616.713333333	95.3	

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CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	0.6	443588	466139.666666667	95.2	
Bi	209	He	Pulse	0.9	267958	284384.236666667	94.2	
Li	6	NoGas	Analog	0.8	879405	870133.443333333	101.1	
Sc	45	NoGas	Analog	1.7	2339929	2371044.6	98.7	
Ge	74	NoGas	Pulse	1.1	607474	639984.78	94.9	
Rh	103	NoGas	Pulse	1.5	696885	743164.04	93.8	
Tb	159	NoGas	Pulse	1.2	1247874	1301548.45333333	95.9	
Bi	209	NoGas	Pulse	1.4	684168	715661.563333333	95.6	

CRL Verification ICPMS5

Sample Name	9G02057-CRL5	1103
File Name	070_CRL.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/3/2019 00:43:23	
Sample Type	CRL2	
Total Dilution	1.0000	
Comment	A19F224 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	45.910	ppb	1.2	170620	102.02	70	130	
Ca	44	45	H2	42.056	ppb	7.7	6903	93.46	70	130	
Fe	57	74	H2	42.260	ppb	3.4	8531	93.91	70	130	
Se	78	74	H2	0.857	ppb	5.9	169	95.22	70	130	
Mg	24	45	He	43.401	ppb	4.7	13202	96.45	70	130	
Al	27	45	He	42.162	ppb	1.3	6892	93.69	70	130	
K	39	45	He	52.399	ppb	4.3	25585	116.44	70	130	
V	51	74	He	0.978	ppb	4.0	2984	108.67	70	130	
Cr	52	74	He	0.845	ppb	5.4	2059	93.89	70	130	
Mn	55	74	He	0.949	ppb	2.4	1777	105.44	70	130	
Ni	60	74	He	0.896	ppb	7.4	734	99.56	70	130	
Cu	65	74	He	0.946	ppb	1.9	1042	105.11	70	130	
Zn	66	74	He	0.982	ppb	19.4	508	109.11	70	130	
As	75	74	He	0.940	ppb	3.8	215	104.44	70	130	
Mo	95	103	He	0.894	ppb	8.2	943	99.33	70	130	
Ag	107	103	He	0.943	ppb	1.5	3074	104.78	70	130	
Sb	121	103	He	0.920	ppb	9.7	1077	102.22	70	130	
Ba	138	159	He	1.033	ppb	5.8	3276	114.78	70	130	
Tl	205	159	He	0.909	ppb	2.1	5217	101	70	130	
Be	9	6	NoGas	0.921	ppb	2.3	2196	102.33	70	130	
Ti	47	45	NoGas	0.906	ppb	2.5	780	100.67	70	130	
Co	59	74	NoGas	0.900	ppb	2.1	10752	100	70	130	
Cu	65	74	NoGas	0.962	ppb	4.5	2672	106.89	70	130	
Cd	111	103	NoGas	0.878	ppb	6.5	1435	97.56	70	130	
Hg	201	159	NoGas	44.292	ppt	21.0	33	123.03	70	130	
Pb	208	159	NoGas	0.937	ppb	4.4	16802	104.11	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.9	1438194	1473675.55333333	97.6	
Ge	74	H2	Pulse	0.3	426531	444312.95	96.0	
Sc	45	He	Pulse	0.9	192161	199999.48	96.1	
Ge	74	He	Pulse	1.1	118545	124033.623333333	95.6	
Rh	103	He	Pulse	1.0	292481	306616.713333333	95.4	
Tb	159	He	Pulse	1.1	445428	466139.666666667	95.6	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	1.0	271157	284384.236666667	95.3	
Li	6	NoGas	Analog	4.2	863204	870133.443333333	99.2	
Sc	45	NoGas	Analog	4.6	2295257	2371044.6	96.8	
Ge	74	NoGas	Pulse	3.8	599839	639984.78	93.7	
Rh	103	NoGas	Pulse	3.7	691303	743164.04	93.0	
Tb	159	NoGas	Pulse	4.1	1235971	1301548.45333333	95.0	
Bi	209	NoGas	Pulse	3.7	677790	715661.563333333	94.7	

CRL Verification ICPMS5

Sample Name	9G02057-CRL6	1104
File Name	071CRL_.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/3/2019 00:47:42	
Sample Type	CRL3	
Total Dilution	1.0000	
Comment	A19F225 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	85.736	ppb	1.5	302622	95.26	70	130	
Ca	44	45	H2	86.156	ppb	3.6	13452	95.73	70	130	
Fe	57	74	H2	85.913	ppb	0.9	16477	95.46	70	130	
Se	78	74	H2	1.824	ppb	3.7	354	101.33	70	130	
Mg	24	45	He	89.240	ppb	1.2	26614	99.16	70	130	
Al	27	45	He	90.482	ppb	5.7	14521	100.54	70	130	
K	39	45	He	94.969	ppb	2.8	37492	105.52	70	130	
V	51	74	He	1.999	ppb	1.8	4905	111.06	70	130	
Cr	52	74	He	1.879	ppb	3.2	4339	104.39	70	130	
Mn	55	74	He	1.723	ppb	1.4	3179	95.72	70	130	
Ni	60	74	He	1.886	ppb	6.2	1500	104.78	70	130	
Cu	65	74	He	1.849	ppb	4.1	1891	102.72	70	130	
Zn	66	74	He	1.879	ppb	3.1	810	104.39	70	130	
As	75	74	He	1.770	ppb	1.2	391	98.33	70	130	
Mo	95	103	He	1.802	ppb	5.1	1883	100.11	70	130	
Ag	107	103	He	1.847	ppb	2.2	5986	102.61	70	130	
Sb	121	103	He	1.898	ppb	5.5	2197	105.44	70	130	
Ba	138	159	He	1.944	ppb	4.4	6040	108	70	130	
Tl	205	159	He	1.808	ppb	1.9	10319	100.44	70	130	
Be	9	6	NoGas	1.734	ppb	1.8	4213	96.33	70	130	
Ti	47	45	NoGas	1.672	ppb	8.9	1406	92.89	70	130	
Co	59	74	NoGas	1.790	ppb	5.1	21233	99.44	70	130	
Cu	65	74	NoGas	1.923	ppb	5.6	5077	106.83	70	130	
Cd	111	103	NoGas	1.707	ppb	0.6	2792	94.83	70	130	
Hg	201	159	NoGas	75.033	ppt	8.7	53	104.21	70	130	
Pb	208	159	NoGas	1.906	ppb	4.5	33865	105.89	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.8	1430638	1473675.55333333	97.1	
Ge	74	H2	Pulse	0.5	423845	444312.95	95.4	
Sc	45	He	Pulse	0.5	189765	199999.48	94.9	
Ge	74	He	Pulse	0.4	117954	124033.623333333	95.1	
Rh	103	He	Pulse	0.2	291061	306616.713333333	94.9	
Tb	159	He	Pulse	0.3	445189	466139.666666667	95.5	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	0.3	269142	284384.236666667	94.6	
Li	6	NoGas	Analog	1.5	879321	870133.443333333	101.1	
Sc	45	NoGas	Analog	3.4	2301696	2371044.6	97.1	
Ge	74	NoGas	Pulse	2.3	609011	639984.78	95.2	
Rh	103	NoGas	Pulse	2.2	695174	743164.04	93.5	
Tb	159	NoGas	Pulse	2.6	1245240	1301548.45333333	95.7	
Bi	209	NoGas	Pulse	2.5	683495	715661.563333333	95.5	

CRL Verification ICPMS5

Sample Name	9G02057-CRL7	1105
File Name	072CRL4.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/3/2019 00:52:01	
Sample Type	CRL4	
Total Dilution	1.0000	
Comment	A19F226 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	172.033	ppb	0.7	579320	95.57	70	130	
Ca	44	45	H2	176.856	ppb	3.8	26485	98.25	70	130	
Fe	56	74	H2	179.695	ppb	4.2	1347381	99.83	70	130	
Fe	57	74	H2	170.929	ppb	0.6	31713	94.96	70	130	
Se	78	74	H2	3.573	ppb	4.3	683	99.25	70	130	
Mg	24	45	He	179.296	ppb	2.0	53056	99.61	70	130	
Al	27	45	He	178.479	ppb	1.5	28452	99.16	70	130	
K	39	45	He	182.958	ppb	1.2	62487	101.64	70	130	
V	51	74	He	3.779	ppb	3.3	8194	104.97	70	130	
Cr	52	74	He	3.601	ppb	3.6	8069	100.03	70	130	
Mn	55	74	He	3.476	ppb	2.5	6309	96.56	70	130	
Ni	60	74	He	3.709	ppb	6.0	2885	103.03	70	130	
Cu	65	74	He	3.875	ppb	3.2	3770	107.64	70	130	
Zn	66	74	He	3.839	ppb	4.1	1459	106.64	70	130	
As	75	74	He	3.669	ppb	3.3	788	101.92	70	130	
Mo	95	103	He	3.664	ppb	1.7	3794	101.78	70	130	
Ag	107	103	He	3.503	ppb	2.0	11274	97.31	70	130	
Sb	121	103	He	3.676	ppb	1.6	4217	102.11	70	130	
Ba	138	159	He	3.878	ppb	2.7	11806	107.72	70	130	
Tl	205	159	He	3.601	ppb	1.6	20316	100.03	70	130	
Be	9	6	NoGas	3.776	ppb	3.2	8774	104.89	70	130	
Ti	47	45	NoGas	3.558	ppb	2.7	2924	98.83	70	130	
Co	59	74	NoGas	3.582	ppb	1.7	41234	99.5	70	130	
Cu	65	74	NoGas	3.887	ppb	1.5	9718	107.97	70	130	
Cd	111	103	NoGas	3.592	ppb	3.3	5764	99.78	70	130	
Hg	201	159	NoGas	145.369	ppt	16.1	99	100.95	70	130	
Pb	208	159	NoGas	3.744	ppb	1.1	65381	104	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.8	1403273	1473675.55333333	95.2	
Ge	74	H2	Pulse	0.2	419328	444312.95	94.4	
Sc	45	He	Pulse	0.7	188943	199999.48	94.5	
Ge	74	He	Pulse	0.5	116694	124033.623333333	94.1	
Rh	103	He	Pulse	0.3	289072	306616.713333333	94.3	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	0.4	441223	466139.666666667	94.7	
Bi	209	He	Pulse	0.7	267858	284384.236666667	94.2	
Li	6	NoGas	Analog	0.3	841205	870133.443333333	96.7	
Sc	45	NoGas	Analog	1.0	2280324	2371044.6	96.2	
Ge	74	NoGas	Pulse	0.7	597512	639984.78	93.4	
Rh	103	NoGas	Pulse	0.3	684582	743164.04	92.1	
Tb	159	NoGas	Pulse	0.6	1233302	1301548.45333333	94.8	
Bi	209	NoGas	Pulse	0.9	677784	715661.563333333	94.7	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV	**Total Dilution**	1.0000
File Name	083_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/3/2019 01:39:12	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3943.500	ppb	0.9	13537710	4000	90	110	98.59	
Ca	44	45	H2	3928.390	ppb	1.8	603615	4000	90	110	98.21	
Fe	56	74	H2	4077.647	ppb	0.6	31492913	4000	90	110	101.94	
Fe	57	74	H2	3862.872	ppb	0.4	726457	4000	90	110	96.57	
Se	78	74	H2	40.657	ppb	0.9	8020	40	90	110	101.64	
Mg	24	45	He	4248.695	ppb	1.0	1289596	4000	90	110	106.22	
Al	27	45	He	3990.086	ppb	1.0	652942	4000	90	110	99.75	
K	39	45	He	4150.586	ppb	2.2	1231446	4000	90	110	103.76	
V	51	74	He	101.647	ppb	1.3	195507	100	90	110	101.65	
Cr	52	74	He	103.837	ppb	0.2	232164	100	90	110	103.84	
Mn	55	74	He	96.222	ppb	1.0	177000	100	90	110	96.22	
Ni	60	74	He	106.153	ppb	0.6	83178	100	90	110	106.15	
Cu	65	74	He	107.197	ppb	0.3	102505	100	90	110	107.2	
Zn	66	74	He	107.074	ppb	1.3	36808	100	90	110	107.07	
As	75	74	He	98.900	ppb	0.9	21293	100	90	110	98.9	
Mo	95	103	He	41.132	ppb	1.2	42258	40	90	110	102.83	
Ag	107	103	He	41.992	ppb	1.4	134372	40	90	110	104.98	
Sb	121	103	He	37.624	ppb	1.4	42821	40	90	110	94.06	
Ba	138	159	He	105.748	ppb	0.5	319113	100	90	110	105.75	
Tl	205	159	He	40.038	ppb	0.8	225963	40	90	110	100.1	
Be	9	6	NoGas	39.612	ppb	3.2	102035	40	90	110	99.03	
Ti	47	45	NoGas	95.366	ppb	2.8	80971	100	90	110	95.37	
Co	59	74	NoGas	99.488	ppb	2.1	1167224	100	90	110	99.49	
Cu	65	74	NoGas	105.227	ppb	1.7	261846	100	90	110	105.23	
Cd	111	103	NoGas	97.458	ppb	2.0	156366	100	90	110	97.46	
Hg	201	159	NoGas	801.388	ppt	9.2	543	800	90	110	100.17	
Pb	208	159	NoGas	100.093	ppb	2.2	1776910	100	90	110	100.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.1	1469912	1473675.55333333	99.7	
Ge	74	H2	Pulse	0.4	434560	444312.95	97.8	
Sc	45	He	Pulse	1.3	194426	199999.48	97.2	
Ge	74	He	Pulse	0.3	118916	124033.623333333	95.9	
Rh	103	He	Pulse	1.0	287529	306616.713333333	93.8	
Tb	159	He	Pulse	0.2	442398	466139.666666667	94.9	
Bi	209	He	Pulse	0.5	260951	284384.236666667	91.8	
Li	6	NoGas	Analog	3.0	933082	870133.443333333	107.2	
Sc	45	NoGas	Analog	0.8	2389299	2371044.6	100.8	
Ge	74	NoGas	Pulse	1.8	615812	639984.78	96.2	
Rh	103	NoGas	Pulse	1.7	686826	743164.04	92.4	
Tb	159	NoGas	Pulse	1.5	1264664	1301548.45333333	97.2	
Bi	209	NoGas	Pulse	1.4	671712	715661.563333333	93.9	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB
File Name	084_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 01:43:30
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	1.144	ppb	7.4	21102	45	
Ca	44	45	H2	1.268	ppb	26.5	800	45	
Fe	56	74	H2	0.612	ppb	10.1	13750	22.5	
Fe	57	74	H2	0.223	ppb	130.7	801	22.5	
Se	78	74	H2	0.050	ppb	35.3	13	0.45	
Mg	24	45	He	0.456	ppb	62.3	327	45	
Al	27	45	He	0.322	ppb	143.4	130	22.5	
K	39	45	He	0.000	ppb	817123.8	10681	45	
V	51	74	He	0.035	ppb	101.6	1218	0.45	
Cr	52	74	He	0.001	ppb	810.0	183	0.45	
Mn	55	74	He	0.018	ppb	54.7	71	0.45	
Ni	60	74	He	-0.006	ppb	N/A	31	0.45	
Cu	65	74	He	-0.022	ppb	N/A	123	0.45	
Zn	66	74	He	-0.003	ppb	N/A	177	1.8	
As	75	74	He	0.036	ppb	76.5	22	0.45	
Mo	95	103	He	0.033	ppb	73.1	44	0.45	
Ag	107	103	He	0.005	ppb	29.2	21	0.09	
Sb	121	103	He	0.301	ppb	22.4	366	0.45	
Ba	138	159	He	0.026	ppb	29.0	223	0.45	
Tl	205	159	He	0.006	ppb	28.0	84	0.09	
Be	9	6	NoGas	0.009	ppb	80.4	26	0.09	
Ti	47	45	NoGas	0.009	ppb	347.4	52	0.45	
Co	59	74	NoGas	-0.005	ppb	N/A	431	0.09	
Cu	65	74	NoGas	0.017	ppb	111.8	405	0.45	
Cd	111	103	NoGas	0.002	ppb	365.0	24	0.09	
Hg	201	159	NoGas	9.989	ppt	40.0	10	36	
Pb	208	159	NoGas	0.016	ppb	40.8	873	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	0.1	1484305	1473675.55333333	100.7	
Ge	74	H2	Pulse	0.4	437987	444312.95	98.6	
Sc	45	He	Pulse	1.3	198305	199999.48	99.2	
Ge	74	He	Pulse	0.8	121632	124033.623333333	98.1	
Rh	103	He	Pulse	0.8	298246	306616.713333333	97.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.9	451392	466139.666666667	96.8	
Bi	209	He	Pulse	1.1	271049	284384.236666667	95.3	
Li	6	NoGas	Analog	1.6	936514	870133.443333333	107.6	
Sc	45	NoGas	Analog	1.7	2422534	2371044.6	102.2	
Ge	74	NoGas	Pulse	1.3	629682	639984.78	98.4	
Rh	103	NoGas	Pulse	0.7	718265	743164.04	96.6	
Tb	159	NoGas	Pulse	1.0	1269068	1301548.45333333	97.5	
Bi	209	NoGas	Pulse	0.7	691282	715661.563333333	96.6	

Quantitation Report - ICPMS5

Sample Name:	**9070523-BLK1**	Total Dilution:	**1.0000**
File Name:	085SMPL.d	Vial:	3403
File Path:	C:\Agilent\ICPMH\1\DATA\9G02057A.b	Sample Type:	Sample
Acq Time:	7/3/2019 01:47:50	Last Calib:	07/02/2019 20:28:49
Comment:	**9070523 Water PP13+AlBaCaFeMgMnV**		

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.005	ppb	54.2	16	100	
Na	23	45	H2	10.154	ppb	1.0	52202	50000	
Mg	24	45	He	28.983	ppb	4.9	9065	50000	
Al	27	45	He	4.352	ppb	17.4	794	50000	
K	39	45	He	0.465	ppb	268.5	10715	50000	
Ca	44	45	H2	148.95	ppb	4.3	23644	50000	
Ti	47	45	NoGas	0.006	ppb	167.7	48	2500	
V	51	74	He	0.332	ppb	15.9	1768	500	
Cr	52	74	He	0.041	ppb	54.9	270	1000	
Mn	55	74	He	0.016	ppb	28.4	67	2500	
Fe	56	74	H2	0.162	ppb	19.1	10202	50000	
Fe	57	74	H2	0.911	ppb	17.5	927	50000	
Co	59	74	NoGas	-0.007	ppb	N/A	400	500	
Ni	60	74	He	-0.003	ppb	N/A	33	1000	
Cu	65	74	He	0.123	ppb	16.2	261	1000	
Cu	65	74	NoGas	0.119	ppb	20.9	648	1000	
Zn	66	74	He	0.019	ppb	919.4	181	2500	
As	75	74	He	0.039	ppb	47.5	22	500	
Se	78	74	H2	-0.003	ppb	N/A	2	100	
Mo	95	103	He	0.011	ppb	143.4	21	100	
Ag	107	103	He	0.004	ppb	16.0	16	100	
Cd	111	103	NoGas	0.003	ppb	319.0	24	1000	
Sb	121	103	He	0.079	ppb	12.6	103	100	
Ba	138	159	He	0.192	ppb	0.8	728	2500	
W	182	159	NoGas	0.004	ppb	66.0	48	40	
Hg	201	159	NoGas	4.961	ppt	86.6	7	4000	
Tl	205	159	He	-0.003	ppb	N/A	38	100	
Pb	208	159	NoGas	0.008	ppb	60.8	718	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	924819	1.9	870133.443333333	Analog	106.3	
Sc	45	H2	1481520	0.8	1473675.55333333	Analog	100.5	
Sc	45	He	196298	0.4	199999.48	Pulse	98.1	
Sc	45	NoGas	2383586	2.5	2371044.6	Analog	100.5	
Ge	74	H2	435790	0.1	444312.95	Pulse	98.1	
Ge	74	He	119628	0.4	124033.623333333	Pulse	96.4	
Ge	74	NoGas	613401	1.4	639984.78	Pulse	95.8	
Rh	103	He	295598	0.4	306616.713333333	Pulse	96.4	
Rh	103	NoGas	701879	1.2	743164.04	Pulse	94.4	
Tb	159	He	448406	0.5	466139.666666667	Pulse	96.2	
Tb	159	NoGas	1254054	1.3	1301548.45333333	Pulse	96.4	
Bi	209	He	269497	0.4	284384.236666667	Pulse	94.8	
Bi	209	NoGas	681845	1.2	715661.563333333	Pulse	95.3	

Quantitation Report - ICPMS5

Sample Name:	**9070523-BS1**		
File Name:	086SMPL.d	Total Dilution:	**1.0000**
File Path:	C:\Agilent\ICPMH\1\DATA\9G02057A.b	Vial:	3404
Acq Time:	7/3/2019 01:52:09	Sample Type:	Sample
Comment:	**9070523 Water PP13+AlBaCaFeMgMnV**	Last Calib:	07/02/2019 20:28:49

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	24.271	ppb	2.6	58964	100	
Na	23	45	H2	2448.872	ppb	1.3	8076185	50000	
Mg	24	45	He	2499.338	ppb	0.3	732024	50000	
Al	27	45	He	2469.761	ppb	0.9	389965	50000	
K	39	45	He	2525.931	ppb	0.5	727059	50000	
Ca	44	45	H2	2586.009	ppb	1.5	381646	50000	
Ti	47	45	NoGas	47.85	ppb	1.7	38665	2500	
V	51	74	He	50.161	ppb	0.8	92958	500	
Cr	52	74	He	51.408	ppb	1.2	110181	1000	
Mn	55	74	He	47.826	ppb	1.3	84282	2500	
Fe	56	74	H2	2491.197	ppb	1.0	18443910	50000	
Fe	57	74	H2	2354.862	ppb	0.7	424736	50000	
Co	59	74	NoGas	49.083	ppb	1.2	546298	500	
Ni	60	74	He	51.177	ppb	1.9	38428	1000	
Cu	65	74	He	52.986	ppb	0.7	48599	1000	
Cu	65	74	NoGas	51.821	ppb	2.4	122435	1000	
Zn	66	74	He	52.294	ppb	2.5	17303	2500	
As	75	74	He	48.576	ppb	1.2	10024	500	
Se	78	74	H2	22.98	ppb	1.5	4346	100	
Mo	95	103	He	24.591	ppb	2.0	24763	100	
Ag	107	103	He	25.722	ppb	0.1	80663	100	
Cd	111	103	NoGas	48.486	ppb	0.8	75044	1000	
Sb	121	103	He	25.528	ppb	2.5	28475	100	
Ba	138	159	He	51.034	ppb	0.6	152358	2500	
W	182	159	NoGas	0.01	ppb	32.6	84	40	
Hg	201	159	NoGas	940.209	ppt	2.7	615	4000	
Tl	205	159	He	24.201	ppb	0.9	135081	100	
Pb	208	159	NoGas	50.576	ppb	0.5	866506	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	879655	1.2	870133.443333333	Analog	101.1	
Sc	45	H2	1411063	1.1	1473675.55333333	Analog	95.8	
Sc	45	He	187575	0.5	199999.48	Pulse	93.8	
Sc	45	NoGas	2272063	1.2	2371044.6	Analog	95.8	
Ge	74	H2	416512	0.7	444312.95	Pulse	93.7	
Ge	74	He	113903	0.1	124033.623333333	Pulse	91.8	
Ge	74	NoGas	583855	1.1	639984.78	Pulse	91.2	
Rh	103	He	281748	0.4	306616.713333333	Pulse	91.9	
Rh	103	NoGas	662350	0.7	743164.04	Pulse	89.1	
Tb	159	He	437468	0.3	466139.666666667	Pulse	93.8	
Tb	159	NoGas	1219855	0.8	1301548.45333333	Pulse	93.7	
Bi	209	He	258879	0.5	284384.236666667	Pulse	91.0	
Bi	209	NoGas	653719	0.9	715661.563333333	Pulse	91.3	

Quantitation Report - ICPMS5

Sample Name:	**A9F0860-02**	Total Dilution:	**1.0000**
File Name:	087SMPL.d	Vial:	3405
File Path:	C:\Agilent\ICPMH\1\DATA\9G02057A.b	Sample Type:	Sample
Acq Time:	7/3/2019 01:56:26	Last Calib:	07/02/2019 20:28:49
Comment:	**9070523 Water PP13+AlBaFeMnV**		

FullQuant Table:

Element	Mass	ISTD	Tune Mode	Raw Conc	Units	RSD(%)	CPS	LDR	QC Flag
Be	9	6	NoGas	0.028	ppb	7.8	71	100	
Na	23	45	H2	10944.882	ppb	1.1	36115930	50000	
Mg	24	45	He	15061.631	ppb	1.3	4461455	50000	
Al	27	45	He	285.363	ppb	1.4	45645	50000	
K	39	45	He	3039.677	ppb	1.2	882988	50000	
Ca	44	45	H2	36632.564	ppb	0.7	5410449	50000	
Ti	47	45	NoGas	4.664	ppb	14.0	3976	2500	
V	51	74	He	20.256	ppb	0.3	37970	500	
Cr	52	74	He	0.318	ppb	15.2	846	1000	
Mn	55	74	He	720.161	ppb	0.7	1261639	2500	
Fe	56	74	H2	1158.926	ppb	1.2	8105072	50000	
Fe	57	74	H2	1248.368	ppb	1.8	212883	50000	
Co	59	74	NoGas	2.727	ppb	1.7	30781	500	
Ni	60	74	He	1.063	ppb	11.8	827	1000	
Cu	65	74	He	0.422	ppb	12.5	519	1000	
Cu	65	74	NoGas	0.582	ppb	6.9	1708	1000	
Zn	66	74	He	16.063	ppb	1.4	5401	2500	
As	75	74	He	0.335	ppb	18.4	82	500	
Se	78	74	H2	0.258	ppb	3.0	49	100	
Mo	95	103	He	0.334	ppb	14.0	331	100	
Ag	107	103	He	0.004	ppb	44.4	14	100	
Cd	111	103	NoGas	0.01	ppb	30.8	34	1000	
Sb	121	103	He	0.048	ppb	18.3	61	100	
Ba	138	159	He	30.539	ppb	0.8	90109	2500	
W	182	159	NoGas	0.017	ppb	9.8	126	40	
Hg	201	159	NoGas	14.896	ppt	3.7	13	4000	
Tl	205	159	He	0.014	ppb	21.0	126	100	
Pb	208	159	NoGas	0.286	ppb	0.9	5471	500	

ISTD Table:

Element	Mass	Tune Mode	CPS	RSD(%)	ISTD Ref CPS	Det.	ISTD %	QC Flag
Li	6	NoGas	891124	1.1	870133.443333333	Analog	102.4	
Sc	45	H2	1414012	0.6	1473675.55333333	Analog	96.0	
Sc	45	He	189766	1.4	199999.48	Pulse	94.9	
Sc	45	NoGas	2374108	2.2	2371044.6	Analog	100.1	
Ge	74	H2	393270	1.7	444312.95	Pulse	88.5	
Ge	74	He	113278	0.7	124033.623333333	Pulse	91.3	
Ge	74	NoGas	583755	0.8	639984.78	Pulse	91.2	
Rh	103	He	269798	0.6	306616.713333333	Pulse	88.0	
Rh	103	NoGas	647058	0.5	743164.04	Pulse	87.1	
Tb	159	He	432111	0.6	466139.666666667	Pulse	92.7	
Tb	159	NoGas	1224661	1.5	1301548.45333333	Pulse	94.1	
Bi	209	He	249028	1.7	284384.236666667	Pulse	87.6	
Bi	209	NoGas	638449	1.0	715661.563333333	Pulse	89.2	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV 6 07/03/19	**Total Dilution**	1.0000
File Name	095_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/3/2019 02:30:48	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3926.675	ppb	1.7	12822178	4000	90	110	98.17	
Ca	44	45	H2	3938.705	ppb	1.7	575703	4000	90	110	98.47	
Fe	56	74	H2	4071.720	ppb	0.2	30186411	4000	90	110	101.79	
Fe	57	74	H2	3840.933	ppb	0.9	693351	4000	90	110	96.02	
Se	78	74	H2	41.014	ppb	0.6	7766	40	90	110	102.54	
Mg	24	45	He	4296.486	ppb	1.5	1243273	4000	90	110	107.41	
Al	27	45	He	3992.593	ppb	0.9	622857	4000	90	110	99.81	
K	39	45	He	4091.221	ppb	0.5	1157396	4000	90	110	102.28	
V	51	74	He	100.556	ppb	0.3	186630	100	90	110	100.56	
Cr	52	74	He	103.240	ppb	0.7	222723	100	90	110	103.24	
Mn	55	74	He	96.395	ppb	0.7	171087	100	90	110	96.4	
Ni	60	74	He	105.081	ppb	1.5	79444	100	90	110	105.08	
Cu	65	74	He	107.763	ppb	0.6	99427	100	90	110	107.76	
Zn	66	74	He	107.224	ppb	1.2	35563	100	90	110	107.22	
As	75	74	He	98.086	ppb	0.5	20377	100	90	110	98.09	
Mo	95	103	He	40.707	ppb	1.4	40660	40	90	110	101.77	
Ag	107	103	He	42.161	ppb	0.7	131171	40	90	110	105.4	
Sb	121	103	He	37.985	ppb	0.4	42034	40	90	110	94.96	
Ba	138	159	He	104.757	ppb	0.5	312874	100	90	110	104.76	
Tl	205	159	He	40.486	ppb	0.5	226143	40	90	110	101.21	
Be	9	6	NoGas	40.018	ppb	0.6	98267	40	90	110	100.04	
Ti	47	45	NoGas	97.026	ppb	1.1	78595	100	90	110	97.03	
Co	59	74	NoGas	100.926	ppb	0.7	1131905	100	90	110	100.93	
Cu	65	74	NoGas	106.524	ppb	1.2	253372	100	90	110	106.52	
Cd	111	103	NoGas	99.581	ppb	1.0	153787	100	90	110	99.58	
Hg	201	159	NoGas	806.812	ppt	2.8	531	800	90	110	100.85	
Pb	208	159	NoGas	103.511	ppb	0.6	1782921	100	90	110	103.51	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.5	1398335	1473675.55333333	94.9	
Ge	74	H2	Pulse	0.6	417134	444312.95	93.9	
Sc	45	He	Pulse	0.4	185341	199999.48	92.7	
Ge	74	He	Pulse	0.4	114740	124033.623333333	92.5	
Rh	103	He	Pulse	0.8	279539	306616.713333333	91.2	
Tb	159	He	Pulse	0.2	437848	466139.666666667	93.9	
Bi	209	He	Pulse	0.6	260736	284384.236666667	91.7	
Li	6	NoGas	Analog	0.5	888962	870133.443333333	102.2	
Sc	45	NoGas	Analog	1.1	2279251	2371044.6	96.1	
Ge	74	NoGas	Pulse	0.8	588552	639984.78	92.0	
Rh	103	NoGas	Pulse	0.5	660967	743164.04	88.9	
Tb	159	NoGas	Pulse	1.2	1226825	1301548.45333333	94.3	
Bi	209	NoGas	Pulse	0.8	663411	715661.563333333	92.7	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB 6 07/03/19
File Name	096_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 02:35:06
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	-0.074	ppb	N/A	16440	45	
Ca	44	45	H2	0.977	ppb	57.8	735	45	
Fe	56	74	H2	0.290	ppb	7.2	11026	22.5	
Fe	57	74	H2	0.117	ppb	261.6	766	22.5	
Se	78	74	H2	0.023	ppb	34.0	7	0.45	
Mg	24	45	He	0.207	ppb	100.9	240	45	
Al	27	45	He	0.187	ppb	189.0	103	22.5	
K	39	45	He	0.222	ppb	719.7	10354	45	
V	51	74	He	0.131	ppb	31.6	1377	0.45	
Cr	52	74	He	0.012	ppb	39.5	206	0.45	
Mn	55	74	He	0.011	ppb	28.2	57	0.45	
Ni	60	74	He	-0.011	ppb	N/A	27	0.45	
Cu	65	74	He	0.018	ppb	168.8	159	0.45	
Zn	66	74	He	0.047	ppb	73.1	190	1.8	
As	75	74	He	0.009	ppb	309.7	16	0.45	
Mo	95	103	He	0.028	ppb	17.7	39	0.45	
Ag	107	103	He	0.004	ppb	26.5	18	0.09	
Sb	121	103	He	0.240	ppb	13.7	289	0.45	
Ba	138	159	He	0.030	ppb	15.4	232	0.45	
Tl	205	159	He	0.004	ppb	57.9	77	0.09	
Be	9	6	NoGas	0.006	ppb	84.0	17	0.09	
Ti	47	45	NoGas	-0.012	ppb	N/A	33	0.45	
Co	59	74	NoGas	-0.009	ppb	N/A	378	0.09	
Cu	65	74	NoGas	-0.002	ppb	N/A	348	0.45	
Cd	111	103	NoGas	0.003	ppb	294.9	24	0.09	
Hg	201	159	NoGas	8.390	ppt	53.0	9	36	
Pb	208	159	NoGas	0.015	ppb	34.0	840	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	0.2	1445134	1473675.55333333	98.1	
Ge	74	H2	Pulse	0.4	429436	444312.95	96.7	
Sc	45	He	Pulse	0.7	190960	199999.48	95.5	
Ge	74	He	Pulse	0.5	119162	124033.623333333	96.1	
Rh	103	He	Pulse	0.5	292908	306616.713333333	95.5	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.5	445578	466139.666666667	95.6	
Bi	209	He	Pulse	0.2	269881	284384.236666667	94.9	
Li	6	NoGas	Analog	0.7	920952	870133.443333333	105.8	
Sc	45	NoGas	Analog	3.2	2387369	2371044.6	100.7	
Ge	74	NoGas	Pulse	1.1	615222	639984.78	96.1	
Rh	103	NoGas	Pulse	0.9	704111	743164.04	94.7	
Tb	159	NoGas	Pulse	1.4	1256830	1301548.45333333	96.6	
Bi	209	NoGas	Pulse	1.1	691899	715661.563333333	96.7	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV	**Total Dilution**	1.0000
File Name	108_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/3/2019 03:26:38	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	4008.245	ppb	0.8	14581205	4000	90	110	100.21	
Ca	44	45	H2	3832.824	ppb	1.3	624127	4000	90	110	95.82	
Fe	56	74	H2	4178.778	ppb	0.7	33281573	4000	90	110	104.47	
Fe	57	74	H2	3924.367	ppb	0.3	761051	4000	90	110	98.11	
Se	78	74	H2	40.633	ppb	2.6	8266	40	90	110	101.58	
Mg	24	45	He	4465.883	ppb	0.5	1370909	4000	90	110	111.65	> +/- 10%
Al	27	45	He	4044.465	ppb	0.5	669358	4000	90	110	101.11	
K	39	45	He	4217.709	ppb	2.9	1265344	4000	90	110	105.44	
V	51	74	He	102.758	ppb	0.3	198674	100	90	110	102.76	
Cr	52	74	He	106.211	ppb	0.4	238721	100	90	110	106.21	
Mn	55	74	He	97.662	ppb	0.5	180591	100	90	110	97.66	
Ni	60	74	He	106.767	ppb	0.7	84099	100	90	110	106.77	
Cu	65	74	He	108.811	ppb	0.2	104594	100	90	110	108.81	
Zn	66	74	He	106.416	ppb	1.2	36775	100	90	110	106.42	
As	75	74	He	97.898	ppb	1.0	21188	100	90	110	97.9	
Mo	95	103	He	41.167	ppb	0.9	42754	40	90	110	102.92	
Ag	107	103	He	41.942	ppb	0.9	135669	40	90	110	104.86	
Sb	121	103	He	37.614	ppb	1.8	43273	40	90	110	94.04	
Ba	138	159	He	104.518	ppb	0.3	314696	100	90	110	104.52	
Ti	205	159	He	40.079	ppb	0.4	225688	40	90	110	100.2	
Be	9	6	NoGas	39.157	ppb	4.4	107376	40	90	110	97.89	
Ti	47	45	NoGas	101.302	ppb	3.8	83779	100	90	110	101.3	
Co	59	74	NoGas	105.975	ppb	4.6	1183443	100	90	110	105.98	
Cu	65	74	NoGas	109.839	ppb	5.3	260065	100	90	110	109.84	
Cd	111	103	NoGas	104.548	ppb	3.6	160407	100	90	110	104.55	
Hg	201	159	NoGas	840.262	ppt	6.5	538	800	90	110	105.03	
Pb	208	159	NoGas	106.426	ppb	3.9	1786809	100	90	110	106.43	

Mg Q-41 10/10/19

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.7	1557617	1473675.55333333	105.7	
Ge	74	H2	Pulse	0.5	448128	444312.95	100.9	
Sc	45	He	Pulse	0.7	196622	199999.48	98.3	
Ge	74	He	Pulse	0.5	119543	124033.623333333	96.4	
Rh	103	He	Pulse	0.4	290623	306616.713333333	94.8	
Tb	159	He	Pulse	0.1	441404	466139.666666667	94.7	
Bi	209	He	Pulse	0.4	259556	284384.236666667	91.3	
Li	6	NoGas	Analog	4.1	993940	870133.443333333	114.2	
Sc	45	NoGas	Analog	5.9	2330140	2371044.6	98.3	
Ge	74	NoGas	Pulse	5.7	587030	639984.78	91.7	
Rh	103	NoGas	Pulse	4.8	657405	743164.04	88.5	
Tb	159	NoGas	Pulse	5.6	1197534	1301548.45333333	92.0	
Bi	209	NoGas	Pulse	6.3	638348	715661.563333333	89.2	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB 7 07/03/19
File Name	109_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 03:30:56
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	20.335	ppb	1.2	89666	45	
Ca	44	45	H2	2.291	ppb	17.9	981	45	
Fe	56	74	H2	1.664	ppb	1.4	22567	22.5	
Fe	57	74	H2	1.869	ppb	11.8	1145	22.5	
Se	78	74	H2	0.026	ppb	10.5	8	0.45	
Mg	24	45	He	0.990	ppb	38.1	487	45	
Al	27	45	He	0.998	ppb	17.4	240	22.5	
K	39	45	He	0.811	ppb	54.3	10828	45	
V	51	74	He	-0.104	ppb	N/A	937	0.45	
Cr	52	74	He	0.001	ppb	1103.2	183	0.45	
Mn	55	74	He	0.041	ppb	24.0	113	0.45	
Ni	60	74	He	0.004	ppb	299.3	39	0.45	
Cu	65	74	He	0.002	ppb	431.9	146	0.45	
Zn	66	74	He	0.133	ppb	72.5	222	1.8	
As	75	74	He	0.025	ppb	107.4	19	0.45	
Mo	95	103	He	0.034	ppb	33.1	47	0.45	
Ag	107	103	He	0.011	ppb	35.6	40	0.09	
Sb	121	103	He	0.340	ppb	3.0	414	0.45	
Ba	138	159	He	0.028	ppb	31.1	227	0.45	
Tl	205	159	He	0.011	ppb	26.9	116	0.09	
Be	9	6	NoGas	0.009	ppb	9.1	28	0.09	
Ti	47	45	NoGas	0.017	ppb	52.1	58	0.45	
Co	59	74	NoGas	0.003	ppb	53.0	516	0.09	
Cu	65	74	NoGas	0.015	ppb	47.2	386	0.45	
Cd	111	103	NoGas	0.013	ppb	23.8	41	0.09	
Hg	201	159	NoGas	12.918	ppt	18.1	12	36	
Pb	208	159	NoGas	0.023	ppb	26.7	978	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	0.3	1520198	1473675.55333333	103.2	
Ge	74	H2	Pulse	0.4	450487	444312.95	101.4	
Sc	45	He	Pulse	1.0	196510	199999.48	98.3	
Ge	74	He	Pulse	0.4	120593	124033.623333333	97.2	
Rh	103	He	Pulse	0.6	300072	306616.713333333	97.9	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.4	447602	466139.666666667	96.0	
Bi	209	He	Pulse	0.8	268932	284384.236666667	94.6	
Li	6	NoGas	Analog	1.4	1006560	870133.443333333	115.7	
Sc	45	NoGas	Analog	0.8	2413893	2371044.6	101.8	
Ge	74	NoGas	Pulse	0.4	607531	639984.78	94.9	
Rh	103	NoGas	Pulse	0.4	701332	743164.04	94.4	
Tb	159	NoGas	Pulse	0.4	1254811	1301548.45333333	96.4	
Bi	209	NoGas	Pulse	0.2	685759	715661.563333333	95.8	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV 9 JB 070319	**Total Dilution**	1.0000
File Name	120_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/3/2019 04:18:05	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3949.725	ppb	0.7	15054710	4000	90	110	98.74	
Ca	44	45	H2	3815.416	ppb	0.4	651000	4000	90	110	95.39	
Fe	56	74	H2	4167.966	ppb	0.2	34591976	4000	90	110	104.2	
Fe	57	74	H2	3909.407	ppb	0.3	790053	4000	90	110	97.74	
Se	78	74	H2	41.114	ppb	1.6	8715	40	90	110	102.78	
Mg	24	45	He	4453.670	ppb	0.9	1406933	4000	90	110	111.34	> +/- 10%
Al	27	45	He	4018.403	ppb	0.6	684382	4000	90	110	100.46	
K	39	45	He	4279.563	ppb	2.1	1321194	4000	90	110	106.99	
V	51	74	He	103.868	ppb	0.3	206178	100	90	110	103.87	
Cr	52	74	He	106.492	ppb	0.3	245751	100	90	110	106.49	
Mn	55	74	He	98.122	ppb	0.3	186293	100	90	110	98.12	
Ni	60	74	He	107.340	ppb	0.9	86814	100	90	110	107.34	
Cu	65	74	He	108.795	ppb	0.4	107374	100	90	110	108.8	
Zn	66	74	He	106.872	ppb	1.6	37918	100	90	110	106.87	
As	75	74	He	98.635	ppb	1.1	21919	100	90	110	98.64	
Mo	95	103	He	41.154	ppb	1.9	43864	40	90	110	102.88	
Ag	107	103	He	42.255	ppb	0.1	140289	40	90	110	105.64	
Sb	121	103	He	37.004	ppb	1.1	43695	40	90	110	92.51	
Ba	138	159	He	104.674	ppb	0.4	321506	100	90	110	104.67	
Tl	205	159	He	39.805	ppb	0.6	228655	40	90	110	99.51	
Be	9	6	NoGas	38.424	ppb	2.1	108977	40	90	110	96.06	
Ti	47	45	NoGas	98.096	ppb	1.8	85771	100	90	110	98.1	
Co	59	74	NoGas	102.870	ppb	0.7	1212745	100	90	110	102.87	
Cu	65	74	NoGas	107.021	ppb	0.6	267585	100	90	110	107.02	
Cd	111	103	NoGas	100.092	ppb	0.9	163609	100	90	110	100.09	
Hg	201	159	NoGas	783.074	ppt	4.1	533	800	90	110	97.88	
Pb	208	159	NoGas	101.413	ppb	0.2	1807154	100	90	110	101.41	

Mg Q-4 JB 7/03/19

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.8	1632005	1473675.55333333	110.7	
Ge	74	H2	Pulse	0.4	466976	444312.95	105.1	
Sc	45	He	Pulse	0.2	202338	199999.48	101.2	
Ge	74	He	Pulse	0.3	122739	124033.623333333	99.0	
Rh	103	He	Pulse	0.6	298292	306616.713333333	97.3	
Tb	159	He	Pulse	0.2	450284	466139.666666667	96.6	
Bi	209	He	Pulse	0.3	262833	284384.236666667	92.4	
Li	6	NoGas	Analog	0.7	1026835	870133.443333333	118.0	
Sc	45	NoGas	Analog	2.4	2460847	2371044.6	103.8	
Ge	74	NoGas	Pulse	0.5	618664	639984.78	96.7	
Rh	103	NoGas	Pulse	0.5	699613	743164.04	94.1	
Tb	159	NoGas	Pulse	0.9	1269216	1301548.45333333	97.5	
Bi	209	NoGas	Pulse	1.0	675460	715661.563333333	94.4	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB
File Name	122_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 04:26:51
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	6.904	ppb	2.1	44850	45	
Ca	44	45	H2	0.373	ppb	130.8	721	45	
Fe	56	74	H2	-0.187	ppb	N/A	8154	22.5	
Fe	57	74	H2	-0.570	ppb	N/A	704	22.5	
Se	78	74	H2	-0.002	ppb	N/A	3	0.45	
Mg	24	45	He	0.083	ppb	240.7	224	45	
Al	27	45	He	0.262	ppb	76.5	127	22.5	
K	39	45	He	0.245	ppb	254.3	11396	45	
V	51	74	He	0.125	ppb	21.9	1451	0.45	
Cr	52	74	He	-0.013	ppb	N/A	158	0.45	
Mn	55	74	He	0.012	ppb	57.2	62	0.45	
Ni	60	74	He	-0.009	ppb	N/A	30	0.45	
Cu	65	74	He	-0.002	ppb	N/A	149	0.45	
Zn	66	74	He	0.114	ppb	69.7	227	1.8	
As	75	74	He	-0.006	ppb	N/A	13	0.45	
Mo	95	103	He	0.003	ppb	106.2	13	0.45	
Ag	107	103	He	0.003	ppb	56.7	16	0.09	
Sb	121	103	He	0.069	ppb	21.8	97	0.45	
Ba	138	159	He	0.013	ppb	39.9	186	0.45	
Tl	205	159	He	-0.001	ppb	N/A	48	0.09	
Be	9	6	NoGas	0.002	ppb	99.9	8	0.09	
Ti	47	45	NoGas	-0.007	ppb	N/A	40	0.45	
Co	59	74	NoGas	-0.009	ppb	N/A	395	0.09	
Cu	65	74	NoGas	-0.014	ppb	N/A	335	0.45	
Cd	111	103	NoGas	0.005	ppb	148.2	29	0.09	
Hg	201	159	NoGas	6.270	ppt	80.6	8	36	
Pb	208	159	NoGas	0.004	ppb	3.5	668	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	1.8	1622069	1473675.55333333	110.1	
Ge	74	H2	Pulse	0.3	473965	444312.95	106.7	
Sc	45	He	Pulse	0.6	210062	199999.48	105.0	
Ge	74	He	Pulse	0.4	126722	124033.623333333	102.2	
Rh	103	He	Pulse	0.3	312936	306616.713333333	102.1	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.6	461445	466139.666666667	99.0	
Bi	209	He	Pulse	0.6	274366	284384.236666667	96.5	
Li	6	NoGas	Analog	1.0	1038262	870133.443333333	119.3	
Sc	45	NoGas	Analog	1.1	2553483	2371044.6	107.7	
Ge	74	NoGas	Pulse	0.8	646561	639984.78	101.0	
Rh	103	NoGas	Pulse	0.3	742257	743164.04	99.9	
Tb	159	NoGas	Pulse	0.7	1299591	1301548.45333333	99.8	
Bi	209	NoGas	Pulse	0.4	704446	715661.563333333	98.4	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV	**Total Dilution**	1.0000
File Name	133_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/3/2019 05:13:42	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3982.844	ppb	1.3	13957425	4000	90	110	99.57	
Ca	44	45	H2	3887.908	ppb	1.0	609900	4000	90	110	97.2	
Fe	56	74	H2	4167.697	ppb	0.6	32711684	4000	90	110	104.19	
Fe	57	74	H2	3884.832	ppb	1.2	742420	4000	90	110	97.12	
Se	78	74	H2	41.147	ppb	3.0	8247	40	90	110	102.87	
Mg	24	45	He	4345.407	ppb	0.6	1303027	4000	90	110	108.64	
Al	27	45	He	3931.969	ppb	0.2	635663	4000	90	110	98.3	
K	39	45	He	3997.802	ppb	1.4	1172239	4000	90	110	99.95	
V	51	74	He	102.679	ppb	0.8	194008	100	90	110	102.68	
Cr	52	74	He	105.309	ppb	0.4	231308	100	90	110	105.31	
Mn	55	74	He	97.506	ppb	0.7	176201	100	90	110	97.51	
Ni	60	74	He	105.767	ppb	1.0	81415	100	90	110	105.77	
Cu	65	74	He	108.243	ppb	0.5	101681	100	90	110	108.24	
Zn	66	74	He	107.169	ppb	1.5	36190	100	90	110	107.17	
As	75	74	He	97.572	ppb	0.7	20638	100	90	110	97.57	
Mo	95	103	He	40.133	ppb	0.6	41289	40	90	110	100.33	
Ag	107	103	He	42.234	ppb	0.5	135332	40	90	110	105.58	
Sb	121	103	He	37.428	ppb	0.8	42657	40	90	110	93.57	
Ba	138	159	He	103.941	ppb	0.6	312044	100	90	110	103.94	
Tl	205	159	He	40.326	ppb	0.6	226416	40	90	110	100.82	
Be	9	6	NoGas	40.950	ppb	3.2	101338	40	90	110	102.38	
Ti	47	45	NoGas	102.570	ppb	5.0	80741	100	90	110	102.57	
Co	59	74	NoGas	107.739	ppb	4.8	1145849	100	90	110	107.74	
Cu	65	74	NoGas	112.112	ppb	4.5	252895	100	90	110	112.11	> +/- 10%
Cd	111	103	NoGas	106.962	ppb	4.2	157638	100	90	110	106.96	
Hg	201	159	NoGas	838.620	ppt	8.7	525	800	90	110	104.83	
Pb	208	159	NoGas	109.012	ppb	4.8	1790532	100	90	110	109.01	

Cu reports from He mode

7/03/19

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.5	1500614	1473675.55333333	101.8	
Ge	74	H2	Pulse	1.1	441638	444312.95	99.4	
Sc	45	He	Pulse	0.2	192063	199999.48	96.0	
Ge	74	He	Pulse	0.4	116824	124033.623333333	94.2	
Rh	103	He	Pulse	0.2	287896	306616.713333333	93.9	
Tb	159	He	Pulse	0.5	440120	466139.666666667	94.4	
Bi	209	He	Pulse	0.7	259706	284384.236666667	91.3	
Li	6	NoGas	Analog	3.2	896497	870133.443333333	103.0	
Sc	45	NoGas	Analog	5.7	2218930	2371044.6	93.6	
Ge	74	NoGas	Pulse	5.4	559078	639984.78	87.4	
Rh	103	NoGas	Pulse	5.3	631701	743164.04	85.0	
Tb	159	NoGas	Pulse	5.8	1172072	1301548.45333333	90.1	
Bi	209	NoGas	Pulse	5.9	629292	715661.563333333	87.9	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB A 7/3/03k9
File Name	134_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 05:18:00
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	8.303	ppb	3.4	45801	45	
Ca	44	45	H2	3.926	ppb	0.2	1209	45	
Fe	56	74	H2	2.659	ppb	3.0	30041	22.5	
Fe	57	74	H2	2.225	ppb	9.6	1195	22.5	
Se	78	74	H2	0.027	ppb	140.6	8	0.45	
Mg	24	45	He	1.771	ppb	21.4	717	45	
Al	27	45	He	0.933	ppb	50.5	227	22.5	
K	39	45	He	-1.176	ppb	N/A	10104	45	
V	51	74	He	-0.114	ppb	N/A	910	0.45	
Cr	52	74	He	0.012	ppb	91.3	207	0.45	
Mn	55	74	He	0.191	ppb	19.1	389	0.45	
Ni	60	74	He	-0.012	ppb	N/A	26	0.45	
Cu	65	74	He	0.016	ppb	100.7	158	0.45	
Zn	66	74	He	0.171	ppb	9.9	233	1.8	
As	75	74	He	0.004	ppb	493.6	15	0.45	
Mo	95	103	He	0.033	ppb	21.3	44	0.45	
Ag	107	103	He	0.008	ppb	29.4	29	0.09	
Sb	121	103	He	0.277	ppb	7.7	338	0.45	
Ba	138	159	He	0.023	ppb	25.2	210	0.45	
Tl	205	159	He	0.006	ppb	28.8	86	0.09	
Be	9	6	NoGas	0.004	ppb	28.8	13	0.09	
Ti	47	45	NoGas	0.041	ppb	57.1	77	0.45	
Co	59	74	NoGas	-0.004	ppb	N/A	423	0.09	
Cu	65	74	NoGas	0.002	ppb	1283.6	352	0.45	
Cd	111	103	NoGas	0.009	ppb	74.5	34	0.09	
Hg	201	159	NoGas	1.999	ppt	122.2	5	36	
Pb	208	159	NoGas	0.018	ppb	22.8	896	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	0.9	1481565	1473675.55333333	100.5	
Ge	74	H2	Pulse	0.2	443303	444312.95	99.8	
Sc	45	He	Pulse	0.5	193914	199999.48	97.0	
Ge	74	He	Pulse	0.1	119596	124033.623333333	96.4	
Rh	103	He	Pulse	0.7	297904	306616.713333333	97.2	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.3	448241	466139.666666667	96.2	
Bi	209	He	Pulse	1.2	269370	284384.236666667	94.7	
Li	6	NoGas	Analog	1.6	953514	870133.443333333	109.6	
Sc	45	NoGas	Analog	0.7	2343673	2371044.6	98.8	
Ge	74	NoGas	Pulse	0.9	603410	639984.78	94.3	
Rh	103	NoGas	Pulse	0.5	692250	743164.04	93.1	
Tb	159	NoGas	Pulse	1.0	1247012	1301548.45333333	95.8	
Bi	209	NoGas	Pulse	0.6	683381	715661.563333333	95.5	

Continuing Calibration Verification (CCV) Report ICPMS5

Sample Name	9G02057-CCV B JPB 07/03/19	**Total Dilution**	1.0000
File Name	136_CCV.d	**Sample Type**	CCV
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	**ISTD Ref FileName**	004CALB.d
Acq Time	7/3/2019 05:26:37	**Comment**	A19E305 JPB 07/02

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	Conc. RSD	CPS	ExpValue	Low	High	% Rec	Flag
Na	23	45	H2	3950.921	ppb	0.3	14168607	4000	90	110	98.77	
Ca	44	45	H2	3850.060	ppb	0.6	618040	4000	90	110	96.25	
Fe	56	74	H2	4154.385	ppb	0.5	32967638	4000	90	110	103.86	
Fe	57	74	H2	3883.313	ppb	0.3	750380	4000	90	110	97.08	
Se	78	74	H2	40.400	ppb	1.3	8189	40	90	110	101	
Mg	24	45	He	4204.830	ppb	2.7	1300001	4000	90	110	105.12	
Al	27	45	He	3870.473	ppb	3.3	645023	4000	90	110	96.76	
K	39	45	He	3997.355	ppb	5.4	1208014	4000	90	110	99.93	
V	51	74	He	101.613	ppb	2.9	196101	100	90	110	101.61	
Cr	52	74	He	103.937	ppb	2.9	233172	100	90	110	103.94	
Mn	55	74	He	96.586	ppb	3.4	178251	100	90	110	96.59	
Ni	60	74	He	105.542	ppb	1.5	82996	100	90	110	105.54	
Cu	65	74	He	107.705	ppb	2.0	103351	100	90	110	107.71	
Zn	66	74	He	106.803	ppb	4.8	36827	100	90	110	106.8	
As	75	74	He	97.950	ppb	3.6	21158	100	90	110	97.95	
Mo	95	103	He	40.348	ppb	2.4	42091	40	90	110	100.87	
Ag	107	103	He	41.816	ppb	2.9	135859	40	90	110	104.54	
Sb	121	103	He	37.162	ppb	2.1	42948	40	90	110	92.9	
Ba	138	159	He	103.260	ppb	2.8	312945	100	90	110	103.26	
Tl	205	159	He	39.481	ppb	2.6	223788	40	90	110	98.7	
Be	9	6	NoGas	38.528	ppb	1.0	103029	40	90	110	96.32	
Ti	47	45	NoGas	97.745	ppb	0.8	82464	100	90	110	97.74	
Co	59	74	NoGas	100.888	ppb	0.6	1156681	100	90	110	100.89	
Cu	65	74	NoGas	105.190	ppb	0.9	255780	100	90	110	105.19	
Cd	111	103	NoGas	99.895	ppb	0.8	158452	100	90	110	99.9	
Hg	201	159	NoGas	763.290	ppt	2.6	510	800	90	110	95.41	
Pb	208	159	NoGas	101.902	ppb	0.2	1781811	100	90	110	101.9	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.3	1535435	1473675.55333333	104.2	
Ge	74	H2	Pulse	0.2	446505	444312.95	100.5	
Sc	45	He	Pulse	2.7	198106	199999.48	99.1	
Ge	74	He	Pulse	2.4	119371	124033.623333333	96.2	
Rh	103	He	Pulse	1.7	292005	306616.713333333	95.2	
Tb	159	He	Pulse	2.0	444460	466139.666666667	95.3	
Bi	209	He	Pulse	2.2	262049	284384.236666667	92.1	
Li	6	NoGas	Analog	1.1	968162	870133.443333333	111.3	
Sc	45	NoGas	Analog	0.4	2373792	2371044.6	100.1	
Ge	74	NoGas	Pulse	0.1	601644	639984.78	94.0	
Rh	103	NoGas	Pulse	0.2	678871	743164.04	91.3	
Tb	159	NoGas	Pulse	0.6	1245388	1301548.45333333	95.7	
Bi	209	NoGas	Pulse	0.1	665604	715661.563333333	93.0	

Continuing Calibration Blank (CCB) Report ICPMS6

B JM 07/03/19

Sample Name	9G02057-CCB
File Name	137_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 05:30:55
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

NR report result CCBC

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	28.912	ppb	13.1	120790	45	
Ca	44	45	H2	15.281	ppb	20.9	3061	45	
Fe	56	74	H2	8.919	ppb	12.7	81036	22.5	
Fe	57	74	H2	7.815	ppb	15.7	2314	22.5	
Se	78	74	H2	0.058	ppb	58.5	15	0.45	
Mg	24	45	He	5.620	ppb	12.6	1909	45	
Al	27	45	He	3.455	ppb	35.0	647	22.5	
K	39	45	He	2.217	ppb	37.6	11249	45	
V	51	74	He	0.049	ppb	46.2	1231	0.45	
Cr	52	74	He	0.020	ppb	96.8	224	0.45	
Mn	55	74	He	0.583 ✓	ppb	15.2	1122	0.45	> 1/2 MRL
Ni	60	74	He	0.021	ppb	128.8	52	0.45	
Cu	65	74	He	0.023	ppb	187.1	166	0.45	
Zn	66	74	He	0.281	ppb	29.5	273	1.8	
As	75	74	He	0.078	ppb	42.7	31	0.45	
Mo	95	103	He	0.036	ppb	41.8	48	0.45	
Ag	107	103	He	0.008	ppb	42.0	29	0.09	
Sb	121	103	He	0.300	ppb	4.0	367	0.45	
Ba	138	159	He	0.086	ppb	21.0	402	0.45	
Tl	205	159	He	0.010	ppb	27.0	108	0.09	
Be	9	6	NoGas	0.010	ppb	38.2	29	0.09	
Ti	47	45	NoGas	0.148	ppb	9.4	175	0.45	
Co	59	74	NoGas	0.008	ppb	124.5	581	0.09	
Cu	65	74	NoGas	-0.009	ppb	N/A	337	0.45	
Cd	111	103	NoGas	0.004	ppb	348.1	27	0.09	
Hg	201	159	NoGas	9.286	ppt	31.4	10	36	
Pb	208	159	NoGas	0.025	ppb	12.6	1045	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	1.2	1529749	1473675.55333333	103.8	
Ge	74	H2	Pulse	0.4	452630	444312.95	101.9	
Sc	45	He	Pulse	0.8	196575	199999.48	98.3	
Ge	74	He	Pulse	0.3	120428	124033.623333333	97.1	
Rh	103	He	Pulse	0.5	299747	306616.713333333	97.8	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.4	447142	466139.666666667	95.9	
Bi	209	He	Pulse	0.9	267814	284384.236666667	94.2	
Li	6	NoGas	Analog	0.4	989366	870133.443333333	113.7	
Sc	45	NoGas	Analog	1.4	2472675	2371044.6	104.3	
Ge	74	NoGas	Pulse	1.5	625612	639984.78	97.8	
Rh	103	NoGas	Pulse	1.6	722713	743164.04	97.2	
Tb	159	NoGas	Pulse	0.6	1288061	1301548.45333333	99.0	
Bi	209	NoGas	Pulse	1.1	703153	715661.563333333	98.3	

Continuing Calibration Blank (CCB) Report ICPMS6

Sample Name	9G02057-CCB C
File Name	138_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 05:35:15
Sample Type	CCB
Total Dilution	1.0000
Comment	Cal Blk 3%HNO3 0.4%HCl
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

JB 07/03/19

QC Analyte Table

Name	Mass	ISTD	Tune Mode	Conc.	Units	Conc. RSD	CPS	Limit	QC Flag
Na	23	45	H2	10.504	ppb	5.1	55428	45	
Ca	44	45	H2	5.860	ppb	11.7	1566	45	
Fe	56	74	H2	2.767	ppb	3.0	31579	22.5	
Fe	57	74	H2	2.278	ppb	24.1	1231	22.5	
Se	78	74	H2	0.019	ppb	87.7	7	0.45	
Mg	24	45	He	2.581	ppb	16.6	984	45	
Al	27	45	He	1.500	ppb	41.7	327	22.5	
K	39	45	He	1.796	ppb	36.0	11222	45	
V	51	74	He	0.020	ppb	249.6	1186	0.45	
Cr	52	74	He	-0.009	ppb	N/A	160	0.45	
Mn	55	74	He	0.265	ppb	5.5	534	0.45	
Ni	60	74	He	-0.003	ppb	N/A	33	0.45	
Cu	65	74	He	0.014	ppb	83.0	158	0.45	
Zn	66	74	He	0.049	ppb	112.8	194	1.8	
As	75	74	He	-0.002	ppb	N/A	14	0.45	
Mo	95	103	He	0.009	ppb	86.7	20	0.45	
Ag	107	103	He	0.004	ppb	43.4	17	0.09	
Sb	121	103	He	0.100	ppb	15.8	131	0.45	
Ba	138	159	He	0.040	ppb	50.0	266	0.45	
Tl	205	159	He	0.000	ppb	N/A	52	0.09	
Be	9	6	NoGas	0.002	ppb	79.8	9	0.09	
Ti	47	45	NoGas	0.044	ppb	61.2	82	0.45	
Co	59	74	NoGas	-0.003	ppb	N/A	445	0.09	
Cu	65	74	NoGas	0.018	ppb	72.8	396	0.45	
Cd	111	103	NoGas	0.010	ppb	139.0	36	0.09	
Hg	201	159	NoGas	3.915	ppt	59.3	6	36	
Pb	208	159	NoGas	0.015	ppb	20.5	851	0.09	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Sc	45	H2	Analog	1.3	1537896	1473675.55333333	104.4	
Ge	74	H2	Pulse	0.5	453149	444312.95	102.0	
Sc	45	He	Pulse	1.0	198306	199999.48	99.2	
Ge	74	He	Pulse	0.1	121373	124033.623333333	97.9	
Rh	103	He	Pulse	0.4	303036	306616.713333333	98.8	

Continuing Calibration Blank (CCB) Report ICPMS6

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC flag
Tb	159	He	Pulse	0.6	451709	466139.666666667	96.9	
Bi	209	He	Pulse	0.5	270792	284384.236666667	95.2	
Li	6	NoGas	Analog	0.8	964230	870133.443333333	110.8	
Sc	45	NoGas	Analog	2.8	2411115	2371044.6	101.7	
Ge	74	NoGas	Pulse	1.2	613981	639984.78	95.9	
Rh	103	NoGas	Pulse	0.6	704909	743164.04	94.9	
Tb	159	NoGas	Pulse	1.2	1259294	1301548.45333333	96.8	
Bi	209	NoGas	Pulse	1.1	687585	715661.563333333	96.1	

CRL Verification ICPMS5

Sample Name	9G02057-CRL8
File Name	139CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 05:39:35
Sample Type	CRL1
Total Dilution	1.0000
Comment	A19F223 JPB 07/02
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Fail
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	16.648	ppb	1.1	76743	184.98	70	130	<>CRL1 NR<MRL<R-11
Ca	44	45	H2	10.121	ppb	2.9	2229	112.46	70	130	
Fe	56	74	H2	11.088	ppb	1.3	97348	123.2	70	130	
Fe	57	74	H2	10.267	ppb	9.8	2761	114.08	70	130	
Se	78	74	H2	0.164	ppb	27.4	36	91.11	70	130	
Mg	24	45	He	11.315	ppb	5.1	3651	125.72	70	130	
Al	27	45	He	10.023	ppb	8.4	1735	111.37	70	130	
K	39	45	He	8.808	ppb	20.2	13209	97.87	70	130	
V	51	74	He	0.255	ppb	18.0	1648	141.67	70	130	<>CRL1 NR<MRL<R-11
Cr	52	74	He	0.198	ppb	29.7	634	110	70	130	
Mn	55	74	He	0.330	ppb	7.0	659	183.33	70	130	<>CRL1 NR<MRL<R-11
Ni	60	74	He	0.181	ppb	9.3	181	100.56	70	130	
Cu	65	74	He	0.270	ppb	9.4	409	150	70	130	<>CRL1 NR<MRL<R-11
Zn	66	74	He	0.271	ppb	22.1	272	150.56	70	130	<>CRL1 NR<MRL<R-11
As	75	74	He	0.203	ppb	10.5	59	112.78	70	130	
Mo	95	103	He	0.181	ppb	3.3	207	100.56	70	130	
Ag	107	103	He	0.186	ppb	7.4	634	103.33	70	130	
Sb	121	103	He	0.187	ppb	31.5	237	103.89	70	130	
Ba	138	159	He	0.238	ppb	8.2	874	132.22	70	130	<>CRL1 NR<MRL<R-11
Tl	205	159	He	0.177	ppb	5.3	1070	98.33	70	130	
Be	9	6	NoGas	0.191	ppb	6.0	504	106.11	70	130	
Ti	47	45	NoGas	0.232	ppb	11.3	238	128.89	70	130	
Co	59	74	NoGas	0.182	ppb	16.9	2562	101.11	70	130	
Cu	65	74	NoGas	0.272	ppb	12.3	1008	151.11	70	130	<>CRL1 NR<MRL<R-11
Cd	111	103	NoGas	0.198	ppb	13.5	338	110	70	130	
Hg	201	159	NoGas	10.893	ppt	25.1	11	151.29	70	130	<>CRL1 NR<MRL<R-11
Pb	208	159	NoGas	0.208	ppb	1.1	4182	115.56	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.7	1523172	1473675.55333333	103.4	
Ge	74	H2	Pulse	0.2	447502	444312.95	100.7	
Sc	45	He	Pulse	2.9	196490	199999.48	98.2	
Ge	74	He	Pulse	3.1	121712	124033.623333333	98.1	
Rh	103	He	Pulse	2.8	304021	306616.713333333	99.2	

JB 07/03/19

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	2.9	450957	466139.666666667	96.7	
Bi	209	He	Pulse	3.0	270576	284384.236666667	95.1	
Li	6	NoGas	Analog	2.3	953315	870133.443333333	109.6	
Sc	45	NoGas	Analog	1.9	2362217	2371044.6	99.6	
Ge	74	NoGas	Pulse	1.2	602962	639984.78	94.2	
Rh	103	NoGas	Pulse	2.3	691560	743164.04	93.1	
Tb	159	NoGas	Pulse	1.8	1239904	1301548.45333333	95.3	
Bi	209	NoGas	Pulse	1.8	677762	715661.563333333	94.7	

CRL Verification ICPMS5

Sample Name	9G02057-CRL9
File Name	140_CRL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 05:43:54
Sample Type	CRL2
Total Dilution	1.0000
Comment	A19F224 JPB 07/02
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

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QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	51.099	ppb	0.6	198636	113.55	70	130	
Ca	44	45	H2	45.677	ppb	2.7	7863	101.5	70	130	
Fe	57	74	H2	44.755	ppb	2.5	9454	99.46	70	130	
Se	78	74	H2	0.848	ppb	5.4	176	94.22	70	130	
Mg	24	45	He	48.264	ppb	1.8	14838	107.25	70	130	
Al	27	45	He	46.915	ppb	6.3	7757	104.26	70	130	
K	39	45	He	49.855	ppb	3.0	25157	110.79	70	130	
V	51	74	He	0.973	ppb	7.8	3007	108.11	70	130	
Cr	52	74	He	0.954	ppb	6.5	2327	106	70	130	
Mn	55	74	He	1.043	ppb	6.6	1968	115.89	70	130	
Ni	60	74	He	0.936	ppb	7.5	774	104	70	130	
Cu	65	74	He	0.936	ppb	10.0	1043	104	70	130	
Zn	66	74	He	1.095	ppb	9.4	552	121.67	70	130	
As	75	74	He	0.925	ppb	6.7	214	102.78	70	130	
Mo	95	103	He	0.840	ppb	7.9	902	93.33	70	130	
Ag	107	103	He	0.921	ppb	6.2	3051	102.33	70	130	
Sb	121	103	He	0.945	ppb	3.5	1123	105	70	130	
Ba	138	159	He	0.994	ppb	4.7	3170	110.44	70	130	
Tl	205	159	He	0.870	ppb	1.9	5018	96.67	70	130	
Be	9	6	NoGas	0.863	ppb	2.0	2292	95.89	70	130	
Ti	47	45	NoGas	0.954	ppb	7.2	856	106	70	130	
Co	59	74	NoGas	0.883	ppb	5.0	10762	98.11	70	130	
Cu	65	74	NoGas	1.021	ppb	2.3	2869	113.44	70	130	
Cd	111	103	NoGas	0.939	ppb	7.4	1566	104.33	70	130	
Hg	201	159	NoGas	41.845	ppt	5.2	32	116.24	70	130	
Pb	208	159	NoGas	0.941	ppb	0.6	17236	104.56	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	1.7	1519225	1473675.55333333	103.1	
Ge	74	H2	Pulse	0.3	448451	444312.95	100.9	
Sc	45	He	Pulse	0.4	194533	199999.48	97.3	
Ge	74	He	Pulse	0.7	119823	124033.623333333	96.6	
Rh	103	He	Pulse	0.3	297499	306616.713333333	97.0	
Tb	159	He	Pulse	0.3	447239	466139.666666667	95.9	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	0.4	268317	284384.236666667	94.4	
Li	6	NoGas	Analog	0.6	960543	870133.443333333	110.4	
Sc	45	NoGas	Analog	2.1	2397954	2371044.6	101.1	
Ge	74	NoGas	Pulse	1.1	610808	639984.78	95.4	
Rh	103	NoGas	Pulse	0.8	704468	743164.04	94.8	
Tb	159	NoGas	Pulse	1.1	1261121	1301548.45333333	96.9	
Bi	209	NoGas	Pulse	0.9	691059	715661.563333333	96.6	

CRL Verification ICPMS5

Sample Name	9G02057-CRLA	1104
File Name	141CRL_.d	
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b	
Acq Time	7/3/2019 05:48:13	
Sample Type	CRL3	
Total Dilution	1.0000	
Comment	A19F225 JPB 07/02	
ISTD Ref FileName	004CALB.d	
Sample QC Pass/Fial	Pass	
ISTD QC Pass/Fail	Pass	
Operator	**ICPMS Analyst**	

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	91.785	ppb	0.3	339705	101.98	70	130	
Ca	44	45	H2	89.659	ppb	1.4	14709	99.62	70	130	
Fe	57	74	H2	88.940	ppb	1.0	17915	98.82	70	130	
Se	78	74	H2	1.847	ppb	4.9	377	102.61	70	130	
Mg	24	45	He	90.142	ppb	3.0	27493	100.16	70	130	
Al	27	45	He	90.906	ppb	1.4	14925	101.01	70	130	
K	39	45	He	91.574	ppb	2.5	37348	101.75	70	130	
V	51	74	He	1.844	ppb	4.1	4686	102.44	70	130	
Cr	52	74	He	2.040	ppb	1.0	4772	113.33	70	130	
Mn	55	74	He	1.796	ppb	3.3	3365	99.78	70	130	
Ni	60	74	He	2.061	ppb	0.9	1662	114.5	70	130	
Cu	65	74	He	1.943	ppb	5.4	2012	107.94	70	130	
Zn	66	74	He	1.987	ppb	2.4	860	110.39	70	130	
As	75	74	He	1.757	ppb	2.8	395	97.61	70	130	
Mo	95	103	He	1.752	ppb	6.8	1866	97.33	70	130	
Ag	107	103	He	1.845	ppb	1.5	6091	102.5	70	130	
Sb	121	103	He	1.757	ppb	3.1	2074	97.61	70	130	
Ba	138	159	He	1.925	ppb	2.0	6003	106.94	70	130	
Tl	205	159	He	1.833	ppb	2.1	10497	101.83	70	130	
Be	9	6	NoGas	1.739	ppb	5.5	4628	96.61	70	130	
Ti	47	45	NoGas	1.877	ppb	6.6	1651	104.28	70	130	
Co	59	74	NoGas	1.806	ppb	2.9	21490	100.33	70	130	
Cu	65	74	NoGas	1.920	ppb	3.5	5083	106.67	70	130	
Cd	111	103	NoGas	1.722	ppb	7.6	2855	95.67	70	130	
Hg	201	159	NoGas	73.004	ppt	16.1	53	101.39	70	130	
Pb	208	159	NoGas	1.873	ppb	3.4	33937	104.06	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.4	1505431	1473675.55333333	102.2	
Ge	74	H2	Pulse	0.1	445835	444312.95	100.3	
Sc	45	He	Pulse	1.0	194094	199999.48	97.0	
Ge	74	He	Pulse	0.2	119833	124033.623333333	96.6	
Rh	103	He	Pulse	0.6	296525	306616.713333333	96.7	
Tb	159	He	Pulse	0.3	446716	466139.666666667	95.8	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Bi	209	He	Pulse	0.1	268529	284384.236666667	94.4	
Li	6	NoGas	Analog	1.6	963719	870133.443333333	110.8	
Sc	45	NoGas	Analog	1.8	2411758	2371044.6	101.7	
Ge	74	NoGas	Pulse	1.3	610698	639984.78	95.4	
Rh	103	NoGas	Pulse	1.5	705138	743164.04	94.9	
Tb	159	NoGas	Pulse	1.5	1269140	1301548.45333333	97.5	
Bi	209	NoGas	Pulse	1.1	695569	715661.563333333	97.2	

CRL Verification ICPMS5

Sample Name	9G02057-CRLB
File Name	142CRL4.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\9G02057A.b
Acq Time	7/3/2019 05:52:32
Sample Type	CRL4
Total Dilution	1.0000
Comment	A19F226 JPB 07/02
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fial	Pass
ISTD QC Pass/Fail	Pass
Operator	**ICPMS Analyst**

1105

QC Analyte Table

Name	Mass	ISTD	Tune	Conc.	Units	RSD	CPS	% Rec	%QC Low	%QC High	Flag
Na	23	45	H2	176.016	ppb	1.0	632659	97.79	70	130	
Ca	44	45	H2	173.240	ppb	1.6	27725	96.24	70	130	
Fe	56	74	H2	185.596	ppb	1.7	1471133	103.11	70	130	
Fe	57	74	H2	169.974	ppb	0.5	33349	94.43	70	130	
Se	78	74	H2	3.631	ppb	3.3	733	100.86	70	130	
Mg	24	45	He	183.393	ppb	0.6	55004	101.88	70	130	
Al	27	45	He	179.806	ppb	1.1	29054	99.89	70	130	
K	39	45	He	178.918	ppb	1.4	62165	99.4	70	130	
V	51	74	He	3.691	ppb	2.5	8153	102.53	70	130	
Cr	52	74	He	3.644	ppb	2.0	8290	101.22	70	130	
Mn	55	74	He	3.592	ppb	4.3	6618	99.78	70	130	
Ni	60	74	He	3.671	ppb	5.1	2900	101.97	70	130	
Cu	65	74	He	3.910	ppb	3.3	3862	108.61	70	130	
Zn	66	74	He	3.945	ppb	2.5	1518	109.58	70	130	
As	75	74	He	3.520	ppb	6.2	768	97.78	70	130	
Mo	95	103	He	3.489	ppb	5.1	3669	96.92	70	130	
Ag	107	103	He	3.570	ppb	1.5	11672	99.17	70	130	
Sb	121	103	He	3.553	ppb	6.4	4141	98.69	70	130	
Ba	138	159	He	3.857	ppb	2.7	11750	107.14	70	130	
Tl	205	159	He	3.730	ppb	1.1	21053	103.61	70	130	
Be	9	6	NoGas	3.493	ppb	2.5	9101	97.03	70	130	
Ti	47	45	NoGas	3.399	ppb	4.7	2917	94.42	70	130	
Co	59	74	NoGas	3.564	ppb	1.0	41527	99	70	130	
Cu	65	74	NoGas	3.893	ppb	2.0	9848	108.14	70	130	
Cd	111	103	NoGas	3.618	ppb	1.6	5883	100.5	70	130	
Hg	201	159	NoGas	146.804	ppt	4.8	101	101.95	70	130	
Pb	208	159	NoGas	3.756	ppb	1.0	66268	104.33	70	130	

QC ISTD Table

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Sc	45	H2	Analog	0.8	1498748	1473675.55333333	101.7	
Ge	74	H2	Pulse	0.5	443376	444312.95	99.8	
Sc	45	He	Pulse	0.1	191503	199999.48	95.8	
Ge	74	He	Pulse	0.3	118492	124033.623333333	95.5	
Rh	103	He	Pulse	0.5	293650	306616.713333333	95.8	

CRL Verification ICPMS5

Name	Mass	Tune Mode	Det.	CPS RSD	CPS	ISTD Ref CPS	ISTD Recovery %	QC Flag
Tb	159	He	Pulse	0.5	441472	466139.666666667	94.7	
Bi	209	He	Pulse	0.5	266411	284384.236666667	93.7	
Li	6	NoGas	Analog	0.9	943141	870133.443333333	108.4	
Sc	45	NoGas	Analog	2.4	2378833	2371044.6	100.3	
Ge	74	NoGas	Pulse	0.9	604734	639984.78	94.5	
Rh	103	NoGas	Pulse	0.6	693829	743164.04	93.4	
Tb	159	NoGas	Pulse	0.8	1246223	1301548.45333333	95.7	
Bi	209	NoGas	Pulse	0.5	686654	715661.563333333	95.9	

Metals IFA/IFB Metals Internal Standards Recovery Summary

A19G007 IFA

A19G008 IFB

A9F0860 (I.S Tables)

Analytical Standard Record

Apex Laboratories

A19G007

Description:	ICSA working std	Expires:	08/20/19
Standard Type:	Calibration Standa	Prepared:	07/01/19
Solvent:	3.5% HNO3 + 0.4% HCl	Prepared By:	Emily S. Stefansson
Final Volume (mls):	50	Department:	Metals
Vials:	1	Last Edit:	07/23/19 16:48 by arf

Prepare as needed.

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
A19C191	Conc. HCl - Omnitrace	03/04/19	Kevin Taucher	03/04/22	03/22/19 15:55 by jsj	0.2
A19D287	Conc. HNO3 - Omnitrace	04/22/19	Emily S. Stefansson	04/22/20	06/10/19 16:48 by jsj	1.75
A19E309	1 W 10 ppm intermediate	05/28/19	Emily S. Stefansson	08/20/19	06/10/19 16:48 by jsj	0.5

Reviewed By Date

Analytical Standard Record

Apex Laboratories

A19G008

Description:	ICSA+B working std	Expires:	08/10/19
Standard Type:	Calibration Standa	Prepared:	07/01/19
Solvent:	3.5% HNO3 + 0.4% HCl	Prepared By:	Emily S. Stefansson
Final Volume (mls):	50	Department:	Metals
Vials:	1	Last Edit:	08/14/19 13:25 by jsj

Prepared as needed.

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

A19G008

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
A19C191	Conc. HCl - Omnitrace	03/04/19	Kevin Taucher	03/04/22	03/22/19 15:55 by jsj	0.2
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
A19D287	Conc. HNO3 - Omnitrace	04/22/19	Emily S. Stefansson	04/22/20	06/10/19 16:48 by jsj	1.75
A19E309	1 W 10 ppm intermediate	05/28/19	Emily S. Stefansson	08/20/19	06/10/19 16:48 by jsj	0.5

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
7/5/2019 5:03 PM	rinse													
7/5/2019 5:09 PM	rinse													
7/5/2019 5:14 PM	cal blk													
7/5/2019 5:20 PM	9G05031-CAL0	100	100	100	100	100	100	100	100	100	100	100	100	100
7/5/2019 5:24 PM	9G05031-CAL1	99.24208409	102.5739078	98.45658605	100.1325231	101.6727013	99.09332364	99.62688629	99.35423585	99.87286386	98.14880273	100.3331381	98.77349293	99.79300629
7/5/2019 5:29 PM	9G05031-CAL2	99.19357275	100.1367825	96.61574306	100.9651734	99.78552159	97.6013349	100.3417595	98.43200118	100.4142003	97.66822218	100.8528014	97.92459447	100.0387739
7/5/2019 5:34 PM	9G05031-CAL3	97.2453663	98.88102853	97.84034392	98.82382346	98.61108929	98.72622394	99.39044104	98.56313602	99.00252265	98.33226482	99.19810031	98.56543408	99.40041913
7/5/2019 5:39 PM	9G05031-CAL4	97.13676128	100.431124	97.01007789	100.0812942	99.6396993	97.86278755	98.32552671	97.7837813	98.63504349	97.77509428	98.79588997	97.90510755	99.2365245
7/5/2019 5:43 PM	9G05031-CAL5	95.59418873	99.74636953	95.56737463	97.21626054	98.94842502	97.32623466	97.2059663	96.90240726	96.20424485	96.79448258	97.87334915	97.19686141	98.80306523
7/5/2019 5:48 PM	9G05031-CAL6	93.44222864	96.72673118	91.92499304	96.86046465	95.05993346	93.09326704	94.2402751	92.82291954	93.03856945	94.69557853	96.20093919	94.50563806	95.79597241
7/5/2019 5:52 PM	9G05031-CAL7	89.46957019	91.91767046	87.70745062	91.12998499	90.77840604	88.7007254	89.68273168	87.96045362	88.26463327	91.78810057	93.73952041	91.17748742	93.09081915
7/5/2019 5:57 PM	9G05031-CAL8	86.48495836	86.65653897	84.32525708	88.16805463	85.06849706	83.94611165	85.51105379	82.65420022	83.81832257	88.69560745	90.78779023	86.42482823	87.50724436
7/5/2019 6:02 PM	9G05031-CAL9	87.1186998	79.12266122	80.78664426	85.63176018	74.51504132	78.33919983	82.21386074	75.42224165	77.99999353	84.49176553	88.08753443	78.05322035	81.32006467
7/5/2019 6:06 PM	rinse	94.67589389	95.78406132	92.76742379	96.33414282	94.0033073	92.23240763	94.39703443	93.11941008	94.11387177	94.02440009	95.36229239	94.04857474	94.8465088
7/5/2019 6:10 PM	9G05031-ICV1	91.19713962	93.25611724	90.83273953	94.26540131	91.37012842	90.54235718	90.95947974	89.08691629	89.01653035	92.38675511	93.36597816	91.09461639	91.80935836
7/5/2019 6:15 PM	9G05031-ICB1	93.59927604	95.06220067	92.52152503	94.4024059	94.04637179	93.15255009	94.61619695	92.72595745	93.33055061	93.46213844	94.94175143	94.40051878	94.15841184
7/5/2019 6:19 PM	9G05031-CRL1	94.7405592	97.06480265	92.87082559	96.31347637	94.75416378	93.7168956	94.57197099	93.29945854	93.69607873	93.8212587	94.92797947	93.74079697	94.67212194
7/5/2019 6:24 PM	9G05031-CRL2	95.04151109	98.103455	94.18766464	97.3791467	95.47742966	94.78856622	95.11753495	95.02459826	94.2526253	95.15488707	94.76969717	95.26104824	94.39640175
7/5/2019 6:28 PM	9G05031-CRL3	94.55143588	96.97386974	94.21519059	95.82310805	95.20132518	94.59042779	94.83164894	94.24320662	94.16651534	94.78848303	94.89515449	94.94629649	94.92508748
7/5/2019 6:32 PM	9G05031-CRL4	94.90917987	97.02195545	94.21221299	96.02834329	95.12273456	94.34396765	94.45819289	94.22761411	93.64139166	94.63578464	94.86761923	95.07925597	94.48596342
7/5/2019 6:37 PM	9G05031-IFA1	93.29808379	70.8182529	80.09833761	87.55134112	63.51447382	72.79939322	79.11486219	67.64899698	70.61584405	77.12788111	81.02602901	65.63080297	68.97049276
7/5/2019 6:41 PM	9G05031-IFB1	97.28642245	78.73633816	81.45728484	91.1140769	69.27111185	74.37267184	81.07415108	68.0917084	73.18838789	77.64270133	83.4151084	65.76713665	70.50261653
7/5/2019 6:45 PM	rinse	100.7155284	103.1703939	98.13322769	103.4894357	100.4816059	97.04837691	98.46477061	96.29674778	97.57408373	96.41948365	97.94728154	95.86595393	97.02903258
7/5/2019 6:50 PM	9070588-BLK1	97.62835316	101.9663102	96.90050521	101.361635	99.624781	96.54717058	96.0633349	95.85996827	95.6936466	96.10948809	96.28129989	95.4987696	95.77011565
7/5/2019 6:54 PM	9070588-BS1	101.874308	103.9135177	101.1702732	104.7106266	100.8699062	98.52097739	100.1519279	97.5007747	98.06301857	98.08178963	99.18165193	95.87089904	96.88947119
7/5/2019 6:58 PM	A9G0045-01	99.81639928	95.63370834	94.75574359	102.3716223	92.18018527	92.18837787	95.12332951	87.85670898	89.81398469	94.09557253	96.1704242	87.83716222	89.75001472
7/5/2019 7:03 PM	A9G0055-01	100.6050096	97.38141795	98.14743972	104.5337956	95.86299455	99.44590019	100.65706	93.69438651	94.50903744	96.27943098	97.42751511	92.58689157	94.23999654
7/5/2019 7:07 PM	A9G0066-02	111.2571469	115.8197154	110.5469318	117.3537977	107.6262149	106.3583964	105.885668	102.2256524	101.0247716	102.9804521	102.4927986	98.00881083	97.27842063
7/5/2019 7:11 PM	A9G0066-03	107.5604748	110.8262845	106.0644243	113.6453663	103.4227036	101.8070931	101.8179894	98.26283715	96.88226527	100.5119559	99.96355585	96.09779524	95.28768493
7/5/2019 7:15 PM	9070588-DUP1	106.8203159	108.0525374	103.2496885	111.7314522	100.7401595	99.69986561	100.4162945	96.47771552	96.64342937	98.6535322	99.344789	94.69350607	94.93338991
7/5/2019 7:20 PM	9070588-MS1	108.2428209	104.3542934	103.5582972	113.2782024	97.00888111	99.12557873	101.1391536	95.44937967	96.34146116	98.4594933	99.61204418	93.83140433	93.726856
7/5/2019 7:24 PM	A9G0066-04	106.9082922	108.4935052	103.3936469	110.9817902	100.903989	98.97643898	99.72147433	95.62939157	95.45848778	97.99708633	98.64153304	93.62457531	93.65271587
7/5/2019 7:28 PM	A9G0066-05	108.440783	107.3382286	101.0759201	112.6132743	99.24253431	98.37958662	100.3328578	94.47137569	95.84649644	97.903068	99.18181278	92.96166683	93.91467321
7/5/2019 7:33 PM	9G05031-CCV1	107.2987809	108.0619083	104.8939901	109.0712513	103.9463975	101.5042012	101.9805275	99.03113209	98.99697407	100.2297574	100.6282611	97.40040592	97.43680935
7/5/2019 7:37 PM	9G05031-CCB1	107.0405537	106.3967515	104.4683084	109.6926565	102.0820149	102.829598	103.3309366	101.9571261	101.4606468	100.9215837	101.0799287	99.93759159	99.03286547
7/5/2019 7:41 PM	A9G0066-06	109.7885836	104.8917584	103.9339295	111.7855704	97.6826979	99.6635352	101.3519315	94.63303126	95.78952861	97.95604893	98.71913401	91.76007828	91.51411379
7/5/2019 7:46 PM	A9G0066-07	111.6661841	108.4407231	103.9315731	115.1181583	100.1091767	99.32167273	102.8210503	93.53997037	96.31443339	96.1150563	99.17115724	89.08262351	91.25627532
7/5/2019 7:50 PM	A9G0072-01	96.24811095	104.6073785	98.86391935	100.217355	96.58605238	93.40050504	92.54036283	89.929146	88.067821	94.78988831	94.09951937	88.39931899	87.7572071
7/5/2019 7:54 PM	A9G0076-01	93.54454054	97.64966798	93.3399096	98.48539801	93.57719584	92.66057853	92.75144404	91.3414888	90.90925091	94.81940546	95.14566628	94.22724286	95.61013555
7/5/2019 7:59 PM	A9G0080-01	94.59826264	101.0946735	96.69126159	101.2243598	95.07767111	93.33843193	93.73885664	92.04133001	92.33664769	95.94653843	95.73725924	94.18793745	94.89345574
7/5/2019 8:03 PM	9070588-MS2	93.68196868	100.4239536	95.20532992	100.8925904	94.27820484	92.16759506	93.65512493	91.76003972	91.33355718	94.4535969	95.22613013	93.49761819	94.50854508
7/5/2019 8:07 PM	A8F0865-01RE1	90.15843588	95.0261468	90.45806655	94.14883776	91.85914146	90.65112278	89.57056195	88.52737305	86.29016116	92.32675047	91.86293954	90.92130377	91.00494348
7/5/2019 8:12 PM	9070541-DUP2	85.46420881	90.59567316	86.42999967	89.09469022	88.28580441	85.79961739	85.62696798	83.95972045	82.48946245	89.14206383	88.76253995	87.73390738	88.00339885
7/5/2019 8:16 PM	9061490-BLK2	91.41408911	95.01711533	90.9514036	95.51487813	92.61362349	90.57046023	91.27883319	91.17496886	90.73419042	92.96832836	93.43189031	93.10508592	93.58547959
7/5/2019 8:20 PM	9061490-BSD2	87.16744593	92.41820323	87.8449096	92.76042178	90.49113057	88.13674643	88.07125003	87.3485078	86.39710907	91.56528079	92.10840072	90.68697972	91.76686151
7/5/2019 8:25 PM	9G05031-CCV2	87.66609451	91.0186687	87.18168908	93.04676112	89.14159023	87.88568293	87.76649421	86.25563301	86.96429309	90.90369268	92.47100036	90.11266468	91.18588119
7/5/2019 8:29 PM	9G05031-CCB2	88.17007409	91.25471768	87.1656937	91.59085185	89.97476927	88.14617429	88.71658764	88.59936158	88.13944002	91.17869973	91.95816427	91.66734692	92.97356393
7/5/2019 8:33 PM	9061490-BS2	86.94011101	89.56943741	86.46272758	90.81087225	87.70470098	86.55251454	87.33505464	86.37515501	85.79720662	90.35512153	91.90429401	89.75240948	90.92539162
7/5/2019 8:38 PM	A8F0704-01RE1	85.34084528	84.51917861	82.4275402	90.07037133	81.04000395	82.38711699	83.6403872	79.50455481	79.54684599	87.21587556	89.05333578	84.31091769	86.35538065
7/5/2019 8:42 PM	A9G0016-01RE1	95.79055893	92.79073371	89.63988156	99.32923822	89.84645766	89.56774068	92.05472916	87.48211164	88.84917547	92.5925259	94.6221952	89.59521638	91.5434622
7/5/2019 8:46 PM	9070523-MS3	99.36467361	97.09574706	94.62758743	101.6071062	93.14559935	92.59982324	94.57969576	90.1197821	90.86070998	94.60459676	96.0255532	91.17542186	92.80647107
7/5/2019 8:51 PM	A8F0865-01RE1	92.84382429	93.41071428	88.29109038	94.81002939	90.74770176	88.72559256	89.87450214	86.6278648	86.30883478	91.72952095	93.06317181	89.19730051	91.31790895
7/5/2019 8:55 PM	A8F0866-01RE1	94.24318137	95.08063987	89.77361953	96.7186752	91.44683948	89.78394052	90.20471035	89.52953903	88.68985795	92.77929716	93.78330064	91.64877048	93.48883661
7/5/2019 8:59 PM	9070487-DUP2	94.27514791	94.5814835	89.78316075	98.45545039	90.99001428	89.22756611	90.75833826	89.6574622	89.3063273	93.26947791	94.32265098	91.78911841	93.45365684
7/5/2019 9:03 PM	9070487-MS3	94.1383231	94.01612021	89.7270884	98.38211037	90.63908894	89.09931297	90.37917915	87.92693312	87.87541727	92.84191865	94.09637482	89.84242708	91.47968809
7/5/2019 9:08 PM	9G05031-CCV3	95.1355269	96.7091691	92.34833459	98.91048288	94.36743924	91.9536969	93.60080068	90.9643813	90.80287132	93.7546931	95.898487	92.02996664	94.46097989
7/5/2019 9:12 PM	9G05031-CCB3	95.47058275	96.40969227	90.03970485	96.72226705	94.97325244	91.44713353	93.28964923	91.70638648	92.38064548	92.6131836	95.78459804	92.6759389	95.72306941
7/5/2019 9:16 PM	9G05031-CRL5	95.87874839	97.31853629	92.03488441	98.93260881	95.60755936	93.28536244	94.05378569	93.10998244	92.53297458	94.33418489	95.38123866	94.27529836	95.80423383
7/5/2019 9:21 PM	9G05031-CRL6	97.08422172	97.8476588	93.51649291	99.58882175	95.98977295	94.02787044	94.28740544	94.68279953	93.86385305	95.70612439	96.42026408	95.48883725	96.53378464
7/5/2019 9:25 PM	9G05031-CRL7	96.99896529	98.98073762	93.01655124	99.9724287	96.39146899	94.19169129	94.40747742	94.21917988	93.71157969	94.89220559	95.84364226	94.6556615	96.01452122
7/5/2019 9:29 PM	9G05031-CRL8	97.77527081	98.64285266	93.99684676	100.4498516	97.05988469	94.15501788	95.47475265	94.40235687	93.96481594	95.06571413	96.61410116	95.21181592	97.08442801
7/5/2019 9:34 PM	Rinse	93.69391956	98.07794614	93.5597696	95.2157148	95.61215661	93.67556918	91.02960455	94.3750956	89.67344888	95.13516293	91.93062973	95.01605938	92.19074407
7/5/2019 9:38 PM	Rinse	96.84413264	97.62610152	92.43772393	99.76008329	95.46362137	93.4336086	94.16627094	93.8075618	93.19651103	94.58261269	95.358019	93.85131388	95.27957342

		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
7/2/2019 7:23 PM	rinse													
7/2/2019 7:27 PM	rinse													
7/2/2019 7:31 PM	cal blk													
7/2/2019 7:36 PM	9G02057-CAL0	100	100	100	100	100	100	100	100	100	100	100	100	100
7/2/2019 7:40 PM	9G02057-CAL1	101.8325369	98.85958978	101.5354207	101.7379293	101.9196282	101.169406	101.6852135	102.3464529	101.7364901	101.0820426	101.917821	100.9338281	101.8171546
7/2/2019 7:44 PM	9G02057-CAL2	103.8883393	101.6197724	102.7957239	103.3319572	103.1968837	102.2630207	103.0990029	102.9132528	102.6478488	101.9173629	102.8716113	100.7124258	102.0794625
7/2/2019 7:49 PM	9G02057-CAL3	105.2121798	103.1553816	103.4362623	103.6925161	104.2800118	103.6657721	103.8873086	104.5513533	103.3214156	102.4198899	102.9847458	102.1171192	102.8361418
7/2/2019 7:54 PM	9G02057-CAL4	106.3309056	104.8921648	105.1679701	104.4561237	105.5292034	104.8846728	104.5655112	105.0051533	103.3748045	103.2282277	102.9258219	102.2314411	103.3178392
7/2/2019 7:58 PM	9G02057-CAL5	104.5404902	103.9422266	103.6435045	104.6674691	105.0330433	103.2872269	102.8399816	103.63539	102.3568386	103.000088	102.9320512	102.3575228	102.4067358
7/2/2019 8:03 PM	9G02057-CAL6	102.6188481	99.05848702	99.9626949	100.2707049	101.3141721	99.02650859	98.4136378	98.59241528	96.53944953	99.72641462	100.3600399	97.76541529	99.01966371
7/2/2019 8:08 PM	9G02057-CAL7	100.8302474	95.88956313	94.19839658	96.3984957	95.8810271	94.21619734	94.41481822	94.3815522	92.7975897	96.84574509	97.97350764	95.03901242	95.06015201
7/2/2019 8:12 PM	9G02057-CAL8	98.35376936	90.31399997	89.40178245	93.4709475	90.9481489	90.33848806	90.75704582	89.17164703	88.64723956	93.52451948	95.71046524	90.4325323	90.54816129
7/2/2019 8:17 PM	9G02057-CAL9	95.66583222	77.81821135	85.50256564	89.9779446	76.41937663	80.688	83.56044082	78.14709896	79.14010299	85.67838395	90.13700338	77.14239693	80.42157255
7/2/2019 8:30 PM	9G02057-ICV1	99.63798541	95.99900807	97.6423672	98.20384484	95.61109349	95.98149824	95.27802312	94.8397801	92.72163294	97.775076	97.09310195	95.84239966	95.04724973
7/2/2019 8:34 PM	9G02057-ICB1	104.0998267	99.19368073	99.95838323	100.6737385	99.72851943	99.32611015	98.99910901	99.60277551	98.20261262	99.66293936	99.27158378	98.68650362	98.64861076
7/2/2019 8:38 PM	9G02057-CRL1	105.3556912	101.4173993	101.4998606	102.3065717	101.194102	101.333117	100.645607	101.5915766	99.57633625	100.5720396	100.2316351	99.99579442	99.39057507
7/2/2019 8:43 PM	9G02057-CRL2	107.1589862	102.9015932	102.3363711	103.4258542	102.7823167	102.0308337	101.1976441	102.381788	100.2486441	101.4261319	100.4484835	99.70194199	100.1250819
7/2/2019 8:47 PM	9G02057-CRL3	106.0445158	103.7809955	102.4766164	102.1114878	103.3661619	101.6209718	100.0469839	101.9016772	98.58899344	100.1061513	99.160471	99.42251487	97.51813973
7/2/2019 8:52 PM	9G02057-IFA1	99.02018822	68.25180692	78.0630613	87.16953546	62.91223637	68.55465025	76.29227891	63.10343226	69.33519729	72.0431902	80.57319731	58.83571653	65.86361498
7/2/2019 8:58 PM	9G02057-IFB1	102.3541404	72.81372241	79.73800065	87.29585067	66.78428271	69.98854907	77.17990554	63.66694797	69.60351445	72.02626681	80.72743052	58.58507058	65.53786697
7/2/2019 9:03 PM	Hg spike test	117.5983107	117.510637	111.8227124	110.1399953	116.4312819	109.316248	107.6449318	108.7737063	105.6023907	104.798205	104.2038028	104.1539504	104.0074995
7/2/2019 9:14 PM	9H07057-BLK1	101.6605545	100.0702622	100.7929971	99.55006488	98.76989807	97.7889995	100.8534651	98.32614838	96.46186443	99.09581699	97.73995912	97.51951515	98.51848511
7/2/2019 9:21 PM	9H07057-BS1	100.1325862	98.16283284	99.90209475	100.2377256	97.81061674	98.13257894	96.64731141	98.09026414	96.23113176	98.60255177	96.60652876	94.97389629	95.51848551
7/2/2019 9:25 PM	A9G0010-01	104.1093708	103.2095717	102.8884325	101.9433058	100.4317587	101.0278584	98.05935437	100.9359601	97.61251545	100.3878344	99.13732012	96.8422359	95.60458161
7/2/2019 9:29 PM	A9G0038-05	109.183065	105.1422642	103.3643087	105.7096691	98.96653774	98.97546598	99.15596743	98.80901904	98.21201521	99.71908992	101.696949	95.0132808	96.71279398
7/2/2019 9:34 PM	A9G0038-10	108.9251935	103.6799011	102.7573988	106.6815867	97.89780379	96.96213825	98.32447578	97.66467394	97.08109756	98.43518645	100.6455337	94.13583062	96.80141594
7/2/2019 9:38 PM	A9G0038-12	108.8483375	105.2320646	102.9758911	106.0874431	99.96621675	98.05166002	99.46260441	98.72903101	97.94809456	99.01104676	101.5068744	94.76445079	97.71203026
7/2/2019 9:42 PM	9I07057-DUP1	110.346798	104.7849908	103.4897841	106.1910584	99.54916236	98.15417255	98.35843909	98.92686759	97.55546613	99.46275263	101.3150874	94.80982016	97.38822125
7/2/2019 9:46 PM	9I0705S7-MS1	106.3947764	103.2471234	108.4460921	98.69540902	97.86633931	98.70443901	97.44712872	96.50717285	98.16378639	100.8805609	92.6908607	96.09927833	96.09927833
7/2/2019 9:51 PM	A9G0038-14	110.4921639	103.8897429	104.352668	109.0259833	98.9922896	97.75023369	99.40044032	98.22200712	97.96446511	98.62438797	101.8006209	93.80780259	97.07349613
7/2/2019 9:55 PM	9G02057-CCV1	111.1928851	108.4629377	102.7409371	103.5842145	107.2058617	101.5259303	99.51072899	100.2294993	97.18619997	99.65855799	99.79448479	95.79409529	96.98307816
7/2/2019 9:59 PM	9G02057-CCB1	111.0706571	106.3249055	104.5492952	106.7314035	106.9075989	103.2947733	103.1713556	104.019333	103.3005912	100.6781909	102.4163723	98.62257368	100.8037062
7/2/2019 10:04 PM	A9G0042-03	109.602262	102.7298458	102.7851589	107.4188829	96.13472741	95.69688456	97.58356128	95.95597061	96.15101712	96.94787971	100.1405249	91.37262074	94.74711438
7/2/2019 10:08 PM	A9G0060-01	112.0589718	106.5553821	104.8417576	109.0706691	100.0958018	98.90839814	100.0557623	99.0829778	98.62173184	98.86337571	102.0242901	93.35950184	96.23686138
7/2/2019 10:12 PM	9I0705S7-MSD1	114.0863536	110.5953686	107.9370391	109.9347428	108.7106442	104.4963077	105.0233669	104.509506	102.709952	102.10703	103.6570702	98.95234817	101.2464989
7/2/2019 10:16 PM	A8F0802-01RE2	115.8316659	112.7811573	110.0298611	110.5775339	111.9469186	108.4048849	107.6007162	113.8134033	111.8230034	103.5322925	104.4131688	101.9624623	103.5695457
7/2/2019 10:21 PM	A8F0937-01RE1	114.1740773	110.688245	106.3455082	109.7567313	108.5449021	104.665536	105.4686582	103.6257069	103.8924062	100.5409309	103.0222775	99.07424663	101.2390894
7/2/2019 10:25 PM	A8F0937-24RE1	115.0576211	110.9518347	108.9747817	113.5557314	108.8823512	107.0752347	108.3838364	106.4611536	107.1658275	102.2786547	104.8410125	99.78597618	102.3796481
7/2/2019 10:29 PM	9I0705A1-BLK1	120.0303162	116.3020736	113.2093993	114.6547719	114.6086199	110.5053127	110.4292314	110.0873845	109.8825799	103.7402216	105.434755	99.78369171	102.3517299
7/2/2019 10:34 PM	9I0705A1-BS1	114.3590845	111.6331961	107.1070268	106.801697	110.7148891	105.0762983	102.9015482	102.9091726	99.84990636	100.0904477	100.9320865	97.68287907	98.55243868
7/2/2019 10:38 PM	A8F0865-01	105.5450951	102.2029788	98.28179887	100.6811091	101.8924979	98.59266655	97.9268283	98.48845378	96.13158444	97.21120422	98.32160045	96.51433446	97.98497771
7/2/2019 10:42 PM	9I0705A1-DUP1	105.2585348	101.8665825	98.58370465	100.502395	102.219774	98.8479038	97.62870611	98.34526633	95.25124493	97.82749159	98.08051889	96.84170024	98.09066035
7/2/2019 10:47 PM	9G02057-CCV2	102.7487565	99.37261473	95.23322094	97.10994274	97.7773309	94.61813406	93.93341146	93.72157295	91.3517501	94.74347317	95.86090579	91.99346856	93.98318439
7/2/2019 10:51 PM	9G02057-CCB2	104.9268508	100.5690097	98.06961331	99.95409885	100.1382839	97.12928916	96.47059367	98.2357041	95.44880293	96.98256174	97.36260017	95.89987354	97.15081666
7/2/2019 10:55 PM	9I0705A1-MS1	97.67742827	95.44420277	92.50866219	93.06966685	95.54492616	92.16194791	90.32511471	92.8976333	89.60442031	94.20926847	94.28711523	92.95815048	94.69063983
7/2/2019 10:59 PM	A8F0898-04	94.76012095	91.71293258	89.05466854	92.21353792	90.40535655	88.33416057	86.87644416	90.56110896	88.11611005	92.38895281	92.41537828	90.73413481	92.71989033
7/2/2019 11:04 PM	A8F0898-11	99.16837392	92.98170597	92.63126417	94.93209027	92.59749238	91.85711391	91.49316697	93.3588867	90.38445671	94.48195283	94.92418871	92.37714078	94.22025268
7/2/2019 11:08 PM	A8F0935-04	100.7477049	96.3984732	92.64295421	94.82472381	95.49256967	92.54442216	90.76942163	94.64296978	91.17291834	94.91122189	95.09118339	94.42624873	95.38433923
7/2/2019 11:12 PM	A8F0935-10	97.27462262	93.90450995	90.98457489	93.66953227	93.46688485	90.52545618	88.86381329	92.37364252	88.88854606	93.85334653	93.82226892	92.9368741	94.39477093
7/2/2019 11:17 PM	9I0705S-BLK1	105.5926387	97.38221348	96.49328755	98.41225888	96.20011526	94.69869554	93.63074957	93.11016575	91.09805869	95.80941406	96.00356177	92.25100861	92.80260774
7/2/2019 11:21 PM	9I0705S-BS1	104.4321527	96.56699559	93.49233475	97.26982895	95.22880063	92.91978275	91.98020407	91.93036922	89.36118016	94.36346832	94.65831514	91.0170232	91.93663789
7/2/2019 11:25 PM	9I0705S-DUP1	104.5862526	98.31001268	96.48692087	97.7939026	95.85086896	94.1145233	92.87422273	92.88795873	89.74184823	95.03904843	94.9209892	91.2204733	92.86904049
7/2/2019 11:30 PM	9I0705S-MS1	102.6581919	96.1444693	92.12724953	94.69642269	93.4591178	91.08429658	89.79814905	90.50983674	87.31275893	93.71901912	93.16697228	90.01425431	91.11785329
7/2/2019 11:34 PM	A8F0777-02	94.78950035	92.46304138	89.30111052	90.5697053	90.36928738	88.38255337	86.60480384	87.41588277	84.04539506	91.62366215	91.03120008	88.81312233	89.29659484
7/2/2019 11:38 PM	9G02057-CCV3	94.74902304	90.38857345	88.31858963	90.9459621	89.88429739	87.91391431	87.14087753	87.98216305	84.90789777	90.78382802	91.75364187	89.13539523	90.65715322
7/2/2019 11:43 PM	9G02057-CCB3	94.09855499	91.48301313	89.19989692	90.33638043	91.43509697	88.89690852	87.45112241	90.40499901	87.01325798	92.24741512	91.88181177	92.18221085	93.80502637
7/2/2019 11:47 PM	9I0705S0-MS2	91.22473533	86.10731768	86.05704041	89.01534821	85.96724615	85.71910016	84.75887869	85.1099229	82.43622937	89.78148234	90.06184244	87.07883024	88.41901989
7/2/2019 11:51 PM	9061490-BLK1	90.94900475	88.01891844	86.27055264	87.5154917	88.51761504	86.7028341	84.70204974	88.62423938	85.46888114	90.76454911	90.57811027	90.75381241	91.94804691
7/2/2019 11:56 PM	9061490-BSD1	92.20314035	87.53345993	86.75153222	89.80153951	87.65898601	86.5533585	85.59175215	87.34636057	84.68996652	90.53275091	90.95963839	90.04859751	90.85343035
7/2/2019 12:00 AM	9061490-BS1	92.83471015	87.88876044	86.83471577	89.79440398	87.99640884	86.94573598	85.6577334	88.18728125	85.05671686	90.59195706	90.84691932	89.72086134	90.98600466
7/2/2019 12:04 AM	A8F0704-01	94.31159473	85.30961924	86.11078222	91.66512853	82.89704513	84.92048406	84.52058657	82.84200837	80.56742762	88.99552638	90.04972195	84.31109361	86.14599064
7/2/2019 12:08 AM	9061510-BLK1	100.6685549	96.13571523	91.80677536	94.86530958	95.27401726	91.97854872	90.61381324	93.38813385	90.25745738	94.06145798	94.12152324	93.61038073	94.94752475
7/2/2019 12:13 AM	9061510-BS1	88.93214973	86.85620272	84.8736279	86.9201091	87.68765799	85.11019606	83.45468882	86.08911882	82.66162609	89.97172493	89.52276681	89.71744461	90.65025564
7/2/2019 12:17 AM	A8F0903-01	102.2215259	94.69842283	92.69287267	98.9055776	90.07405328	90.8898063	90.79131226	88.5002931	87.47686895	92.71864155	93.29688138	88.00461995	89.07980196
7/2/2019 12:21 AM	A8F0903-02	105.4948851	96.55982305	94.83403824	102.0143021	91.79404817	92.04159883	92.39717753	89.09167965	87.52303776	92.97012984	93.9828538	87.66097221	88.52455115
7/2/2019 12:26 AM	9061510-DUP1	105.5714454	103.0657784	96.40986733	101.0842613	95.43848692	92.96065876	93.07251546	89.26051802	88.18046731	93.53407956	93.89578295	87.93559127	89.03761722
7/2/2019 12:30 AM	9G02057-CCV4	99.86137299	99.08879672	95.16203575	95.77499765	95.87997829	93.03314179	90.22437065	92.08542926	87.80125799	94.42115918	92.4933198	91.19791461	90.4972783
7/2/2019 12:34 AM	9G02057-CCB4	104.8818033	96.29897142	95.22294758	99.16262224	95.77300864	94.68539807	96.43701735	94.875724	95.23295237	97.99484837	94.67597307	97.10598495	97.98508033
7/2/2019 12:39 AM	9G02057-CRL4	101.0655684	96.45351219	95.48325326	98.68769416	96.1319876	96.17678937	94.92000211	95.31104817	93.77268757	95.16204728	95.87612868	94.2238008	95.59631888
7/2/2019 12:43 AM	9G02057-CRL5	99.20368153	97.59228686	96.08052814	96.80363499	95.99793794	95.57483163	93.72711749	95.38966532	93.02153577	95.5567869	94.96156752	95.34884909	94.7082026
7/2/2019 12:47 AM	9G02057-CRL6	101.0558706	97.07954442	94.88250836	97.07520699	95.39326354	95.09850111	95.1601599	94.92678231	93.54251452	95.50558667	95.67371798	94.64020574	95.50529445
7/2/2019 12:52 AM	9G02057-CRL7	96.67542871	95.22264654	94.41781396	96.17382046	94.37682156	94.08233579	93.36350676	94.27790814	92.11724283	94.6546264	94.76654147	94.1886207	94.70736515
7/2/2019 12:56 AM	9H0903-03	97.58508458	94.26267812	91.13885363	96.76678822	89.52325082	88.92234517	89.69843575	86.2784464	86.5186099	90.89707877	92.34815937	86.85240301	88.1060242
7/2/2019 1:00 AM	9061510-MS1	101.5909039	95.10419989	94.18164154	99.38978333	89.18013156	90.91444803	88.1620315	86.90263016	85.98261376	92.85290929	93.10712265	87.31899357	87.27360328
7/2/2019 1:04 AM	9070540-BLK1	109.1565794	103.645999	99.78799945	104.6220826	102.3426559	100.4012299	100.8327141	98.12508916	98.72208429	97.46479489	99.35328109	98.909779	100.5098653
7/2/2019 1:09 AM	9070540-BS1	98.15804115	95.20913022	92.93448663	95.77768817	92.99681527	91.36701293	91.63613026	90.42535559	89.48865	92.61167676	93.76556774	90.40323391	92.24359676
7/2/2019 1:13 AM	A9G0024-01	92.14188921	91.5304831	88.84856101	92.12594131	86.23090474	86.61095847	85.49878691	85.9073653	83.89096975	90.33120903	90.93212578	88.61430798	90.21342066
7/2/2019 1:17 AM	9070540-DUP1	93.66241039	90.02530738	88.38491813	94.57922583	85.91586103	86.77053348	86.74079926	86.10525623	84.80049887	90.73610556	91.91639007	88.74618004	91.2738367
7/2/2019 1:22 AM	9070540-MS1	97.75065919	90.47888257	90.30199479	96.6160278	85.88699999	86.79875701	88.12793173	86.12280909	85.65331597	91.19062241	92.37933839	87.49298352	90.10945998
7/2/2019 1:26 AM	A9G0042-02	107.2513039	100.0329782	97.2606621	102.3944728	93.26372961	93.76818442	94.02292283	89.76752652	93.74861109	95.28220688	89.09782217	90.74410598	90.74410598
7/2/2019 1:30 AM	A9G0042-11	109.1395123	100.8769775	98.61109972	104.8488669	94.45573516	94.86550515	95.98414356	92.17266413	92.04977141	94.84636007	96.62649824	89.5041815	91.71764238
7/2/2019 1:34 AM	9070540-MSD1	106.5707891	103.7074545	98.84419866	100.8156103	100.3704439	97.47898198	96.40618016	96.37533349	94.012265	97.26064863	96.71259159	95.24364401	96.42512821
7/2/2019 1:39 AM	9G02057-CCV5	107.2343076	99.74463352	97.21318609	100.7698726	97.8048918	95.87438213	96.22283517	93.7748088	92.41920622	94.90669177	97.16613854	91.76009416	93.85895435
7/2/2019 1:43 AM	9G02057-CCB5	107.6287425	100.7212965	99.1528778	102.1716095	98.57621376	98.06409482	98.39021015	97.27010859	96.64953066	96.83615569	97.50448835	95.31081956	96.59338512
7/2/2019 1:47 AM	9070523-BLK1	106.2848824	100.5323028	98.14925852	100.5289446	98.08177697	96.44829909	95.84617934	96.4064179	94.44468187	96.19557872	96.35094978	94.76506381	95.27479816
7/2/2019 1:52 AM	9070523-BS1	101.0942099	95.75129751	93.78768385	95.82540624	93.74285174	91.83223893	91.82973976	91.8893145	89.12563369	93.84903881	93.723347	91.0315588	91.34465556
7/2/2019 1:56 AM	A8F0860-02	102.4123162	95.95137795	94.88310003	100.1291879	88.51186759	91.32831643	91.21386241	87.99207662	87.06795295	92.69995688	94.09259872	87.56752352	89.21103299
7/2/2019 2:00 AM	A8F0898-03	102.014963	95.52453049	92.22162478	98.73213084	88.96043956	88.10580314	89.33429115	87.92447974	87.16271085	92.63969097	95.30632098	88.11294405	91.30293006
7/2/2019 2:04 AM	A8F0898-10	104.9447638	95.21738917	94.22383998	101.1512746	91.35978518	91.06271641	92.09869335	90.163626	89.80248111	93.71771765	96.04445589	90.29375175	92.93796455
7/2/2019 2:09 AM	A8F0904-01	106.6504749	99.18102439	97.33638141	101.2864729	95.95627961	94.54827934	93.98777213	94.57227457	92.35420442	96.20383039	96.72862096	93.3583473	94.84454451
7/2/2019 2:13 AM	9070523-DUP1	105.882477	98.59029553	96.33081046	100.1825188	95.59171175	94.24311746	93.59818682	94.24833093	91.43159026	95.94279039	95.96849348	93.22679496	94.91190224
7/2/2019 2:17 AM	9070523-MS1	97.78156556	94.2799465	89.43330086	93.04919472	90.88487668	88.46046235	87.21026928	88.34736602	85.05015976	92.1068049	92.40405792	89.42723044	90.55290236
7/2/2019 2:22 AM	A8F0904-02	103.8439265	96.29861879	93.61941341	97.74864392	93.43965404	91.69706591	91.90550125	92.05624625	90.72331864	94.0665666	95.56981303	92.33779495	94.24270091
7/2/2019 2:26 AM	A8F0904-03	98.94714118	96.8944399	90.72378922	94.00181225	93.92684293	89.91966345	88.67576767	91.12173533	87.79911678	93.12948242	93.22494425	92.52277356	93.93494278
7/2/2019 2:30 AM	9G02057-CCV6	102.1639256	94.88759666	92.67088761	96.12855251	93.88285292	92.507451	91.96337086	91.16882126	88.93954019	93.93061879	94.25884378	91.68428944	92.69904947
7/2/2019 2:35 AM	9G02057-CCB6	108.8403038	98.06326456	95.48023492	100.6884707	96.6516686	96.07219408	96.130671	95.52898041	94.74504131	95.58886786	96.56421576	94.90007129	96.67995207
7/2/2019 2:39 AM	A8F0904-04	98.87411392	94.20273023	91.97773248	94.08184393	91.69343891	89.69836055	89.1152474	90.26949676	87.8363414	92.9858132	93.13662074	90.86200289	92.53788059
7/2/2019 2:43 AM	A8F0904-05	106.751823	97.729968	95.09764892	100.550112	93.83518768	94.25635044	93.97428378	94.24876535	92.6265808	95.64853023	96.48185488	92.6361835	94.94132769
7/2/2019 2:48 AM	A8F0909-01	109.8975125	99.63665725	98.44326929	103.5561365	96.55217417	95.93630351	96.56614282	95.22618108	94.45821163	96.21301055	97.87254047	92.98976967	95.35307818
7/2/2019 2:52 AM	A8F0910-01	108.8451115	104.7272882	97.77800256	101.6504446	98.61750447	95.14425752	93.77770046	93.04971242	90.55738757	95.79378355	95.76403733	91.48734463	92.45490428
7/2/2019 2:56 AM	A9G0008-01	114.922456	94.16605305	93.29961925	98.05588713	81.02816645	84.22635239	86.00069989	78.40773389	79.11946421	83.93764959	84.95761008	71.34905895	72.77328652
7/2/2019 3:00 AM	A9G0016-01	127.0016117	94.73783291	99.15663781	102.3636458	83.09068117	87.11752153	89.79587869	79.62467995	80.7152873	85.24912633	86.56208119	70.62233091	72.80972134
7/2/2019 3:05 AM	9070523-MS2	126.4072172	98.07065649	98.87302875	100.1693456	84.36404278	86.1802122	87.63594815	79.0445234	78.64752399	83.60071917	84.23851197	69.1434718	71.1365088
7/2/2019 3:09 AM	9070487-BLK1	143.7959277	121.1064683	114.7071699	116.3002391	113.5419431	107.2964382	107.6330659	106.0151831	104.6157127	99.30453105	101.8002608	95.42345473	98.34494861
7/2/2019 3:13 AM	9070487-BS1	128.8214846	113.1652129	106.1811677	109.0468092	106.8396423	100.9736876	99.62104151	99.08169824	96.44105896	96.98354785	97.57550401	92.79416812	94.90424964
7/2/2019 3:18 AM	A8F0854-01	123.7298894	108.1652907	102.6346602	104.4525001	103.4085952	98.2651989	96.0005252	97.51213388	93.558171	96.51332183	96.76103261	93.09104814	94.79956189
7/2/2019 3:22 AM	9G02057-CCV7	120.4820343	107.1993612	100.6480384	103.841266	102.8627945	98.16805857	95.89784359	96.48798118	92.49580617	95.30581321	96.12660137	91.46917555	93.0897388
7/2/2019 3:26 AM	9G02057-CCV8	114.2284606	105.6996581	98.31148561	98.27483211	100.8585818	96.37916729	93.48597235	94.78375141	91.72555531	94.4902456	92.00843862	91.26963917	89.1963653
7/2/2019 3:30 AM	9G02057-CCB7	115.6788564	103.1568894	98.2550088	101.8071724	101.3894891	97.22623331	94.92901795	97.86538816	94.37111489	96.02320335	96.40910795	94.56658	95.82175549
7/2/2019 3:35 AM	A8F0865-01	113.1787219	103.7442807	96.22580519	99.6239275	101.5133087	96.06502048	93.72353199	95.51902987	91.40525063	95.3915486	95.09740419	93.40095632	95.30362464
7/2/2019 3:39 AM	A8F0865-02	115.7907688	99.18511778	98.90849883	102.7119469	96.6611154	97.48872665	94.99751853	97.06280743	93.4445967	96.59784299	96.53300166	94.89471117	96.7704283
7/2/2019 3:43 AM	A8F0866-01	117.7269492	103.7018307	99.82212954	102.8455139	99.40082173	96.42277912	94.530859	96.29075232	93.07215672	96.59238111	96.83649068	92.96850502	94.97713931
7/2/2019 3:48 AM	9070487-DUP1	115.504913	104.7067024	99.12433106	103.4284229	99.64050264	95.78784914	93.73243897	96.22310217	92.44417738	96.14280484	96.12960215	92.26281189	93.72719467
7/2/2019 3:52 AM	9070487-MS1	114.7072848	103.9730052	97.2825096	102.1431838	98.34934438	93.78457245	92.72056803	93.52926336	90.15589524	94.93509599	96.86300124	90.01898272	92.53788059
7/2/2019 3:56 AM	A8F0869-01	119.5172144	103.4534223	98.78340517	104.935997	96.21356974	94.71808276	94.65907507	93.6562634	91.42871516	95.27613398	97.04831427	88.69199161	91.37648718
7/2/2019 4:00 AM	A8F0892-01	114.7031938	108.3623036	100.2628274	102.0693817	104.6917614	99.22882201	95.05045052	98.20165707	91.79655365	97.93590047	96.1014608	94.44077016	94.23241253
7/2/2019 4:05 AM	A8F0920-01	109.8238407	97.65545883	93.31328261	94.23432145	85.60728574	85.30952911	84.59347372	80.68573757	78.61602893	85.71571611	85.72496863	73.80085565	75.04271817
7/2/2019 4:09 AM	A8F0936-01	117.2714964	106.7850242	100.7166219	106.2451017	97.4368014	95.18792848	94.86089549	93.35005374	91.14762065	94.8513364	96.14168848	89.98716889	91.96330785
7/2/2019 4:13 AM	A8F0936-02	119.7006217	107.3145434	102.3166527	109.8145126	96.47117495	95.31425713	95.7175268	92.64144027	91.1029958	94.58548189	96.3821644	87.65586058	90.29055349
7/2/2019 4:18 AM	9G02057-CCV9	118.0089619	110.743856	101.169073	103.7874821	105.1007516	98.95643619	96.66847494	97.28497731	94.13972542	96.59850088	97.51582151	92.42193815	94.38260596
7/2/2019 4:22 AM	9G02057-CCB8	120.9919721	106.6154369	102.4121313	107.2359548	103.7158419	100.9205864	100.765337	100.7352078	98.74738153	97.5204463	99.12294954	95.18306857	97.98716357
7/2/2019 4:

Total Cyanide by Flow Analysis (Aqueous)

Benchsheet Data & Analysis Sequence Data (Includes Calibration Unless Noted)

Batch 9070559

Sequence 9G02054 (A9F0860-02RE1)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9070559 (Water)

Prep Method: Lachat Micro Dist - aqueous

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9070559-BLK1		QC	07/02/19 11:41	6	6									
	9070559-BS1		QC	07/02/19 11:41	6	6	A19B182		150						
	A9F0812-01	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / POTW-20190625				
	9070559-DUP1		QC	07/02/19 11:41	6	6		A9F0812-01							
	9070559-MS1		QC	07/02/19 11:41	6	6	A19B182	A9F0812-01	150						
	A9F0813-01	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / LS1-20190626				
	A9F0813-01RE1	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / LS1-20190626	Added 7/2/2019 by sas			
	A9F0813-02	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / LS2-20190626				
	A9F0813-02RE1	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / LS2-20190626	Added 7/2/2019 by sas			
	A9F0813-03	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / MH2-20190626				
	A9F0813-03RE1	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / MH2-20190626	Added 7/2/2019 by sas			
	A9F0813-04	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / MH4-20190626				
	A9F0813-04RE1	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					P89332 / MH4-20190626	Added 7/2/2019 by sas			
	A9F0818-01	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					WW 20190626				
	A9F0818-01RE1	A	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					WW 20190626	Added 7/2/2019 by sas			
	A9F0860-02	D	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					2708-190626-M ULT802-109				
	A9F0860-02RE1	D	Cyanide, Total (335.4/9012)	07/02/19 11:41	6	6					2708-190626-M ULT802-109	Added 7/2/2019 by sas			

Standards/Reagents

SAS 7/2/19
Prepared By: Date

AMR 7/2/19
Reviewed By: Date

Printed: 7/2/2019 3:56:50PM

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9070559 (Water)

Prep Method: Lachat Micro Dist - aqueous

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11

Reagent(s)

Std ID	Exp. Date	Description
A19C102	09/06/19	0.25 N NaOH
A19C146	03/11/29	Lachat Micro-Dist for Cyanide Distillation
A19C337	09/24/19	0.95N NaOH
A19D213	10/12/19	Chloramine T for CN Analysis
A19D305	10/20/19	Total Cyanide Releasing Solution ✓
A19E130	11/06/19	Sulfamic acid for CN dist
A19E131	11/06/19	CN Buffer
A19E215	11/12/19	PBAR for CN on Flow

Analyte Spike(s)

Std ID	Exp. Date	Description
A19B182	07/07/19	Cyanide working -2- TOTAL ✓

Surrogate(s)

Std ID	Exp. Date	Description

SAS 7/2/19

Prepared By: Date

Reviewed By: Date

APEX LABORATORIES

ELEMENT SEQUENCE LOG

Apex Laboratories

JUL 1 1 2019

Sequence: **9G02054** Instrument: **FLOW**

Date: **07/02/19 11:42** Calibration: **A9G0207**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9G02054-CAL1	Water	QC	QC				
2	9G02054-CAL2	Water	QC	QC				A19A285
3	9G02054-CAL3	Water	QC	QC				A19A284
4	9G02054-CAL4	Water	QC	QC				A19A283
5	9G02054-CAL5	Water	QC	QC				A19A282
6	9G02054-CAL6	Water	QC	QC				A19A281
7	9G02054-CAL7	Water	QC	QC				A19A280
8	9G02054-CAL8	Water	QC	QC				A19A279
9	9G02054-ICV1	Water	QC	QC				A19D214
10	9G02054-ICB1	Water	QC	QC				
11	9070558-BLK1	Water	QC	QC		9070558		
12	9070558-BS1	Water	QC	QC		9070558		
13	A9F0813-01	Water	Cyanide, WAD (SM4500-CN I/E)		07/10/19	9070558		
14	9070558-DUP1	Water	QC	QC		9070558		
15	9070558-MS1	Water	QC	QC		9070558		
16	A9F0813-02	Water	Cyanide, WAD (SM4500-CN I/E)		07/10/19	9070558		
17	A9F0813-03	Water	Cyanide, WAD (SM4500-CN I/E)		07/10/19	9070558		
18	A9F0813-04	Water	Cyanide, WAD (SM4500-CN I/E)		07/10/19	9070558		
19	A9G0002-01	Water	Cyanide, WAD (SM4500-CN I/E)		07/15/19	9070558		
20	9070559-BLK1	Water	QC	QC		9070559		
21	9G02054-CCV1	Water	QC	QC				A19D214
22	9G02054-CCB1	Water	QC	QC				
23	9070559-BS1	Water	QC	QC		9070559		
24	A9F0812-01	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
25	9070559-DUP1	Water	QC	QC		9070559		
26	9070559-MS1	Water	QC	QC		9070559		
27	A9F0813-01	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
28	A9F0813-02	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
29	A9F0813-03	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
30	A9F0813-04	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
31	A9F0818-01	Water	Cyanide, Total (335.4/9012)		07/02/19	9070559		
32	A9F0860-02	Water	Cyanide, Total (335.4/9012)	Hahn and Associates	07/11/19	9070559		
33	9G02054-CCV2	Water	QC	QC				A19D214
34	9G02054-CCB2	Water	QC	QC				
35	9G02054-CCV3	Water	QC	QC				A19D214
36	9G02054-CCB3	Water	QC	QC				
37	A9F0813-01RE1	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
38	A9F0813-02RE1	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
39	A9F0813-03RE1	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
40	A9F0813-04RE1	Water	Cyanide, Total (335.4/9012)		07/10/19	9070559		
41	A9F0818-01RE1	Water	Cyanide, Total (335.4/9012)		07/02/19	9070559		
42	A9F0860-02RE1	Water	Cyanide, Total (335.4/9012)	Hahn and Associates	07/11/19	9070559		
43	9G02054-CCV4	Water	QC	QC				A19D214
44	9G02054-CCB4	Water	QC	QC				

Data Entered By: 7/2/19

Comments:

Data Reviewed By: 7/2/19

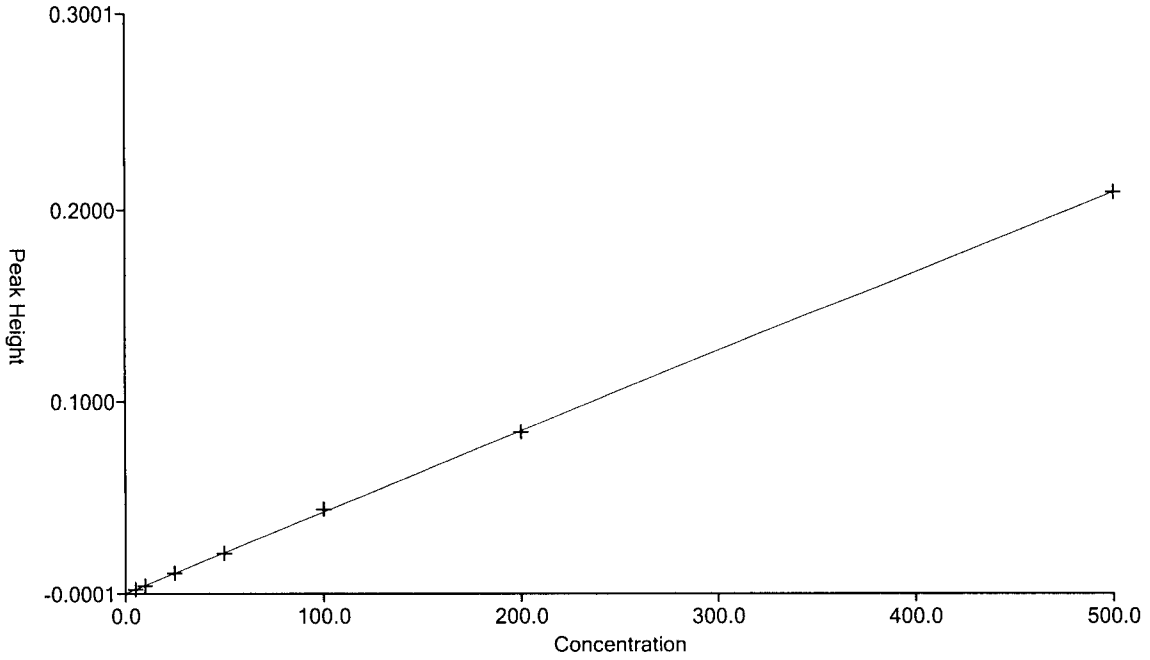
Run Name: 9G02054
Configuration: Cyanide
Run date: 7/2/2019

	Position	Identifier	Type	Comment	Date	Time	Cyanide ug/L
1	SR:10	SYNC	SYNC		7/2/2019	1:25:11 PM	519.7
2	SR:11	CO	Carry over		7/2/2019	1:26:16 PM	2.2
		Carry over=					.4%
3	SR:11	W	Wash		7/2/2019	1:28:16 PM	0.0
4	SR:1	C1	Calibrant	0.0 ppb	7/2/2019	1:30:16 PM	-0.1
5	SR:2	C2	Calibrant	5.0 ppb	7/2/2019	1:32:16 PM	4.8
6	SR:3	C3	Calibrant	10.0 ppb	7/2/2019	1:34:16 PM	9.5
7	SR:4	C4	Calibrant	25.0 ppb	7/2/2019	1:36:16 PM	25.2
8	SR:5	C5	Calibrant	50.0 ppb	7/2/2019	1:38:16 PM	49.0
9	SR:6	C6	Calibrant	100.0 ppb	7/2/2019	1:40:16 PM	103.2
10	SR:7	C7	Calibrant	200.0 ppb	7/2/2019	1:42:16 PM	198.2
11	SR:8	C8	Calibrant	500.0 ppb	7/2/2019	1:44:16 PM	500.2

Curve #:	1
Curve Type:	Quadratic
Correlation:	0.99996
Intercept:	0.000009328
Linear coef:	0.0004279
Quadratic coef:	-0.00000002079

7/2/19

Calibration for Cyanide



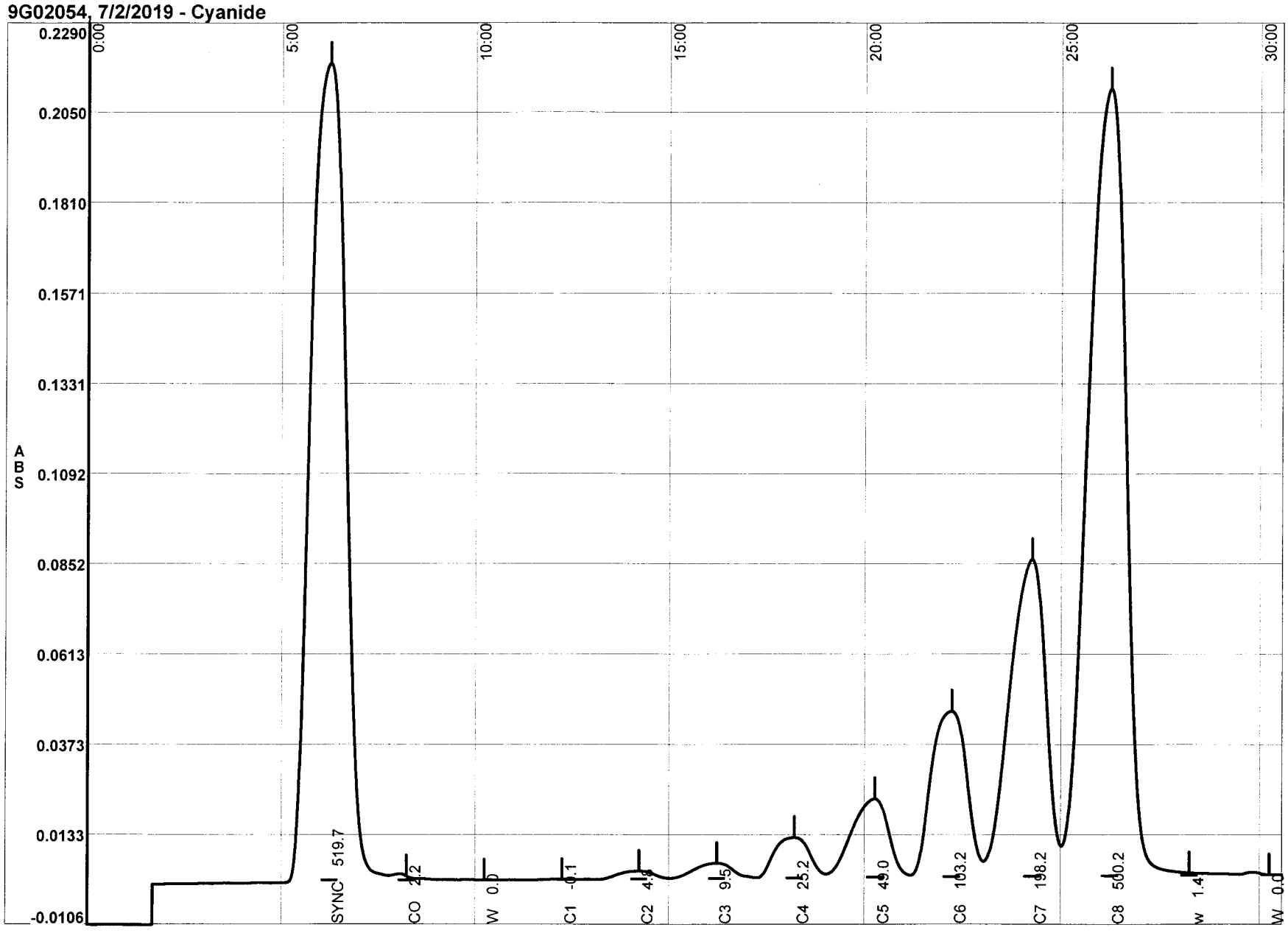
Segment 1: Equation: y = -0.00000002x^2 + 0.0004279x + 0.00000933 X Range = 0.0 to 500.0
Correlation: 0.99996 Y Range = 0.0000 to 7.2000

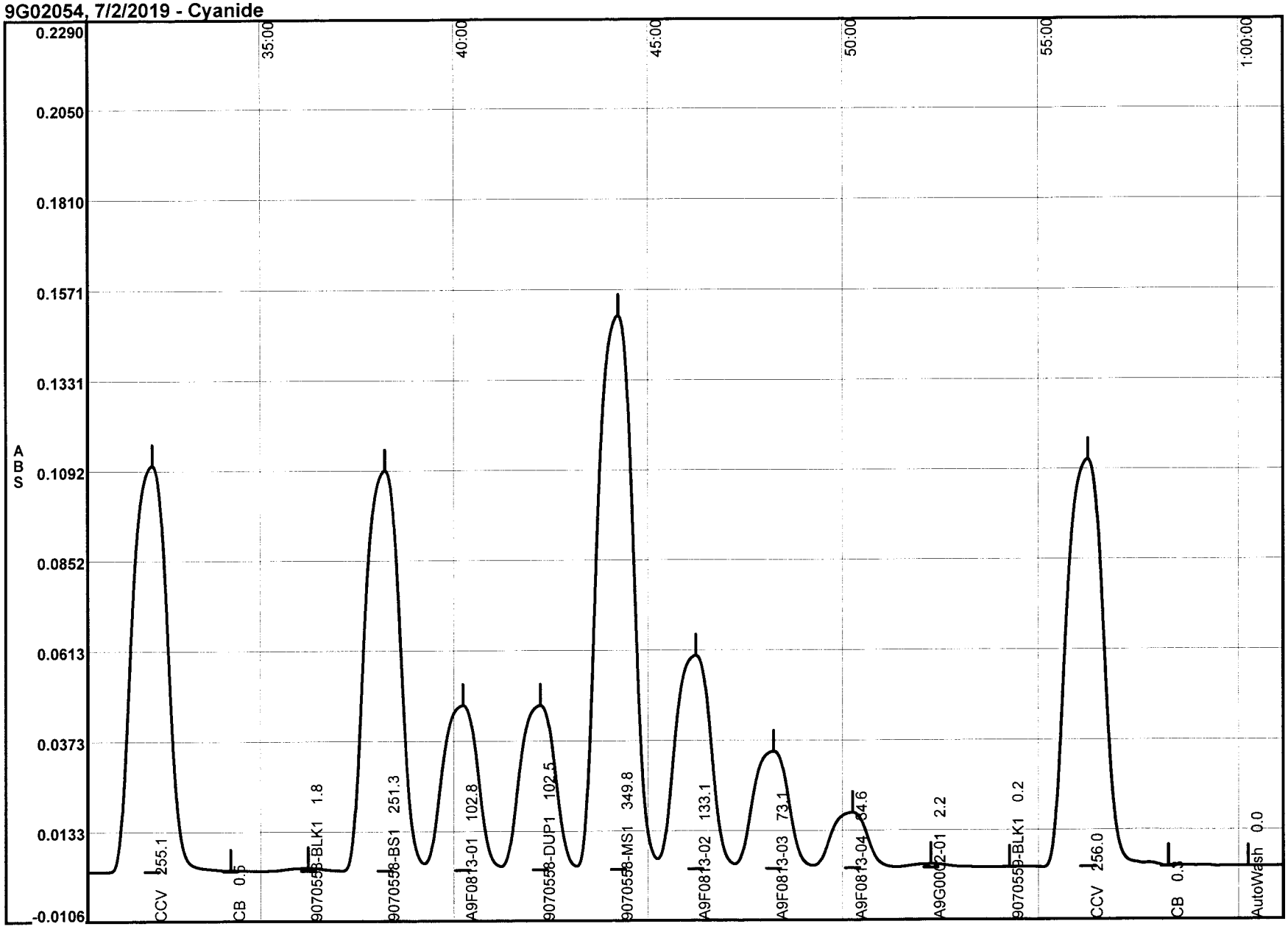
	Position	Identifier	Type	Comment	Date	Time	Cyanide ug/L
12	SR:11	w	Unknown		7/2/2019	1:46:16 PM	1.4
13	SR:11	W	Wash		7/2/2019	1:48:16 PM	0.0
14	2:60	~~CCV~~ ICV	Check Cal		7/2/2019	1:50:16 PM	255.1
15	SR:11	~~CB~~ ICB	ılibrant Bla		7/2/2019	1:52:16 PM	0.5
16	1:1	9070558-BLK1	Unknown	W	7/2/2019	1:54:16 PM	1.8
17	1:2	9070558-BS1	Unknown	W	7/2/2019	1:56:16 PM	251.3
18	1:3	A9F0813-01	Unknown	W	7/2/2019	1:58:16 PM	102.8
19	1:4	9070558-DUP1	Unknown	W	7/2/2019	2:00:16 PM	102.5
20	1:5	9070558-MS1	Unknown	W	7/2/2019	2:02:16 PM	349.8
21	1:6	A9F0813-02	Unknown	W	7/2/2019	2:04:16 PM	133.1
22	1:7	A9F0813-03	Unknown	W	7/2/2019	2:06:16 PM	73.1
23	1:8	A9F0813-04	Unknown	W	7/2/2019	2:08:16 PM	34.6
24	1:9	A9G0002-01	Unknown	W	7/2/2019	2:10:16 PM	2.2
25	1:10	9070559-BLK1	Unknown	T	7/2/2019	2:12:16 PM	0.2
26	2:60	CCV	Check Cal		7/2/2019	2:14:16 PM	256.0
27	SR:11	CB	ılibrant Bla		7/2/2019	2:16:16 PM	0.3
28	0	AutoWash	AutoWash		7/2/2019	2:18:16 PM	0.0
29	1:11	9070559-BS1	Unknown	T	7/2/2019	2:20:16 PM	263.8
30	1:12	A9F0812-01	Unknown	T	7/2/2019	2:22:16 PM	1.2
31	1:13	9070559-DUP1	Unknown	T	7/2/2019	2:24:16 PM	0.7

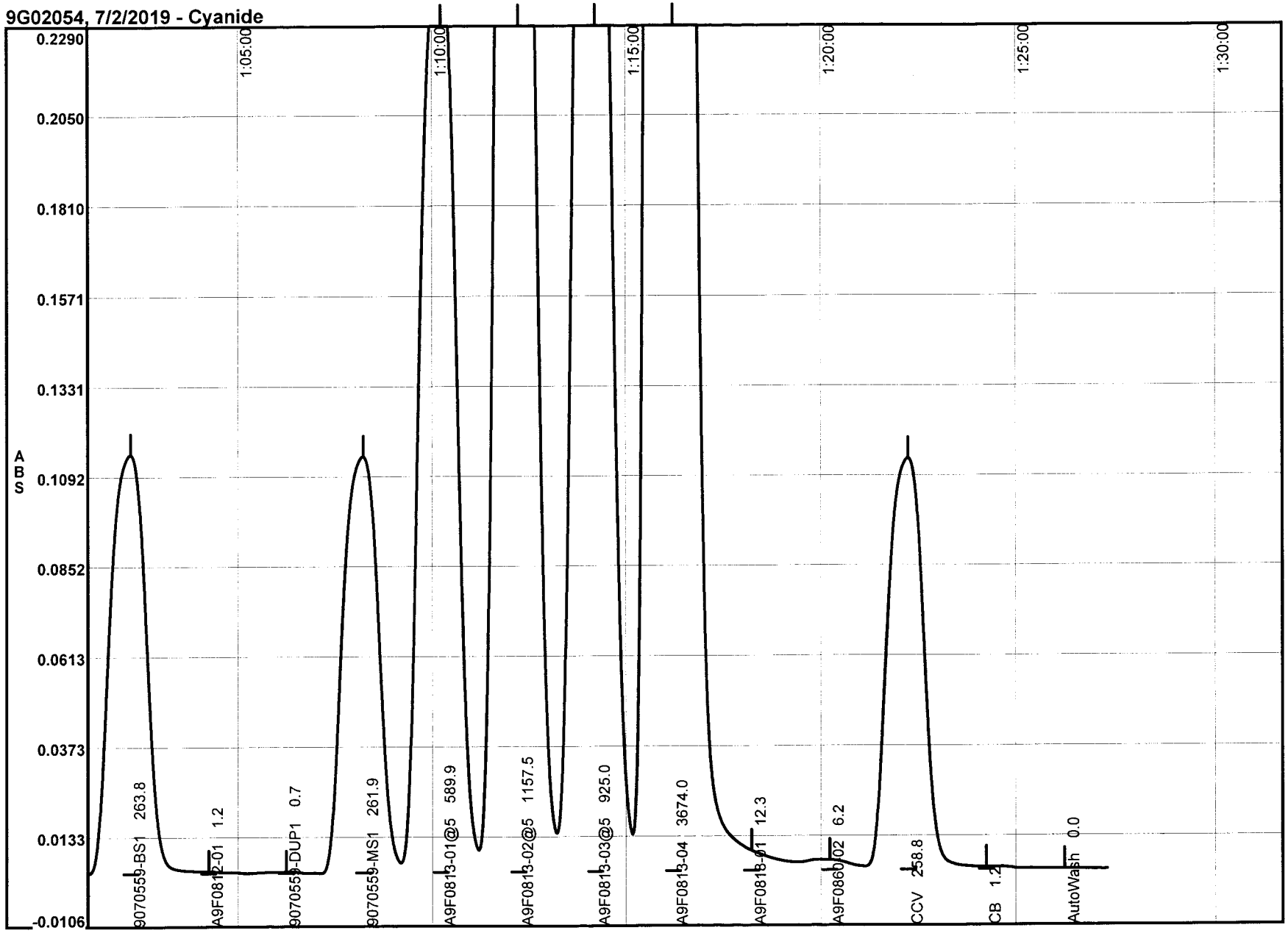
	Position	Identifier	Type	Comment	Date	Time	Cyanide ug/L
32	1:14	9070559-MS1	Unknown	T	7/2/2019	2:26:16 PM	261.9
33	1:15	A9F0813-01@5	Unknown	T	7/2/2019	2:28:16 PM	589.9
34	1:16	A9F0813-02@5	Unknown	T	7/2/2019	2:30:16 PM	1157.5
35	1:17	A9F0813-03@5	Unknown	T	7/2/2019	2:32:16 PM	925.0
36	1:18	A9F0813-04	Unknown	T	7/2/2019	2:34:16 PM	3674.0
37	1:19	A9F0818-01	Unknown	T	7/2/2019	2:36:16 PM	12.3
38	1:20	A9F0860-02	Unknown	T	7/2/2019	2:38:16 PM	6.2
39	2:60	CCV2	Check Cal		7/2/2019	2:40:16 PM	258.8
40	SR:11	CB 2	ılibrant Bla		7/2/2019	2:42:16 PM	1.2
41	0	AutoWash	AutoWash		7/2/2019	2:44:16 PM	0.0

over range

possible carryover SRS 7/2/19

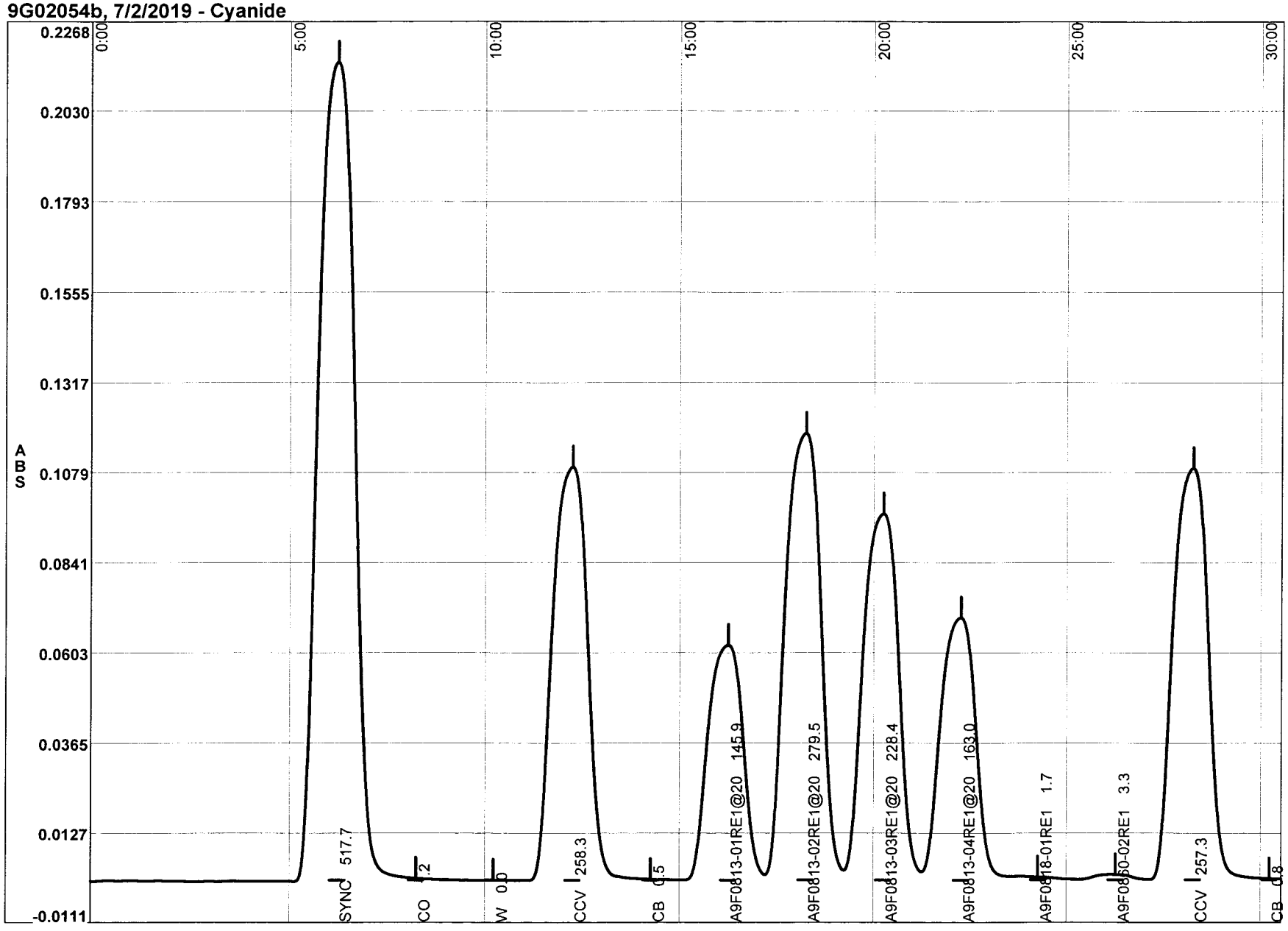

9G02054, 7/2/2019 - Cyanide
0.2290
0.2050
0.1810
0.1571
0.1331
0.1092
0.0852
0.0613
0.0373
0.0133
-0.0106
ABS
0:00
5:00
10:00
15:00
20:00
25:00
30:00
SYNC 519.7
CO 2.2
W 0.0
C1 -0.1
C2 4.9
C3 9.5
C4 25.2
C5 49.0
C6 103.2
C7 198.2
C8 500.2
W 1.4
W 0.0

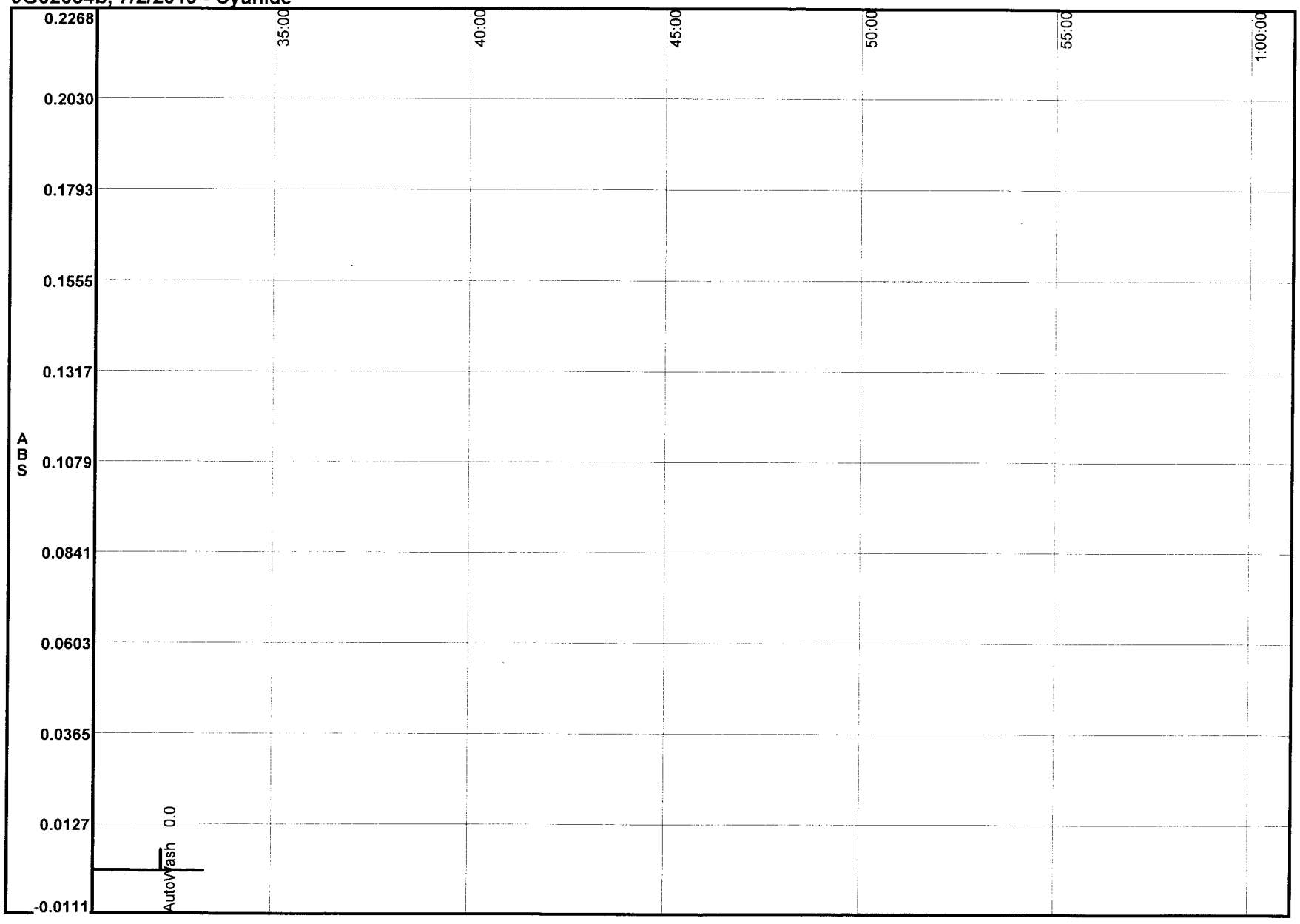

9G02054, 7/2/2019 - Cyanide
0.2290
0.2050
0.1810
0.1571
0.1331
0.1092
0.0852
0.0613
0.0373
0.0133
-0.0106
ABS
35:00
40:00
45:00
50:00
55:00
1:00:00
CCV 255.1
CB 0.5
9070558-BLK1 1.8
9070558-BS1 251.3
A9F0813-01 102.8
9070558-DUP1 102.5
9070558-MS1 349.8
A9F0813-02 133.1
A9F0813-03 73.1
A9F0813-04 34.6
A9G0002-01 2.2
9070559-BLK1 0.2
CCV 256.0
CB 0.3
AutoWash 0.0


9G02054, 7/2/2019 - Cyanide
0.2290
0.2050
0.1810
0.1571
0.1331
0.1092
0.0852
0.0613
0.0373
0.0133
-0.0106
ABS
1:05:00
1:10:00
1:15:00
1:20:00
1:25:00
1:30:00
9070559-BS1 263.8
A9F0812-01 1.2
9070559-DUP1 0.7
9070559-MS1 261.9
A9F0813-01@5 589.9
A9F0813-02@5 1157.5
A9F0813-03@5 925.0
A9F0813-04 3674.0
A9F0813-01 12.3
A9F0860-02 6.2
CCV 258.8
CB 1.2
AutoWash 0.0

Run Name: 9G02054b
Configuration: Cyanide 2
Run date: 7/2/2019

	Position	Identifier	Type	Comment	Date	Time	Cyanide ug/L
1	SR:10	SYNC	SYNC		7/2/2019	3:00:13 PM	517.7
2	SR:11	CO	Carry over		7/2/2019	3:01:18 PM	1.2
		Carry over=					.2%
3	SR:11	W	Wash		7/2/2019	3:03:18 PM	0.0
4	2:60	CCV3	Check Cal		7/2/2019	3:05:18 PM	258.3
5	SR:11	CB3	ılibrant Bla		7/2/2019	3:07:18 PM	0.5
6	1:15	A9F0813-01RE1@20	Unknown	T	7/2/2019	3:09:18 PM	145.9
7	1:16	A9F0813-02RE1@20	Unknown	T	7/2/2019	3:11:18 PM	279.5
8	1:17	A9F0813-03RE1@20	Unknown	T	7/2/2019	3:13:18 PM	228.4
9	1:18	A9F0813-04RE1@20	Unknown	T	7/2/2019	3:15:18 PM	163.0
10	1:19	A9F0818-01RE1	Unknown	T	7/2/2019	3:17:18 PM	1.7
11	1:20	A9F0860-02RE1	Unknown	T	7/2/2019	3:19:18 PM	3.3
12	2:60	CCV4	Check Cal		7/2/2019	3:21:18 PM	257.3
13	SR:11	CB4	ılibrant Bla		7/2/2019	3:23:18 PM	0.8
14	0	AutoWash	AutoWash		7/2/2019	3:25:18 PM	0.0


9G02054b, 7/2/2019 - Cyanide
0.2268
0.2030
0.1793
0.1555
0.1317
0.1079
0.0841
0.0603
0.0365
0.0127
-0.0111
ABS
0:00
5:00
10:00
15:00
20:00
25:00
30:00
SYNC 517.7
CO 1.2
W 0.0
CCV 258.3
CB 0.5
A9F0813-01RE1@20 145.9
A9F0813-02RE1@20 279.5
A9F0813-03RE1@20 228.4
A9F0813-04RE1@20 163.0
A9F0818-01RE1 1.7
A9F0820-02RE1 3.3
CCV 257.3
CB 0.8


9G02054b, 7/2/2019 - Cyanide
0.2268
0.2030
0.1793
0.1555
0.1317
0.1079
0.0841
0.0603
0.0365
0.0127
-0.0111
ABS
35:00
40:00
45:00
50:00
55:00
1:00:00
AutoWash 0.0

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9G02024	Instrument:	OIA FS3000-2
Date:	07/02/19 07:11	Calibration:	A9G0204

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9G02024-CAL1	Water	QC	QC				
2	9G02024-CAL2	Water	QC	QC				A19E320
3	9G02024-CAL3	Water	QC	QC				A19E321
4	9G02024-CAL4	Water	QC	QC				A19E322
5	9G02024-CAL5	Water	QC	QC				A19E323
6	9G02024-CAL6	Water	QC	QC				A19E324
7	9G02024-CAL7	Water	QC	QC				A19E325
8	9G02024-ICV1	Water	QC	QC				A19E327
9	9G02024-ICB1	Water	QC	QC				
10	9070536-BLK1	Water	QC	QC		9070536		
11	9070536-BS1	Water	QC	QC		9070536		
12	A9F0860-02	Water	Cyanide, Available (OIA/D6888-09)	Hahn and Associates	07/11/19	9070536		
13	9070536-MS1	Water	QC	QC		9070536		
14	9070536-MSD1	Water	QC	QC		9070536		
15	9G02024-CCV1	Water	QC	QC				A19E324
16	9G02024-CCB1	Water	QC	QC				

Comments:

Data Entered By: JKP 7-2-19

Data Reviewed By: [illegible] 7/2/19

Run Results Report

Apex Laboratories OIA FS3000-2

Operator Name	jkp
Operator ID	jkp
Platform	FS 3000
Software Rev Code	234
Data system ID	57
Result path	C:\FLOW_4\9G02024.RST
Sample table path	C:\FLOW_4\availcn.tbl
Method path	C:\FLOW_4\availcn.mth
Date acquired	02-Jul-19
Time acquired	09:43

	AVAIL CN				
Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
SYNC	32809	24.725	OL			
SYNC	33592	25.326				
SYNC	33891	25.555				
(Statistics)				33741	25.441	1.66%
Carryover	345	0.278				
Baseline	0	0.023	BL			
Cal 0.0 ppb	-80	-0.036	LO			
Cal 1.0 ppb	1377	1.041				
Cal 2.0 ppb	2609	1.953				
Cal 5.0 ppb	6667	4.969				
Cal 10.0 ppb	13508	10.082				
Cal 25.0 ppb	33116	24.961				
Cal 50.0 ppb	65194	50.007				
Blank	377	0.301				
Blank	0	0.023	BL			
9G02024-ICV1	33680	25.393				
9G02024-ICB1	237	0.198				
Read Baseline	0	0.023	BL			
9070536-BLK1	-47	-0.012	LO			
9070536-BS1	34691	26.170				
Read Baseline	0	0.023	BL			
A9F0860-02	214	0.181				
9070536-MS1	35136	26.512				
9070536-MSD1	35446	26.750				
Read Baseline	0	0.023	BL			
9G02024-CCV1	34078	25.699				
9G02024-CCB1	204	0.173				

<2% ok cm 7/2/19

JKP 7-2-19

JKP 7-2-19

Result path	C:\FLOW_4\9G02024.RST
Sample table path	C:\FLOW_4\availcn.tbl
Method path	C:\FLOW_4\availcn.mth
Date acquired	02-Jul-19
Time acquired	09:43

	AVAIL CN					
Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
Read Baseline	0	0.023	BL			

JKP
1-2-19

Run Results Report

Apex Laboratories OIA FS3000-2

Operator Name	jkp
Operator ID	jkp
Platform	FS 3000
Software Rev Code	234
Data system ID	57
Result path	C:\FLOW_4\9G02024.RST
Sample table path	C:\FLOW_4\availcn.tbl
Method path	C:\FLOW_4\availcn.mth
Date acquired	02-Jul-19
Time acquired	09:43

Date	Time	Cup	Name
02-Jul-19	08:58	106	SYNC
02-Jul-19	09:00	106	SYNC
02-Jul-19	09:01	106	SYNC (Statistics)
02-Jul-19	09:03	0	Carryover
02-Jul-19	09:04	0	Baseline
02-Jul-19	09:06	101	Cal 0.0 ppb
02-Jul-19	09:07	102	Cal 1.0 ppb
02-Jul-19	09:09	103	Cal 2.0 ppb
02-Jul-19	09:10	104	Cal 5.0 ppb
02-Jul-19	09:12	105	Cal 10.0 ppb
02-Jul-19	09:13	106	Cal 25.0 ppb
02-Jul-19	09:15	107	Cal 50.0 ppb
02-Jul-19	09:16	0	Blank
02-Jul-19	09:18	0	Blank
02-Jul-19	09:19	108	9G02024-ICV1
02-Jul-19	09:21	0	9G02024-ICB1
02-Jul-19	09:22	0	Read Baseline
02-Jul-19	09:24	109	9070536-BLK1
02-Jul-19	09:25	110	9070536-BS1
02-Jul-19	09:27	0	Read Baseline
02-Jul-19	09:28	111	A9F0860-02
02-Jul-19	09:30	112	9070536-MS1
02-Jul-19	09:31	113	9070536-MSD1
02-Jul-19	09:33	0	Read Baseline
02-Jul-19	09:34	108	9G02024-CCV1
02-Jul-19	09:36	0	9G02024-CCB2

JKP
7-2-19

Result path	C:\FLOW_4\9G02024.RST
Sample table path	C:\FLOW_4\availcn.tbl
Method path	C:\FLOW_4\availcn.mth
Date acquired	02-Jul-19
Time acquired	09:43

Date	Time	Cup	Name
02-Jul-19	09:37	0	Read Baseline

JKP
7-2-19

AVAIL CN:Calibration 1: Peak 6-27

File name: C:\FLOW_4\9G02024.RST
Date: 02-Jul-19
Operator: jkp

*	Name	Conc	Height
*	Cal 0.0 ppb	0.000000	-80.002136
*	Cal 1.0 ppb	1.000000	1377.456543
*	Cal 2.0 ppb	2.000000	2608.867676
*	Cal 5.0 ppb	5.000000	6667.457520
*	Cal 10.0 ppb	10.000000	13508.411133
*	Cal 25.0 ppb	25.000000	33116.332031
*	Cal 50.0 ppb	50.000000	65194.496094

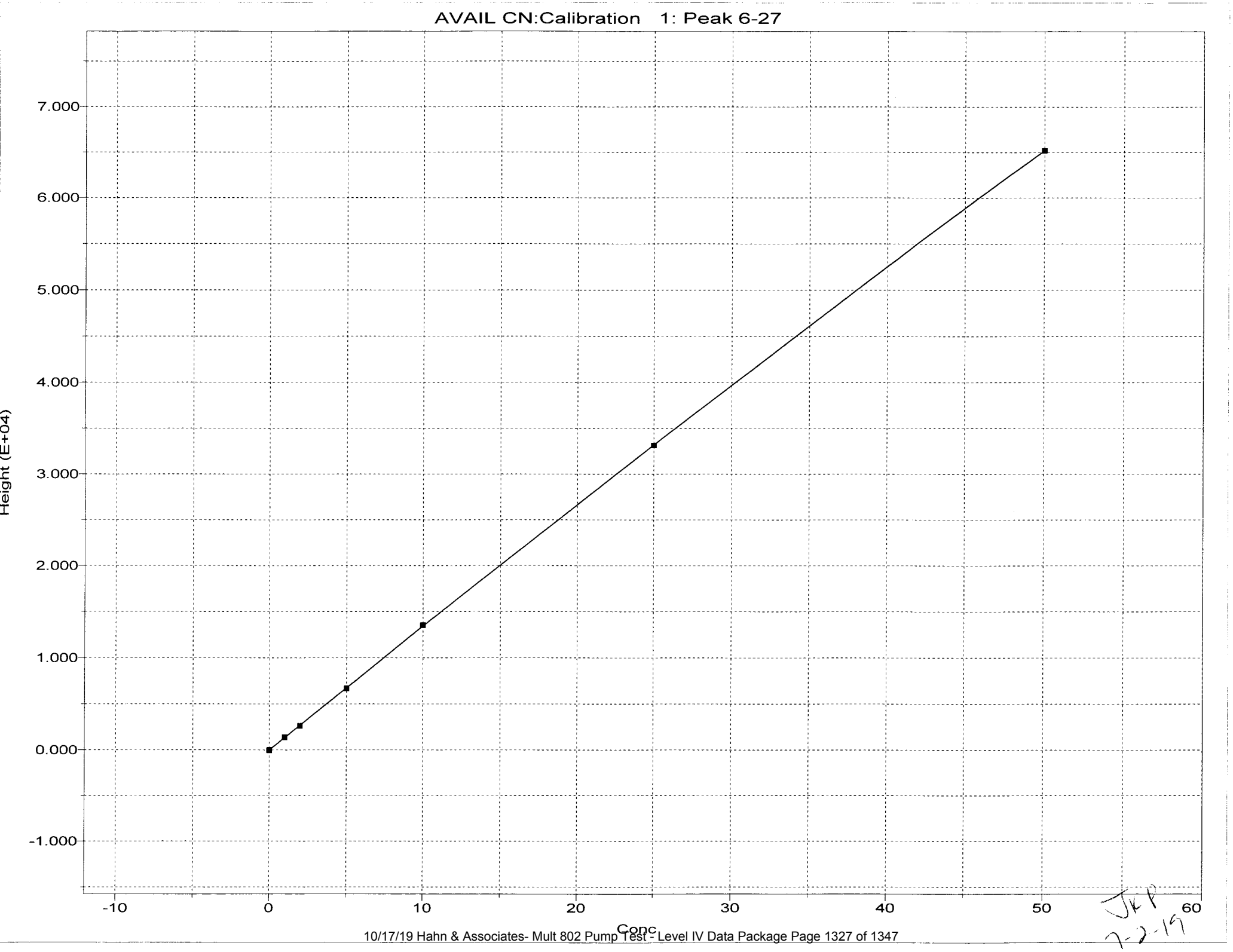
Calib Coef:
x=cyy+by+a
a: (intercept) 2.2696e-02
b: 7.3896e-04
c: 4.2541e-10

Corr Coef: 0.999997 7/2/19

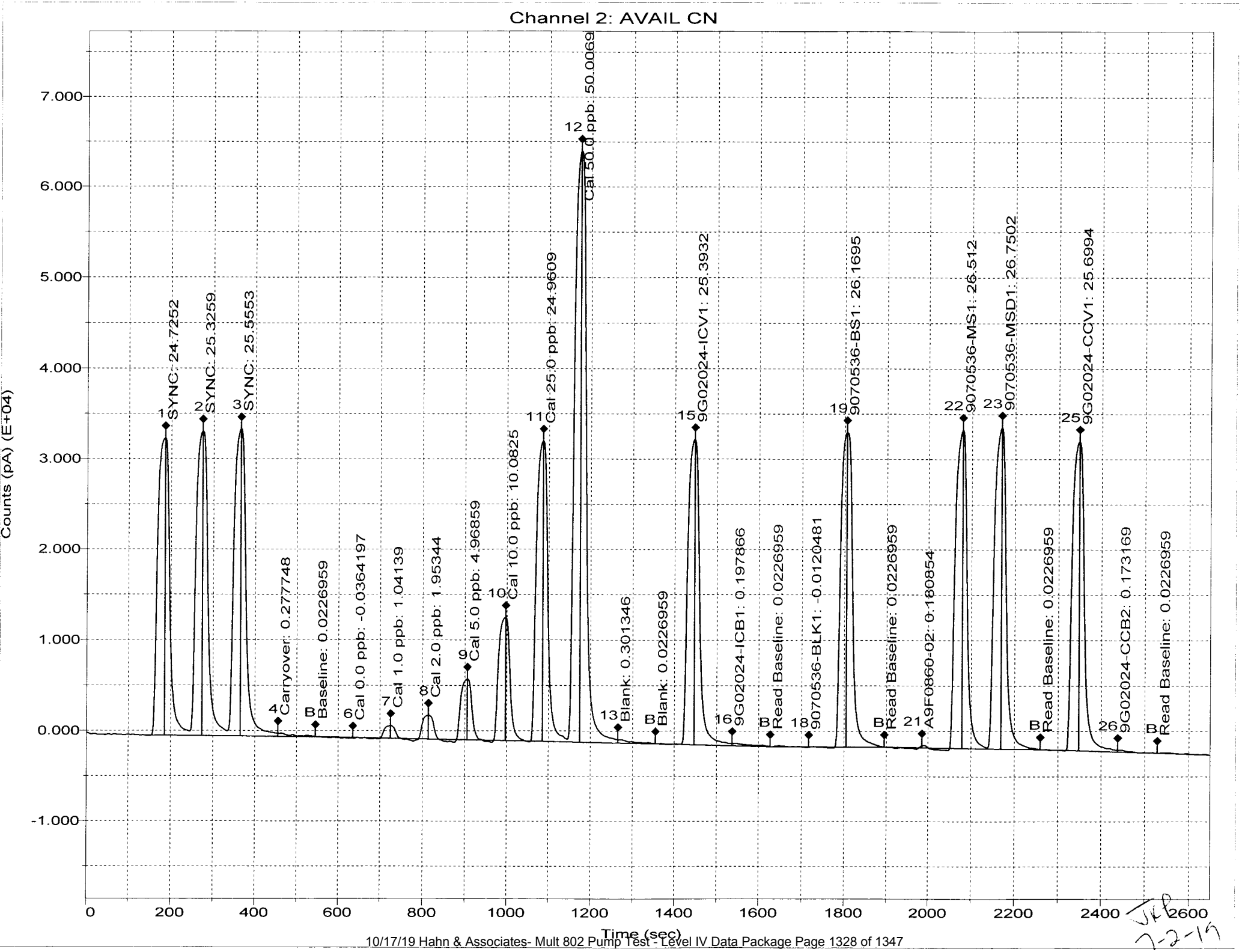
Carryover: n/a

No Drift Peaks

JKP 7-2-19


AVAIL CN:Calibration 1: Peak 6-27
Height (E+04)
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
-1.000
-10
0
10
20
30
40
50
60
Conc

JKP 7-2-19


Channel 2: AVAIL CN
Counts (pA) (E+04)
Time (sec)
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
-1.000
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
1 SYNC: 24.7252
2 SYNC: 25.3259
3 SYNC: 25.5553
4 Carryover: 0.277748
B Baseline: 0.0226959
6 Cal 0.0 ppb: -0.0364197
7 Cal 1.0 ppb: 1.04139
8 Cal 2.0 ppb: 1.95344
9 Cal 5.0 ppb: 4.96859
10 Cal 10.0 ppb: 10.0825
11 Cal 25.0 ppb: 24.9609
12 Cal 50.0 ppb: 50.0069
13 Blank: 0.301346
B Blank: 0.0226959
15 9G02024-ICV1: 25.3932
16 9G02024-ICB1: 0.197866
B Read Baseline: 0.0226959
18 9070536-BLK1: -0.0120481
19 9070536-BS1: 26.1695
B Read Baseline: 0.0226959
21 A9F0860-02: 0.180854
22 9070536-MS1: 26.512
23 9070536-MSD1: 26.7502
B Read Baseline: 0.0226959
25 9G02024-CCV1: 25.6994
26 9G02024-CCB2: 0.173169
B Read Baseline: 0.0226959

JLP 7-2-19

Available Cyanide by FIA, Ligand Exchange and Amperometric Detection

Benchsheet Data & Analysis Sequence Data (Includes Calibration unless noted)

Batch 9070536

Sequence 9G02024 (A9F0860-02)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9070536 (Water)

Prep Method: Method Prep: Aq

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9070536-BLK1		QC	07/02/19 07:09	5	5									
	9070536-BS1		QC	07/02/19 07:09	5	5	A19F267		25						
	A9F0860-02	D	Cyanide, Available (OIA/D6888-09)	07/02/19 07:09	5	5					2708-190626-M ULT802-109				
	9070536-MS1		QC	07/02/19 07:09	4.975	5	A19E319	A9F0860-02	25						
	9070536-MSD1		QC	07/02/19 07:09	4.975	5	A19E319	A9F0860-02	25						

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A19C292	03/26/24	Syringe Filters 0.45um.
A19D284	10/16/19	TA2/SAR (Sulfide abatement reagent for OI)
A19E228	08/22/19	Working LER, Avaliable CN
A19E298	11/20/19	0.1 N NaOH

Analyte Spike(s)

Std ID	Exp. Date	Description
A19E319	09/06/19	Cyanide working -1-
A19F267	07/04/19	Available Cyanide working STD

Surrogate(s)

Std ID	Exp. Date	Description

JKP 7-2-19
Prepared By: Date

Reviewed By: 7/2/19 Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	9G02024	Instrument:	OIA FS3000-2
Date:	07/02/19 07:11	Calibration:	A9G0204

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9G02024-CAL1	Water	QC	QC				
2	9G02024-CAL2	Water	QC	QC				A19E320
3	9G02024-CAL3	Water	QC	QC				A19E321
4	9G02024-CAL4	Water	QC	QC				A19E322
5	9G02024-CAL5	Water	QC	QC				A19E323
6	9G02024-CAL6	Water	QC	QC				A19E324
7	9G02024-CAL7	Water	QC	QC				A19E325
8	9G02024-ICV1	Water	QC	QC				A19E327
9	9G02024-ICB1	Water	QC	QC				
10	9070536-BLK1	Water	QC	QC		9070536		
11	9070536-BS1	Water	QC	QC		9070536		
12	A9F0860-02	Water	Cyanide, Available (OIA/D6888-09)	Hahn and Associates	07/11/19	9070536		
13	9070536-MS1	Water	QC	QC		9070536		
14	9070536-MSD1	Water	QC	QC		9070536		
15	9G02024-CCV1	Water	QC	QC				A19E324
16	9G02024-CCB1	Water	QC	QC				

Comments:

Data Entered By: JKP 7-2-19

Data Reviewed By: [illegible] 7/2/19

Run Results Report

Apex Laboratories OIA FS3000-2

Operator Name	jkp
Operator ID	jkp
Platform	FS 3000
Software Rev Code	234
Data system ID	57
Result path	C:\FLOW_4\9G02024.RST
Sample table path	C:\FLOW_4\availcn.tbl
Method path	C:\FLOW_4\availcn.mth
Date acquired	02-Jul-19
Time acquired	09:43

	AVAIL CN				
Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
SYNC	32809	24.725	OL			
SYNC	33592	25.326				
SYNC	33891	25.555				
(Statistics)				33741	25.441	1.66%
Carryover	345	0.278				
Baseline	0	0.023	BL			
Cal 0.0 ppb	-80	-0.036	LO			
Cal 1.0 ppb	1377	1.041				
Cal 2.0 ppb	2609	1.953				
Cal 5.0 ppb	6667	4.969				
Cal 10.0 ppb	13508	10.082				
Cal 25.0 ppb	33116	24.961				
Cal 50.0 ppb	65194	50.007				
Blank	377	0.301				
Blank	0	0.023	BL			
9G02024-ICV1	33680	25.393				
9G02024-ICB1	237	0.198				
Read Baseline	0	0.023	BL			
9070536-BLK1	-47	-0.012	LO			
9070536-BS1	34691	26.170				
Read Baseline	0	0.023	BL			
A9F0860-02	214	0.181				
9070536-MS1	35136	26.512				
9070536-MSD1	35446	26.750				
Read Baseline	0	0.023	BL			
9G02024-CCV1	34078	25.699				
9G02024-CCB1	204	0.173				

2.2% ok cm 7/2/19

JKP 7-2-19

JKP 7-2-19

Result path	C:\FLOW_4\9G02024.RST
Sample table path	C:\FLOW_4\availcn.tbl
Method path	C:\FLOW_4\availcn.mth
Date acquired	02-Jul-19
Time acquired	09:43

	AVAIL CN					
Name	Response	Calc [ppb]	Flags	Mean Response	Mean Calc [ppb]	RSD
Read Baseline	0	0.023	BL			

JKP
1-2-19

Run Results Report

Apex Laboratories OIA FS3000-2

Operator Name	jkp
Operator ID	jkp
Platform	FS 3000
Software Rev Code	234
Data system ID	57
Result path	C:\FLOW_4\9G02024.RST
Sample table path	C:\FLOW_4\availcn.tbl
Method path	C:\FLOW_4\availcn.mth
Date acquired	02-Jul-19
Time acquired	09:43

Date	Time	Cup	Name
02-Jul-19	08:58	106	SYNC
02-Jul-19	09:00	106	SYNC
02-Jul-19	09:01	106	SYNC (Statistics)
02-Jul-19	09:03	0	Carryover
02-Jul-19	09:04	0	Baseline
02-Jul-19	09:06	101	Cal 0.0 ppb
02-Jul-19	09:07	102	Cal 1.0 ppb
02-Jul-19	09:09	103	Cal 2.0 ppb
02-Jul-19	09:10	104	Cal 5.0 ppb
02-Jul-19	09:12	105	Cal 10.0 ppb
02-Jul-19	09:13	106	Cal 25.0 ppb
02-Jul-19	09:15	107	Cal 50.0 ppb
02-Jul-19	09:16	0	Blank
02-Jul-19	09:18	0	Blank
02-Jul-19	09:19	108	9G02024-ICV1
02-Jul-19	09:21	0	9G02024-ICB1
02-Jul-19	09:22	0	Read Baseline
02-Jul-19	09:24	109	9070536-BLK1
02-Jul-19	09:25	110	9070536-BS1
02-Jul-19	09:27	0	Read Baseline
02-Jul-19	09:28	111	A9F0860-02
02-Jul-19	09:30	112	9070536-MS1
02-Jul-19	09:31	113	9070536-MSD1
02-Jul-19	09:33	0	Read Baseline
02-Jul-19	09:34	108	9G02024-CCV1
02-Jul-19	09:36	0	9G02024-CCB2

JKP
7-2-19

Result path	C:\FLOW_4\9G02024.RST
Sample table path	C:\FLOW_4\availcn.tbl
Method path	C:\FLOW_4\availcn.mth
Date acquired	02-Jul-19
Time acquired	09:43

Date	Time	Cup	Name
02-Jul-19	09:37	0	Read Baseline

JKP
7-2-19

AVAIL CN:Calibration 1: Peak 6-27

File name: C:\FLOW_4\9G02024.RST
Date: 02-Jul-19
Operator: jkp

*	Name	Conc	Height
*	Cal 0.0 ppb	0.000000	-80.002136
*	Cal 1.0 ppb	1.000000	1377.456543
*	Cal 2.0 ppb	2.000000	2608.867676
*	Cal 5.0 ppb	5.000000	6667.457520
*	Cal 10.0 ppb	10.000000	13508.411133
*	Cal 25.0 ppb	25.000000	33116.332031
*	Cal 50.0 ppb	50.000000	65194.496094

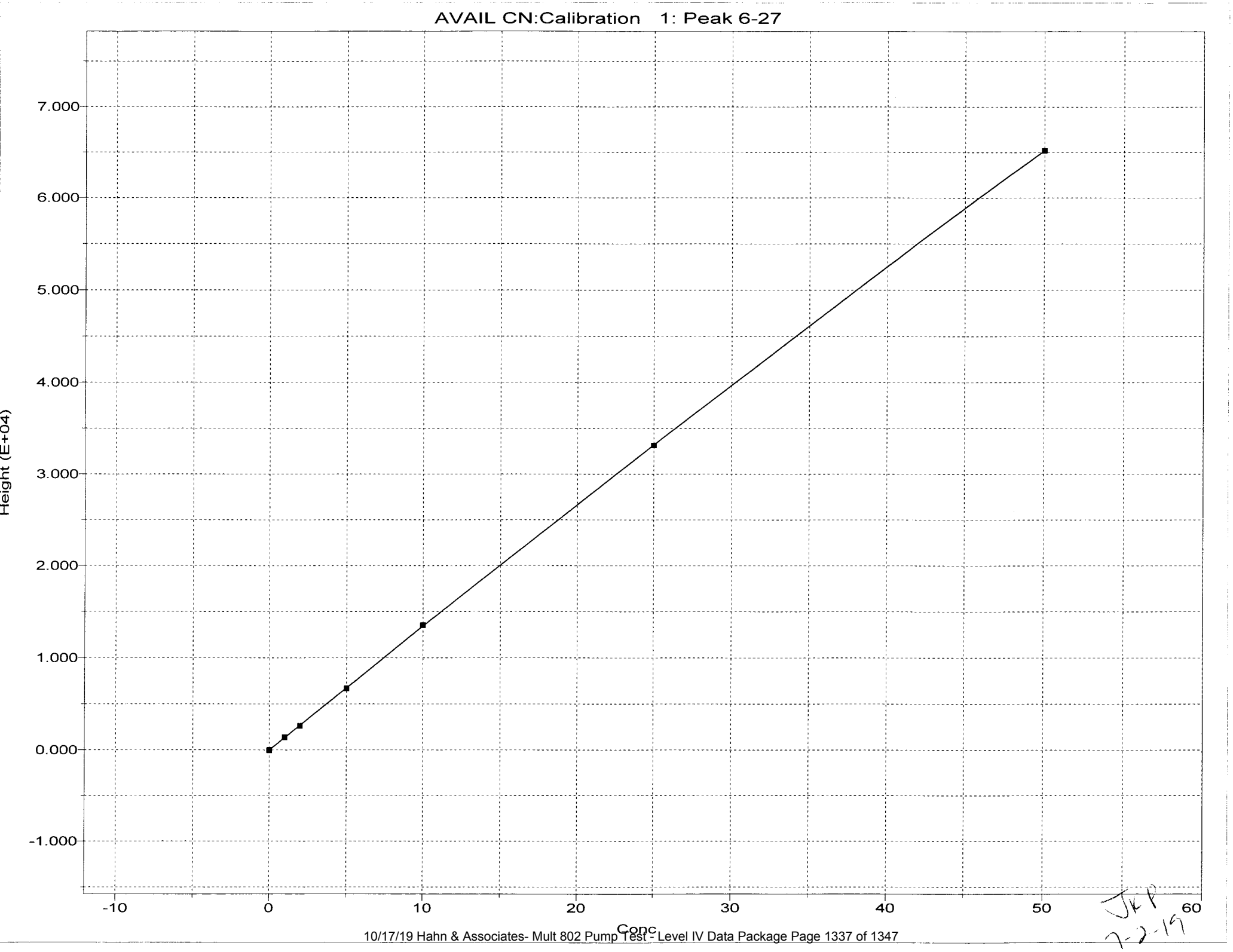
Calib Coef:
x=cyy+by+a
a: (intercept) 2.2696e-02
b: 7.3896e-04
c: 4.2541e-10

Corr Coef: 0.999997 7/2/19

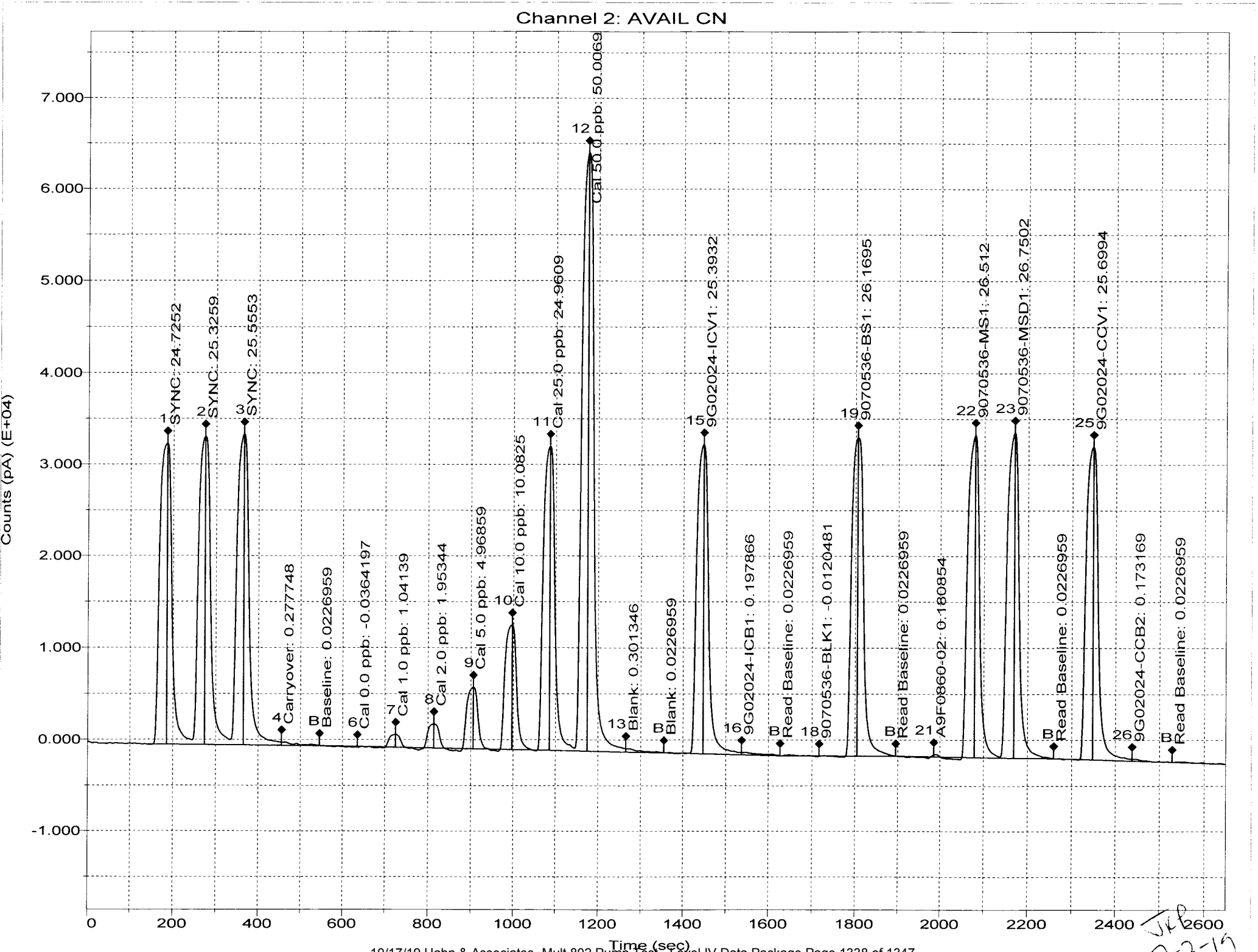
Carryover: n/a

No Drift Peaks

JKP 7-2-19


AVAIL CN:Calibration 1: Peak 6-27
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
-1.000
Height (E+04)
-10
0
10
20
30
40
50
60
Conc

JKP 7-2-19


Channel 2: AVAIL CN
Counts (pA) (E+04)
Time (sec)
7.000
6.000
5.000
4.000
3.000
2.000
1.000
0.000
-1.000
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
1 SYNC: 24.7252
2 SYNC: 25.3259
3 SYNC: 25.5553
4 Carryover: 0.277748
B Baseline: 0.0226959
6 Cal 0.0 ppb: -0.0364197
7 Cal 1.0 ppb: 1.04139
8 Cal 2.0 ppb: 1.95344
9 Cal 5.0 ppb: 4.96859
10 Cal 10.0 ppb: 10.0825
11 Cal 25.0 ppb: 24.9609
12 Cal 50.0 ppb: 50.0069
13 Blank: 0.301346
B Blank: 0.0226959
15 9G02024-ICV1: 25.3932
16 9G02024-ICB1: 0.197866
B Read Baseline: 0.0226959
18 9070536-BLK1: -0.0120481
19 9070536-BS1: 26.1695
B Read Baseline: 0.0226959
21 A9F0860-02: 0.180854
22 9070536-MS1: 26.512
23 9070536-MSD1: 26.7502
B Read Baseline: 0.0226959
25 9G02024-CCV1: 25.6994
26 9G02024-CCB2: 0.173169
B Read Baseline: 0.0226959

JLP 7-2-19

Free Cyanide by Microdiffusion/Colormteric Spectrophotomtery
BenchSheet Data & Analysis Sequence Data

Batch 9061475

Sequence 9F28015 (A9F0860-02)

Apex Laboratories

PREPARATION BENCH SHEET

BATCH #: 9061475 (Water)

Prep Method: Method Prep: Aq

#	Lab Number		Analysis	Prepared	Initial (mL)	Final (mL)	Spike ID	Source ID	ul Spike	ul Surr.	Sample ID	Extraction Comments	pH <2	pH Other	pH >11
	9061475-BLK1		QC	06/28/19 07:20	3	3									
	9061475-BSD1		QC	06/28/19 07:20	3	3	A19C271		40						
	9061475-BS1		QC	06/28/19 07:20	3	3	A19C271		40						
	A9F0860-02	D	Cyanide, Free (ASTM D 4282) - 48 hour	06/28/19 07:20	3	3					2708-190626-M ULT802-109	48hr extraction goal			
	9061475-DUP1		QC	06/28/19 07:20	3	3		A9F0860-02							
	9061475-MS1		QC	06/28/19 07:20	3	3	A19C271	A9F0860-02	40						

Standards/Reagents

Reagent(s)

Std ID	Exp. Date	Description
A19A046	07/03/19	Chloramine-T for Free CN
A19C048	09/01/19	Cadmium Chloride
A19C175	09/09/19	0.1 N NaOH
A19C176	09/09/19	0.05 N NaOH
A19D157	10/06/19	Buffer, pH 6 - CNMD
A19D158	10/06/19	Buffer, acidified - CNMD
A19E318	06/29/19	PBAR - CNMD SPEC

Analyte Spike(s)

Std ID	Exp. Date	Description
A19C271	07/07/19	Cyanide working FREE -2-

Surrogate(s)

Std ID	Exp. Date	Description

JKP 6-28-19
Prepared By: Date

Reviewed By: 6/28/19
Date

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence:	**9F28015**	Instrument:	**Hach DR3800**
Date:	**06/28/19 07:20**	Calibration:	**A9A2404**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9F28015-CCV1	Water	QC	QC				A19F080
2	9F28015-CCB1	Water	QC	QC				
3	9061475-BLK1	Water	QC	QC		9061475		
4	9061475-BS1	Water	QC	QC		9061475		
5	9061475-BSD1	Water	QC	QC		9061475		
6	A9F0860-02	Water	Cyanide, Free (ASTM D 4282) - 48 ho	Hahn and Associates	07/11/19	9061475		
7	9061475-DUP1	Water	QC	QC		9061475		
8	9061475-MS1	Water	QC	QC		9061475		
9	9061476-BLK1	Water	QC	QC		9061476		
10	9061476-BS1	Water	QC	QC		9061476		
11	9061476-BS2	Water	QC	QC		9061476		
12	9F28015-CCV2	Water	QC	QC				A19F080
13	9F28015-CCB2	Water	QC	QC				

Data Entered By: JLP 6-28-19

Data Reviewed By: [illegible] 6/28/19

Comments:

Instrument Version:,1.17
Parameter:,Date:,Operator ID:,Sample ID:,Sample Number,Sampling Date:,Sampling Operator:,Program,Dilution,Lot #:,Date of Expiry:,Result,Unit,Name,Error,AQA,Lot #:,Date of Expiry:,Multiple Determination,Comment:,Wavelength1,Value1,Unit1,Wavelength2,Value2,Unit2,Wavelength3,Value3,Unit3,Wavelength4,Value4,Unit4
DR3900 ,S/N 1700536
Instrument Version:,1.20
Parameter:,Date:,Operator ID:,Sample ID:,Sample Number,Sampling Date:,Sampling Operator:,Program,Dilution,Lot #:,Date of Expiry:,Result,Unit,Name,Error,AQA,Lot #:,Date of Expiry:,Multiple Determination,Comment:,Wavelength1,Value1,Unit1,Wavelength2,Value2,Unit2,Wavelength3,Value3,Unit3,Wavelength4,Value4,Unit4
Free Cyanide,2019/06/28 11:27:41,,9F28015-CCV1,,,,P9001,1.0000,,,94.065,µg/L,CN,,,,,,578, 0.419,Abs,
Free Cyanide,2019/06/28 11:27:55,,9F28015-CCB1,,,,P9001,1.0000,,, 0.022,µg/L,CN,,,,,,578, 0.000,Abs,
Free Cyanide,2019/06/28 11:28:10,,9061475-BLK1,,,,P9001,1.0000,,, 0.399,µg/L,CN,,,,,,578, 0.002,Abs,
Free Cyanide,2019/06/28 11:28:25,,9061475-BS1,,,,P9001,1.0000,,,63.702,µg/L,CN,,,,,,578, 0.283,Abs,
Free Cyanide,2019/06/28 11:33:47,,9061475-BSD1,,,,P9001,1.0000,,,69.212,µg/L,CN,,,,,,578, 0.308,Abs,
Free Cyanide,2019/06/28 11:34:09,,A9F0860-02,,,,P9001,1.0000,,, 0.553,µg/L,CN,,,,,,578, 0.002,Abs,
Free Cyanide,2019/06/28 11:34:25,,9061475-DUP1,,,,P9001,1.0000,,, 0.051,µg/L,CN,,,,,,578, 0.000,Abs,
Free Cyanide,2019/06/28 11:34:42,,9061475-MS1,,,,P9001,1.0000,,,67.708,µg/L,CN,,,,,,578, 0.301,Abs,
Free Cyanide,2019/06/28 11:41:14,,9061476-BLK1,,,,P9001,1.0000,,, 0.307,µg/L,CN,,,,,,578, 0.001,Abs,
Free Cyanide,2019/06/28 11:41:38,,9061476-BS1,,,,P9001,1.0000,,, 5.528,µg/L,CN,,,,,,578, 0.025,Abs,
Free Cyanide,2019/06/28 11:41:53,,9061476-BS2,,,,P9001,1.0000,,, 5.835,µg/L,CN,,,,,,578, 0.026,Abs,
Free Cyanide,2019/06/28 11:42:07,,9F28015-CCV2,,,,P9001,1.0000,,,98.373,µg/L,CN,,,,,,578, 0.438,Abs,
Free Cyanide,2019/06/28 11:42:25,,9F28015-CCB2,,,,P9001,1.0000,,, 0.302,µg/L,CN,,,,,,578, 0.001,Abs,

Free Cyanide by Microdiffusion/Colormteric Spectrophotomtery Calibration Data

Sequence 9A24031 (A9A2404) Hach DR3800

APEX LABORATORIES

ELEMENT SEQUENCE LOG

Apex Laboratories

Sequence: **9A24031** Instrument: **Hach DR3800**

Date: **01/24/19 14:14** Calibration: **A9A2404**

#	Lab Number	Matrix	Analysis	Client	Due	Batch	ISTD ID	STD ID
1	9A24031-CAL1	Water	QC	QC				
2	9A24031-CAL2	Water	QC	QC				A19A363
3	9A24031-CAL3	Water	QC	QC				A19A362
4	9A24031-CAL4	Water	QC	QC				A19A361
5	9A24031-CAL5	Water	QC	QC				A19A360
6	9A24031-CAL6	Water	QC	QC				A19A359
7	9A24031-ICV1	Water	QC	QC				A19A358
8	9A24031-ICB1	Water	QC	QC				
9	9011045-BLK1	Water	QC	QC		9011045		
10	9011045-BS1	Water	QC	QC		9011045		
11	9011045-BS2	Water	QC	QC		9011045		
12	9011045-BS3	Water	QC	QC		9011045		
13	9A24031-CCV1	Water	QC	QC				A19A364
14	9A24031-CCB1	Water	QC	QC				

Data Entered By: VSV 1/24/19

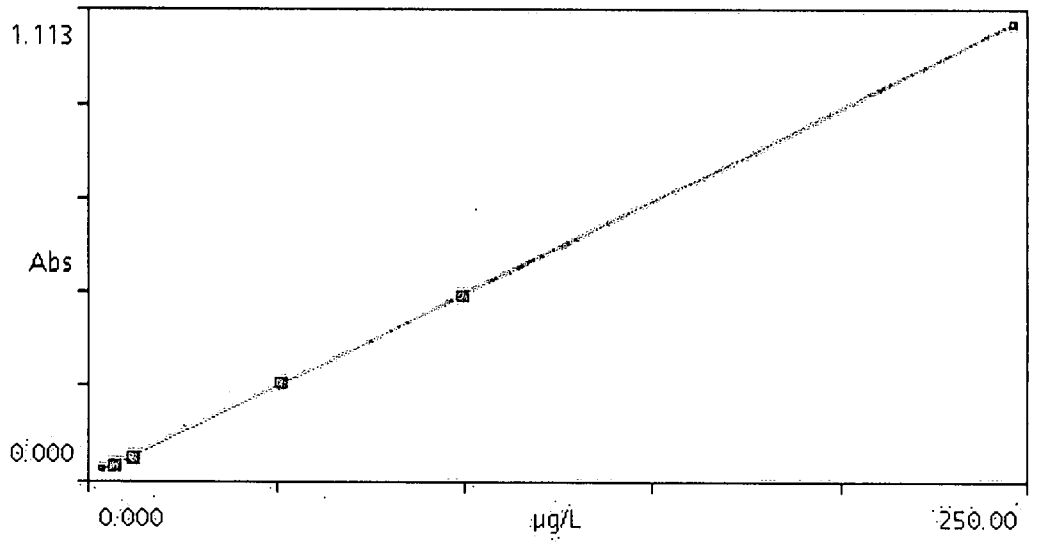
Data Reviewed By: AM 1/24/19

Comments:

Instrument Version:,1.17
Parameter:,Date:,Operator ID:,Sample ID:,Sample Number,Sampling Date:,Sampling Operator:,Program,Dilution,Lot #:,Date of Expiry:,Result,Unit,Name,Error,AQA,Lot #:,Date of Expiry:,Multiple Determination,Comment:,Wavelength1,Value1,Unit1,Wavelength2,Value2,Unit2,Wavelength3,Value3,Unit3,Wavelength4,Value4,Unit4
DR3900 ,S/N 1700536
Instrument Version:,1.20
Parameter:,Date:,Operator ID:,Sample ID:,Sample Number,Sampling Date:,Sampling Operator:,Program,Dilution,Lot #:,Date of Expiry:,Result,Unit,Name,Error,AQA,Lot #:,Date of Expiry:,Multiple Determination,Comment:,Wavelength1,Value1,Unit1,Wavelength2,Value2,Unit2,Wavelength3,Value3,Unit3,Wavelength4,Value4,Unit4
~~Free Cyanide,2019/01/24 15:02:29,,9A24031-CAL1,,,,P9001,1.0000,,,-0.060,µg/L,CN,,,,,,,578, 0.000,Abs,~~
~~Free Cyanide,2019/01/24 15:02:49,,9A24031-CAL1,,,,P9001,1.0000,,,-0.055,µg/L,CN,,,,,,,578, 0.000,Abs,~~
Free Cyanide,2019/01/24 15:03:15,,9A24031-CAL1,,,,P9001,1.0000,,, 0.009,µg/L,CN,,,,,,,578, 0.000,Abs,
Free Cyanide,2019/01/24 15:03:33,,9A24031-CAL2,,,,P9001,1.0000,,, 4.870,µg/L,CN,,,,,,,578, 0.022,Abs,
Free Cyanide,2019/01/24 15:03:51,,9A24031-CAL3,,,,P9001,1.0000,,,10.011,µg/L,CN,,,,,,,578, 0.045,Abs,
Free Cyanide,2019/01/24 15:04:11,,9A24031-CAL4,,,,P9001,1.0000,,,49.940,µg/L,CN,,,,,,,578, 0.222,Abs,
Free Cyanide,2019/01/24 15:04:27,,9A24031-CAL5,,,,P9001,1.0000,,,97.489,µg/L,CN,,,,,,,578, 0.434,Abs,
Free Cyanide,2019/01/24 15:04:45,,9A24031-CAL6,,,,P9001,1.0000,,,245.07,µg/L,CN,,,,,,,578, 1.090,Abs,
Free Cyanide,2019/01/24 15:09:52,,9A24031-ICV1,,,,P9001,1.0000,,,61.579,µg/L,CN,,,,,,,578, 0.274,Abs,
Free Cyanide,2019/01/24 15:10:37,,9A24031-ICB1,,,,P9001,1.0000,,, 0.266,µg/L,CN,,,,,,,578, 0.001,Abs,
Free Cyanide,2019/01/24 15:17:40,,9011045-BLK1,,,,P9001,1.0000,,, 0.082,µg/L,CN,,,,,,,578, 0.000,Abs,
Free Cyanide,2019/01/24 15:18:00,,9011045-BS1,,,,P9001,1.0000,,,60.926,µg/L,CN,,,,,,,578, 0.271,Abs,
Free Cyanide,2019/01/24 15:18:18,,9011045-BS2,,,,P9001,1.0000,,,60.224,µg/L,CN,,,,,,,578, 0.268,Abs,
Free Cyanide,2019/01/24 15:18:33,,9011045-BS3,,,,P9001,1.0000,,, 4.813,µg/L,CN,,,,,,,578, 0.021,Abs,
Free Cyanide,2019/01/24 15:18:56,,9A24031-CCV1,,,,P9001,1.0000,,,100.26,µg/L,CN,,,,,,,578, 0.446,Abs,
Free Cyanide,2019/01/24 15:19:13,,9A24031-CCB1,,,,P9001,1.0000,,, 0.118,µg/L,CN,,,,,,,578, 0.001,Abs,

N.R. Tube not clean. Re-zero & re-read
NVO 1/24/19

Program: 9001
Name: Free Cyanide
Calibration: C = a + bA
a: 0.0000 b: 224.74
Curve Fit r^2 = 1.0000



µg/L	Abs
0.0000	0.000
5.0000	0.022
10.000	0.044
50.000	0.226
100.00	0.442
250.00	1.113

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Balance Checksheets

Sample Receiving July 2018

Extractions July 2018

Dry Weight July 2018

Metals July 2018

Wet Chem July 2018